As filed with the Securities and Exchange Commission on April 5, 2010

Registration No. 333-164044

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

AMENDMENT NO. 7
TO
FORM S-1
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

CODEXIS, INC.

(Exact name of Registrant as specified in its charter)

Delaware	8731	71-0872999
(State or other jurisdiction of incorporation or organization)	*(Primary Standard Industrial Classification Code Number)*	*(I.R.S. Employer Identification Number)*

200 Penobscot Drive, Redwood City, CA 94063
(650) 421-8100
(Address, including zip code, and telephone number, including area code, of Registrant's principal executive offices)

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Approximate date of commencement of proposed sale to the public: As soon as practicable after the effective date of this Registration Statement.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box. ☐

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer ☐ Accelerated filer ☐
Non-accelerated filer (Do not check if a smaller reporting company) ☒ Smaller reporting company ☐

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Proposed Maximum Offering Price Per Share	Proposed Maximum Aggregate Offering Price(1)	Amount of Registration Fee(2)
Common Stock, $0.0001 par value	$15.00	$103,500,000	$7,380

(1) Estimated solely for the purpose of computing the amount of the registration fee pursuant to Rule 457(o) under the Securities Act of 1933. Includes the offering price of additional shares that the underwriters have the option to purchase.

(2) The registrant previously paid a registration fee of $3,930 with a registration statement on Form S-1, File No. 333-150224, initially filed with the Commission on April 14, 2008. Pursuant to Rule 457(p) of the Securities Act of 1933, $3,930 of the previously paid registration fee is offset against the registration fee otherwise due for this Registration Statement.

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until the Registration Statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

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The information contained in this prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and we are not soliciting offers to buy these securities in any jurisdiction where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED APRIL 5, 2010

6,000,000 Shares

Codexis, Inc.

Common Stock

Prior to this offering, there has been no public market for our common stock. We anticipate that the initial public offering price will be between $13.00 and $15.00 per share. We have applied to list our common stock on The Nasdaq Global Market under the symbol “CDXS.”

We are selling 6,000,000 shares of our common stock through the underwriters.

The underwriters have an option to purchase a maximum of 900,000 additional shares to cover over-allotments of shares.

Investing in our common stock involves risks. See “ Risk Factors” on page 12.

	Price to Public	Underwriting Discounts and Commissions	Proceeds to Codexis
Per Share	$	$	$
Total	$	$	$

Delivery of the shares of common stock will be made on or about , 2010.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

Credit Suisse

Piper Jaffray

RBC Capital Markets

Pacific Crest Securities

The date of this prospectus is , 2010.

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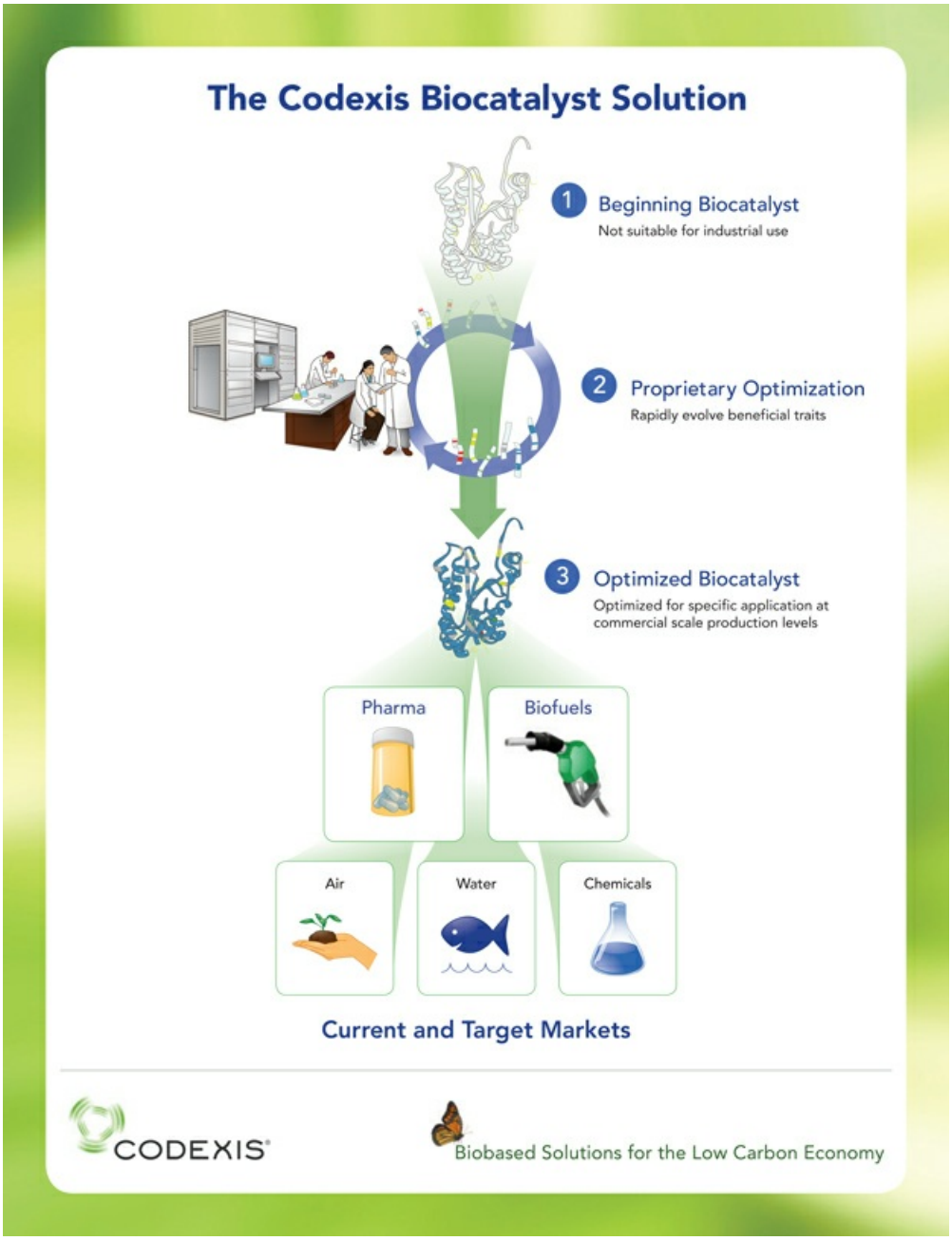

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You should rely only on the information contained in this prospectus. We and the underwriters have not authorized anyone to provide you with information different from that contained in this prospectus. We are offering to sell, and seeking offers to buy, shares of common stock only in jurisdictions where offers and sales are permitted. The information contained in this prospectus is accurate only as of the date on the front cover of this prospectus, or such other dates as are stated in this prospectus, regardless of the time of delivery of this prospectus or of any sale of our common stock.

Dealer Prospectus Delivery Obligation

Until , 2010 (25 days after commencement of this offering), all dealers that buy, sell, or trade shares of our common stock, whether or not participating in this offering, may be required to deliver a prospectus. This delivery requirement is in addition to the obligation of dealers to deliver a prospectus when acting as underwriters and with respect to their unsold allotments or subscriptions.

PROSPECTUS SUMMARY

This summary highlights information contained elsewhere in this prospectus and does not contain all of the information you should consider in making your investment decision. You should read this summary together with the more detailed information, including our financial statements and the related notes, appearing elsewhere in this prospectus. You should carefully consider, among other things, the matters discussed in "Risk Factors," before making an investment decision. Unless otherwise indicated herein, "Codexis, Inc.," "Codexis," "the Company," "we," "us" and "our" refer to Codexis, Inc. and its subsidiaries.

Our Company

Our proprietary technology platform enables the creation of optimized biocatalysts that make existing industrial processes faster, cleaner and more efficient than current methods and has the potential to make new industrial processes possible at commercial scale. We have commercialized our biocatalysts in the pharmaceutical industry and are developing biocatalysts for use in producing advanced biofuels under a multi-year research and development collaboration with Shell. We are also using our technology platform to pursue biocatalyst-enabled solutions in other bioindustrial markets, including carbon management, water treatment and chemicals.

Biocatalysts are enzymes or microbes that initiate or accelerate chemical reactions. Manufacturers have historically used naturally occurring biocatalysts to produce many goods used in everyday life. However, inherent limitations in naturally occurring biocatalysts have restricted their commercial use. Our proprietary technology platform is able to overcome many of these limitations, allowing us to evolve and optimize biocatalysts to perform specific and desired chemical reactions at commercial scale.

We have focused our biocatalyst development efforts on large and rapidly growing markets, including pharmaceuticals and advanced biofuels. We have enabled biocatalyst-based drug manufacturing processes at commercial scale and have delivered biocatalysts and drug products to some of the world's leading pharmaceutical companies, including Dr. Reddy's Laboratories Ltd., Merck & Co., Inc., Pfizer Inc. and Ranbaxy Laboratories Limited. In our research and development collaboration with Shell, we are developing biocatalysts for use in producing advanced biofuels from renewable sources of non-food plant materials, known as cellulosic biomass.

The Biocatalysis Opportunity — Industry Overview

Biocatalyst-enabled manufacturing processes may address a number of the drawbacks of conventional chemistry-based manufacturing. For example, unlike most chemistry-based manufacturing processes, biocatalysts can operate at or near room temperature and pressure, and often use manufacturing equipment that is less complex and expensive to build and operate. Biocatalyst-enabled processes can create products with the same or higher quality as chemistry-based manufacturing processes, while reducing the risks associated with extreme manufacturing environments and without generating the high volumes of waste, some of it hazardous to health and the environment, typically associated with conventional chemistry-based manufacturing processes.

In addition, due to concerns about the environment and the scarcity and security of supply of petroleum, there is an increasing interest in using cellulosic biomass as the feedstock for a variety of products, including advanced biofuels and other chemicals, as a replacement for petroleum. To date, conventional chemistry-based manufacturing approaches have not resulted in commercially viable processes for the conversion of cellulosic biomass to biofuels and other products. Biocatalysts have the potential to enable processes for the development of products, such as cellulose-derived biofuels, that cannot currently be manufactured using alternative techniques.

Despite their potentially significant advantages, biocatalysts have not achieved their full potential in industrial applications. Naturally occurring biocatalysts are often not stable enough to be used in industrial

settings, where conditions may differ significantly from those in the biocatalysts' natural environments. The activity and productivity of these biocatalysts is often too limited to be cost-effective in commercial scale manufacturing. In addition, the activity of natural biocatalysts is typically inhibited by the end product of the reactions they facilitate. This characteristic of natural biocatalysts, which is referred to as product inhibition, results in limited product yields in industrial settings. Moreover, for certain industrial applications, there are no known naturally occurring biocatalysts that catalyze the desired reaction.

Due to these limitations, other companies and researchers have tried to improve the performance of naturally occurring biocatalysts by directing their evolution through biotechnology techniques such as the random mutation of genes. However, to date, these techniques have had only limited success for a number of reasons. For example, random mutations of genes often result in decreased, not improved, performance and these alternative biotechnology techniques cannot effectively remove accumulated detrimental mutations. The end result is often an evolved biocatalyst with activity that reaches a plateau at a level that is insufficient for a commercial process. We believe there is a significant opportunity for novel technologies that can address the limitations of other biotechnology techniques and can substantially enhance the performance of biocatalysts in industrial settings.

Our Platform Technology

We believe that our proprietary technology platform can transform the industrial application of biocatalysts by improving their commercially relevant characteristics, such as stability, activity, product yield and tolerance to industrial conditions, while reducing product inhibition. In addition, our technology platform allows us to develop and optimize biocatalysts much more rapidly than is currently possible with alternative methods. Perhaps most importantly, we have demonstrated that our technology platform can enable the manufacture of products cost-effectively, at commercial scale and with significantly reduced environmental impact relative to conventional manufacturing processes.

Our proprietary technology platform uses advanced biotechnology methods, bioinformatics and years of accumulated know-how to significantly expedite the process of developing optimized biocatalysts. Key components of our technology platform include gene shuffling, whole genome shuffling, multiplexed gene SOEing, and proprietary bioinformatic software tools that allow us to identify and quantify the potential value of beneficial mutations and avoid detrimental mutations.

Our Target Markets and Solutions

Pharmaceuticals

Our technology platform enables us to deliver solutions to our customers in the pharmaceutical market by developing and delivering optimized biocatalysts that perform chemical transformations at a lower cost, and improve the efficiency and productivity of manufacturing processes. We provide value throughout the pharmaceutical product lifecycle, from preclinical development to clinical development and commercialization of products and the eventual transition from branded to generic products. Our technology platform allows us to provide benefits to our customers in a number of ways, including:

- reducing the use of raw materials and intermediate products;
- improving product yield;
- using water as a primary solvent;
- performing reactions at or near room temperature and pressure;
- eliminating the need for certain costly manufacturing equipment;
- reducing energy requirements;
- reducing the need for late-stage purification steps;

- eliminating multiple steps in the manufacturing process; and
- eliminating hazardous inputs and harmful emission by-products.

Early in the product lifecycle, customers can use our services to achieve speed to market and to reduce manufacturing costs. If a pharmaceutical company that has developed a patent-protected drug, known as an innovator, incorporates our products or processes into an FDA-approved product, we expect the innovator to continue to use these products or processes for the patent life of the approved drug.

After a product is launched, customers also use our services to reduce manufacturing costs. At this stage, changes in the manufacturing process originally approved by the FDA may require additional review. Typically, pharmaceutical companies will only seek FDA approval for a manufacturing change if there are substantial cost savings associated with the change. We believe that the cost savings associated with our products may lead our customers to change their manufacturing processes for approved products and, if necessary, seek FDA approval of the new processes which incorporate our biocatalysts. Moreover, we believe these cost savings are attractive to generics manufacturers, who compete primarily on price.

Our products and services include our Codex Biocatalyst Panels, biocatalyst screening services, biocatalyst optimization services, biocatalysts and intermediates and active pharmaceutical ingredients, or APIs.

Biofuels

We believe that our technology platform will enable the development of biocatalysts that can be used to produce commercially viable, cellulose-derived biofuel alternatives to petroleum-based fuels. Since 2006, we have been engaged with Equilon Enterprises LLC dba Shell Oil Products US, which we refer to as Shell, in a research and development collaboration under which we are developing biocatalysts for use in producing advanced biofuels. Advanced biofuels are liquid transportation fuels derived from non-food biomass and which meet certain minimum carbon reduction criteria. The U.S. Congress passed the Energy Independence and Security Act of 2007, an alternative fuels mandate that calls for approximately 36 billion gallons of liquid transportation fuels sold to come from alternative sources by 2022. This mandate requires that of the 36 billion gallons, 21 billion gallons must be advanced biofuels. Our advanced biofuels program focuses on two primary elements: (1) developing biocatalysts to convert cellulosic biomass into sugars; and (2) converting these sugars into two advanced biofuels, cellulosic ethanol and biohydrocarbon diesel. For the first element, we have used our technology platform to improve our cellulase and other biocatalysts. For the second element, we have developed a biocatalyst that converts sugars to diesel fuel, and are working on improving ethanol-producing yeast. We believe that our biocatalysts will be able to convert cane sugar and sugar derived from cellulose into diesel fuel. We are using our technology platform to develop biocatalysts that we believe will:

- increase the rate at which cellulosic biomass is converted into biofuels;
- increase the yield of biofuels produced from cellulosic biomass;
- eliminate the need to use food resources for the production of biofuels;
- provide producers with more flexibility in designing processes to convert cellulosic biomass to biofuels, thereby reducing the costs associated with building and operating biofuel production facilities; and
- enable the production of new types of cellulosic biofuels that could be alternatives to petroleum-based fuels.

Under our research and development collaboration with Shell, Shell will have the right, but not the obligation, to commercialize any technology that we develop in our biofuels program. If Shell commercializes our biofuels technology, we will collect a royalty for every gallon of fuel that Shell produces

using our technology. If Shell chooses to commercialize any biofuels products developed through our collaboration, we believe that the combination of our technology platform with Shell's proven project development capabilities and resources could enable a biofuels solution that extends from the conversion of cellulosic biomass into biofuels to delivery and distribution of refined biofuels to consumers at the pump.

Additional Bioindustrial Opportunities

We believe that our technology platform, together with the knowledge and experience gained from our efforts in the pharmaceutical market and in our biofuels development program, will allow us to capitalize on opportunities in other bioindustrial markets, including carbon management, water treatment and chemicals. Depending on the market, we may pursue collaborations with industry leaders to allow us to leverage their competitive strengths and resources in pursuit of these opportunities.

Our Business Model

Our business model allows us to simultaneously pursue multiple commercial opportunities across a number of major markets. Our business model has resulted in a diversified revenue stream that is predictable over the near term with significant growth potential, while allowing us to share risk with and leverage the capabilities of our collaborators. Our business model includes the following key elements:

- *Targeting Multiple Major and Growing Markets.* We currently use our technology platform to produce biocatalysts that are used at commercial scale in the pharmaceutical market. Through our collaboration with Shell, we are developing biocatalysts for use in producing commercially viable biofuels from cellulosic biomass. We also believe that we can use our technology platform to deliver biocatalyst-enabled solutions to other bioindustrial markets, including carbon management, water treatment and chemicals.
- *Capital-Efficient Collaborations with Industry Leaders.* We have adopted a business model that leverages our collaborators' engineering, manufacturing and commercial expertise, their distribution infrastructure and their ability to fund commercial scale production facilities. For instance, in the pharmaceuticals market, our supply relationship with Arch enables us to bring intermediates and/or APIs for branded pharmaceutical products to market with very limited additional capital. In addition, if we are able to develop biocatalysts that enable the commercial production of biofuels derived from cellulosic biomass and Shell decides to commercialize products based on this technology, we would need to rely on Shell, or other parties selected by Shell, to design and build the commercial scale fuel production facilities and to distribute the final fuel product.
- *Diversified Revenue Base.* We are generating a revenue stream that is diversified across distinct industries, which should mitigate our exposure to cyclical downturns or fluctuations in any one market. In 2009, our revenues were derived from the pharmaceuticals and biofuels markets, and consisted primarily of collaborative research and development revenues and product sales. We are pursuing biocatalyst-enabled solutions in other bioindustrial markets, including carbon management, water treatment and chemicals that, if successful, will allow us to further diversify our revenues.
- *Visible and Predictable Revenues.* Based on our existing arrangements, we believe that the revenues from both our biofuels and pharmaceutical businesses should be predictable over the near term. We receive bi-monthly payments from Shell that are based on the number of funded full-time employee equivalents, or FTEs, that work on our research collaboration with Shell. The number of funded FTEs that work on the program, and the payments from Shell for these FTEs, are specified in our collaborative research agreement, subject to Shell's ability to increase or reduce the number of FTEs under certain conditions over time. Because we allow our pharmaceutical customers to achieve significant cost savings in their manufacturing processes, historically they have continued using our biocatalysts once they have begun using our biocatalyst-enabled process.

Strategy

Our objective is to be the leading provider of optimized biocatalyst-enabled solutions across a wide range of industries. Key elements of our strategy are as follows:

- *Become a leading biocatalyst supplier to the advanced biofuels market.* Our primary development efforts are focused on producing biocatalysts that can enable Shell to become a global leader in the advanced biofuels market. We continue to build upon our milestone-driven, multi-year research and development collaboration with Shell as we advance our efforts to produce biofuels from cellulosic biomass cost-effectively at commercial scale. Because of our success to date, Shell has expanded our collaboration twice, which we believe positions us to be a key contributor to their overall biofuels strategy.
- *Expand into new bioindustrial markets.* We are actively pursuing opportunities in other bioindustrial markets, including through self-funded research in carbon management and the pursuit of funded collaborations in carbon management, water treatment and chemicals. We have the right to use the intellectual property developed in our collaboration with Shell in fields outside of fuels and related products. We intend to leverage this and other intellectual property and our technology platform to develop products in our other target markets.
- *Continue growing our pharmaceutical business.* We intend to pursue new collaborations in the pharmaceutical industry to integrate our products and services more deeply into drug development and manufacturing processes for clinical stage and commercially approved pharmaceutical products. As part of that effort, we will continue to aggressively market our Codex Biocatalyst Panels to pharmaceutical companies to demonstrate the capabilities of our technology platform.
- *Secure access to additional production capacity.* To increase our biocatalyst manufacturing capacity and establish secondary supply sources, we are working to establish long-term supply contracts with contract manufacturers and are evaluating whether to invest in our own manufacturing capabilities. We may also opportunistically seek to secure specialty manufacturing assets and expand existing relationships for the supply of our biocatalysts, key pharmaceutical APIs and intermediates used in the manufacture of APIs. For example, in August 2008, we entered into an expanded supply relationship with Arch through a series of agreements for the manufacture of intermediates and APIs for specified pharmaceutical products, which agreements were terminated in February 2010 and replaced by a product supply agreement and an enzyme and product supply agreement in order to streamline and modify certain of the contractual terms governing the supply relationship.
- *Expand our business and technology platform through the addition of new technologies, products or businesses.* In the past, we have expanded our business by acquiring companies with synergistic business plans and licensing new technology. We will continue to evaluate opportunities to acquire or license new technologies, products or businesses that complement or expand our capabilities, including in the carbon management, water treatment and chemical markets. In addition, we intend to continue to advance our technology platform by investing in our research and development capabilities to allow us to more rapidly identify and develop products and pursue new market opportunities.

Corporate Information

We were incorporated in Delaware in January 2002 as a wholly-owned subsidiary of Maxygen, Inc. We commenced independent operations in March 2002, after licensing core enabling technology from Maxygen. As of February 28, 2010, Maxygen beneficially owned approximately 21.4% of our common stock. Our other investors include industry leaders such as Shell, Chevron Corporation, Pfizer and The General Electric Company. Our principal executive offices are located at 200 Penobscot Drive, Redwood City, CA 94063, and our telephone number is (650) 421-8100. Our website address is www.codexis.com. Information

contained on our website is not incorporated by reference into this prospectus, and you should not consider information contained on our website to be part of this prospectus.

Our logo, "Codexis," "Codex" and "Codex Biocatalyst Panel" and other trademarks or service marks of Codexis, Inc. appearing in this prospectus are the property of Codexis, Inc. This prospectus contains additional trade names, trademarks and service marks of other companies. We do not intend our use or display of other companies' trade names, trademarks or service marks to imply relationships with, or endorsement or sponsorship of us by, these other companies.

The Offering

Common stock offered by Codexis	6,000,000 shares (or 6,900,000 shares if the underwriters exercise their over-allotment option in full).
Common stock to be outstanding after this offering	33,909,280 shares (or 34,809,280 shares if the underwriters exercise their over-allotment option in full).
Proposed Nasdaq Global Market symbol	"CDXS"
Use of proceeds	We expect that we will receive net proceeds of approximately $73.6 million from this offering (or $85.3 million if the underwriters exercise their over-allotment option in full) based on an assumed initial public offering price of $14.00 per share (the midpoint of the price range set forth on the cover page of this prospectus) and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. We intend to use the net proceeds from this offering for working capital and other general corporate purposes, including the costs associated with being a public company. We may also use a portion of the net proceeds to acquire other businesses, products or technologies, and to increase our internal biocatalyst production capacity. However, we do not have agreements or commitments for any specific acquisitions at this time. Please see "Use of Proceeds."
Risk factors	See "Risk Factors" starting on page 12 of this prospectus for a discussion of factors you should carefully consider before deciding to invest in our common stock.

The number of shares of common stock to be outstanding after this offering is based on 27,909,280 shares outstanding as of December 31, 2009 and excludes:

- 7,886,532 shares of common stock issuable upon the exercise of options outstanding as of December 31, 2009 at a weighted average exercise price of $5.25 per share;
- 327,672 shares of common stock issuable upon the exercise of warrants outstanding as of December 31, 2009 at a weighted average exercise price of $5.92 per share; and
- 1,100,000 shares of common stock reserved for issuance under our 2010 Equity Incentive Award Plan, which will become effective in connection with the consummation of this offering (plus an additional 1,553,873 shares of common stock reserved for future grant or issuance under our 2002 Stock Plan as of December 31, 2009, which shares will be added to the shares to be reserved under our 2010 Equity Incentive Award Plan upon the effectiveness of the 2010 Equity Incentive Award Plan).

Except as otherwise indicated, all information in this prospectus assumes:

- a 2-for-3 reverse stock split of our common stock and preferred stock to be effected immediately prior to the effectiveness of the registration statement of which this prospectus forms a part;
- the filing of an amended and restated certificate of incorporation prior to the effectiveness of the registration statement of which this prospectus forms a part;

- the conversion of all of our outstanding shares of preferred stock into 25,239,658 shares of common stock in connection with the consummation of this offering and the related conversion of all outstanding preferred stock warrants into common stock warrants;
- no exercise of the underwriters' over-allotment option; and
- the filing of our amended and restated certificate of incorporation, which will occur in connection with the consummation of this offering.

We refer to our Series A, Series B, Series C, Series D, Series E and Series F preferred stock collectively as "redeemable convertible preferred stock" for financial reporting purposes and in the financial tables included in this prospectus, as more fully explained in Note 2 to our consolidated financial statements. In other parts of this prospectus, we refer to our Series A, Series B, Series C, Series D, Series E and Series F preferred stock collectively as "preferred stock."

Summary Consolidated Financial Data

The following table sets forth a summary of our historical consolidated financial data for the periods ended or as of the dates indicated. We have derived the consolidated statements of operations data for the years ended December 31, 2007, 2008 and 2009 and the consolidated balance sheet data as of December 31, 2009 from our audited consolidated financial statements appearing elsewhere in this prospectus. You should read this table together with our consolidated financial statements and the accompanying notes, "Selected Consolidated Financial Data" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" appearing elsewhere in this prospectus. The summary consolidated financial data in this section is not intended to replace our consolidated financial statements and the accompanying notes. Our historical results are not necessarily indicative of our future results.

The following table also sets forth summary unaudited pro forma and pro forma as adjusted consolidated financial data, which gives effect to the transactions described in the footnotes to the table. The unaudited pro forma and pro forma as adjusted consolidated financial data is presented for informational purposes only and does not purport to represent what our consolidated results of operations or financial position actually would have been had the transactions reflected occurred on the dates indicated or to project our financial condition as of any future date or results of operations for any future period.

	Years Ended December 31,		
	2007	2008	2009
	(in thousands, except per share amounts)		
Consolidated Statements of Operations Data:			
Revenues:			
Product	$ 11,418	$ 16,860	$ 18,554
Related party collaborative research and development	8,481	30,239	62,656
Collaborative research and development	4,733	3,062	1,652
Government grants	701	317	46
Total revenues	25,333	50,478	82,908
Costs and operating expenses:			
Cost of product revenues	8,319	13,188	16,678
Research and development	35,644	45,554	54,725
Selling, general and administrative	19,713	35,709	29,871
Total costs and operating expenses	63,676	94,451	101,274
Loss from operations	(38,343)	(43,973)	(18,366)
Interest income	1,491	1,538	180
Interest expense and other, net	(2,533)	(2,365)	(2,037)
Loss before provision (benefit) for income taxes	(39,385)	(44,800)	(20,223)
Provision (benefit) for income taxes	(408)	327	66
Net loss	$(38,977)	$(45,127)	$ (20,289)
Net loss per share of common stock, basic and diluted	$ (23.42)	$ (18.96)	$ (7.74)
Weighted average common shares used in computing net loss per share of common stock, basic and diluted	1,665	2,380	2,622
Net loss used in computing pro forma net loss per share of common stock, basic and diluted (unaudited)(1)			$ (19,662)
Pro forma net loss per share of common stock, basic and diluted (unaudited)(1)			$ (0.73)
Weighted average common shares used in computing pro forma net loss per share of common stock, basic and diluted (unaudited)(1)			26,798

(1) Net loss used in computing pro forma basic and diluted net loss per share of common stock, pro forma basic and diluted net loss per share of common stock and number of weighted average common shares used in computing pro forma basic and diluted net loss per share of common stock in the table above give effect to the automatic conversion of all of our outstanding redeemable convertible preferred stock into common stock upon the closing of this offering as if such conversion had occurred at the beginning of each period or upon issuance, if later, and excludes any additional shares of common stock we may have to issue upon conversion of our Series E preferred stock and Series F preferred stock, as discussed below.

	December 31, 2009		
	Actual	Pro Forma(1)	Pro Forma As Adjusted(2)(3)
		(in thousands)	
Consolidated Balance Sheet Data:			
Cash, cash equivalents and marketable securities	$ 55,563	$ 55,563	$ 129,183
Working capital	16,397	18,406	92,026
Total assets	99,036	99,036	172,656
Redeemable convertible preferred stock warrant liability	2,009	—	—
Current and long-term financing obligations	7,942	7,942	7,942
Redeemable convertible preferred stock	179,672	—	—
Stockholders' (deficit) equity	(144,845)	36,836	110,456

(1) The pro forma consolidated balance sheet data gives effect to (i) conversion of all of our outstanding shares of redeemable convertible preferred stock into shares of common stock (excluding any additional shares of common stock we may have to issue upon conversion of our Series E preferred stock and Series F preferred stock, as discussed below), and (ii) conversion of all of our warrants for redeemable convertible preferred stock into warrants for common stock and the related reclassification of redeemable convertible preferred stock warrant liability to stockholders' equity upon the completion of this offering.

(2) The pro forma as adjusted consolidated balance sheet data gives effect to the sale of 6,000,000 shares of common stock in this offering at an assumed initial public offering price of $14.00 per share (the midpoint of the price range set forth on the cover page of this prospectus), after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us.

(3) Each $1.00 increase or decrease in the assumed initial public offering price of $14.00 per share (the midpoint of the price range set forth on the cover page of this prospectus) would increase or decrease, as applicable, our pro forma as adjusted cash, cash equivalents and marketable securities, working capital, total assets and stockholders' equity by approximately $5.6 million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us.

Conversion of Our Preferred Stock

In connection with this offering, all of our outstanding preferred stock will be converted into common stock. In this prospectus, we have determined the conversion ratios of our preferred stock using an assumed initial public offering price of $14.00 per share (the mid-point of the price range set forth on the cover page of this prospectus). Due to the antidilution provisions of our certificate of incorporation that are applicable to our preferred stock, the conversion ratios of certain series of our preferred stock may be adjusted in connection with the conversion of our outstanding preferred stock into common stock in the event the initial public offering price is less than $13.71 per share, based on the estimated underwriting discounts and commissions payable by us.

If the initial public offering price is equal to or greater than $13.71 per share, each share of preferred stock would be converted into one share of common stock in connection with this offering, other than shares of Series A preferred stock, which will convert at a ratio of 1:1.01. If the initial public offering price is less than $13.71 per share, the conversion ratios of our Series E preferred stock and Series F preferred stock will be increased. Therefore, depending on the initial public offering price in this offering, the holders of the Series E preferred stock and Series F preferred stock may hold a greater percentage of the common stock to be outstanding following the issuance of the shares offered by this prospectus. The precise conversion ratio of the Series E preferred stock and Series F preferred stock will be determined by multiplying the applicable Series E preferred stock and Series F preferred stock conversion price by a fraction, (i) the numerator of which is (A) the number of shares of common stock deemed outstanding immediately prior to the sale of the shares offered hereby, plus (B) the number of shares of common stock that the aggregate consideration received by us in this offering, net of underwriting discounts and commissions, would purchase at the applicable conversion price prior to adjustment, and (ii) the denominator of which is the number of shares of common stock deemed outstanding immediately prior to the sale of the shares of common stock being offered hereby plus the total number of shares of common stock sold in this offering. For purposes of this calculation, "common stock deemed outstanding" as of a particular date means the sum of (x) the number of shares of common stock outstanding as of such date, (y) the number of shares of common stock into which the then outstanding preferred stock could be converted if fully converted immediately before any conversion price adjustments resulting from the applicable issuance and (z) the number of shares of common stock issuable upon the exercise of all outstanding options and warrants that are vested as of the day immediately preceding such date.

The following table shows the effect of various initial public offering prices on the Series E preferred stock and Series F preferred stock conversion ratios and on our capitalization following this offering on a pro forma as adjusted basis to reflect the applicable conversion ratio adjustments and pro forma as adjusted assumptions set forth above. The initial offering prices shown below are hypothetical and illustrative.

			On a Pro Forma As Adjusted Basis as of December 31, 2009		
Initial Offering Price	Series E and F Preferred Stock to Common Stock Conversion Ratio	Shares of Common Stock Issuable as a Result of Conversion Ratio Adjustment	Shares of Common Stock That Would Be Issued upon Conversion of All Outstanding Shares of Series E Preferred Stock	Shares of Common Stock That Would Be Issued upon Conversion of All Outstanding Shares of Series F Preferred Stock	Total Shares of Common Stock Outstanding After This Offering(1)
$13.71 or above	1:1	—	4,104,512	3,686,271	33,909,280
$13.50	1:1.003147	24,511	4,117,424	3,697,870	33,933,791
$13.00	1:1.008702	67,788	4,140,223	3,718,348	33,977,068
$12.50	1:1.014319	111,550	4,163,280	3,739,053	34,020,830
$12.00	1:1.02	155,810	4,186,598	3,759,995	34,065,090
$11.50	1:1.025744	200,558	4,210,172	3,781,169	34,109,838
$11.00	1:1.032388	252,322	4,237,444	3,805,661	34,161,602
$10.50	1:1.038273	298,168	4,261,597	3,827,354	34,207,448

(1) Excludes the following:

- 7,886,532 shares of common stock issuable upon the exercise of options outstanding as of December 31, 2009 at a weighted average exercise price of $5.25 per share;
- 327,672 shares of common stock issuable upon the exercise of warrants outstanding as of December 31, 2009 at a weighted average exercise price of $5.92 per share; and
- 1,100,000 shares of common stock reserved for issuance under our 2010 Equity Incentive Award Plan, which will become effective in connection with the consummation of this offering (plus an additional 1,553,873 shares of common stock reserved for future grant or issuance under our 2002 Stock Plan as of December 31, 2009, which shares will be added to the shares to be reserved under our 2010 Equity Incentive Award Plan upon the effectiveness of the 2010 Equity Incentive Award Plan).

RISK FACTORS

Investing in our common stock involves a high degree of risk. You should carefully consider the following risk factors, as well as the other information in this prospectus, before deciding whether to invest in shares of our common stock. The occurrence of any of the events described below could harm our business, financial condition, results of operations and growth prospects. In such an event, the trading price of our common stock may decline and you may lose all or part of your investment.

Risks Relating to Our Business and Strategy

We have a limited operating history, which may make it difficult to evaluate our current business and predict our future performance.

Our company has been in existence since early 2002. From 2002 until 2005, our operations focused on organizing and staffing our company and developing our technology platform. In 2005, we recognized our first revenues from product sales. Since 2005, we have continued to generate revenues, but because our revenue growth has occurred in recent periods, our limited operating history may make it difficult to evaluate our current business and predict our future performance. Any assessments of our current business and predictions you make about our future success or viability may not be as accurate as they could be if we had a longer operating history. We have encountered and will continue to encounter risks and difficulties frequently experienced by growing companies in rapidly changing industries. If we do not address these risks successfully, our business will be harmed.

Our quarterly operating results may fluctuate in the future. As a result, we may fail to meet or exceed the expectations of research analysts or investors, which could cause our stock price to decline.

Our financial condition and operating results have varied significantly in the past and may continue to fluctuate from quarter to quarter and year to year in the future due to a variety of factors, many of which are beyond our control. Factors relating to our business that may contribute to these fluctuations include the following factors, as well as other factors described elsewhere in this prospectus:

- our ability to achieve or maintain profitability;
- actions that could cause us to lose any of our rights under our license from Maxygen;
- our relationships with and dependence on collaborators in our principal markets;
- our dependence on Shell for the development and commercialization of biofuels;
- the feasibility of producing and commercializing biofuels derived from cellulose;
- our dependence on a limited number of customers;
- our dependence on a limited number of contract manufacturers of our biocatalysts and suppliers for our pharmaceutical intermediates and APIs;
- our ability to manage our growth;
- our pharmaceutical customers' abilities to incorporate our biocatalysts into their manufacturing processes;
- the outcomes of clinical trials conducted by our innovator customers;
- our ability to develop and successfully commercialize new products for the pharmaceuticals market;
- the effect of consolidation in the pharmaceutical industry on demand for our products;
- our ability to commercialize our technology in other bioindustrial markets;
- our ability to maintain license rights for commercial scale expression systems for cellulases;

- fluctuations in the price of and demand for petroleum-based fuels;
- the availability of non-food renewable cellulosic biomass sources;
- reductions or changes to existing fuel regulations and policies;
- the existence of government subsidies or regulation with respect to carbon dioxide emissions;
- our potential need for additional licenses from Maxygen to pursue certain future business opportunities in the chemical market;
- our ability to obtain and maintain governmental grants;
- risks associated with the international aspects of our business;
- our ability to integrate any businesses we may acquire with our business;
- potential issues related to our ability to accurately report our financial results in a timely manner;
- our dependence on, and the need to attract and retain, key management and other personnel;
- our ability to obtain, protect and enforce our intellectual property rights;
- our ability to prevent the theft or misappropriation of our biocatalysts, the genes that code for our biocatalysts, know-how or technologies;
- potential advantages that our competitors and potential competitors may have in securing funding or developing products;
- our ability to obtain additional capital that may be necessary to expand our business;
- business interruptions such as earthquakes and other natural disasters;
- public concerns about the ethical, legal and social ramifications of genetically engineered products and processes;
- our ability to comply with laws and regulations;
- our ability to properly handle and dispose of hazardous materials used in our business;
- potential product liability claims; and
- our ability to use our net operating loss carryforwards to offset future taxable income.

Due to the various factors mentioned above, and others, the results of any prior quarterly or annual periods should not be relied upon as indications of our future operating performance.

We have a history of net losses, and we may not achieve or maintain profitability.

We have incurred net losses since our inception, including losses of $39.0 million, $45.1 million and $20.3 million in 2007, 2008 and 2009, respectively. As of December 31, 2009, we had an accumulated deficit of $159.6 million. We expect to incur losses and negative cash flow from operating activities for the foreseeable future. To date, we have derived a substantial portion of our revenues from research and development agreements with our collaborators and expect to derive a substantial portion of our revenues from these sources for the foreseeable future. If we are unable to extend our existing agreements or enter into new agreements upon the expiration or termination of our existing agreements, our revenues could be adversely affected. In addition, some of our collaboration agreements provide for milestone payments and future royalty payments, the payment of which are uncertain as they are dependent on our and our collaborators' abilities and willingness to successfully develop and commercialize products. We expect to spend significant amounts to fund the development of additional pharmaceutical and potential bioindustrial products, including biofuels. As a result, we expect that our expenses will exceed revenues for the foreseeable future and we do not expect to achieve profitability during this period, if ever. If we fail to

achieve profitability, or if the time required to achieve profitability is longer than we anticipate, we may not be able to continue our business. Even if we do achieve profitability, we may not be able to sustain or increase profitability on a quarterly or annual basis.

If we fail to remediate deficiencies in our control environment or are unable to implement and maintain effective internal control over financial reporting in the future, the accuracy and timeliness of our financial reporting may be adversely affected.

In connection with the audit of our consolidated financial statements for 2005, 2006 and 2007, we and our independent registered public accounting firm identified a material weakness in our internal control over financial reporting. A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of a company's annual or interim financial statements will not be prevented or detected on a timely basis. The material weakness comprised a lack of policies and procedures, with the associated internal controls, to appropriately address complex, non-routine transactions and a lack of a sufficient number of qualified personnel to timely account for such transactions in accordance with U.S. generally accepted accounting principles. These deficiencies in the design and operation of our internal controls resulted in the recording of numerous audit adjustments and significantly delayed our financial statement close process for the three year period ended December 31, 2007.

In connection with the audit of our consolidated financial statements for 2008, we and our independent registered public accounting firm identified a material weakness, which was related to an inadequately designed process to analyze and reconcile certain accounts and the failure of supervisors or business unit managers to review the analysis prepared for certain accounts. The material weakness affected our accruals, stock-based compensation, reimbursements under a license agreement, and inventories processes. We also identified two significant deficiencies in our internal control over financial reporting, one related to the misapplication of U.S. generally accepted accounting principles and the other related to an ineffective contract compliance process. A significant deficiency is a deficiency, or combination of deficiencies, in internal control over financial reporting that is less severe than a material weakness, yet important enough to merit attention by those responsible for oversight of a company's financial reporting.

In connection with the audit of our consolidated financial statements for 2009, we and our independent registered public accounting firm determined that the previously identified significant deficiency which related to an ineffective contract compliance process continued to exist as of December 31, 2009. Although we began to implement policies and processes to address this deficiency following the audit of our consolidated financial statements for 2008, we had not completed this implementation as of December 31, 2009.

We have not performed an evaluation of our internal control over financial reporting, such as required by Section 404 of the Sarbanes-Oxley Act, nor have we engaged our independent registered public accounting firm to perform an audit of our internal control over financial reporting as of any balance sheet date or for any period reported in our financial statements. Had we performed such an evaluation or had our independent registered public accounting firm performed an audit of our internal control over financial reporting, control deficiencies, including material weaknesses and significant deficiencies, in addition to those discussed above, may have been identified.

We have taken numerous steps to address the underlying causes of the control deficiencies described above, primarily through the development and implementation of policies, improved processes and documented procedures, the retention of third-party experts and contractors, and the hiring of additional accounting and finance personnel with technical accounting, inventory accounting and financial reporting experience. If we fail to remediate deficiencies in our control environment or are unable to implement and maintain effective internal control over financial reporting to meet the demands that will be placed upon us as a public company, including the requirements of the Sarbanes-Oxley Act, we may be unable to accurately report our financial results, or report them within the timeframes required by law or exchange regulations. In

addition, while we currently use a third-party contractor to assist us in the preparation of our financial statements, we intend for our internal accounting and finance groups to handle our financial reporting obligations upon becoming a reporting company. We may encounter difficulties as we reduce our use of this contractor, which could impact our ability to timely and accurately prepare our financial statements. We cannot assure you that we will be able to remediate our existing significant deficiency in a timely manner, if at all, or that in the future additional material weaknesses or significant deficiencies will not exist or otherwise be discovered, a risk that is significantly increased in light of the complexity of our business and multinational operations. If our efforts to remediate the significant deficiency are not successful or if other deficiencies occur, our ability to accurately and timely report our financial position, results of operations or cash flows could be impaired, which could result in late filings of our annual and quarterly reports under the Securities Exchange Act of 1934, as amended, restatements of our consolidated financial statements, a decline in our stock price, suspension or delisting of our common stock by The Nasdaq Global Market, or other material adverse effects on our business, reputation, results of operations, financial condition or liquidity.

If we lose our intellectual property rights licensed from Maxygen, we may be unable to continue our business.

We have licensed core enabling intellectual property rights and technology from Maxygen, Inc., or Maxygen, under our March 2002 license agreement with Maxygen, which was subsequently amended in September 2002, October 2002 and August 2006. Under the terms of the license agreement, we are obligated, among other things, to pay Maxygen a significant percentage of certain types of consideration we receive in connection with our biofuels research and development collaboration with Shell. As a result of consideration received in connection with this collaboration, we were obligated to pay Maxygen $7.9 million, $0.9 million and $5.5 million for 2007, 2008 and 2009, respectively.

We rely heavily on the technology licensed to us by Maxygen and third parties under the Maxygen license. This technology includes advanced biotechnology methods, bioinformatics and years of accumulated know-how to develop the biocatalysts that are central to our business. Certain technologies sublicensed to us from Maxygen are owned by third parties, and our use of these technologies may be restricted by Maxygen's agreements with those third parties. Maxygen has the right to terminate our rights under the license with respect to fuels, but not with respect to chemicals or pharmaceuticals, if we breach our royalty obligations to Maxygen and do not cure such breach within 60 days after we receive notice of the breach. In addition, as part of the license we received from Maxygen, Maxygen assigned or sublicensed to us several license agreements between Maxygen and third parties, including an agreement with one of our competitors, Novozymes A/S, or Novozymes. These third party agreements may restrict our use of the licensed technology. If we breach one of these third party agreements and fail to cure such breach within the time period specified in such third party agreement, Maxygen has the right to terminate our license with respect to the subject matter covered by the applicable third party agreement. Maxygen also has the right to terminate our license with respect to any family of related patent applications if we fail to pay our share of costs for obtaining and maintaining a patent licensed to us by Maxygen more than three times within any three-year period. In addition, Maxygen has the first right to control prosecution, maintenance and enforcement of certain licensed intellectual property rights. If Maxygen is acquired by a third party or transfers to a third party some or all of the intellectual property rights that we have licensed, the acquirer may choose not to enforce the intellectual property rights on which our business relies, or may seek to enforce those rights ineffectively and have them invalidated, and our ability to develop and expand our business may be adversely impacted. Any termination of our license agreement with Maxygen or any of the rights licensed to us by third parties through Maxygen, or any loss of our intellectual property rights as a result of ineffective enforcement of such rights, would have a material adverse impact on our financial condition, results of operations and growth prospects and could prevent us from continuing our business.

The license agreement with Maxygen, the related sublicenses to third party technologies and the third party agreements assigned to us under the Maxygen agreement, and the interplay between those

agreements, are highly complex. For example, the agreements rely on highly technical definitions and delineate permitted and restricted activities. As a result of this complexity, the agreements may be subject to differing interpretations by the counterparties that could lead to disputes or litigation, including for alleged breaches or claims that our products or activities are not covered by the scope of the licenses. If Maxygen or a third party were to make such a contention and we were unable to reach agreement on the meaning or scope of the licenses, we could be subject to litigation. Any such litigation may divert management time from focusing on business operations and could cause us to spend significant amounts of money. If such litigation were to be decided adversely to us, we could: lose our rights to utilize the subject intellectual property in our business; be forced to stop selling or using our products or processes that use the subject intellectual property; be required to obtain a license to use the subject intellectual property, which license may not be available on commercially reasonable terms, or at all; be forced to redesign those products or processes that use the subject intellectual property, which may result in significant cost or delay to us, or which could be technically infeasible; or be required to pay monetary damages.

Under our license with Maxygen, there are limitations on our ability to enforce Maxygen's patents to which we hold a license, which could have a material adverse effect on our business.

Under our agreement with Maxygen, Maxygen has the first right to enforce many of the patents that we have licensed, particularly those directly related to gene shuffling technology. If Maxygen declines to enforce these patent rights, we can enforce these rights after a delay of up to six months, or Maxygen can deny us the ability to enforce if Maxygen concludes that such enforcement may have a material adverse impact on Maxygen or one or more other licensees of Maxygen's technology. Some portions of the technology licensed to us by Maxygen are owned by third parties that retain the right to enforce the patents. If Maxygen or these third parties fail to enforce their patent rights, our business could be materially adversely affected. Maxygen also has the right to control the defense of patent infringement claims made by third parties alleging infringement related to gene shuffling technology. If Maxygen does not provide a timely and adequate defense to these claims, we could be forced to stop using the licensed technology, redesign our products and/or obtain a license from the party claiming infringement, which may not be available on commercially reasonable terms or at all. If Maxygen were to become acquired or controlled by a competitor of ours or a third party who is not willing to work with us on the same terms or commit the same resources as Maxygen, our business could be harmed.

We are dependent on our collaborators, and our failure to successfully manage these relationships could prevent us from developing and commercializing many of our products and achieving or sustaining profitability.

Our ability to maintain and manage collaborations in our markets is fundamental to the success of our business. We currently have license agreements, research and development agreements, supply agreements and/or distribution agreements with various collaborators. We may have limited or no control over the amount or timing of resources that any collaborator is able or willing to devote to our partnered products or collaborative efforts. Any of our collaborators may fail to perform their obligations as expected. These collaborators may breach or terminate their agreements with us or otherwise fail to conduct their collaborative activities successfully and in a timely manner. Further, our collaborators may not develop products arising out of our collaborative arrangements or devote sufficient resources to the development, manufacture, marketing, or sale of these products. Moreover, disagreements with a collaborator could develop and any conflict with a collaborator could reduce our ability to enter into future collaboration agreements and negatively impact our relationships with one or more existing collaborators. If any of these events occur, or if we fail to maintain our agreements with our collaborators, we may not be able to commercialize our existing and potential products, grow our business, or generate sufficient revenues to support our operations. Our collaboration opportunities could be harmed if:

- we do not achieve our research and development objectives under our collaboration agreements in a timely manner or at all;

- we develop products and processes or enter into additional collaborations that conflict with the business objectives of our other collaborators;
- we disagree with our collaborators as to rights to intellectual property we develop, or their research programs or commercialization activities;
- we are unable to manage multiple simultaneous collaborations;
- our collaborators become competitors of ours or enter into agreements with our competitors;
- our collaborators become unable or less willing to expend their resources on research and development or commercialization efforts due to general market conditions, their financial condition or other circumstances beyond our control; or
- consolidation in our target markets limits the number of potential collaborators.

Additionally, our business could be negatively impacted if any of our collaborators or suppliers undergoes a change of control or were to otherwise assign the rights or obligations under any of our agreements. For example, under our license agreement with Shell, Shell may assign the agreement without our consent to its controlled affiliates or in connection with a change of control. If Shell or any of our other collaborators were to assign these agreements to a competitor of ours or to a third party who is not willing to work with us on the same terms or commit the same resources as the current collaborator, our business and prospects could be harmed.

Our future success is heavily dependent on our collaborative research agreement with Shell.

Our current business plan for biofuels is heavily dependent on our collaborative research agreement with Shell, which will continue to be critical to researching and developing successful biocatalysts for producing biofuel products. Shell's efforts in commercializing those products profitably will be critical to the success of our business plan for biofuels. If we are unable to successfully execute on the development of products for Shell, our ability to expand into other bioindustrial areas may be significantly impaired, which will materially and adversely affect our ability to grow our business.

We cannot control the financial resources Shell devotes to our programs under the collaborative research agreement. Currently, we receive bi-monthly payments from Shell that are based on the number of full-time employee equivalents, or FTEs, that work on our research collaboration with Shell. The number of FTEs that work on the program, and the payments from Shell for these FTEs, are specified in our collaborative research agreement. Until November 1, 2010, Shell has the right to reduce the number of funded FTEs under the collaborative research agreement by up to 12 FTEs following 60 days' advance written notice. After November 1, 2010, Shell has the right to further reduce the number of funded FTEs, with any one reduction not to exceed 98 funded FTEs, following advance written notice. The required notice period ranges from 30 to 270 days, so the earliest an FTE reduction could take place would be December 2, 2010. Following any such reduction, Shell is subject to a standstill period of between 90 and 360 days during which period Shell cannot provide notice of any further FTE reductions. The notice and standstill periods are dependent on the number of funded FTEs reduced, with the length of notice and standstill periods increasing commensurate with the number of FTEs reduced. Any such reduction would have a material adverse impact on our revenues and business plan for biofuels. Moreover, disputes may arise between us and Shell, which could delay the programs on which we are working or could prevent the commercialization of products developed under our research and development collaboration. If that were to occur, we may have to use funds, personnel, equipment, facilities and other resources that we have not budgeted to undertake certain activities on our own. Disagreements with Shell could also result in expensive arbitration or litigation, which may not be resolved in our favor. Performance issues, program delay or termination or unbudgeted use of our resources may have a material adverse effect on our business and financial condition. Even if we successfully develop commercially viable technologies, our ability to

derive revenues from those technologies will be dependent upon Shell's willingness and ability to commercialize them. Shell has the right, but not the obligation, to commercialize these technologies. If Shell decides to commercialize our technology, we would need to rely on Shell, or other parties selected by Shell, to design, finance and construct commercial scale biofuel facilities, and operate commercial scale facilities at costs that are competitive with traditional petroleum-based fuels and other alternative fuel technologies that may be developed. Shell could merge with or be acquired by another company or experience financial or other setbacks unrelated to our research collaboration agreement that could adversely affect us.

We have agreed to work exclusively with Shell until November 2012 in the field of converting cellulosic biomass into fermentable sugars that are used in the production of fuels and related products as well as the conversion of these sugars into fuels and related products. However, Shell is not required to work exclusively with us, and could develop or pursue alternative technologies that it decides to use for commercialization purposes instead of the technology developed under our collaborative research agreement with Shell. For example, Shell is currently working with Virent Energy Systems to develop a thermo-chemical approach to developing biogasoline. Even if Shell decides to commercialize products based on our technologies, Shell has no obligation to purchase its biocatalyst supply from us. If Shell does not pursue the commercialization of any cellulosic sugars, biofuels or related products that may be developed under our collaborative research agreement, our exclusive arrangement would prevent us from licensing any technology developed under the collaboration for the patent life of such technology, which could place us at a significant competitive disadvantage in the biofuels market.

We cannot guarantee that our relationship with Shell will continue. After November 1, 2010, Shell can terminate its collaborative research agreement with us for any or no reason by providing us with nine months' notice. Each party also has the right to terminate the license agreement and the collaborative research agreement in the case of an uncured breach by the other party, and to terminate the collaborative research agreement if that party believes the other party has assigned the collaborative research agreement to a direct competitor of the terminating party. If our collaboration with Shell were to fail, we would likely need to find another collaborator to provide the financial assistance and infrastructure necessary for us to develop and commercialize our products and execute our strategy with respect to biofuels. Failure to maintain this relationship would have a material adverse effect on our business, financial condition and prospects.

The success of our cellulosic ethanol program may be dependent on the performance of other parties.

In connection with our research and development collaboration with Shell, we entered into a multi-party collaborative research and license agreement with Iogen Energy Corporation, or Iogen, and Shell in July 2009, which is focused on developing technology to convert cellulosic biomass to ethanol for commercial scale production. Either Shell or Iogen may fail to perform their obligations under this collaboration, may breach or terminate the collaboration agreement or otherwise fail to conduct their collaborative activities successfully and in a timely manner. Further, they may not devote sufficient resources to the development of technology to convert cellulosic biomass to ethanol or may fail to develop the technology altogether. Moreover, disagreements or conflicts amongst the parties could develop and could negatively impact our development efforts or our relationships with Shell and Iogen. If any of these events occur, or if we fail to maintain this collaboration with Shell and Iogen, we may be unable to develop technology for use in the production of cellulosic ethanol at commercial scale, which would have an adverse impact on our ability to grow our business. In addition, the collaborative research and license agreement with Iogen and Shell terminates in the event (i) our separate license agreements with Shell terminate or (ii) Iogen's separate technology license agreement with Shell terminates. In addition, Shell can terminate the collaborative research and license agreement for any or no reason by providing us and Iogen with 30 days notice. Any unilateral action by Shell to terminate either its separate license agreements with us or Iogen will prevent any further research and development activities under the multi-party

collaboration. As a result, our ability to pursue research and development activities relating to the conversion of cellulosic biomass and our biofuels programs may be adversely impacted.

We do not yet know what impact, if any, the proposed joint venture recently announced by Shell and Cosan will have on our business.

In February 2010, Shell International Petroleum Company Limited, or Shell International, an affiliate of Shell, announced that it had signed a non-binding memorandum of understanding with Cosan S.A. with the intention of forming a joint venture in Brazil for the production of ethanol, sugar and power, and the supply, distribution and retail of transportation fuels. According to the announcement, Shell International would contribute to the joint venture, among other assets, Shell's equity interest in us. The consummation of the joint venture is subject to the negotiation and execution of final transaction documentation, the satisfactory completion of due diligence and the receipt of regulatory approvals, among other conditions. As a result, there can be no certainty when or if the joint venture will be consummated. If the joint venture is formed, we do not know whether we will receive any benefits from it. Moreover, the joint venture may impact Shell's willingness to continue to fund our collaborative research program and to commercialize any advanced biofuels that may be produced utilizing our technology, and on the timing of any such commercialization. Any of these events, or other decisions made by Shell with respect to the proposed joint venture, could have a material adverse effect on our business.

Production and commercialization of biofuels derived from cellulose may not be feasible.

We are developing biocatalysts for use in producing two advanced biofuels, cellulosic ethanol and biohydrocarbon diesel, as part of our research and development collaboration with Shell. However, production and commercialization of cellulosic biofuels may not be feasible for a variety of reasons. For example, the development of technology for converting sugar derived from non-food renewable biomass sources into a commercially viable biofuel is still in its early stages, and we do not know whether this can be done commercially or at all. To date, there has been limited private and government funding for research and development in advanced biofuels relative to the scope of the challenges presented by this development effort. Furthermore, there have been only a few well-directed public policies emphasizing investment in the research and development of, and providing incentives for the commercialization of and transition to, biofuels.

As of the date of this prospectus, we believe that there are no commercial scale cellulosic biofuel production plants in operation. There can be no assurance that anyone will be able or willing to develop and operate biofuel production plants at commercial scale or that any biofuel facilities can be profitable.

Additionally, different biocatalysts may need to be developed for use in different geographic locations to convert the cellulosic biomass available in each locale into sugars that can be used in the production of these biofuels. This will make the development of biofuels derived from cellulose more challenging and expensive.

Moreover, substantial development of infrastructure will be required for the ethanol market to grow. Areas requiring expansion include, but are not limited to, additional rail capacity, additional storage facilities for ethanol, increases in truck fleets capable of transporting ethanol within localized markets, expansion of refining and blending facilities to handle ethanol, and growth in the fleet of end user vehicles capable of using ethanol blends. Substantial investments required for infrastructure changes and expansions may not be made on a timely basis or at all. Any delay or failure in making the changes to or expansion of infrastructure could harm demand or prices for ethanol and impose additional costs that would hinder its commercialization.

Finally, if existing tax credits, subsidies and other incentives in the United States and foreign markets are phased out or reduced, the overall cost of commercialization of cellulosic biofuels will increase.

We are dependent on a limited number of customers.

Our current revenues are derived from a limited number of key customers. For the year ended December 31, 2008, our top five customers accounted for 79% of our total revenues, with Shell alone accounting for 60% of our total revenues. For the year ended December 31, 2009, our top five customers accounted for 90% of our total revenues, with Shell accounting for 76% of our total revenues. We expect a limited number of customers to continue to account for a significant portion of our revenues for the foreseeable future. This customer concentration increases the risk of quarterly fluctuations in our revenues and operating results. The loss or reduction of business from one or a combination of our significant customers could materially adversely affect our revenues, financial condition and results of operations.

Our dependence on contract manufacturers for biocatalyst production exposes our business to risks.

We have limited internal capacity to manufacture biocatalysts and are unable to do so for commercial scale production. As a result, we are dependent upon the performance and capacity of third party manufacturers for the commercial scale manufacturing of our biocatalysts.

We rely on two primary contract manufacturers, CPC Biotech srl, or CPC, and Lactosan GmbH & Co. KG, or Lactosan, to manufacture substantially all of the biocatalysts used in our pharmaceutical business. Our pharmaceutical business, therefore, faces risks of difficulties with, and interruptions in, performance by these contract manufacturers, the occurrence of which could adversely impact the availability, launch and/or sales of our enzymes in the future. We have qualified other contract manufacturers to manufacture biocatalysts for our pharmaceutical business, but we do not have agreements or commitments with such contract manufacturers at this time. The failure of any manufacturers that we may use to supply manufactured product on a timely basis or at all, or to manufacture our biocatalysts in compliance with our specifications or applicable quality requirements or in volumes sufficient to meet demand would adversely affect our ability to sell pharmaceutical products, could harm our relationships with our collaborators or customers and could negatively affect our revenues and operating results. For example, in 2008, we were required to secure an alternative source of certain biocatalysts when viruses infected one of our contract manufacturer's facilities. If this or any similar event disrupts the operations of any of our suppliers in the future, we may be forced to secure alternative sources of supply, which may be unavailable on commercially acceptable terms, cause delays in our ability to deliver products to our customers, increase our costs and decrease our profit margins.

We do not currently have a long-term supply contract with CPC, Lactosan or any other contract manufacturers, which are under no obligation to manufacture our biocatalysts and could elect to discontinue their manufacture at any time. If we require additional manufacturing capacity and are unable to obtain it in sufficient quantity, we may not be able to increase our pharmaceutical sales, or we may be required to make substantial capital investments to build that capacity or to contract with other manufacturers on terms that may be less favorable than the terms we currently have with CPC or Lactosan. If we choose to build our own additional manufacturing capacity, it could take a year or longer before our facility is able to produce commercial volumes of our biocatalysts. In addition, if we contract with other manufacturers, we may experience delays of several months in qualifying them, which could harm our relationships with our collaborators or customers and could negatively affect our revenues or operating results.

We are working to establish long-term supply contracts with contract manufacturers and are evaluating whether to invest in our own manufacturing capabilities. However, we cannot guarantee that we will be able to enter into long-term supply contracts on commercially reasonable terms, or at all, or to acquire, develop or contract for internal manufacturing capabilities. Any resources we expend on acquiring or building internal manufacturing capabilities could be at the expense of other potentially more profitable opportunities.

We are primarily dependent on contract manufacturers to manufacture our pharmaceutical products.

We currently rely on a small number of contract manufacturers to manufacture all of our pharmaceutical APIs and intermediates used in the manufacture of APIs. In particular, in August 2008, we entered into a series of agreements that significantly broadened our relationship with Arch, which serves as our exclusive supplier for certain intermediates and APIs, including intermediates used to manufacture atorvastatin. These agreements were terminated in February 2010 and replaced by a product supply agreement and an enzyme and product supply agreement in order to streamline and modify certain of the contractual terms governing the supply relationship.

Our pharmaceutical business may face risks of difficulties with, and interruptions in, performance by Arch, or any other contract manufacturer that we rely on to manufacture our intermediates and APIs, the occurrence of which could adversely impact the availability, launch and/or sales of our products in the future. Under our arrangement with Arch, Arch is obligated to exclusively supply to Codexis and Codexis is obligated to exclusively purchase from Arch five distinct products, subject to certain specified exceptions. Because we rely on Arch to supply us exclusively with certain intermediates and APIs, the failure of Arch to supply our products on a timely basis or at all, or to manufacture our products in compliance with our specifications or applicable quality requirements, which may include current Good Manufacturing Practices, or cGMP, or to manufacture these products in volumes sufficient to meet demand would adversely affect our ability to commercialize these products and could lead to lost sales and lost customer confidence and would negatively affect our revenues and operating results. If for any reason Arch is unable to meet our volume requirements, or if either we or Arch terminates our relationship prematurely pursuant to the terms of our agreements, we will need to contract with other suppliers. We may experience delays in contracting with other suppliers, or we may not be able to contract with other suppliers on commercially reasonable terms or at all. We will not have enough capacity to meet our current demand projections if we are faced with any such delay or inability to contract with other suppliers, which could adversely affect our ability to commercialize these products and could harm our relationships with our customers.

We also rely on other contract manufacturers to supply other pharmaceutical intermediates, APIs and other products. The failure of any of these contract manufacturers to supply intermediates or APIs, or to manufacture products in compliance with our specifications or in sufficient volumes, would have negative effects on our revenues and operating results.

In February 2010, we entered into an agreement with Dishman Pharmaceuticals and Chemicals, Ltd., or Dishman, a global manufacturer of intermediates and APIs located in India, whereby we will work exclusively with Dishman and Dishman will work exclusively with us with respect to the manufacture and supply of intermediates and APIs using our biocatalysts for a select group of innovator pharmaceutical companies. Dishman will have a one-time right to expand such exclusivity to include all other innovator pharmaceutical companies if revenues under the collaboration agreement reach certain targeted levels. In the event we do not achieve subsequent revenue targets after Dishman has exercised such expansion right, we may choose to convert Dishman's exclusive right back to a non-exclusive right for such other innovators. To the extent we are obligated to exclusively engage Dishman with respect to the manufacture and supply of APIs and intermediates we may be unable to secure certain innovator pharmaceutical companies as our customers if they have a previous relationship with another contract manufacturer or otherwise prefer a contract manufacturer other than Dishman to manufacture and supply APIs or other intermediates for their products.

We rely on Arch to market our products in certain regions, and Arch may not be able to effectively market our products.

Using our biocatalysts, Arch manufactures certain specified APIs, and intermediates used in the manufacture of APIs, that we then purchase and have the right to sell to innovator pharmaceutical

companies worldwide, generic pharmaceutical companies in the United States, Canada, Europe and Israel, and certain pharmaceutical companies in India. Arch has the exclusive right to manufacture, market and sell such APIs and intermediaries to generic pharmaceutical companies in countries other than the United States, Canada, Europe and Israel, and certain other pharmaceutical companies in India. We must therefore rely on Arch for their financial resources and their marketing expertise for the commercialization of such APIs and intermediates in these regions. We cannot control Arch's level of activity or expenditures relating to the marketing of such products relative to the rest of their products or marketing efforts. Arch may fail to effectively market our products in these regions. Conflicting priorities, competing demands or other factors that we cannot control, and of which we may not be aware, may cause Arch to deemphasize such products. If we are unable to effectively leverage Arch's marketing capabilities or Arch does not successfully promote such products in the designated territories as our sole marketing partner, this could harm our business, our revenues and operating results, and our ability to bring such products to the marketplace could be harmed.

We may continue to encounter difficulties managing our growth, which could adversely affect our business.

Our business has grown rapidly and we expect this growth to continue. Overall, we have grown from approximately 40 employees at the end of 2002 to approximately 290 employees as of December 31, 2009. Currently, we are working simultaneously on multiple projects targeting several markets. Furthermore, we are conducting our business across several countries, including activities in the United States, India, Japan, Singapore, Austria, France, Germany, Hungary and Italy. These diversified, global operations place increased demands on our limited resources and require us to substantially expand the capabilities of our administrative and operational resources and to attract, train, manage and retain qualified management, technicians, scientists and other personnel. As our operations expand domestically and internationally, we will need to continue to manage multiple locations and additional relationships with various customers, collaborators, suppliers and other third parties. Our ability to manage our operations, growth, and various projects effectively will require us to make additional investments in our infrastructure to continue to improve our operational, financial and management controls and our reporting systems and procedures and to attract and retain sufficient numbers of talented employees, which we may be unable to do effectively. As a result, we may be unable to manage our expenses in the future, which may negatively impact our gross margins or operating margins in any particular quarter. In addition, we may not be able to successfully improve our management information and control systems, including our internal control over financial reporting, to a level necessary to manage our growth and to remediate the existing significant deficiency in our internal control over financial reporting that was identified in our last audit, and we may discover additional deficiencies in existing systems and controls that we may not be able to remediate in an efficient or timely manner.

Our business could be adversely affected if pharmaceutical customers do not incorporate our biocatalysts into their manufacturing processes.

Historically, pharmaceutical companies have been reluctant to use biocatalysts in the manufacture of their intermediates or APIs because naturally occurring biocatalysts were not economically viable for production at commercial scale. For example, naturally occurring biocatalysts are often not stable enough to be used in industrial settings. Additionally, the activity and productivity of these biocatalysts are often too limited to be effective in commercial scale manufacturing and often result in incomplete reactions and insufficient product yields. Although our biocatalysts have been developed to address shortcomings of naturally occurring biocatalysts, we may still encounter reluctance by pharmaceutical companies to adopt processes that use our biocatalysts. If customers decide not to adopt processes using our biocatalysts over other methods of producing the intermediates or APIs for their drugs, our revenues and prospects will be negatively impacted.

Moreover, we believe that the lower manufacturing costs enabled by our technology platform is one of the principal reasons pharmaceutical companies have purchased and will continue to purchase our biocatalysts and optimization services. If we are unable to maintain the cost advantages provided by our technology platform, customers may be less willing to purchase our products and services, which would also negatively impact our revenues. In addition, we may be unable to reach agreement on pricing or other terms with potential customers, which may adversely impact our ability to grow our business.

Our business could be adversely affected if the clinical trials being conducted by our innovator customers fail or if the processes used by those customers to manufacture their final pharmaceutical products fail to be approved.

Our biocatalysts are used in the manufacture of intermediates and APIs which are then used in the manufacture of final pharmaceutical products by our existing and potential customers who sell branded drugs, which we refer to as innovators. These pharmaceutical products must be approved by the FDA in the United States and similar regulatory bodies in other markets prior to commercialization. If these customers experience adverse events in their clinical trials, fail to receive regulatory approval for the drugs, or decide for business or other reasons to discontinue their clinical trials or drug development activities, our revenues and prospects will be negatively impacted. For example, one of our customers that incorporated our biocatalysts in the manufacturing process for a drug candidate suspended its development efforts during clinical trials. As a result, we were unable to realize a potential long-term revenue stream that would otherwise be associated with a commercialized product. The process of producing these drugs, and their generic equivalents, is also subject to regulation by the FDA in the United States and equivalent regulatory bodies in other markets. If any pharmaceutical process that uses our biocatalysts does not receive approval by the appropriate regulatory body or if customers decide not to pursue approval, our business could be adversely affected.

If we are unable to develop and commercialize new products for the pharmaceutical market, our business and prospects will be harmed.

We have launched several new intermediates and APIs for generic drugs, including Singulair and Cymbalta, in markets in which they are not patent protected, and plan to launch these same products in various other markets once the patent protection for each product in those other markets expires. In addition, we plan to launch other new intermediates and APIs in the future. These efforts are subject to numerous risks, including the following:

- we may be unable to successfully develop the biocatalysts or manufacturing processes for our intermediates and APIs in a timely and cost-effective manner, if at all;
- we may face difficulties in transferring the developed technologies to Arch, or other contract manufacturers that we may use, for commercial scale production;
- Arch, or other contract manufacturers that we may use, may be unable to scale their manufacturing operations to meet the demand for these products and we may be unable to secure additional manufacturing capacity;
- generics manufacturers may not be willing to purchase these products from us on favorable terms, if at all;
- we may face product liability litigation, unexpected safety or efficacy concerns and product recalls or withdrawals;
- changes in laws or regulations relating to the pharmaceutical industry could cause us to incur increased costs of compliance or otherwise harm our business;
- negative publicity may affect doctor or patient confidence in the products;

- we may face pressure from existing or new competitive products; and
- we may face pricing pressures from existing or new competitors, some of which may benefit from government subsidies or other incentives in their local markets.

In addition, our innovator customers may view us as competitors and be less willing to do business with us. Moreover, we may be subject to claims alleging that our pharmaceutical products violate the patent or other intellectual property rights of third parties, particularly in connection with any generic products on which the patent covering the branded drug is expiring. These claims could give rise to litigation, which may be costly and time-consuming and could divert management's attention. If we are unsuccessful in our defense of any such claims, we may lose our right to develop or manufacture the products, be required to pay monetary damages, or be required to enter into license agreements and pay substantial royalties. If one or more of these risks were to materialize, our future business, results of operations and financial condition could be materially adversely affected, and we may be unable to grow our business.

Consolidation in the pharmaceutical industry could adversely impact our business.

There has been significant consolidation in the pharmaceutical industry, including the recent mergers of Pfizer Inc. and Wyeth, Merck and Schering-Plough Corporation and F. Hoffman-La Roche Ltd. and Genentech Inc., and the acquisition of several generics businesses by Novartis AG, and this consolidation may continue in the future. When pharmaceutical companies merge, they often rationalize their product portfolios by eliminating competing product programs, resulting in fewer drug programs for certain target indications. As a result of this consolidation, there are fewer potential pharmaceutical customers and fewer drug development programs that could utilize our products and services to enhance drug manufacturing processes. For example, the consolidation of two pharmaceutical companies may lead the acquiring company to suspend or terminate development programs for certain product candidates for which we may have been providing or had the opportunity to provide biocatalysts, intermediates or APIs. This would lead to diminished demand for our products and services, which could adversely impact our business.

If we are unable to successfully commercialize our technology in other bioindustrial markets, we may be unable to grow our business.

In addition to biofuels, we expect to invest a significant amount of our future research and development efforts in other bioindustrial markets, including carbon management, water treatment and chemicals. Because we do not currently and may never possess the resources necessary to independently develop and commercialize all of the potential products that may result from our technologies, our ability to succeed in these target markets will likely depend on our ability to enter into collaboration agreements to develop and commercialize potential products. We intend to pursue such additional collaborations, but may be unable to do so on terms satisfactory to us, or at all. Even if we are able to enter into collaborations in one or more of these areas, the collaborations may be unsuccessful. Moreover, because we have limited financial and managerial resources, we will be required to prioritize our application of resources to particular development and commercialization efforts. Any resources we expend on one or more of these efforts could be at the expense of other potentially profitable opportunities. If we focus our efforts and resources on one or more of these areas and they do not lead to commercially viable products, our revenues, financial condition and results of operations could be adversely affected.

If we are unable to maintain license rights to a commercial scale expression system for enzymes that convert cellulosic biomass to sugars, our business may be materially adversely affected.

We entered into a license agreement with Dyadic International, Inc. and its affiliate, or Dyadic, in November 2008 to obtain access to an expression system that is capable of producing the necessary biocatalysts for the commercialization of cellulosic biofuels. Under the license agreement with Dyadic, we

obtained a non-exclusive license under intellectual property rights of Dyadic relating to Dyadic's proprietary fungal expression technology for the production of enzymes. We also obtained access to specified materials of Dyadic relating to such Dyadic technology. Our license is sublicenseable to Shell in the field of biofuels. Dyadic has the right to terminate our licenses under the license agreement if we challenge the validity of any of the patents licensed under the license agreement and for various other reasons. Our licenses, and access to such materials of Dyadic, under the license agreement will terminate as a result of any termination of the license agreement other than due to Dyadic's material breach. If we are unable to maintain these rights on commercially reasonable terms or if the license agreement is terminated for any reason, we will need to buy or license this type of expression system from another party or develop this type of expression system ourselves, which may be difficult, costly and time consuming, in part because of the broad, existing intellectual property rights owned by Danisco A/S, Novozymes and others. If any of these events occur, our business may be materially adversely affected.

Fluctuations in the price of and demand for petroleum-based fuels may reduce demand for biofuels.

Biofuels are anticipated to be marketed as an alternative to petroleum-based fuels. Therefore, if the price of oil falls, any revenues that we generate from biofuel products could decline, and we may be unable to produce products that are a commercially viable alternative to petroleum-based fuels. Additionally, demand for liquid transportation fuels, including biofuels, may decrease due to economic conditions or otherwise.

The royalties that we may earn under our agreements with Shell are indexed to the price of oil and generally increase as the price of oil increases. However, the index is set based on average prices between November 2007 and the date of first commercial sale. Therefore, if prices fall, our revenues would be negatively impacted.

Our approach to the advanced biofuels markets may be limited by the availability or cost of non-food renewable cellulosic biomass sources.

Our approach to the advanced biofuels markets will be dependent on the availability and price of the cellulosic biomass that will be used to produce biofuels derived from cellulose. If the availability of cellulosic biomass decreases or its price increases, this may reduce the royalties that we collect from Shell and have a material adverse effect on our financial condition and operating results. At certain levels, prices may make these products uneconomical to use and produce.

The price and availability of cellulosic biomass may be influenced by general economic, market and regulatory factors. These factors include the availability of arable land to supply feedstock, weather conditions, farming decisions, government policies and subsidies with respect to agriculture and international trade, and global demand and supply. The significance and relative impact of these factors on the price of cellulosic biomass is difficult to predict, especially without knowing what types of cellulosic biomass materials we may need to use.

Reductions or changes to existing fuel regulations and policies may present technical, regulatory and economic barriers, all of which may significantly reduce demand for biofuels.

The market for biofuels is heavily influenced by foreign, federal, state and local government regulations and policies concerning the petroleum industry. For example, in 2007, the U.S. Congress passed an alternative fuels mandate that currently calls for approximately 13 billion gallons of liquid transportation fuels sold in 2010 to come from alternative sources, including biofuels, a mandate that grows to 36 billion gallons by 2022. Of this amount, a minimum of 21 billion gallons must be advanced biofuels. In the United States and in a number of other countries, these regulations and policies have been modified in the past and may be modified again in the future. Any reduction in mandated requirements for fuel alternatives and additives to gasoline may cause demand for biofuels to decline and deter investment in the

research and development of biofuels. Market uncertainty regarding future policies may also affect our ability to develop new biofuels products or to license our technologies to third parties. Any inability to address these requirements and any regulatory or policy changes could have a material adverse effect on our biofuels business, financial condition and operating results. Our other potential bioindustrial products may be subject to additional regulations.

If governmental incentives or other actions targeted at limiting carbon emissions are not adopted, a broad market for carbon management solutions may not develop.

Our strategy with respect to carbon management, although still in the research phase, would likely require an expansion of the market for the management of carbon dioxide emissions prior to us being able to recognize significant revenues from our research and continuing expenditures of resources. The development of a significant market will likely depend on the adoption of government subsidies or other government regulation requiring companies to limit their carbon emissions. In the absence of such additional government subsidies or regulation, this market may not expand and we would not be able to generate significant revenues from our carbon management operations.

We may need additional licenses from Maxygen to pursue certain future business opportunities in the chemicals market.

Under our license agreement with Maxygen, we obtained exclusive rights to manufacture certain types of chemicals for specified purposes within particular fields. Should we desire to work on any chemicals that are outside the scope of these license rights, we may need to seek additional rights from Maxygen. Maxygen has no obligation to grant such rights to us and may choose not to license such rights to us on favorable terms, if at all. If we are unable to obtain rights to those additional areas, we may not be able to develop products or services or pursue collaborations in those areas, which could limit our ability to expand into the chemicals market.

Our government grants are subject to uncertainty, which could harm our business and results of operations.

We have received various government grants to complement and enhance our own resources. We may seek to obtain government grants and subsidies in the future to offset all or a portion of the costs of building additional manufacturing facilities and research and development activities. We cannot be certain that we will be able to secure any such government grants or subsidies. Any of our existing grants or new grants that we may obtain may be terminated, modified or recovered by the granting governmental body under certain conditions.

We may also be subject to audits by government agencies as part of routine audits of our activities funded by our government grants. As part of an audit, these agencies may review our performance, cost structures and compliance with applicable laws, regulations and standards. Funds available under grants must be applied by us toward the research and development programs specified by the granting agencies, rather than for all of our programs generally. If any of our costs are found to be allocated improperly, the costs may not be reimbursed and any costs already reimbursed may have to be refunded. Accordingly, an audit could result in an adjustment to our revenues and results of operations.

We face risks associated with our international business.

Significant portions of our operations are conducted outside of the United States and we expect to continue to have significant foreign operations in the foreseeable future. International business operations are subject to a variety of risks, including:

- changes in or interpretations of foreign regulations that may adversely affect our ability to sell our products or repatriate profits to the United States;

- the imposition of tariffs;
- the imposition of limitations on, or increase of, withholding and other taxes on remittances and other payments by foreign subsidiaries or joint ventures;
- the imposition of limitations on genetically-engineered products or processes and the production or sale of those products or processes in foreign countries;
- currency exchange rate fluctuations;
- uncertainties relating to foreign laws and legal proceedings including tax and exchange control laws;
- the availability of government subsidies or other incentives that benefit competitors in their local markets that are not available to us;
- economic or political instability in foreign countries;
- difficulties in staffing and managing foreign operations; and
- the need to comply with a variety of U.S. laws applicable to the conduct of overseas operations, including export control laws and the Foreign Corrupt Practices Act.

We manufacture many of our pharmaceutical intermediates in India, which has stringent local regulations that make it difficult for money earned in India to be taken out of the country without being subject to Indian taxes. While our Indian subsidiary can make use of some of the funds we earn in India, these regulations may limit the amount of profits we can repatriate from operations in India.

If we engage in any acquisitions, we will incur a variety of costs and may potentially face numerous risks that could adversely affect our business and operations.

We have made acquisitions in the past, and if appropriate opportunities become available, we expect to acquire additional businesses, assets, technologies, or products to enhance our business in the future. In connection with any future acquisitions, we could:

- issue additional equity securities which would dilute our current stockholders;
- incur substantial debt to fund the acquisitions; or
- assume significant liabilities.

Acquisitions involve numerous risks, including problems integrating the purchased operations, technologies or products, unanticipated costs and other liabilities, diversion of management's attention from our core businesses, adverse effects on existing business relationships with current and/or prospective collaborators, customers and/or suppliers, risks associated with entering markets in which we have no or limited prior experience and potential loss of key employees. We do not have extensive experience in managing the integration process and we may not be able to successfully integrate any businesses, assets, products, technologies, or personnel that we might acquire in the future without a significant expenditure of operating, financial and management resources, if at all. The integration process could divert management time from focusing on operating our business, result in a decline in employee morale and cause retention issues to arise from changes in compensation, reporting relationships, future prospects or the direction of the business. Acquisitions may also require us to record goodwill and non-amortizable intangible assets that will be subject to impairment testing on a regular basis and potential periodic impairment charges, incur amortization expenses related to certain intangible assets, and incur large and immediate write offs and restructuring and other related expenses, all of which could harm our operating results and financial condition. In addition, we may acquire companies that have insufficient internal financial controls, which could impair our ability to integrate the acquired company and adversely impact our financial reporting. If we fail in our integration efforts with respect to any of our acquisitions and are unable to efficiently operate as a combined organization, our business and financial condition may be adversely affected.

We must rely on our suppliers, contract manufacturers and customers to deliver timely and accurate information in order to accurately report our financial results in the time frame and manner required by law.

We need to receive timely, accurate and complete information from a number of third parties in order to accurately report our financial results on a timely basis. We rely on third parties that sell our pharmaceutical products that are manufactured using our biocatalysts to provide us with complete and accurate information regarding revenues, costs of revenues and payments owed to us on a timely basis. In addition, we rely on suppliers and certain contract manufacturers, including Arch, to provide us with timely and accurate information regarding our inventories and manufacturing cost information, and we rely on current and former collaborators to provide us with product sales and cost saving information in connection with royalties owed to us. Any failure to receive timely information from one or more of these third parties could require that we estimate a greater portion of our revenues and other operating performance metrics for the period, which could cause our reported financial results to be incorrect. Moreover, if the information that we receive is not accurate, our financial statements may be materially incorrect and may require restatement, and we may not receive the full amount of revenues that we are entitled to under these arrangements. Although we typically have audit rights with these parties, performing such an audit could be harmful to our collaborative relationships, expensive and time consuming and may not be sufficient to reveal any discrepancies in a timeframe consistent with our reporting requirements.

If we lose key personnel, including key management personnel, or are unable to attract and retain additional personnel, it could delay our product development programs, harm our research and development efforts, and we may be unable to pursue collaborations or develop our own products.

Our business involves complex, global operations across a variety of markets and requires a management team and employee workforce that is knowledgeable in the many areas in which we operate. The loss of any key members of our management, including our Chief Executive Officer, Alan Shaw, or the failure to attract or retain other key employees who possess the requisite expertise for the conduct of our business, could prevent us from developing and commercializing our products for our target markets and entering into collaborations or licensing arrangements to execute on our business strategy. In addition, the loss of any key scientific staff, or the failure to attract or retain other key scientific employees, could prevent us from developing and commercializing our products for our target markets and entering into collaborations or licensing arrangements to execute on our business strategy. We may not be able to attract or retain qualified employees in the future due to the intense competition for qualified personnel among biotechnology and other technology-based businesses, particularly in the biofuels area, or due to the unavailability of personnel with the qualifications or experience necessary for our biofuels business. If we are not able to attract and retain the necessary personnel to accomplish our business objectives, we may experience staffing constraints that will adversely affect our ability to meet the demands of our collaborators and customers in a timely fashion or to support our internal research and development programs. In particular, our product and process development programs are dependent on our ability to attract and retain highly skilled scientists. Competition for experienced scientists and other technical personnel from numerous companies and academic and other research institutions may limit our ability to attract and retain such personnel on acceptable terms. All of our employees are at-will employees, which means that either the employee or we may terminate their employment at any time.

Our planned activities will require additional expertise in specific industries and areas applicable to the products and processes developed through our technology platform or acquired through strategic or other transactions, especially in the end markets that we seek to penetrate. These activities will require the addition of new personnel, and the development of additional expertise by existing personnel. The inability to attract personnel with appropriate skills or to develop the necessary expertise could impair our ability to grow our business. Additionally, we would be in breach of our collaborative research agreement with Shell if we fail to maintain a specified number of personnel.

Our ability to compete may decline if we do not adequately protect our proprietary technologies or if we lose some of our intellectual property rights through costly litigation or administrative proceedings.

Our success depends in part on our ability to obtain patents and maintain adequate protection of our intellectual property for our technologies and products and potential products in the United States and other countries. We have adopted a strategy of seeking patent protection in the United States and in foreign countries with respect to certain of the technologies used in or relating to our products and processes. As such, as of December 31, 2009, we owned or had licensed rights to approximately 235 issued patents and approximately 280 pending patent applications in the United States and in various foreign jurisdictions. Of the licensed patents and patent applications, most are owned by Maxygen and exclusively licensed to us for use with respect to certain products for specified purposes within certain fields. However, some of these patents will expire as early as 2014. As of December 31, 2009, we owned approximately 35 issued patents and approximately 115 pending patent applications in the United States and in various foreign jurisdictions. These patents and patent applications are directed to our enabling technologies and to our methods and products which support our business in the pharmaceuticals and bioindustrials markets. We intend to continue to apply for patents relating to our technologies, methods and products as we deem appropriate.

Numerous patents in our portfolio involve complex legal and factual questions and, therefore, enforceability cannot be predicted with any certainty. Issued patents and patents issuing from pending applications may be challenged, invalidated, or circumvented. Moreover, third parties could practice our inventions in territories where we do not have patent protection. Such third parties may then try to import products made using our inventions into the United States or other territories. Additional uncertainty may result from potential passage of patent reform legislation by the United States Congress, legal precedent as handed down by the United States Federal Circuit and Supreme Court as they determine legal issues concerning the scope and construction of patent claims and inconsistent interpretation of patent laws by the lower courts. Accordingly, we cannot ensure that any of our pending patent applications will result in issued patents, or even if issued, predict the breadth of the claims upheld in our and other companies' patents. Given that the degree of future protection for our proprietary rights is uncertain, we cannot ensure that: (i) we were the first to make the inventions covered by each of our pending applications, (ii) we were the first to file patent applications for these inventions, and (iii) the proprietary technologies we develop will be patentable.

In addition, unauthorized parties may attempt to copy or otherwise obtain and use our products or technology. Monitoring unauthorized use of our intellectual property is difficult, and we cannot be certain that the steps we have taken will prevent unauthorized use of our technology, particularly in certain foreign countries where the local laws may not protect our proprietary rights as fully as in the United States. If competitors are able to use our technology, our ability to compete effectively could be harmed. Moreover, others may independently develop and obtain patents for technologies that are similar to or superior to our technologies. If that happens, we may need to license these technologies, and we may not be able to obtain licenses on reasonable terms, if at all, which could cause harm to our business.

Our commercial success also depends in part on not infringing patents and proprietary rights of third parties, and not breaching any licenses or other agreements that we have entered into with regard to our technologies, products and business. We cannot ensure that patents have not been issued to third parties that could block our ability to obtain patents or to operate as we would like. There may be patents in some countries that, if valid, may block our ability to make, use or sell our products in those countries, or import our products into those countries, if we are unsuccessful in circumventing or acquiring the rights to these patents. There also may be claims in patent applications filed in some countries that, if granted and valid, may also block our ability to commercialize products or processes in these countries if we are unable to circumvent or license them.

The biotechnology industry is characterized by frequent and extensive litigation regarding patents and other intellectual property rights, and we believe that the various bioindustrial markets will also be characterized by this type of litigation. Many biotechnology companies have employed intellectual property litigation as a way to gain a competitive advantage. Our involvement in litigation, interferences, opposition proceedings or other intellectual property proceedings inside and outside of the United States, to defend our intellectual property rights or as a result of alleged infringement of the rights of others, may divert management time from focusing on business operations and could cause us to spend significant amounts of money. Any potential intellectual property litigation also could force us to do one or more of the following:

- stop selling, incorporating or using our products that use the subject intellectual property;
- obtain from the third party asserting its intellectual property rights a license to sell or use the relevant technology, which license may not be available on reasonable terms, or at all; or
- redesign those products or processes that use any allegedly infringing technology, or relocate the operations relating to the allegedly infringing technology to another jurisdiction, which may result in significant cost or delay to us, or which could be technically infeasible.

We are aware of a significant number of patents and patent applications relating to aspects of our technologies filed by, and issued to, third parties. We cannot assure you that if this third party intellectual property is asserted against us that we would ultimately prevail.

If any of our competitors have filed patent applications or obtained patents that claim inventions also claimed by us, we may have to participate in interference proceedings declared by the relevant patent regulatory agency to determine priority of invention and, thus, the right to the patents for these inventions in the United States. These proceedings could result in substantial cost to us even if the outcome is favorable. Even if successful, an interference may result in loss of certain claims. Any litigation or proceedings could divert our management's time and efforts. Even unsuccessful claims could result in significant legal fees and other expenses, diversion of management time, and disruption in our business. Uncertainties resulting from initiation and continuation of any patent or related litigation could harm our ability to compete.

We may not be able to enforce our intellectual property rights throughout the world.

The laws of some foreign countries, including India, where we manufacture pharmaceutical intermediates and APIs through contract manufacturers, do not protect intellectual property rights to the same extent as the laws of the United States. Many companies have encountered significant problems in protecting and defending intellectual property rights in certain foreign jurisdictions. The legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents and other intellectual property protection, particularly those relating to biotechnology and/or bioindustrials technologies. This could make it difficult for us to stop the infringement of our patents or misappropriation of our other intellectual property rights. Proceedings to enforce our patent rights in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business. Accordingly, our efforts to protect our intellectual property rights in such countries may be inadequate.

If our biocatalysts, or the genes that code for our biocatalysts, are stolen, misappropriated or reverse engineered, others could use these biocatalysts or genes to produce competing products.

Third parties, including our contract manufacturers, customers and those involved in shipping our biocatalysts often have custody or control of our biocatalysts. If our biocatalysts, or the genes that code for our biocatalysts, were stolen, misappropriated or reverse engineered, they could be used by other parties that may be able to reproduce these biocatalysts for their own commercial gain. If this were to occur, it would be difficult for us to challenge this type of use, especially in countries with limited intellectual property protection.

Confidentiality agreements with employees and others may not adequately prevent disclosures of trade secrets and other proprietary information.

We rely in part on trade secret protection to protect our confidential and proprietary information and processes. However, trade secrets are difficult to protect. We have taken measures to protect our trade secrets and proprietary information, but these measures may not be effective. We require new employees and consultants to execute confidentiality agreements upon the commencement of an employment or consulting arrangement with us. These agreements generally require that all confidential information developed by the individual or made known to the individual by us during the course of the individual's relationship with us be kept confidential and not disclosed to third parties. These agreements also generally provide that inventions conceived by the individual in the course of rendering services to us shall be our exclusive property. Nevertheless, our proprietary information may be disclosed, third parties could reverse engineer our biocatalysts and others may independently develop substantially equivalent proprietary information and techniques or otherwise gain access to our trade secrets. Costly and time-consuming litigation could be necessary to enforce and determine the scope of our proprietary rights, and failure to obtain or maintain trade secret protection could adversely affect our competitive business position.

Competitors and potential competitors who have greater resources and experience than we do may develop products and technologies that make ours obsolete or may use their greater resources to gain market share at our expense.

The biocatalysis industry and each of our target markets are characterized by rapid technological change. Our future success will depend on our ability to maintain a competitive position with respect to technological advances. We are aware that other companies, including Verenium Corporation (formed by the merger of Diversa Corporation and Celunol Corporation), Royal DSM N.V., or DSM, Danisco/Genencor, Novozymes and E.I. Du Pont De Nemours and Company, or DuPont, have alternative methods for obtaining and generating genetic diversity or use mutagenesis techniques to produce genetic diversity. Academic institutions such as the California Institute of Technology, the Max Planck Institute and the Center for Fundamental and Applied Molecular Evolution (FAME), a jointly sponsored initiative between Emory University and Georgia Institute of Technology, are also working in this field. Technological development by others may result in our products and technologies, as well as products developed by our customers using our biocatalysts, becoming obsolete.

We face intense competition in the pharmaceuticals market. There are a number of companies who compete with us throughout the various stages of a pharmaceutical product's lifecycle. Many large pharmaceutical companies have internal capabilities to develop and manufacture intermediates and APIs. These companies include many of our large innovator and generic pharmaceutical customers, such as Merck, Pfizer and Teva Pharmaceutical Industries Ltd. There are also many large, well-established fine chemical manufacturing companies, such as DSM, BASF Corporation and Lonza Group Ltd, that compete to supply pharmaceutical intermediates and APIs to our customers. We also face increasing competition from generic pharmaceutical manufacturers in low cost centers such as India and China.

In addition to competition from companies manufacturing APIs and intermediates, we face competition from companies that sell biocatalysts for use in the pharmaceutical market. There is competition from large industrial enzyme companies, such as Novozymes and Amano Enzyme Inc., whose industrial enzymes (for detergents, for example) are occasionally used in pharmaceutical processes. There is also competition in this area from several small companies with product offerings comprised primarily of naturally occurring biocatalysts or that offer biocatalyst optimization services.

We expect the biofuels industry to be extremely competitive, with competition coming from ethanol producers as well as other providers of alternative and renewable fuels. Significant competitors include companies such as: Novozymes, which has partnered with a number of companies and organizations on a regional basis to develop or produce biofuels, and recently opened a biofuel demonstration plant with

Inbicon A/S of Denmark; Danisco/Genencor, which has formed a joint venture with DuPont, called DuPont Danisco Cellulosic Ethanol, or DDCE, and is marketing a line of cellulases to convert biomass into sugar; DSM, which received a grant from the U.S. Department of Energy to be the lead partner in a technical consortium including Abengoa Bioenergy New Technologies, and is developing cost-effective enzyme technologies; Mascoma Corporation, which has entered into a feedstock processing and lignin supply agreement with Chevron Technology Ventures, a division of Chevron U.S.A., Inc.; and Verenium, which has entered into a research and development collaboration with BP, p.l.c and formed a joint venture with BP called Vercipia Biofuels to develop a commercial scale cellulosic ethanol facility. In addition, other companies are attempting to develop non-ethanol biofuels. DuPont has announced plans to develop and market biobutanol through Butamax Advanced Biofuels LLC, a joint venture with BP, and Virent Energy Systems Inc. is collaborating with Shell to develop thermochemical catalytic routes to produce biogasoline directly from sugars. Range Fuels Inc. is also focused on developing non-biocatalytic thermochemical processes to convert cellulosic biomass into fuels, and Coskata, Inc. is developing a hybrid thermochemical-biocatalytic process to produce ethanol from a variety of feedstocks. Some or all of these competitors or other competitors, as well as academic, research and government institutions, are developing or may develop technologies for, and are competing or may compete with us in, the production of alternative fuels or biofuels.

As we pursue opportunities in other bioindustrial markets, we expect to face competition from numerous companies focusing on developing biocatalytic and other solutions for these markets, including a number of the companies described above.

Our ability to compete successfully will depend on our ability to develop proprietary products that reach the market in a timely manner and are technologically superior to and/or are less expensive than other products on the market. Many of our competitors have substantially greater production, financial, research and development, personnel and marketing resources than we do. In addition, certain of our competitors may also benefit from local government subsidies and other incentives that are not available to us. As a result, our competitors may be able to develop competing and/or superior technologies and processes, and compete more aggressively and sustain that competition over a longer period of time than we could. Our technologies and products may be rendered obsolete or uneconomical by technological advances or entirely different approaches developed by one or more of our competitors. As more companies develop new intellectual property in our markets, the possibility of a competitor acquiring patent or other rights that may limit our products or potential products increases, which could lead to litigation.

In addition, various governments have recently announced a number of spending programs focused on the development of clean technology, including alternatives to petroleum-based fuels and the reduction of carbon emissions, two of our target markets. Such spending programs could lead to increased funding for our competitors or the rapid increase in the number of competitors within those markets.

Our limited resources relative to many of our competitors may cause us to fail to anticipate or respond adequately to new developments and other competitive pressures. This failure could reduce our competitiveness and market share, adversely affect our results of operations and financial position, and prevent us from obtaining or maintaining profitability.

We may need substantial additional capital in the future in order to expand our business.

Our future capital requirements may be substantial, particularly as we continue to develop our business and expand our biocatalyst discovery and development process. Although we believe that, based on our current level of operations and anticipated growth, our existing cash, cash equivalents and marketable securities will provide adequate funds for ongoing operations, planned capital expenditures and working capital requirements for at least the next 12 months, we may need additional capital if our current plans and assumptions change. Our need for additional capital will depend on many factors, including the

financial success of our pharmaceutical business, whether we are successful in obtaining payments from customers, whether we can enter into additional collaborations, the progress and scope of our collaborative and independent research and development projects performed by us and our collaborators, the effect of any acquisitions of other businesses or technologies that we may make in the future, whether we decide to develop an internal manufacturing capability, and the filing, prosecution and enforcement of patent claims.

If our capital resources are insufficient to meet our capital requirements, and we are unable to enter into or maintain collaborations with partners that are able or willing to fund our development efforts or commercialize any products that we develop or enable, we will have to raise additional funds to continue the development of our technology and products and complete the commercialization of products, if any, resulting from our technologies. If future financings involve the issuance of equity securities, our existing stockholders would suffer dilution. If we were permitted to raise additional debt financing, we may be subject to restrictive covenants that limit our ability to conduct our business. We may not be able to raise sufficient additional funds on terms that are favorable to us, if at all. If we fail to raise sufficient funds and continue to incur losses, our ability to fund our operations, take advantage of strategic opportunities, develop products or technologies, or otherwise respond to competitive pressures could be significantly limited. If this happens, we may be forced to delay or terminate research or development programs or the commercialization of products resulting from our technologies, curtail or cease operations or obtain funds through collaborative and licensing arrangements that may require us to relinquish commercial rights, or grant licenses on terms that are not favorable to us. If adequate funds are not available, we will not be able to successfully execute our business plan or continue our business.

The terms of our loan and security agreement with General Electric Capital Corporation and Oxford Finance Corporation may restrict our ability to engage in certain transactions.

In September 2007, we entered into a loan and security agreement with General Electric Capital Corporation, or GE Capital, and Oxford Finance Corporation, or Oxford. Pursuant to the terms of the loan and security agreement, we cannot engage in certain transactions, including disposing of certain assets, transferring capital to foreign subsidiaries, incurring additional indebtedness, declaring dividends, acquiring or merging with another entity or leasing additional real property unless certain conditions are met or unless we receive prior approval of GE Capital and Oxford. If GE Capital and Oxford do not consent to any of these actions that we desire to take, we could be prohibited from engaging in transactions which could be beneficial to our business and our stockholders.

Business interruptions could delay us in the process of developing our products and could disrupt our sales.

Our headquarters is located in the San Francisco Bay Area near known earthquake fault zones and is vulnerable to significant damage from earthquakes. We are also vulnerable to other types of natural disasters and other events that could disrupt our operations, such as riot, civil disturbances, war, terrorist acts, flood, infections in our laboratory or production facilities or those of our contract manufacturers and other events beyond our control. We do not have a detailed disaster recovery plan. In addition, we do not carry insurance for earthquakes and we may not carry sufficient business interruption insurance to compensate us for losses that may occur. Any losses or damages we incur could have a material adverse effect on our cash flows and success as an overall business. Furthermore, Shell may terminate our collaborative research agreement if a force majeure event interrupts our collaboration activities for more than ninety days.

Ethical, legal and social concerns about genetically engineered products and processes could limit or prevent the use of our products, processes, and technologies and limit our revenues.

Some of our products and processes are genetically engineered or involve the use of genetically engineered products or genetic engineering technologies. If we and/or our collaborators are not able to overcome the ethical, legal, and social concerns relating to genetic engineering, our products and processes

may not be accepted. Any of the risks discussed below could result in increased expenses, delays, or other impediments to our programs or the public acceptance and commercialization of products and processes dependent on our technologies or inventions. Our ability to develop and commercialize one or more of our technologies, products, or processes could be limited by the following factors:

- public attitudes about the safety and environmental hazards of, and ethical concerns over, genetic research and genetically engineered products and processes, which could influence public acceptance of our technologies, products and processes;
- public attitudes regarding, and potential changes to laws governing ownership of genetic material, which could harm our intellectual property rights with respect to our genetic material and discourage collaborators from supporting, developing, or commercializing our products, processes and technologies; and
- governmental reaction to negative publicity concerning genetically modified organisms, which could result in greater government regulation of genetic research and derivative products.

The subject of genetically modified organisms has received negative publicity, which has aroused public debate. This adverse publicity could lead to greater regulation and trade restrictions on imports of genetically altered products.

The biocatalysts that we develop have significantly enhanced characteristics compared to those found in naturally occurring enzymes or microbes. While we produce our biocatalysts only for use in a controlled industrial environment, the release of such biocatalysts into uncontrolled environments could have unintended consequences. Any adverse effect resulting from such a release could have a material adverse effect on our business and financial condition, and we may have exposure to liability for any resulting harm.

Compliance with stringent laws and regulations may be time consuming and costly, which could adversely affect the commercialization of our biofuels products.

Any biofuels developed using our technologies will need to meet a significant number of regulations and standards, including regulations imposed by the U.S. Department of Transportation, the U.S. Environmental Protection Agency, various state agencies and others. Any failure to comply, or delays in compliance, with the various existing and evolving industry regulations and standards could prevent or delay the commercialization of any biofuels developed using our technologies and subject us to fines and other penalties.

We use hazardous materials in our business and we must comply with environmental laws and regulations. Any claims relating to improper handling, storage or disposal of these materials or noncompliance of applicable laws and regulations could be time consuming and costly and could adversely affect our business and results of operations.

Our research and development processes involve the use of hazardous materials, including chemical, radioactive, and biological materials. Our operations also produce hazardous waste. We cannot eliminate entirely the risk of accidental contamination or discharge and any resultant injury from these materials. Federal, state, and local laws and regulations govern the use, manufacture, storage, handling and disposal of, and human exposure to, these materials. We may be sued for any injury or contamination that results from our use or the use by third parties of these materials, and our liability may exceed our total assets. Although we believe that our activities conform in all material respects with environmental laws, there can be no assurance that violations of environmental, health and safety laws will not occur in the future as a result of human error, accident, equipment failure or other causes. Compliance with applicable environmental laws and regulations may be expensive, and the failure to comply with past, present, or future laws could result in the imposition of fines, third party property damage, product liability and

personal injury claims, investigation and remediation costs, the suspension of production, or a cessation of operations, and our liability may exceed our total assets. Liability under environmental laws can be joint and several and without regard to comparative fault. Environmental laws could become more stringent over time imposing greater compliance costs and increasing risks and penalties associated with violations, which could impair our research, development or production efforts and harm our business.

We may be sued for product liability.

The design, development, manufacture and sale of our products involve an inherent risk of product liability claims and the associated adverse publicity. We may be named directly in product liability suits relating to drugs that are produced using our biocatalysts or that incorporate our intermediates and APIs. These claims could be brought by various parties, including customers who are purchasing products directly from us, other companies who purchase products from our customers or by the end users of the drugs. We could also be named as co-parties in product liability suits that are brought against our contract manufacturers who manufacture our pharmaceutical intermediates and APIs, such as Arch. Insurance coverage is expensive and may be difficult to obtain, and may not be available in the future on acceptable terms, or at all. We cannot assure you that our contract manufacturers will have adequate insurance coverage to cover against potential claims. In addition, although we currently maintain product liability insurance for our products in amounts we believe to be commercially reasonable, if the coverage limits of these insurance policies are not adequate, a claim brought against us, whether covered by insurance or not, could have a material adverse effect on our business, results of operations, financial condition and cash flows. This insurance may not provide adequate coverage against potential losses, and if claims or losses exceed our liability insurance coverage, we may go out of business. Moreover, we have agreed to indemnify some of our customers for certain claims that may arise out of the use of our products, which could expose us to significant liabilities.

Our ability to use our net operating loss carryforwards to offset future taxable income may be subject to certain limitations.

In general, under Section 382 of the Internal Revenue Code, a corporation that undergoes an "ownership change" is subject to limitations on its ability to utilize its pre-change net operating loss carryforwards, or NOLs, to offset future taxable income. If the Internal Revenue Service challenges our analysis that our existing NOLs are not subject to limitations arising from previous ownership changes, or if we undergo an ownership change in connection with or after this public offering, our ability to utilize NOLs could be limited by Section 382 of the Internal Revenue Code. Future changes in our stock ownership, some of which are outside of our control, could result in an ownership change under Section 382 of the Internal Revenue Code. Furthermore, our ability to utilize NOLs of companies that we may acquire in the future may be subject to limitations. For these reasons, we may not be able to utilize a material portion of the NOLs reflected on our balance sheet, even if we attain profitability.

Risks Relating to this Offering

We are subject to anti-takeover provisions in our certificate of incorporation and bylaws and under Delaware law that could delay or prevent an acquisition of our company, even if the acquisition would be beneficial to our stockholders.

Provisions in our amended and restated certificate of incorporation and our bylaws, both of which will become effective upon the completion of this offering, may delay or prevent an acquisition of us. Among other things, our amended and restated certificate of incorporation and bylaws will provide for a board of directors which is divided into three classes, with staggered three-year terms and will provide that all stockholder action must be effected at a duly called meeting of the stockholders and not by a consent in writing, and will further provide that only our board of directors, the chairman of the board of directors, our

chief executive officers or president may call a special meeting of the stockholders. These provisions may also frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors, who are responsible for appointing the members of our management team. Furthermore, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which prohibits, with some exceptions, stockholders owning in excess of 15% of our outstanding voting stock from merging or combining with us. Finally, our charter documents establish advanced notice requirements for nominations for election to our board of directors and for proposing matters that can be acted upon at stockholder meetings. Although we believe these provisions together provide for an opportunity to receive higher bids by requiring potential acquirers to negotiate with our board of directors, they would apply even if an offer to acquire our company may be considered beneficial by some stockholders.

Concentration of ownership among our existing officers, directors and principal stockholders may prevent other stockholders from influencing significant corporate decisions and depress our stock price.

Based on the number of shares outstanding as of February 28, 2010 and excluding any additional shares of common stock we may have to issue upon conversion of our Series E preferred stock and Series F preferred stock, as discussed in "Capitalization — Conversion of Our Preferred Stock," when this offering is completed, our officers, directors and existing stockholders who hold at least 5% of our stock will together control approximately 67% of our outstanding common stock. As of February 28, 2010, Maxygen, Shell and Biomedical Sciences Investment Fund Pte Ltd beneficially owned approximately 21.4%, 19.8% and 12.0% of our common stock, respectively. If these officers, directors, and principal stockholders or a group of our principal stockholders act together, they will be able to exert a significant degree of influence over our management and affairs and control matters requiring stockholder approval, including the election of directors and approval of mergers or other business combination transactions. The interests of this concentration of ownership may not always coincide with our interests or the interests of other stockholders. For instance, officers, directors, and principal stockholders, acting together, could cause us to enter into transactions or agreements that we would not otherwise consider. Similarly, this concentration of ownership may have the effect of delaying or preventing a change in control of our company otherwise favored by our other stockholders. This concentration of ownership could depress our stock price.

Our share price may be volatile and you may be unable to sell your shares at or above the offering price.

The initial public offering price for our shares will be determined by negotiations between us and representatives of the underwriters and may not be indicative of prices that will prevail in the trading market. The market price of shares of our common stock could be subject to wide fluctuations in response to many risk factors listed in this section, and others beyond our control, including:

- actual or anticipated fluctuations in our financial condition and operating results;
- the position of our cash, cash equivalents and marketable securities;
- actual or anticipated changes in our growth rate relative to our competitors;
- actual or anticipated fluctuations in our competitors' operating results or changes in their growth rate;
- announcements of technological innovations by us, our collaborators or our competitors;
- announcements by us, our collaborators or our competitors of significant acquisitions, strategic partnerships, joint ventures or capital commitments;
- any changes in Shell's biofuels strategy or timelines, or in our relationship with Shell, including any decision by Shell to terminate our collaboration or reduce the number of FTEs funded by Shell under our collaborative research agreement;

- any announcements or developments with respect to the proposed Shell-Cosan joint venture;
- any changes in our relationship with Maxygen, or any events that impact, or are perceived to impact, the rights we have licensed from Maxygen;
- announcements or developments regarding pharmaceutical products manufactured using our biocatalysts, intermediates and APIs;
- the entry into, modification or termination of collaborative arrangements;
- additions or losses of customers;
- additions or departures of key management or scientific personnel;
- competition from existing products or new products that may emerge;
- issuance of new or updated research reports by securities or industry analysts;
- fluctuations in the valuation of companies perceived by investors to be comparable to us;
- disputes or other developments related to proprietary rights, including patents, litigation matters and our ability to obtain patent protection for our technologies;
- changes in existing laws, regulations and policies applicable to our business and products, including the National Renewable Fuel Standard program, and the adoption or failure to adopt carbon emissions regulation;
- announcement or expectation of additional financing efforts;
- sales of our common stock by us, our insiders or our other stockholders;
- share price and volume fluctuations attributable to inconsistent trading volume levels of our shares;
- general market conditions in our industry; and
- general economic and market conditions, including the recent financial crisis.

Furthermore, the stock markets have experienced extreme price and volume fluctuations that have affected and continue to affect the market prices of equity securities of many companies. These fluctuations often have been unrelated or disproportionate to the operating performance of those companies. These broad market and industry fluctuations, as well as general economic, political and market conditions such as recessions, interest rate changes or international currency fluctuations, may negatively impact the market price of shares of our common stock. If the market price of shares of our common stock after this offering does not exceed the initial public offering price, you may not realize any return on your investment in us and may lose some or all of your investment. In the past, companies that have experienced volatility in the market price of their stock have been subject to securities class action litigation. We may be the target of this type of litigation in the future. Securities litigation against us could result in substantial costs and divert our management's attention from other business concerns, which could seriously harm our business.

A significant portion of our total outstanding shares of common stock is restricted from immediate resale but may be sold into the market in the near future. This could cause the market price of our common stock to drop significantly, even if our business is doing well.

Sales of a substantial number of shares of our common stock in the public market could occur at any time. These sales, or the perception in the market that the holders of a large number of shares of common stock intend to sell shares, could reduce the market price of our common stock. As of February 28, 2010, our three largest stockholders beneficially own, collectively, approximately 53.2% of our outstanding common stock. If one or more of them were to sell a substantial portion of the shares they hold, it could cause our stock price to decline. Based on shares outstanding as of February 28, 2010, upon completion of

this offering, we will have 33,971,636 outstanding shares of common stock, assuming no exercise of the underwriters' over-allotment option to purchase additional shares and excluding any additional shares of common stock we may have to issue upon conversion of our Series E preferred stock and Series F preferred stock, as discussed in "Capitalization — Conversion of Our Preferred Stock." This includes the 6,000,000 shares that we are selling in this offering. As of the date of this prospectus, of the remaining shares, approximately 27.5 million shares of common stock will be subject to a 180-day contractual lock-up with the underwriters, and an additional approximately 400,000 shares of common stock will be subject to a 180-day contractual lock-up with us.

In addition, as of February 28, 2010, there were 8,517,222 shares subject to outstanding options that will become eligible for sale in the public market to the extent permitted by any applicable vesting requirements, the lock-up agreements and Rules 144 and 701 under the Securities Act of 1933, as amended. Moreover, after this offering, holders of an aggregate of approximately 25,769,200 shares of our common stock, plus such additional shares of common stock, if any, that we may issue upon conversion of our Series E preferred stock and Series F preferred stock, will have rights, subject to some conditions, to require us to file registration statements covering their shares or to include their shares in registration statements that we may file for ourselves or other stockholders.

We also intend to register all 1,100,000 shares of common stock that we may issue under our 2010 Equity Incentive Award Plan, plus any additional shares of common stock reserved for future grant or issuance under our 2002 Stock Plan that remain unissued, which shares will be added to the shares to be reserved under our 2010 Equity Incentive Award Plan upon effectiveness of the 2010 Equity Incentive Award Plan. Once we register these shares, they can be freely sold in the public market upon issuance and once vested, subject to the 180-day lock-up periods under the lock-up agreements described in the "Underwriting" section of this prospectus.

No public market for our common stock currently exists and an active trading market may not develop or be sustained following this offering.

Prior to this offering, there has been no public market for our common stock. An active trading market may not develop following the completion of this offering or, if developed, may not be sustained. The lack of an active market may impair your ability to sell your shares at the time you wish to sell them or at a price that you consider reasonable. The lack of an active market may also reduce the fair market value of your shares. An inactive market may also impair our ability to raise capital to continue to fund operations by selling shares and may impair our ability to acquire other companies or technologies by using our shares as consideration.

If securities or industry analysts do not publish research or reports about our business, or publish negative reports about our business, our stock price and trading volume could decline.

The trading market for our common stock will be influenced by the research and reports that securities or industry analysts publish about us or our business. We do not have any control over these analysts. If one or more of the analysts who cover us downgrade our stock or change their opinion of our stock in a negative manner, our stock price would likely decline. If one or more of these analysts cease coverage of our company or fail to regularly publish reports on us, we could lose visibility in the financial markets, which could cause our stock price or trading volume to decline.

Purchasers in this offering will experience immediate and substantial dilution in the book value of their investment.

The initial public offering price will be substantially higher than the tangible book value per share of shares of our common stock based on the total value of our tangible assets less our total liabilities immediately following this offering. Therefore, if you purchase shares of our common stock in this offering, you will experience immediate and substantial dilution of approximately $10.87 per share in the

price you pay for shares of our common stock as compared to its tangible book value, assuming an initial public offering price of $14.00 per share. To the extent outstanding options and warrants to purchase shares of common stock are exercised, there will be further dilution. For further information on this calculation, see "Dilution" elsewhere in this prospectus. There will also be further dilution to the extent we must issue additional shares of common stock upon conversion of our Series E preferred stock and Series F preferred stock, as discussed in "Dilution — Conversion of Our Preferred Stock."

We have broad discretion in the use of net proceeds from this offering and may not use them effectively.

Although we currently intend to use the net proceeds from this offering in the manner described in "Use of Proceeds" elsewhere in this prospectus, we will have broad discretion in the application of the net proceeds. Our failure to apply these net proceeds effectively could affect our ability to continue to develop and sell our products and grow our business, which could cause the value of your investment to decline.

We will incur significant increased costs as a result of operating as a public company, and our management will be required to devote substantial time to new compliance initiatives.

We have never operated as a stand-alone public company. As a public company, we will incur significant legal, accounting and other expenses that we did not incur as a private company. In addition, the Sarbanes-Oxley Act, as well as related rules implemented by the Securities and Exchange Commission and The Nasdaq Stock Market, impose various requirements on public companies. Our management and other personnel will need to devote a substantial amount of time to these compliance initiatives. Moreover, these rules and regulations will increase our legal and financial compliance costs and will make some activities more time-consuming and costly. For example, we expect these rules and regulations to make it more expensive for us to maintain director and officer liability insurance.

In addition, the Sarbanes-Oxley Act requires, among other things, that we maintain effective internal control over financial reporting and disclosure controls and procedures. In particular, commencing in 2011, we must perform system and process evaluation and testing of our internal control over financial reporting to allow management and our independent registered public accounting firm to report on the effectiveness of our internal control over financial reporting, as required by Section 404 of the Sarbanes-Oxley Act. Our compliance with Section 404 will require that we incur substantial accounting expense and expend significant management time on compliance-related issues. Moreover, if we are not able to comply with the requirements of Section 404 in a timely manner, our stock price could decline, and we could face sanctions, delisting or investigations by The Nasdaq Global Market, or other material adverse effects on our business, reputation, results of operations, financial condition or liquidity.

We do not anticipate paying cash dividends, and accordingly, stockholders must rely on stock appreciation for any return on their investment.

The terms of our loan and security agreement with GE Capital and Oxford currently prohibit us from paying cash dividends on our common stock. In addition, we do not anticipate paying cash dividends in the future. As a result, only appreciation of the price of our common stock, which may never occur, will provide a return to stockholders. Investors seeking cash dividends should not invest in our common stock.

FORWARD-LOOKING STATEMENTS

This prospectus contains forward-looking statements that involve risks and uncertainties. The forward-looking statements are contained principally in the sections entitled "Prospectus Summary," "Risk Factors," "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Business." These statements relate to future events or our future financial or operational performance and involve known and unknown risks, uncertainties and other factors that could cause our actual results, levels of activity, performance or achievement to differ materially from those expressed or implied by these forward-looking statements. These risks and uncertainties are contained principally in the section entitled "Risk Factors."

Forward-looking statements include all statements that are not historical facts. In some cases, you can identify forward-looking statements by terms such as "may," "will," "should," "could," "would," "expects," "plans," "anticipates," "believes," "estimates," "projects," "predicts," "potential," or the negative of those terms, and similar expressions and comparable terminology intended to identify forward-looking statements. These statements reflect our current views with respect to future events and are based on assumptions and subject to risks and uncertainties. Given these uncertainties, you should not place undue reliance on these forward-looking statements. These forward-looking statements represent our estimates and assumptions only as of the date of this prospectus and, except as required by law, we undertake no obligation to update or revise publicly any forward-looking statements, whether as a result of new information, future events or otherwise after the date of this prospectus.

This prospectus also contains estimates and other information concerning our current and target markets that are based on industry publications, surveys and forecasts, including those generated by IMS Health, Datamonitor and the U.S. Energy Information Administration. This information involves a number of assumptions and limitations, and you are cautioned not to give undue weight to these estimates and information. These industry publications, surveys and forecasts generally indicate that their information has been obtained from sources believed to be reliable. The industry in which we operate is subject to a high degree of uncertainty and risk due to a variety of factors, including those described in "Risk Factors." These and other factors could cause actual results to differ materially from those expressed in these publications, surveys and forecasts.

USE OF PROCEEDS

We estimate that we will receive net proceeds of approximately $73.6 million from the sale of 6,000,000 shares of common stock offered in this offering, based on an assumed initial public offering price of $14.00 per share (the mid-point of the price range set forth on the cover page of this prospectus) and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. A $1.00 increase (decrease) in the assumed initial public offering price of $14.00 per share would increase (decrease) the net proceeds to us from this offering by $5.6 million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. If the underwriters exercise their over-allotment option in full, we estimate that our net proceeds will be approximately $85.3 million.

We intend to use the net proceeds of this offering, together with existing cash and cash equivalents, to fund working capital and other general corporate purposes, including the costs associated with being a public company. We may also use a portion of the net proceeds to acquire other businesses, products or technologies, and to increase our internal biocatalyst production capacity. We do not have agreements or commitments for any specific acquisitions at this time.

The expected use of net proceeds of this offering represents our current intentions based upon our present plan and business conditions. As of the date of this prospectus, we cannot specify with certainty all of the particular uses for the net proceeds to be received upon the completion of this offering. Accordingly, we will have broad discretion in the application of the net proceeds, and investors will be relying on our judgment regarding the application of the net proceeds of this offering.

Until we use the net proceeds of this offering, we intend to invest the net proceeds in short-term, interest-bearing, investment-grade securities. We cannot predict whether the net proceeds invested will yield a favorable return.

DIVIDEND POLICY

We have never declared or paid cash dividends on our common stock, and currently do not plan to declare dividends on shares of our common stock in the foreseeable future. In addition, the terms of our loan and security agreement with General Electric Capital Corporation and Oxford Finance Corporation currently prohibit us from paying cash dividends on our common stock. We expect to retain our future earnings, if any, for use in the operation and expansion of our business. In addition, in certain circumstances, we are prohibited by various borrowing arrangements from paying cash dividends without the prior written consent of the lenders. Subject to the foregoing, the payment of cash dividends in the future, if any, will be at the discretion of our board of directors and will depend upon such factors as earnings levels, capital requirements, our overall financial condition and any other factors deemed relevant by our board of directors.

CAPITALIZATION

The following table sets forth our cash, cash equivalents and marketable securities and our capitalization as of December 31, 2009:

- on an actual basis;
- on a pro forma basis to reflect:
  - the filing of a restated certificate of incorporation to authorize 100,000,000 shares of common stock and 5,000,000 shares of undesignated preferred stock;
  - the conversion of all of our outstanding shares of redeemable convertible preferred stock into 25,239,658 shares of common stock and the related conversion of all outstanding redeemable convertible preferred stock warrants to common stock warrants;
  - the reclassification of the redeemable convertible preferred stock warrant liability to stockholders' equity upon the completion of this offering; and
- on a pro forma as adjusted basis to reflect the pro forma adjustments described above and our receipt of the estimated net proceeds from this offering, based on an assumed initial public offering of 6,000,000 shares at a price of $14.00 per share (the mid-point of the price range set forth on the cover page of this prospectus) and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us.

The pro forma and pro forma as adjusted information below is illustrative only and our capitalization following the completion of this offering will be adjusted based on the actual initial public offering price and other terms of this offering determined at pricing. You should read this table together with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements and the accompanying notes appearing elsewhere in this prospectus.

	As of December 31, 2009		
	Actual	Pro Forma	Pro Forma As Adjusted
		(unaudited)	
	(in thousands, except per share data)		
Cash, cash equivalents and marketable securities	$ 55,563	$ 55,563	$ 129,183
Redeemable convertible preferred stock warrant liability	$ 2,009	$ —	$ —
Financing obligations, net of current portion	2,574	2,574	2,574
Redeemable convertible preferred stock, $0.0001 par value per share; 26,137 shares authorized, 25,199 shares issued and outstanding, actual; no shares authorized, no shares issued and outstanding, pro forma and pro forma as adjusted	179,672	—	—
Stockholders' equity (deficit):			
Preferred stock, $0.0001 par value per share; no shares authorized, issued and outstanding, actual; 5,000 shares authorized, no shares issued and outstanding, pro forma; 5,000 shares authorized, no shares issued and outstanding, pro forma as adjusted	—	—	—
Common stock, $0.0001 par value per share; 45,333 shares authorized; 2,670 shares issued and outstanding, actual; 45,333 shares authorized, 27,909 shares issued and outstanding, pro forma; 100,000 shares authorized, 33,909 shares issued and outstanding, pro forma as adjusted	—	3	3
Additional paid-in capital	15,015	196,693	270,313
Accumulated other comprehensive loss	(252)	(252)	(252)
Accumulated deficit	(159,608)	(159,608)	(159,608)
Total stockholders' equity (deficit)	(144,845)	36,836	110,456
Total capitalization	$ 39,410	$ 39,410	$ 113,030

Each $1.00 increase or decrease in the assumed initial public offering price of $14.00 per share (the mid-point of the price range set forth on the cover page of this prospectus) would increase or decrease, as applicable, our pro forma as adjusted cash, cash equivalents and marketable securities, additional paid-in capital and stockholders' equity by approximately $5.6 million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us.

The number of shares of common stock shown as issued and outstanding in the table is based on the number of shares of our common stock outstanding as of December 31, 2009 and excludes:

- 7,886,532 shares of common stock issuable upon the exercise of options outstanding as of December 31, 2009 at a weighted average exercise price of $5.25 per share;
- 327,672 shares of common stock issuable upon the exercise of warrants outstanding as of December 31, 2009 at a weighted average exercise price of $5.92 per share; and
- 1,100,000 shares of our common stock reserved for future issuance under our 2010 Equity Incentive Award Plan, which will become effective in connection with the consummation of this offering (including 1,553,873 shares of common stock reserved for future grant or issuance under our 2002 Stock Plan as of December 31, 2009, which shares will be added to the shares to be reserved under our 2010 Equity Incentive Award Plan upon the effectiveness of the 2010 Equity Incentive Award Plan).

Conversion of Our Preferred Stock

In connection with this offering, all of our outstanding preferred stock will be converted into common stock. In this prospectus, we have determined the conversion ratios of our preferred stock using an assumed initial public offering price of $14.00 per share (the mid-point of the price range set forth on the cover page of this prospectus). Due to the antidilution provisions of our certificate of incorporation that are applicable to our preferred stock, the conversion ratios of certain series of our preferred stock may be adjusted in connection with the conversion of our outstanding preferred stock into common stock in the event the initial public offering price is less than $13.71 per share, based on the estimated underwriting discounts and commissions payable by us.

If the initial public offering price is equal to or greater than $13.71 per share, each share of preferred stock would be converted into one share of common stock in connection with this offering, other than shares of Series A preferred stock, which will convert at a ratio of 1:1.01. If the initial public offering price is less than $13.71 per share, the conversion ratios of our Series E preferred stock and Series F preferred stock will be increased. Therefore, depending on the initial public offering price in this offering, the holders of the Series E preferred stock and Series F preferred stock may hold a greater percentage of the common stock to be outstanding following the issuance of the shares offered by this prospectus. The precise conversion ratio of the Series E preferred stock and Series F preferred stock will be determined by multiplying the applicable Series E preferred stock and Series F preferred stock conversion price by a fraction, (i) the numerator of which is (A) the number of shares of common stock deemed outstanding immediately prior to the sale of the shares offered hereby, plus (B) the number of shares of common stock that the aggregate consideration received by us in this offering, net of underwriting discounts and commissions, would purchase at the applicable conversion price prior to adjustment, and (ii) the denominator of which is the number of shares of common stock deemed outstanding immediately prior to the sale of the shares of common stock being offered hereby plus the total number of shares of common stock sold in this offering. For purposes of this calculation, "common stock deemed outstanding" as of a particular date means the sum of (x) the number of shares of common stock outstanding as of such date, (y) the number of shares of common stock into which the then outstanding preferred stock could be converted if fully converted immediately before any conversion price adjustments

resulting from the applicable issuance and (z) the number of shares of common stock issuable upon the exercise of all outstanding options and warrants that are vested as of the day immediately preceding such date.

The following table shows the effect of various initial public offering prices on the Series E preferred stock and Series F preferred stock conversion ratios and on our capitalization following this offering on a pro forma as adjusted basis to reflect the applicable conversion ratio adjustments and pro forma as adjusted assumptions set forth in the capitalization table above. The initial offering prices shown below are hypothetical and illustrative.

			On a Pro Forma As Adjusted Basis as of December 31, 2009		
Initial Offering Price	Series E and F Preferred Stock to Common Stock Conversion Ratio	Shares of Common Stock Issuable as a Result of Conversion Ratio Adjustment	Shares of Common Stock That Would Be Issued upon Conversion of All Outstanding Shares of Series E Preferred Stock	Shares of Common Stock That Would Be Issued upon Conversion of All Outstanding Shares of Series F Preferred Stock	Total Shares of Common Stock Outstanding After This Offering(1)
$13.71 or above	1:1	—	4,104,512	3,686,271	33,909,280
$13.50	1:1.003147	24,511	4,117,424	3,697,870	33,933,791
$13.00	1:1.008702	67,788	4,140,223	3,718,348	33,977,068
$12.50	1:1.014319	111,550	4,163,280	3,739,053	34,020,830
$12.00	1:1.02	155,810	4,186,598	3,759,995	34,065,090
$11.50	1:1.025744	200,558	4,210,172	3,781,169	34,109,838
$11.00	1:1.032388	252,322	4,237,444	3,805,661	34,161,602
$10.50	1:1.038273	298,168	4,261,597	3,827,354	34,207,448

(1) Excludes the following:

- 7,886,532 shares of common stock issuable upon the exercise of options outstanding as of December 31, 2009 at a weighted average exercise price of $5.25 per share;
- 327,672 shares of common stock issuable upon the exercise of warrants outstanding as of December 31, 2009 at a weighted average exercise price of $5.92 per share; and
- 1,100,000 shares of common stock reserved for issuance under our 2010 Equity Incentive Award Plan, which will become effective in connection with the consummation of this offering (plus an additional 1,553,873 shares of common stock reserved for future grant or issuance under our 2002 Stock Plan as of December 31, 2009, which shares will be added to the shares to be reserved under our 2010 Equity Incentive Award Plan upon the effectiveness of the 2010 Equity Incentive Award Plan).

DILUTION

If you invest in our common stock, your interest will be diluted to the extent of the difference between the public offering price per share of our common stock and the pro forma as adjusted net tangible book value per share of our common stock after this offering.

Our pro forma net tangible book value at December 31, 2009 was $32.7 million, or $1.17 per share of common stock. Pro forma net tangible book value per share represents total tangible assets less total liabilities (which includes the reclassification of redeemable convertible preferred stock warrant liability into additional paid-in capital upon the conversion of outstanding shares of preferred stock underlying warrants into shares of common stock), divided by the number of outstanding shares of common stock on December 31, 2009, after giving effect to a 2-for-3 reverse stock split of our common stock and preferred stock to be effected immediately prior to the effectiveness of the registration statement of which this prospectus forms a part and the conversion of all outstanding shares of preferred stock into shares of common stock as if the conversion occurred on December 31, 2009. Our pro forma as adjusted net tangible book value at December 31, 2009, after giving effect to the sale by us of 6,000,000 shares of common stock in this offering at an assumed initial public offering price of $14.00 per share (the mid-point of the price range set forth on the cover page of this prospectus) and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us, would have been approximately $106.3 million, or $3.13 per share. This represents an immediate increase in pro forma as adjusted net tangible book value of $1.96 per share to existing stockholders and an immediate dilution of $10.87 per share to new investors, or approximately 78% of the assumed initial public offering price of $14.00 per share. The following table illustrates this per share dilution:

Assumed initial public offering price per share		$ 14.00
Pro forma net tangible book value per share at December 31, 2009	$ 1.17	
Increase in pro forma net tangible book value per share attributable to this offering	1.96	
Pro forma as adjusted net tangible book value per share after this offering		3.13
Dilution per share to new investors		$ 10.87

A $1.00 increase (decrease) in the assumed initial public offering price of $14.00 per share (the mid-point of the price range set forth on the cover page of this prospectus) would increase (decrease) our pro forma as adjusted net tangible book value by $5.6 million, the pro forma as adjusted net tangible book value per share by $0.16 per share and the dilution in the pro forma net tangible book value to new investors in this offering by $0.84 per share, assuming the number of shares offered by us, as set forth on the cover pages of this prospectus, remains the same and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us.

The following table shows, as of December 31, 2009, the number of shares of common stock purchased from us, the total consideration paid to us and the average price paid per share by existing stockholders and by new investors purchasing common stock in this offering at an assumed initial public offering price of $14.00 per share, before deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us.

	Shares Purchased		Total Consideration		Average Price Per Share
	Number	Percent	Amount	Percent	
Existing stockholders	27,909,280	82.3%	$ 215,184,907	71.9%	$ 7.71
New investors	6,000,000	17.7	84,000,000	28.1	14.00
Total	33,909,280	100.0%	$ 299,184,907	100.0%	$ 8.82

A $1.00 increase (decrease) in the assumed initial public offering price of $14.00 per share (the mid-point of the price range set forth on the cover page of this prospectus) would increase (decrease) total consideration paid by new investors, total consideration paid by all stockholders and the average price per share paid by all stockholders by $6.0 million, $6.0 million and $0.18, respectively, assuming the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and before deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us.

The discussion and tables in this section regarding dilution are based on 27,909,280 shares of common stock issued and outstanding as of December 31, 2009 which reflects the automatic conversion of all of our preferred stock into an aggregate of 25,239,658 shares of our common stock, and excludes:

- shares of common stock issuable upon the exercise of 7,886,532 options outstanding at a weighted average exercise price of $5.25 per share;
- shares of common stock issuable upon exercise of 327,672 warrants outstanding at a weighted average exercise price of $5.92 per share; and
- 1,100,000 shares of common stock reserved for issuance under our 2010 Equity Incentive Award Plan, which will become effective upon the completion of this offering (plus an additional 1,553,873 shares of common stock reserved for future grant or issuance under our 2002 Stock Plan as of December 31, 2009, which shares will be added to the shares to be reserved under our 2010 Equity Incentive Award Plan upon the effectiveness of the 2010 Equity Incentive Award Plan).

If the underwriters exercise their over-allotment option in full, the following will occur:

- the number of shares of our common stock held by existing stockholders would decrease to approximately 80.2% of the total number of shares of our common stock outstanding after this offering; and
- the number of shares of our common stock held by new investors would increase to approximately 19.8% of the total number of shares of our common stock outstanding after this offering.

To the extent that outstanding options or warrants are exercised, you will experience further dilution. If all of our outstanding options and warrants were exercised, our pro forma net tangible book value as of December 31, 2009 would have been $76.0 million, or $2.10 per share, and the pro forma, as adjusted net tangible book value after this offering would have been $149.6 million, or $3.55 per share, causing dilution to new investors of $10.45 per share.

In addition, we may choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. To the extent that we raise additional capital through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our stockholders.

Conversion of Our Preferred Stock

In connection with this offering, all of our outstanding preferred stock will be converted into common stock. In this prospectus, we have determined the conversion ratios of our preferred stock using an assumed initial public offering price of $14.00 per share (the mid-point of the price range set forth on the cover page of this prospectus). Due to the antidilution provisions of our certificate of incorporation that are applicable to our preferred stock, the conversion ratios of certain series of our preferred stock may be adjusted in connection with the conversion of our outstanding preferred stock into common stock in the event the initial public offering price is less than $13.71 per share, based on the estimated underwriting discounts and commissions payable by us.

If the initial public offering price is equal to or greater than $13.71 per share, each share of preferred stock would be converted into one share of common stock in connection with this offering, other than shares of Series A preferred stock, which will convert at a ratio of 1:1.01. If the initial public offering price is less than $13.71 per share, the conversion ratios of our Series E preferred stock and Series F preferred stock will be increased. Therefore, depending on the initial public offering price in this offering, the holders of the Series E preferred stock and Series F preferred stock may hold a greater percentage of the common stock to be outstanding following the issuance of the shares offered by this prospectus. The precise conversion ratio of the Series E preferred stock and Series F preferred stock will be determined by multiplying the applicable Series E preferred stock and Series F preferred stock conversion price by a fraction, (i) the numerator of which is (A) the number of shares of common stock deemed outstanding immediately prior to the sale of the shares offered hereby, plus (B) the number of shares of common stock that the aggregate consideration received by us in this offering, net of underwriting discounts and commissions, would purchase at the applicable conversion price prior to adjustment, and (ii) the denominator of which is the number of shares of common stock deemed outstanding immediately prior to the sale of the shares of common stock being offered hereby plus the total number of shares of common stock sold in this offering. For purposes of this calculation, "common stock deemed outstanding" as of a particular date means the sum of (x) the number of shares of common stock outstanding as of such date, (y) the number of shares of common stock into which the then outstanding preferred stock could be converted if fully converted immediately before any conversion price adjustments resulting from the applicable issuance and (z) the number of shares of common stock issuable upon the exercise of all outstanding options and warrants that are vested as of the day immediately preceding such date.

The following table shows the effect of various initial public offering prices, based on the applicable Series E preferred stock and Series F preferred stock conversion ratios, on our pro forma as adjusted tangible book value per share after this offering and the dilution to new investors. The initial public offering prices shown below are hypothetical and illustrative.

	As of December 31, 2009	
Initial Public Offering Price	**Pro Forma As Adjusted Net Tangible Book Value Per Share**	**Dilution Per Share of Common Stock to New Investors in this Offering**
$13.71	$ 3.09	$ 10.62
$13.50	$ 3.05	$ 10.45
$13.00	$ 2.96	$ 10.04
$12.50	$ 2.88	$ 9.62
$12.00	$ 2.79	$ 9.21
$11.50	$ 2.71	$ 8.79
$11.00	$ 2.62	$ 8.38
$10.50	$ 2.54	$ 7.96

All information in the table above assumes the underwriters will not exercise their over-allotment option.

SELECTED CONSOLIDATED FINANCIAL DATA

The following selected consolidated financial data should be read together with our consolidated financial statements and accompanying notes and "Management's Discussion and Analysis of Financial Condition and Results of Operations" appearing elsewhere in this prospectus. The selected consolidated financial data in this section is not intended to replace our consolidated financial statements and the accompanying notes. Our historical results are not necessarily indicative of our future results.

We derived the consolidated statements of operations data for 2007, 2008 and 2009 and the consolidated balance sheets data as of December 31, 2008 and 2009 from our audited consolidated financial statements appearing elsewhere in this prospectus. The consolidated statement of operations data for 2005 and 2006 and the consolidated balance sheets data as of December 31, 2005, 2006 and 2007 have been derived from our audited consolidated financial statements not included in this prospectus. The data should be read in conjunction with the consolidated financial statements, related notes, and other financial information included herein.

	Years Ended December 31,				
	2005	2006	2007	2008	2009
	(in thousands, except per share amounts)				
Consolidated Statements of Operations Data:					
Revenues:					
Product	$ 2,265	$ 2,544	$ 11,418	$ 16,860	$ 18,554
Related party collaborative research and development	—	863	8,481	30,239	62,656
Collaborative research and development	9,363	8,403	4,733	3,062	1,652
Government grants	156	317	701	317	46
Total revenues	11,784	12,127	25,333	50,478	82,908
Costs and operating expenses:					
Cost of product revenues	2,233	1,806	8,319	13,188	16,678
Research and development	12,839	17,257	35,644	45,554	54,725
Selling, general and administrative	7,891	11,880	19,713	35,709	29,871
Total costs and operating expenses	22,963	30,943	63,676	94,451	101,274
Loss from operations	(11,179)	(18,816)	(38,343)	(43,973)	(18,366)
Interest income	245	742	1,491	1,538	180
Interest expense and other, net	(413)	(724)	(2,533)	(2,365)	(2,037)
Loss before provision (benefit) for income taxes	(11,347)	(18,798)	(39,385)	(44,800)	(20,223)
Provision (benefit) for income taxes	243	(127)	(408)	327	66
Net loss	$(11,590)	$(18,671)	$(38,977)	$(45,127)	$ (20,289)
Net loss attributable to common stockholders per share of common stock, basic and diluted	$ (11.54)	$ (16.48)	$ (23.42)	$ (18.96)	$ (7.74)
Weighted average common shares used in computing net loss per share of common stock, basic and diluted	1,004	1,133	1,665	2,380	2,622
Net loss used in computing pro forma net loss per share of common stock, basic and diluted (unaudited)(1)					$ (19,662)
Pro forma net loss per share of common stock, basic and diluted (unaudited)(1)					$ (0.73)
Weighted average common shares used in computing pro forma net loss per share of common stock, basic and diluted (unaudited)(1)					26,798

(1) Net loss used in computing pro forma basic and diluted net loss per share of common stock, pro forma basic and diluted net loss per share of common stock and the number of weighted average common shares used in computing the pro forma basic and diluted net loss per share of common stock in the table above give effect to the automatic conversion of all of our outstanding redeemable convertible preferred stock into common stock upon the closing of this offering as if such conversion had occurred at the beginning of each period or upon issuance, if later, and excludes any additional shares of common stock we may have to issue upon conversion of our Series E preferred stock and Series F preferred stock, as discussed in "Capitalization — Conversion of Our Preferred Stock."

	December 31,				
	2005	2006	2007	2008	2009
			(in thousands)		
Consolidated Balance Sheets Data:					
Cash, cash equivalents and marketable securities	$ 7,005	$ 32,246	$ 84,070	$ 37,130	$ 55,563
Working capital	2,781	22,972	60,732	5,933	16,397
Total assets	21,380	46,659	113,541	70,882	99,036
Current and long-term financing obligations	4,017	4,073	17,477	13,681	7,942
Redeemable convertible preferred stock	37,750	77,513	132,746	132,746	179,672
Total stockholders' deficit	(34,774)	(52,766)	(87,468)	(129,124)	(144,845)

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our consolidated financial statements and related notes that appear elsewhere in this prospectus. In addition to historical financial information, the following discussion contains forward-looking statements that involve risks and uncertainties. Our actual results may differ materially from those discussed below. Factors that could cause or contribute to these differences include those discussed below and elsewhere in this prospectus, particularly in "Risk Factors."

Overview

Our proprietary technology platform enables the creation of optimized biocatalysts that make existing industrial processes faster, cleaner and more efficient than current methods and has the potential to make new industrial processes possible on a commercial scale. We have commercialized our biocatalysts in the pharmaceutical industry and are developing biocatalysts for use in producing advanced biofuels under a multi-year research and development collaboration with Shell. We are also using our technology platform to pursue biocatalyst-enabled solutions in other bioindustrial markets, including carbon management, water treatment and chemicals.

We were incorporated in Delaware in January 2002 as a wholly-owned subsidiary of Maxygen, Inc. In March 2002, we licensed from Maxygen core enabling technology and commenced operations. From 2002 until 2005, our operations focused on organizing and staffing our company and developing our technology platform. In 2005, we recognized our first revenues from product sales to the pharmaceutical industry. In 2006, we entered into our initial research and development collaboration with Equilon Enterprises LLC dba Shell Oil Products US, or Shell, an affiliate of Royal Dutch Shell plc, in the biofuels market.

To date, we have generated revenues primarily from collaborative research and development funding, pharmaceutical product sales and government grants. Our revenues have increased in each of the last three fiscal years, growing from $25.3 million in 2007, to $50.5 million in 2008 and to $82.9 million in 2009. Most of our revenues since inception have been derived from collaborative research and development arrangements, which accounted for 52%, 66% and 78% of our revenues in 2007, 2008 and 2009, respectively. Related party collaborative research and development received from Shell accounted for 33%, 60% and 76% of our revenues in 2007, 2008 and 2009, respectively. Our product sales have increased in each of the last three fiscal years, from $11.4 million in 2007, to $16.9 million in 2008 and to $18.6 million in 2009. Notwithstanding our revenue growth, we have continued to experience significant losses as we have invested heavily in research and development and administrative infrastructure in connection with growth in our business. As of December 31, 2009, we had an accumulated deficit of $159.6 million. We incurred net losses of $39.0 million, $45.1 million and $20.3 million in 2007, 2008 and 2009, respectively. In light of the growth in market acceptance of our products and services to date, we currently intend to increase our investment in research and development. We do not currently expect to achieve profitability prior to at least 2011.

We targeted the pharmaceutical industry as the first market for our products and services. In this market, we have historically entered into collaborations, which have involved complex service and intellectual property agreements under which we research and develop optimized biocatalysts for innovator pharmaceutical companies in connection with their drug development efforts. In these collaborations, we typically receive revenues in the form of one or more of the following: up-front payments, milestone payments, payments based upon the number of full-time employee equivalents, or FTEs, engaged in related research and development activities and licensing fees and royalties.

Our pharmaceutical product offerings include biocatalysts, pharmaceutical intermediates, active pharmaceutical ingredients, or APIs, and Codex Biocatalyst Panels. Our pharmaceutical customers incorporate our biocatalysts into the manufacturing processes used to produce their drugs. Our

intermediates are complex chemical substances that have been manufactured by, or on behalf of, us using our biocatalysts. Drug manufacturers use intermediates to produce the APIs used in their drugs. We believe that major pharmaceutical manufacturers are increasingly willing to outsource portions of their own internal manufacturing and to purchase intermediates that are difficult or expensive to manufacture. Our Codex Biocatalyst Panels are plates embedded with genetically diverse variants of our proprietary biocatalysts, which allow our customers to screen our biocatalysts for desired activity that is applicable to a particular pharmaceutical manufacturing process. We view our Codex Biocatalyst Panels, which we began selling in 2007, as a way to build early and broad awareness of the power and utility of our technology platform. We plan to increase our efforts to expand use of our Codex Biocatalyst Panels among our current and potential customers.

Our pharmaceutical service offerings include screening and optimization services. We use our screening services to test our customers' pharmaceutical materials against our existing libraries of biocatalysts to determine whether our existing biocatalysts produce any desired activities. We then use our optimization services to improve the performance of these biocatalysts to meet customer requirements. We also use our optimization services to improve biocatalysts identified by our customers through their use of our Codex Biocatalyst Panels. The use of our panels, as well as these services, has led to sales of biocatalysts to our pharmaceutical customers.

We provide our biocatalysts, Codex Biocatalyst Panels, screening and optimization services and intermediates to our innovator customers and provide intermediates to our generics customers. We have also launched several new intermediates and APIs for the generic equivalents of branded pharmaceutical products, including Singulair and Cymbalta, in markets where these products are not subject to patent protection, and intend to sell these same intermediates and APIs for use in other markets when the patent protection for each product expires. We sell our products primarily to pharmaceutical manufacturers through our small direct sales and business development force in the United States and Europe.

In the biofuels market, we entered into a research agreement with Shell in 2006. The goal of this collaboration was to develop biocatalysts to break down renewable sources of non-food plant materials, known as cellulosic biomass, and convert them to fuels. In connection with this collaboration, we received up-front payments, research and development service payments and milestone payments.

Based on the success of this initial collaboration, in 2007, we entered into a new, expanded multi-year research and development collaboration with Shell to develop biocatalysts to convert cellulosic biomass into fermentable sugars that are used in the production of fuels and related products and to convert these sugars into fuels and related products. We received an up-front fee and are currently receiving FTE payments under this collaboration. This up-front fee is refundable under certain conditions, such as a change in control in which we are acquired by a competitor of Shell. This refundability lapses ratably over a five-year period beginning on November 1, 2007, on a straight-line basis. In March 2009, we agreed to devote to the research collaboration 128 FTEs, which are required to be funded by Shell at an annual base rate per FTE of $441,000 for FTEs located in the United States, and $350,000 for FTEs located in Hungary. These annual base rates per FTE are subject to annual adjustments based on changes in the Consumer Price Index, or CPI, for the United States and Hungary for each subsequent year of the collaboration. Until November 1, 2010, Shell has the right to reduce the number of funded FTEs under the collaborative research agreement by up to 12 FTEs following 60 days' advance written notice. After November 1, 2010, Shell has the right to further reduce the number of funded FTEs, with any one reduction not to exceed 98 funded FTEs, following advance written notice. The required notice period ranges from 30 to 270 days, so the earliest an FTE reduction could take place would be December 2, 2010. Following any such reduction, Shell is subject to a standstill period of between 90 and 360 days during which period Shell cannot provide notice of any further FTE reductions. The notice and standstill periods are dependent on the number of funded FTEs reduced, with the length of notice and standstill periods increasing commensurate with the number of FTEs reduced.

We are also eligible for annual milestone payments of up to an aggregate of $25.4 million over the remaining term of the agreement, contingent upon the achievement of certain technical goals beginning in

2009, and a milestone payment of $10.0 million upon achievement of certain commercial goals. In 2009, we met or exceeded each of our technical goals under the collaborative research agreement by the applicable deadlines and earned milestone payments of $4.6 million. Shell will also be required to pay us a royalty per gallon with respect to certain products manufactured using our technology platform, including liquid fuels, fuel additives and lubricants, if Shell or any of its licensees manufactures such products. With respect to cellulosic biomass converted into sugars, Shell agreed to pay us a royalty per gallon of fuel product made from those sugars. With respect to sugars converted into fuel, Shell agreed to pay us a separate royalty per gallon of fuel product. We may be entitled to receive one or both of these royalties depending on whether Shell uses our technology to commercialize one or both of these steps.

Under our research and development collaboration with Shell, we retain ownership of all intellectual property we develop, other than patent rights related to certain fuel innovations, and Shell will have an exclusive license to such intellectual property we develop. We have agreed to work exclusively with Shell until November 2012 to convert cellulosic biomass into fermentable sugars that are used in the production of fuels and related products and to convert these sugars into fuels and related products. However, Shell is not required to work exclusively with us, and could develop or pursue alternative technologies that it decides to use for commercialization purposes instead of any technology developed under our collaborative research agreement. Even if Shell decides to commercialize products based on our technologies, they have no obligation to purchase their biocatalyst supply from us. If Shell chooses to commercialize any biofuels products developed through our collaboration, we believe that the combination of our technology platform with Shell's proven project development capabilities and resources could enable a biofuels solution that extends from the conversion of cellulosic biomass into biofuels to delivery and distribution of refined biofuels to consumers at the pump.

One element of our collaboration with Shell relates to the development of cellulosic ethanol. In connection with our collaboration with Shell, we entered into a multi-party collaborative research and license agreement with Iogen Energy Corporation, or Iogen, and Shell in July 2009, which is focused on the conversion of cellulosic biomass to ethanol for commercial scale production. Iogen has agreed to pay us a royalty per gallon with respect to certain fuel products, which include liquid fuels, fuel additives and lubricants, that are covered by inventions jointly made by us and Iogen, but that are solely owned by Iogen. We will be entitled to collect royalties from Shell or Iogen for any use of our biofuels technology by Shell or Iogen. Shell can choose to commercialize cellulosic ethanol manufactured using our technology independently, or in collaboration with Iogen.

Under the terms of our license agreement with Maxygen, we are obligated to pay Maxygen a significant portion of certain types of consideration we receive in connection with our biofuels research and development, including our collaboration with Shell. The actual fees payable to Maxygen will depend on the amount, timing and type of consideration we receive, including payments from the sale of our equity securities to Shell and payments in connection with the sale of fuel products made with a biocatalyst developed using the licensed technology and/or research and development activities.

If we directly commercialize an energy product that is made using any biocatalyst developed from the technology licensed from Maxygen, we will owe Maxygen a 2% royalty on our net sales of the energy product and on amounts received from any sublicensee or third party for the use of the energy product, to the extent that we utilize such energy product to provide services to such sublicensee or third party. If we sublicense our rights under the license agreement to a third party for the development and commercialization of an energy product, we will owe Maxygen 20% of all consideration we receive from any sublicensee. Specifically, we will owe Maxygen fees in connection with consideration we receive in the form of (1) up-front option and/or license fees, (2) FTE funding for biofuels research, (3) milestone payments, (4) payments from the sale of our equity securities and (5) payments in connection with the commercialization of energy products made with a biocatalyst developed using the licensed technology.

In the case of consideration received from the sale of our equity securities to Shell, we are obligated to pay Maxygen 20% of any excess paid above $5.96 per share, the price per share of our Series D preferred

stock. With regard to FTE funding, we are only obligated to pay Maxygen 20% of the portion of any consideration received in excess of a specified amount, which was initially $350,000 per year starting in September 2006, but is adjusted annually based on the published CPI for the United States. We are also obligated to reimburse up to 20% of the costs incurred by Maxygen related to the prosecution and maintenance of the patents licensed from Maxygen relating to our core technology. Further, in the event that any subsidiary or affiliate of ours develops and/or sells any energy applications using the Maxygen technology, we are obligated to transfer to Maxygen a percentage of the value of the subsidiary or affiliate that is attributable to the Maxygen technology and give Maxygen an option to acquire a percentage of the other consideration that we invest in such affiliate or subsidiary.

In connection with all consideration received from Shell relating to our biofuels research and development collaboration, we were obligated to pay Maxygen $7.9 million, $0.9 million and $5.5 million for 2007, 2008 and 2009, respectively, of which $0, $0.9 million and $1.4 million, respectively, were payments owed to Maxygen in connection with Shell's FTE funding. The payments relating to FTE funding were less than 5% of the total FTE payments we received from Shell in those periods.

Our strategy for collaborative arrangements is to retain substantial participation in the future economic value of our technology while receiving current cash payments to offset research and development costs and working capital needs. These agreements are complex and have multiple elements that cover a variety of present and future activities. In addition, certain elements of these agreements are intrinsically difficult to separate and treat as separate units for accounting purposes, especially exclusivity payments. Consequently, we expect to recognize these exclusivity payments over the term of the exclusivity period.

We have limited internal manufacturing capacity at our headquarters in Redwood City, California. We expect to rely on third-party manufacturers for commercial production of our biocatalysts for the foreseeable future. Our in-house manufacturing is dedicated to producing both our Codex Biocatalyst Panels and biocatalysts for use by our customers in pilot scale production. We also supply initial commercial quantities of biocatalysts for use by our collaborators to produce pharmaceutical intermediates and manufacture biocatalysts that we sell.

We rely on two primary contract manufacturers, CPC Biotech srl, or CPC, located in Italy, and Lactosan GmbH & Co. KG, or Lactosan, located in Austria, to manufacture substantially all of the biocatalysts used in our pharmaceutical business. We have qualified other contract manufacturers for the manufacture of our biocatalysts, but we do not currently use them for any of our supply commitments. In addition, we contract with other suppliers for the manufacture of our pharmaceutical intermediates and APIs. Since 2006, Arch Pharmalabs Limited, or Arch, of Mumbai, India has manufactured all of our commercialized drug-related products for sale to generic API manufacturers. We are party to a number of agreements with Arch that govern the commercialization of various current and future products for supply into the generic and innovator marketplaces. In addition, in February 2010, we entered into a collaboration with Dishman Pharmaceuticals and Chemicals, Ltd., or Dishman, a global manufacturer of intermediates and APIs located in India, whereby we will work exclusively with Dishman, and Dishman will work exclusively with us, with respect to the manufacture and supply of intermediates and APIs using our biocatalysts for a select group of innovator pharmaceutical companies.

We continue to evaluate whether to develop internal capabilities to manufacture biocatalysts at commercial scale. To increase our biocatalyst manufacturing capacity, we may invest in our own manufacturing capabilities through the construction of additional manufacturing facilities. The factors we will consider in deciding whether to expand our internal manufacturing capabilities include the costs and impact on our cash flow associated with developing and maintaining such capabilities, the time required to develop such capabilities, potential locations for manufacturing sites, including proximity to existing customers, taxes associated with manufacturing activities and local incentives.

Our revenue stream is diversified across various industries, which should mitigate our exposure to cyclical downturns or fluctuations in any one market. Revenues during 2008 and 2009 were derived from the pharmaceuticals and biofuels markets, and consisted of collaborative research and development revenues, product sales and government grants, which are separately identified in our consolidated statements of operations. Based on our existing arrangements, we believe that revenues from both our pharmaceutical and biofuels customers should be predictable over the near term. The revenues that we expect to recognize from our collaborative research agreement with Shell should provide a high degree of visibility into our aggregate revenues for the foreseeable future.

We actively seek contract manufacturers who are willing to invest in capital equipment to manufacture our products at commercial scale. As a result, we are heavily dependent on the availability of manufacturing capacity at, and the reliability of, our contract manufacturers. We also pursue collaborations with industry leaders that allow us to leverage our collaborators' engineering, manufacturing and commercial expertise, their distribution infrastructure and their ability to fund commercial scale production facilities. If our collaborators choose to utilize our technology to commercialize new products, we expect our collaborators will finance, build and operate the larger, more expensive facilities for the intermediate or end products in our markets, which will allow us to expand into new markets without having to finance or operate large industrial facilities.

Revenues and Operating Expenses

Revenues

Our revenues are comprised of collaborative research and development revenues, product revenues and government grants.

- Collaborative research and development revenues include license, technology access and exclusivity fees, FTE payments, milestones, royalties, and optimization and screening fees. We report our collaborative research and development revenues under two categories consisting of revenues (i) from related parties and (ii) from all other collaborators. Related party collaborative research and development revenues consist of revenues from Shell.
- Product revenues consist of sales of biocatalysts, intermediates, APIs and Codex Biocatalyst Panels.
- Government grants consist of payments from government entities. The terms of these grants generally provide us with cost reimbursement for certain types of expenditures in return for research and development activities over a contractually defined period. Historically, we have received government grants from Germany and the United States and expect to receive additional grants from other governments in the future.

Cost of Product Revenues

Cost of product revenues includes both internal and third-party fixed and variable costs including amortization of purchased technology, materials and supplies, labor, facilities and other overhead costs associated with our product revenues.

Research and Development Expenses

Research and development expenses consist of costs incurred for internal projects as well as partner-funded collaborative research and development activities. These costs include license and royalty fees payable to Maxygen for consideration that we receive in connection with our biofuels collaboration, our direct and research-related overhead expenses, which include salaries and other personnel-related expenses, facility costs, supplies, depreciation of facilities, and laboratory equipment, as well as research consultants and the cost of funding research at universities and other research institutions, and are expensed as incurred. License and royalty fees payable to Maxygen may fluctuate depending on the timing and type of consideration received from Shell in connection with our biofuels research and development collaboration. Costs to acquire technologies that are utilized in research and development and that have no alternative future use are expensed

when incurred. Our research and development efforts devoted to our internal product and process development projects increased from 46 projects in 2007, to 47 projects in 2008 and to 62 projects in 2009. Our internal research and development projects are typically completed in 12 to 24 months, and generally the costs associated with any single internal project during these periods were not material.

Selling, General and Administrative Expenses

Selling, general and administrative expenses consist of compensation expenses (including stock-based compensation), hiring and training costs, consulting and service provider expenses (including patent counsel related costs), marketing costs, occupancy-related costs, depreciation and amortization expenses and travel and relocation expenses.

Critical Accounting Policies and Estimates

The consolidated financial statements have been prepared in conformity with generally accepted accounting principles in the United States and include our accounts and the accounts of our wholly-owned subsidiaries. The preparation of our consolidated financial statements requires our management to make estimates, assumptions, and judgments that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the applicable periods. Management bases its estimates, assumptions and judgments on historical experience and on various other factors that are believed to be reasonable under the circumstances. Different assumptions and judgments would change the estimates used in the preparation of our consolidated financial statements, which, in turn, could change the results from those reported. Our management evaluates its estimates, assumptions and judgments on an ongoing basis.

The critical accounting policies requiring estimates, assumptions, and judgments that we believe have the most significant impact on our consolidated financial statements are described below.

Revenue Recognition

When evaluating multiple element arrangements, we consider whether the components of each arrangement represent separate units of accounting. Application of the standard requires subjective determinations and requires management to make judgments about the fair values of each individual element and whether it is separable from other aspects of the contractual relationship. Revenue arrangements with multiple components are divided into separate units of accounting if certain criteria are met, including whether the delivered component has stand-alone value to the customer, and whether there is objective and reliable evidence of the fair value of the undelivered items. Consideration received is allocated among the separate units of accounting based on their respective fair values. Applicable revenue recognition criteria are then applied to each of the units.

Revenues are recognized when the four basic revenue recognition criteria are met: (1) persuasive evidence of an arrangement exists; (2) products have been delivered, transfer of technology has been completed or services have been rendered; (3) the fee is fixed or determinable; and (4) collectibility is reasonably assured.

Our primary sources of revenues consist of collaborative research and development agreements, product revenues and government grants. Collaborative research and development agreements typically provide us with multiple revenue streams, including up-front fees for licensing, exclusivity and technology access, fees for FTE services and the potential to earn milestone payments upon achievement of contractual criteria and royalty fees based on future product sales or cost savings by our customers.

For each source of collaborative research and development revenues, product revenues and grant revenues, we apply the above revenue recognition criteria in the following manner:

- Up-front fees received in connection with collaborative research and development agreements, including license fees, technology access fees and exclusivity fees, are deferred upon receipt, are

not considered a separate unit of accounting and are recognized as revenues over the relevant performance periods under the agreements, as discussed below.

- Revenues related to FTE services are recognized as research services are performed over the related performance periods for each contract. We are required to perform research and development activities as specified in each respective agreement. The payments received are not refundable and are based on a contractual reimbursement rate per FTE working on the project. When up-front payments are combined with FTE services in a single unit of accounting, we recognize the up-front payments using the proportionate performance method of revenue recognition based upon the actual amount of research and development labor hours incurred relative to the amount of the total expected labor hours to be incurred by us, up to the amount of cash received. In cases where the planned levels of research services fluctuate substantially over the research term, we are required to make estimates of the total hours required to perform our obligations. Research and development expenses related to FTE services under the collaborative research and development agreements approximate the research funding over the term of the respective agreements.
- Revenues related to milestones that are determined to be at risk at the inception of the arrangement and substantive are recognized upon achievement of the milestone event and when collectability is reasonably assured. Milestone payments are triggered either by the results of our research efforts or by events external to us, such as our collaboration partner achieving a revenue target. Fees associated with milestones for which performance was not at risk at the inception of the arrangement or that are determined not to be substantive are accounted for in the same manner as the up-front fees, provided collectability is reasonably assured.
- We recognize revenues from royalties based on licensees' sales of products using our technologies. Royalties are recognized as earned in accordance with the contract terms when royalties from licensees can be reasonably estimated and collectability is reasonably assured.
- Product revenues are recognized once passage of title and risk of loss has occurred and contractually specified acceptance criteria have been met, provided all other revenue recognition criteria have also been met. Product revenues consist of sales of biocatalysts, intermediates and APIs, and Codex Biocatalyst Panels. Cost of product revenues includes both internal and third party fixed and variable costs including amortization of purchased technology, materials and supplies, labor, facilities and other overhead costs associated with our product revenues.
- We license mutually agreed upon third party technology for use in our research and development collaboration with Shell. We record the license payments to research and development expense and offset related reimbursements received from Shell. Payments made by Shell to us are direct reimbursements of our costs. We account for these direct reimbursable costs as a net amount, whereby no expenses or revenues are recorded for the costs reimbursed by Shell. For any payments not reimbursed by Shell, we will recognize these as expenses in the statement of operations. We elected to present the reimbursement from Shell as a component of our research and development expense since presenting the receipt of payment from Shell as revenues does not reflect the substance of the arrangement.
- We receive payments from government entities in the form of government grants. Government grants are agreements that generally provide us with cost reimbursement for certain types of expenditures in return for research and development activities over a contractually defined period. Revenues from government grants are recognized in the period during which the related costs are incurred, provided that the conditions under which the government grants were provided have been met and we have only perfunctory obligations outstanding.
- Shipping and handling costs charged to customers are recorded as revenues. Shipping costs are included in our cost of product revenues. Such charges were not significant in any of the periods presented.

Stock-Based Compensation

Prior to January 1, 2006, we accounted for stock-based employee compensation arrangements using the intrinsic value method required at the time. Under the intrinsic value method, compensation expense for employees is based on the intrinsic value of the option, determined as the excess, if any, of the fair value of the common stock over the exercise price of the option on the date of grant. Historically, our stock options have been granted with exercise prices at or above the estimated fair value of our common stock on the date of grant.

Effective January 1, 2006, we began recognizing compensation expense related to share-based transactions, including the awarding of employee stock options, based on the estimated fair value of the awards granted. We adopted this fair value method using the prospective transition method, as options granted prior to January 1, 2006 were measured using the minimum value method for the pro forma disclosures previously required. In accordance with the prospective transition method, we continued to account for non-vested employee share-based awards outstanding at the date of adoption using the intrinsic value method. All awards granted, modified or settled after January 1, 2006 have been accounted for using the fair value method.

We account for stock options issued to non-employees based on their estimated fair value determined using the Black-Scholes option-pricing model. The fair value of the options granted to non-employees is remeasured as they vest, and the resulting increase in value, if any, is recognized as expense during the period the related services are rendered.

The following table summarizes the options granted from January 2008 through the date of this prospectus with their exercise prices, the fair value of the underlying common stock, and the intrinsic value per share, if any:

Date of Issuance	Number of Shares Subject to Options Granted	Exercise Price per Share	Fair Value of Common Stock per Share	Intrinsic Value
January 29, 2008	730,311	$ 10.50	$ 9.38	—
May 22, 2008	166,666	11.85	11.85	—
September 25, 2008(1)	6,666	6.86	10.79	3.93
September 25, 2008	499,976	10.79	10.79	—
June 2, 2009	1,121,967	7.46	7.46	—
August 5, 2009	250,944	7.40	7.40	—
November 9, 2009	594,497	9.09	9.09	—
December 1, 2009	70,665	9.09	9.09	—
December 14, 2009	83,332	9.09	9.09	—
February 11, 2010	776,981	10.92	10.92	—
March 11, 2010	106,498	11.87	11.87	—
	4,408,503			

(1) The exercise price of this stock option was the then-current fair value of our common stock when the employee joined our company, but such stock option was not issued until September 25, 2008, when the fair value of our common stock had increased to $10.79 per share. The stock option was subsequently cancelled, unexercised, shortly after grant when the employee left our company.

Significant Factors, Assumptions and Methodologies Used in Determining Fair Value

We have estimated the fair value of our stock option grants on or after January 1, 2006 using the Black-Scholes option-pricing model. We calculate the estimated volatility rate based on selected companies in similar markets, due to a lack of historical information regarding the volatility of our stock

price. We will continue to analyze the historical stock price volatility assumption as more historical data for our common stock becomes available. Due to our limited history of grant activity, we calculate the expected life of options granted to employees using the "simplified method" permitted by the SEC as the average of the total contractual term of the option and its vesting period. The risk-free rate assumption was based on U.S. Treasury instruments whose terms were consistent with the terms of our stock options. The expected dividend assumption was based on our history and expectation of dividend payouts. The fair value of the stock options granted was based on the following assumptions:

	Years ended December 31,	
	2008	2009
Weighted-average expected term (years)	6.1	6.3
Weighted-average expected volatility	57%	74%
Weighted-average risk-free interest rates	3.2%	2.6%
Expected dividend yield	0.0%	0.0%

We recognized a total of $1.3 million in stock-based compensation expense during 2007, of which $1.0 million was attributable to employee stock options and $0.2 million was attributable to non-employee stock options. Of these amounts, $0.8 million was recorded as a selling, general and administrative expense while $0.5 million was recorded as a research and development expense. We recognized a total of $3.5 million in stock-based compensation expense during 2008, of which $3.2 million was attributable to employee stock options and $0.3 million was attributable to non-employee stock options. Of these amounts, $2.0 million was recorded as selling, general and administrative expense while $1.5 million was recorded as a research and development expense. At December 31, 2009, there was $13.7 million of unrecognized stock-based compensation cost which is expected to be recognized over an average period of 2.8 years. We recognized a total of $4.8 million in stock-based compensation expense during 2009, of which $4.7 million was attributable to employee stock options and $0.2 million was attributable to non-employee stock options. Of these amounts, $2.5 million was recorded as a selling, general and administrative expense, while $2.3 million was recorded as a research and development expense.

Common Stock Valuations

The fair values of the common stock underlying our stock options were estimated contemporaneously by our board of directors with input from management based upon several factors, including progress and milestones attained in our business, projected sales and earnings for multiple future periods, and the probabilities of various financing and liquidation events, including winding up and dissolution. In determining the fair market value of our common stock as of the date of each option grant, our board of directors made a reasonable estimate of the then current value of our common stock. In the absence of a public trading market for our common stock, our board of directors was required to estimate the fair value of our common stock. Our board of directors considered numerous objective and subjective factors in determining the fair value of our common stock at each option grant date, including but not limited to the following factors: (i) prices of preferred stock issued by us primarily to outside investors in arm's-length transactions, and the rights, preferences and privileges of the preferred stock relative to the common stock; (ii) our performance and the status of research and product development efforts; (iii) our stage of development and business strategy; and (iv) the likelihood of achieving a liquidity event for the shares of common stock underlying these stock options, such as an initial public offering or sale of our company, given then-prevailing market conditions.

All stock options were granted with exercise prices at or above the then-current fair market value of our common stock as determined by our board of directors, other than an option for 6,666 shares that was cancelled, unexercised, shortly after grant. We believe that the determinations of the value of our common stock were fair and reasonable at the time they were made. The board of directors utilized methodologies, approaches and assumptions consistent with the American Institute of Certified Public Accountants Practice Guide, *Valuation of Privately-Held-Company Equity Securities Issued as Compensation*, or the AICPA Practice Guide.

For our contemporaneous and retrospective valuations performed between December 2006 and December 2009 the board of directors used the probability-weighted expected return method, or the PWERM, which is consistent with the allocation methods outlined in the AICPA Practice Guide. The PWERM analyzes the returns afforded to common equity holders under multiple future scenarios. Under the PWERM, share value is based upon the probability-weighted present value of expected future net cash flows (distributions to shareholders), considering each of the possible future events and giving consideration for the rights and preferences of each share class. The PWERM requires a five step process: (i) for each possible future event, standard valuation methodologies, such as the application of revenues and earnings multiples from a relevant peer group, are used to estimate a range of future distribution values over a range of event dates; (ii) for each combination of value and date, the value is allocated between the share classes; (iii) the expected return for each class is then discounted back to the present; (iv) the probability for each possible event is estimated; and (v) the probability-weighted return, expressed in terms of a per-share value, is determined for each class. Although this method is complex to implement, the board of directors believes that this method's forward-looking analysis of potential future outcomes makes it the most suitable for this analysis.

The PWERM-derived fair value calculated at each valuation date was then allocated to the shares of redeemable and/or convertible preferred stock, warrants to purchase shares of preferred stock, and common stock, using a contingent claim methodology. This methodology treats the various components of our capital structure as a series of call options on the proceeds expected from the sale of the company or the liquidation of our assets at some future date. The anticipated timing of a liquidity event utilized in these valuations was based on the then-current plans and estimates of our board of directors and management regarding the likely success of an initial public offering. Estimates of the volatility of our stock were based on the limited information available on the volatility of the capital stock of comparable publicly-traded companies.

We granted stock options with exercise prices between $10.92 and $11.87 per share during the first fiscal quarter of 2010. We granted stock options with exercise prices between $7.40 and $9.09 per share during 2009. We granted stock options with exercise prices between $6.86 and $11.85 per share during 2008. No single event caused the valuation of our common stock to increase or decrease from January 2008 to March 2010; rather, it has been a combination of the following factors that led to the changes in the fair value of the underlying common stock:

January 2008: In January 2008, we appointed a new President for Codexis Pharmaceuticals, opened a new European facility in Hungary and introduced a new product. Also, our board of directors selected investment banks to act as managing underwriters for a potential initial public offering of our stock. As a result of these events, on January 29, 2008, the fair value of our common stock was estimated to be $9.38 per share.

February 2008 to May 2008: In April 2008, we filed a registration statement on Form S-1 with the SEC for a potential initial public offering of our common stock. As a result, on May 22, 2008, the estimated fair value of our common stock increased to $11.85 per share.

May 2008 to June 2008: In June, we entered into two new collaborative research agreements to provide our Codex Biocatalyst Panels and screening services. As a result, on June 30, 2008, the estimated fair value of our common stock increased to $12.15 per share.

July 2008 to September 2008: In September 2008, we determined market conditions had deteriorated and volatility had increased and we filed to withdraw our registration statement on Form S-1 with the SEC. We deemed the probability of an initial public offering to have significantly decreased in the near term. We also announced an expansion of our agreement with Arch. However, due primarily to the conditions in the equity markets which had led to the withdrawal of our earlier registration statement, as of September 25, 2008, the estimated fair value of our common stock decreased to $10.79 per share.

October 2008 to December 2008: In November 2008, we announced a technology license agreement with Dyadic International. We also began discussions with Shell and other potential investors regarding a Series F preferred stock financing. Due to prevailing market conditions, we determined it was highly unlikely that an initial public offering would be consummated in 2009. As a result of such conditions, on December 31, 2008, the estimated fair value of our common stock decreased to $8.13 per share.

January 2009 to March 2009: In March 2009, we completed the first closing of our Series F preferred stock financing, led by Shell, raising $30.0 million. We also expanded our amended and restated collaborative research agreement with Shell. Despite these events, because of the conditions in the equity markets, as of March 31, 2009, the estimated fair value of our common stock decreased to $7.44 per share.

April 2009 to July 2009: In May 2009, we appointed a Senior Vice President of Research and Development and a Chief Science Officer. We announced an agreement with F. Hoffman-La Roche Ltd., or Roche, under which Roche will purchase our Codex Biocatalyst Panels. We raised $15.0 million through additional closings of sales of our Series F preferred stock. Although revenues were up 105% for the first seven months of 2009 compared to 2008, we were still recording losses during this period. As a result of the dilutive effect from having additional potential common shares as compared to the prior valuation, the estimated fair value of our common stock decreased to $7.40 per share.

August 2009 to September 2009: In August 2009, we underwent certain restructuring activities which included closing our German facility and relocating operations into other facilities. By late August 2009, conditions in the equity markets had improved and continued to improve into September 2009. Based on these events, on September 29, 2009, the estimated fair value of our common stock increased to $9.09 per share.

October 2009 to December 2009: In November 2009, we appointed a new Senior Vice President and Chief Financial Officer and raised $2.0 million through an additional closing of sales of our Series F preferred stock. In December 2009, we purchased a minority stake in and signed a joint research and development agreement with CO_2 Solution Inc. for the development of technologies in the capture of carbon dioxide from power plants and other industrial sources. Also in December 2009, we filed a registration statement on Form S-1 with the SEC for a potential initial public offering. Based on these events, on December 31, 2009, the estimated fair value of our common stock increased to $10.41.

January 2010 to February 2010: During this period, we continued to make progress in our preparation for a potential initial public offering. In addition, on February 1, 2010, Shell International Petroleum Company Limited, or Shell International, an affiliate of Shell, announced that it had signed a non-binding memorandum of understanding with Cosan S.A., with the intention of forming a joint venture in Brazil for the production of ethanol, sugar and power, and the supply, distribution and retail of transportation fuels. According to the announcement, Shell International would contribute to the joint venture Shell's equity interest in us. As of February 8, 2010, the estimated fair value of our common stock increased to $10.92.

February 2010 to March 2010: During this period, we made further progress in our preparation for a potential initial public offering. As of March 5, 2010, the estimated fair value of our common stock increased to $11.87.

Estimation of Fair Value of Warrants to Purchase Preferred Stock

Our outstanding warrants to purchase shares of our preferred stock are required to be classified as liabilities and to be adjusted to their fair value at the end of each reporting period. Warrants issued in connection with debt arrangements resulted in an aggregate expense of $1.3 million attributable to an increase in the fair value of the warrant liability recognized in interest expense and other, net in the consolidated statements of operations during 2007. In 2008, a gain of $0.1 million was recognized in interest expense and other, net as a result of warrant liability measurement. In 2009, a loss of $0.6 million was recognized in interest expense and other, net due to the warrant liability remeasurement. Upon the closing of this initial public offering and the conversion of the underlying preferred stock to common stock, all outstanding warrants to purchase shares of preferred stock will automatically convert into warrants to purchase shares of our common

stock. The then-current aggregate fair value of these warrants will be reclassified from liabilities to additional paid-in capital, a component of stockholders' equity, and we will cease to record any related periodic fair value adjustments. Accordingly, we estimated the fair value of these warrants on an "as-if converted" basis at the respective balance sheet dates using the Black-Scholes option pricing model, the remaining contractual term of the warrant, risk-free interest rates and expected dividends on and expected volatility of the price of the underlying common stock. These estimates, especially the market value of the underlying common stock and the expected volatility, are highly judgmental and could differ materially in the future.

Impairment of Goodwill and Intangible Assets and Other Long-lived Assets

We assess impairment of long-lived assets, including goodwill, on at least an annual basis and test long-lived assets for recoverability when events or changes in circumstances indicate that their carrying amount may not be recoverable. Circumstances which could trigger a review include, but are not limited to: significant decreases in the market price of the asset; significant adverse changes in the business climate or legal factors; accumulation of costs significantly in excess of the amount originally expected for the acquisition or construction of the asset; current period cash flow or operating losses combined with a history of losses or a forecast of continuing losses associated with the use of the asset; or current expectation that the asset will more likely than not be sold or disposed of significantly before the end of its estimated useful life.

Recoverability is assessed based on the sum of the undiscounted cash flows expected to result from the use and the eventual disposal of the asset. An impairment loss is recognized in the consolidated statements of operations when the carrying amount is not recoverable and exceeds fair value, which is determined on a discounted cash flow basis.

We make estimates and judgments about future undiscounted cash flows and fair value. Although our cash flow forecasts are based on assumptions that are consistent with our plans, there is significant exercise of judgment involved in determining the cash flows attributable to a long-lived asset over its estimated remaining useful life. Our estimates of anticipated future cash flows could be reduced significantly in the future. As a result, the carrying amount of our long-lived assets could be reduced through impairment charges in the future. Changes in estimated future cash flows could also result in a shortening of estimated useful life of long-lived assets including intangibles for depreciation and amortization purposes.

Income Tax Provision

We use the liability method of accounting for income taxes, whereby deferred tax assets or liability account balances are calculated at the balance sheet date using current tax laws and rates in effect for the year in which the differences are expected to affect taxable income. Valuation allowances are provided when necessary to reduce deferred tax assets to the amount that will more likely than not be realized.

We must make certain estimates and judgments in determining income tax expense for financial statement purposes. These estimates and judgments occur in the calculation of tax credits, benefits and deductions and in the calculation of certain tax assets and liabilities, which arise from differences in the timing of recognition of revenues and expenses for tax and financial statement purposes. Significant changes to these estimates may result in an increase or decrease to our tax provision in a subsequent period.

In assessing the realizability of deferred tax assets, we consider whether it is more likely than not that some portion or all of the deferred tax assets will be realized on a jurisdiction by jurisdiction basis. The ultimate realization of deferred tax assets is dependent upon the generation of taxable income in the future. We have recorded a deferred tax asset in jurisdictions where ultimate realization of deferred tax assets is more likely than not to occur.

We make estimates and judgments about our future taxable income that are based on assumptions that are consistent with our plans and estimates. Should the actual amounts differ from our estimates, the

amount of our valuation allowance could be materially impacted. Any adjustment to the deferred tax asset valuation allowance would be recorded in the income statement for the periods in which the adjustment is determined to be required.

On January 1, 2007, we adopted the Financial Accounting Standards Board, or FASB, standard for accounting for uncertainty in income taxes. The revised standard, now codified under the "Income Taxes Topic in the FASB Accounting Standards Codification" clarifies the accounting for uncertainty in income taxes recognized in an enterprise's financial statements. The first step is to evaluate the tax position for recognition by determining if the weight of available evidence indicates that it is more likely than not that the position will be sustained on audit, including resolution of related appeals or litigation processes, if any. The second step is to estimate and measure the tax benefit as the largest amount that is more than 50% likely of being realized upon ultimate settlement. It is inherently difficult and subjective to estimate such amounts, as this requires us to determine the probability of various possible outcomes. We consider many factors when evaluating and estimating our tax positions and tax benefits, which may require periodic adjustments and may not accurately anticipate actual outcomes.

Results of Operations

Years Ended December 31, 2008 and 2009

The following table shows the amounts and percentage relationships of the listed items from our unaudited consolidated statements of operations for the periods presented, showing period-over-period changes (in thousands, except for percentages).

	2008	2009	$ Change	% Change
Revenues:				
Product	$ 16,860	$ 18,554	$ 1,694	10%
Related party collaborative research and development	30,239	62,656	32,417	107
Collaborative research and development	3,062	1,652	(1,410)	(46)
Government grants	317	46	(271)	(85)
Total revenues	50,478	82,908	32,430	64
Costs and operating expenses:				
Cost of product revenues	13,188	16,678	3,490	26
Research and development	45,554	54,725	9,171	20
Selling, general and administrative	35,709	29,871	(5,838)	(16)
Total costs and operating expenses	94,451	101,274	6,823	7
Loss from operations	(43,973)	(18,366)	25,607	(58)
Interest income	1,538	180	(1,358)	(88)
Interest expense and other, net	(2,365)	(2,037)	328	(14)
Loss before provision for income taxes	(44,800)	(20,223)	24,577	(55)
Provision for income taxes	327	66	(261)	(80)
Net loss	$(45,127)	$ (20,289)	$24,838	(55)%

Revenues. Revenues increased $32.4 million, or 64%, from $50.5 million in 2008 to $82.9 million in 2009, primarily due to increases in revenues from related party collaborative research and development projects and product sales offset by reductions in revenues from other collaborative research and development projects.

Product revenues increased $1.7 million, or 10%, from $16.9 million in 2008 to $18.6 million in 2009. This increase was primarily due to an increase in product sales to a pharmaceutical customer during 2009.

Related party collaborative research and development revenues increased $32.4 million, or 107%, from $30.2 million in 2008 to $62.7 million in 2009. This increase was due to the increase in the number of FTEs engaged in our expanded research and development collaboration with Shell as well as milestone

payments of $4.6 million. The expansion of this collaboration resulted in an increase in the number of contractual FTEs used during the period from an average of 62 in 2008 to an average of 126 in 2009.

Collaborative research and development revenues decreased $1.4 million, or 46%, from $3.1 million in 2008 to $1.7 million in 2009. This decrease was primarily due to the reallocation of our research resources after the completion of certain collaborative research and development projects to related party collaborative research and development projects.

Government grant revenues decreased $0.3 million, or 85%, from $0.3 million in 2008 to $46,000 in 2009.

Our top five customers accounted for 79% and 90% of our total revenues in 2008 and 2009, respectively. In 2008, Shell accounted for 60% of our total revenues. In 2009, Shell accounted for 76% of our total revenues.

Customers in the Americas accounted for 70% and 79% of our revenues, and customers outside the Americas accounted for 30% and 21% of our revenues, in 2008 and 2009, respectively. Revenues for 2008 and 2009 by geography were as follows (in thousands, except percentages):

	2008	2009	$ Change	% Change
Americas(1)	$35,166	$65,713	$30,547	87%
Europe	8,165	7,028	(1,137)	(14)
Asia	7,147	10,167	3,020	42
International	15,312	17,195	1,883	12
Total	$50,478	$82,908	$32,430	64%

(1) Primarily United States.

Cost of Product Revenues. Cost of product revenues was $13.2 million for 2008, compared to $16.7 million in 2009, an increase of $3.5 million or 26%. The increase was primarily attributable to product sales. Cost of product revenues as a percentage of product revenues increased from 78% in 2008 to 90% in 2009, primarily due to write downs of $2.0 million of inventory items, as well as a change in sales mix towards lower margin product sales during 2009. Inventory write downs included excess and obsolete inventories and the impact of the rationalization of our product offerings in connection with the closure of our facility in Germany.

Research and Development. Research and development expenses were $45.6 million in 2008, compared to $54.7 million in 2009, an increase of $9.2 million or 20%. The increase was primarily due to increased royalty fees paid to Maxygen of $4.6 million, most of which was related to Shell's increased equity investment in our company, and the remainder of which reflected the increase in FTEs. In addition, the increase was due to compensation (including stock-based compensation) and benefits of $3.0 million attributable to an increase in employee headcount in our research and development functions, and depreciation and amortization expense of $1.4 million due to expanded facilities and capital equipment. Research and development expenses included stock-based compensation expense of $1.5 million and $2.3 million during 2008 and 2009, respectively.

Selling, General and Administrative. Selling, general and administrative expenses were $35.7 million for 2008, compared to $29.9 million for 2009, a decrease of $5.8 million or 16%. The decrease was primarily due to a $3.6 million write off in 2008 of deferred initial public offering costs. We also reduced our spending on consultants, contractors and outside advisory services by $1.4 million, and travel and recruiting-related expenses decreased by $0.9 million. Selling, general and administrative expenses included stock-based compensation expense of $2.0 million and $2.5 million during 2008 and 2009, respectively.

Interest Income. Interest income was $1.5 million in 2008 compared to $0.2 million in 2009, a decrease of $1.4 million or 88%. The decrease resulted from higher average cash, cash equivalents and marketable securities balances on hand and higher average interest rates during 2008 compared to 2009.

Interest Expense and Other, Net. Interest expense and other, net was $2.4 million in 2008, compared to $2.0 million in 2009, a decrease of $0.3 million or 14%. Interest expense and other, net in 2009 included the increase in the fair value of our redeemable convertible preferred stock warrant liability of $0.6 million, which was offset by a decrease in interest expense of $0.6 million due to the reduced debt obligation on the General Electric Capital Corporation / Oxford Finance Corporation loan, which we refer to as the GE Capital Loan, due to scheduled principal payments on these obligations.

Provision for Income Taxes. The tax provision for 2008 and 2009 primarily consisted of income taxes attributable to foreign operations.

Restructuring Charges. In 2009, our board of directors approved and committed to plans to reduce our cost structure, which included a relocation of our operations in Germany to facilities in the United States and in Singapore, a rationalization of our product offerings, closure of the facility in Germany and employee terminations in Germany and the United States. We expensed $0.4 million in employee severance and benefits, $0.4 million in lease termination costs and $0.5 million related to inventory write downs, for a total of $1.4 million. The inventory write downs of $0.5 million were included in cost of product revenues and the remaining $0.9 million was included in selling, general and administrative expenses in the consolidated statements of operations. As of December 31, 2009, $1.2 million related to these expenses has been paid or charged off and the remaining $0.2 million is recorded in other accrued liabilities on the consolidated balance sheet. We incurred total costs of approximately $1.4 million, with substantially all of the costs incurred during 2009.

Years Ended December 31, 2007 and 2008

The following table shows the amounts and percentage relationships of the listed items from our consolidated statements of operations for the periods presented, showing period-over-period changes (in thousands, except percentages).

	2007	2008	$ Change	% Change
Revenues:				
Product	$ 11,418	$ 16,860	$ 5,442	48%
Related party collaborative research and development	8,481	30,239	21,758	257
Collaborative research and development	4,733	3,062	(1,671)	(35)
Government grants	701	317	(384)	(55)
Total revenues	25,333	50,478	25,145	99
Costs and operating expenses:				
Cost of product revenues	8,319	13,188	4,869	59
Research and development	35,644	45,554	9,910	28
Selling, general and administrative	19,713	35,709	15,996	81
Total costs and operating expenses	63,676	94,451	30,775	48
Loss from operations	(38,343)	(43,973)	(5,630)	15
Interest income	1,491	1,538	47	3
Interest expense and other, net	(2,533)	(2,365)	168	(7)
Loss before provision (benefit) for income taxes	(39,385)	(44,800)	(5,415)	14
Provision (benefit) for income taxes	(408)	327	735	NM
Net loss	$(38,977)	$(45,127)	$ (6,150)	16%

NM = not meaningful

Revenues. From 2007 to 2008, revenues increased $25.1 million, or 99%, from $25.3 million to $50.5 million due primarily to increases in revenues from related party collaborative research and development projects and product sales.

Product revenues increased $5.4 million, or 48%, from $11.4 million in 2007 to $16.9 million in 2008. This increase was primarily due to a $4.4 million increase in sales of intermediates which began in the first quarter of 2008, and a $1.1 million increase in biocatalyst sales.

Related party collaborative research and development revenues increased $21.8 million, or 257%, from $8.5 million in 2007 to $30.2 million in 2008. This increase was due to the expansion of the research and development collaboration with Shell that took place during 2008. The expansion of this collaboration resulted in an increase in the number of contractual FTEs used during the year from an average of 13 in 2007 to an average of 62 in 2008.

Collaborative research and development revenues decreased $1.7 million, or 35%, from $4.7 million in 2007 to $3.1 million in 2008. This decrease was primarily due to a $2.4 million decrease as a result of completion of collaboration projects with two pharmaceutical customers during 2007, partially offset by a $0.7 million increase as a result of optimization services delivered to one pharmaceutical customer and additional royalties received from another pharmaceutical customer.

Government grant revenues decreased $0.4 million, or 55%, from $0.7 million in 2007 to $0.3 million in 2008. This decrease was primarily due to the completion of a grant received from the National Institutes of Health at the end of 2007.

Our top five customers accounted for 65% and 79% of total revenues for 2007 and 2008, respectively. In 2007, Shell accounted for 33% of our total revenues and Pfizer accounted for 13% of our total revenues. In 2008, Shell accounted for 60% of our total revenues and no other customer accounted for more than 10% of our total revenues.

Customers in the Americas accounted for 59% and 70% of revenues and customers outside the Americas accounted for 41% and 30% of revenues in 2007 and 2008, respectively. Revenues for 2007 and 2008 by geography were as follows (in thousands, except for percentages):

	2007	2008	$ Change	% Change
Americas(1)	$15,010	$35,166	$20,156	134%
Europe	4,005	8,165	4,160	104
Asia	6,318	7,147	829	13
International	10,323	15,312	4,989	48
Total	$25,333	$50,478	$25,145	99%

(1) Primarily United States.

Cost of Product Revenues. Cost of product revenues was $8.3 million for 2007 compared to $13.2 million in 2008, an increase of $4.9 million or 59%. The increase was primarily attributable to the 48% increase in product sales. In addition, cost of product revenues as a percentage of product revenues increased from approximately 73% in 2007 to 78% in 2008 due to a change in sales mix towards lower margin product sales in 2008.

Research and Development. Research and development expenses increased from $35.6 million for 2007 to $45.6 million for 2008, an increase of $9.9 million or 28%. The increase was primarily due to increased compensation (including stock-based compensation) and benefits of $10.5 million attributable to a 27% increase in employee headcount in our research and development functions, higher expenses incurred for lab supplies, outside services and consultants of $4.2 million, higher occupancy related costs of $1.3 million and depreciation and amortization expense of $1.4 million. These increases were partially

offset by a $7.0 million decrease in fees payable to Maxygen in connection with the receipt of an up-front payment during 2007 related to our research and development collaboration with Shell. Research and development expenses included stock-based compensation expense of $0.5 million and $1.5 million during 2007 and 2008, respectively.

Selling, General and Administrative. Selling, general and administrative expenses increased from $19.7 million for 2007 to $35.7 million for 2008, an increase of $16.0 million or 81%. The increase was primarily due to increased compensation (including stock-based compensation) of $3.4 million attributable to a 45% increase in our employee headcount, primarily related to our accounting, legal, information technology and sales departments. In addition, we incurred higher costs during 2008 for consultants and outside advisory services, including $4.0 million as we prepared to become a public company and $2.4 million in patent protection costs. Also, in 2008, we expensed $3.6 million in initial public offering costs which had been deferred until the initial public offering was withdrawn in September 2008. Restructuring charges included in selling, general and administrative expenses in 2008 were $2.0 million. Expenses related to promotional marketing materials and travel increased $0.8 million. Selling, general and administrative expenses included stock-based compensation expense of $0.8 million and $2.0 million during 2007 and 2008, respectively.

Interest Income. Interest income was $1.5 million in both 2007 and 2008.

Interest Expense and Other, Net. Interest expense and other, net was $2.5 million in 2007 compared to $2.4 million in 2008, or a decrease of $0.2 million or 7%. Interest expense and other, net in 2007 included a $1.3 million expense related to the increase in the fair value of our Series D redeemable convertible preferred stock warrants. The increase in interest expense in 2008 was $1.2 million and was related to the outstanding principal on the GE Capital Loan that was drawn in September 2007.

Provision (Benefit) for Income Taxes. The tax provision for 2008 primarily consisted of foreign tax withheld at source on royalties earned overseas and other taxes attributable to foreign operations. The tax benefit for 2007 primarily consisted of benefit from reductions in deferred tax liabilities that had originated in a business acquisition, offset by foreign tax withheld at source on royalties earned overseas and other taxes attributable to foreign operations.

Restructuring Charges. In 2008, our board of directors approved and committed to plans to reduce our cost structure. The restructuring plan applied to employees and facilities worldwide. We expensed $1.1 million for facilities, $0.6 million for employees and $0.2 million in other costs associated with the closure of the Pasadena site for a total of $2.0 million in the year ended December 31, 2008. Restructuring expense was included in selling, general and administrative expenses in the consolidated statements of operations. As of December 31, 2008, $0.4 million had been paid and the remaining expenses were recorded on the consolidated balance sheet in other accrued liabilities for $0.8 million and in other long-term liabilities for $0.7 million. During 2009, $0.8 million was paid, and $0.3 million was reversed as reduction of general and administrative expense due to a change in estimated costs of restructuring due to the sublease of a facility. The amounts included in other accrual liabilities on the consolidated balance sheet as of December 31, 2009 under this restructuring plan were $0.5 million.

Liquidity and Capital Resources

Since inception, we have funded our operations through the sale of equity securities, borrowings under financing arrangements, collaborative research and development revenues, product sales and government grants. As of December 31, 2009, our cash, cash equivalents and marketable securities totaled $55.6 million. In addition, we have $0.7 million of restricted cash primarily related to letters of credit.

Operating Activities

We have historically experienced negative cash flow from operations as we continue to invest in our infrastructure and our technology platform, and expand our business. Our cash flows from operations will continue to be affected principally by the extent to which we increase our headcount, primarily in research and development, in order to grow our business. The timing of hiring of skilled research and development personnel in particular affects cash flows as there is a lag between the hiring of research and development personnel and the generation of collaboration or product revenues and cash flows from those personnel. Our primary source of cash flows from operating activities is cash receipts from our customers. Our largest uses of cash from operating activities are for employee related expenditures, rent payments, inventory purchases to support our revenue growth and non-payroll research and development costs, which include payments made to Maxygen in connection with our biofuels research and development collaboration with Shell. In light of the growth in market acceptance of our products and services to date, we currently intend to increase our investment in research and development. We do not currently expect to achieve profitability prior to at least 2011.

Our operating activities in 2009 used cash in the amount of $8.7 million, primarily as a result of our net loss of $20.3 million and increases in accounts receivable of $1.1 million, offset by decreases in deferred revenues of $0.5 million primarily as a result of continuing recognition of up-front exclusivity fees we received from Shell in 2007. We also had net non-cash charges of $12.6 million, comprised primarily of $5.2 million in depreciation and amortization of property and equipment, $4.8 million in stock-based compensation expense, $1.0 million in amortization of intangible assets and $0.6 million related to the increase in the fair value of the redeemable convertible preferred stock warrants during the period.

Our operating activities used cash in the amount of $36.3 million in 2008, primarily due to our net loss of $45.1 million, an increase in inventories of $1.4 million, a decrease in a related party payable of $7.4 million, and offset by increases in accounts payable of $4.9 million and accrued liabilities of $5.3 million. These changes resulted primarily from the significant growth in our business, the timing of shipments and payments to vendors, including related parties, and our efforts to manage and monitor the balances of trade receivables. We also had net non-cash charges of $7.8 million, comprised primarily of $3.7 million in depreciation and amortization of property and equipment, $0.9 million in amortization of intangible assets, $3.5 million in stock-based compensation expense, and $0.5 million for amortization of debt discount.

Our operating activities used cash in the amount of $6.5 million in 2007, primarily due to our net loss of $39.0 million and an increase in accounts receivable of $3.1 million, partially offset by an increase in deferred revenues of $16.4 million, and an increase in accounts payable, accrued liabilities and related party payable of $14.2 million. These changes resulted primarily from the significant growth in our business, the timing of shipments and payments to vendors, our efforts to manage and monitor the balances of trade receivables, and the increase in deferred revenues due to the timing of revenue recognition under our revenue recognition policy. We also had net non-cash charges of $6.3 million, comprised primarily of $2.1 million in depreciation and amortization of property and equipment, $1.2 million in amortization of intangible assets and deferred costs, $1.3 million in stock-based compensation expense, $1.3 million related to the increase in the fair value of the redeemable convertible preferred stock warrants, and $0.5 million of expense related to preferred stock issued in exchange for services.

Based on our current level of operations and anticipated growth, we believe that our existing cash, cash equivalents and marketable securities will provide adequate funds for ongoing operations, planned capital expenditures and working capital requirements for at least the next 12 months.

Investing Activities

In 2009, our investing activities used cash of $21.1 million, primarily for the net purchases of $9.1 million of marketable securities, and $10.8 million of capital expenditures. These capital expenditures consisted primarily of laboratory equipment purchases and leasehold improvements in our laboratories.

Our investing activities provided cash of $7.1 million in 2008, primarily from the net proceeds from the sale and maturities of marketable securities of $14.3 million, reduced by purchases of property and equipment of $8.5 million, and a decrease in restricted cash of $1.3 million. Restricted cash reduced by $0.8 million on payment of purchase consideration to a former shareholder of BioCatalytics and by $0.6 million on expiration of a letter of credit relating to a facility lease.

Our investing activities used cash of $39.2 million in 2007, primarily from net purchases of marketable securities of $28.5 million, the purchase of property and equipment of $8.2 million to support the growth in our business, a $1.3 million increase in restricted cash and net payments of $1.2 million for the BioCatalytics acquisition. The capital expenditures consisted primarily of laboratory equipment, computer and test equipment, and software purchases.

We expect our capital expenditures to be approximately $11.6 million for 2010. We are evaluating alternatives to manufacture biocatalysts at commercial scale. In the event we decide to build additional manufacturing facilities to manufacture biocatalysts at commercial scale, our capital expenditures will increase. We may be able to obtain government subsidies to offset all or a portion of the costs of building such facilities. In the future, we will continue to make laboratory equipment purchases to support our increasing research and development efforts and growth strategy.

Financing Activities

In 2009, our financing activities provided $40.0 million in cash, primarily from the issuance and sale of 3.7 million shares of Series F preferred stock for $46.9 million, partially offset by $6.1 million in principal payments on our financing obligations.

Our financing activities used $3.9 million in cash during 2008, primarily from the $4.3 million in principal payments on our financing obligations, partially offset by $0.4 million in proceeds from the exercise of employee stock options.

Our financing activities provided cash of $68.4 million in 2007. The primary source of these funds was the issuance and sale of 4.1 million shares of Series E preferred stock and the exercise of warrants to purchase 0.3 million shares of Series D preferred stock, for an aggregate net consideration of $54.8 million from various investors. In September 2007, we borrowed a net amount of $14.8 million under the GE Capital Loan. The loan and security agreement for the GE Capital Loan, or the GE Capital Loan and Security Agreement, provides for $15.0 million in borrowings, is secured by substantially all of our assets with the exception of intellectual property, and bears interest at 9.4% per annum. The loan is to be repaid over 42 months from the date of funding, through monthly cash payments of principal and interest following six months of interest only payments. As of December 31, 2009, we had financing obligations of $7.9 million. The GE Capital Loan and Security Agreement contains a number of covenants that, among other things, restrict, subject to certain exceptions, our and our subsidiaries' ability to:

- incur additional debt or issue certain types of redeemable preferred stock;
- grant liens on our assets including our intellectual property;
- sell assets including our intellectual property;
- engage in mergers and acquisitions;
- declare or pay dividends to our stockholders;
- make investments, loans and advances; and
- amend our license agreement with Maxygen.

The GE Capital Loan and Security Agreement also contains customary affirmative covenants including the requirement that we deliver certain financial statements, compliance certificates and capitalization tables

to the lenders certified by our chief financial officer and provide the lenders with notice upon the occurrence of certain events. The GE Capital Loan and Security Agreement also contains customary events of default, the occurrence of which permit the lenders to declare all amounts outstanding under the GE Capital Loan and Security Agreement to be immediately due and payable. In addition, the lenders have the right to declare all amounts outstanding under the loan agreement to be immediately due and payable upon the occurrence of an event which has a material adverse effect on our business, assets or operations.

At December 31, 2009, we were in compliance with the covenants of the loan and security agreement. In January 2008, GE, as agent for the lenders, waived certain events of default arising from our failure to timely deliver to GE monthly compliance certificates, financial statements and capitalization tables for each of the months from November 2007 to January 2008 and our annual operating plan for 2008. In addition, in August 2008, GE, as agent for the lenders, waived certain events of default arising from our failure to timely deliver to GE a copy of our registration statement on Form S-1 filed on April 14, 2008, monthly compliance certificates, financial statements and capitalization tables for each of the months from February to May 2008, and annual compliance certificates and audited financial statements for the fiscal years ended December 31, 2006 and December 31, 2007. The August 2008 waiver was provided in exchange for a waiver fee of $35,000, a general release of claims against GE and the other lenders and representations from us as to the absence of any other events of default under the GE Capital Loan and Security Agreement.

Contractual Obligations and Commitments

The following summarizes the future commitments arising from our contractual obligations at December 31, 2009 (in thousands):

	Total	2010	2011	2012	2013	2014 and beyond
Loans payable(1)	$ 8,631	$ 5,920	$ 2,711	$ —	$ —	$ —
Operating leases(2)	6,072	2,936	1,559	1,228	349	—
Total	$ 14,703	$ 8,856	$ 4,270	$ 1,228	$ 349	$ —

(1) Amounts include interest on obligations.
(2) Amounts net of noncancellable subleases.

The table above reflects only payment obligations that are fixed and determinable. Our commitments for operating leases primarily relate to our leased facilities in Redwood City, California.

Off-Balance Sheet Arrangements

As of December 31, 2009, we have no off-balance sheet arrangements as defined in Item 303(a)(4) of Regulation S-K as promulgated by the SEC.

Recent Accounting Pronouncements

In June 2009, the FASB issued Statement of Financial Accounting Standard, or SFAS, No. 168,*The FASB Accounting Standards Codification and the Hierarchy of Generally Accepted Accounting Principles — A Replacement of FASB Statement No. 162*, or SFAS 168. SFAS 168, which is incorporated in Accounting Standards Codification, or ASC, Topic 105, *Generally Accepted Accounting Principles*, identifies the ASC as the authoritative source of generally accepted accounting principles in the United States. Rules and interpretive releases of the SEC under federal securities laws are also sources of authoritative generally accepted accounting principles for SEC registrants. We adopted the provisions of the authoritative accounting guidance during 2009 and included references to the ASC within our consolidated financial statements. The adoption had no impact on our consolidated results of operations or financial position.

In September 2006, the FASB issued SFAS No. 157, *Fair Value Measurements*, or SFAS 157, which is incorporated in ASC Topic 820, *Fair Value Measurements and Disclosures*. SFAS 157 defines fair value, establishes a framework for measuring fair value and requires additional disclosures about fair value measurements. In February 2008, the FASB issued FASB Staff Position, or FSP, FAS 157-1, *Application of FASB Statement No. 157 to FASB Statement No. 13 and Other Pronouncements that Address Fair Value Measurements for Purpose of Lease Classification or Measurement under Statement 13*, which is incorporated in ASC Topic 820, which amends SFAS 157 to exclude accounting pronouncements that address fair value measurements for purposes of lease classification or measurement under SFAS No. 13, *Accounting for Leases*. In February 2008, the FASB also issued FSP SFAS No. 157-2, *Effective Date of FASB Statement No. 157*, which is incorporated in ASC Topic 820, which delays the effective date of SFAS 157 until the first quarter of 2009 for all non-financial assets and non-financial liabilities, except for items that are recognized or disclosed at fair value in the consolidated financial statements on a recurring basis, at least annually. SFAS 157 does not require any new fair value measurements but rather eliminates inconsistencies in guidance found in various prior accounting pronouncements. In April 2009, the FASB further issued FSP SFAS No. 157-4, *Determining Fair Value When the Volume and Level of Activity for the Asset or Liability Have Significantly Decreased and Identifying Transactions That Are Not Orderly,*" or FSP SFAS 157-4, which is incorporated in ASC Topic 820. FSP SFAS 157-4 is effective for interim and annual periods ending after June 15, 2009, with early adoption permitted. We adopted SFAS 157 and such adoption did not have a significant effect on our consolidated results of operation or financial position.

In December 2007, the FASB ratified EITF Issue No. 07-1, *Accounting for Collaborative Agreements*, or EITF 07-1, which defines collaborative agreements as contractual arrangements that involve a joint operating activity. EITF 07-1, which is incorporated in ASC Topic 808, *Collaborative Agreements*, states that these arrangements involve two or more parties who are both active participants in the activity and that are exposed to significant risks and rewards dependent on the commercial success of the activity. EITF 07-1 provides that a company should report the effects of adoption as a change in accounting principle through retrospective application to all periods. Furthermore, it requires the parties to determine who is the principal party of the arrangement, and therefore which party must report the revenues and expenses under the collaboration arrangement, as well as specific additional disclosures in the parties' financial statements. EITF 07-1 is effective for periods beginning after December 15, 2008. We adopted EITF 07-1 on January 1, 2009. The adoption did not have a significant effect on our consolidated results of operations or financial position.

In May 2009, the FASB issued SFAS No. 165, *Subsequent Events,* or SFAS 165, which is incorporated in ASC Topic 855, *Subsequent Events*. The standard establishes general standards of accounting for and disclosure of events that occur after the balance sheet date but before financial statements are issued or are available to be issued. Although there is new terminology, the standard is based on the same principles as those that currently exist in the auditing standards. The standard, which includes a new required disclosure of the date through which an entity has evaluated subsequent events, is effective for interim or annual periods ending after June 15, 2009. We adopted the provisions of this authoritative guidance during 2009. The adoption had no impact on our consolidated results of operations or financial position.

In October 2009, the FASB issued Accounting Standards Update, or ASU, 2009-13, which amends ASC Topic 605, *Revenue Recognition*, to require companies to allocate revenues in multiple-element arrangements based on an element's estimated selling price if vendor-specific or other third-party evidence of value is not available. ASU 2009-13 is effective beginning January 1, 2011. Earlier application is permitted. We are currently evaluating both the timing and the impact of the pending adoption of the ASU on our consolidated financial statements.

Quantitative and Qualitative Disclosures about Market Risk

Interest Rate Sensitivity

We had unrestricted cash, cash equivalents and marketable securities totaling $55.6 million at December 31, 2009. These amounts were invested primarily in money market funds, corporate debt obligations, U.S. government-sponsored enterprise securities, and U.S. Treasury securities and are held for working capital purposes. We do not enter into investments for trading or speculative purposes. We believe we do not have material exposure to changes in fair value as a result of changes in interest rates. Declines in interest rates, however, will reduce future investment income. If overall interest rates fell by 10% in 2009, our interest income would have declined by approximately $14,000, assuming consistent investment levels.

The terms of our GE Capital Loan provide for a fixed rate of interest, and therefore is not subject to fluctuations in market interest rates.

Foreign Currency Risk

Our operations include manufacturing and sales activities in the United States, Austria, France, Germany, Italy, Japan and India, as well as research activities in countries outside the United States, including Singapore and Hungary. As we expand internationally, our results of operations and cash flows will become increasingly subject to fluctuations due to changes in foreign currency exchange rates. For example, we purchase materials for, and pay employees at, our research facility in Singapore in Singapore dollars. In addition, we purchase products for resale in the United States from foreign companies and have agreed to pay them in currencies other than the U.S. dollar. As a result, our expenses and cash flows are subject to fluctuations due to changes in foreign currency exchange rates. In periods when the U.S. dollar declines in value as compared to the foreign currencies in which we incur expenses, our foreign-currency based expenses increase when translated into U.S. dollars. Although it is possible to do so, we have not hedged our foreign currency since the exposure has not been material to our historical operating results. Although substantially all of our sales are denominated in U.S. dollars, future fluctuations in the value of the U.S. dollar may affect the price competitiveness of our products outside the United States. The effect of a 10% adverse change in exchange rates on foreign denominated receivables as of December 31, 2009 would have been a $0.5 million foreign exchange loss recognized as a component of interest expense and other, net in our consolidated statement of operations. We may consider hedging our foreign currency as we continue to expand internationally.

Equity Price Risk

As described further in Note 5 to the consolidated financial statements, we have an investment in common shares of CO_2 Solution Inc., a company based in Quebec City, Canada, or CO_2 Solution, whose shares are publicly traded in Canada on the TSX Venture Exchange. This investment is exposed to fluctuations in both the market price of CO_2 Solution's common shares and changes in the exchange rates between the U.S. dollar and the Canadian dollar. The effect of a 10% adverse change in the market price of CO_2 Solution's common shares as of December 31, 2009 would have been an unrealized loss of approximately $116,000, recognized as a component of other comprehensive income (loss) in stockholders' equity (deficit). The effect of a 10% adverse change in the exchange rates between the U.S. dollar and the Canadian dollar as of December 31, 2009 would have been an unrealized loss of approximately $117,000, recognized as a component of other comprehensive income (loss) in stockholders' equity (deficit).

Controls and Procedures

We have not performed an evaluation of our internal control over financial reporting, such as required by Section 404 of the Sarbanes-Oxley Act, nor have we engaged our independent registered public accounting firm to perform an audit of our internal control over financial reporting as of any balance sheet

date or for any period reported in our financial statements. Had we performed such an evaluation or had our independent registered public accounting firm performed an audit of our internal control over financial reporting, control deficiencies, including material weaknesses and significant deficiencies, in addition to those discussed below, may have been identified.

In connection with the audit of our consolidated financial statements for 2005, 2006 and 2007, we and our independent registered public accounting firm identified a material weakness in our internal control over financial reporting. A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of a company's annual or interim financial statements will not be prevented or detected on a timely basis. The material weakness comprised a lack of policies and procedures, with the associated internal controls, to appropriately address complex, non-routine transactions and a lack of a sufficient number of qualified personnel to timely account for such transactions in accordance with U.S. generally accepted accounting principles. These deficiencies in the design and operation of our internal controls resulted in the recording of numerous audit adjustments, and significantly delayed our financial statement close process, for the three year period ended December 31, 2007.

In connection with the audit of our consolidated financial statements for 2008, we and our independent registered public accounting firm identified a material weakness, which was related to an inadequately designed process to analyze and reconcile certain accounts and the failure of supervisors or business unit managers to review the analysis prepared for certain accounts. The material weakness affected our accruals, stock-based compensation, reimbursements under a license agreement, and inventories processes. We also identified two significant deficiencies in our internal control over financial reporting, one related to the misapplication of U.S. generally accepted accounting principles and the other related to an ineffective contract compliance process. A significant deficiency is a deficiency, or combination of deficiencies, in internal control over financial reporting that is less severe than a material weakness, yet important enough to merit attention by those responsible for oversight of a company's financial reporting.

In connection with the audit of our consolidated financial statements for 2009, we and our independent registered public accounting firm determined that the previously identified significant deficiency which related to an ineffective contract compliance process continued to exist as of December 31, 2009. Although we began to implement policies and processes to address this deficiency following the audit of our consolidated financial statements for 2008, we had not completed this implementation as of December 31, 2009.

We have taken numerous steps to address the underlying causes of the control deficiencies described above, primarily through the development and implementation of policies, improved processes and documented procedures, the retention of third-party experts and contractors, and the hiring of additional accounting and finance personnel with technical accounting, inventory accounting and financial reporting experience. The actions that we have taken are subject to ongoing senior management review, as well as audit committee oversight. We do not know the specific timeframe needed to remediate the significant deficiency identified in our 2009 audit and we may incur incremental costs associated with this remediation. If we fail to remediate deficiencies in our control environment or are unable to implement and maintain effective internal control over financial reporting to meet the demands that will be placed upon us as a public company, including the requirements of the Sarbanes-Oxley Act, we may be unable to accurately report our financial results, or report them within the timeframes required by law or exchange regulations. We will be required to meet the requirements of Section 404 of the Sarbanes-Oxley Act beginning with our fiscal year ending December 31, 2011.

BUSINESS

Company Overview

Our proprietary technology platform enables the creation of optimized biocatalysts that make existing industrial processes faster, cleaner and more efficient than current methods and has the potential to make new industrial processes possible at commercial scale. We have commercialized our biocatalysts in the pharmaceutical industry and are developing biocatalysts for use in producing advanced biofuels under a multi-year research and development collaboration with Shell. We are also using our technology platform to pursue biocatalyst-enabled solutions in other bioindustrial markets, including carbon management, water treatment and chemicals.

Biocatalysts are enzymes or microbes that initiate or accelerate chemical reactions. Manufacturers have historically used naturally occurring biocatalysts to produce many goods used in everyday life. However, inherent limitations in naturally occurring biocatalysts have restricted their commercial use. Our proprietary technology platform is able to overcome many of these limitations, allowing us to evolve and optimize biocatalysts to perform specific and desired chemical reactions at commercial scale.

We have focused our biocatalyst development efforts on large and rapidly growing markets, including pharmaceuticals and advanced biofuels. We have enabled biocatalyst-based drug manufacturing processes at commercial scale and have delivered biocatalysts, intermediates and active pharmaceutical ingredients, or APIs, to some of the world's leading pharmaceutical companies, including Dr. Reddy's Laboratories Ltd., Merck & Co., Inc., Pfizer Inc. and Ranbaxy Laboratories Limited. In our collaboration with Shell, we are developing biocatalysts for use in producing advanced biofuels from renewable sources of non-food plant materials, known as cellulosic biomass.

We were incorporated in Delaware in January 2002 as a wholly-owned subsidiary of Maxygen, Inc. We commenced independent operations in March 2002, after licensing from Maxygen core enabling technology. As of February 28, 2010, Maxygen beneficially owned approximately 21.4% of our common stock. Our other investors include industry leaders such as Shell, Chevron Corporation, Pfizer and The General Electric Company.

Biocatalyst Opportunity

Biocatalyst-enabled manufacturing processes may address a number of the drawbacks of conventional chemistry-based manufacturing. For example, unlike most chemistry-based manufacturing processes, biocatalysts can operate at or near room temperature and pressure, and often use manufacturing equipment that is less complex and expensive to build and operate. Biocatalyst-enabled processes can create products with the same or higher quality as chemistry-based manufacturing processes, while reducing risks associated with extreme manufacturing environments and without generating the high volumes of waste, some of it hazardous to health and the environment, typically associated with conventional chemistry-based manufacturing processes.

In addition, due to concerns about the environment and the scarcity and security of supply of petroleum, there is an increasing interest in using cellulosic biomass as non-petroleum-based feedstocks for a variety of products, including advanced biofuels and other chemicals. To date, conventional chemistry-based manufacturing approaches have not resulted in commercially viable processes for the conversion of cellulosic biomass to biofuels and other products. Biocatalysts have the potential to enable processes for the development of products, such as cellulose-derived biofuels, that cannot currently be manufactured using alternative techniques.

Despite their potentially significant advantages, biocatalysts have not achieved their full potential in industrial applications. Naturally occurring biocatalysts are often not stable enough to be used in industrial

settings, where conditions may differ significantly from those in the biocatalysts' natural environments. The activity and productivity of these biocatalysts is often too limited to be cost-effective in commercial scale manufacturing. In addition, the activity of natural biocatalysts is typically inhibited by the end product of the reactions they facilitate. This characteristic of natural biocatalysts, which is referred to as product inhibition, results in limited product yields in industrial settings. Moreover, for certain industrial applications, there are no known naturally occurring biocatalysts that catalyze the desired reaction.

Due to these limitations, other companies and researchers have tried to improve the performance of naturally occurring biocatalysts by directing their evolution through biotechnology techniques such as the random mutation of genes. However, to date, these techniques have had only limited success for a number of reasons. For example, random mutations of genes often result in decreased, not improved, performance and these alternative biotechnology techniques cannot effectively remove accumulated detrimental mutations. The end result is often an evolved biocatalyst with activity that reaches a plateau at a level that is insufficient for a commercial process. We believe there is a significant opportunity for novel technologies that can address the limitations of other biotechnology techniques and can substantially enhance the performance of biocatalysts in industrial settings.

Our Platform Technology

We believe that our proprietary technology platform can transform the industrial application of biocatalysts by improving their commercially relevant characteristics, such as stability, activity, product yield and tolerance to industrial conditions, while reducing product inhibition. In addition, our technology platform allows us to develop and optimize biocatalysts much more rapidly than is currently possible with alternative methods. Perhaps most importantly, we have demonstrated that our technology platform can enable the manufacture of products cost-effectively, at commercial scale and with significantly reduced environmental impact relative to conventional manufacturing processes.

Our proprietary technology platform uses advanced biotechnology methods, bioinformatics and years of accumulated know-how to significantly expedite the process of developing optimized biocatalysts. Key components of our technology platform include gene shuffling, whole genome shuffling, multiplexed gene SOEing, and proprietary bioinformatic software tools that allow us to identify and quantify the potential value of beneficial mutations and avoid detrimental mutations.

Application in Pharmaceuticals

In the pharmaceutical market, our technology platform has significantly improved commercial scale drug manufacturing processes. Our customers have benefited from our processes and products through:

- reduced costs, including capital and operating costs;
- simplified production processes;
- decreased environmental impact; and
- increased efficiency and product yield.

For example, we have used our technology platform to develop four biocatalysts that enabled significant improvements in the manufacturing processes for key intermediates used in the production of atorvastatin, which is the active pharmaceutical ingredient, or API, in Lipitor, the world's best-selling prescription drug. Manufacturers have historically used a complex, expensive, capital intensive and hazardous chemistry-based process to produce these intermediates, called ATS-5 and ATS-8. As a result, they have long sought alternate ways to make the drug, including through biocatalysts-enabled processes. However, none of the naturally occurring enzymes that we tested showed the required activity and stability necessary for their manufacture. We first developed a new two step process using three optimized

biocatalysts for the production of ATS-5, which Pfizer purchases as the starting material to make atorvastatin. Using our technology platform, we:

- significantly improved the activity and stability of all three biocatalysts, including increasing the performance of one of them, which previously showed only 0.25% of the required activity and stability, by approximately 4,000 times;
- eliminated the need for a costly purification step due to the high purity of the product that is generated by our process, resulting in additional cost savings; and
- obtained higher yields than the alternative conventional chemical processes for ATS-5.

We received a Presidential Green Chemistry Challenge Award from the United States Environmental Protection Agency for the development of our biocatalytic manufacturing process for ATS-5.

The next key isolated intermediate for atorvastatin is ATS-8, which we supply to manufacturers of generic atorvastatin. We replaced the second of three steps in the manufacture of ATS-8 with a biocatalytic reaction. Using our technology platform, we:

- significantly improved the activity and stability of the fourth biocatalyst to enable the process;
- replaced a step that previously required temperatures below -70 degrees Celsius and used hazardous agents with a benign biocatalytic step that runs at or near room temperature, eliminating the need for expensive and energy intensive cryogenic equipment; and
- obtained higher purity product, eliminating the need for a yield-reducing ATS-8 purification step.

For both ATS-5 and ATS-8, we greatly reduced the waste generated by the conventional chemistry-based processes and generated a biodegradable waste from two of the steps.

Application in Biofuels and Other Bioindustrial Markets

We are also using our technology platform to develop biocatalysts for use in producing advanced biofuels that currently cannot be manufactured cost-effectively at commercial scale. Advanced biofuels are liquid transportation fuels derived from non-food biomass and which meet certain minimum carbon reduction criteria. As part of our research and development collaboration with Shell, we have used our technology platform to:

- improve our cellulase biocatalysts to increase their production of fermentable sugars from cellulosic biomass;
- enable our cellulase biocatalysts to operate in a wider range of operating conditions; and
- develop a microbe that converts sugar to diesel fuel, which is secreted out of the cell.

In addition, we are using our technology platform to improve the yields from ethanol-producing yeast.

We are also using our technology platform to develop biocatalysts to optimize the process of removing carbon dioxide from flue gases in coal-fired energy generation plants. As part of this effort, in December 2009, we entered into an exclusive joint development agreement with CO_2 Solution Inc., or CO_2 Solution, under which we will combine our biocatalyst-enabled technology platform with CO_2 Solution's proprietary enzymatic methods for the efficient capture of carbon dioxide from coal-fired power plants and other large sources of carbon dioxide emissions. Our biocatalysts improve the effectiveness of a range of solvents, including amine solvents, which is one of the leading potential technologies to remove carbon dioxide from flue gas. In the laboratory, these biocatalysts have exhibited increased tolerance for flue stack-type operating conditions, though not yet at target commercial levels. We also intend to use our technology platform to pursue biocatalyst solutions in other bioindustrial markets, including water treatment and chemicals.

Our Business Model

Our business model allows us to simultaneously pursue multiple commercial opportunities across a number of major markets. Our business model has resulted in a diversified revenue stream that is predictable over the near term and has a significant growth potential, while allowing us to share risk with and leverage the capabilities of our collaborators. Our business model includes the following key elements:

Targeting Multiple Major and Growing Markets. We currently use our technology platform to produce biocatalysts that are used at commercial scale in the pharmaceutical market. Through our collaboration with Shell, we are developing biocatalysts for use in producing commercially viable biofuels from cellulosic biomass. We also believe that we can use our technology platform to deliver biocatalyst-enabled solutions to other bioindustrial markets, including carbon management, water treatment and chemicals.

Capital-Efficient Collaborations with Industry Leaders. We have adopted a business model that leverages our collaborators' engineering, manufacturing and commercial expertise, their distribution infrastructure and their ability to fund commercial scale production facilities. For instance, in the pharmaceuticals market, our supply relationship with Arch enables us to bring intermediates and/or APIs for branded pharmaceutical products to market with very limited additional capital. In addition, if we are able to develop biocatalysts that enable the commercial production of biofuels derived from cellulosic biomass and Shell decides to commercialize products based on this technology, we would need to rely on Shell, or other parties selected by Shell, to design and build the commercial scale fuel production facilities and to distribute the final fuel product.

Diversified Revenue Base. We are generating a revenue stream that is diversified across distinct industries, which should mitigate our exposure to cyclical downturns or fluctuations in any one market. In 2009, our revenues were derived from the pharmaceuticals and biofuels markets, and consisted primarily of collaborative research and development revenues and product sales. We are pursuing biocatalyst-enabled solutions in other bioindustrial markets, including carbon management, water treatment and chemicals, that, if successful, will allow us to further diversify our revenues.

Visible and Predictable Revenues. Based on our existing arrangements, we believe that the revenues from both our biofuels and pharmaceutical businesses should be predictable over the near term. We receive bi-monthly payments from Shell that are based on the number of funded FTEs that work on our research collaboration with Shell. The number of funded FTEs that work on the program, and the payments from Shell for these FTEs, are specified in our collaborative research agreement, subject to Shell's ability to increase or reduce the number of FTEs under certain conditions over time. Because we allow our pharmaceutical customers to achieve significant cost savings in their manufacturing processes, historically they have continued using our biocatalysts once they have begun using our biocatalyst-enabled process.

Our Strategy

Our objective is to be the leading provider of optimized biocatalyst-enabled solutions across a wide range of industries. Key elements of our strategy are as follows:

Become a leading biocatalyst supplier to the advanced biofuels market. Our primary development efforts are focused on producing biocatalysts that can enable Shell to become a global leader in the advanced biofuels market. We continue to build upon our milestone-driven, multi-year collaboration with Shell as we advance our efforts to produce biofuels from cellulosic biomass cost-effectively at commercial scale. Because of our success to date, Shell has expanded our research and development collaboration twice, which we believe positions us to be a key contributor to their overall biofuels strategy.

Expand into new bioindustrial markets. We are actively pursuing opportunities in other bioindustrial markets, including through self-funded research in carbon management and the pursuit of funded collaborations in carbon management, water treatment and chemicals. We have the right to use the

intellectual property developed in our collaboration with Shell in fields outside of fuels and related products. We intend to leverage this and other intellectual property and our technology platform to develop products in our other target markets.

Continue growing our pharmaceutical business. We intend to pursue new collaborations in the pharmaceutical industry to integrate our products and services more deeply into drug development and manufacturing processes for clinical stage and commercially approved pharmaceutical products. As part of that effort, we will continue to aggressively market our Codex Biocatalyst Panels to pharmaceutical companies to demonstrate the capabilities of our technology platform.

Secure access to additional production capacity. To increase our biocatalyst manufacturing capacity and establish secondary supply sources, we are working to establish long-term supply contracts with contract manufacturers and are evaluating whether to invest in our own manufacturing capabilities. We may also opportunistically seek to secure specialty manufacturing assets and expand existing relationships for the supply of our biocatalysts and key pharmaceutical APIs and intermediates used in their manufacture. For example, in August 2008, we entered into an expanded supply relationship with Arch through a series of agreements for the manufacture of intermediates and APIs for specified pharmaceutical products, which agreements were terminated in February 2010 and replaced by a product supply agreement and an enzyme and product supply agreement in order to streamline and modify certain of the contractual terms governing the supply relationship.

Expand our business and technology platform through the addition of new technologies, products or businesses. In the past, we have expanded our business by acquiring companies with synergistic business plans and licensing new technology. We will continue to evaluate opportunities to acquire or license new technologies, products or businesses that complement or expand our capabilities, including in the carbon management, water treatment and chemical markets. In addition, we intend to continue to advance our technology platform by investing in our research and development capabilities to allow us to more rapidly identify and develop products and pursue new market opportunities.

Our Pharmaceutical Business

Our Opportunity in the Pharmaceutical Market

The pharmaceutical industry represents a significant market opportunity for us. In 2008, according to IMS Health, global spending on pharmaceuticals was $773 billion. Pharmaceutical companies are now under significant competitive pressure both to reduce costs and increase the speed to market for their products. To meet these pressures, they are seeking manufacturing processes for their new products and existing drugs that reduce overall costs, simplify production and increase efficiency and product yield, while not affecting drug safety and efficacy. In addition, for products whose patents have expired, the importance of cost reduction is even higher, as the pharmaceutical manufacturers which had developed those patent-protected drugs, known as innovators, compete with generics manufacturers.

The pharmaceutical product lifecycle begins with the discovery of new chemical entities and continues through preclinical and clinical development, product launch and, ultimately, patent expiration and the transition from branded to generic products. As innovators develop, produce and then market products, manufacturing priorities and processes evolve. Historically, innovators have focused on production cost reduction in the later stages of clinical development but have been reluctant to make process changes after a product has been launched. However, as pressures to reduce costs have increased, innovators have pursued cost reduction measures much earlier in the pharmaceutical product lifecycle and are increasingly looking for opportunities to improve their operating margins, including making manufacturing process changes for marketed products if these changes can result in significant cost reductions. As a result, innovators are investing in new technologies to improve their manufacturing productivity and efficiency or outsourcing the manufacture of their intermediates and APIs.

Another strategy innovators can use to reduce costs is to adopt manufacturing processes that obviate the need for costly purification of their intermediates or APIs. For example, the chemical structure of many small molecule drugs has two or more configurations, similar to a person's left and right hands. While the two or more configurations have the same chemical structures, there can be differences in their therapeutic safety and efficacy profiles. To avoid developing a drug containing configurations with detrimental effects, pharmaceutical companies are increasingly seeking to introduce new drugs containing only the desired configuration. Manufacturing the pure configurations via conventional chemistry-based processes is rarely possible in a cost-effective manner at commercial scale. These conventional chemistry-based processes typically require late-stage purification steps that reduce product yield and can significantly increase costs. Because of the high costs associated with these purification steps, significant opportunities exist for alternatives that can produce pure configurations using more efficient and less costly methods.

Generics manufacturers are also increasingly pursuing opportunities to reduce costs. The rise in patent expirations, as well as support by some governments for lower-cost alternatives to branded drugs, have led to strong growth in the generics industry. According to Datamonitor, generic competition is expected to eliminate $117 billion from top innovators' worldwide sales between 2008 and 2014 as approximately three dozen drugs are expected to lose patent protection. In addition, according to IMS Health, generics products account for 64% of the total pharmaceutical market in the United States in 2008. However, because generics manufacturers compete primarily on price, they are even more cost sensitive than innovators. Lower manufacturing costs for intermediates and APIs is the key factor that helps generics companies compete and win market share. Prior to the expiration of patents on a branded drug, generics manufacturers also have significant opportunities to commercialize the generic equivalents of branded drugs in the markets which do not provide effective patent protection.

Our Solution for the Pharmaceutical Market

Our technology platform enables us to deliver solutions to our customers in the pharmaceutical market by developing and delivering optimized biocatalysts that perform chemical transformations at a lower cost, and improve the efficiency and productivity of manufacturing processes. We provide value throughout the pharmaceutical product lifecycle. Our technology platform allows us to provide benefits to our customers in a number of ways, including:

- reducing the use of raw materials and intermediate products;
- improving product yield;
- using water as a primary solvent;
- performing reactions at or near room temperature and pressure;
- eliminating the need for certain costly manufacturing equipment;
- reducing energy requirements;
- reducing the need for late-stage purification steps;
- eliminating multiple steps in the manufacturing process; and
- eliminating hazardous inputs and harmful emission by-products.

Early in the product lifecycle, customers can use our services to achieve speed to market and to reduce manufacturing costs. If an innovator incorporates our products or processes into an FDA-approved product, we expect the innovator to continue to use these products or processes for the patent life of the approved drug.

After a product is launched, customers also use our services to reduce manufacturing costs. At this stage, changes in the manufacturing process originally approved by the FDA may require additional review. Typically, pharmaceutical companies will only seek FDA approval for a manufacturing change if

there are substantial cost savings associated with the change. We believe that the cost savings associated with our products may lead our customers to change their manufacturing processes for approved products and, if necessary, seek FDA approval of the new processes which incorporate our biocatalysts. Moreover, we believe these cost savings are attractive to generics manufacturers, who compete primarily on price.

We are currently working with customers on approximately 35 pharmaceutical products in various stages of the pharmaceutical product lifecycle.

Products and Services

Codex Biocatalyst Panels. We sell Codex Biocatalyst Panels to customers who are engaged in both drug development and the marketing of approved drugs to allow them to screen and identify possible biocatalytic manufacturing processes for their drug candidates and their marketed products. Our Codex Biocatalyst Panels are plates embedded with genetically diverse variants of our proprietary biocatalysts, which allow our customers to determine whether a biocatalyst produces a desired activity that is applicable to a particular process.

For compounds that are in development, our Codex Biocatalyst Panels:

- allow innovators to rapidly and inexpensively screen and identify possible biocatalytic manufacturing processes for many of their drug candidates in-house, without the risks of disclosing the composition of their proprietary molecules before they have received patent protection; and
- generate data that we can use to rapidly optimize biocatalysts for a particular reaction, if necessary, reducing the time required to generate a manufacturing process capable of supporting clinical trials with inexpensively produced, pure drugs.

We believe that our Codex Biocatalyst Panels have helped us build early and broad awareness of the power and utility of our technology platform, and will increasingly lead to sales of our biocatalyst optimization services and biocatalysts, as well as intermediates and APIs made using our biocatalysts. We currently have over ten customers for our panels, including leading pharmaceutical companies such as F. Hoffman-La Roche Ltd., GlaxoSmithKline plc, Merck, Novartis and Pfizer. If our customers incorporate a biocatalytic manufacturing process early in a product's lifecycle, they can reduce their manufacturing costs throughout that lifecycle, while we, in turn, could realize a long term revenue stream resulting from the use of our biocatalysts during that time. In addition, our Codex Biocatalyst Panels are increasingly used by our customers to evaluate the feasibility of changing the manufacturing process for their marketed products to a biocatalyst-enabled process.

Biocatalyst screening services. If a customer prefers, rather than subscribing to our Codex Biocatalyst Panels to use for their own screening, they can send us their materials to test against our existing libraries of biocatalysts. If we detect desired activity in a specific biocatalyst, we can supply the customer with this biocatalyst or perform optimization services to improve the performance of the biocatalyst.

Our screening services:

- allow innovators to rapidly and inexpensively screen and identify possible biocatalytic manufacturing processes through access to our extensive biocatalyst libraries; and
- generate data that we can use to rapidly optimize biocatalysts for a particular reaction, if necessary, reducing the time required to generate a manufacturing process capable of supporting the customers' particular needs, ranging from small quantities for clinical trials to full commercial production, in all cases providing inexpensively produced, pure drugs.

We have provided screening services to numerous innovator and generic pharmaceutical manufacturers.

Biocatalyst optimization services. We work with our customers throughout the pharmaceutical product lifecycle to customize proprietary biocatalysts, resulting in optimized biocatalysts that have been evolved specifically to perform a desired process according to a highly selective set of specifications.

Our biocatalyst optimization services:

- allow innovators to improve the manufacturing process as their drug candidates progress through preclinical and clinical development, deferring or reducing the need for significant manufacturing investment until the likelihood of commercial success is more certain; and
- enable manufacturing processes that are highly efficient, inexpensive, require relatively little energy, reduce the need for hazardous reagents, and reduce waste. For example, our activities with Pfizer have included developing an optimized biocatalytic manufacturing process for a key intermediate that eliminates three chemical steps.

Biocatalysts. We supply varying quantities of our proprietary biocatalysts to pharmaceutical companies, from small to moderate quantities while they are optimizing their production processes, to larger quantities during later-stage clinical development and commercial scale drug production.

Our biocatalysts:

- enable innovators to manufacture products more efficiently during preclinical and clinical development using optimized biocatalytic processes, with relatively low investment;
- eliminate the need for innovators to invest in the development of complex chemical synthesis routes during the development stage;
- allow innovators to achieve higher product purity during the development stage prior to investing in expensive late-stage clinical trials;
- reduce the risk of adverse effects arising from product impurities;
- allow the removal of entire steps from synthetic chemical production routes during commercial scale production, reducing raw material costs, energy requirements and the need for capital expenditures; and
- decrease the manufacturing costs for our customers.

For instance, as a part of our ongoing collaboration with Merck, we have developed a biocatalyst for use in a new manufacturing process for sitagliptin, the API in Merck's pharmaceutical product Januvia. Januvia is Merck's first-in-class medication for the treatment of Type II diabetes. Merck's current manufacturing process uses a high pressure chemo-catalysis platform, which requires the use of highly specialized equipment. The new biocatalyst-enabled process runs at atmospheric pressure, eliminates the need for certain highly specialized equipment and increases overall product yield.

Intermediates and APIs. We can supply our customers intermediates and APIs made using our biocatalysts throughout the drug lifecycle.

Our supply of intermediates has the following uses and benefits:

- lowers capital investment for innovators through outsourcing of manufacturing; and
- provides a source of less expensive, more pure products to innovator and generics manufacturers.

In the innovator market, we are currently supplying Pfizer with an intermediate in the manufacture of Lipitor. In February 2010, we entered into a collaboration with Dishman Pharmaceuticals and Chemicals, Ltd., or Dishman, a global manufacturer of intermediates and APIs located in India, to expand the application of our technology to a broader pipeline of innovator pharmaceutical products. Under our agreement with Dishman, we will work with Dishman exclusively, subject to certain exceptions, with

respect to the manufacture and supply of intermediates and APIs using our biocatalysts for a select group of innovators. Dishman will also be our preferred contract manufacturing organization partner for new opportunities with other innovator pharmaceutical companies. If we achieve certain revenue targets from the sale of products or biocatalysts covered under the agreement, Dishman has a one-time right to expand its exclusive manufacturing right to all other innovator pharmaceutical companies. In the event we do not achieve subsequent revenue targets after Dishman has exercised its one-time expansion right, we may choose to convert Dishman's exclusive right back to a non-exclusive right for all such other innovators.

We have also developed biocatalysts for use in the manufacture of certain generic intermediates and APIs by various companies, including Arch and Teva Pharmaceutical Industries Ltd., or Teva. In addition, we have launched and are marketing several new intermediates and APIs for the generic equivalents of branded pharmaceutical products, including Singulair and Cymbalta, for sale in markets where innovators have not sought patent protection for their products and intend to sell these same intermediates and APIs for use in markets where innovators have sought patent protection when the patent protection for each product expires.

Our Biofuels Business

Industry Overview — Need to Diversify Liquid Fuel Supply Beyond Petroleum

The world's economy is heavily dependent on petroleum. However, economic, political and environmental concerns surrounding petroleum have increased the desire to find renewable alternatives to this limited commodity.

- *Increasing demand for petroleum.* While the United States, Europe and Japan have historically been the major consumers of petroleum, developing economies such as India and China are experiencing tremendous levels of economic growth. In 2008, China and India alone saw GDP growth rates estimated at 9.0% and 7.4%, respectively. This economic growth has created new sources of demand for petroleum, with China and India's combined share growing from 10% of the world's total energy consumption in 1990 to 19% in 2006 and forecasted to grow to 28% of the world's energy consumption by 2030.
- *Dependence on imported petroleum.* According to the U.S. Energy Information Administration, or EIA, in 2008, the top five net oil exporting countries in the world were Saudi Arabia, Russia, the United Arab Emirates, Iran and Kuwait. The political and economic instability in some of these countries and their surrounding regions adds further uncertainty to the supply of oil. As a result, countries that have been net importers of oil are beginning to pursue approaches that provide for greater independence from these suppliers.
- *Expense of developing new petroleum reserves.* The cost to replace known reserves is increasing significantly. Petroleum companies are now developing fields in the deep waters of the Gulf of Mexico and in the tar sands in Canada that previously would have not been economically attractive to exploit.
- *Rising and volatile petroleum prices.* According to the EIA, worldwide petroleum prices in dollars have risen 213% and fluctuated significantly over the last ten years, from $25.01 per barrel at the beginning of December 1999, to $78.39 per barrel at the start of December 2009. In addition to rising prices, petroleum pricing has been highly volatile with significant price spikes over time, including prices reaching a record high of $145.31 per barrel in July 2008.
- *Limited supply of petroleum.* Growth in demand for petroleum has outpaced growth in supply. The supply growth has come mostly from non-OPEC producing countries. However, this growth is expected to flatten. While OPEC producing countries may have the reserves, political instability in these regions has hindered their ability to increase production levels.

- *Environmental concerns and regulatory initiatives.* Environmental concerns over the by-products of petroleum consumption, including greenhouse gas emissions, have led to a global search for alternative solutions to the world's growing fuel needs. For example, the American Clean Energy and Security Act, otherwise known as the Waxman-Markey climate and energy bill, seeks to mandate, among other things, emission cuts and permits for emissions in certain regulated industries. In addition, in December 2009, government representatives from all over the world convened at the United Nations Framework Convention on Climate Change in Copenhagen, Denmark with the goal of creating a global climate change protocol to follow the Kyoto Protocol.

Industry Challenges and Opportunities

According to the EIA, global petroleum demand in 2008 was 86 million barrels per day. Historically, 25% of this demand has been refined into liquid transportation fuels for use in automobiles. There is a significant opportunity to diversify liquid fuel supply beyond petroleum with high-quality, energy-rich fuels produced through biocatalyst-enabled transformation of renewable cellulosic biomass sources.

A portion of the demand for biofuels will be driven by public policy. For instance, the U.S. Congress passed the Energy Independence and Security Act of 2007, an alternative fuels mandate that calls for approximately 13 billion gallons of liquid transportation fuels sold in 2010 to come from alternative sources, including biofuels, a mandate that grows to 20.5 billion gallons by 2015 and 36 billion gallons by 2022. This mandate requires that of the 36 billion gallons, 21 billion gallons must be advanced biofuels. Moreover, in February 2010, the U.S. Environmental Protection Agency revised the annual renewable fuel standard, or RFS2, in which, for the first time, it set annual volume requirements for specific categories of renewable fuels, such as cellulosic biofuels and biomass-based diesel. For example, 6.5 million gallons of liquid transportation fuels must come from cellulosic biofuels in 2010, a mandate that grows to three billion gallons of cellulosic biofuels in 2015 and 16 billion gallons of cellulosic biofuels in 2022, or approximately 15% and 44% of the total renewable fuel requirement under RFS2 in 2015 and 2022, respectively. In order to qualify for these new volume categories, fuel producers must demonstrate that their products meet certain minimum greenhouse gas reduction standards in comparison to the petroleum they displace. RFS2 also establishes a waiver credit for cellulosic biofuels of $1.56 per gallon for gasoline and diesel fuel refiners and importers that will not be able to meet their annual compliance obligations. This waiver credit will function as a per gallon penalty that is expected to encourage biofuel production.

The number of types of biofuels has grown over time. First generation biofuels manufacturers use biocatalysts to produce biofuels from food-based biomass and plant oils, such as ethanol and biodiesel. However, fuels produced from these sources do not provide an optimal solution to the petroleum dependence problem for a number of reasons, including:

- high exposure to rising commodity and energy prices;
- potential for increases in food and animal feed prices resulting from the diversion of food crops, such as corn and soybeans, to fuel production;
- ethical issues associated with diverting food crops and fertile acreage to fuel production; and
- only a modest reduction in carbon dioxide generation due to the energy inefficiency of producing biofuels from food crops.

Because of the limitations of first generation biofuels, many companies are now working to make fuels from cellulosic biomass rather than from food-based biomass. Cellulosic biomass is found in virtually all plant material, including sustainable non-food crops such as switch grass and wood chips, and agricultural plant wastes such as corn stover and sugar cane bagasse. Cellulosic biomass is comprised of, among other things, cellulose and hemicellulose, which are long chains of six and five carbon sugars, respectively, that are linked together. To access these sugars, biofuels producers typically utilize heat and

chemicals to pretreat these cellulosic materials through a variety of processes that expose the hemicellulose and cellulose. Once exposed, these long chains can be broken down into individual sugar units which can be transformed into fuels.

While fuels produced from cellulosic biomass would represent significant advances over first generation biofuels, there have been several challenges in their development. These challenges include converting cellulose and hemicellulose into sugar, which is a more complicated process than converting corn starch and sugar cane into sugar. In addition, biomass sources vary greatly by plant species and geographic region. One of the challenges of advanced biofuels is developing a technology that can convert the great variety of biomass sources found throughout the world to fermentable sugars. Moreover, the yeast that are currently used to convert corn starch and sugar cane into ethanol typically are not capable of converting the different types of sugars that are produced from cellulosic biomass into ethanol. Solving these challenges will require cellulosic biofuels manufacturers to develop innovative, robust biocatalysts that will have greater product yield and be more cost-effective, and will react quickly and continually under industrial conditions. To date, no companies have successfully done this economically and at commercial scale.

Our Solutions for the Biofuels Market

We believe that our technology platform will enable the development of biocatalysts that can be used to produce commercially viable, cellulose-derived biofuel alternatives to petroleum-based fuels. Since 2006, we have been engaged with Shell in a research and development collaboration under which we are developing biocatalysts for use in producing advanced biofuels. Our advanced biofuels program focuses on two primary elements: (1) developing biocatalysts to convert cellulosic biomass into sugars; and (2) converting these sugars into two advanced biofuels, cellulosic ethanol and biohydrocarbon diesel. For the first element, we have used our technology platform to improve our cellulase and other biocatalysts. For the second element, we have developed a biocatalyst that converts sugars to diesel fuel, and are working on improving ethanol-producing yeast. We are using our technology platform to develop biocatalysts that we believe will:

- increase the rate at which cellulosic biomass is converted into biofuels;
- increase the yield of biofuels produced from cellulosic biomass;
- eliminate the need to use food resources for the production of biofuels;
- provide producers with more flexibility in designing processes to convert cellulosic biomass to biofuels, thereby reducing the costs associated with building and operating biofuel production facilities; and
- enable the production of new types of cellulosic biofuels that could be alternatives to petroleum-based fuels.

Under our research and development collaboration with Shell, Shell will have the right, but not the obligation, to commercialize any technology that we develop in our biofuels program. If Shell commercializes our biofuels technology, we will collect a royalty for every gallon of fuel that Shell produces using our technology. If Shell chooses to commercialize any biofuels products developed through our collaboration, we believe that the combination of our technology platform with Shell's proven product development capabilities and resources could enable a biofuels solution that extends from the conversion of cellulosic biomass into biofuels to delivery and distribution of refined biofuels to consumers at the pump.

Sugar Platform

As part of our biofuels research and development collaboration with Shell, we are using our technology platform to develop a suite of cellulases and other biocatalysts to convert cellulosic biomass to

sugar, which we sometimes refer to as our sugar platform. One of the goals of our sugar platform is to improve the performance and operational range of cellulases and other biocatalysts so that they cost-effectively function in industrial conditions. For example, we have developed several of our cellulase biocatalysts that now function at temperature and acidity levels that we believe are close to commercial production targets. The benefit of increasing the operational range of the cellulases is to provide maximum flexibility in the design and function of the facility that is used to produce cellulose-derived sugars, thus decreasing the costs of production and lowering the cost of the end product to make it competitive with petroleum-based fuels.

Another goal of our sugar platform is to increase the rate and extent of conversion of cellulosic biomass to fermentable sugars. The more rapidly and efficiently that biocatalysts convert cellulose and hemicellulose to sugars, the less expensive the biomass conversion process will be to operate. We are developing our biocatalysts to produce more sugar per unit volume. For example, we have developed a biocatalyst that we believe produces twice as much sugar from cellulose as a leading commercially available product. We believe faster sugar production from our biocatalysts will lower capital costs and production costs and result in lower-cost sugar to convert to an end fuel product.

We are developing a library of cellulases that have the potential to convert a wide variety of cellulosic biomass sources into fermentable sugars. The cellulosic biomass that we expect will be used to produce advanced biofuels is highly variable from region to region and can change over time. To optimize the local and seasonal conversion of biomass to fermentable sugars, we expect to use technology similar to our Codex Biocatalyst Panel of cellulases that Shell can use to customize the biocatalysts that they use at each advanced biofuel production facility. This technical innovation may ultimately make our sugar platform feedstock agnostic. For example, based on our lab work, we believe that our cellulases have the potential to convert sugar cane bagasse or wheat straw to fermentable sugars. In addition, we licensed a commercial-scale enzyme production system from Dyadic in 2008 that we expect will enable the cost-effective production of the high-performing biocatalysts that we are developing for Shell. We believe that the combination of our high-performing cellulases and other biocatalysts, the feedstock flexibility that we expect our Codex Biocatalyst Panels will provide, plus the ability to produce these biocatalysts cost-effectively at commercial scale will enable us to develop a scalable, global sugar platform that will provide a competitive advantage in the advanced biofuels market.

Cellulosic Ethanol

The goal of our cellulosic ethanol program is to develop commercial yeast that rapidly produces high levels of ethanol from cellulose-derived sugars. Cellulosic biomass produces a mix of several types of sugars, including glucose, xylose and arabinose. Glucose is the main type of sugar in the mix and it is readily converted to ethanol by fermentation using commercial yeast. Xylose is another significant component of the mix but is not converted to ethanol by the yeast currently used in today's first generation ethanol production. Therefore, it is important to develop yeast that can rapidly convert not only glucose but also xylose and other sugars into ethanol. The yeast that is developed must be sufficiently robust so that it can produce ethanol in the presence of a variety of chemical compounds that have been shown to directly inhibit yeast.

Using a number of our core technologies, including whole genome shuffling and cellular engineering, we are working with a variety of active industrial and laboratory yeast strains to develop a yeast strain that rapidly converts more of these sugars to ethanol under a range of industrial conditions, which should result in greater ethanol production and lower capital and ethanol production costs. Based on this lab work, if the market opportunity presents itself, we believe that our technology platform can also be used to transform first generation yeast, which is currently used to convert sugars to ethanol at commercial scale.

Biohydrocarbon Diesel

We have made significant advancements in our biohydrocarbon diesel fuel program, which is focused on converting cellulose-derived sugar into a fungible diesel blending stock. We also believe that diesel fuel

will be able to be produced from cane sugar using our biocatalysts. Based on our testing to date, our biocatalysts rapidly produce high quantities of fuel product per unit volume, which has the potential to reduce production costs and increase the efficiency and productivity of the biohydrocarbon manufacturing process. Our biohydrocarbon program has several additional advantages that could lower the production costs of diesel fuel. Our diesel-producing microbe secretes the diesel molecule from the cell, which then separates from the media in which the cell lives and grows. As a result, our production system can be run continuously without having to stop fuel production to harvest the fuel and purify the fuel product. We believe that many other comparable diesel-producing systems must isolate the fuel-producing cells, break-open the cells to release the fuel and purify the fuel from the resulting mixture, which significantly increase production costs for the end fuel product. In addition, we believe that the biohydrocarbon fuel product that we develop will be able to be blended directly into existing diesel fuel with little or no additional processing at a refinery, which would further lower production costs. In contrast, existing biodiesel fuels that are derived from plant oils must be chemically modified before they are suitable for use as diesel components. These chemical modifications involve processing steps before such fuel is ready for use, which adds to the cost of producing the fuel. In addition, other advanced biofuel programs aimed at producing diesel alternatives require extensive and difficult hydrogenation reactions, which are expensive and require capital intensive facilities that are not widely available.

In contrast to biodiesel produced from plant oils, we expect that the diesel fuel that we develop will be compatible with the existing transportation infrastructure, including distribution systems. A new fuel that works in existing engines and fuel production and distribution systems will not require additional investment in infrastructure to deploy this new technology. As discussed above, we believe that the diesel fuel that we develop will be capable of being blended in conventional petrochemical refineries that are widely used across the globe. This production flexibility should reduce structural barriers to adoption of the molecule as a wide-spread petroleum alternative.

Additional Bioindustrial Opportunities

We believe that our technology platform, together with the knowledge and experience gained from our efforts in the pharmaceutical market and in our biofuels development program, will allow us to capitalize on opportunities in other bioindustrial markets, including carbon management, water treatment and chemicals. Depending on the market, we may pursue collaborations with industry leaders to allow us to leverage their competitive strengths and resources in pursuit of these opportunities.

Carbon Management

From 1906 to 2005, global surface temperature increased 0.74 ± 0.18 degrees Celsius. In 2007, the Intergovernmental Panel on Climate Change concluded that most of this temperature increase was due to increasing concentrations of greenhouse gases, including carbon dioxide, which resulted from human activity. The consensus of the world scientific community is that continued climate change during this century will harm the global environment in unpredictable and potentially catastrophic ways. While a number of critics contest these conclusions, the global pressure to reduce carbon dioxide emissions is dramatic and increasing. Emissions continue to rise, even as the global demand for regulation grows. According to the EIA, the global emission level of carbon dioxide is projected to rise from 29 billion metric tons in 2006 to 33 billion metric tons in 2015 and 40 billion metric tons in 2030. Of the approximately seven billion tons of carbon dioxide equivalents emitted by the United States each year, approximately 40% is produced by the electric power industry. Furthermore, the share of global carbon dioxide emissions by the electric power industry could potentially increase in the future as growing demand for power increases alongside a growing population. By 2030, the EIA estimates, China and India will account for 34% of the world's carbon dioxide emissions, driven largely by their use of coal in generating electricity. The need for a viable method to manage these growing carbon dioxide emissions represents a significant opportunity.

In the carbon management market, we are seeking to apply our technology platform to the management of carbon dioxide emissions from stationary point sources such as coal-fired power plants. As part of this effort, in December 2009, we entered into an exclusive joint development agreement with CO_2 Solution under which we will combine our biocatalyst-enabled technology platform with CO_2 Solution's proprietary enzymatic methods for the efficient capture of carbon dioxide from coal-fired power plants and other large sources of carbon dioxide emissions. We believe our biocatalysts have the potential to enhance the effectiveness of CO_2 Solution's carbon capture processes in harsh industrial conditions.

To further our efforts in the carbon management market, we have filed provisional patent applications relating to biocatalysts that we believe may optimize the process of removing carbon dioxide from flue gases. These biocatalysts improve the effectiveness of amine solvents, one of the leading potential technologies to remove carbon dioxide from flue gas. A major drawback of amine solvent technologies is the additional "parasitic" energy required to operate them. Based on initial models, we believe that our biocatalysts may reduce this parasitic energy loss by up to 35%. In the laboratory, these biocatalysts have also exhibited increased tolerance for flue stack-type operating conditions, though not yet at target commercial levels. Although our research is in its early stages, we believe that it may be possible to cost-effectively utilize biocatalyst-enabled solutions to separate carbon dioxide from other exhaust gases and direct them to separate sequestration mechanisms.

Water Treatment

Water treatment is another example of a potential major market opportunity for novel biocatalyst-enabled solutions. According to a United Nations study published in March 2007, approximately 80% of all diseases in the developing world are caused by unsafe water and poor sanitation. In addition, industrial manufacturing operations and municipal water usage generate large quantities of waste water, which must be treated in order to avoid contamination of our fresh water resources and our oceans. There are many sources and types of water pollution, and when different types of pollution mix together it presents complex and challenging remediation problems downstream.

The market for biocatalysts in water treatment is in a very early stage of development. However, new interest in biocatalyst-enabled solutions in water treatment has been sparked in part by concerns about possible contamination of drinking water from industrial and other sources. For example, a U.S. government report released in 2006 examined the potential of biocatalysts in the treatment of groundwater and drinking water in both civilian and military applications. The report concluded that biocatalyst- embedded water filters held significant promise for the treatment of agents, pesticides, or other chemical contaminants in drinking water systems, as well as for the decontamination of pipes and other equipment with contaminant residue. We believe that there are also opportunities for biocatalyst-enabled solutions to treat municipal wastewater streams.

Chemicals

There are also significant market opportunities in the chemical industry for companies that can help reduce or eliminate petroleum dependency, as well as costly and wasteful manufacturing processes. For example, according to the EIA, in 2008, approximately 214 million barrels of petroleum were used in petrochemical feedstocks.

We believe that fermentable sugars produced from cellulosic biomass may serve as an alternate source of carbon for use in the manufacture of many chemicals. This potential market may provide an opportunity to leverage our funded work with Shell into a separate business in the non-fuels chemicals industry. Our license agreement with Shell permits us to use technology developed for Shell outside of the field of fuels and lubricants. In addition, our technology platform could be applied to develop biocatalysts for the conversion of sugar or other feedstocks, rather than petroleum-derived hydrocarbons, into commercially

important chemicals. We have rights to pursue a number of chemical market opportunities under our license agreement with Maxygen. To pursue certain other opportunities in the chemicals market, we will need to license additional rights from Maxygen.

Strategic Collaborations

Our strategic collaborations allow us to expand into new markets and to service our existing customers, while operating our business with maximum capital efficiency. By collaborating with companies such as Arch and Shell, we are able to leverage both our technology platform and our collaborators' strengths in production and distribution. This allows us to focus our capital on key areas such as research and development.

Arch

We are collaborating with Arch Pharmalabs Limited, or Arch, of Mumbai, India in the manufacture and sale of certain specified APIs, and intermediates used in the manufacture of APIs, that are produced using biocatalysts that we supply to Arch. Arch has extensive expertise in chemical process development and scale-up, and is a leading producer of intermediates and generic APIs in India.

We were previously party to agreements with Arch pursuant to which Arch manufactured and supplied ATS-8 for us and on our behalf, and under which we paid Arch a percentage of the profits we earned on our sales of ATS-8. In August 2008, with the exception of the Master Services Agreement with Arch entered into as of August 1, 2006, we simultaneously terminated all of our existing agreements with Arch and entered into a series of new agreements with Arch, significantly expanding the relationship between the parties. In February 2010, we consolidated and modified certain of the contractual terms in our agreements with Arch by simultaneously terminating all of our existing agreements with Arch, other than the Master Services Agreement with Arch entered into as of August 1, 2006, and entering into two new agreements with Arch. These new agreements are a product supply agreement and an enzyme and product supply agreement, which we refer to as the Arch Agreements. Under the terms of the Arch Agreements, we supply certain biocatalysts to Arch for use in the manufacture of certain APIs, and intermediates used in the manufacture of APIs, all of which we refer to as the Collaboration Products. We granted Arch the exclusive right to use these biocatalysts to manufacture the Collaboration Products with certain specified exceptions. Arch agreed to manufacture and supply the Collaboration Products exclusively for us and on our behalf and we have agreed to purchase such Collaboration Products exclusively from Arch. Upon the occurrence of certain specified events, these exclusive rights may be converted to non-exclusive rights, including on a Collaboration Product-by-Collaboration Product basis, (1) for each Collaboration Product if, after two years, we determine that it is not commercially feasible to continue to supply biocatalysts for manufacture of such Collaboration Product and (2) for certain Collaboration Products if, after 18 months, Arch fails to make specified regulatory filings related to such product. Pursuant to the Arch Agreements, we have the exclusive right to sell the Collaboration Products to innovator pharmaceutical companies worldwide, generic pharmaceutical companies in the United States, Canada, Europe and Israel, and certain pharmaceutical companies in India. Arch has the exclusive right to manufacture, market and sell the Collaboration Products to generic pharmaceutical companies in countries other than the United States, Canada, Europe and Israel, and certain other pharmaceutical companies in India. Upon the occurrence of certain events, including the bankruptcy of our company, our failure to supply biocatalysts for the manufacture of a Collaboration Product or our determination that it is not commercially feasible to continue to supply biocatalysts for the manufacture of a Collaboration Product, Arch has an option to obtain the non-exclusive right, for a fee, under certain of our intellectual property rights to use and manufacture biocatalysts to manufacture and sell Collaboration Products to any third party.

The Arch Agreements will continue until February 2020 unless extended by mutual agreement or earlier terminated in accordance with their terms. Each party also has the right to terminate the Arch

Agreements or convert the exclusive rights in the Arch Agreements to non-exclusive rights in their entirety or on a Collaboration Product-by-Collaboration Product basis in the case of certain material breaches by the other party.

We may to enter into additional agreements with Arch to manufacture additional intermediates and APIs, including the manufacture of products for innovator customers.

Shell and Other Biofuels Partners

We collaborate with Equilon Enterprises LLC dba Shell Oil Products US, or Shell, to develop commercially viable fuels from cellulosic biomass. If Shell chooses to commercialize any biofuels products developed through our collaboration, we believe that the combination of our technology platform with Shell's proven project development capabilities and resources could enable a biofuels solution, from converting cellulosic biomass into biofuels that extends to delivering and distributing refined biofuels to consumers at the pump.

Shell purchased approximately $3.0 million of our Series D preferred stock in November 2006, approximately $30.5 million of our Series E preferred stock in November 2007 and approximately $30.0 million of our Series F preferred stock in March 2009. In addition, in November 2007, Shell exercised a warrant issued in November 2006 to purchase 285,714 shares of our Series D preferred stock for $3.0 million.

In November 2006, we entered into a research agreement with Shell. After exceeding targets related to biocatalyst performance under the research agreement, we entered into a new research and development collaboration under a five year amended and restated collaborative research agreement in November 2007, which was amended further in March 2009 and February 2010. Under the terms of the amended and restated collaborative research agreement, we agreed to use our proprietary technology platform to discover and develop biocatalysts for use in converting cellulosic biomass into biofuels and related products. We received an up-front payment of $20 million in 2007 upon signing the amended and restated collaborative research agreement. We have agreed to work exclusively with Shell until November 2012 to convert cellulosic biomass into fermentable sugars that are used in the production of fuels and related products and to convert these sugars into fuels and related products. However, Shell is not required to work exclusively with us, and could develop or pursue alternative technologies that it decides to use for commercialization purposes instead of any technology developed under our collaborative research agreement with Shell. Even if Shell decides to commercialize products based on our technologies, they have no obligation to purchase their biocatalyst supply from us. The up-front fee is refundable under certain conditions, such as a change in control in which we are acquired by a competitor of Shell. This refundability lapses ratably on a straight-line basis over a five-year period which started in November 2007 and which ends in November 2012.

In March 2009, we agreed to devote to the research and development collaboration 128 FTEs, which are required to be funded by Shell at an annual base rate per FTE of $441,000 for FTEs located in the United States, and $350,000 for FTEs located in Hungary. These annual base rates per FTE are subject to annual adjustments based on changes in the CPI for the United States and Hungary for each subsequent year of the collaboration. Until November 1, 2010, Shell has the right to reduce the number of funded FTEs under the collaborative research agreement by up to 12 FTEs following 60 days' advance written notice. After November 1, 2010, Shell has the right to further reduce the number of funded FTEs, with any one reduction not to exceed 98 funded FTEs, following advance written notice. The required notice period ranges from 30 to 270 days, so the earliest an FTE reduction could take place would be December 2, 2010. Following any such reduction, Shell is subject to a standstill period of between 90 and 360 days during which period Shell cannot provide notice of any further FTE reductions. The notice and standstill periods are dependent on the number of funded FTEs reduced, with the length of notice and standstill periods increasing commensurate with the number of FTEs reduced. To date, Shell has not reduced the number of funded FTEs. We are also eligible for annual milestone payments of up to an aggregate of $25.4 million over the remaining term of the agreement, contingent upon the achievement of certain

technical goals beginning in 2009, and a milestone payment of $10.0 million upon achievement of certain commercial goals. Our technical goals have included filing patent applications relating to our development program, and matching predetermined benchmarks for the production of sugars from pre-treated cellulosic biomass using our cellulases and the production of a biohydrocarbon diesel component for sugar derived from cellulosic biomass. We have met or exceeded each of our milestones to date. We believe that several of our cellulase biocatalysts now function at temperatures and acidity levels that are close to the commercial targets. We also believe that our cellulase biocatalysts produce twice as much sugar from pre-treated cellulosic biomass as leading commercially available products under target industrial conditions.

Shell can terminate the amended and restated collaborative research agreement after November 1, 2010, for any or no reason by providing us with at least nine months' notice. We will have the right to terminate the amended and restated collaborative research agreement upon 90 days' notice if Shell decides to fund less than a certain number of our FTEs in the performance of activities under the amended and restated collaborative research agreement and provided certain other conditions are met. Each party also has the right to terminate the amended and restated collaborative research agreement in the case of a breach by the other party if such breach is uncured within 60 days. Each party also can terminate the amended and restated collaborative research agreement if such party believes the other party has assigned the amended and restated collaborative research agreement to a direct competitor of such party in the field of converting cellulosic biomass into fermentable sugars that can be converted into fuels and related products.

Under our agreements with Shell, we retain ownership of all intellectual property we develop, other than patent rights related to certain fuel innovations, and Shell will have an exclusive license to such intellectual property we develop. If we acquire or license technology from third parties for the purpose of these research activities, we will own or control such intellectual property while Shell will be granted a license in its field of use for research and commercial use consistent with the licenses granted to Shell, under the license agreements.

In November 2006, we also entered into a license agreement with Shell, which was amended and restated in November 2007, and further amended in March 2009. Under the terms of the amended and restated license agreement, we granted to Shell, a worldwide, exclusive, royalty-bearing license, including the right to grant sublicenses, to manufacture, have manufactured, use, sell, offer for sale and import any product covered by our patents or which utilizes our technology for use in the field of converting cellulosic biomass into biofuels and related products. The patents and technology licensed include our then existing patent rights and technology and patent rights and technology developed or acquired during performance of the research agreement, in each case related to converting cellulosic biomass into biofuels and related products. We additionally granted Shell royalty-free licenses which allow Shell to manufacture or have manufactured biocatalysts developed under the research agreement solely for the purposes of using such biocatalysts in the manufacture of products for use in the field of converting cellulosic biomass into biofuels and related products, such licenses to be used only in accordance with the royalty-bearing license described above. These royalty-free licenses are (i) an exclusive license under the patents and technology related to converting cellulosic biomass into biofuels and related products and developed or acquired by during performance of the research agreement and (ii) a non-exclusive license to patents and technology controlled by us that are necessary or useful for converting cellulosic biomass into biofuels and related products.

Shell will be required to pay us a royalty per gallon with respect to certain fuel products manufactured using our technology platform, including liquid fuels, fuel additives and lubricants, if Shell or any of its licensees manufactures such products. The applicable fuel products are those products which are covered by patents or utilize technology related to converting cellulosic biomass into biofuels and related products that were either developed or acquired during performance of the research agreement or are controlled by us and necessary or useful for such purpose. With respect to cellulosic biomass converted into sugars, Shell agreed to pay us a royalty per gallon of fuel product made from those sugars. With respect to sugars

converted into fuel, Shell agreed to pay us a separate royalty per gallon of fuel product made from those sugars. We may be entitled to receive one or both of these royalties depending on whether Shell uses our technology to commercialize one or both of these steps.

Shell can terminate the amended and restated license agreement for any or no reason by providing us with six months notice. If Shell terminates the license agreement, Shell will no longer have the right to use any of our biofuels technology. Each party also has the right to terminate the amended and restated license agreement in the case of a breach by the other party if such breach is uncured within 60 days. The duration of the license agreement differs for each of the fields of use covered by the license agreement, but for each field of use it continues until the later of (i) 20 years after the first sale of product licensed under the agreement in the field of use or (ii) expiration of the last to expire patents covering products licensed under the agreement in the field of use that were either developed or acquired during performance of the research agreement or are controlled by us and necessary or useful for such purpose.

One element of our collaboration with Shell relates to the development of cellulosic ethanol. In connection with our collaboration with Shell, we entered into a collaborative research and license agreement with Iogen and Shell in July 2009. Under the collaborative research and license agreement with Iogen and Shell, we agreed to collaborate with Iogen and Shell to develop technology relating to the conversion of cellulosic biomass to ethanol and to implement this technology at commercial scale. We and Iogen will jointly own any inventions arising under the research activities pursuant to the collaborative research and license agreement, except that inventions relating to one party's core technology will be solely owned by that party and licensed to the other party. Inventions that we own under the collaborative research and license agreement are subject to the licenses granted by us to Shell, as well as the payments from Shell to us, under our other agreements with Shell. Iogen has agreed to pay us a royalty per gallon with respect to certain fuel products, which include liquid fuels, fuel additives and lubricants, that are covered by inventions jointly made by us and Iogen, but that are solely owned by Iogen. We will be entitled to collect royalties from Shell for any use of our biofuels technology by Shell or Iogen. Shell can choose to commercialize cellulosic ethanol manufactured using our technology independently, or in collaboration with Iogen.

The term of the collaborative research and license agreement with Iogen and Shell shall continue until expiration or termination of our license agreement with Shell or of Iogen's technology license agreement with Shell. Shell can terminate the collaborative research and license agreement for any or no reason by providing us and Iogen with 30 days notice. Each party also has the right to terminate the collaborative research and license agreement in the case of breach by another party if that breach is uncured within 60 days.

We have acquired access to a fungal expression system that is capable of producing biocatalysts at commercial scale through a license agreement with Dyadic International, Inc. and its affiliate, or Dyadic, in November 2008. Under the license agreement with Dyadic, we obtained a non-exclusive license relating to Dyadic's proprietary fungal expression technology for the production of biocatalysts. We also obtained access to specified materials of Dyadic relating to this Dyadic technology. Our license is sublicenseable to Shell in the field of biofuels. Each party agreed that neither it nor its affiliates or sublicensees will assert any claim of infringement of any patent covering improvements to the Dyadic materials that were made by that party or its affiliates or sublicensees against the other party, or its affiliates, sublicensees, successors, distributors, or customers. We agreed to pay Dyadic certain license issuance fees, milestone payments, and fees based on volume of product manufactured using this Dyadic technology. We have the right to terminate the license agreement at will upon notice after payment of the license issuance fees. Either party has the right to terminate the license agreement for a material breach of the other party that is uncured within a period of time after notice. Dyadic has the right to terminate our licenses under the license agreement if we challenge the validity of any of the patents licensed under the license agreement. Our licenses, and access to Dyadic's materials, under the license agreement will terminate as a result of any termination of the license agreement other than due to Dyadic's material breach.

In February 2010, Shell International Petroleum Company Limited, or Shell International, an affiliate of Shell, announced that it had signed a non-binding memorandum of understanding with Cosan S.A., or Cosan, with the intention of forming a joint venture in Brazil for the production of ethanol, sugar and power, and the supply, distribution and retail of transportation fuels. Cosan is one of Brazil's leading producers of sugar and ethanol. According to the announcement, if the joint venture is consummated, Cosan would contribute to the joint venture its 23 sugar cane mills, its ethanol production capacity, up to 12 electricity co-generation plants, approximately 1,730 retail fuel service stations and its supply and distribution and ethanol logistics assets, a controlling share in an ethanol trading company, and net debt of approximately $2.5 billion. In addition, Shell International would contribute to the joint venture approximately 2,740 branded retail sites in Brazil, supply and distribution assets, its aviation fuel business in Brazil, Shell's equity interest in us, its equity interest in Iogen and $1.625 billion in cash. Shell International and Cosan announced that they will maintain exclusive negotiations towards a binding joint venture agreement, which shall be subject to final transaction documentation, due diligence, agreement between the two parties on sustainability issues, regulatory approvals and corporate approvals of both parties. We do not know what impact, if any, the proposed joint venture will have on our business.

Technology

We are innovators in the directed evolution of enzymes and microbes to enable industrial biocatalytic reactions and fermentations via biocatalyst engineering, metabolic pathway engineering and fermentation microbe improvement. Our technology platform has enabled commercially viable products and processes for the manufacture of pharmaceutical intermediates, and we are in the process of applying our technology platform in connection with the development of biofuels.

Our approach to developing commercially viable biocatalytic processes begins by conceptually designing the most economically practical manufacturing process for a targeted product. We then develop optimized biocatalysts to enable that process design, using our directed evolution technology, including screening and validating biocatalysts under relevant conditions. Typical design criteria include stability in the desired reaction conditions, biocatalyst activity and productivity (yield), ease of product isolation, product purity and cost. Alternative approaches to biocatalytic process development typically involve designing and engineering the biocatalytic processes around shortcomings of available biocatalysts, including, for example, biocatalyst immobilization (for stability and/or reuse), special equipment and costly product isolation and purification methods. We circumvent the need for these types of costly process design features by optimizing the biocatalyst for fitness in the desired process environment. As a result, we enable and develop cost-efficient processes that typically are relatively simple to run in conventional manufacturing equipment. This also allows for the efficient technical transfer of our process to our manufacturing partners.

The successful embodiment of our technology platform in commercial manufacturing processes requires well-integrated expertise in a number of technical disciplines. In addition to those directly involved in practicing our directed evolution technologies, such as molecular biology, enzymology, microbiology, cellular engineering, metabolic engineering, bioinformatics, biochemistry, and high throughput analytical chemistry, our process development projects also involve integrated expertise in organic chemistry, chemical process development, chemical engineering, fermentation process development, and fermentation engineering. Our tightly integrated, multi-disciplinary approach to biocatalyst and process development is a critical success factor for our company.

Enzyme Optimization Overview

The enzyme optimization process starts by identifying genes that code for enzymes known to have the general type of catalytic reactivity for a desired chemical reaction. Typically, we identify gene sequences in published databases and then synthesize candidate genes having those sequences. Using a variety of

biotechnology tools, we diversify these genes by introducing mutations, giving rise to changes in the enzymes for which they encode. The methods for diversifying these genes, and types of diversity being tested, often vary over the course of a biocatalyst optimization program. For finding initial diversity, methods typically include random mutagenesis and site-directed (included structure-guided) mutagenesis. We also test mutational variations that distinguish related enzymes among different organisms. Once we have identified potentially beneficial mutations, we test combinations of these mutations in libraries made using our proprietary gene recombination methodologies, gene shuffling and multiplexed gene SOEing.

With our proprietary gene shuffling methodology, we generate libraries of genes that have random combinations of the mutations we are testing. The pool of genes is used to transform host cells, which entails introducing the various genes, one each, into host cells. These cells are then segregated and grown into colonies. Cells from individual colonies are cultured in high throughput to produce the enzyme encoded by the shuffled gene in those cells. The enzymes are then screened in high throughput using test conditions relevant to the desired process. The screening results identify individual shuffled genes that produce improved enzymes having combinations of beneficial mutations and weed out enzymes having detrimental ones. Using different test conditions and/or different analytical methods, we can identify variant enzymes that exhibit various improved performance characteristics, such as stability, activity and selectivity, under conditions relevant to the desired chemical process.

In the next step in our optimization process, we use our proprietary software tool, ProSAR, to analyze protein sequence-activity relationships. We initially licensed ProSAR from Maxygen and further developed and customized ProSAR to address our specific needs. ProSAR aids in identifying specific gene and enzyme mutations that are beneficial, neutral or detrimental with respect to the desired performance characteristics. Earlier directed evolution methods did not separately evaluate individual mutations in libraries of variants which carry multiple mutations, where beneficial and detrimental performance characteristics may be mixed in an individual gene or enzyme. Capitalizing on the advent of inexpensive gene sequencing, we are able to determine which particular mutations are present in the genes and proteins we have screened. Our ProSAR bioinformatics software relates the screening results to the mutations and ranks the individual mutations with regard to their degree of benefit or detriment, relative to whichever process parameter(s) the screening tested. Using that information, we can bias the pool of mutational diversity in the next iteration to further the accumulation of beneficial diversity and cancel out detrimental diversity in the individual genes in the resulting shuffled library. The ProSAR results also help us develop ideas about new diversity to test. ProSAR, combined with efficient gene synthesis and high quality library generation methods, has led to a significant increase in the efficiency and speed of enzyme improvement and optimization.

In another step of our optimization process, we take the best variants we have identified and prepare enough of each to test in the desired chemical process at laboratory scale, for in-process confirmation. This optimization routine is done iteratively, typically adding new diversity to the pool in each iteration. The gene that codes for the best performing enzyme in one iteration is used as the starting gene for the next iteration of shuffling and screening. As the enzymes improve over these iterations, the screening conditions are made increasingly more stringent. In this way, enzymes are rapidly optimized until all in-process performance requirements have been achieved and the economic objectives for the desired process have been met.

Mutiplexed gene SOEing is our new proprietary methodology for rapidly generating gene variants. Using multiplexed gene SOEing, we rapidly generate collections of individual gene variants that have predetermined, as opposed to random, combinations of mutations we are testing. It is based on a biotechnology technique, which we refer to as SOEing, or Splicing by Overlap Extension, generally used to make a hybrid, or spliced, gene from fragments of two genes and/or to introduce a specific mutation into a splice between fragments of one gene. We have automated the process to robotically make, in parallel, one

hundred to several hundred variants, each with a predetermined combination of the mutations we are testing. The variants are introduced into host cells, and the encoded enzyme is produced and screened in high throughput, as described above.

Using multiplexed gene SOEing, we can test many mutations and combinations thereof in parallel, and because the mutation incorporation is controlled and predetermined before screening, as opposed to random incorporation and selection after screening, the resulting data set can be more optimal for ProSAR analysis.

We believe using multiplexed gene SOEing to quickly survey many mutations, followed by ProSAR-driven shuffling of beneficial mutations, is a particularly effective approach, providing rapid gains in enzyme performance.

Codex Biocatalyst Panels

Our Codex Biocatalyst Panels were initially developed to speed our own internal process for identifying enzymes with desired characteristics for further optimization. Each Codex Biocatalyst Panel is comprised of variants of one or more enzymes that catalyze one type of a generally useful chemical reaction. We assemble, on one or more microtiter sample plates, variants of a parent enzyme that we pre-optimize for stability in industrial chemical processes and for ready manufacturability. The variants are diversified to react to a variety of chemical structures that are susceptible to that type of chemical reaction.

Either we or our innovator pharmaceutical customers use the Codex Biocatalyst Panels to screen a new chemical structure against the assembled variants to rapidly identify variants that react with the new chemical structure. For some new structures, a variant on the panel could enable production of the desired product. We can also analyze the data from the panel screen using ProSAR to identify the mutations that are beneficial for the reaction of the new structure and further optimize the enzyme as needed using the enzyme optimization techniques described above. In cases where a customer wishes to screen a proprietary new chemical structure itself, we can produce a custom panel of new variants on a sample plate produced by multiplexed gene SOEing.

We may also use our Codex Biocatalyst Panels in our bioindustrial programs. In our biofuels research and development collaboration with Shell, we are developing a library of cellulases that have the potential to convert a wide variety of cellulosic biomass sources into fermentable sugars. The cellulosic biomass that we expect will be used to produce advanced biofuels is highly variable from region to region and can change over time. To optimize the local and seasonal conversion of cellulosic biomass to fermentable sugars, we expect to produce a Codex Biocatalyst Panel of cellulases that we or Shell can use to customize the biocatalysts that Shell uses at each advanced biofuel production facility. This technical innovation may ultimately make our sugar platform feedstock agnostic. Similarly, there is regional variation in coal. We may develop a Codex Biocatalyst Panel that we or our customers can use to tailor our carbon capture biocatalysts to the specific characteristics of the coal used in each energy facility that adopts our carbon capture technology.

Microbe Optimization using Gene Optimization

For fermentation microbes, we enhance metabolic pathways by using gene optimization to improve the production and/or productivity of one or more enzymes in a series of *in vivo* reactions that make a desired product. We optimize the gene/enzyme as described above using either*in vitro* or *in vivo* screening. For fermentation applications, the microbes containing the improved gene(s) are directly evaluated in laboratory scale fermenters.

The metabolic pathway may naturally exist in the microbe, but productivity and/or selectivity improvements are needed to economically produce more of the desired natural product and/or less of an undesired by-product. We can also introduce a new metabolic pathway to produce a desired product using our gene shuffling technology in combination with synthetic biology, a type of metabolic engineering in which new genes are introduced into a microbe.

We are using our gene/enzyme optimization methodologies in our biofuels program to optimize fermentation microbes, including optimization of:

- native and introduced (non-native) cellulase genes for increased productivity in our cellulase production microbes;
- an introduced (non-native) pathway in yeast for the conversion of xylose, a cellulose-derived sugar, to ethanol; and
- an introduced (non-native) pathway in a microbe for the production of our biohydrocarbon fuel molecule.

Microbe Optimization using Whole Genome Shuffling

In addition to our gene optimization technology for enzymes, we have another complimentary technology in our platform for the optimization of fermentation microbes called Whole Genome Shuffling. Whole Genome Shuffling allows us to improve the performance of a fermentation microbe by shuffling unidentified mutations in unidentified genes across the genome. We start with a diversity of mutational variants of a fermentation organism, generated by conventional means such as random mutagenesis. Our Whole Genome Shuffling involves introducing the entire genome of two or more such cells into a single cell, in which the genetic machinery of the combined cell recombines, or shuffles, the genomes. In one method, this is accomplished by protoplast fusion, in which the cell walls are removed to leave the cells' contents contained only by their cell membranes. The cell membranes of these protoplasts in the diverse population are induced to fuse together into fusants containing the genome of two or more of the parent cells. From these fusants, we regenerate normal cells, each with one copy of a hybridized genome. Microbial colonies are then grown and screened for their performance in the fermentative production of the desired product. This process can be repeated, including with the introduction of new mutations, until the desired performance in the fermentation process is achieved. One of our collaborators is operating a fermentation process for a generic pharmaceutical product using microbes we developed by Whole Genome Shuffling.

We are using our Whole Genome Shuffling technology in our biofuels program to optimize fermentation microbes, including optimization of:

- enzyme production hosts for increased production of cellulase enzymes;
- ethanol-producing yeasts for improved xylose utilization, ethanol productivity, and tolerance to higher ethanol concentrations; and
- our biohydrocarbon producing strain for increased productivity.

Metabolic Engineering and Synthetic Biology

In addition to our proprietary enzyme and microbe optimization technologies, we have built expert capabilities in a suite of new metabolic engineering technologies for the development and optimization of fermentation microbes. These technologies are generally applicable to our pathway and strain engineering programs. Genomics, transcriptomics, proteomics and metabolomics all provide more in-depth analyses of the metabolic functioning of fermentation microbes, and differences between variants, to guide further improvements. In many cases, these analyses help to identify enzymes that need to be modified (removed, increased, stabilized, or otherwise modified) in order to increase the overall productivity and performance of the strain.

Synthetic biology involves the design, synthesis and introduction of new genetic programming to organisms for new biological functions. This field has rapidly developed in recent years as DNA synthesis and sequencing costs have rapidly dropped. Using synthetic biology, we are taking advantage of the

exploding publicly available gene and genome sequence information in our gene and metabolic pathway optimization projects. This information is being leveraged by our ProSAR software and multiplexed gene SOEing methodologies. For example, we use synthetic biology in our biofuels program to introduce non-native pathways for xylose utilization and for biohydrocarbon production and to optimize these pathways.

License Agreement with Maxygen

In March 2002, we licensed from Maxygen core enabling technology. The license agreement was amended in September 2002, October 2002 and August 2006.

Under the terms of this license agreement, Maxygen granted us a worldwide, exclusive, license, with a right to sublicense, under certain Maxygen intellectual property related to the use of shuffling technology in a variety of fields of use. This license includes the right to develop, make, have made, use, import, have imported, offer for sale, sell, otherwise commercialize or distribute biocatalysts for the manufacture of generic and branded pharmaceuticals, certain classes of chemicals and certain applications related to energy and biofuels. Under the license agreement, Maxygen also provided us with certain biological materials to facilitate use of the gene shuffling technology. We can use the licensed Maxygen shuffling technology in a wide variety of organisms including algae, bacteria, cyanobacteria, fungi and yeasts, but we are restricted from using the technology in land plants. Our license is exclusive with respect to bacteria, yeast and fungi, but is nonexclusive with respect to algae and cyanobacteria. The Maxygen license extends for the lifetime of the patents included in the Maxygen intellectual property plus an additional 50 years for any know-how or materials included in the license agreement, unless earlier terminated.

The license agreement also specifically excludes us from certain activities. Under the terms of this license agreement, our license is subject to certain third-party rights in the Maxygen shuffling technology and we cannot utilize the licensed Maxygen shuffling technology for drug discovery or for the manufacture of protein-based therapeutics, such as antibodies.

Under the terms of our license agreement with Maxygen, we are obligated to pay Maxygen a significant portion of certain types of consideration we receive in connection with our biofuels research and development, including our collaboration with Shell. The actual fees payable to Maxygen will depend on the amount, timing and type of consideration we receive, including payments from the sale of our equity securities to Shell and payments in connection with the sale of fuel products made with a biocatalyst developed using the licensed technology and/or research and development activities.

If we directly commercialize an energy product that is made using any biocatalyst developed from the technology licensed from Maxygen, we will owe Maxygen a 2% royalty on our net sales of the energy product and on amounts received from any sublicensee or third party for the use of the energy product, to the extent that we utilize such energy product to provide services to such sublicensee or third party. If we sublicense our rights under the license agreement to a third party for the development and commercialization of an energy product, we will owe Maxygen 20% of all consideration we receive from any sublicensee. Specifically, we will owe Maxygen fees in connection with consideration we receive in the form of (1) up-front option and/or license fees, (2) FTE funding for biofuels research, (3) milestone payments, (4) payments from the sale of our equity securities and (5) payments in connection with the commercialization of energy products made with a biocatalyst developed using the licensed technology.

In the case of consideration received from the sale of our equity securities to Shell, we are obligated to pay Maxygen 20% of any excess paid above $5.96 per share, the price per share of our Series D preferred stock. With regard to FTE funding, we are only obligated to pay Maxygen 20% of the portion of any consideration received in excess of a specified amount, which was initially $350,000 per year starting in September 2006, but is adjusted annually based on the published CPI for the United States. We are also obligated to reimburse up to 20% of the costs incurred by Maxygen related to the prosecution and

maintenance of the patents licensed from Maxygen relating to our core technology. Further, in the event that any subsidiary or affiliate of ours develops and/or sells any energy applications using the Maxygen technology, we are obligated to transfer to Maxygen a percentage of the value of the subsidiary or affiliate that is attributable to the Maxygen technology and give Maxygen an option to acquire a percentage of the other consideration that we invest in such affiliate or subsidiary.

In connection with all consideration received from Shell relating to our biofuels research and development collaboration, we were obligated to pay Maxygen $7.9 million, $0.9 million and $5.5 million for 2007, 2008, and 2009 respectively, of which $0, $0.9 million, and $1.4 million respectively, were payments owed to Maxygen in connection with Shell's FTE funding. The payments relating to FTE funding were less than 5% of the total FTE payments we received from Shell in those periods.

Maxygen granted Novo Nordisk A/S certain rights under its intellectual property on September 17, 1997. This grant was later amended and these rights were later assigned by Novo Nordisk to Novozymes A/S and by Maxygen to us. Under this license, Maxygen granted exclusive rights to Novozymes that are outside the field of use licensed to us by Maxygen. Maxygen also granted certain rights to Novozymes co-exclusively in other fields that could overlap with certain fields we are pursuing under our license, including biofuels. At a minimum, we enjoy co-exclusive rights in such fields and have sufficient rights for our collaborations and partnerships. Novozymes did not receive a license to all of the rights we are using in biofuels applications and which we believe are critical to pursuing such applications.

In exchange for this license, we issued a total of 666,000 shares of common stock and four million shares of Series A preferred stock to Maxygen. As of February 28, 2010, Maxygen beneficially owned approximately 21.4% of our common stock.

Intellectual Property

Our success depends in large part on our proprietary products and technology under which we seek protection from patent, copyright, trademark and trade secret laws. Such protection is also maintained using confidential disclosure agreements. Protection of our technologies is important for us to offer our customers and partners proprietary services and products unavailable from our competitors, and to exclude our competitors from practicing technology that we have developed or exclusively licensed from other parties. For example, our ability to supply innovator pharmaceutical manufacturers depends on our ability to supply proprietary enzymes or methods for making pharmaceutical intermediates or APIs that are not available from our competitors. Likewise, in the generic pharmaceutical area, proprietary protection, through patent, trade secret or other protection of our biocatalysts and methods of producing a pharmaceutical product is important for us and our customers to maintain a lower cost production advantage over competitors. If competitors in our industry have access to the same technology, our competitive position may be adversely affected. As of December 31, 2009, we owned or had licensed rights to approximately 235 issued patents and approximately 280 pending patent applications in the United States and in various foreign jurisdictions. The earliest that any of our intellectual property rights will expire is 2014. Of the licensed patents and patent applications, most are owned by Maxygen and exclusively licensed to us for use in certain fields. These licensed patents and patent applications cover both enabling technologies, as well as products or methods of producing products. Our licenses to such patents allow us to freely practice the licensed inventions, subject only to the terms of these licenses. The issued patents covering the fundamental shuffling technologies have terms ending as late as 2019. As of December 31, 2009, we owned approximately 35 issued patents and approximately 115 pending patent applications in the United States and in various foreign jurisdictions. These patents and patent applications are directed to our enabling technologies and specific methods and products which support our business in the pharmaceutical and bioindustrial markets. In particular, some of our patents and patent applications are directed to intermediates and processes for the production of pharmaceuticals such as atorvastatin, montelukast and azetidinone compounds. Our U.S. intellectual property rights directed to our enabling

technologies have terms that expire from year 2021 to 2024. We continue to file new patent applications, for which terms generally extend 20 years from the filing date in the United States.

We will continue to file and prosecute patent applications and maintain trade secrets as is consistent with our business plan in an ongoing effort to protect our intellectual property. It is possible that our current patents, or patents which we may later acquire, may be successfully challenged or invalidated in whole or in part. It is also possible that we may not obtain issued patents from our pending patent applications or other inventions we seek to protect. We sometimes permit certain intellectual property to lapse or go abandoned under appropriate circumstances. Due to uncertainties inherent in prosecuting patent applications, sometimes patent applications are rejected and we subsequently abandon them. It is also possible that we may develop proprietary products or technologies in the future that are not patentable or that the patents of others will limit or altogether preclude our ability to do business. In addition, any patent issued to us may provide us with little or no competitive advantage, in which case we may abandon such patent or license it to another entity.

Our registered and pending U.S. trademarks include Codexis, Codex and Codex Biocatalyst Panel. The Codexis and Codexis design marks have been registered or are pending in selected foreign countries.

Our means of protecting our proprietary rights may not be adequate and our competitors may independently develop technology or products that are similar to ours or that compete with ours. Patent, trademark, and trade secret laws afford only limited protection for our technology platform and products. The laws of many countries do not protect our proprietary rights to as great an extent as do the laws of the United States. Despite our efforts to protect our proprietary rights, unauthorized parties have in the past attempted, and may in the future attempt, to operate under aspects of our intellectual property or products or to obtain and use information that we regard as proprietary. Third parties may also design around our proprietary rights, which may render our protected technology and products less valuable, if the design around is favorably received in the marketplace. In addition, if any of our products or technology is covered by third-party patents or other intellectual property rights, we could be subject to various legal actions. We cannot assure you that our technology platform and products do not infringe patents held by others or that they will not in the future.

Litigation may be necessary to enforce our intellectual property rights, to protect our trade secrets, to determine the validity and scope of the proprietary rights of others, or to defend against claims of infringement, invalidity, misappropriation, or other claims. Any such litigation could result in substantial costs and diversion of our resources. Moreover, any settlement of or adverse judgment resulting from such litigation could require us to obtain a license to continue to make, use or sell the products or technology that is the subject of the claim, or otherwise restrict or prohibit our use of the technology.

Competition

Overview

We are a leader in the field of directed molecular evolution of biocatalysts. We are aware that other companies, including Verenium Corporation (formed by the merger of Diversa Corporation and Celunol Corporation), Royal DSM N.V., or DSM, Danisco/Genencor, Novozymes, and E.I. DuPont De Nemours and Company, or DuPont, have alternative methods for obtaining and generating genetic diversity or use mutagenesis techniques to produce genetic diversity. Academic institutions such as the California Institute of Technology, the Max Planck Institute and the Center for Fundamental and Applied Molecular Evolution (FAME), a jointly sponsored initiative between Emory University and Georgia Institute of Technology, are also working in this field. This field is highly competitive and companies and academic and research institutions are actively seeking to develop technologies that could be competitive with our technologies.

We are aware that other companies, organizations and persons have described technologies that appear to have some similarities to our patented proprietary technologies. In addition, academic institutions

are also working in this field. Technological developments by others may result in our products and technologies, as well as products developed by our customers using our biocatalysts, becoming obsolete. We monitor publications and patents that relate to directed molecular evolution to be aware of developments in the field and evaluate appropriate courses of action in relation to these developments.

Many of our competitors have substantially greater manufacturing, financial, research and development, personnel and marketing resources than we do. In addition, certain of our competitors may also benefit from local government subsidies and other incentives that are not available to us. As a result, our competitors may be able to develop competing and/or superior technologies and processes, and compete more aggressively and sustain that competition over a longer period of time than we could. Our technologies and products may be rendered obsolete or uneconomical by technological advances or entirely different approaches developed by one or more of our competitors. As more companies develop new intellectual property in our markets, the possibility of a competitor acquiring patent or other rights that may limit our products or potential products increases, which could lead to litigation.

We also face differing forms of competition in our various markets, as set forth below:

Pharmaceuticals

Our primary competitors in the pharmaceutical market are companies using conventional, non-biocatalytic processes to manufacture pharmaceutical intermediates and APIs that compete in the marketplace with our biocatalytically manufactured products. The principal methods of competition and competitive differentiation in this market are product quality and performance, including manufacturing yield and safety and environmental benefits, speed of delivery of product and price. The market for the manufacture and supply of APIs and intermediates is large with many established players. These companies include many of our large innovator and generic pharmaceutical customers, such as Merck, Pfizer, and Teva, who have significant internal research and development efforts directed at developing processes to manufacture APIs and intermediates. The processes used by these companies include classical conventional organic chemistry reactions, chemo catalysis reactions catalyzed by chemical catalysts, or biocatalytic routes using commercially available enzymes, or combinations thereof. Our manufacturing processes must compete with these internally developed routes. Additionally, there are many large well-established fine chemical manufacturing companies that compete to supply pharmaceutical intermediate and APIs to our customers, such as DSM, BASF Corporation and Lonza Group Ltd. Finally, we face increasing competition from generic pharmaceutical manufacturers in low cost centers such as India and China.

In addition to competition from companies manufacturing intermediates and APIs, we face competition from companies that sell biocatalysts for use in the pharmaceutical market. The market for supplying biocatalysts for use in pharmaceutical manufacturing is quite fragmented. There is competition from large industrial enzyme companies, such as Novozymes and Amano Enzyme Inc., whose industrial enzymes (for detergents, for example) are occasionally used in pharmaceutical processes. There is also competition in this area from several small European companies with relatively limited product offerings comprised primarily of naturally occurring biocatalysts. In addition to these biocatalyst supply companies, there is a separate group of small companies, also predominately in Europe, that offers biocatalyst optimization services.

We believe that our principal advantage is our ability to rapidly deliver customized biocatalyst products for existing and new intermediates and APIs in the pharmaceuticals market. This capability has allowed us to create a breadth of product offerings with improved performance characteristics including, for example, activity, stability, and activity on a range of substrates, compared to traditional chemistry-based manufacturing processes and naturally occurring biocatalysts. We believe that our directed evolution technology provides substantially superior results, in shorter time frames, than companies offering competing biocatalyst development services.

Bioindustrials

There is increasing interest and activity in the bioindustrial market directed towards developing alternative manufacturing processes for products that have traditionally been derived from fossil fuel sources, such as transportation fuels and chemicals.

Currently, most biofuels being produced at commercial scale are ethanol derived from sugar and starch food sources, such as sugar cane and corn, and biodiesel produced from vegetable oils, such as soy oil. These markets are well-established with multiple companies, such as The Archer Daniels Midland Company, Cargill and a number of smaller companies producing ethanol in the United States.

Many established and several recently formed companies are developing biofuels technology and have forged relationships or ventures to develop and commercialize their technologies, including:

- Novozymes, which has partnered with a number of companies and organizations on a regional basis to develop or produce biofuels, and recently opened a biofuel demonstration plant with Inbicon A/S of Denmark;
- Danisco/Genencor, which has formed a joint venture with DuPont, called DuPont Danisco Cellulosic Ethanol, or DDCE, is marketing a line of cellulases to convert biomass into sugar;
- DSM, which received a grant from the U.S. Department of Energy to be the lead partner in a technical consortium including Abengoa Bioenergy New Technologies, is developing cost-effective enzyme technologies;
- Mascoma Corporation has entered into a feedstock processing and lignin supply agreement with Chevron Technology Ventures, a division of Chevron U.S.A., Inc.; and
- Verenium, which has entered into a research and development collaboration with BP, p.l.c and formed a joint venture with BP called Vercipia Biofuels to develop a commercial scale cellulosic ethanol facility.

Although no company is currently converting cellulosic biomass into fermentable sugars at commercial scale, many of our competitors have been active in this area for many years, have invested significant resources in this effort, and have extensive patent portfolios regarding the relevant biocatalysts and related processes. In addition, several companies are focused on developing non-biocatalytic, thermochemical processes to convert cellulosic biomass into fermentable sugars. Our routes from cellulosic biomass to fermentable sugars will need to be cost-competitive with all of these alternative sources and routes. There are also many companies active in the area of producing non-ethanol biofuels from fermentable sugars. For example, DuPont has announced plans to develop and market biobutanol through Butamax, a joint venture with BP, while other companies such as Amyris Biotechnologies Inc., or Amyris, Gevo Inc. and LS9, Inc. are working on biocatalytic routes to non-ethanol biofuel alternatives to petroleum-based fuels. Virent Energy Systems and Shell also have a joint collaboration to develop theromochemical catalytic routes to biogasoline directly from sugars. Range Fuels Inc. is also focused on developing non-biocatalytic thermochemical processes to convert cellulosic biomass into fuels, and Coskata, Inc. is developing a hybrid thermochemical-biocatalytic process to produce ethanol from a variety of feedstocks. New companies are being founded in this area at an increasing rate. Many of these companies are actively developing and applying for intellectual property rights, including patent rights, in this space.

Our ability to remain competitive in this area will depend on our ongoing technical success in identifying and developing novel biocatalytic routes to fuel products that are cost-competitive not only with other biofuels but with petroleum-based fuels. Several of our competitors, including Amyris, utilize synthetic biology techniques to develop their products. Because these techniques have been in the public domain for many years, we are able to use these techniques together with our gene and genome directed

evolution technologies. We believe that one of our principal advantages, particularly in the bioindustrial space, is that our directed evolution technology may enable us to develop new, more efficient, and therefore more cost-effective, biocatalysts and processes in less time than our competitors.

As we pursue opportunities in other bioindustrial markets, we expect to face competition from numerous companies focusing on developing biocatalytic and other solutions for these markets, including a number of the companies described above.

Operations

We conduct substantial operations outside of the United States. Please see Note 17 of our consolidated financial statements appearing elsewhere in this prospectus for a description of our revenues and long-lived assets outside of the United States. We have facilities located throughout the world, including in Redwood City, California, Singapore, and Budapest, Hungary. As of December 31, 2009, we employed 290 people worldwide, with 203 of our employees located in Redwood City.

Our corporate headquarters is located in Redwood City and provides general administrative support to our business and is the center of our manufacturing and research and development operations. In 2007, we established a research and development facility in Singapore to reduce our pharmaceutical research and development costs and to take advantage of the highly educated and skilled labor force in Singapore. In 2008, we established our facilities in Budapest, Hungary to create a research and development center for microbial biocatalyst improvement and fermentation development and to reduce our research and development costs. Hungary also has a highly educated and skilled work force that leverages the long history of fermentation development in Eastern Europe. Our facilities in Hungary are currently used exclusively for biofuels research and development.

Our research and development operations include efforts directed towards biocatalyst evolution, bioprocess development, cellular engineering, biocatalyst screening, metabolites, strain improvement, fermentation development and process engineering. We conduct enzyme evolution, enzyme production development, microbial bioprocess development, cellular engineering, microbial evolution and process engineering evaluations and design primarily at our headquarters in Redwood City. We also conduct biocatalyst evolution, biocatalyst screening and bioprocess development in Singapore. Our facility in Hungary collaborates with our headquarters in Redwood City in research and development activities relating to microbe improvement and is our center of excellence for strain and fermentation development. For more information on our research and development expenses, including expenses funded by our collaborative partners, see “Management’s Discussion and Analysis of Financial Condition and Results of Operations — Revenues and Operating Expenses — Research and Development Expenses” included elsewhere in this prospectus.

We have limited internal manufacturing capacity at our headquarters in Redwood City. We expect to rely on third-party manufacturers for commercial production of our biocatalysts for the foreseeable future. Our in-house manufacturing is dedicated to producing both our Codex Biocatalyst Panels and biocatalysts for use by our customers in pilot scale production. We also supply initial commercial quantities of biocatalysts for use by our collaborators to produce pharmaceutical intermediates and manufacture biocatalysts that we sell.

We rely on two primary contract manufacturers, CPC Biotech srl, or CPC, and Lactosan GmbH & Co. KG, or Lactosan, to manufacture all of the commercial enzymes used in our pharmaceutical business. We have qualified other contract manufacturers to manufacture biocatalysts for our pharmaceutical business, but we do not currently rely on them for any of our supply requirements. We also rely on Arch, headquartered in Mumbai, India, to manufacture certain of our pharmaceutical intermediates and APIs as well as to provide sales and marketing support for these products in Asia, Latin America and the Middle East, and marketing support for these products in India, the United States, Canada, Europe and Israel. In addition, we contract with other suppliers in Austria, Germany, Italy and India.

We continue to evaluate whether to develop internal capabilities to manufacture biocatalysts at commercial scale. To increase our biocatalyst manufacturing capacity, we may invest in our own manufacturing capabilities through the construction of additional manufacturing facilities. The factors we will consider in deciding whether to expand our internal manufacturing capabilities include the costs associated with developing and maintaining such capabilities, the time required to develop such capabilities, potential locations for manufacturing sites, including proximity to existing customers, taxes associated with manufacturing activities and local incentives.

Facilities

Our headquarters is located in Redwood City, where we occupy approximately 87,000 square feet of office and laboratory space. The term of the lease expires in January 2011 for one part of our facilities, in April 2012 for another part and March 2013 for the third part. We have one option to extend the lease for an additional term of five years for each part, provided that we provide notice to the landlord at least nine months prior to the expiration of the initial term of the lease for each part. We believe that the facilities that we currently lease are adequate for our needs for the immediate future and that, should it be needed, additional space can be leased to accommodate any future growth.

In Singapore, we occupy approximately 1,900 square meters of office and laboratory space within Singapore Science Park II. The term of the lease expires in July 2010. We have an option to extend the lease for an additional term of three years. We believe that the facilities that we currently lease in Singapore are adequate for our needs for the immediate future and that, should it be needed, additional space can be leased to accommodate any future growth.

In Hungary, we occupy approximately 900 square meters of office and laboratory space. The term of the lease expires in July 2013. We have an option to extend the lease for an additional term of five years. We believe that the facilities that we currently lease are adequate for our needs for the immediate future and that, should it be needed, additional space can be leased to accommodate any future growth.

Employees

As of December 31, 2009, we had 290 employees. Of these employees, 181 were engaged in research and development, 44 were engaged in manufacturing and operations, and 65 were engaged in general and administrative activities, respectively. We plan to continue to expand our research and development activities. To support this growth, we will need to expand managerial, research and development, operations, finance and other functions. None of our employees are represented by a labor union, and we consider our employee relations to be good.

Legal Proceedings

We are not currently a party to any material litigation or other material legal proceedings.

MANAGEMENT

Executive Officers, Key Employees and Directors

The following table sets forth certain information about our executive officers, key employees and directors, as of February 1, 2010.

Name	Age	Position
Executive Officers		
Alan Shaw	46	President and Chief Executive Officer, Director
Robert J. Lawson	45	Senior Vice President and Chief Financial Officer
David L. Anton	56	Senior Vice President, Research and Development
Joseph J. Sarret	42	Chief Business Officer and President, Pharmaceutical Services and Enzyme Products
Douglas T. Sheehy	43	Senior Vice President, General Counsel and Secretary
Key Employees		
John H. Grate	57	Senior Vice President, Science and Innovation and Chief Science Officer
Michael J. Knauf	51	Vice President and General Manager, Bioindustrials
Directors		
Thomas R. Baruch(1) (2) (3)	71	Chairman, Board of Directors
Alexander A. Karsner	42	Director
Bernard J. Kelley(1) (2)	68	Director
Bruce Pasternack(1) (3)	62	Director
Chris Streng	43	Director
James R. Sulat	59	Director
Dennis P. Wolf(2) (3)	57	Director
Mun Yew Wong	38	Director

(1) Member of the Compensation Committee.

(2) Member of the Audit Committee.

(3) Member of the Nominating and Corporate Governance Committee.

Alan Shaw, Ph.D., has served as President of Codexis since its inception and Chief Executive Officer since 2002. As our President and Chief Executive Officer, Mr. Shaw brings an understanding of our business and operations to our board of directors, of which he has been a member since 2002. Prior to Codexis, Dr. Shaw was Head of New Business Development for Clariant and Managing Director for Lancaster Synthesis and prior to Clariant's acquisition of BTP plc, Chief Operating Officer of Archimica, the pharmaceutical chemicals division of BTP plc. From 1994 to 1999, he was with Chiroscience Group plc, most recently as Managing Director of the pharmaceutical services unit, Chirotech Technology Limited, and a member of the board of directors of Chiroscience Ltd. Earlier in his career, Dr. Shaw held various scientific and management positions for over 15 years at Imperial Chemical Industries PLC (ICI)/Zeneca. Dr. Shaw serves on the boards of directors of CO_2 Solution Inc. and BIO, the biotechnology industry trade association, and is chair of the BIO Industrial and Environmental Section. He holds a B.S. in chemistry from Teesside University, England and a Ph.D. in chemistry from the University of Durham, England. Dr. Shaw is a Fellow of the Royal Society of Chemistry (FRSC, C.Chem.) and the Chartered Institute of Marketing (FCIM, Chartered Marketer).

Robert J. Lawson has served as Senior Vice President and Chief Financial Officer since November 2009. Prior to joining Codexis, Mr. Lawson was most recently Vice President, Finance-Consumer Group of Intuit. While at Intuit from 2001 to November 2009, Mr. Lawson held various senior financial management positions, including Vice President, Investor Relations and Financial Planning and Analysis and Vice President, Finance-Small Business and Personal Finance. Prior to Intuit, Mr. Lawson served for 15 years in various financial management roles at General Electric. He holds a B.S. in business from Iowa State University.

David L. Anton, Ph.D., has served as Senior Vice President, Research and Development since May 2009. He joined Codexis in March 2008 as Vice President, Research and Development, for Codexis Bioindustrials. Dr. Anton has over 25 years experience directing development of new technology solutions and production processes. He joined DuPont in 1983, and held a variety of senior research management positions across bioprocessing and biocatalysis. He holds a B.S. in biochemistry from the University of California, Berkeley, and a Ph.D. in biochemistry from the University of Minnesota.

Joseph J. Sarret, M.D., J.D., has served as Chief Business Officer and President, Pharmaceutical Services and Enzyme Products since October 2009. He joined Codexis in 2005 as Corporate Counsel and Director, Business Development and was promoted to Vice President, Corporate Development in 2007 and Senior Vice President, Corporate Development in February 2009. Previously, he was an associate at Latham & Watkins LLP. He also served as attending physician and later Acting Medical Director for the HIV Clinic at the University of California, San Francisco Medical Center. Dr. Sarret is a graduate of both the University of California, San Francisco School of Medicine and Stanford Law School. He holds a B.A. in human biology from Stanford University, where he graduated Phi Beta Kappa.

Douglas T. Sheehy has served as Senior Vice President, General Counsel and Secretary of Codexis since November 2009. He joined Codexis in April 2007 as Vice President, General Counsel and Secretary. Prior to Codexis, Mr. Sheehy spent five years at CV Therapeutics, Inc. in various positions, most recently as Executive Director, Legal — Corporate Law. Prior to that, Mr. Sheehy served as an attorney with the law firms of Gunderson Dettmer LLP and Brobeck Phleger & Harrison LLP. Mr. Sheehy holds a B.A. in history from Dartmouth College and a J.D. from American University.

John H. Grate, Ph.D., has served as Chief Science Officer and Senior Vice President, Science and Innovation since May 2009. From December 2007 to May 2009, Dr. Grate served as Chief Technology Officer and Senior Vice President, Technology and Innovation of Codexis. From July 2005 to December 2007, Dr. Grate served as Senior Vice President, Research and Development, and Chief Technology Officer of Codexis, and from September 2002 to July 2005, Dr. Grate served as Vice President, Research and Development and Chief Technology Officer. Prior to his employment with Codexis, Dr. Grate was an independent consultant and a member of Codexis' Industrial Advisory Board. Previously, Dr. Grate held various research and development leadership positions in his 20 years at Catalytica, Inc. He was founding Vice President of Research and Development for the subsidiary, Catalytica Pharmaceuticals, Inc., until its acquisition by Royal DSM N.V. in early 2001. Dr. Grate is a registered U.S. Patent Agent. He holds a B.S. in chemistry from Miami University (Ohio) and a Ph.D. in chemistry from the University of California, San Diego.

Michael J. Knauf has served as Vice President and General Manager, Bioindustrials since April 2007. He joined Codexis from Lallemand Specialties, where he was General Manager of the Ethanol Technology business unit from June 2005 to March 2007. Previously, he served for nearly 20 years with Genencor, where he rose to Director and Industry Manager for Fermentation Alcohol Enzymes. Mr. Knauf holds a B.S in biochemistry and biophysics and a master's degree in food science from the University of California, Davis.

Thomas R. Baruch has served as a director of Codexis since 2002. Mr. Baruch is the founder and a managing director of CMEA Ventures, a venture capital firm that was established in 1989 as an affiliated fund of New Enterprise Associates. Mr. Baruch brings to our board of directors knowledge of the

biotechnology and clean technology industries as well as public company governance experience. Mr. Baruch currently serves as a director for various clean technology companies, including Biolight Harvesting, Inc., a company developing photosynthetic bacteria as part of a production platform for making renewable fuels and chemicals, Cnano Technology Limited, a leading nanomaterial company that manufactures and develops carbon nanotubes for advanced energy and other applications, Draths Corporation, a chemical company focused on enabling everyday materials to be manufactured from renewable feedstocks, Solyndra, Inc., a company that designs and manufactures photovoltaic systems for the commercial rooftop market, and Wildcast Discovery Technologies, Inc., a company focused on the discovery of advanced materials for clean energy technology applications. In addition, Mr. Baruch is currently on the board of directors of Entropic Communications, Inc., and serves on the compensation, nominating and corporate governance and audit committees of Entropic's board of directors. Before starting CMEA Ventures, Mr. Baruch was a founder and Chief Executive Officer of Microwave Technology, Inc., a supplier of gallium arsenide integrated circuits. Prior to his employment with Microwave Technology, Inc., Mr. Baruch managed a dedicated venture fund at Exxon Corp, and was president of the Exxon Materials Division. Earlier in his career, Mr. Baruch worked as a patent attorney and remains a registered patent attorney. He is also both a member of the Executive Committee of the Council of Competitiveness and a member of the Steering Committee of the ESIS Initiative (Energy, Security, Innovation and Sustainability) of the Council of Competitiveness. Mr. Baruch is a member of the board of trustees of Rensselaer Polytechnic Institute and the board of trustees of the Berkeley Institute of Synthetic Biology. Mr. Baruch holds a B.S. in engineering from Rensselaer Polytechnic Institute and a J.D. from Capital University.

Alexander A. Karsner has served as a director of Codexis since December 2009. Mr. Karsner brings to our board of directors experience in and knowledge of the energy industry and related public policy. He is currently Chief Executive Officer of Manifest Energy, LLC, a clean energy infrastructure development and finance company. Mr. Karsner served as Assistant Secretary for Energy Efficiency and Renewable Energy at the U.S. Department of Energy from March 2006 to August 2008. From April 2002 to March 2006, Mr. Karsner was Managing Director of Enercorp LLC, a private company involved in international project development, management and financing of renewable energy infrastructure. Mr. Karsner has also worked with Tondu Energy Systems of Texas, Wartsila Power Development of Finland and other multi-national energy firms and developers. Mr. Karsner is a director of Applied Materials, Inc., Conservation International, Argonne National Laboratory, the Gas Technology Institute, the National Marine Sanctuaries Foundation and is on the advisory board of Hudson Clean Energy and the Automotive X Prize. He is a Distinguished Fellow at the Council on Competitiveness and a leader of the Energy Future Coalition. Mr. Karsner earned a Masters degree at Hong Kong University and a Bachelors degree with honors from Rice University.

Bernard J. Kelley has served as a director of Codexis since April 2004. Mr. Kelley brings to our board of directors experience in pharmaceutical manufacturing, as well as senior management and financial operations experience. From 1993 to 2002, Mr. Kelley was the President of the Merck Manufacturing Division, a division of Merck & Co., Inc., a global pharmaceutical company, and he served as a member of the Merck Management Committee from 1995 to 2002. Mr. Kelley currently serves on the board of directors, compensation and audit committees of MAP Pharmaceuticals, Inc., a biotechnology company focused on developing inhalation-based therapies, and previously served on the board of directors of Aegis Analytical Corporation, an enterprise software company, from 2004 to 2006. He holds a B.S. in engineering from the U.S. Naval Academy.

Bruce Pasternack has served as a director of Codexis since August 2007. Mr. Pasternack brings to our board of directors knowledge of the energy industry and business and regulatory experience. Mr. Pasternack is currently an operating partner of Venrock, a venture capital firm. From December 2007 to February 2010, Mr. Pasternack was a venture partner of CMEA Capital. From June 2005 to May 2007, Mr. Pasternack served as the President and Chief Executive Officer of Special Olympics, Inc. Prior to his

employment with Special Olympics, Inc., Mr. Pasternack spent more than 28 years at Booz Allen Hamilton Inc., a consulting firm, where his last position was Senior Vice President and Managing Partner of its San Francisco office. From 1973 to 1976, he served as Associate Administrator for Policy and Program Evaluation at the Federal Energy Administration, and Staff Director of the President's Energy Resources Council. From 1972 to 1973, he served on the staff of the President's Council on Environmental Quality in the Executive Office of the President. From 1968 to 1972, he was a systems engineer at General Electric. Mr. Pasternack is a director of Quantum Corporation, the American Council on Renewable Energy and Symyx Technologies, Inc., a member of the board of trustees of The Cooper Union and has previously served on the board of directors of BEA Systems, Inc. and the Special Olympics, Inc. At Symyx Technologies, he is Lead Director and Chairman of the compensation committee. At Quantum Corporation, he is a member of the compensation committee. At BEA Systems, he was a member of the compensation committee. He holds a B.E. from The Cooper Union and a M.S.E. from the University of Pennsylvania.

Chris Streng has served as a director of Codexis since March 2009. He is currently employed by Shell Downstream Inc., an affiliate of Royal Dutch Shell plc and its affiliated companies, or the Shell Group, where he has served as Vice President Finance Manufacturing since 2007 and is based in Houston, Texas. In such position, he is responsible for finance for refinery and petrochemical plants in the Shell Group worldwide. Mr. Streng's variety of experiences with Shell provides our board of directors with insight into the energy industry and financial management expertise. From 2005 to 2007, Mr. Streng was Vice President Group Planning & Appraisal, based in The Hague, The Netherlands. He joined the Shell Group in 1990, and has held financial management positions in the Shell Group's exploration and production, refining and chemicals businesses, as well as the mergers & acquisitions and treasury functions in The Netherlands, the United Kingdom, Norway and the United States. He also serves as a director or in an equivalent position for certain refining joint ventures in which Shell Group companies are owners. Mr. Streng holds a master's degree in finance from the London Business School and graduated in business engineering from the University of Twente, The Netherlands.

James R. Sulat has served as a director of Codexis since October 2009. Mr. Sulat brings to our board of directors experience in the biotechnology industry, as well as senior management and financial operations experience. He was named Chief Executive Officer and Chief Financial Officer of Maxygen in October 2009. He has served as a director of Maxygen since 2003 and served as a member of its audit and nominating and corporate governance committees from 2003 through October 2009. He served as Chief Financial Officer of Memory Pharmaceuticals Corp., a biotechnology company, from February through September 2008, and Chief Executive Officer from May 2005 to February 2008. Mr. Sulat was Senior Executive Vice President and Interim Chief Financial Officer of R.R. Donnelley & Sons Co., a diversified printing company, from February 2004 until May 2004. From April 2003 to February 2004, Mr. Sulat was Senior Executive Vice President of Moore Wallace Incorporated, a diversified printing company that was acquired by R.R. Donnelley in 2004. From April 1998 to April 2003, Mr. Sulat was Vice President and Chief Financial Officer of Chiron Corporation, a biotechnology company. Mr. Sulat is also currently a director of Momenta Pharmaceuticals, Inc., a publicly-traded biotechnology company focused on the development of protein pharmaceuticals, and Intercell AG, a developer of vaccines for the prevention and treatment of major infectious diseases that is listed on the Vienna Stock Exchange, and serves on the audit and nominating and corporate governance committees for both companies. Mr. Sulat also previously served as a director of Memory Pharmaceuticals Corp. Mr. Sulat holds a B.S. from Yale University, an M.B.A. from Stanford University and an M.S. in health services administration from Stanford University.

Dennis P. Wolf has served as a director of Codexis since December 2007. Mr. Wolf brings to our board of directors extensive experience in financial management, corporate finance and public company corporate governance. Mr. Wolf currently serves as Senior Vice President and Chief Financial Officer of Fusion-io Multisystems, Inc. Previously, Mr. Wolf served as Executive Vice President and CFO of MySQL AB. Prior to MySQL, Mr. Wolf held financial management positions for public high technology companies

including Apple Computer, Inc., Centigram Communications, Inc., Credence Systems Corporation, Omnicell, Inc., Redback Networks Inc. and Sun Microsystems, Inc. Mr. Wolf is a director of Bigband Networks, Inc. and Quantum Corporation, where he is also a member of their respective audit committees, and has been a director and chair of the audit committee for other public and private companies including Registry Magic, Inc., Avanex Corporation, Komag, Inc. and Vitria Technology, Inc. He holds a B.A. from the University of Colorado and an M.B.A. from the University of Denver.

Mun Yew Wong, M.D., has served as a director of Codexis since October 2009. As Director (Investments), San Francisco Centre for EDB Investments Pte Ltd, or EDB Investments, and Bio*One Capital Pte Ltd, or Bio*One, Dr. Wong possesses knowledge of the biotechnology and clean technology industries. He has served on boards of Bio*One portfolio companies NeuroVision Pte Ltd, KOOPrime Pte Ltd in Singapore and Amaranth Medical Inc. in the U.S. In February 2007, he was appointed as Director (Investments) at Bio*One's U.S. office in the San Francisco Bay Area, focusing on the biotechnology sector. He expanded his portfolio coverage to clean technologies and digital media sectors in the United States when he was concurrently appointed Director (Investments) at EDB Investments in January 2009. In addition to his role at Codexis, he is a board observer for Innovalight, Inc., Pelikan Technologies, Inc. and Revance Therapeutics, Inc., and has previously held board observer positions in Fluidigm Corporation, Kalobios Pharmaceutical Inc., Broncus Technologies Inc., and Adamas Pharmaceuticals Inc. Dr. Wong has also served as a director of Amaranth Medical Inc. He holds an M.D. from the National University of Singapore.

Board Composition

Our board of directors may establish the authorized number of directors from time to time by resolution. Ten directors are authorized and we currently have nine directors, of which five are designated by the current holders of our preferred stock, three are designated by the current holders of our preferred and common stock, and one also serves as our Chief Executive Officer. Dr. Wong and Mr. Sulat will resign from our board of directors in connection with the closing of our initial public offering. Of the members of our board of directors, Messrs. Baruch, Kelley, Pasternack, Wolf and Dr. Wong are independent directors as defined under the applicable rules and regulations of the Securities and Exchange Commission, or the SEC, and The Nasdaq Stock Market.

Under the terms of our amended and restated certificate of incorporation and the voting agreement among us and the holders of our preferred stock, the members of our board of directors are to be designated as follows: Equilon Enterprises LLC dba Shell Oil Products US, or Shell, has the right to designate two members; Biomedical Sciences Investment Fund Pte Ltd, CMEA Ventures Life Sciences 2000, L.P., FirstMark III, L.P. and Maxygen, Inc., each have the right to designate one member; one member shall be our Chief Executive Officer; and the remainder shall be designated with the consent of the parties holding a majority of the outstanding common and preferred stock. Upon the consummation of this offering, all of these provisions will terminate, except that for a ten-year period Shell will have the right to designate one board member for so long as: Shell holds at least 50% of the total number of shares of common stock issued upon conversion of the preferred stock purchased by Shell, and at least 5% of our fully diluted number of shares of common stock outstanding, and the collaborative research agreement between us and Shell has not expired or been terminated. The designee of Shell will be subject to the reasonable approval of a majority of the members of the board of directors.

In accordance with our amended and restated certificate of incorporation to take effect following the completion of this offering, our board of directors will be divided into three classes with staggered three-year terms. At each annual meeting of stockholders, the successors to directors whose terms then expire will be elected to serve from the time of election and qualification until the third annual meeting following election. After the completion of this offering, our directors will be divided among the three classes as follows:

- the Class I directors will be Bruce Pasternack and Alexander A. Karsner, and their terms will expire at the annual meeting of stockholders to be held in 2011;
- the Class II directors will be Alan Shaw, Thomas R. Baruch and Bernard J. Kelley, and their terms will expire at the annual meeting of stockholders to be held in 2012; and
- the Class III directors will be Chris Streng and Dennis P. Wolf, and their terms will expire at the annual meeting of stockholders to be held in 2013.

Our amended and restated certificate of incorporation will provide that the authorized number of directors may be changed only by resolution of the board of directors. Any additional directorships resulting from an increase in the number of directors will be distributed among the three classes so that, as nearly as possible, each class will consists of one-third of the directors. The division of our board of directors into three classes with staggered three-year terms may delay or prevent a change of our management or a change of control at our company. The role of Chairman of our board of directors is separate from the Chief Executive Officer position, in order to ensure independent leadership of the board of directors. Our board of directors has determined that its structure is appropriate to fulfill its duties effectively and efficiently, so that our Chief Executive Officer can focus on leading our company, while the Chairman can focus on leading the board of directors in overseeing management.

Risk Oversight

Our board of directors generally oversees corporate risk in its review and deliberations relating to our activities, including financial and strategic risk relevant to our operations. In addition, our board of directors regularly reviews information regarding our credit, liquidity and operations, as well as the risks associated with each. The audit committee oversees management of financial risks. The compensation committee is responsible for overseeing the management of risks relating to our executive compensation plans and arrangements and employee retention. The nominating and corporate governance committee manages risks associated with the independence of the board of directors and potential conflicts of interest. While each committee is responsible for evaluating certain risks and overseeing the management of such risks, the entire board of directors is regularly informed through committee reports about such risks. Our board of directors believes its administration of its risk oversight function has not affected the board of directors' leadership structure.

Risk Assessment and Compensation Practices

Our management assessed and discussed with our compensation committee our compensation policies and practices for our employees as they relate to our risk management and, based upon this assessment, we believe that any risks arising from such policies and practices are not reasonably likely to have a material adverse effect on us in the future.

Our employees' base salaries are fixed in amount and thus we do not believe that they encourage excessive risk-taking. While performance-based cash bonuses and sales commissions focus on achievement of short-term or annual goals, which may encourage the taking of short-term or annual risks at the expense of long-term results, we believe that our compensation policies help mitigate this risk and our performance-based cash bonuses and sales commissions are limited, representing a small portion of the total compensation opportunities available to most employees. We also believe that our performance-based cash bonuses and sales commissions appropriately balance risk and the desire to focus our employees on specific short-term goals important to our success, and do not encourage unnecessary or excessive risk-taking.

A significant proportion of the compensation provided to our employees is in the form of long-term equity-based incentives that we believe are important to help further align our employees' interests with those of our stockholders. We do not believe that these equity-based incentives encourage unnecessary or excessive risk taking because their ultimate value is tied to our stock price.

Board Diversity

Our nominating and corporate governance committee is responsible for reviewing with the board of directors, on an annual basis, the appropriate characteristics, skills and experience required for the board of directors as a whole and its individual members. In evaluating the suitability of individual candidates (both new candidates and current members), the nominating and corporate governance committee, in recommending candidates for election, and the board of directors, in approving (and, in the case of vacancies, appointing) such candidates, takes into account many factors, including: personal and professional integrity, ethics and values; experience in corporate management, such as serving as an officer or former officer of a publicly held company; experience in the industries in which we compete; experience as a board member of another publicly held company; diversity of expertise and experience in substantive matters pertaining to our business relative to other board members; conflicts of interest; and practical and mature business judgment. The board of directors evaluates each individual in the context of the board of directors as a whole, with the objective of assembling a group that can best maximize the success of the business and represent stockholder interests through the exercise of sound judgment using its diversity of experience in these various areas.

Board Committees

Our board of directors has the following committees: an audit committee, a compensation committee and a nominating and corporate governance committee. The composition and responsibilities of each committee are described below. Members serve on these committees until their resignation or until otherwise determined by our board of directors.

Audit Committee

Our audit committee oversees our corporate accounting and financial reporting process. Among other matters, the audit committee appoints the independent registered public accounting firm; evaluates the independent registered public accounting firm's qualifications, independence and performance; determines the engagement of the independent registered public accounting firm; reviews and approves the scope of the annual audit and the audit fee; discusses with management and the independent registered public accounting firm the results of the annual audit and the review of our quarterly consolidated financial statements; approves the retention of the independent registered public accounting firm to perform any proposed permissible non-audit services; monitors the rotation of partners of the independent registered public accounting firm on our engagement team as required by law; reviews our consolidated financial statements and our management's discussion and analysis of financial condition and results of operations to be included in our annual and quarterly reports to be filed with the SEC, reviews our critical accounting policies and estimates; and annually reviews the audit committee charter and the committee's performance. The current members of our audit committee are Thomas R. Baruch, Bernard J. Kelley and Dennis P. Wolf. Mr. Wolf serves as the chairman of the committee. All members of our audit committee meet the requirements for financial literacy under the applicable rules and regulations of the SEC and The Nasdaq Stock Market. Our board of directors has determined that Mr. Wolf is an audit committee financial expert as defined under the applicable rules of the SEC and has the requisite financial sophistication as defined under the applicable rules and regulations of The Nasdaq Stock Market. Each of the members of our audit committee, except Mr. Baruch, qualifies as an independent director under the applicable rules and regulations of the SEC and The Nasdaq Stock Market relating to audit committee independence. Within one year from the date of effectiveness of our initial public offering registration statement, our board of directors intends to replace Mr. Baruch as a member of our audit committee with a person who will meet

these heightened independence standards. The audit committee operates under a written charter that satisfies the applicable standards of the SEC and The Nasdaq Stock Market.

Compensation Committee

Our compensation committee reviews and recommends policies relating to compensation and benefits of our officers and employees. The compensation committee reviews and approves corporate goals and objectives relevant to compensation of our Chief Executive Officer and other executive officers, evaluates the performance of these officers in light of those goals and objectives, and sets the compensation of these officers based on such evaluations. The compensation committee also recommends to our board of directors the issuance of stock options and other awards under our stock plans. The compensation committee will review and evaluate, at least annually, the performance of the compensation committee and its members, including compliance of the compensation committee with its charter. The current members of our compensation committee are Thomas R. Baruch, Bernard J. Kelley and Bruce Pasternack. Mr. Pasternack serves as the chairman of the committee. Each of the members of our compensation committee is an independent or outside director under the applicable rules and regulations of the SEC, The Nasdaq Stock Market and the Internal Revenue Code of 1986, as amended, relating to Compensation Committee independence. The compensation committee operates under a written charter.

Nominating and Corporate Governance Committee

The nominating and corporate governance committee is responsible for making recommendations to our board of directors regarding candidates for directorships and the size and composition of our board of directors. In addition, the nominating and corporate governance committee is responsible for overseeing our corporate governance policies and reporting and making recommendations to our board of directors concerning governance matters. The current members of our nominating and corporate governance committee are Thomas R. Baruch, Bruce Pasternack and Dennis P. Wolf. Mr. Baruch serves as the chairman of the committee. Each of the members of our nominating and corporate governance committee is an independent director under the applicable rules and regulations of the SEC and The Nasdaq Stock Market relating to nominating and corporate governance committee independence. The nominating and corporate governance committee operates under a written charter.

There are no family relationships among any of our directors or executive officers.

Compensation Committee Interlocks and Insider Participation

None of the members of our compensation committee has at any time during the prior three years been an officer or employee of ours. None of our executive officers currently serves or in the prior three years has served as a member of the board of directors or compensation committee of any entity that has one or more executive officers serving on our board of directors or compensation committee.

Code of Business Conduct and Ethics

We will adopt a code of business conduct and ethics that applies to all of our employees, officers and directors, including those officers responsible for financial reporting. The code of business conduct and ethics will be available on our website at www.codexis.com. We expect that any amendments to the code, or any waivers of its requirements, will be disclosed on our website.

Director Compensation

In June 2007, our board of directors adopted an Independent Director Compensation Plan pursuant to which those directors designated as directors who are not affiliated with the Company's major stockholders by the board of directors for purposes of the Independent Director Compensation Plan were entitled to receive an annual cash retainer of $35,000, paid in semi-annual installments on June 30 and December 31 of each year, and the reimbursement of any actual out-of-pocket expenses. In addition, the Independent Director Compensation Plan provides for the grant of an annual option to purchase 16,666 shares of our

common stock, to be granted at the first board of directors meeting of each year. These options vest as to 1/4th of the total number of shares subject to the option on the first anniversary of the vesting commencement date, and 1/48th of the total number of shares subject to the option monthly thereafter until all shares are vested, subject to the continued service of the director on the board of directors. Pursuant to the Independent Director Compensation Plan, each of Messrs. Kelley, Pasternack and Wolf were granted an option to purchase 16,666 shares of our common stock on June 2, 2009 with a per share exercise price of $7.46, which our board of directors determined was the per share fair market value of our common stock as of the date of grant.

Following the completion of this offering, each non-employee director shall receive an annual cash retainer of $40,000 per year. Such directors shall also receive an additional annual cash retainer of $8,000 per year for being a member of our compensation committee, except that the chairperson of our compensation committee shall receive an additional annual cash retainer of $16,000 per year. Non-employee directors shall also receive an additional annual cash retainer of $4,000 per year for being a member of our nominating and corporate governance committee, except that the chairperson of our nominating and corporate governance committee shall receive an additional annual cash retainer of $8,000 per year. Non-employee directors shall also receive an additional annual cash retainer of $8,000 per year for being a member of our audit committee, except that the chairperson of our audit committee shall receive an additional annual cash retainer of $16,000 per year.

Upon election to our board of directors, each non-employee director shall receive an initial option grant of an option to purchase 25,000 shares of our common stock with a per share exercise price equal to the per share closing trading price of our common stock on the date of grant. Such initial option grant shall be vested and become exercisable as to 1/4th of the total number of shares subject to the option on the first anniversary of the date the director commences service on our board of directors, with the remainder of the option vesting and becoming exercisable at a rate of one quarter of the total number of shares subject to the option each year thereafter. On the date of each annual meeting of stockholders beginning in 2011, each non-employee director who has served at least six months on our board of directors shall also receive an annual grant of an option to purchase 12,500 shares of our common stock with a per share exercise price equal to the per share closing trading price of our common stock on the date of grant. Such annual option grant shall be vested and become exercisable as to the total number of shares subject to the option on the one year anniversary of the date of grant.

From August 2009, after the termination of employment of our former Chief Financial Officer, until October 31, 2009, Mr. Wolf provided additional services as chairman of the audit committee. Mr. Wolf received $5,000 per week for these additional services, which were limited to advising management on accounting and financial matters.

On December 14, 2009, we entered into a consulting agreement with Mr. Karsner pursuant to which he agreed to provide strategic advisory services related to the energy industry and government policy in connection with our proprietary enzyme and biocatalytic processes. Pursuant to the terms of the agreement, Mr. Karsner is entitled to receive, in his capacity as a consultant, $30,000 per quarter and was granted stock options to purchase 66,666 shares of our common stock at an exercise prices of $9.09 per share, which our directors determined was the per share fair market value of our common stock as of the date of the grant. These options vest at a rate of 1/48th of the total shares subject to the option each month from the date of the agreement, subject to Mr. Karsner's continued service as a consultant. On December 14, 2009, pursuant to the Independent Director Compensation Plan, Mr. Karsner was also granted an option to purchase 16,666 shares of our common stock, also with a per share exercise price of $9.09.

In February 2010, upon the recommendation of our compensation committee, our board of directors approved annual option grants to purchase 16,666 shares of our common stock with a per share exercise price of $10.92 to Messrs. Kelley, Pasternack and Wolf pursuant to the Independent Director Compensation Plan. These options will vest as to 1/4th of the total number of shares subject to the option

on January 1, 2011 and 1/48th of the total number of shares subject to the option monthly thereafter until all shares are vested, subject to their continued service to our company.

Director Compensation Table

The following table sets forth information regarding compensation earned by our non-employee directors during the fiscal year ended December 31, 2009.

Name	Fees Earned or Paid in Cash ($)	Option Awards ($)(1)	All Other Compensation ($)	Total ($)
Thomas R. Baruch	$ —	$ —	$ —	$ —
Bernard J. Kelley	35,000	83,385	—	118,385
Bruce Pasternack	35,000	83,385	—	118,385
Dennis P. Wolf	35,000	83,385	88,000(2)	206,385
Chris Streng	—	—	—	—
Mun Yew Mong, M.D.	—	—	—	—
James R. Sulat	—	—	—	—
Alexander A. Karsner	1,630	625,763(3)	—	627,393

(1) Amount reflects the grant date fair value of options granted in the year ended December 31, 2009 calculated in accordance with Statement of Financial Accounting Standard Board Accounting Standards Codification Topic 718, "Stock Compensation," or ASC Topic 718, other than as set forth in footnote 3. The valuation assumptions used in determining such amounts are described in Note 13 to our financial statements included in this prospectus. As of December 31, 2009, Mr. Kelley, Mr. Pasternack, Mr. Wolf and Mr. Karsner had outstanding option awards to purchase an aggregate of 71,664, 49,998, 49,998 and 83,332 shares, respectively.

(2) Amount includes fees earned for additional services as chairman of the audit committee, which were limited to advising management on accounting and financial matters after the termination of employment of our former Chief Financial Officer on June 30, 2009 until October 31, 2009.

(3) $525,580 of such amount reflects the grant date fair value of options to purchase 66,666 shares of our common stock granted to Mr. Karsner on December 14, 2009 in consideration of his service as a consultant to us, as calculated in accordance with Statement of Financial Accounting Standard Board Accounting Standards Codification Topic 505.50, "Equity-Based Payments to Non-Employees," or ASC Topic 505.50. The remaining $100,183 is the grant date fair value for options granted to Mr. Karsner as a director, also calculated in accordance with ASC Topic 718. The valuation assumptions used in determining such amount are similar to the assumptions described in Note 13 to our financial statements included in this prospectus.

Executive Compensation

Compensation Discussion and Analysis

Our executive compensation program is designed to attract talented individuals to lead, manage and operate all aspects of our business and reward and retain those individuals who continue to meet our high expectations over time. Our executive compensation program combines short- and long-term components, cash and equity, and fixed and contingent payments in the amounts and proportions that we believe are most appropriate to incentivize and reward our executive officers for achieving our objectives. Our executive compensation program also is intended to make us competitive in our industry, where there is considerable competition for talented executives.

Our named executive officers for fiscal year 2009 were Alan Shaw, Ph.D., President and Chief Executive Officer; Robert J. Lawson, Senior Vice President and Chief Financial Officer; Joseph J. Sarret, M.D., J.D., Chief Business Officer and President, Pharmaceutical Services and Enzyme Products; Douglas

T. Sheehy, Senior Vice President, General Counsel and Secretary; David L. Anton, Ph.D., Senior Vice President, Research and Development; and Robert S. Breuil, former Senior Vice President, Finance and Chief Financial Officer. Mr. Breuil's employment with us terminated as of June 30, 2009.

Objectives and Philosophy of Our Executive Compensation Program

Our compensation program for our named executive officers is designed to achieve the following objectives:

- attract, engage and retain individuals of superior ability, experience and managerial talent enabling us to be an employer of choice in our highly-competitive and dynamic industry;
- motivate and reward executives whose knowledge, skills and performance ensure our continued success;
- encourage and inspire our executives to achieve key corporate performance objectives by linking base salary increases and incentive award opportunities to the achievement of individual and company-wide short- and long-term goals; and
- align the interests of our executives and stockholders by motivating executives to increase stockholder value, by providing a significant portion of total compensation opportunities for our executive officers in the form of direct ownership in our company through stock options and other equity awards.

Components of Our Executive Compensation Program

The components of our executive compensation program consist primarily of base salaries, annual cash incentive bonuses, equity awards and broad-based benefits programs. We combine short-term compensation components (such as base salaries and annual cash incentive bonuses) and long-term compensation components (such as equity incentive awards) to provide an overall compensation structure that is designed to both attract and retain key executives as well as provide incentive for the achievement of short- and long-term corporate objectives.

The compensation committee of our board of directors is responsible for evaluating and administering our compensation programs and practices for our executive officers. Our compensation committee uses its judgment and experience and the recommendations of the Chief Executive Officer to determine the appropriate mix of short- and long-term compensation elements for each named executive officer. Short- and long-term compensation elements are balanced to encourage each executive officer to use his or her time and talents to accomplish both our short- and long-term corporate objectives. Our Chief Executive Officer, General Counsel and Vice President of Human Resources each attend our compensation committee meetings to provide input on factors that may influence our compensation committee members' consideration of compensation programs and individual compensation, including individual performance, financial, legal and compensation parity considerations. In addition, our Chief Financial Officer occasionally attends such compensation committee meetings depending on the issues being discussed. Each such officer is not present at the meetings at the time that his or her own compensation is being reviewed by the committee. Our compensation committee analyzes each of the primary elements of our compensation program to ensure that our executives' overall compensation is competitive with executive officers in similar positions at comparable companies in our labor market and to ensure internal compensation parity among our executive officers. Our compensation committee recommends and our board of directors approves equity incentive awards for our employees, including our executive officers.

Our compensation committee determines compensation for our executive officers, including our named executive officers, in large part based upon our financial resources, as well as competitive market data. With regard to annual base salaries and annual cash incentive bonus opportunity targets for fiscal year

2009, our compensation committee reviewed comprehensive compensation data from the Radford Global Life Sciences Survey, which aggregated survey results from 130 biotechnology, pharmaceutical and medical device companies in Northern California with revenues of less than $1 billion. For fiscal year 2009, our compensation committee also reviewed data aggregated and compiled by Compensia, Inc. from a late 2008 survey of a large number of late-stage, pre-IPO life sciences companies. For the purposes of the Compensia survey, late-stage was defined as companies which had raised more than $75 million in capital. While our compensation committee reviewed compensation information from the Radford and Compensia surveys, our compensation committee was not aware of the identity of the surveyed companies and, as such, did not rely on data for any single company.

In late September 2009, based on the recommendation of Compensia, our compensation committee adopted a peer group of companies, which expands beyond life sciences companies and includes public biotechnology, biofuels/chemical and clean technology companies. The peer group for 2010 includes the following companies:

•Affymax Inc.
•Dionex Corporation
•Energy Recovery, Inc.
•Evergreen Energy Inc.
•Exelixis Inc.
•FuelCell Energy, Inc.
•Genomic Health, Inc.
•InterMune, Inc.
•Luminex Corporation
•Martek Biosciences Corporation
•Maxygen, Inc.
•Metabolix, Inc.
•Rentech, Inc.
•SurModics, Inc.
•Symyx Technologies, Inc.
•Verenium Corporation
•XenoPort, Inc.

We believe that the practices of the companies in the surveys we reviewed provide us with appropriate compensation benchmarks because many of these companies have similar organizational structures and tend to compete with us for executives. We work within the general framework of this market-competitive philosophy to determine each component of an executive's compensation package based on numerous factors, including:

- the demand for the particular skill sets we need within the marketplace;
- performance goals and other expectations for the position and the individual;
- the individual's background and relevant expertise, including training and prior relevant work experience;
- the individual's role with us and the compensation paid to similar persons at the companies that participate in the surveys that we review; and
- comparison to other executives within our company having similar levels of expertise and experience.

During 2009, our compensation committee reviewed all aspects of our executive compensation program, including base salaries, annual cash incentive bonuses and equity incentive targets for each of our executive officers. To ensure that top talent could be retained and attracted, in 2009 the compensation committee approved adjustments to our executive compensation program to reflect competitive pressures and ensure internal equity among executives with similar levels of responsibility and authority.

Each of the primary elements of our executive compensation program is discussed in more detail below. While we have identified particular compensation objectives that each element of executive compensation serves, our compensation programs are designed to be flexible and complementary and to collectively serve all of the executive compensation objectives described above. Accordingly, whether or not specifically mentioned below, we believe that, as a part of our overall executive compensation policy, each individual element of our executive compensation program, to a greater or lesser extent, serves each of our objectives as set forth above.

Annual Cash Compensation

Base Salary

The base salaries of all executive officers are reviewed annually and adjusted when necessary to reflect individual roles and performance, and the competitive market. Our compensation committee also reviews each executive's annual base salary in comparison with other executives who are at the same level at our company and seeks parity among executives with similar levels of responsibility and authority. Our compensation committee believes that a competitive base salary is a necessary element of any compensation program designed to attract and retain talented and experienced executives. We also believe that competitive base salaries can motivate and reward executives for their overall performance.

However, in February 2009, in light of the then current economic conditions, our compensation committee decided to freeze all employees' salaries, including our named executive officers, at their 2008 levels, with the exception of increases due to promotions and adjustments for exceptional performance for those employees who had base salaries which fell below the 50th percentile of base salaries for similar positions in the surveys we reviewed. The salary freeze was implemented in light of then-current economic conditions, similar salary freezes taking place at other similar companies in our geographical area and in order to preserve our cash reserves in the face of uncertainty in the financial and credit markets. In February 2009, upon recommendation of our Chief Executive Officer, after determining that Mr. Sheehy had exhibited exceptional performance in 2008 and was paid below the 50th percentile of executives in similar positions in the surveys we reviewed, which was $300,000, the compensation committee increased his base salary by $10,000 to $270,000. In November 2009, our compensation committee increased Mr. Sheehy's base salary from $270,000 to $300,000 in connection with his promotion to Senior Vice President, General Counsel and Secretary, for which the 50th percentile in the surveys we reviewed paid a salary of $303,000 for executives in similar positions. Our compensation committee increased Dr. Anton's base salary from $235,000 to $250,000 in February 2009 and to $270,000 in May 2009 in connection with promotions. Dr. Anton currently serves as Senior Vice President, Research and Development. Our compensation committee also increased Dr. Sarret's base salary from $240,000 to $270,000 in February 2009 and to $320,000 in October 2009 in connection with promotions. Dr. Sarret currently serves as Chief Business Officer and President, Pharmaceutical Services and Enzyme Products. In determining the amount of these salary raises, our compensation committee sought to achieve internal equity by setting salary levels at or near those of other executives with similar levels of responsibilities in the company, as well as external equity, by setting salary levels at or near the 50th percentile of executives in similar positions in the surveys we reviewed. The following table sets forth the base salaries for 2009 for each of our named executive officers and, where applicable, the percentage such salary increased over such executive's base salary as of December 31, 2008, as well as the 50th percentile of salaries paid to executives in similar positions in the surveys we reviewed:

Name of Executive Officer	Increase	50th Percentile(1)	2009 Base Salary Rate
Alan Shaw, Ph.D.	— %	$ 405,000	$ 425,000
Robert J. Lawson	—	311,250	330,000
Douglas T. Sheehy	15.4	303,000	300,000
David L. Anton, Ph.D.	14.9	300,000	270,000
Joseph J. Sarret, M.D., J.D.	33.3	311,250	320,000
Robert S. Breuil	—	295,000(2)	320,000

(1) The 50th percentile information presented is taken as of the most recent review of, or increase in, each executive's base salary level.
(2) Mr. Breuil's base salary was not reviewed in 2009.

In February 2010, again in light of then current economic conditions, our compensation committee decided to freeze all employees' salaries, including our named executive officers, at their 2009 levels, with the exception of increases due to promotions and adjustments for those who fell significantly below the 50 th percentile of base salaries of executives in similar positions in the surveys we reviewed. In February 2010, after determining that Dr. Shaw's current base salary of $425,000 was significantly below that paid to the 50th percentile of executives at his level in the surveys we reviewed, which was $492,900, the compensation committee increased Dr. Shaw's base salary by $35,000 to $460,000. Similarly, in February 2010, upon the recommendation of our Chief Executive Officer, after determining that Dr. Anton's current base salary of $270,000 was significantly below that paid to the 50th percentile of executives at his level in the surveys we reviewed, or $310,600, the compensation committee increased Dr. Anton's base salary by $20,000 to $290,000. The following table sets forth the base salaries for 2010 for each of our named executive officers and, where applicable, the percentage such salary increased over such executive's base salary as of December 31, 2009:

Name of Executive Officer	Increase	2010 Base Salary
Alan Shaw, Ph.D.	8.2%	$ 460,000
Robert J. Lawson	—	330,000
Douglas T. Sheehy	—	300,000
David L. Anton, Ph.D.	7.4	290,000
Joseph J. Sarret, M.D., J.D.	—	320,000

Annual Cash Incentive Bonuses

Our compensation philosophy with respect to annual cash incentive bonuses is consistent with our overall compensation program philosophy. The annual cash incentive bonus is directed at tying individual compensation to both corporate and individual performance while maintaining market-competitive compensation. Performance, as measured against individual and corporate goals, directly affects the level of bonus payment.

Annual Cash Incentive Bonuses for 2009

In June 2009, our compensation committee adopted the 2009 Executive Incentive Compensation Plan, under which the annual cash incentive bonus targets set forth below were used along with corporate and individual performance targets set by our compensation committee.

For 2009, our compensation committee retained the same target bonus percentages as in 2008 for Dr. Shaw and Mr. Breuil. Dr. Anton's bonus target percentage was increased to 30% of his base salary in February 2009 and to 40% of his base salary in May 2009, in connection with promotions. He currently serves as Senior Vice President, Research and Development. Likewise, Mr. Sheehy's target bonus percentage was increased to 40% in connection with his promotion to Senior Vice President, General Counsel and Secretary, which took place in November 2009. Similarly, Dr. Sarret's target bonus percentage was increased to 40% in February 2009 in connection with his promotion to Senior Vice President, Corporate Development. He currently serves as our Chief Business Officer and President, Pharmaceutical Services and Enzyme Products. In setting Dr. Anton's, Mr. Sheehy's and Dr. Sarret's target bonus percentage, our compensation committee considered the target bonus percentages of executives having a similar level of responsibility within our company. Mr. Lawson was not eligible for a bonus in 2009, as he joined our company in November 2009 and the 2009 Executive Incentive Compensation Plan does not permit participation for those who join the company after October 1, 2009. The table below sets forth the annual cash incentive bonus target for each of our named executive officers who was eligible to receive a bonus in 2009:

Name of Executive Officer	2009 Bonus Target (as % of 2009 Base Salary)
Alan Shaw, Ph.D.	50%
Douglas T. Sheehy(1)	31
David L. Anton, Ph.D.(2)	36
Joseph J. Sarret, M.D., J.D.(3)	38

(1) Represents a prorated amount. Mr. Sheehy's bonus target percentage was increased from 30% to 40% in November 2009 in connection with his promotion to Senior Vice President, General Counsel and Secretary.

(2) Represents a prorated amount. Dr. Anton's bonus target percentage was increased first from 25% to 30% in February 2009 in connection with his promotion to Vice President Level II, Bioindustrial Research and Development, and then from 30% to 40% in May 2009 in connection with his promotion to Senior Vice President, Research and Development.

(3) Represents a prorated amount. Dr. Sarret's bonus target percentage was increased from 30% to 40% in February 2009 in connection with his promotion to Senior Vice President, Corporate Development.

The company performance factor is subdivided into two separate factors: (i) the company non-financial performance factor; and (ii) the company financial performance factor. The company financial performance factor is measured based upon our company's achievement of three equally weighted financial goals established by our compensation committee, relating to revenues, earnings before the deduction of interest, tax, depreciation and amortization, or EBITDA, and year-end cash (book value of unrestricted cash and securities). The non-financial performance goals that comprise the company non-financial performance factor include the achievement of certain goals related to our collaboration with Shell, our pharmaceutical and carbon management markets, our strategic plan and improving internal controls. The company financial performance factor represents 45% of the total company performance factor and the company non-financial performance factor represents the other 55%. The company financial performance factor targets for revenues, EBITDA and year-end cash for 2009 were $81.6 million, $(9.1) million and $37.0 million, respectively.

The individual performance factor of the bonus is measured by our Chief Executive Officer's, or in the case of our Chief Executive Officer's performance, our compensation committee's, assessment of the overall performance of each of our executives using individual goals established for each executive by our compensation committee. These individual goals, and the target bonus percentages, are established based on our Chief Executive Officer's and our compensation committee's evaluation of each executive's position within the company, the corporate goals over which that executive has control or influence and the market

practices of the companies in the surveys we reviewed. In setting individual performance factors and target bonus percentages for our named executive officers, our Chief Executive Officer, or in the case of our Chief Executive Officer's factor and target, our compensation committee also considered the target bonus percentages and individual performance factors of executives with similar levels of responsibility within the company to ensure parity between executives at similar position levels. The individual goals that comprise the individual performance factor for any one named executive officer are too numerous for any single individual goal to have a material impact on a named executive officer's total compensation but, taken as a whole, provide our Chief Executive Officer and our compensation committee insight into the individual performance level of our named executive officers. Examples of individual goals include achieving departmental budgets for revenues and margin, meeting sales and/or testing objectives, achieving milestones related to the development of new products, achieving recognition for a product or facility, securing supplies, meeting expansion goals and achieving or maintaining a professional standard. The individual goals that comprise the individual performance factor are set to be difficult to achieve and require above what our compensation committee has determined to be average performance in order to meet the minimum standard. Achievement against the goals set by the compensation committee or the Chief Executive Officer is determined by assessing whether a majority of individual goals were met or exceeded and is subject to upward and downward discretion by the Chief Executive Officer or the compensation committee.

Under the 2009 Executive Incentive Compensation Plan, no bonus is payable if our company achieves less than 80% of any single company financial performance goal, or if the executive's achievement of his individual target is less than 80%. Failure to achieve 80% of any goal that comprises the company non-financial performance factor will result in a zero for that particular goal, but will not alone result in zero total bonus. The maximum company performance factor achievement level is 120%, and there is a direct correlation between actual achievement and the company performance factor. Similarly, the maximum individual performance factor achievement level is 150%, with a direct correlation between individual achievement and the individual performance factor as follows:

Bonus Amount = (Base Salary) x (Target Percentage) x (Company Financial Performance Factor + Company Non-Financial Performance Factor) x (Individual Performance Factor)

In February 2010, our compensation committee determined that the corporate financial performance goals of revenues, EBITDA and year-end cash had been achieved in 2009 at $82.9 million, $(7.3) million and $55.6 million, respectively. These achievement levels yielded a corporate financial performance factor of 52%. Additionally, the compensation committee determined that the corporate non-financial performance goals related to our collaboration with Shell, our pharmaceutical and carbon management markets, our strategic plans and improved internal controls had been achieved at levels yielding a corporate non-financial performance factor of 53%. When combined, the company performance factor was achieved at a level of 105%. In February 2010, our compensation committee further determined that our named executive officers achieved their individual performance goals and awarded them bonuses at the levels in the following table. In determining the individual performance factor achievement, our compensation committee found that each of our named executive officers who had been employed by us throughout 2009 consistently exceeded his individual goals and surpassed each of his performance requirements. While each of our named executive officers was determined by our compensation committee to have achieved their individual performance factors at a level of 140% upon the recommendation of our Chief Executive Officer, the determination of each executive's individual performance factor was based on the achievement of individualized goals set by our Chief Executive Officer and our compensation committee and not all named executive officers had the same achievement with respect to all of their individual goals. Our compensation committee did not review Mr. Lawson's individual performance since he was not eligible for a bonus in 2009.

Name of Executive Officer	Bonus Target (Base Salary x Target %) ($)	2009 Individual Performance Factor (%)	2009 Company Performance Factor (%)	Bonus Payment ($)
Alan Shaw, Ph.D.	$ 212,500	140%	105%	$ 312,375
Douglas T. Sheehy	86,178	140	105	126,682
David L. Anton, Ph.D.	93,529	140	105	137,488
Joseph Sarret, M.D., J.D.	106,400	140	105	156,408

We believe that our annual cash incentive bonus plans help to attract and motivate our executives, and to align the compensation payable to our executives with our corporate objectives, thereby maximizing shareholder value. By evaluating our bonus program for executives each fiscal year, we believe we provide sufficient and attainable incentives for our executives that align with both our financial and non-financial goals.

Equity Incentive Compensation

We believe that our long-term performance is best facilitated through a culture of executive ownership that encourages long-term investment by our executive officers in our equity, thereby better aligning the executives' interests with the interests of our stockholders. To encourage this ownership culture, we typically make an initial equity award of stock options to new employees and periodic grants at other times, as approved by our board of directors. Our compensation committee recommends and our board of directors approves all equity grants to our employees including our executive officers. These grants have an exercise price that is at least equal to the fair market value of our common stock on the date of grant, as determined by our board of directors. Grants of options in 2009 were typically subject to a four-year vesting schedule with 1/4th of the grant vesting upon the first anniversary of the vesting commencement date and the remainder of the shares vesting at a rate of 1/48th of the total shares subject to the option each month after the vesting commencement date, subject to the continued service of the executive officer. Vesting commencement dates generally correlate to the date of hire, date of promotion or date of grant. In keeping with our market-competitive philosophy, our compensation committee established the foregoing vesting schedules for 2009 because it determined such vesting represents market practice in our industry based on the experience of the members of our compensation committee.

The size of the initial stock option award is determined based on the executive's position with us and takes into account the executive's base salary and other compensation as well as an analysis of the grant

and compensation practices of the companies that participate in the surveys that we review in connection with establishing our overall compensation policies. The initial stock option awards are intended to provide the executive with an incentive to build value in the organization over an extended period of time while remaining consistent with our overall compensation philosophy.

In 2009, we considered a number of factors in determining the amount of periodic equity incentive awards, if any, granted to our executives, including:

- the number of shares subject to outstanding options, both vested and unvested, held by our executives;
- the vesting schedule of the unvested stock options held by our executives; and
- the periodic equity incentive award practices observed in the surveys we reviewed.

In February 2009, our compensation committee determined that in order to best serve our retention goals, all 2009 "refresher" stock option grants would vest and become exercisable according to the following schedule: no shares vest until the 24th month following the vesting commencement date, after which 1/24th of the number of shares subject to the grant vest each month. Our named executive officers received the following refresher stock option grants in June 2009, each having an exercise price of $7.46 per share: Dr. Shaw (266,666 shares), Mr. Breuil (66,666 shares), Dr. Anton (23,333 shares), Dr. Sarret (13,333 shares) and Mr. Sheehy (33,333 shares). The size of grant was based on the compensation committee's review of data from surveys we considered, grants made to individuals at similar levels within the Company and correlated with the level of authority and responsibility of the named executive officer. Similar to our initial stock option grants, these refresher grants are intended to continue to provide the executive with an incentive to build value in the organization over an extended period of time while remaining consistent with our overall compensation philosophy. In addition to his refresher grant, Dr. Anton received stock options to purchase 23,333 shares and 33,333 shares of our common stock for an exercise price of $7.46 per share in June 2009, which our board of directors determined was the per share fair market value of our common stock as of the date of grant, in connection with promotions in February and May 2009. He currently serves as our Senior Vice President, Research and Development. In addition to his refresher grant, Dr. Sarret received stock options to purchase 37,000 shares and 120,000 shares of our common stock for exercise prices of $7.46 per share and $9.09 per share, respectively, in June and November 2009, which our board of directors determined was the per share fair market value of our common stock as of the date of grant, in connection with promotions in February and October 2009. He currently serves as our Chief Business Officer and President, Pharmaceutical Services and Enzyme Products. Additionally, Mr. Sheehy received a stock option to purchase 40,666 shares of our common stock for an exercise price of $9.09 per share in November 2009, which our board of directors determined was the per share fair market value of our common stock as of the date of grant, in connection with his promotion to Senior Vice President, General Counsel and Secretary. The size of Dr. Sarret's, Dr. Anton's and Mr. Sheehy's grants was determined based on the relative size of option grants provided to other executive officers.

Mr. Lawson was granted an initial stock option to purchase 266,666 shares of our common stock for an exercise price of $9.09 per share, which our board of directors determined was the per share fair market value of our common stock as of the date of grant, in connection with his commencement of employment with our company in November 2009. The size of Mr. Lawson's initial grant was determined through arm's length negotiations between us and Mr. Lawson in connection with the commencement of his employment with us, and was intended to further compensate Mr. Lawson for the decrease in salary that Mr. Lawson agreed to as compared to the position he held prior to joining our company. Our compensation committee also consulted Compensia regarding the reasonableness of the size of Mr. Lawson's option grant and were advised that the size of Mr. Lawson's initial grant was consistent with ownership levels at other late-stage pre-IPO companies. This award vests and becomes exercisable according to the following schedule: 1/4th of the shares vest on the one year anniversary of the commencement of his employment

with us and the remainder of the shares vest at a rate of 1/48th of the total shares subject to the option each month thereafter, subject to his continued service.

In February and March 2010, upon the recommendation of our compensation committee, our board of directors awarded option grants to certain of our executives, including certain of our named executive officers. While no single factor determined the size of these grants, our compensation committee generally considered the following factors in making such grants: internal equity among executives, the percentage of equity holdings that remain unvested, whether each executive's equity holdings provide adequate incentive and retention value, individual performance, tenure with our company and the critical nature of each executive's role at our company. Our named executive officers received the following grants in the following amounts: Dr. Shaw (266,666 shares), Mr. Lawson (26,666 shares), Mr. Sheehy (33,333 shares), Dr. Anton (53,333 shares) and Dr. Sarret (33,333 shares). The grants to each named executive officer had an exercise price of $10.92 per share, except for Dr. Sarret, whose grant had an exercise price of $11.87 per share. Absent the completion of this offering, these stock options vest and become exercisable with respect to 100% of the shares subject thereto on January 1, 2015; however, upon consummation of this offering, the vesting schedule will revert to our standard vesting schedule, such that 1/4th of the shares subject to the option will vest on January 1, 2011 and the remainder of the shares vest at a rate of 1/48th of the total shares subject to the option each month thereafter, subject to the executive's continued service.

As a privately owned company, there has been no market for our common stock. Accordingly, in 2009, we had no program, plan or practice pertaining to the timing of stock option grants to executive officers coinciding with the release of material non-public information. The compensation committee intends to adopt a formal policy regarding the timing of grants in connection with this offering.

Termination-Based Compensation

Our compensation committee provides our executives with termination protection when it determines that such protection is necessary to attract or retain an executive.

We have entered into change in control agreements with Dr. Shaw, Mr. Breuil, Dr. Sarret, Mr. Lawson and Mr. Sheehy, which provide severance payments and benefits in the event the executive is terminated without cause, resigns with good reason, or terminates for death or disability within 12 months following or, in certain circumstances, when the executive is terminated without cause or resigns with good reason within a short period prior to a change in control of our company, defined generally as our dissolution or liquidation; a sale of all or substantially all of our assets; a merger, acquisition or consolidation in which the beneficial ownership of our securities representing at least 50% of the combined voting power entitled to vote in the election of our directors has changed; or if current members of our board of directors, or their successors if approved by the vote of at least 50% of the current board, cease to constitute at least 50% of our board of directors, each as further set forth in the individual agreements.

The severance payments and benefits that are payable under the change in control agreements are further described below in the section entitled "— Change in Control Agreements."

Other Compensation

All of our executive officers are eligible to participate in certain benefit plans and arrangements offered to employees generally, including health, dental, life and disability insurance and our 401(k) plan. We currently pay in excess of 85% of the monthly premium, with respect to coverage for the employee only portion of coverage for all employees, including our named executive officers, for medical, dental, vision, life and long-term disability insurance. Should medical insurance premium rates increase, employees, including named executive officers, may be required to contribute to the cost of increased premiums to retain coverage. Consistent with our market-competitive compensation philosophy, we intend to continue to maintain these benefit plans and arrangements for our employees, including our executive

officers. Our compensation committee in its discretion may revise, amend or add to any executive's benefits and perquisites if it deems it advisable. We currently do not believe it is necessary for the attraction or retention of management talent to provide the officers with a substantial amount of compensation in the form of perquisites.

Tax Considerations

Section 162(m) of the Internal Revenue Code of 1986, as amended, or the Code, generally disallows a tax deduction for compensation in excess of $1.0 million paid to certain named executive officers. Qualifying performance-based compensation is not subject to the deduction limitation if specified requirements are met. We generally intend to structure the performance-based portion of our executive compensation, when feasible, to comply with exemptions in Section 162(m) so that the compensation remains tax deductible to us. However, our board of directors may, in its judgment, authorize compensation payments that do not comply with the exemptions in Section 162(m) when it believes that such payments are appropriate to attract and retain executive talent.

2009 Summary Compensation Table

The following table summarizes the compensation that we paid to our Chief Executive Officer, Chief Financial Officer and each of our three other most highly compensated executive officers during the year ended December 31, 2009. We refer to these officers in this prospectus as our named executive officers.

Name	Year	Salary ($)	Bonus ($)	Option Awards ($)(1)	Non-Equity Incentive Plan Compensation ($)(2)	All Other Compensation ($)	Total ($)
Alan Shaw, Ph.D., President and Chief Executive Officer	2009	$ 425,000	$ —	$ 1,368,640	$ 312,375	$ 638(3)	$ 2,106,653
	2008	425,000	149,899	—	—	—	574,899
	2007	385,000	—	1,472,329	259,875	—	2,117,204
Robert J. Lawson, Senior Vice President and Chief Financial Officer(4)	2009	55,000	50,000(5)	1,602,640	—	53(3)	1,707,693
Douglas T. Sheehy, Senior Vice President, General Counsel and Secretary	2009	272,660	—	415,483	126,682	638(3)	815,463
	2008	260,000	55,022	—	—	—	315,022
	2007	164,522	—	313,604	79,200	—	557,326
David L. Anton, Ph.D., Senior Vice President, Research & Development	2009	260,308	—	403,265	137,488	1,045(6)	802,106
	2008	176,250	42,019	671,640	—	146,583	1,036,492
Joseph J. Sarret, M.D., J.D., Chief Business Officer and President, Pharmaceutical Services and Enzyme Products	2009	275,417	—	974,735	156,408	6,051(7)	1,412,611
Robert S. Breuil, Former Senior Vice President, Finance and Chief Financial Officer(8)	2009	160,000	—	342,160	—	194,895(9)	697,055
	2008	320,000	72,234	—	—	—	392,234
	2007	288,750	—	577,315	133,908	—	999,973

(1) The amounts included in the "Option Awards" column represent the grant date fair value calculated in accordance with ASC Topic 718. The valuation assumptions used in determining such amounts are described in Note 13 to our consolidated financial statements included in this prospectus.

(2) Amounts reflect bonus payments made pursuant to the 2009 Executive Incentive Bonus Plan. Mr. Lawson was not eligible for the executive incentive compensation plan in 2009. Mr. Breuil did not receive any amount under the 2009 Executive Incentive Bonus Plan as his employment with us terminated prior to December 31, 2009.

(3) Represents long-term disability insurance premiums.

(4) Mr. Lawson joined Codexis as Senior Vice President and Chief Financial Officer in November 2009.

(5) Represents amount paid as new hire bonus of $50,000.

(6) Represents long-term disability insurance premiums of $638 and amount paid to reimburse health club membership of $407.

(7) Represents additional medical benefits of $5,413 and long-term disability premiums of $638.

(8) Mr. Breuil's employment with us terminated effective as of June 30, 2009.

(9) Represents severance pay amounting to $160,000, paid vacation and time-off of $34,257 and long-term disability premiums of $638.

Grants of Plan-Based Awards in 2009 Table

All options granted to our named executive officers are incentive stock options, to the extent permissible under the Code. The exercise price per share of each option granted to our named executive officers was determined to be equal to at least the fair market value of our common stock by our board of directors on the date of the grant. All options were granted under our 2002 Stock Plan, as amended, as described below in the section entitled "— Employee Benefit and Stock Plans — 2002 Stock Plan, as amended."

The following table shows information regarding grants of equity awards during the year ended December 31, 2009 to each of our named executive officers.

Name	Grant Date	Estimated Future Payouts Under Non-Equity Incentive Plan Awards($)(1)			All Other Option Awards; Number of Securities Underlying Options (#)	Exercise or Base Price of Option Awards ($/Share)	Grant Date Fair Value of Option Awards ($)(2)
		Threshold	Target	Maximum			
Alan Shaw, Ph.D.	—	$ 136,000	$ 212,500	$ 382,500	—	$ —	$ —
	6/2/2009	—	—	—	266,666	7.46	5.13
Robert J. Lawson(3)	11/9/2009	—	—	—	266,666	9.09	6.02
Douglas T. Sheehy	—	55,154	86,178	155,121	—	—	—
	6/2/2009	—	—	—	33,333	7.46	5.13
	11/9/2009	—	—	—	40,666	9.09	6.02
David L. Anton, Ph.D.	—	59,859	93,529	168,353	—	—	—
	6/2/2009	—	—	—	23,333	7.46	5.01
	6/2/2009	—	—	—	33,333	7.46	5.01
	6/2/2009	—	—	—	23,333	7.46	5.13
Joseph J. Sarret, M.D., J.D.	—	68,096	106,400	191,520	—	—	—
	6/2/2009	—	—	—	37,000	7.46	5.01
	6/2/2009	—	—	—	13,333	7.46	5.13
	11/9/2009	—	—	—	120,000	9.09	6.02
Robert S. Breuil	6/2/2009	—	—	—	66,666	7.46	5.13

(1) Amounts in the "Estimated Future Payouts Under Non-Equity Incentive Plan Awards" column relate to amounts payable under our Executive Incentive Compensation Plan. The threshold column assumes the achievement of either the corporate or individual goals at the threshold level. The maximum column assumes the maximum achievement for both corporate and individual goals. Actual amounts paid to our named executive officers are set forth in the section titled "— 2009 Summary Compensation Table."

(2) The amount set forth in the "Grant Date Fair Value of Option Awards" column are the per share full grant date fair value of the award determined in accordance with ASC Topic 718. The valuation assumptions used in determining such amounts are described in Note 13 to our consolidated financial statements included in this prospectus.

(3) Employees whose date of hire is after October 1, 2009 are not be eligible for a bonus payout from the 2009 Executive Incentive Compensation Plan. Mr. Lawson joined Codexis in November 2009 and, therefore, he is not eligible to participate in the 2009 Executive Incentive Compensation Plan.

Outstanding Equity Awards at 2009 Fiscal Year-End

The following table shows grants of stock options outstanding on December 31, 2009, the last day of our fiscal year, to each of our named executive officers.

	Option Awards				
Name	Vesting Commencement Date	Number of Securities Underlying Unexercised Options (#) Exercisable(1)	Number of Securities Underlying Unexercised Options (#) Unexercisable(1)	Option Exercise Price ($)	Option Expiration Date
Alan Shaw, Ph.D.	5/16/2003(2)	333,333	—	$ 0.60	5/16/2013
	7/15/2003(3)	33,333	—	0.60	7/15/2013
	1/1/2004	93,333	—	0.60	12/11/2013
	1/1/2005	53,333	—	0.90	1/5/2015
	1/1/2005(4)	13,333	—	0.90	1/5/2015
	10/18/2005	33,333	—	1.05	10/18/2015
	1/1/2006(4)	46,666	—	1.05	12/13/2015
	8/23/2006	120,624	24,126	2.45	1/26/2017
	12/31/2006	108,562	36,188	2.45	1/26/2017
	8/28/2007	131,249	93,751	6.71	8/28/2017
	10/25/2007	62,832	53,168	6.86	10/25/2017
	1/1/2009(6)	—	266,666	7.46	6/2/2019
Robert J. Lawson	11/2/2009	—	266,666	9.09	11/9/2019
Douglas T. Sheehy	4/2/2007	66,666	33,334	2.45	4/19/2017
	8/28/2007	12,832	9,168	6.71	8/28/2017
	10/25/2007	20,222	17,111	6.86	10/25/2017
	1/1/2009(6)	—	33,333	7.46	6/2/2019
	11/9/2009	—	40,666	9.09	11/9/2019
David L. Anton, Ph.D.	3/24/2008	43,749	56,251	11.85	5/22/2018
	1/1/2009(6)	—	23,333	7.46	6/2/2019
	3/1/2009	—	23,333	7.46	6/2/2019
	5/12/2009	—	33,333	7.46	6/2/2019
Joseph J. Sarret, M.D., J.D.	8/1/2005	36,666	—	1.05	8/11/2015
	1/26/2007	38,888	14,445	2.45	1/26/2017
	8/28/2007	11,472	8,194	6.71	8/28/2017
	10/25/2007	21,666	18,334	6.86	10/25/2017
	1/1/2009(6)	—	13,333	7.46	6/2/2019
	3/1/2009	—	37,000	7.46	6/2/2019
	10/16/2009	—	120,000	9.09	11/9/2019
Robert S. Breuil(5)	1/3/2006	170,832	—	1.05	6/30/2012
	1/3/2006	35,447	—	2.45	6/30/2012
	12/31/2006	25,937	—	2.45	6/30/2012
	8/28/2007	32,999	—	6.71	6/30/2012
	10/25/2007	29,999	—	6.86	6/30/2012

(1) Unless otherwise noted, each option vests as to 1/4th of the total number of shares subject to the option on the first anniversary of the vesting commencement date, and 1/48th of the total number of shares subject to the option shall vest monthly thereafter until all shares are vested.

(2) These options vest as to 1/4th of the total number of shares subject to the option on the six month anniversary of the vesting commencement date, and 1/48th of the total number of shares subject to the option shall vest monthly thereafter.

(3) These options vest as to 100% of the total number of shares subject to the option on the fifth anniversary of the vesting commencement date.

(4) These options were fully vested on the date of grant.

(5) Mr. Breuil will be able to exercise his vested stock options until the earliest of (a) June 30, 2012, (b) the closing of a change in control (as defined in the Plan) of our company or (c) the later of (A) the six month anniversary of expiration of any "lock-up" or similar transfer restriction imposed on the shares of any common stock underlying his stock options in connection with this offering and (B) the twelve month anniversary of this offering. Effective June 30, 2009, all of Mr. Breuil's unvested options to purchase 198,447 shares of our common stock were terminated.

(6) These options vest according to the following schedule: no shares vest until the 24th month following the vesting commencement date, after which 1/24th of the number of shares subject to the grant vest each month.

Option Exercises and Stock Vested in 2009

None of our named executive officers exercised stock options during 2009 and none of our named executive officers hold stock awards.

Pension Benefits

We do not maintain any defined benefit pension plans.

Nonqualified Deferred Compensation

We do not maintain any nonqualified deferred compensation plans.

Offer Letter Agreements

We have entered into the following offer letter agreements with our named executive officers.

Alan Shaw, Ph.D. On July 29, 2003, we entered into an offer letter agreement with Dr. Shaw, setting forth the terms and conditions of his employment as our Chief Executive Officer. The offer letter agreement provided for annual base salary of $285,000. The offer letter agreement also provided that for 2003, Dr. Shaw would be eligible to participate in our Executive Bonus Plan for 2003, a performance-based program that allowed for a bonus stock option award based upon achievement of our objectives. In connection with his offer letter agreement, Dr. Shaw was granted an option to purchase shares of common stock of our company in exchange for cancellation of his options to purchase shares of Maxygen, Inc.

Robert J. Lawson. On October 16, 2009, we entered into an offer letter agreement with Mr. Lawson, setting forth the terms and conditions of his employment as our Senior Vice President and Chief Financial Officer. The offer letter agreement provided an annual base salary of $330,000. The offer letter agreement also provided that he is eligible to participate in our Executive Incentive Compensation Plan starting in fiscal year 2010, with a target of 40% of his annualized base salary, and which will be awarded based on the company's, as well as Mr. Lawson's individual, performance. Mr. Lawson also was eligible to receive a sign-on bonus of $50,000, which was contingent upon his starting work with the company on or prior to November 2, 2009. Mr. Lawson will be required to pay back the bonus if he chooses to resign with one year in the following amounts: (i) in full if he resigns within three months of his date of hire, and (ii) prorated monthly if he resigns between three and twelve months after commencing employment. In

connection with Mr. Lawson's commencement of employment, he received an option to purchase 266,666 shares of our common stock for an exercise price per share equal to $9.09, which option vests as to 1/4th of the total number of shares subject to the option on the first anniversary of his commencement of employment, and 1/48th of the total number of shares subject to the option vesting monthly thereafter until all shares are vested. The offer letter also provided that Mr. Lawson would enter into a Change in Control Agreement upon his commencement of employment with our company.

Douglas T. Sheehy. On February 26, 2007, we entered into an offer letter agreement with Mr. Sheehy, setting forth the terms and conditions of his employment as our Vice President, General Counsel and Secretary. The offer letter agreement provided an annual base salary of $220,000. The offer letter also provided that he is eligible to participate in our Executive Incentive Compensation Plan, with a target of 30% of his annualized base salary (prorated to his start date) for 2007, and which will be awarded at the discretion of our board of directors based on the company's performance. Mr. Sheehy also was eligible to receive a signing bonus of up to $40,000, which was to be offset by any 2006 year-end bonus that he received from his previous employer. Because Mr. Sheehy received his full year-end bonus from his previous employer, he did not receive any signing bonus from us. In connection with the offer letter agreement, Mr. Sheehy received an option to purchase 100,000 shares of our common stock for an exercise price per share equal to $2.45, which option vests as to 1/4th of the total number of shares subject to the option on the first anniversary of the vesting commencement date, and 1/48th of the total number of shares subject to the option vesting monthly thereafter until all shares are vested. The offer letter also provided that at the time of the company wide compensation review following December 31, 2007, Mr. Sheehy would receive an option to purchase a minimum of 22,000 shares of our common stock, contingent upon Mr. Sheehy's performance and subject to the approval of our board of directors. In lieu of this option grant, Mr. Sheehy received options to purchase 22,000 and 37,333 shares of our common stock on August 28, 2007 and October 25, 2007, respectively. The offer letter provides for certain benefits payable to Mr. Sheehy in the event of termination following a change in control of our company, as described below in the section entitled "— Change in Control Agreements."

David L. Anton, Ph.D. On February 15, 2008, we entered into an offer letter agreement with Dr. Anton, setting forth the terms and conditions of his employment as our Vice President, Bioindustrial Research and Development. The offer letter agreement provided an annual base salary of $235,000. The offer letter agreement also provided that he is eligible to participate in our Executive Incentive Compensation Plan, with a target of 25% of his annualized base salary (prorated to his start date) for 2008, and which will be awarded at the discretion of our board of directors based on the company's performance. Dr. Anton also was eligible to receive a signing bonus of up to $10,000, which was contingent upon his starting work with the company on or prior to March 24, 2008. In connection with Dr. Anton's commencement of employment, he received an option to purchase 100,000 shares of our common stock for an exercise price per share equal to $11.85, which option vests as to 1/4th of the total number of shares subject to the option on the first anniversary of the vesting commencement date, and 1/48th of the total number of shares subject to the option vesting monthly thereafter until all shares are vested. The offer letter also provided for relocation assistance in an amount to be determined at a later date. When paid, Dr. Anton received a total of $146,583 in relocation assistance.

Joseph J. Sarret, M.D., J.D. On January 25, 2007, we entered into an offer letter agreement with Dr. Sarret, setting forth the terms and conditions of his promotion to Vice President, Corporate Development, which superseded all prior agreements relating to his employment with our company. The offer letter agreement provided an annual base salary of $190,000. The offer letter agreement also provided that he is eligible for a performance-based discretionary cash bonus, prorated to his promotion date, with a target of 20% of his annualized base salary, and which will be awarded based on our corporate, as well as Dr. Sarret's individual, performance. In connection with Dr. Sarret's promotion, he received an option to purchase 53,333 shares of our common stock for an exercise price per share equal to $2.45, which option vests as to 1/4th of the total number of shares subject to the option on the first anniversary of his promotion, and 1/48th of the total number of shares subject to the option vesting monthly thereafter until

all shares are vested. Dr. Sarret's offer letter further provides that his original stock option grant having a vesting commencement date of August 1, 2005, shall continue to vest in accordance with the vesting schedule in the original grant.

Robert S. Breuil. On December 22, 2005, we entered into an offer letter agreement with Mr. Breuil, setting forth the terms and conditions of his employment as our Senior Vice President, Finance and Chief Financial Officer. The offer letter agreement provided for annual base salary of $275,000. Mr. Breuil's offer letter agreement provided that for 2006, he would be eligible to participate in an Executive Bonus Plan, and that the bonus would be paid out in the form of stock options or cash, or a combination of cash and stock options at the discretion of our compensation committee, based upon the achievement of corporate and individual objectives as defined by our Chief Executive Officer and our board of directors, and subject to the final approval of our compensation committee. The offer letter agreement provided that the dollar value of the bonus payout for the Senior Vice President level is 30% of annual base salary.

In connection with the offer letter agreement, Mr. Breuil received an option to purchase 200,000 shares of our common stock for an exercise price per share equal to $1.05, which option vests as to 1/4th of the total number of shares subject to the option on the first anniversary of his employment start date, and 1/48th of the total number of shares subject to the option vesting monthly thereafter until his employment with us is terminated. In addition, the offer letter provided for an additional grant of an option to purchase shares, following the closing of our company's next financing following the date of the offer letter agreement, in a total share amount equal to the amount necessary to make Mr. Breuil's then-total ownership of our company equal to 1.25% of our then fully diluted shares (the "Supplemental Hire Grant"). The offer letter provided that Mr. Breuil would be eligible for periodic stock option grants based upon our company's and his individual performance, with his target total stock and option ownership, including vested and unvested shares, but excluding any option shares granted pursuant to our Executive Bonus Plan, expected to be approximately 1.25% of our fully diluted shares outstanding immediately prior to our filing to complete an initial public offering.

On June 30, 2009, we entered into a Separation Agreement with Mr. Breuil in connection with his resignation of employment with us. Pursuant to the Separation Agreement, in return for a full release of claims against us and our affiliates, we provided Mr. Breuil cash lump sum severance in the amount of $160,000 and reimbursed him for six months of COBRA coverage for him and his dependents. The post-termination exercise period with respect to Mr. Breuil's vested options was also extended to the earliest of (i) the third anniversary of his termination of employment, (ii) the closing of a change in control and (iii) the later of the 12-month anniversary of this offering or the six-month anniversary of the expiration of any lock-up restriction imposed on Mr. Breuil in connection with this offering. Mr. Breuil also agreed to be available to consult with us on a paid and as-needed basis for three months following his termination of employment, and has continued to consult for us beyond that three-month period.

Change in Control Agreements

During 2009, we were party to change in control agreements with Dr. Shaw, Mr. Breuil, Dr. Sarret, Mr. Lawson and Mr. Sheehy. The change in control agreements provide that in the event a named executive officer is terminated without cause or resigns for good reason, each as defined in the agreements, within twelve months following the change in control of our company, the terminated executive officer is entitled, subject to our receipt of a release of claims and a confidential information, secrecy and invention agreement, to the following payments and benefits:

Base salary, payable in a cash lump sum	12 months
Equity award vesting acceleration	100%
Continued healthcare coverage premiums(1)	12 months

(1) If an executive elects to receive continued healthcare coverage pursuant to the provisions of COBRA, the executive will be eligible for reimbursement or direct payment of COBRA coverage premiums for the executive and any dependents. If the executive and/or the executive's dependents become eligible for healthcare coverage under a subsequent employer's plans, payment of coverage premiums will cease.

The following table sets forth quantitative estimates of the benefits that would have accrued to each of our named executive officers if his employment had been terminated on December 31, 2009 by us without cause or for good reason by the named executive officers upon a change in control, assuming that such termination occurred within the period beginning on the effective date of a change in control as specified in the agreement and ending on the last day of the twelfth calendar month following the calendar month in which the effective date of a change in control occurs. Amounts below reflect potential payments pursuant to the change in control agreements for such named executive officers.

Name	Salary Continuation	Value of Accelerated Equity Awards(1)	Value of Continued Healthcare Coverage	Total
Alan Shaw, Ph.D.	$ 425,000	$ 1,804,749	$ 24,347	$ 2,254,096
Robert J. Lawson	330,000	352,000	24,347	706,347
Douglas T. Sheehy	300,000	512,479	24,347	836,826
Joseph J. Sarret, M.D., J.D.	320,000	517,725	13,164	850,889

(1) Amounts calculated based on the aggregate amount by which the fair market value of the common stock subject to unvested equity awards exceeded the aggregate exercise price of the awards as of December 31, 2009.

In addition, during 2009 Dr. Shaw, Mr. Lawson, Dr. Sarret, Mr. Breuil and Mr. Sheehy were entitled to equity award vesting acceleration with respect to that number of shares that would otherwise have vested through the next vesting date following the executive's termination, pro-rated to the date of termination, and continued healthcare coverage premiums for one year from the date of termination, in the event they were terminated for death or disability, both as defined in their respective agreements, within twelve months following a change of control of our company. The value of the accelerated equity awards as of December 31, 2009 were as follows: Dr. Shaw ($25,241), Mr. Lawson ($14,224), Mr. Sheehy ($20,089) and Dr. Sarret ($34,005). Mr. Breuil terminated his employment with the company in June 2009. The value of the continued healthcare coverage premium can be found in the preceding table in the "Value of Continued Healthcare Coverage" column.

Confidentiality Information, Secrecy and Invention Agreements

Each of our named executive officers has entered into a standard form agreement with respect to confidential information, secrecy and inventions. Among other things, this agreement obligates each named executive officer to refrain from disclosing any of our proprietary information received during the course of employment and, with some exceptions, to assign to us any inventions conceived or developed during the course of employment.

Employee Benefit and Stock Plans

2010 Equity Incentive Award Plan

We intend to adopt a 2010 Equity Incentive Award Plan, or the 2010 Plan, which will be effective upon the consummation of this offering. The principal purpose of the 2010 Plan is to attract, retain and motivate selected employees, consultants and directors through the granting of stock-based compensation awards and cash-based performance bonus awards. The 2010 Plan is also designed to permit us to make cash-based awards and equity-based awards intended to qualify as "performance-based compensation" under Section 162(m) of the Internal Revenue Code of 1986, as amended, or the Code.

The principal features of the 2010 Plan are summarized below. This summary is qualified in its entirety by reference to the text of the 2010 Plan, which is filed as an exhibit to the registration statement of which this prospectus is a part.

Share Reserve. Under the 2010 Plan, 1,100,000 shares of our common stock will be initially reserved for issuance pursuant to a variety of stock-based compensation awards, including stock options, stock appreciation rights, or SARs, restricted stock awards, restricted stock unit awards, deferred stock awards, dividend equivalent awards, stock payment awards and performance awards and other stock-based awards, plus the number of shares remaining available for future awards under our 2002 Stock Plan as of the completion of this offering. The number of shares initially reserved for issuance or transfer pursuant to awards under the 2010 Plan will be increased by (i) the number of shares represented by awards outstanding under our 2002 Stock Plan that are forfeited or lapse unexercised and which following the effective date are not issued under the 2002 Stock Plan and (ii) an annual increase on the first day of each fiscal year beginning in 2011 and ending in 2020, equal to the least of (A) 3,000,000 shares, (B) 4% of the shares of stock outstanding (on an as converted basis) on the last day of the immediately preceding fiscal year and (C) such smaller number of shares of stock as determined by our board of directors; provided, however, no more than 40,434,717 shares of stock may be issued upon the exercise of incentive stock options.

The following counting provisions will be in effect for the share reserve under the 2010 Plan:

- to the extent that an award terminates, expires or lapses for any reason or an award is settled in cash without the delivery of shares, any shares subject to the award at such time will be available for future grants under the 2010 Plan;
- to the extent shares are tendered or withheld to satisfy the grant, exercise price or tax withholding obligation with respect to any award under the 2010 Plan, such tendered or withheld shares will be available for future grants under the 2010 Plan;
- to the extent that shares of our common stock are repurchased by us prior to vesting so that shares are returned to us, such shares will be available for future grants under the 2010 Plan;
- the payment of dividend equivalents in cash in conjunction with any outstanding awards will not be counted against the shares available for issuance under the 2010 Plan; and
- to the extent permitted by applicable law or any exchange rule, shares issued in assumption of, or
- in substitution for, any outstanding awards of any entity acquired in any form of combination by us or any of our subsidiaries will not be counted against the shares available for issuance under the 2010 Plan.

Administration. The compensation committee of our board of directors will administer the 2010 Plan unless our board of directors assumes authority for administration. The compensation committee must consist of at least two members of our board of directors, each of whom is intended to qualify as an "outside director," within the meaning of Section 162(m) of the Code, a "non-employee director" for purposes of Rule 16b-3 under the Securities Exchange Act of 1934, as amended, or the Exchange Act, and an "independent director" within the meaning of the rules of The Nasdaq Stock Market, or other principal securities market on which shares of our common stock are traded. The 2010 Plan provides that the compensation committee may delegate its authority to grant awards to employees other than executive officers and certain senior executives of the company to a committee consisting of one or more members of our board of directors or one or more of our officers.

Subject to the terms and conditions of the 2010 Plan, the administrator has the authority to select the persons to whom awards are to be made, to determine the number of shares to be subject to awards and the terms and conditions of awards, and to make all other determinations and to take all other actions necessary

or advisable for the administration of the 2010 Plan. The administrator is also authorized to adopt, amend or rescind rules relating to administration of the 2010 Plan. Our board of directors may at any time remove the compensation committee as the administrator and revest in itself the authority to administer the 2010 Plan. The full board of directors will administer the 2010 Plan with respect to awards to non-employee directors.

Eligibility. Options, SARs, restricted stock and all other stock-based and cash-based awards under the 2010 Plan may be granted to individuals who are then our officers, employees or consultants or are the officers, employees or consultants of certain of our subsidiaries. Such awards also may be granted to our directors. Only employees of our company or certain of our subsidiaries may be granted incentive stock options, or ISOs.

Awards. The 2010 Plan provides that the administrator may grant or issue stock options, SARs, restricted stock, restricted stock units, deferred stock, dividend equivalents, performance awards, stock payments and other stock-based and cash-based awards, or any combination thereof. Each award will be set forth in a separate agreement with the person receiving the award and will indicate the type, terms and conditions of the award.

- *Nonqualified Stock Options*, or NQSOs, will provide for the right to purchase shares of our common stock at a specified price which may not be less than fair market value on the date of grant, and usually will become exercisable (at the discretion of the administrator) in one or more installments after the grant date, subject to the participant's continued employment or service with us and/or subject to the satisfaction of corporate performance targets and individual performance targets established by the administrator. NQSOs may be granted for any term specified by the administrator that does not exceed ten years.
- *Incentive Stock Options*, or ISOs, will be designed in a manner intended to comply with the provisions of Section 422 of the Code and will be subject to specified restrictions contained in the Code. Among such restrictions, ISOs must have an exercise price of not less than the fair market value of a share of common stock on the date of grant, may only be granted to employees, and must not be exercisable after a period of ten years measured from the date of grant. In the case of an ISO granted to an individual who owns (or is deemed to own) at least 10% of the total combined voting power of all classes of our capital stock, the 2010 Plan provides that the exercise price must be at least 110% of the fair market value of a share of common stock on the date of grant and the ISO must not be exercisable after a period of five years measured from the date of grant.
- *Restricted Stock* may be granted to any eligible individual and made subject to such restrictions as may be determined by the administrator. Restricted stock, typically, may be forfeited for no consideration or repurchased by us at the original purchase price if the conditions or restrictions on vesting are not met. In general, restricted stock may not be sold or otherwise transferred until restrictions are removed or expire. Purchasers of restricted stock, unlike recipients of options, will have voting rights and will have the right to receive dividends, if any, prior to the time when the restrictions lapse, however, extraordinary dividends will generally be placed in escrow, and will not be released until restrictions are removed or expire.
- *Restricted Stock Units* may be awarded to any eligible individual, typically without payment of consideration, but subject to vesting conditions based on continued employment or service or on performance criteria established by the administrator. Like restricted stock, restricted stock units may not be sold, or otherwise transferred or hypothecated, until vesting conditions are removed or expire. Unlike restricted stock, stock underlying restricted stock units will not be issued until the restricted stock units have vested, and recipients of restricted stock units generally will have no voting or dividend rights prior to the time when vesting conditions are satisfied.

- *Deferred Stock Awards* represent the right to receive shares of our common stock on a future date. Deferred stock may not be sold or otherwise hypothecated or transferred until issued. Deferred stock will not be issued until the deferred stock award has vested, and recipients of deferred stock generally will have no voting or dividend rights prior to the time when the vesting conditions are satisfied and the shares are issued. Deferred stock awards generally will be forfeited, and the underlying shares of deferred stock will not be issued, if the applicable vesting conditions and other restrictions are not met.
- *Stock Appreciation Rights*, or SARs, may be granted in connection with stock options or other awards, or separately. SARs granted in connection with stock options or other awards typically will provide for payments to the holder based upon increases in the price of our common stock over a set exercise price. The exercise price of any SAR granted under the 2010 Plan must be at least 100% of the fair market value of a share of our common stock on the date of grant. Except as required by Section 162(m) of the Code with respect to a SAR intended to qualify as performance-based compensation as described in Section 162(m) of the Code, there are no restrictions specified in the 2010 Plan on the exercise of SARs or the amount of gain realizable therefrom, although restrictions may be imposed by the administrator in the SAR agreements. SARs under the 2010 Plan will be settled in cash or shares of our common stock, or in a combination of both, at the election of the administrator.
- *Dividend Equivalents* represent the value of the dividends, if any, per share paid by us, calculated with reference to the number of shares covered by the award. Dividend equivalents may be settled in cash or shares and at such times as determined by the compensation committee or board of directors, as applicable.
- *Performance Awards* may be granted by the administrator on an individual or group basis. Generally, these awards will be based upon specific performance targets and may be paid in cash or in common stock or in a combination of both. Performance awards may include "phantom" stock awards that provide for payments based upon the value of our common stock. Performance awards may also include bonuses that may be granted by the administrator on an individual or group basis and which may be payable in cash or in common stock or in a combination of both.
- *Stock Payments* may be authorized by the administrator in the form of common stock or an option or other right to purchase common stock as part of a deferred compensation on other arrangement in lieu of all or any part of compensation, including bonuses, that would otherwise be payable in cash to the employee, consultant or non-employee director.

Change in Control. In the event of a change in control where the acquiror does not assume or replace awards granted, prior to the consummation of such transaction and then the awards will terminate upon consummation of the transaction under the 2010 Plan, awards issued under the 2010 Plan will be subject to accelerated vesting such that 100% of such awards will become vested and exercisable or payable, as applicable. In addition, the administrator will also have complete discretion to structure one or more awards under the 2010 Plan to provide that such awards will become vested and exercisable or payable on an accelerated basis in the event such awards are assumed or replaced with equivalent awards but the individual's service with us or the acquiring entity is subsequently terminated within a designated period following the change in control event. The administrator may also make appropriate adjustments to awards under the 2010 Plan and is authorized to provide for the acceleration, cash-out, termination, assumption, substitution or conversion of such awards in the event of a change in control or certain other unusual or nonrecurring events or transactions. Under the 2010 Plan, a change in control is generally defined as:

- the transfer or exchange in a single or series of related transactions by our stockholders of more than 50% of our voting stock to a person or group;

- a change in the composition of our board of directors over a two-year period such that 50% or more of the members of the board were elected through one or more contested elections;
- a merger, consolidation, reorganization or business combination in which we are involved, directly or indirectly, other than a merger, consolidation, reorganization or business combination which results in our outstanding voting securities immediately before the transaction continuing to represent a majority of the voting power of the acquiring company's outstanding voting securities and after which no person or group beneficially owns 50% or more of the outstanding voting securities of the surviving entity immediately after the transaction;
- the sale, exchange, or transfer of all or substantially all of our assets; or
- stockholder approval of our liquidation or dissolution.

Adjustments of Awards. In the event of any stock dividend, stock split, combination or exchange of shares, merger, consolidation, spin-off, recapitalization, distribution of our assets to stockholders (other than normal cash dividends) or any other corporate event affecting the number of outstanding shares of our common stock or the share price of our common stock that would require adjustments to the 2010 Plan or any awards under the 2010 Plan in order to prevent the dilution or enlargement of the potential benefits intended to be made available thereunder, the administrator will make appropriate, proportionate adjustments to:

- the aggregate number and type of shares subject to the 2010 Plan;
- the number and kind of shares subject to outstanding awards and terms and conditions of outstanding awards (including, without limitation, any applicable performance targets or criteria with respect to such awards); and
- the grant or exercise price per share of any outstanding awards under the 2010 Plan.

Amendment and Termination. Our board of directors or the committee (with board approval) may terminate, amend or modify the 2010 Plan at any time and from time to time. However, we must generally obtain stockholder approval:

- to increase the number of shares available under the 2010 Plan (other than in connection with certain corporate events, as described above);
- to grant options with an exercise price that is below 100% of the fair market value of shares of our common stock on the grant date;
- to extend the exercise period for an option beyond ten years from the date of grant; or
- to the extent required by applicable law, rule or regulation (including any applicable stock exchange rule).

Notwithstanding the foregoing, an option may be amended to reduce the per share exercise price below the per share exercise price of such option on the grant date and options may be granted in exchange for, or in connection with, the cancellation or surrender of options having a higher per share exercise price without receiving additional shareholder approval.

Expiration Date. The 2010 Plan will expire on, and no option or other award may be granted pursuant to the 2010 Plan after, the tenth anniversary of the effective date of the 2010 Plan. Any award that is outstanding on the expiration date of the 2010 Plan will remain in force according to the terms of the 2010 Plan and the applicable award agreement.

Securities Laws and U.S. Federal Income Taxes. The 2010 Plan is designed to comply with various securities and U.S. federal tax laws as follows:

Securities Laws. The 2010 Plan is intended to conform to all provisions of the Securities Act and the Exchange Act and any and all regulations and rules promulgated by the SEC thereunder, including without limitation, Rule 16b-3. The 2010 Plan will be administered, and options will be granted and may be exercised, only in such a manner as to conform to such laws, rules and regulations.

Section 409A of the Code. Certain awards under the 2010 Plan may be considered "nonqualified deferred compensation" for purposes of Section 409A of the Code, which imposes certain additional requirements regarding the payment of deferred compensation. Generally, if at any time during a taxable year a nonqualified deferred compensation plan fails to meet the requirements of Section 409A, or is not operated in accordance with those requirements, all amounts deferred under the 2010 Plan and all other equity incentive plans for the taxable year and all preceding taxable years by any participant with respect to whom the failure relates are includible in gross income for the taxable year to the extent not subject to a substantial risk of forfeiture and not previously included in gross income. If a deferred amount is required to be included in income under Section 409A, the amount also is subject to interest and an additional income tax. The interest imposed is equal to the interest at the underpayment rate plus one percentage point, imposed on the underpayments that would have occurred had the compensation been includible in income for the taxable year when first deferred, or if later, when not subject to a substantial risk of forfeiture. The additional U.S. federal income tax is equal to 20% of the compensation required to be included in gross income. In addition, certain states, including California, have laws similar to Section 409A, which impose additional state penalty taxes on such compensation.

Section 162(m) of the Code. In general, under Section 162(m) of the Code, income tax deductions of publicly held corporations may be limited to the extent total compensation (including, but not limited to, base salary, annual bonus, and income attributable to stock option exercises and other non-qualified benefits) for certain executive officers exceeds $1,000,000 (less the amount of any "excess parachute payments" as defined in Section 280G of the Code) in any taxable year of the corporation. However, under Section 162(m), the deduction limit does not apply to certain "performance-based compensation" established by an independent compensation committee that is adequately disclosed to and approved by stockholders. In particular, stock options and SARs will satisfy the "performance-based compensation" exception if the awards are made by a qualifying compensation committee, the 2010 Plan sets the maximum number of shares that can be granted to any person within a specified period and the compensation is based solely on an increase in the stock price after the grant date. Specifically, the option exercise price must be equal to or greater than the fair market value of the stock subject to the award on the grant date. Under a Section 162(m) transition rule for compensation plans of corporations which are privately held and which become publicly held in an initial public offering, the 2010 Plan will not be subject to Section 162(m) until a specified transition date, which is the earlier of:

- the material modification of the 2010 Plan;
- the issuance of all of the shares of our common stock reserved for issuance under the 2010 Plan;
- the expiration of the 2010 Plan; or
- the first meeting of our stockholders at which members of our board of directors are to be elected that occurs after the close of the third calendar year following the calendar year in which our initial public offering occurs.

After the transition date, rights or awards granted under the 2010 Plan, other than options and SARs, will not qualify as "performance-based compensation" for purposes of Section 162(m) unless such rights or awards are granted or vest upon pre-established objective performance goals, the material terms of

which are disclosed to and approved by our stockholders. Thus, after the transition date, we expect that such other rights or awards under the plan will not constitute performance-based compensation for purposes of Section 162(m).

We intend to file with the SEC a registration statement on Form S-8 covering the shares of our common stock issuable under the 2010 Plan.

2002 Stock Plan, as amended

Our board of directors adopted, and our stockholders approved, the 2002 Stock Plan in November 2002. An aggregate of 10,505,094 shares of our common stock is reserved for issuance under the 2002 Stock Plan. The 2002 Stock Plan provides for the grant of ISOs, NQSOs and stock purchase rights. As of December 31, 2009, options to purchase 7,843,200 shares of our common stock at a weighted average exercise price per share of $5.27 remained outstanding under the 2002 Stock Plan. No stock purchase rights have been granted under the 2002 Stock Plan. As of December 31, 2009, options to purchase 1,553,873 shares of our common stock remained available for future issuance pursuant to awards granted under the 2002 Stock Plan.

Our board of directors, or a committee thereof appointed by our board of directors, has the authority to administer the 2002 Stock Plan and the awards granted under it. Following the completion of this offering, no further awards will be granted under the 2002 Stock Plan; all outstanding awards will continue to be governed by their existing terms.

Stock Options. The 2002 Stock Plan provides for the grant of ISOs under the federal tax laws or NQSOs. ISOs may be granted only to employees. NQSOs and stock purchase rights may be granted to employees, directors or consultants. The exercise price of ISOs granted to employees who at the time of grant own stock representing more than 10% of the voting power of all classes of our common stock may not be less than 110% of the fair market value of our common stock on the date of grant, and the exercise price of ISOs granted to any other employees may not be less than 100% of the fair market value of our common stock on the date of grant. The exercise price of NQSOs to employees, directors or consultants who at the time of grant own stock representing more than 10% of the voting power of all classes of our common stock may not be less than 110% of the fair market value of our common stock on the date of grant, and the exercise price of nonstatutory stock options to all other employees, directors or consultants may not be less than 85% of the fair market value of our common stock on the date of grant. Shares subject to options under the 2002 Stock Plan generally vest in a series of installments over an optionee's period of service, with a minimum vesting rate of at least 20% per year over five years from the date of grant, except with respect to options granted to officers, directors and consultants. This minimum vesting rate does not apply to recipients of options who are tax residents of Germany.

In general, the maximum term of options granted is ten years. The maximum term of options granted to an optionee who owns stock representing more than 10% of the voting power of all classes of our common stock is five years. If an optionee's service relationship with us terminates other than by disability or death, the optionee may exercise the vested portion of any option in such period of time as specified in the optionee's option agreement, but in no event will such period be less than 30 days following the termination of service. If an optionee's service relationship with us terminates by disability or death, the optionee, or the optionee's designated beneficiary, as applicable, may exercise the vested portion of any option in such period of time as specified in the optionee's option agreement, but in no event will such period be less than six months following the termination of service. Shares of common stock representing any unvested portion of the option on the date of termination shall immediately cease to be issuable and shall become available for issuance under the 2002 Stock Plan. If, after termination, the optionee does not exercise the option within the time period specified, the option shall terminate and the shares of common stock covered by such option will become available for issuance under the 2002 Stock Plan.

Stock Purchase Rights. The 2002 Stock Plan provides that we may issue stock purchase rights alone, in addition to or in tandem with options granted under the 2002 Stock Plan and/or cash awards made outside of the 2002 Stock Plan. Any stock purchase rights will be governed by a restricted stock purchase agreement. We will have the right to repurchase shares of common stock acquired by the purchaser upon exercise of a stock purchase right upon the termination of the purchaser's status as an employee, director or consultant for any reason. The repurchase price for shares acquired by the purchaser upon exercise of a stock purchase right shall be the original price paid by the purchaser. Except with respect to shares purchased by officers, directors and consultants, the repurchase option shall lapse at a rate of at least 20% per year over five years from the date of purchase; this term does not apply to stock purchase rights granted to individuals who are tax residents of Germany. Once the stock purchase right is exercised, the purchaser shall have rights equivalent to those of our other stockholders.

Corporate Transactions. In the event of a proposed dissolution or liquidation, the administrator of the 2002 Stock Plan has the discretion to take one or more of the following actions: (a) provide that any option or stock purchase right be made exercisable until 10 days prior to such transaction; and (b) provide that the Company repurchase option applicable to any shares purchased upon exercise of an option or stock purchase right shall lapse as to all such shares. To the extent options and stock purchase rights have not been previously exercised, all such options and stock purchase rights will terminate immediately prior to the consummation of the proposed transaction.

In the event of certain corporate transactions, the administrator of the 2002 Stock Plan shall adjust the number of shares of common stock that may be delivered under the 2002 Stock Plan and/or the number class and price of shares of common stock covered by each outstanding option or stock purchase right.

Change in Control. In the event we undergo a change in control, and any surviving corporation does not assume options or stock purchase rights under the 2002 Stock Plan, or substitute an equivalent option of the successor corporation or a parent or subsidiary of the successor corporation, the vesting of options or stock purchase rights held by participants in the 2002 Stock Plan, shall be accelerated and made fully exercisable. The holder of such options or stock purchase rights not assumed or substituted shall be notified by the 2002 Stock Plan administrator that the option or stock purchase right is fully exercisable for a period of 15 days from the date of such notice, and shall be terminated if not exercised within such 15 day period.

401(k) Plan

In January 2005, we implemented a 401(k) Plan covering certain employees. Currently, all of our U.S.-based employees over the age of 18 are eligible to participate in the 401(k) Plan. Under the 401(k) Plan, eligible employees may elect to reduce their current compensation by up to the lesser of 75% of their base salary and cash compensation or the prescribed annual limit and contribute these amounts to the 401(k) Plan. We may make matching or other contributions to the 401(k) Plan on behalf of eligible employees. In 2009, we did not make any contributions to the 401(k) Plan on behalf of eligible employees. The 401(k) Plan is intended to qualify under Section 401 of the Code so that contributions by employees to the 401(k) Plan, and income earned on the 401(k) Plan contributions, are not taxable to employees until withdrawn from the 401(k) Plan. The trustees under the 401(k) Plan, at the direction of each participant, invest the 401(k) Plan employee salary deferrals in selected investment options.

Limitation on Liability and Indemnification Matters

Our amended and restated certificate of incorporation and amended and restated bylaws, each to be effective upon the completion of this offering, will provide that we will indemnify our directors, officers, employees and agents to the fullest extent permitted by the Delaware General Corporation Law, which prohibits our amended and restated certificate of incorporation from limiting the liability of our directors for the following:

- any breach of the director's duty of loyalty to us or to our stockholders;

- acts or omissions not in good faith or that involve intentional misconduct or a knowing violation of law;
- unlawful payment of dividends or unlawful stock repurchases or redemptions; and
- any transaction from which the director derived an improper personal benefit.

If Delaware law is amended to authorize corporate action further eliminating or limiting the personal liability of a director, then the liability of our directors will be eliminated or limited to the fullest extent permitted by Delaware law, as so amended. Our amended and restated certificate of incorporation does not eliminate a director's duty of care and, in appropriate circumstances, equitable remedies, such as injunctive or other forms of non-monetary relief, remain available under Delaware law. This provision also does not affect a director's responsibilities under any other laws, such as the federal securities laws or other state or federal laws. Under our amended and restated bylaws, we will also be empowered to enter into indemnification agreements with our directors, officers, employees and other agents and to purchase insurance on behalf of any person whom we are required or permitted to indemnify.

In addition to the indemnification required in our amended and restated certificate of incorporation and amended and restated bylaws, we have entered into indemnification agreements with each of our directors, and will enter into new indemnification agreements with each of our current directors, officers, and certain employees before the completion of this offering. These agreements provide for the indemnification of our directors, officers, and certain employees for all reasonable expenses and liabilities incurred in connection with any action or proceeding brought against them by reason of the fact that they are or were our agents. We believe that these provisions in our amended and restated certificate of incorporation and amended and restated bylaws and indemnification agreements are necessary to attract and retain qualified persons as directors and officers. Furthermore, we have obtained director and officer liability insurance to cover liabilities our directors and officers may incur in connection with their services to us. This description of the indemnification provisions of our amended and restated certificate of incorporation, our amended and restated bylaws and our indemnification agreements is qualified in its entirety by reference to these documents, each of which is attached as an exhibit to this registration statement.

The limitation of liability and indemnification provisions in our amended and restated certificate of incorporation and amended and restated bylaws may discourage stockholders from bringing a lawsuit against directors for breach of their fiduciary duties. They may also reduce the likelihood of derivative litigation against directors and officers, even though an action, if successful, might benefit us and our stockholders. A stockholder's investment may be harmed to the extent we pay the costs of settlement and damage awards against directors and officers pursuant to these indemnification provisions. Insofar as indemnification for liabilities arising under the Securities Act may be permitted to our directors, officers and controlling persons pursuant to the foregoing provisions, or otherwise, we have been advised that, in the opinion of the SEC, such indemnification is against public policy as expressed in the Securities Act, and is, therefore, unenforceable. There is no pending litigation or proceeding naming any of our directors or officers as to which indemnification is being sought, nor are we aware of any pending or threatened litigation that may result in claims for indemnification by any director or officer.

Rule 10b5-1 Sales Plans

Our directors and executive officers may adopt written plans, known as Rule 10b5-1 plans, in which they will contract with a broker to buy or sell shares of our common stock on a periodic basis. Under a Rule 10b5-1 plan, a broker executes trades pursuant to parameters established by the director or officer when entering into the plan, without further direction from them. The director or officer may amend or terminate the plan in some circumstances. Our directors and executive officers may also buy or sell additional shares outside of a Rule 10b5-1 plan when they are not in possession of material, nonpublic information.

CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

We describe below transactions, since January 1, 2007, to which we were a party or will be a party, in which:

- The amounts involved exceeded or will exceed $120,000; and
- A director, executive officer, holder of more than 5% of our common stock or any member of their immediate family had or will have a direct or indirect material interest.

Preferred Stock Issuances

Issuance of Series F Preferred Stock

Between March and November 2009, we sold 3,686,271 shares of Series F preferred stock at a price of $12.75 per share for gross proceeds of approximately $47.0 million. The table below sets forth the number of shares of Series F preferred stock sold to our directors, executive officers and 5% stockholders and their affiliates.

Name	Number of Shares of Series F Preferred Stock	Aggregate Purchase Price
Equilon Enterprises LLC dba Shell Oil Products US(1)	2,352,940	$ 30,000,000

(1) Chris Streng is one of our directors and is Vice President Finance Manufacturing for Shell Downstream Inc.

Issuance of Series E Preferred Stock

During November and December 2007, we sold 4,066,866 shares of Series E preferred stock at a price of $12.75 per share for gross proceeds of approximately $51.9 million, and issued an additional 37,646 shares of Series E preferred stock valued at $480,000 to a professional consulting services firm in exchange for their services. The table below sets forth the number of shares of Series E preferred stock sold to our directors, executive officers and 5% stockholders and their affiliates.

Name	Number of Shares of Series E Preferred Stock	Aggregate Purchase Price
Equilon Enterprises LLC dba Shell Oil Products US(1)	2,389,618	$ 30,467,638
CMEA Ventures Life Sciences 2000, L.P.(2) (3)	392,157	5,000,006
FirstMark III, L.P. (formerly, Pequot Private Equity Fund III, LP)(4)	392,156	4,999,998
CTTV Investments LLC	58,824	750,006

(1) Chris Streng is one of our directors and is Vice President Finance Manufacturing for Shell Downstream Inc.

(2) Thomas R. Baruch is one of our directors and a managing director of CMEA Ventures.

(3) Includes 24,314 shares held by CMEA Ventures Life Sciences 2000, Civil Law Partnership, an affiliate of CMEA Ventures Life Sciences 2000, L.P.

(4) Includes 48,451 shares held by FirstMark III Offshore Partners, L.P. (formerly, Pequot Offshore Private Equity Partners III, LP), an affiliate of FirstMark III, L.P.

Registration Rights Agreement

We have entered into an investors' rights agreement with the purchasers of our outstanding preferred stock and certain holders of common stock and warrants to purchase our common stock and preferred stock, including entities with which certain of our directors are affiliated. Additionally, in connection with our acquisition of Jülich Fine Chemicals GmbH we entered into a registration rights agreement with certain stockholders of Jülich who acquired shares of our common stock in connection with the acquisition. As of February 28, 2010, the holders of 25,769,200 shares of our common stock, including the shares of common stock issuable upon the automatic conversion of our preferred stock and shares of common stock issued upon exercise of warrants, are entitled to rights with respect to the registration of their shares under the Securities Act. For a more detailed description of these registration rights, see "Description of Capital Stock — Registration Rights."

Other Transactions

In March 2002, we licensed core enabling technology from Maxygen and commenced operations. The license agreement was amended in September 2002, October 2002 and August 2006. See "Business — License Agreement with Maxygen."

In November 2006, we entered into a research agreement and license agreement with Shell. In November 2007, we entered into a new collaboration under an amended and restated collaborative research agreement and an amended and restated license agreement. Both of these agreements were further amended in March 2009. See "Business — Strategic Collaborations — Shell and Other Biofuels Partners."

In September 2007, we entered into a license agreement with Exela PharmSci, Inc., or Exela, which we amended in December 2009. Under the license agreement, as amended, we and Exela cross-licensed certain technology relating to the manufacture of argatroban, an API, in exchange for rights to certain sublicensing fees or development payments and profit sharing. CMEA Ventures, which, as of February 28, 2010, beneficially owns approximately 10.7% of our common stock, owns approximately 12.6% of Exela's outstanding capital stock. Thomas R. Baruch, one of our directors, also serves on the board of directors of Exela, and is a managing director of CMEA Ventures.

In September 2009, we were awarded a grant by the Economic Development Board of Singapore, or the EDB, to partially support activities in our Singapore facility focusing on pharmaceuticals research and development. Under the terms and conditions of the EDB grant, we must satisfy certain minimum diligence obligations on an annual basis in order to receive disbursements from the EDB. We currently expect to qualify for approximately $7.2 million of the EDB grant through March 31, 2012, the expiration date of such grant, assuming the satisfaction of all relevant diligence obligations. Dr. Mun Yew Wong is one of our directors and is the Director (Investments) for Bio*One Capital Pte Ltd and the San Francisco Centre of EDB Investments Pte Ltd. Both Bio*One Capital Pte Ltd and Biomedical Sciences Investment Fund Pte Ltd, or Bio*One, are wholly owned subsidiaries of EDB Investments Pte Ltd, which is a wholly owned subsidiary of the EDB. As of December 31, 2009, Bio*One beneficially owned approximately 12.0% of our common stock.

We have entered into change of control agreements with certain of our executive officers that, among other things, provide for certain severance and change of control benefits. For a description of these agreements, see "Management — Change in Control Agreements."

We have granted stock options to our executive officers and certain of our directors. For a description of these options, see "Management — Grants of Plan-Based Awards in 2009 Table."

In December 2009, we entered into a consulting agreement with Alexander A. Karsner, one of our directors. Under the consulting agreement, Mr. Karsner agreed to provide certain strategic advisory services related to the energy industry and government relations, as requested by us from time to time, in exchange for cash compensation of $120,000 per year, payable on a quarterly basis. Pursuant to the

consulting agreement, we also granted Mr. Karsner an option to purchase 66,666 shares of our common stock pursuant to our 2002 Stock Plan, which vests monthly as to 1/48th of the total shares subject to the option, provided that Mr. Karsner continues to provide services to us under the consulting agreement. The consulting agreement has a term of four years, but is terminable at any time by either party.

We have entered into indemnification agreements with each of our directors, and will enter into new indemnification agreements with each of our current directors, officers, and certain employees before the completion of this offering. See "Management — Limitation on Liability and Indemnification Matters."

Policies and Procedures for Related Party Transactions

Our board of directors intends to adopt a written related person transaction policy to set forth the policies and procedures for the review and approval or ratification of related person transactions. This policy will cover, with certain exceptions set forth in Item 404 of Regulation S-K under the Securities Act, any transaction, arrangement or relationship, or any series of similar transactions, arrangements or relationships in which we were or are to be a participant, the amount involved exceeds $120,000, and a related person had or will have a direct or indirect material interest, including, without limitation, purchases of goods or services by or from the related person or entities in which the related person has a material interest, indebtedness, guarantees of indebtedness, and employment by us of a related person.

PRINCIPAL STOCKHOLDERS

The following table sets forth information about the beneficial ownership of our common stock at February 28, 2010 (based on the total number of shares of common stock outstanding on February 28, 2010, as adjusted to reflect a 2-for-3 reverse stock split of our common stock and preferred stock to be effected immediately prior to the effectiveness of the registration statement of which this prospectus forms a part and the conversion of all shares of our outstanding preferred stock and assuming the sale of shares of our common stock in this offering) as adjusted to reflect the sale of the shares of common stock in this offering for:

- each person known to us to be the beneficial owner of more than 5% of our common stock;
- each named executive officer and each director; and
- all of our executive officers and directors as a group.

Unless otherwise noted below, the address of each beneficial owner listed on the table is c/o Codexis, Inc., 200 Penobscot Drive, Redwood City, CA 94063. We have determined beneficial ownership in accordance with the rules of the SEC. Except as indicated by the footnotes below, we believe, based on the information furnished to us, that the persons and entities named in the tables below have sole voting and investment power with respect to all shares of common stock that they beneficially own, subject to applicable community property laws.

In computing the number of shares of common stock beneficially owned by a person and the percentage ownership of that person, we deemed outstanding shares of common stock subject to options or warrants held by that person that are currently exercisable or exercisable within 60 days of February 28, 2010. We did not deem these shares outstanding, however, for the purpose of computing the percentage ownership of any other person.

We have based our calculation of the percentage of beneficial ownership prior to the offering on 27,971,636 shares of common stock outstanding on February 28, 2010 (as adjusted to reflect at that date the conversion of all shares of our preferred stock outstanding into 25,239,658 shares of common stock and excluding any additional shares of common stock we may have to issue upon conversion of our Series E preferred stock and Series F preferred stock, as discussed in "Capitalization — Conversion of Our Preferred Stock"). We have based our calculation of the percentage of beneficial ownership after the offering on 33,971,636 shares of our common stock outstanding immediately after the completion of this offering, assuming no exercise of the underwriters' over-allotment option.

	Number of Shares Beneficially Owned		Percentage of Shares Beneficially Owned	
Name and Address of Beneficial Owner	Prior to the Offering	After the Offering	Prior to the Offering	After the Offering
5% Stockholders:				
Maxygen, Inc.(1)	5,987,924	5,987,924	21.38%	17.61%
Equilon Enterprises LLC dba Shell Oil Products US(2)	5,532,050	5,532,050	19.78%	16.28%
Biomedical Sciences Investment Fund Pte Ltd(3)	3,358,522	3,358,522	12.01%	9.89%
Entities affiliated with CMEA Ventures(4)	3,010,262	3,010,262	10.73%	8.84%
Entities affiliated with FirstMark Capital (formerly, Pequot Capital Management)(5)	2,672,938	2,672,938	9.53%	7.85%
CTTV Investments LLC(6)	1,673,564	1,673,564	5.98%	4.92%
Executive Officers and Directors:				
Alan Shaw(7)	1,171,124	1,171,124	4.03%	3.34%
Robert J. Lawson	—	—	—	—
David L. Anton(8)	58,402	58,402	*	*
Joseph J. Sarret(9)	141,460	141,460	*	*
Douglas T. Sheehy(10)	112,998	112,998	*	*
Thomas R. Baruch(11)	3,010,262	3,010,262	10.73%	8.84%
Alexander A. Karsner(12)	22,221	22,221	*	*
Bernard J. Kelley(13)	113,328	113,328	*	*
Bruce Pasternack(14)	66,664	66,664	*	*
Chris Streng	—	—	—	—
James R. Sulat(15)	5,987,924	5,987,924	21.38%	17.61%
Dennis P. Wolf(16)	66,664	66,664	*	*
Mun Yew Wong	—	—	—	—
Robert S. Breuil(17)	295,214	295,214	1.04%	*
All executive officers and directors as a group (14 persons)	11,046,261	11,046,261	36.8%	30.67%

* Represents beneficial ownership of less than 1% of the outstanding shares of our common stock.

(1) Includes 30,816 shares that may be acquired pursuant to the exercise of a warrant held prior to this offering by Maxygen, Inc.

(2) In February 2010, Shell International Petroleum Company Limited, or Shell International, an affiliate of Equilon Enterprises LLC dba Shell Oil Products US, announced that it had signed a non-binding memorandum of understanding with Cosan S.A. with the intention of forming a joint venture in Brazil for the production of ethanol, sugar and power, and the supply, distribution and retail of transportation fuels. According to the announcement, if the joint venture is consummated, Shell International would contribute to the joint venture, among other assets, Shell's equity interest in us.

(3) Biomedical Sciences Investment Fund Pte Ltd, or Bio*One, is wholly-owned by EDB Investments Pte Ltd, which is wholly-owned by the Economic Development Board of Singapore. No individual has beneficial ownership over shares held by Bio*One. Voting and investment decisions relating to

these securities are made by the board of directors of Bio*One, which is currently comprised of Ms. Chu Swee Yeok and Mr. Beh Kian Teik. The board of directors of Bio*One acts by majority vote and no board member may act individually to vote or sell these securities.

(4) Includes (i) 2,736,958 shares and 86,718 shares that may be acquired pursuant to the exercise of a warrant held prior to this offering by CMEA Ventures Life Sciences 2000, L.P. and (ii) 180,856 shares and 5,730 shares that may be acquired pursuant to the exercise of a warrant held prior to this offering by CMEA Ventures Life Sciences 2000, Civil Law Partnership. CMEA Ventures LS Management 2000, L.P. is the general partner of CMEA Ventures Life Sciences 2000, L.P. and the managing limited partner of CMEA Ventures Life Sciences 2000, Civil Law Partnership. David Collier, Karl Handelsman and Thomas R. Baruch are the general partners of CMEA Ventures LS Management 2000, L.P. and as such, have voting and dispositive power over these shares. Each disclaims beneficial ownership of the shares and warrants held by these entities except to the extent of any pecuniary interest therein.

(5) Includes (i) 2,288,678 shares and 54,017 shares that may be acquired pursuant to the exercise of a warrant held prior to this offering by FirstMark III, L.P. and (ii) 322,629 shares and 7,614 shares that may be acquired pursuant to the exercise of a warrant held prior to this offering by FirstMark III Offshore Partners, L.P. FirstMark Capital, LLC, or FirstMark, is the investment manager/advisor of, and exercises sole investment discretion over, FirstMark III, L.P. and FirstMark III Offshore Partners, L.P., and as such, has voting and dispositive power over these shares. Lawrence D. Lenihan, Jr. is the chief executive officer and a managing member of FirstMark, and Gerald A. Poch is the chairman and a managing member of FirstMark. As such, each of Mr. Lenihan and Mr. Poch have voting and dispositive power over these shares. Each of Mr. Lenihan and Mr. Poch disclaim beneficial ownership of the shares and shares underlying warrants held by these entities, except to the extent of each of his pecuniary interest therein.

(6) Includes 30,816 shares that may be acquired pursuant to the exercise of a warrant held prior to this offering by CTTV Investments LLC. CTTV Investments LLC, or CTTV, is wholly owned by Chevron Technology Ventures LLC, or Chevron Technology Ventures, and the ultimate beneficial owner of shares held by CTTV is Chevron Corporation. No individual has beneficial ownership of the shares held by CTTV. Voting and investment decisions relating the securities owned by CTTV are made by an investment committee of the venture capital business unit of Chevron Technology Ventures, which consists of the Corporate Vice President and Chief Technology Officer, Corporate Controller and General Manager of Mergers and Acquisitions, with such positions currently being held by John McDonald, Mark Humphrey and Mark Menke, respectively.

(7) Includes (i) 47,534 shares held by Alan Shaw, Trustee of The Alan Shaw 2008 Annuity Trust, dated June 20, 2008, (ii) 44,132 shares held by The Shaw Living Trust Agreement and (iii) 1,079,458 shares issuable pursuant to stock options exercisable within 60 days of February 28, 2010.

(8) Includes 58,402 shares issuable pursuant to stock options exercisable within 60 days of February 28, 2010.

(9) Includes (i) 13,333 shares held by Joseph Sarret as Trustee UTD 5/30/00 and (ii) 128,127 shares issuable pursuant to stock options exercisable within 60 days of February 28, 2010.

(10) Includes 112,998 shares issuable pursuant to stock options exercisable within 60 days of February 28, 2010.

(11) Includes (i) 2,736,958 shares and 86,718 shares that may be acquired pursuant to the exercise of a warrant held prior to this offering by CMEA Ventures Life Sciences 2000, L.P. and (ii) 180,856 shares and 5,730 shares that may be acquired pursuant to the exercise of a warrant held prior to this offering by CMEA Ventures Life Sciences 2000, Civil Law Partnership. CMEA Ventures LS Management 2000, L.P. is the general partner of CMEA Ventures Life Sciences 2000, L.P. and the

managing limited partner of CMEA Ventures Life Sciences 2000, Civil Law Partnership. Mr. Baruch is a general partner of CMEA Ventures LS Management 2000, L.P. and as such, has voting and dispositive power over these shares. Mr. Baruch disclaims beneficial ownership of the shares and warrants held by these entities except to the extent of his pecuniary interest therein.

(12) Includes 22,221 shares issuable pursuant to stock options exercisable within 60 days of February 28, 2010. Such options are vested as to 5,555 shares, and the remaining 16,666 shares, if the options are exercised, would be subject to a right of repurchase within 60 days of February 28, 2010, at the original option exercise price of $9.09 per share in the event Mr. Karsner ceases to provide services to us.

(13) Includes 88,330 shares issuable pursuant to stock options exercisable within 60 days of February 28, 2010. Such options are vested as to 49,790 shares, and the remaining 39,540 shares, if the options are exercised, would be subject to a right of repurchase within 60 days of February 28, 2010, at the original option exercise price, in the event Mr. Kelley ceases to provide services to us. The option exercise prices range from $1.05 to $10.92 per share.

(14) Includes 66,664 shares issuable pursuant to stock options exercisable within 60 days of February 28, 2010. Such options are vested as to 25,692 shares, and the remaining 40,972 shares, if the options are exercised, would be subject to a right of repurchase within 60 days of February 28, 2010, at the original option exercise price, in the event Mr. Pasternack ceases to provide services to us. The option exercise prices range from $6.71 to $10.92 per share.

(15) Includes 5,957,108 shares and 30,816 shares that may be acquired pursuant to the exercise of a warrant held prior to this offering by Maxygen, Inc. Mr. Sulat is the Chief Executive Officer, Chief Financial Officer and a member of the board of directors of Maxygen and may be deemed to be the beneficial owner of our securities held by Maxygen. Mr. Sulat disclaims beneficial ownership of all our securities held by Maxygen, except to the extent of his pecuniary interest therein. Mr. Sulat will resign from our board of directors in connection with the closing of our initial public offering.

(16) Includes 66,664 shares issuable pursuant to stock options exercisable within 60 days of February 28, 2010. Such options are vested as to 24,303 shares, and the remaining 42,361 shares, if the options are exercised, would be subject to a right of repurchase within 60 days of February 28, 2010, at the original option exercise price, in the event Mr. Wolf ceases to provide services to us. The option exercise prices range from $7.46 to $10.92 per share.

(17) Includes 295,214 shares issuable pursuant to stock options exercisable within 60 days of February 28, 2010.

DESCRIPTION OF CAPITAL STOCK

General

Upon the completion of this offering, we will have authorized under our amended and restated certificate of incorporation 100,000,000 shares of common stock, $0.0001 par value per share, and 5,000,000 shares of preferred stock, $0.0001 par value per share. The following information assumes a 2-for-3 reverse stock split of our common stock and preferred stock to be effected immediately prior to the effectiveness of the registration statement of which this prospectus forms a part, the filing of our amended and restated certificate of incorporation and the conversion of all outstanding shares of our preferred stock into shares of common stock upon the completion of this offering, and excludes any additional shares of common stock we may have to issue upon conversion of our Series E preferred stock and Series F preferred stock, as discussed in "Capitalization — Conversion of Our Preferred Stock."

As of December 31, 2009, there were outstanding:

- 27,909,280 shares of our common stock held by approximately 110 stockholders; and
- 7,886,532 shares of our common stock issuable upon exercise of outstanding stock options.

The following description of our capital stock and provisions of our amended and restated certificate of incorporation and amended and restated bylaws to be in effect upon the completion of this offering are summaries. Copies of these documents have been filed with the SEC as exhibits to our registration statement, of which this prospectus forms a part. The descriptions of the common stock and preferred stock reflect changes to our capital structure that will occur upon the closing of this offering. Currently, there is no established public trading market for our common stock.

Common Stock

Voting Rights

Each holder of our common stock is entitled to one vote for each share on all matters submitted to a vote of the stockholders, including the election of directors. Our stockholders do not have cumulative voting rights in the election of directors. Accordingly, holders of a majority of the voting shares are able to elect all of the directors.

Dividends

Subject to preferences that may be applicable to any then outstanding preferred stock, holders of our common stock are entitled to receive dividends, if any, as may be declared from time to time by our board of directors out of legally available funds.

Liquidation

In the event of our liquidation, dissolution or winding up, holders of our common stock will be entitled to share ratably in the net assets legally available for distribution to stockholders after the payment of all of our debts and other liabilities and the satisfaction of any liquidation preference granted to the holders of any then outstanding shares of preferred stock.

Rights and Preferences

Holders of our common stock have no preemptive, conversion, subscription or other rights, and there are no redemption or sinking fund provisions applicable to our common stock. The rights, preferences and privileges of the holders of our common stock are subject to and may be adversely affected by the rights of the holders of shares of any series of our preferred stock that we may designate in the future.

Preferred Stock

Upon the completion of this offering, our board of directors will have the authority, without further action by our stockholders, to issue up to 5,000,000 shares of preferred stock in one or more series and to fix the rights, preferences, privileges and restrictions thereof. These rights, preferences and privileges could include dividend rights, conversion rights, voting rights, terms of redemption, liquidation preferences, sinking fund terms and the number of shares constituting any series or the designation of such series, any or all of which may be greater than the rights of common stock. The issuance of our preferred stock could adversely affect the voting power of holders of common stock and the likelihood that such holders will receive dividend payments and payments upon liquidation. In addition, the issuance of preferred stock could have the effect of delaying, deferring or preventing a change of control of our company or other corporate action. Upon completion of this offering, no shares of preferred stock will be outstanding, and we have no present plan to issue any shares of preferred stock.

Warrants

The following table sets forth information about outstanding warrants to purchase shares of our stock as of December 31, 2009. Upon completion of this offering, the warrants to purchase shares of our Series D preferred stock will automatically convert into warrants to purchase our common stock.

Class of Stock	Number of Shares	Exercise Price/Share	Expiration Date
Common	30,784	$ 0.60	02/12/2011
Common	6,066	1.05	10/25/2012
Common	2,384	12.45	02/09/2016
Series D preferred stock	215,711	5.96	05/25/2013
Series D preferred stock	72,727	8.25	09/28/2017

Registration Rights

We are party to an investor's agreement which provides that holders of our preferred stock and our founding stockholder, Maxygen, have the right to demand that we file a registration statement or request that their shares be covered by a registration statement that we are otherwise filing. In the event that we propose to register any of our securities under the Securities Act, either for our own account or for the account of other security holders, these holders are entitled to notice of such registration and are entitled to certain "piggyback" registration rights allowing the holder to include their common stock in such registration, subject to certain marketing and other limitations. Pursuant to the investor's rights agreement, the holders of common stock issuable upon conversion of our preferred stock have the right upon the earlier of 180 days after the completion of this offering and March 4, 2012 to require us, on not more than two occasions, to file a registration statement under the Securities Act in order to register the resale of their shares of common stock with an anticipated aggregate offering price, net of underwriting discounts and commissions, of at least ten million dollars. We may, in certain circumstances, defer such registrations and any underwriters will have the right, subject to certain limitations, to limit the number of shares included in such registrations. Further, these holders may require us to register the resale of all or a portion of their shares on a registration statement on Form S-3 once we are eligible to use Form S-3, subject to certain conditions and limitations. In an underwritten offering, the underwriter, has the right, subject to specified conditions, to limit the number of registrable securities such holders may include. Additionally, the holders of registration rights have waived their rights to include any of their shares in this offering prior to the completion of this offering.

In connection with our acquisition of Jülich Fine Chemicals GmbH in February 2005, we entered into a registration rights agreement with certain stockholders of Jülich who acquired shares of our common stock in connection with the acquisition. If we propose to register any of our securities under the Securities Act, these stockholders are entitled to notice of such registration and are entitled to certain "piggyback" registration rights allowing the holder to include their common stock in such registration, subject to certain

marketing and other limitations. In an underwritten offering, the underwriter, has the right, subject to specified conditions, to limit the number of registrable securities such holders may include. The holders of these registration rights have waived their rights to include any of their shares in this offering prior to the completion of this offering.

Anti-Takeover Provisions

Certificate of Incorporation and Bylaws to be in Effect Upon the Completion of this Offering

Our amended and restated certificate of incorporation to be in effect upon the completion of this offering will provide for our board of directors to be divided into three classes, with staggered three-year terms. Only one class of directors will be elected at each annual meeting of our stockholders, with the other classes continuing for the remainder of their respective three-year terms. Because our stockholders do not have cumulative voting rights, our stockholders holding a majority of the shares of common stock outstanding will be able to elect all of our directors. Our amended and restated certificate of incorporation and amended and restated bylaws to be effective upon the completion of this offering will provide that all stockholder action must be effected at a duly called meeting of stockholders and not by a consent in writing, and that only our board of directors, chairman of the board, chief executive officer, or president (in the absence of a chief executive officer) may call a special meeting of stockholders.

Our amended and restated certificate of incorporation will require a 66 2/3% stockholder vote for the amendment, repeal or modification of certain provisions of our amended and restated certificate of incorporation and amended and restated bylaws relating to the classification of our board of directors, the requirement that stockholder actions be effected at a duly called meeting, and the designated parties entitled to call a special meeting of the stockholders. The combination of the classification of our board of directors, the lack of cumulative voting and the 66 2/3% stockholder voting requirements will make it more difficult for our existing stockholders to replace our board of directors as well as for another party to obtain control of us by replacing our board of directors. Because our board of directors has the power to retain and discharge our officers, these provisions could also make it more difficult for existing stockholders or another party to effect a change in management. In addition, the authorization of undesignated preferred stock makes it possible for our board of directors to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to change our control.

These provisions may have the effect of deterring hostile takeovers or delaying changes in our control or management. These provisions are intended to enhance the likelihood of continued stability in the composition of our board of directors and its policies and to discourage certain types of transactions that may involve an actual or threatened acquisition of us. These provisions are designed to reduce our vulnerability to an unsolicited acquisition proposal. The provisions also are intended to discourage certain tactics that may be used in proxy fights. However, such provisions could have the effect of discouraging others from making tender offers for our shares and, as a consequence, they also may inhibit fluctuations in the market price of our shares that could result from actual or rumored takeover attempts. Such provisions may also have the effect of preventing changes in our management.

Section 203 of the Delaware General Corporation Law

We are subject to Section 203 of the Delaware General Corporation Law, which prohibits a Delaware corporation from engaging in any business combination with any interested stockholder for a period of three years after the date that such stockholder became an interested stockholder, with the following exceptions:

- before such date, the board of directors of the corporation approved either the business combination or the transaction that resulted in the stockholder becoming an interested holder;
- upon completion of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation

outstanding at the time the transaction began, excluding for purposes of determining the voting stock outstanding (but not the outstanding voting stock owned by the interested stockholder) those shares owned (i) by persons who are directors and also officers and (ii) employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or

- on or after such date, the business combination is approved by the board of directors and authorized at an annual or special meeting of the stockholders, and not by written consent, by the affirmative vote of at least 66 2/3% of the outstanding voting stock that is not owned by the interested stockholder.

In general, Section 203 defines business combination to include the following:

- any merger or consolidation involving the corporation and the interested stockholder;
- any sale, transfer, pledge or other disposition of 10% or more of the assets of the corporation involving the interested stockholder;
- subject to certain exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;
- any transaction involving the corporation that has the effect of increasing the proportionate share of the stock or any class or series of the corporation beneficially owned by the interested stockholder; or
- the receipt by the interested stockholder of the benefit of any loss, advances, guarantees, pledges or other financial benefits by or through the corporation.

In general, Section 203 defines an "interested stockholder" as an entity or person who, together with the person's affiliates and associates, beneficially owns, or is an affiliate or associate of the corporation and within three years prior to the time of determination of interested stockholder status did own, 15% or more of the outstanding voting stock of the corporation.

Limitations of Liability and Indemnification Matters

For an in depth discussion of liability and indemnification, please see "Management — Limitation on Liability and Indemnification Matters."

The Nasdaq Global Market Listing

We have applied to have our common stock approved for listing on The Nasdaq Global Market under the symbol "CDXS."

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Wells Fargo Bank, National Association.

SHARES ELIGIBLE FOR FUTURE SALE

Prior to this offering, there has been no public market for our common stock. Future sales of our common stock in the public market, or the availability of such shares for sale in the public market, could adversely affect market prices prevailing from time to time. As described below, only a limited number of shares will be available for sale shortly after this offering due to contractual and legal restrictions on resale. Nevertheless, sales of our common stock in the public market after such restrictions lapse, or the perception that those sales may occur, could adversely affect the prevailing market price at such time and our ability to raise equity capital in the future.

Based on the number of shares of common stock outstanding as of December 31, 2009, upon completion of this offering, 33,909,280 shares of common stock will be outstanding, assuming no exercise of the underwriters' over-allotment option and no exercise of options or warrants and excluding any additional shares of common stock we may have to issue upon conversion of our Series E preferred stock and Series F preferred stock, as discussed in "Capitalization — Conversion of Our Preferred Stock." All of the shares sold by us in this offering will be freely tradable unless purchased by our affiliates. The remaining 27,909,280 shares of common stock outstanding after this offering will be restricted as a result of securities laws or lock-up agreements as described below. Following the expiration of the lock-up period, all shares will be eligible for resale in compliance with Rule 144 or Rule 701 to the extent such shares have been released from any repurchase option that we may hold. "Restricted securities" as defined under Rule 144 were issued and sold by us in reliance on exemptions from the registration requirements of the Securities Act. These shares may be sold in the public market only if registered or pursuant to an exemption from registration, such as Rule 144 or Rule 701 under the Securities Act.

Rule 144

In general, under Rule 144 of the Securities Act, as in effect on the date of this prospectus, a person (or persons whose shares are aggregated) who has beneficially owned restricted stock for at least six months, will be entitled to sell in any three-month period a number of shares that does not exceed the greater of:

- 1% of the number of shares of common stock then outstanding (339,092 shares immediately after this offering or 348,092 shares if the underwriters' over-allotment option is exercised in full); or
- the average weekly trading volume of our common stock on The Nasdaq Global Market during the four calendar weeks immediately preceding the date on which the notice of sale is filed with the SEC.

Sales pursuant to Rule 144 are subject to requirements relating to manner of sale, notice and availability of current public information about us. A person (or persons whose shares are aggregated) who is not deemed to be an affiliate of ours for 90 days preceding a sale, and who has beneficially owned restricted stock for at least one year is entitled to sell such shares without complying with the manner of sale, public information, volume limitation or notice provisions of Rule 144. Rule 144 will not be available to any stockholders until we have been subject to the reporting requirements of the Exchange Act for 90 days.

Rule 701

Rule 701 under the Securities Act, as in effect on the date of this prospectus, permits resales of shares in reliance upon Rule 144 but without compliance with certain restrictions of Rule 144, including the holding period requirement. Most of our employees, executive officers or directors who purchased shares under a written compensatory plan or contract may be entitled to rely on the resale provisions of Rule 701, but all holders of Rule 701 shares are required to wait until 90 days after the date of this prospectus before selling their shares. However, substantially all Rule 701 shares are subject to lock-up agreements as described below and under "Underwriting" included elsewhere in this prospectus and will become eligible for sale upon the expiration of the restrictions set forth in those agreements.

Lock-up Agreements

We, along with our directors, executive officers and substantially all of our other security holders have agreed with the underwriters that for a period of 180 days following the date of this prospectus, we or they will not offer, sell, contract to sell, pledge, or otherwise dispose of, directly or indirectly, any shares of common stock or any securities convertible into or exercisable or exchangeable for shares of common stock, or enter into any swap, hedge or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of the common stock whether any of these transactions are to be settled by delivery of our common stock or other securities, in cash or otherwise, or publicly disclose the intention to make any offer, sale, pledge or disposition, or to enter into any transaction, swap, hedge or other arrangement, subject to specified exceptions. Credit Suisse Securities (USA) LLC may, in its sole discretion, at any time without prior notice, release all or any portion of the shares from the restrictions in any such agreement.

The 180-day restricted period described in the preceding paragraph will be extended if:

- during the last 17 days of the 180-day restricted period we issue an earnings release or material news or a material event relating to us occurs; or
- prior to the expiration of the 180-day restricted period, we announce that we will release earnings results during the 16-day period beginning on the last day of the 180-day period,

in which case the restrictions described in the preceding paragraph will continue to apply until the expiration of the 18-day period beginning on the issuance of the release or the occurrence of the material news or material event, unless such extension is waived, in writing, by Credit Suisse Securities (USA) LLC on behalf of the underwriters. Notwithstanding its execution of a "lock-up" agreement in the form described above, if the proposed joint venture between Shell International Petroleum Company Limited and Cosan S.A. is consummated, Shell may make a one-time transfer of all of its securities during the "lock-up" period to the joint venture. If such a transfer of securities is made by Shell prior to the expiration of the "lock-up" period, the joint venture will become subject to the same restrictions on transfer as described above.

Registration Rights

We are party to an investor rights agreement which provides that holders of our preferred stock and our founding stockholders have the right to demand that we file a registration statement or request that their shares be covered by a registration statement that we are otherwise filing. We are also party to a registration rights agreement with certain former stockholders of Jülich Fine Chemicals GmbH, which we acquired in February 2005, who are entitled to certain "piggyback" registration rights. See "Description of Capital Stock — Registration Rights." Except for shares purchased by affiliates, registration of their shares under the Securities Act would result in these shares becoming freely tradable without restriction under the Securities Act immediately upon effectiveness of the registration, subject to the expiration of the lock-up period and to the extent such shares have been released from any repurchase option that we may hold.

Stock Plans

As soon as practicable after the completion of this offering, we intend to file a Form S-8 registration statement under the Securities Act to register shares of our common stock subject to options outstanding or reserved for issuance under our 2002 Stock Plan and our 2008 Incentive Award Plan. This registration statement will become effective immediately upon filing, and shares covered by this registration statement will thereupon be eligible for sale in the public markets, subject to Rule 144 limitations applicable to affiliates and any lock-up agreements. For a more complete discussion of our stock plans, see "Management — Employee Benefit and Stock Plans."

MATERIAL UNITED STATES FEDERAL INCOME TAX CONSEQUENCES TO NON-U.S. HOLDERS

The following is a summary of material United States federal income tax consequences to non-U.S. holders (as defined below) of the acquisition, ownership and disposition of our common stock issued pursuant to this offering. This discussion is not a complete analysis of all of the potential United States federal income tax consequences relating thereto, nor does it address any estate and gift tax consequences or any tax consequences arising under any state, local or foreign tax laws, or any other United States federal tax laws. This discussion is based on the Internal Revenue Code of 1986, as amended, or the Code, Treasury Regulations promulgated thereunder, judicial decisions, and published rulings and administrative pronouncements of the Internal Revenue Service, or IRS, all as in effect as of the date of this offering. These authorities may change, possibly retroactively, resulting in United States federal income tax consequences different from those discussed below. No ruling has been or will be sought from the IRS with respect to the matters discussed below, and there can be no assurance that the IRS will not take a contrary position regarding the tax consequences of the acquisition, ownership or disposition of our common stock, or that any such contrary position would not be sustained by a court.

This discussion is limited to non-U.S. holders who purchase our common stock issued pursuant to this offering and who hold our common stock as a "capital asset" within the meaning of Section 1221 of the Code (for example, property held for investment). This discussion does not address all of the United States federal income tax consequences that may be relevant to a particular holder in light of such holder's particular circumstances. This discussion also does not consider any specific facts or circumstances that may be relevant to holders subject to special rules under the United States federal income tax laws, including, without limitation:

- U.S. expatriates or former long-term residents of the United States;
- partnerships or other pass-through entities;
- real estate investment trusts;
- regulated investment companies;
- "controlled foreign corporations," "passive foreign investment companies" corporations that accumulate earnings to avoid United States federal income tax;
- banks, insurance companies, or other financial institutions;
- brokers, dealers, or traders in securities, commodities or currencies;
- tax-exempt organizations;
- tax-qualified retirement plans;
- persons subject to the alternative minimum tax; or
- persons holding our common stock as part of a hedging or conversion transaction or straddle, or a constructive sale, or other risk reduction strategy.

PROSPECTIVE INVESTORS ARE URGED TO CONSULT THEIR TAX ADVISORS REGARDING THE PARTICULAR UNITED STATES FEDERAL INCOME TAX CONSEQUENCES TO THEM OF ACQUIRING, OWNING AND DISPOSING OF OUR COMMON STOCK, AS WELL AS ANY TAX CONSEQUENCES ARISING UNDER ANY STATE, LOCAL OR FOREIGN TAX LAWS AND ANY OTHER UNITED STATES FEDERAL TAX LAWS.

Definition of Non-U.S. Holder

For purposes of this discussion, a non-U.S. holder is any beneficial owner of our common stock that is not a "U.S. person" or a partnership (or other entity treated as a partnership) for United States federal income tax purposes. A U.S. person is any of the following:

- an individual citizen or resident of the United States;
- a corporation (or other entity treated as a corporation for United States federal income tax purposes) created or organized under the laws of the United States, any state therein or the District of Columbia;
- an estate the income of which is subject to United States federal income tax regardless of its source; or
- a trust (1) the administration of which is subject to the primary supervision of a United States court and all substantial decisions of which are controlled by one or more United States persons or (2) that has a valid election in effect under applicable Treasury Regulations to be treated as a U.S. person.

Distributions on Our Common Stock

If we make cash or other property distributions on our common stock, such distributions will constitute dividends for United States federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under United States federal income tax principles. Amounts not treated as dividends for United States federal income tax purposes will constitute a return of capital and will first be applied against and reduce a holder's adjusted tax basis in the common stock, but not below zero. Distributions in excess of our current and accumulated earnings and profits and in excess of a non-U.S. holder's tax basis in its shares will be treated as gain realized on the sale or other disposition of the common stock and will be treated as described under "Gain on Disposition of Our Common Stock" below.

Dividends paid to a non-U.S. holder of our common stock will be subject to United States federal withholding tax at a rate of 30% of the gross amount of the dividends, or such lower rate specified by an applicable income tax treaty. To receive the benefit of a reduced treaty rate, a non-U.S. holder must furnish to us or our paying agent a valid IRS Form W-8BEN (or applicable successor form) certifying such holder's qualification for the reduced rate. This certification must be provided to us or our paying agent prior to the payment of dividends and must be updated periodically. Non-U.S. holders that do not timely provide us or our paying agent with the required certification, but which qualify for a reduced treaty rate, may obtain a refund of any excess amounts withheld by timely filing an appropriate claim for refund with the IRS.

If a non-U.S. holder holds our common stock in connection with the conduct of a trade or business in the United States, and dividends paid on the common stock are effectively connected with such holder's United States trade or business, and, if required by an applicable income tax treaty, attributable to a permanent establishment maintained by the non-U.S. holder in the United States, the non-U.S. holder will be exempt from United States federal withholding tax. To claim the exemption, the non-U.S. holder must furnish to us or our paying agent a properly executed IRS Form W-8ECI (or applicable successor form).

Any dividends paid on our common stock that are effectively connected with a non-U.S. holder's United States trade or business (and if required by an applicable income tax treaty, attributable to a permanent establishment maintained by the non-U.S. holder in the United States) will be subject to United States federal income tax on a net income basis at the regular graduated United States federal income tax rates in much the same manner as if such holder were a resident of the United States, unless an

applicable income tax treaty provides otherwise. A non-U.S. holder that is a foreign corporation also may be subject to a branch profits tax equal to 30% (or such lower rate specified by an applicable income tax treaty) of a portion of its effectively connected earnings and profits for the taxable year, as adjusted for certain items. Non-U.S. holders are urged to consult any applicable income tax treaties that may provide for different rules.

A non-U.S. holder who claims the benefit of an applicable income tax treaty will be required to satisfy applicable certification and other requirements prior to the distribution date. Non-U.S. holders should consult their tax advisors regarding their entitlement to benefits under a relevant income tax treaty.

Gain on Disposition of Our Common Stock

A non-U.S. holder will not be subject to United States federal income tax on any gain realized upon the sale or other disposition of our common stock, unless:

- the gain is effectively connected with the non-U.S. holder's conduct of a trade or business in the United States, and if required by an applicable income tax treaty, attributable to a permanent establishment maintained by the non-U.S. holder in the United States;
- the non-U.S. holder is a nonresident alien individual present in the United States for 183 days or more during the calendar year of the disposition, and certain other requirements are met; or
- our common stock constitutes a "United States real property interest" by reason of our status as a United States real property holding corporation, or USRPHC, for United States federal income tax purposes at any time within the shorter of the five-year period preceding the disposition or the non-U.S. holder's holding period for our common stock. The determination of whether we are a USRPHC depends on the fair market value of our United States real property interests relative to the fair market value of our other trade or business assets and our foreign real property interests.

We believe we are not currently and do not anticipate becoming a USRPHC for United States federal income tax purposes. Even if we become a USRPHC, however, so long as our common stock is regularly traded on an established securities market, such common stock will be treated as U.S. real property interests only if the non-U.S. holder actually or constructively holds more than 5% of our common stock.

Unless an applicable income tax treaty provides otherwise, gain described in the first bullet point above will be subject to United States federal income tax on a net income basis at the regular graduated United States federal income tax rates in much the same manner as if such holder were a resident of the United States. Further, non-U.S. holders that are foreign corporations also may be subject to a branch profits tax equal to 30% (or such lower rate specified by an applicable income tax treaty) of a portion of its effectively connected earnings and profits for the taxable year, as adjusted for certain items.

Gain described in the second bullet point above will be subject to United States federal income tax at a flat 30% rate (or such lower rate specified by an applicable income tax treaty), but may be offset by United States source capital losses (even though the individual is not considered a resident of the United States).

Non-U.S. holders are urged to consult any applicable income tax treaties that may provide for different rules.

Information Reporting and Backup Withholding

We must report annually to the IRS and to each non-U.S. holder the amount of distributions on our common stock paid to such holder and the amount of any tax withheld with respect to those distributions. These information reporting requirements apply even if no withholding was required because the distributions were effectively connected with the holder's conduct of a United States trade or business, or withholding was reduced or eliminated by an applicable income tax treaty. This information also may be made available under a specific treaty or agreement with the tax authorities in the country in which the

non-U.S. holder resides or is established. Backup withholding, currently at a 28% rate, may apply to distribution payments to a non-U.S. holder of our common stock and information reporting and backup withholding may apply to the payments of the proceeds of a sale of our common stock within the United States or through certain U.S.-related financial intermediaries, unless the non-U.S. holder furnishes to us or our paying agent the required certification as to its non-U.S. status, such as by providing a valid IRS Form W-8BEN or IRS Form W-8ECI, or certain other requirements are met. Notwithstanding the foregoing, backup withholding may apply if either we have or our paying agent has actual knowledge, or reason to know, that the holder is a U.S. person that is not an exempt recipient.

Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules may be allowed as a refund or a credit against a non-U.S. holder's United States federal income tax liability, provided the required information is timely furnished to the IRS.

New Legislation Relating to Foreign Accounts

Newly enacted legislation may impose withholding taxes on certain types of payments made to "foreign financial institutions" and certain other non-U.S. entities. Under this legislation, the failure to comply with additional certification, information reporting and other specified requirements could result in withholding tax being imposed on payments of dividends and sales proceeds to foreign intermediaries and certain non-U.S. Holders. The legislation imposes a 30% withholding tax on dividends on, or gross proceeds from the sale or other disposition of, our common stock paid to a foreign financial institution or to a foreign non-financial entity, unless (i) the foreign financial institution undertakes certain diligence and reporting obligations or (ii) the foreign non-financial entity either certifies it does not have any substantial United States owners or furnishes identifying information regarding each substantial United States owner. If the payee is a foreign financial institution, it must enter into an agreement with the United States Treasury requiring, among other things, that it undertake to identify accounts held by certain United States persons or United States-owned foreign entities, annually report certain information about such accounts, and withhold 30% on payments to account holders whose actions prevent it from complying with these reporting and other requirements. The legislation would apply to payments made after December 31, 2012. Prospective investors should consult their tax advisors regarding this legislation.

UNDERWRITING

Under the terms and subject to the conditions contained in an underwriting agreement dated , 2010 we have agreed to sell to the underwriters named below, for whom Credit Suisse Securities (USA) LLC, Piper Jaffray & Co., RBC Capital Markets Corporation and Pacific Crest Securities LLC are acting as representatives, the following respective numbers of shares of common stock:

Underwriter	Number of Shares
Credit Suisse Securities (USA) LLC	
Piper Jaffray & Co.	
RBC Capital Markets Corporation	
Pacific Crest Securities LLC	
Total	6,000,000

The underwriting agreement provides that the underwriters are obligated to purchase all the shares of common stock in the offering if any are purchased, other than those shares covered by the over-allotment option described below. The underwriting agreement also provides that if an underwriter defaults, the purchase commitments of non-defaulting underwriters may be increased or the offering may be terminated.

We have granted to the underwriters a 30-day option to purchase on a pro rata basis up to 900,000 additional shares of common stock, at the initial public offering price, less the underwriting discounts and commissions. The option may be exercised only to cover any over-allotments of common stock.

The underwriters propose to offer the shares of common stock initially at the public offering price on the cover page of this prospectus and to selling group members at that price less a selling concession of $ per share. The underwriters and selling group members may allow a discount of $ per share on sales to other broker/dealers. After the initial public offering the representatives may change the public offering price and concession and discount to broker/dealers.

The following table summarizes the compensation and estimated expenses we will pay:

	Per Share		Total	
	Without Over-allotment	With Over-allotment	Without Over-allotment	With Over-allotment
Underwriting discounts and commissions paid by us	$	$	$	$
Expenses payable by us	$	$	$	$

The representatives have informed us that they do not expect sales to accounts over which the underwriters have discretionary authority to exceed 5% of the shares of common stock being offered.

We have agreed that we will not offer, sell, contract to sell, pledge or otherwise dispose of, directly or indirectly, or file with the SEC a registration statement under the Securities Act relating to, any shares of our common stock or securities convertible into or exchangeable or exercisable for any shares of our common stock, or publicly disclose the intention to make any offer, sale, pledge, disposition or filing, without the prior written consent of Credit Suisse Securities (USA) LLC, the Lead Representative, for a period of 180 days after the date of this prospectus, except issuances pursuant to the exercise of warrants or employee stock options outstanding on the date hereof or grants of employee stock options pursuant to the terms of a plan in effect on the date hereof. However, in the event that either (1) during the last 17 days of the “lock-up” period, we release earnings results or material news or a material event relating to us occurs or (2) prior to the expiration of the “lock-up” period, we announce that we will release earnings results during the 16-day period beginning on the last day of the “lock-up” period, then in either case the expiration of the “lock-up” will be extended until the expiration of the 18-day period beginning on the date

of the release of the earnings results or the occurrence of the material news or event, as applicable, unless the Lead Representative waives, in writing, such an extension.

Our officers and directors and holders of substantially all of our outstanding securities have agreed that they will not offer, sell, contract to sell, pledge or otherwise dispose of, directly or indirectly, any shares of our common stock or securities convertible into or exchangeable or exercisable for any shares of our common stock, enter into a transaction that would have the same effect, or enter into any swap, hedge or other arrangement that transfers, in whole or in part, any of the economic consequences of ownership of our common stock, whether any of these transactions are to be settled by delivery of our common stock or other securities, in cash or otherwise, or publicly disclose the intention to make any offer, sale, pledge or disposition, or to enter into any transaction, swap, hedge or other arrangement, without, in each case, the prior written consent of the Lead Representative for a period of 180 days after the date of this prospectus, except transfers of shares of our common stock or securities convertible into or exchangeable or exercisable for shares of our common stock by will or intestate succession, in connection with a bona fide gift or in distributions or transfers to limited partners, members, affiliates or stockholders of a security holder, provided that in each case the transferee agrees to be subject to the terms of the lock-up. However, in the event that either (1) during the last 17 days of the "lock-up" period, we release earnings results or material news or a material event relating to us occurs or (2) prior to the expiration of the "lock-up" period, we announce that we will release earnings results during the 16-day period beginning on the last day of the "lock-up" period, then in either case the expiration of the "lock-up" will be extended until the expiration of the 18-day period beginning on the date of the release of the earnings results or the occurrence of the material news or event, as applicable, unless the Lead Representative waives, in writing, such an extension. Notwithstanding the foregoing, our officers and directors may enter into a written trading plan established pursuant to Rule 10b5-1 of the Exchange Act during the "lock-up" period, and we may announce the establishment of such a plan, provided that no direct or indirect offers, pledges, sales, contracts to sell, sales of any option or contract to purchase, purchases of any option or contract to sell, grants of any option, right or warrant to purchase, loans, or other transfers or disposals of any shares of our common stock or any securities convertible into or exercisable or exchangeable for shares of our common stock may be effected pursuant to such plan during the "lock-up" period. Notwithstanding its execution of a "lock-up" agreement in the form described above, if the proposed joint venture between Shell International Petroleum Company Limited and Cosan S.A. is consummated, Shell may make a one-time transfer of all of its securities during the "lock-up" period to the joint venture. If such a transfer of securities is made by Shell prior to the expiration of the "lock-up" period, the joint venture will become subject to the same restrictions on transfer as described above.

We have agreed to indemnify the underwriters against liabilities under the Securities Act, or contribute to payments that the underwriters may be required to make in that respect.

Prior to this offering, there has been no public market for our common stock. The initial public offering price has been negotiated among us and the representatives. The factors to be considered in determining the initial public offering price of the shares of our common stock, in addition to prevailing market conditions, will be our historical performance, estimates of our business potential and earnings prospects, an assessment of our management and the consideration of the above factors in relation to market valuation of companies in related businesses. We have applied to list the shares of our common stock on The Nasdaq Global Market, under the symbol "CDXS."

Certain of the underwriters and their respective affiliates have, from time to time, performed, and may in the future perform, various financial advisory and investment banking services for the company, for which they received or will receive customary fees and expenses.

In connection with the offering, the underwriters may purchase and sell shares of our common stock in the open market. These transactions may include short sales, stabilizing transactions and purchases to cover positions created by short sales. Short sales involve the sale by the underwriters of a greater number of shares than they are required to purchase in the offering. "Covered" short sales are sales made in an amount not

greater than the underwriters' over-allotment option to purchase additional shares from us in the offering. The underwriters may close out any covered short position by either exercising their over-allotment option to purchase additional shares or purchasing shares in the open market. In determining the source of shares to close out the covered short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market as compared to the price at which they may purchase additional shares pursuant to the over-allotment option granted to them. "Naked" short sales are any sales in excess of such option. The underwriters must close out any naked short position by purchasing shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of the common stock in the open market after pricing that could adversely affect investors who purchase in the offering. Stabilizing transactions consist of various bids for or purchases of common stock made by the underwriters in the open market prior to the completion of the offering.

The underwriters may also impose a penalty bid. This occurs when a particular underwriter repays to the underwriters a portion of the underwriting discount received by it because the representatives have repurchased shares sold by or for the account of such underwriter in stabilizing or short covering transactions.

Purchases to cover a short position and stabilizing transactions, as well as other purchases by the underwriters for their own accounts, may have the effect of preventing or retarding a decline in the market price of the company's stock, and together with the imposition of the penalty bid, may stabilize, maintain or otherwise affect the market price of the common stock. As a result, the price of the common stock may be higher than the price that otherwise might exist in the open market. If these activities are commenced, they may be discontinued at any time. These transactions may be effected on The Nasdaq Global Market, in the over-the-counter market or otherwise.

A prospectus in electronic format may be made available on the web sites maintained by one or more of the underwriters, or selling group members, if any, participating in this offering and one or more of the underwriters participating in this offering may distribute prospectuses electronically. The representatives may agree to allocate a number of shares to underwriters and selling group members for sale to their online brokerage account holders. Internet distributions will be allocated by the underwriters and selling group members that will make internet distributions on the same basis as other allocations.

In relation to each Member State of the European Economic Area which has implemented the Prospectus Directive (each, a Relevant Member State), each underwriter has represented and agreed that with effect from and including the date on which the Prospectus Directive is implemented in that Relevant Member State (the Relevant Implementation Date) it has not made and will not make an offer of shares to the public in that Relevant Member State prior to the publication of a prospectus in relation to the shares which has been approved by the competent authority in that Relevant Member State or, where appropriate, approved in another Relevant Member State and notified to the competent authority in that Relevant Member State, all in accordance with the Prospectus Directive, except that it may, with effect from and including the Relevant Implementation Date, make an offer of shares to the public in that Relevant Member State at any time:

(a) to legal entities which are authorised or regulated to operate in the financial markets or, if not so authorised or regulated, whose corporate purpose is solely to invest in securities;

(b) to any legal entity which has two or more of (1) an average of at least 250 employees during the last financial year; (2) a total balance sheet of more than 43,000,000 Euro and (3) an annual net turnover of more than 50,000,000 Euro, as shown in its last annual or consolidated accounts;

(c) to fewer than 100 natural or legal persons (other than qualified investors as defined in the Prospectus Directive) subject to obtaining the prior consent of the representatives for any such offer; or

(d) in any other circumstances which do not require the publication by the company of a prospectus pursuant to Article 3 of the Prospectus Directive.

For the purposes of this provision, the expression an "offer of shares to the public" in relation to any shares in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and the shares to be offered so as to enable an investor to decide to purchase or subscribe the shares, as the same may be varied in that Relevant Member State by any measure implementing the Prospectus Directive in that Relevant Member State and the expression Prospectus Directive means Directive 2003/71/EC and includes any relevant implementing measure in each Relevant Member State.

Each underwriter has represented and agreed that:

- it has only communicated or caused to be communicated and will only communicate or cause to be communicated an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the Financial Services and Market Act 2000 (as amended), or the FSMA) received by it in connection with the issue or sale of the shares in circumstances in which Section 21(1) of the FSMA would not apply to the company; and
- it has complied and will comply with all applicable provisions of the FSMA with respect to anything done by it in relation to the shares in, from or otherwise involving the United Kingdom.

The shares may not be offered or sold by means of any document other than (i) in circumstances which do not constitute an offer to the public within the meaning of the Companies Ordinance (Cap.32, Laws of Hong Kong), or (ii) to "professional investors" within the meaning of the Securities and Futures Ordinance (Cap.571, Laws of Hong Kong) and any rules made thereunder, or (iii) in other circumstances which do not result in the document being a "prospectus" within the meaning of the Companies Ordinance (Cap.32, Laws of Hong Kong), and no advertisement, invitation or document relating to the shares may be issued or may be in the possession of any person for the purpose of issue (in each case whether in Hong Kong or elsewhere), which is directed at, or the contents of which are likely to be accessed or read by, the public in Hong Kong (except if permitted to do so under the laws of Hong Kong) other than with respect to shares which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" within the meaning of the Securities and Futures Ordinance (Cap. 571, Laws of Hong Kong) and any rules made thereunder.

This prospectus has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, this prospectus and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the shares may not be circulated or distributed, nor may the shares be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than (i) to an institutional investor under Section 274 of the Securities and Futures Act, Chapter 289 of Singapore, or the SFA, (ii) to a relevant person, or any person pursuant to Section 275(1A), and in accordance with the conditions, specified in Section 275 of the SFA or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

Where the shares are subscribed or purchased under Section 275 by a relevant person which is: (a) a corporation (which is not an accredited investor) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or (b) a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary is an accredited investor, shares, debentures and units of shares and debentures of that corporation or the beneficiaries' rights and interest in that trust shall not be transferable for six months after that corporation or that trust has acquired the shares under Section 275 except: (1) to an institutional investor under Section 274 of the SFA or to a relevant person, or any person pursuant to Section 275(1A), and in accordance with the conditions, specified in Section 275 of the SFA; (2) where no consideration is given for the transfer; or (3) by operation of law.

The securities have not been and will not be registered under the Securities and Exchange Law of Japan (the Securities and Exchange Law) and each underwriter has agreed that it will not offer or sell any securities, directly or indirectly, in Japan or to, or for the benefit of, any resident of Japan (which term as used herein means any person resident in Japan, including any corporation or other entity organized under the laws of Japan), or to others for re-offering or resale, directly or indirectly, in Japan or to a resident of Japan, except pursuant to an exemption from the registration requirements of, and otherwise in compliance with, the Securities and Exchange Law and any other applicable laws, regulations and ministerial guidelines of Japan.

NOTICE TO CANADIAN RESIDENTS

Resale Restrictions

The distribution of our common stock in Canada is being made only on a private placement basis exempt from the requirement that we prepare and file a prospectus with the securities regulatory authorities in each province where trades of common stock are made. Any resale of our common stock in Canada must be made under applicable securities laws which will vary depending on the relevant jurisdiction, and which may require resales to be made under available statutory exemptions or under a discretionary exemption granted by the applicable Canadian securities regulatory authority. Purchasers are advised to seek legal advice prior to any resale of our common stock.

Representations of Purchasers

By purchasing our common stock in Canada and accepting a purchase confirmation a purchaser is representing to us and the dealer from whom the purchase confirmation is received that:

- the purchaser is entitled under applicable provincial securities laws to purchase our common stock without the benefit of a prospectus qualified under those securities laws,
- where required by law, that the purchaser is purchasing as principal and not as agent,
- the purchaser has reviewed the text above under the heading “Resale Restrictions,” and
- the purchaser acknowledges and consents to the provision of specified information concerning its purchase of our common stock to the regulatory authority that by law is entitled to collect the information.

Further details concerning the legal authority for this information is available on request.

Rights of Action — Ontario Purchasers Only

Under Ontario securities legislation, certain purchasers who purchase a security offered by this prospectus during the period of distribution will have a statutory right of action for damages, or while still the owner of the common stock, for rescission against us in the event that this prospectus contains a misrepresentation without regard to whether the purchaser relied on the misrepresentation. The right of action for damages is exercisable not later than the earlier of 180 days from the date the purchaser first had knowledge of the facts giving rise to the cause of action and three years from the date on which payment is made for the common stock. The right of action for rescission is exercisable not later than 180 days from the date on which payment is made for the common stock. If a purchaser elects to exercise the right of action for rescission, the purchaser will have no right of action for damages against us. In no case will the amount recoverable in any action exceed the price at which the common stock was offered to the purchaser and if the purchaser is shown to have purchased the securities with knowledge of the misrepresentation, we will have no liability. In the case of an action for damages, we will not be liable for all or any portion of the damages that are proven to not represent the depreciation in value of the common stock as a result of the misrepresentation relied upon. These rights are in addition to, and without derogation from, any other rights or remedies available at law to an Ontario purchaser. The foregoing is a summary of the rights available to an Ontario purchaser. Ontario purchasers should refer to the complete text of the relevant statutory provisions.

Enforcement of Legal Rights

All of our directors and officers as well as the experts named herein may be located outside of Canada and, as a result, it may not be possible for Canadian purchasers to effect service of process within Canada upon us or those persons. All or a substantial portion of our assets and the assets of those persons may be located outside of Canada and, as a result, it may not be possible to satisfy a judgment against us or those persons in Canada or to enforce a judgment obtained in Canadian courts against us or those persons outside of Canada.

Taxation and Eligibility for Investment

Canadian purchasers of our common stock should consult their own legal and tax advisors with respect to the tax consequences of an investment in our common stock in their particular circumstances and about the eligibility of our common stock for investment by the purchaser under relevant Canadian legislation.

LEGAL MATTERS

The validity of our common stock offered by this prospectus will be passed upon for us by Latham & Watkins LLP, Menlo Park, California. Certain attorneys and investment funds affiliated with the firm collectively own less than 1% of our shares of preferred stock, which will convert into an aggregate of less than 1% of our shares of common stock upon the completion of this offering. Certain legal matters in connection with this offering will be passed upon for the underwriters by Wilson Sonsini Goodrich & Rosati, Professional Corporation, Palo Alto, California.

EXPERTS

The consolidated financial statements of Codexis, Inc. at December 31, 2008 and 2009, and for each of the three years in the period ended December 31, 2009, appearing in this prospectus and registration statement have been audited by Ernst & Young LLP, independent registered public accounting firm, as set forth in their report thereon appearing elsewhere herein, and are included in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

We have filed with the Securities and Exchange Commission a registration statement on Form S-1 under the Securities Act, with respect to the shares of our common stock offered hereby. This prospectus does not contain all of the information set forth in the registration statement and the exhibits and schedules thereto. Some items are omitted in accordance with the rules and regulations of the SEC. For further information with respect to us and the common stock offered hereby, we refer you to the registration statement and the exhibits and schedules filed therewith. Statements contained in this prospectus as to the contents of any contract, agreement or any other document are summaries of the material terms of this contract, agreement or other document. A copy of the registration statement, and the exhibits and schedules thereto, may be inspected without charge at the public reference facilities maintained by the SEC at 100 F Street, N.E., Washington, D.C. 20549. Copies of these materials may be obtained by writing to the Public Reference Section of the SEC at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the operation of the public reference facility. The SEC maintains a web site that contains reports, proxy and information statements and other information regarding registrants that file electronically with the SEC. The address of the SEC's website is http://www.sec.gov.

Upon completion of this offering, we will become subject to the information and periodic reporting requirements of the Exchange Act and, in accordance therewith, will file periodic reports, proxy statements and other information with the SEC. Such periodic reports, proxy statements and other information will be available for inspection and copying at the public reference room and web site of the SEC referred to above. We maintain a website at www.codexis.com. You may access our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act with the SEC free of charge at our website as soon as reasonably practicable after such material is electronically filed with, or furnished to, the SEC. The reference to our website address does not constitute incorporation by reference of the information contained on our website.

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Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders
Codexis, Inc.

We have audited the accompanying consolidated balance sheets of Codexis, Inc. (the Company) as of December 31, 2008 and 2009, and the related consolidated statements of operations, redeemable convertible preferred stock and stockholders' deficit, and cash flows for each of the three years in the period ended December 31, 2009. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. We were not engaged to perform an audit of the Company's internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of Codexis, Inc. at December 31, 2008 and 2009, and the consolidated results of its operations and its cash flows for each of the three years in the period ended December 31, 2009, in conformity with U.S. generally accepted accounting principles.

/s/ Ernst & Young LLP

Palo Alto, California
February 26, 2010, except for Note 18, as to which the date is March 31, 2010.

Codexis, Inc.

Consolidated Balance Sheets
(In Thousands, Except Per Share Amounts)

	December 31,		Pro Forma as of December 31,
	2008	2009	2009
			(Unaudited) (Note 2)
Assets			
Current assets:			
Cash and cash equivalents	$ 21,903	$ 31,785	$ 31,785
Marketable securities	15,227	23,778	23,778
Accounts receivable, net of allowances of $16 and $12 at December 31, 2008 and 2009, respectively	6,193	7,246	7,246
Inventories	2,976	2,915	2,915
Prepaid expenses and other current assets	1,669	1,658	1,658
Restricted cash	366	—	—
Total current assets	48,334	67,382	67,382
Restricted cash, non-current portion	558	731	731
Property and equipment, net	16,006	21,581	21,581
Intangible assets, net	1,793	928	928
Goodwill	3,137	3,241	3,241
Other non-current assets	1,054	5,173	5,173
Total assets	$ 70,882	$ 99,036	$ 99,036
Liabilities, Redeemable Convertible Preferred Stock and Stockholders' Equity (Deficit)			
Current liabilities:			
Accounts payable	$ 9,166	$ 9,999	$ 9,999
Accrued compensation	4,084	6,518	6,518
Related party payable	435	1,314	1,314
Other accrued liabilities	8,557	10,376	10,376
Advances from a related party	3,000	—	—
Redeemable convertible preferred stock warrant liability	1,382	2,009	—
Deferred revenues	771	2,240	2,240
Related party deferred revenues	9,812	13,161	13,161
Financing obligations	5,194	5,368	5,368
Total current liabilities	42,401	50,985	48,976
Deferred revenues, net of current portion	2,060	1,856	1,856
Related party deferred revenues, net of current portion	11,572	7,487	7,487
Financing obligations, net of current portion	8,487	2,574	2,574
Other long-term liabilities	2,740	1,307	1,307
Commitments and contingencies			
Redeemable convertible preferred stock issuable in series A to F, $0.0001 par value per share; 22,137 and 26,137 shares authorized at December 31, 2008 and 2009, respectively; 21,513 and 25,199 shares issued and outstanding at December 31, 2008 and 2009, respectively; aggregate liquidation value of $206,006 at December 31, 2009; no shares authorized, issued or outstanding pro forma (unaudited)	132,746	179,672	—
Stockholders' equity (deficit):			
Common stock, $0.0001 par value per share; 41,333 and 45,333 shares authorized at December 31, 2008 and 2009, respectively; 2,604 and 2,670 shares issued and outstanding at December 31, 2008 and 2009, respectively; 45,333 shares authorized, 27,909 shares issued and outstanding pro forma (unaudited)	—	—	3
Additional paid-in capital	10,056	15,015	196,693
Accumulated other comprehensive income (loss)	139	(252)	(252)
Accumulated deficit	(139,319)	(159,608)	(159,608)
Total stockholders' equity (deficit)	(129,124)	(144,845)	36,836
Total liabilities, redeemable convertible preferred stock and stockholders' equity (deficit)	$ 70,882	$ 99,036	$ 99,036

Codexis, Inc.

Consolidated Statements of Operations
(In Thousands, Except Per Share Amounts)

	Years Ended December 31,		
	2007	2008	2009
Revenues:			
Product	$ 11,418	$ 16,860	$ 18,554
Related party collaborative research and development	8,481	30,239	62,656
Collaborative research and development	4,733	3,062	1,652
Government grants	701	317	46
Total revenues	25,333	50,478	82,908
Costs and operating expenses:			
Cost of product revenues	8,319	13,188	16,678
Research and development	35,644	45,554	54,725
Selling, general and administrative	19,713	35,709	29,871
Total costs and operating expenses	63,676	94,451	101,274
Loss from operations	(38,343)	(43,973)	(18,366)
Interest income	1,491	1,538	180
Interest expense and other, net	(2,533)	(2,365)	(2,037)
Loss before provision (benefit) for income taxes	(39,385)	(44,800)	(20,223)
Provision (benefit) for income taxes	(408)	327	66
Net loss	$(38,977)	$(45,127)	$ (20,289)
Net loss per share of common stock, basic and diluted	$ (23.42)	$ (18.96)	$ (7.74)
Weighted average common shares used in computing net loss per share of common stock, basic and diluted	1,665	2,380	2,622
Net loss used in computing pro forma net loss per share of common stock, basic and diluted (unaudited) (Note 2)			$ (19,662)
Pro forma net loss per share of common stock, basic and diluted (unaudited) (Note 2)			$ (0.73)
Weighted average common shares used in computing pro forma net loss per share of common stock, basic and diluted (unaudited) (Note 2)			26,798

Codexis, Inc.

Consolidated Statements of Redeemable Convertible Preferred Stock and Stockholders' Deficit
(In Thousands)

	Redeemable Convertible Preferred Stock		Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Total Stockholders' Deficit
	Shares	Amount	Shares	Amount				
December 31, 2006	17,123	$ 77,513	1,199	$ —	$ 2,501	$ (52)	$ (55,215)	$ (52,766)
Exercise of stock options	—	—	397	—	265	—	—	265
Vesting of shares exercised early	—	—	—	—	38	—	—	38
Employee stock-based compensation	—	—	—	—	1,043	—	—	1,043
Non-employee stock-based compensation	—	—	—	—	213	—	—	213
Issuance of common stock related to an acquisition	—	—	642	—	1,228	—	—	1,228
Issuance of common stock in connection with a license agreement	—	—	20	—	134	—	—	134
Issuance of Series D redeemable convertible preferred stock upon exercise of warrants	286	3,000	—	—	765	—	—	765
Issuance of Series E redeemable convertible preferred stock, net of issuance costs of $100	4,067	51,753	—	—	—	—	—	—
Issuance of Series E redeemable convertible preferred stock for consulting services	37	480	—	—	—	—	—	—
Comprehensive loss:								
Net loss	—	—	—	—	—	—	(38,977)	(38,977)
Currency translation adjustments	—	—	—	—	—	457	—	457
Unrealized gain on marketable securities	—	—	—	—	—	132	—	132
Total comprehensive loss								(38,388)
December 31, 2007	21,513	132,746	2,258	—	6,187	537	(94,192)	(87,468)
Exercise of stock options	—	—	346	—	378	—	—	378
Vesting of shares exercised early	—	—	—	—	31	—	—	31
Employee stock-based compensation	—	—	—	—	3,163	—	—	3,163
Non-employee stock-based compensation	—	—	—	—	297	—	—	297
Comprehensive loss:								
Net loss	—	—	—	—	—	—	(45,127)	(45,127)
Currency translation adjustments	—	—	—	—	—	(278)	—	(278)
Unrealized loss on marketable securities	—	—	—	—	—	(120)	—	(120)
Total comprehensive loss								(45,525)
December 31, 2008	21,513	132,746	2,604	—	10,056	139	(139,319)	(129,124)
Exercise of stock options	—	—	66	—	117	—	—	117
Vesting of shares exercised early	—	—	—	—	20	—	—	20
Employee stock-based compensation	—	—	—	—	4,671	—	—	4,671
Non-employee stock-based compensation	—	—	—	—	151	—	—	151
Issuance of Series F redeemable convertible preferred stock, net of issuance costs of $74	3,686	46,926	—	—	—	—	—	—
Comprehensive loss:								
Net loss	—	—	—	—	—	—	(20,289)	(20,289)
Currency translation adjustments	—	—	—	—	—	(253)	—	(253)
Unrealized loss on marketable securities	—	—	—	—	—	(138)	—	(138)
Total comprehensive loss								(20,680)
December 31, 2009	25,199	$179,672	2,670	$ —	$ 15,015	$ (252)	$ (159,608)	$ (144,845)

Codexis, Inc.

Consolidated Statements of Cash Flows
(In Thousands)

	Years Ended December 31,		
	2007	2008	2009
Operating activities			
Net loss	$(38,977)	$(45,127)	$(20,289)
Adjustments to reconcile net loss to net cash used in operating activities:			
Amortization of intangible assets	781	880	957
Depreciation and amortization of property and equipment	2,103	3,683	5,172
Revaluation of redeemable convertible preferred stock warrant liability	1,328	(103)	627
Loss on disposal of property and equipment	86	2	50
Stock-based compensation	1,256	3,460	4,822
Amortization of debt discount	67	531	354
Accretion (amortization) of premium/discount on marketable securities	(368)	(676)	594
Amortization of deferred costs associated with a license agreement	400	—	—
Issuance of redeemable convertible preferred stock for consulting services	480	—	—
Issuance of common stock in connection with a license agreement	134	—	—
Changes in operating assets and liabilities:			
Accounts receivable	(3,146)	226	(1,054)
Inventories	(283)	(1,382)	58
Prepaid expenses and other current assets	(285)	(460)	11
Other assets	(590)	(113)	(228)
Accounts payable	1,169	4,941	189
Accrued compensation	1,664	902	2,434
Related party payable	7,228	(7,353)	879
Other accrued liabilities	4,098	4,433	(3,792)
Deferred revenues	16,385	(160)	530
Net cash used in operating activities	(6,470)	(36,316)	(8,686)
Investing activities			
Decrease (increase) in restricted cash	(1,301)	1,271	193
Purchase of property and equipment	(8,245)	(8,537)	(10,797)
Purchase of marketable securities	(42,267)	(47,821)	(37,118)
Proceeds from maturities of marketable securities	13,772	56,062	27,980
Proceeds from sale of marketable securities	—	6,081	—
Purchase of CO_2 Solution common shares	—	—	(1,316)
Acquisition, net of cash acquired	(1,168)	—	—
Net cash provided by (used in) investing activities	(39,209)	7,056	(21,058)
Financing activities			
Proceeds from financing obligations	14,805	—	—
Principal payments on financing obligations	(1,485)	(4,264)	(6,087)
Payments in preparation for initial public offering	—	—	(959)
Proceeds from exercise of redeemable convertible preferred stock warrants	3,000	—	—
Proceeds from issuance of preferred stock, net of issuance costs	51,753	—	46,926
Proceeds from exercises of stock options	303	378	117
Net cash provided by (used in) financing activities	68,376	(3,886)	39,997
Effect of exchange rate changes on cash and cash equivalents	132	(26)	(371)
Net increase (decrease) in cash and cash equivalents	22,829	(33,172)	9,882
Cash and cash equivalents at beginning of year	32,246	55,075	21,903
Cash and cash equivalents at end of year	$ 55,075	$ 21,903	$ 31,785
Supplemental disclosures of cash flow information:			
Cash paid for interest	$ 686	$ 1,572	$ 1,066
Cash paid for income taxes	$ 99	$ 80	$ 364
Supplemental schedule of noncash investing and financing activities:			
Issuance of redeemable convertible preferred stock warrants in connection with financing arrangement	$ 463	$ —	$ —
Issuance of common stock for acquisition	$ 1,228	$ —	$ —

Codexis, Inc.

Notes to Consolidated Financial Statements

1. Description of Business

Codexis, Inc. ("we" or "Codexis") is a developer of proprietary biocatalysts, which are enzymes or microbes that initiate or accelerate chemical reactions. We are currently selling our biocatalysts to customers in the pharmaceutical industry and are engaged in a multi-year research and development collaboration with Equilon Enterprises LLC dba Shell Oil Products US ("Shell") to develop advanced biofuels. We are also using our technology platform to pursue biocatalyst-enabled solutions in other bioindustrial markets, including carbon management, water treatment and chemicals. We were incorporated in Delaware in January 2002.

2. Summary of Significant Accounting Policies

Basis of Presentation and Consolidation

The consolidated financial statements have been prepared in conformity with generally accepted accounting principles in the United States and include the accounts of Codexis and our wholly-owned subsidiaries. The results of operations of BioCatalytics, Inc., a California corporation ("BioCatalytics"), are included in the accompanying consolidated statements of operations subsequent to its acquisition on July 17, 2007. We also have subsidiaries in Germany, Singapore, India, Austria, Mauritius, and Hungary. All significant intercompany balances and transactions have been eliminated in consolidation.

Redeemable Convertible Preferred Stock

The holders of at least a majority of the then-outstanding shares of Series B, D and E redeemable convertible preferred stock, voting or consenting as separate series, may require us to redeem each of the respective series of redeemable convertible preferred stock on or after December 31, 2013. The holders of Series A, C and F convertible preferred stock do not have redemption rights; however, the securities are classified outside of stockholders' deficit due to their liquidation rights. The holders of our Series A, B, C, D, E and F preferred stock control the vote of our stockholders and board of directors through their appointed representatives. As a result, the holders of Series A, B, C, D, E and F preferred stock can force a change in control that would trigger liquidation. As redemption of the preferred stock through liquidation is outside of our control, all shares of preferred stock have been presented outside of permanent equity on our consolidated balance sheets. Series A, B, C, D, E and F preferred stock are collectively referred to in the consolidated financial statements and notes to the consolidated financial statements as redeemable convertible preferred stock.

Unaudited Pro Forma Balance Sheet

In the event that an initial public offering is consummated that results in the automatic conversion of our redeemable convertible preferred stock, as described in Note 12, all of the redeemable convertible preferred stock outstanding will automatically convert into 25,239,658 shares of common stock, based on the number of shares of redeemable convertible preferred stock outstanding at December 31, 2009 and excluding any additional shares of common stock we may have to issue upon conversion of our Series E redeemable convertible preferred stock and Series F redeemable convertible preferred stock, due to the antidilution provisions that are applicable to such redeemable convertible preferred stock. In addition, all redeemable convertible preferred stock warrants will automatically convert to common stock warrants and the related redeemable convertible preferred stock warrant liability ($2.0 million at December 31, 2009) would be reclassified to additional paid-in capital. The unaudited pro forma balance sheet information at December 31, 2009 gives effect to the automatic conversion of all outstanding shares of the redeemable convertible preferred stock to common stock, the related reclassification of the redeemable convertible preferred stock warrant liability to additional paid-in capital and the conversion of all redeemable convertible preferred stock warrants to common stock warrants.

Codexis, Inc.

Notes to Consolidated Financial Statements — (Continued)

Significant Risks and Uncertainties

We have incurred net losses of $39.0 million, $45.1 million, and $20.3 million for the years ended December 31, 2007, 2008 and 2009, respectively. We used $6.5 million, $36.3 million, and $8.7 million of cash in operating activities for the years ended December 31, 2007, 2008 and 2009, respectively. At December 31, 2009, we had an accumulated deficit of $159.6 million, and unrestricted cash and cash equivalents and marketable securities of $55.6 million. Our failure to generate sufficient revenues, achieve planned gross margins, control operating costs or raise sufficient additional funds may require us to modify, delay or abandon our planned future expansion or expenditures, which could have a material adverse effect on our business, operating results, financial condition and ability to achieve our intended business objectives. We may be required to seek additional funds through collaborations or public or private debt or equity financings, and may also seek to reduce expenses related to our operations. There can be no assurance that any financings will be available or at terms acceptable to us.

Use of Estimates

The preparation of financial statements in conformity with generally accepted accounting principles in the United States requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosures of contingent liabilities at the date of the consolidated financial statements, and the reported amounts of revenues and expenses during the reporting period. Our management regularly assesses these estimates which primarily affect revenue recognition, the valuation of accounts receivable, intangible assets and goodwill arising out of business acquisitions, inventories, accrued liabilities, the fair values of redeemable convertible preferred stock, common stock, redeemable convertible preferred stock warrants and stock options and the valuation allowances associated with deferred tax assets. Actual results could differ from those estimates, and such differences may be material to the consolidated financial statements.

Foreign Currency Translation

The assets and liabilities of foreign subsidiaries, where the local currency is the functional currency, are translated from their respective functional currencies into U.S. dollars at the exchange rates in effect at the balance sheet date, with resulting foreign currency translation adjustments recorded in accumulated other comprehensive income (loss) in the consolidated statements of stockholders' deficit. Revenues and expense amounts are translated at average rates during the period. Accumulated other comprehensive income (loss) included a cumulative translation adjustment loss of $52,000 at December 31, 2006, gains of $405,000 and $127,000 at December 31, 2007 and 2008, respectively, and a loss of $126,000 at December 31, 2009.

Where the U.S. dollar is the functional currency, nonmonetary assets and liabilities originally acquired or assumed in other currencies are recorded in U.S. dollars at the exchange rates in effect at the date they were acquired or assumed. Monetary assets and liabilities denominated in other currencies are translated into U.S. dollars at the exchange rates in effect at the balance sheet date. Revenues and expense amounts are generally translated at the average rates during the period. Translation adjustments are recorded in interest expense and other, net in the accompanying consolidated statements of operations. Gains and losses realized from transactions, including intercompany balances not considered as permanent investments, denominated in currencies other than an entity's functional currency, are included in interest expense and other, net in the accompanying consolidated statements of operations.

Codexis, Inc.

Notes to Consolidated Financial Statements — (Continued)

Concentrations of Credit Risk

Financial instruments that potentially subject us to significant concentrations of credit risk consist primarily of cash and cash equivalents, marketable securities, accounts receivable and restricted cash. Cash and cash equivalents, marketable securities and restricted cash are invested through banks and other financial institutions in the United States, as well as in other foreign countries. Such deposits may be in excess of insured limits.

Credit risk with respect to accounts receivable exists to the full extent of amounts presented in the consolidated financial statements. We periodically require collateral to support credit sales. We estimate an allowance for doubtful accounts through specific identification of potentially uncollectible accounts receivable based on an analysis of our accounts receivable aging. Uncollectible accounts receivable are written off against the allowance for doubtful accounts when all efforts to collect them have been exhausted. Recoveries are recognized when they are received. Actual collection losses may differ from our estimates and could be material to the consolidated financial position, results of operations, and cash flows.

One customer accounted for 21% and 28% of accounts receivable at December 31, 2008 and 2009, respectively. At December 31, 2008, two additional customers accounted for 37% and 11% of accounts receivable. At December 31, 2009, two other customers accounted for 26% and 21% of accounts receivable. We do not believe the accounts receivable from these customers represent a significant credit risk based on past collection experiences and the general creditworthiness of these customers.

Fair Value of Financial Instruments

The carrying amounts of certain of our financial instruments, including cash and cash equivalents, marketable securities, restricted cash, accounts receivable and accounts payable, approximate fair value due to their short maturities. Based on borrowing rates currently available to us for loans with similar terms, the carrying values of our financing obligations approximate their fair values.

Fair value is considered to be the price at which an asset could be exchanged or a liability transferred (an exit price) in an orderly transaction between knowledgeable, willing parties in the principal or most advantageous market for the asset or liability. Where available, fair value is based on or derived from observable market prices or other observable inputs. Where observable prices or inputs are not available, valuation models are applied. These valuation techniques involve some level of management estimation and judgment, the degree of which is dependent on the price transparency for the instruments or market and the instruments' complexity.

Cash, Cash Equivalents and Marketable Securities

We consider all highly liquid investments with maturity dates of three months or less at the date of purchase to be cash equivalents. Cash and cash equivalents consist of cash on deposit with banks and money market funds. Marketable securities included in current assets are primarily comprised of corporate debt obligations, U.S. Treasury obligations and government-sponsored enterprise securities. Our investment in common shares of CO_2 Solution Inc. ("CO_2 Solution") is included in other non-current assets.

Our investments in debt and equity securities are classified as available-for-sale and are carried at estimated fair value. Unrealized gains and losses are reported as a component of accumulated other comprehensive income (loss). Amortization of purchase premiums and accretion of purchase discounts, realized gains and losses of debt securities and declines in value deemed to be other than temporary, if any,

are included in interest income or interest expense and other, net. The cost of securities sold is based on the specific-identification method. There were no significant realized gains or losses from sales of marketable securities during the years ended December 31, 2007, 2008 and 2009. At December 31, 2008 and 2009, we did not have any other-than-temporary declines in the fair value of our marketable securities.

Accounts Receivable

Accounts receivable represent amounts owed to us under our collaborative research and development agreements, product revenues and government grants. Our allowance for doubtful accounts was $16,000 and $12,000 as of December 31, 2008 and 2009, respectively. Specific accounts written off against the established reserve were $0, $234,000, and $0 during the years ended December 31, 2007, 2008 and 2009, respectively.

Inventories

Inventories consist of biocatalysts, which are enzymes or microbes that facilitate chemical reactions, and pharmaceutical intermediates. Internally produced biocatalysts only qualify as commercial inventory after they have achieved specifications that are required for selling the materials. Inventories held at our contract manufacturers are accepted as finished goods after achieving specifications stated in our purchase orders. Inventories are carried at the lower of cost or market. Cost is determined using the first-in first-out method or the specific identification method depending on location. Inventories, based on demand and age, are written down as excess and obsolete materials, if necessary.

Property and Equipment

Property and equipment, including the cost of purchased software, are stated at cost, less accumulated depreciation and amortization. Depreciation is calculated using the straight-line method over the following estimated ranges of useful lives:

Asset classification	Estimated useful life
Laboratory equipment	5 years
Computer equipment and software	3 to 5 years
Office equipment and furniture	5 years
Leasehold improvements	Lesser of useful life or lease term

Goodwill

Goodwill represents the excess of the purchase price over the fair value of assets acquired and liabilities assumed. Goodwill is presumed to have an indefinite life and is not subject to annual amortization. We review goodwill for impairment at the company level, which is the sole reporting unit, on at least an annual basis and at any interim date whenever events or changes in circumstances indicate that the carrying value may not be recoverable.

The annual test for goodwill impairment is a two-step process. The first step is a comparison of the fair value of the reporting unit with its carrying amount, including goodwill. If this step indicates an impairment, then the loss is measured as the excess of recorded goodwill over its implied fair value. Implied fair value is the excess of the fair value of the reporting unit over the fair value of all identified assets and liabilities. No impairment charges were recorded during the years ended December 31, 2007, 2008 and 2009.

Codexis, Inc.

Notes to Consolidated Financial Statements — (Continued)

Intangible Assets and Impairment of Long-Lived Assets

Intangible assets consist of customer relationships, developed core technology and a trade name, all arising out of the Jülich Fine Chemicals ("JFC") acquisition in 2005 and BioCatalytics acquisition in 2007. Intangible assets are recorded at their fair values at the date of the acquisition and, for those assets having finite useful lives, are amortized using the straight-line method over their estimated useful lives, which range from one to seven years.

We periodically review our intangible and other long-lived assets for possible impairment, whenever events or changes in circumstances indicate that such assets are impaired or the estimated useful lives are no longer appropriate. If indicators of impairment exist and the undiscounted projected cash flows associated with such assets are less than the carrying amounts of the assets, an impairment loss is recorded to write the assets down to their estimated fair values. Fair value is estimated based on discounted future cash flows. No impairment charges were recorded during the years ended December 31, 2007, 2008 and 2009.

Other Non-Current Assets

At December 31, 2009, we deferred costs of $2.8 million related to the initial public offering of our common stock. These deferred costs were included in other non-current assets.

Restricted Cash

Restricted cash was invested in money market accounts primarily for purposes of securing a standby letter of credit as collateral for our Redwood City, California facility lease agreement, for future payment obligations to the shareholder of BioCatalytics related to the acquisition, and for the purpose of securing a working capital line of credit. During the year ended December 31, 2008, restricted cash decreased by $0.8 million on payment of purchase consideration to a former shareholder of BioCatalytics and $0.6 million on expiration of JFC-related letters of credit relating to its facility lease.

Redeemable Convertible Preferred Stock Warrant Liability

Outstanding warrants to purchase shares of our Series D redeemable convertible preferred stock are freestanding warrants that are exercisable into convertible preferred stock that is subject to redemption and are therefore classified as liabilities on the consolidated balance sheet at fair value. The initial liability recorded is adjusted for changes in fair value at each reporting date with an offsetting entry recorded as a component of interest expense and other, net in the accompanying consolidated statements of operations. The liability will continue to be adjusted for changes in fair value until the earlier of the exercise date or the conversion of the underlying redeemable convertible preferred stock into common stock, at which time the redeemable convertible preferred stock warrants will convert to common stock warrants and the liability will be reclassified to stockholders' equity (deficit).

Revenue Recognition

When evaluating multiple element arrangements, we consider whether the components of each arrangement represent separate units of accounting. Revenue arrangements with multiple components are divided into separate units of accounting if certain criteria are met, including whether the delivered component has stand-alone value to the customer, and whether there is objective and reliable evidence of the fair value of the undelivered items. Consideration received is allocated among the separate units of accounting based on their respective fair values. Applicable revenue recognition criteria are then applied to each of the units.

Codexis, Inc.

Notes to Consolidated Financial Statements — (Continued)

Revenues are recognized when the four basic revenue recognition criteria are met: (1) persuasive evidence of an arrangement exists; (2) products have been delivered, transfer of technology has been completed or services have been rendered; (3) the fee is fixed or determinable; and (4) collectability is reasonably assured.

Our primary sources of revenues consist of collaborative research and development agreements, product revenues and government grants. Collaborative research and development agreements typically provide us with multiple revenue streams, including up-front fees for licensing, exclusivity and technology access, fees for full-time employee equivalent ("FTE") services and the potential to earn milestone payments upon achievement of contractual criteria and royalty fees based on future product sales or cost savings by our customers. Our collaborative research and development revenues consist of revenues from related parties and revenues from other collaborative research and development agreements.

Related party collaborative research and development revenues relate to the arrangements with Shell and consisted of the following (in thousands):

	Years Ended December 31,		
	2007	2008	2009
License, technology access and exclusivity fees	$ 2,665	$ 3,675	$ 4,521
Services	4,909	26,564	53,535
Milestones	907	—	4,600
Total related party collaborative research and development revenues	$ 8,481	$ 30,239	$ 62,656

Other collaborative research and development revenues consisted of the following (in thousands):

	Years Ended December 31,		
	2007	2008	2009
License, technology access and exclusivity fees	$ 1,340	$ 150	$ 186
Services	2,584	2,002	897
Milestones	300	—	—
Royalties	509	910	569
Total collaborative research and development revenues	$ 4,733	$ 3,062	$ 1,652

For each source of collaborative research and development revenues, product revenues and grant revenues, we apply the revenue recognition criteria as follows:

- Up-front fees received in connection with collaborative research and development agreements, including license fees, technology access fees, and exclusivity fees, are deferred upon receipt, are not considered a separate unit of accounting and are recognized as revenues over the relevant performance periods under the agreement, as discussed below.
- Revenues related to FTE services are recognized as research services are performed over the related performance periods for each contract. We are required to perform research and development activities as specified in each respective agreement. The payments received are not refundable and are based on a contractual reimbursement rate per FTE working on the project. When up-front payments are combined with FTE services in a single unit of accounting, we recognize the up-front payments using the proportionate performance method of revenue recognition based upon the actual amount of research and development labor hours incurred relative to the amount of the total expected labor hours to be incurred by us, up to the amount of cash received. In cases where the

planned levels of research services fluctuate substantially over the research term, we are required to make estimates of the total hours required to perform our obligations. Research and development expenses related to FTE services under the collaborative research and development agreements approximate the research funding over the term of the respective agreements.

- Revenues related to milestones that are determined to be at risk at the inception of the arrangement and substantive are recognized upon achievement of the milestone event and when collectability is reasonably assured. Milestone payments are triggered either by the results of our research efforts or by events external to us, such as our collaboration partner achieving a revenue target. Fees associated with milestones for which performance was not at risk at the inception of the arrangement or that are determined not to be substantive are accounted for in the same manner as the up-front fees, provided collectability is reasonably assured.
- We recognize revenues from royalties based on licensees' sales of products using our technologies. Royalties are recognized as earned in accordance with the contract terms when royalties from licensees can be reasonably estimated and collectability is reasonably assured.
- Product revenues are recognized once passage of title and risk of loss has occurred and contractually specified acceptance criteria have been met, provided all other revenue recognition criteria have also been met. Product revenues consist of sales of biocatalysts, intermediates, active pharmaceutical ingredients and Codex Biocatalyst Panels. Cost of product revenues includes both internal and third party fixed and variable costs including amortization of purchased technology, materials and supplies, labor, facilities and other overhead costs associated with our product revenues.
- We license mutually agreed upon third party technology for use in our research and development collaboration with Shell. We record the license payments to research and development expense and offset related reimbursements received from Shell. These payments made by Shell to us are direct reimbursements of our costs. We account for these direct reimbursable costs as a net amount, whereby no expense or revenue is recorded for the costs reimbursed by Shell. For any payments not reimbursed by Shell, we will recognize these as expenses in the statement of operations. We elected to present the reimbursement from Shell as a component of our research and development expense since presenting the receipt of payment from Shell as revenues does not reflect the substance of the arrangement.
- We receive payments from government entities in the form of government grants. Government grants are agreements that generally provide us with cost reimbursement for certain types of expenditures in return for research and development activities over a contractually defined period. Revenues from government grants are recognized in the period during which the related costs are incurred, provided that the conditions under which the government grants were provided have been met and we have only perfunctory obligations outstanding.
- Shipping and handling costs charged to customers are recorded as revenues. Shipping costs are included in our cost of product revenues. Such charges were not significant in any of the periods presented.

Codexis, Inc.

Notes to Consolidated Financial Statements — (Continued)

Customer Concentration

Customers with revenues of 10% or more of our total revenues consist of the following (substantially all of the revenues presented below represent revenues from collaborative research and development arrangements):

	Percentage of Total Revenues For The Years Ended December 31,		
	2007	2008	2009
Customers			
Shell	33%	60%	76%
Pfizer	13%	*	*

* Represents less than 10% of total revenues

Concentrations of Supply Risk

We rely on a limited number of suppliers for our products. We believe that other vendors would be able to provide similar products; however, the qualification of such vendors may require substantial start-up time. In order to mitigate any adverse impacts from a disruption of supply, we attempt to maintain an adequate supply of critical single-sourced materials. For certain materials, our vendors maintain a supply for us. We outsource a portion of the manufacturing of our products to contract manufacturers with facilities in Austria, Germany, India and Italy.

Research and Development Expenses

Research and development expenses consist of costs incurred for internal projects as well as partner-funded collaborative research and development activities. These costs include direct and research-related overhead expenses, which include salaries, stock-based compensation and other personnel-related expenses, facility costs, supplies, depreciation of facilities and laboratory equipment, as well as research consultants and the cost of funding research at universities and other research institutions, and are expensed as incurred. Costs to acquire technologies that are utilized in research and development that have no alternative future use, are expensed when incurred.

Advertising

Advertising costs are expensed as incurred and included in selling, general and administrative expenses in the consolidated statements of operations. Advertising costs were $244,000, $335,000 and $167,000 for the years ended December 31, 2007, 2008 and 2009, respectively.

Income Taxes

We use the liability method of accounting for income taxes. Deferred tax assets and liabilities are recognized for the estimated future tax consequences attributable to differences between the consolidated financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Deferred tax assets are recognized for deductible temporary differences, along with net operating loss (NOL) carryforwards, if it is more likely than not that the tax benefits will be realized. To the extent a deferred tax asset cannot be recognized under the preceding criteria, a valuation allowance is established. Deferred tax assets and liabilities are measured using enacted tax rates in effect for the year in which those temporary differences are expected to be recovered or settled.

Codexis, Inc.

Notes to Consolidated Financial Statements — (Continued)

We recognize the financial statement effects of an uncertain tax position when it is more likely than not, based on the technical merits, that the position will be sustained upon examination.

Stock-Based Compensation

Effective January 1, 2006, we began recognizing compensation expense related to share-based transactions, including the awarding of employee stock options, based on the estimated fair value of the awards granted. Options granted prior to January 1, 2006 were measured using the minimum value method for the pro forma disclosures that were previously required. We continued to account for non-vested employee share-based awards outstanding at January 1, 2006 using the intrinsic value method. All awards granted, modified or settled after January 1, 2006 have been accounted for based on the fair value of the awards granted. We are using the straight-line method to allocate stock-based compensation expense to the appropriate reporting periods.

We account for stock options issued to non-employees based on their estimated fair value determined using the Black-Scholes option-pricing model. The fair value of the options granted to non-employees is remeasured as they vest, and the resulting change in value, if any, is recognized as an increase or decrease in stock compensation expense during the period the related services are rendered.

Comprehensive Loss

We report our comprehensive loss, and its components, on the consolidated statements of stockholders' deficit. Comprehensive loss consists of net loss, unrealized gains (losses) on marketable securities and foreign currency translation adjustments.

Net Loss per Share of Common Stock

Basic net loss per share of common stock is computed by dividing the net loss by the weighted-average number of shares of common stock outstanding during the period, less the weighted-average unvested common stock subject to repurchase. Diluted net loss per share of common stock is computed by giving effect to all potential common shares, consisting of stock options, warrants and redeemable convertible preferred stock, to the extent dilutive. Basic and diluted net loss per share of common stock was the same for each period presented as the inclusion of all potential common shares outstanding was anti-dilutive.

The calculations for the unaudited pro forma basic and diluted net loss per share of common stock assume the conversion of all outstanding shares of redeemable convertible preferred stock into shares of common stock and the conversion of redeemable convertible preferred stock warrants to common stock warrants as if the conversions had occurred at the beginning of the period, or for Series F redeemable convertible preferred stock issued during the year ended December 31, 2009, the issue date for each share, using the as-if-converted method, and exclude any additional shares of common stock we may have to issue upon conversion of our Series E redeemable convertible preferred stock and Series F redeemable convertible preferred stock, due to the antidilution provisions that are applicable to such redeemable convertible preferred stock. Also, the numerator in the pro forma basic and diluted net loss per share calculation has been adjusted to remove gains and losses resulting from re-measurements of the redeemable convertible preferred stock warrant liability as these measurements would no longer be required when the redeemable convertible preferred stock warrants become warrants to purchase shares of our common stock.

Codexis, Inc.

Notes to Consolidated Financial Statements — (Continued)

The following table presents the calculation of historical and pro forma basic and diluted net loss per share of common stock (in thousands, except per share amounts):

	Years Ended December 31,		
	2007	2008	2009
Actual:			
Numerator:			
Net loss	$ (38,977)	$ (45,127)	$ (20,289)
Denominator:			
Weighted-average shares of common stock outstanding	1,679	2,405	2,633
Less: Weighted-average shares of common stock subject to repurchase	(14)	(25)	(11)
Weighted-average shares of common stock used in computing net loss per share of common stock, basic and diluted	1,665	2,380	2,622
Net loss per share of common stock, basic and diluted	$ (23.42)	$ (18.96)	$ (7.74)
Pro Forma:			
Numerator:			
Net loss			$ (20,289)
Less: change in fair value of redeemable convertible preferred stock warrant liability (unaudited)			627
Net loss used in computing pro forma net loss per share of common stock, basic and diluted (unaudited)			$ (19,662)
Denominator:			
Weighted-average shares of common stock used in computing net loss per share of common stock, basic and diluted, as used above			2,622
Add: Pro forma adjustments to reflect weighted-average effect of assumed conversion of redeemable convertible preferred stock (unaudited)			24,176
Weighted-average shares of common stock used in computing pro forma net loss per share of common stock, basic and diluted (unaudited)			26,798
Pro forma net loss per share of common stock, basic and diluted (unaudited)			$ (0.73)

Codexis, Inc.

Notes to Consolidated Financial Statements — (Continued)

The following redeemable convertible preferred stock, common stock subject to repurchase, options to purchase common stock, warrants to purchase redeemable convertible preferred and warrants to purchase common stock were excluded from the computation of diluted net loss per share of common stock for the periods presented because including them would have had an antidilutive effect (in thousands):

	Years Ended December 31,		
	2007	2008	2009
Redeemable convertible preferred stock	21,553	21,553	25,240
Common stock subject to repurchase	40	17	5
Options to purchase common stock	6,021	6,448	7,887
Warrants to purchase redeemable convertible preferred stock	288	288	288
Warrants to purchase common stock	39	39	39
Total	27,941	28,345	33,459

Reclassifications

Certain amounts in prior periods financial statements have been reclassified to conform to the current period presentation. Specifically, we reclassified accrued loan amounts due upon the final maturity of the loans from other long-term liabilities to financing obligations, net of current portion.

Recent Accounting Pronouncements

In June 2009, the Financial Accounting Standards Board ("FASB") issued Statement of Financial Accounting Standard ("SFAS") No. 168,*The FASB Accounting Standards Codification and the Hierarchy of Generally Accepted Accounting Principles — A Replacement of FASB Statement No. 162* ("SFAS 168"). SFAS 168, which is incorporated in ASC Topic 105, *Generally Accepted Accounting Principles*, identifies the ASC as the authoritative source of generally accepted accounting principles in the United States. Rules and interpretive releases of the SEC under federal securities laws are also sources of authoritative GAAP for SEC registrants. We adopted the provisions of the authoritative accounting guidance during the year ended December 31, 2009 and included references to the ASC within our consolidated financial statements. The adoption had no impact on our consolidated results of operations or financial position.

In September 2006, the FASB issued SFAS No. 157,*Fair Value Measurements* ("SFAS 157"), which is incorporated in ASC Topic 820,*Fair Value Measurements and Disclosures*. SFAS 157 defines fair value, establishes a framework for measuring fair value and requires additional disclosures about fair value measurements. In February 2008, the FASB issued FASB Staff Position ("FSP") FAS 157-1, *Application of FASB Statement No. 157 to FASB Statement No. 13 and Other Pronouncements that Address Fair Value Measurements for Purpose of Lease Classification or Measurement under Statement 13*, which is incorporated in ASC Topic 820, which amends SFAS 157 to exclude accounting pronouncements that address fair value measurements for purposes of lease classification or measurement under SFAS No. 13, *Accounting for Leases.* In February 2008, the FASB also issued FSP SFAS No. 157-2, *Effective Date of FASB Statement No. 157*, which is incorporated in ASC Topic 820, which delays the effective date of SFAS 157 until the first quarter of 2009 for all non-financial assets and non-financial liabilities, except for items that are recognized or disclosed at fair value in the consolidated financial statements on a recurring basis (at least annually). SFAS 157 does not require any new fair value measurements but rather eliminates inconsistencies in guidance found in various prior accounting pronouncements. In April 2009, the FASB further issued FSP SFAS No. 157-4, *Determining Fair Value When the Volume and Level of Activity for the Asset or Liability Have Significantly Decreased and Identifying Transactions That Are Not Orderly*

("FSP SFAS 157-4"), which is incorporated in ASC Topic 820. FSP SFAS 157-4 is effective for interim and annual periods ending after June 15, 2009, with early adoption permitted. We adopted SFAS 157 and such adoption did not have a significant effect on our consolidated results of operations or financial position.

In December 2007, the FASB ratified EITF Issue No. 07-1, *Accounting for Collaborative Agreements* ("EITF 07-1"), which defines collaborative agreements as contractual arrangements that involve a joint operating activity. EITF 07-1, which is incorporated in ASC Topic 808, *Collaborative Agreements*, states that these arrangements involve two or more parties who are both active participants in the activity and that are exposed to significant risks and rewards dependent on the commercial success of the activity. EITF 07-1 provides that a company should report the effects of adoption as a change in accounting principle through retrospective application to all periods. Furthermore, it requires the parties to determine who the principal party of the arrangement is, and therefore which party must report the revenues and expenses under the collaboration, as well as specific additional disclosures in the parties' financial statements. EITF 07-1 is effective for periods beginning after December 15, 2008. We adopted EITF 07-1 on January 1, 2009. The adoption did not have a significant effect on our consolidated results of operations or financial position.

In May 2009, the FASB issued SFAS No. 165, *Subsequent Events* ("SFAS 165"), which is incorporated in ASC Topic 855, *Subsequent Events*. The standard establishes general standards of accounting for and disclosure of events that occur after the balance sheet date but before financial statements are issued or are available to be issued. Although there is new terminology, the standard is based on the same principles as those that currently exist in the auditing standards. The standard, which includes a new required disclosure of the date through which an entity has evaluated subsequent events, is effective for interim or annual periods ending after June 15, 2009. We adopted the provisions of this authoritative guidance during the year ended December 31, 2009. The adoption had no impact on our consolidated results of operations or financial position.

In October 2009, the FASB issued Accounting Standards Update ("ASU") 2009-13, which amends ASC Topic 605, *Revenue Recognition*, to require companies to allocate revenues in multiple-element arrangements based on an element's estimated selling price if vendor-specific or other third-party evidence of value is not available. ASU 2009-13 is effective beginning January 1, 2011. Earlier application is permitted. We are currently evaluating both the timing and the impact of the pending adoption of the ASU on our consolidated financial statements.

3. Collaborative Research and Development Agreements

Shell

In November 2006, we entered into a collaborative research agreement and a license agreement with Shell to develop biocatalysts and associated processes that use such biocatalysts. In November 2007, we entered into a new and expanded five-year collaborative research agreement and a license agreement with Shell. In March 2009, we entered into an amended collaborative research agreement and a license agreement with Shell to further expand the scope of the collaboration and allow for additional purchases of the Company's preferred stock by Shell. Shell has been a shareholder of the Company throughout all periods presented.

November 2006 Research Collaboration with Shell

In connection with the November 2006 research collaboration, Shell paid us a $2.8 million nonrefundable, up-front technology access fee, purchased 503,778 shares of our Series D redeemable

convertible preferred stock at $5.96 per share for gross proceeds and an aggregate value of approximately $3.0 million, and agreed to pay us (1) research funding at specified rates per FTE working on the project during the 12-month research term, (2) a $1.0 million milestone payment upon the delivery of a research report six months after the research commenced, and (3) royalties on future product sales, should such products using our technology be developed.

Under this agreement, we had a right of first negotiation to manufacture for Shell any biocatalysts developed under the collaborative research agreement if Shell decided to outsource the manufacture of such biocatalysts. In conjunction with the collaborative research agreement, Shell was issued a warrant to purchase $3.0 million of additional Series D redeemable convertible preferred stock at a price of $10.50 per share. The fair value of the warrant at issuance was determined to be $462,000 and was amortized against revenues over the twelve-month term of the collaborative research agreement. The fair value was measured using the probability-weighted expected return method. Shell exercised this warrant in full in November 2007 in connection with the new and expanded collaborative research and license agreement discussed below (see also Note 11).

In accordance with our revenue recognition policy, the $2.8 million up-front technology access fee, the $4.1 million of research funding fees and the $1.0 million milestone payment were recognized over the 12-month performance period. The $1.0 million milestone payment was concluded to not be at risk and therefore was determined to not be a substantive milestone.

November 2007 Research Collaboration with Shell

In November 2007, we entered into a five-year expanded collaborative research agreement and a license agreement with Shell. In connection with the new and expanded collaborative research agreements, Shell paid us a $20.0 million up-front exclusivity fee, purchased 2,389,618 shares of our Series E redeemable convertible preferred stock at $12.75 per share for gross proceeds of $30.5 million, and agreed to pay us (1) research funding at specified rates per FTE working on the project during the research term, (2) milestone payments upon the achievement of milestones, and (3) royalties on future product sales. The up-front exclusivity fee is refundable under certain conditions, such as a change in control in which we are acquired by a competitor of Shell. Refundability lapses ratably over a five-year period beginning on November 1, 2007, on a straight-line basis. The agreement also specifies certain minimum levels of FTE services that we must allocate to the collaboration efforts that increase over the term of the agreement. Shell has the right to terminate the collaborative research agreement upon nine months' notice, subject to certain restrictions, at any time after November 2010. The term of the new and expanded agreement extends through November 2012. During the term of the agreement, we are required to act exclusively with Shell as it relates to the rights and research described in the arrangement and may not conduct research, or contract to conduct research, for another party in the field of use. Under this agreement, we also have a right of first negotiation but not an obligation to manufacture any biocatalysts developed under the collaborative research agreement if Shell decides to out-source the manufacture of such biocatalysts.

In March 2009, we entered into an amended collaborative research agreement and a license agreement with Shell. In connection with the amended collaborative research agreements, Shell purchased 2,352,940 shares of our Series F redeemable convertible preferred stock at $12.75 per share for gross proceeds of $30.0 million and agreed to pay us (1) additional research funding at specified rates per FTE working on the project during the research term and (2) additional milestone payments upon the achievement of milestones. After November 1, 2010, Shell has the right to reduce the number of funded FTEs, subject to certain limitations, with a required advance notice period ranging from 30 to 270 days, so the earliest an FTE reduction could take place would be December 2, 2010, and a subsequent period ranging from 90 to

360 days during which notices of further FTE reductions cannot be made by Shell. The length of these periods varies dependent on the number of funded FTEs reduced.

In accordance with our revenue recognition policy, the $20.0 million up-front exclusivity fee and the research funding fees to be received for FTE services are recognized in proportion to the actual research efforts incurred relative to the amount of total expected effort to be incurred by us over the five-year research period commencing November 2007. Milestones to be earned under this agreement have been determined to be at risk at the inception of the arrangement and substantive and are expected to be recognized upon achievement of the milestone and when collectability is reasonably assured. No milestone revenues were recognized through December 31, 2008. We recorded milestone revenues of $4.6 million during the year ended December 31, 2009.

Under the agreements with Shell, we have the right to license technology from third parties that will assist us in meeting objectives under the collaboration. If a third-party technology is identified and mutually agreed upon by both parties, Shell is obligated to reimburse us for the licensing costs of the technology. In 2008, we mutually agreed to license two third-party technologies for which Shell would reimburse us the cost of the technologies. Payments made by us to the third-party providers were recorded as research and development expenses related to our collaborative research agreement with Shell. None of the acquired licenses are expected to be used in products that will be sold within the next year and the phase of the project has not reached technological feasibility. Shell reimbursed us for licensing costs of $0, $6.1 million, and $7.5 million for the years ended December 31, 2007, 2008 and 2009, respectively. We record these reimbursements against the costs incurred. As of December 31, 2008, $3.0 million of the reimbursements received from Shell were recorded in the consolidated balance sheet as advances from a related party and were paid to the third party in January 2009.

Other Collaborations

Pfizer

In July 2004, we entered into a multi-year collaborative research agreement and a license agreement with Pfizer to discover and develop biocatalysts, and associated processes that use such biocatalysts, in the manufacture of pharmaceutical products for Pfizer. Under the terms of these agreements, Pfizer provided us an up-front technology access fee of $2.0 million and agreed to provide research funding of approximately $8.6 million over a multi-year period. We were also eligible to receive milestone payments, a license fee if Pfizer exercised its option to acquire a non-exclusive worldwide license to our gene shuffling technology, and royalty payments based upon sales by Pfizer of products that are manufactured using our biocatalysts. The agreement was terminated in May 2007. During the term of the agreement, we received an aggregate of $600,000 of milestone payments in connection with the discovery and development of new biocatalysts on behalf of Pfizer.

In accordance with our revenue recognition policy, the $2.0 million up-front technology access fee and the research funding at specified rates per FTE working on the project were recognized over the research period under the agreement. In November 2006, following Pfizer's six-month notice of termination in May 2007 of the research term, we changed our estimate of the research term from 48 to 34 months and recognized the remaining unamortized portion of the up-front payment over the reduced expected life of the research term. Research milestones were determined to be at risk at the inception of the arrangement and substantive and, as such, were recognized in the period when each milestone was achieved. Total collaborative research and development revenues recognized under this agreement were $1.8 million in 2007. No revenues were recorded under these agreements subsequent to 2007.

Codexis, Inc.

Notes to Consolidated Financial Statements — (Continued)

Concurrent with the execution of the multi-year collaborative research agreement and the license agreement, we also entered into a stock purchase agreement in which Pfizer purchased 1,009,763 shares of our Series C redeemable convertible preferred stock at $9.90 per share for gross proceeds of $10.0 million.

In September 2000, Maxygen, Inc. (Maxygen) extended a May 1998 agreement with Pfizer for the development of a biochemical manufacturing process for a specific pharmaceutical product. This agreement was assigned to us in connection with our initial capitalization in March 2002. The extended agreement entitled us to earn research and commercial milestones and a royalty based on a percentage of all manufacturing cost savings once the optimized commercial process was scaled up at Pfizer. During the years ended December 31, 2007, 2008 and 2009, we recognized royalty revenues related to commercial payments under this agreement in the amounts of $0.3 million, $0.5 million, and $0.6 million, respectively.

Merck

In February 2007, we entered into a three year Catalyst License and Supply Agreement with Merck. Pursuant to the terms of the agreement, Merck may obtain enzymes from us and request that we screen the enzymes for activity in the manufacture of compounds of interest to Merck. We have granted Merck a license to use such enzymes. In connection with the agreement, Merck agreed to purchase enzyme supplies and optimization and screening services from us based on firm orders at agreed-upon rates. The minimum volume of purchases Merck was obligated to make was $4.5 million over the term of the agreement. Merck may continue to purchase supplies and services after the minimum purchase commitment period at the agreed-upon rates. Merck was also obligated to pay us additional fees upon achievement of specified milestones. The contractual term was defined as three years with licenses applicable in perpetuity. We recognize revenues from the agreement based on the amounts billed as we deliver enzyme supplies and provide the services, if all other revenue recognition criteria have been met. No amounts were billed for or recognized upon delivery of the license. During the years ended December 31, 2007, 2008 and 2009, we recognized product and collaborative research and development revenues under this agreement of $0.8 million, $2.2 million, and $1.6 million, respectively.

Manufacturing Collaboration

In October 2005, we entered into a technology transfer and supply agreement, which we refer to as the 2005 Agreement, with Arch Pharmalabs Ltd. (“Arch”), a company based in India engaged in the manufacturing and sale of active pharmaceutical ingredients, or APIs, and intermediates to pharmaceutical companies worldwide. In exchange for a $500,000 up-front payment, we granted to Arch a non-exclusive, royalty free license, with no right to grant sublicense rights, to certain of our patent rights and technology, to solely manufacture an intermediate called ATS-8 for us and on our behalf.

We also agreed to transfer technology that is necessary or useful for the manufacture of ATS-8. We recognized the fee upon delivery of the technology and the performance of certain other obligations. In exchange for a $1.5 million up-front payment, we agreed to purchase from Arch certain intermediate production quantities. The $1.5 million up-front payment was repayable by us to Arch if the specified purchases of production quantities were not met. Arch also agreed to purchase exclusively from us quantities of certain of our enzymes and an earlier intermediate used in the production of ATS-8, known as ATS-5, sufficient to enable Arch to fulfill our orders for ATS-8. Subsequently, we have transferred our ATS-5 related technology to Arch for the sole purposes of manufacturing ATS-5 for our resale to Pfizer and others and for Arch’s use in the manufacture of ATS-8 manufactured for and on our behalf.

In August 2006, we broadened our relationship with Arch by entering into an enzyme and supply agreement, a supply agreement and a master services agreement, which we call the 2006 Agreements. The

2006 Agreements, among other things, provided biocatalytic supply specifications from us to Arch, intermediate supply from Arch to us, and services to be performed by Arch over the four year term of the agreements.

Due to the ongoing negotiations of our agreements with Arch in 2005 and 2006, we viewed the 2006 Agreements to be linked to the 2005 Agreement. We did not purchase the production volumes to earn the $1.5 million up-front payment under the 2005 Agreement so that payment was applied as consideration to the 2006 Agreements.

Under the 2006 Agreements, we agreed to pay Arch up to $1.6 million for certain chemical process and manufacturing method development services as Arch delivers them over the course of the master services agreement. For the years ended December 31, 2007, 2008 and 2009, we paid Arch $250,000, $500,000, and $500,000, respectively, for their services under the 2006 Agreements. As of December 31, 2009, we had a remaining obligation of $350,000, due to Arch. We have recognized expense for these services of $375,000, $375,000, and $445,000 during the years ended December 31, 2007, 2008 and 2009, respectively, based on quarterly FTE activity reports received from Arch.

The terms of the license prohibit Arch from using the licensed process or biocatalysts for any purpose other than manufacturing various intermediates for sale to our affiliates. We sell the biocatalysts to Arch at cost, and Arch manufactures the intermediates on our behalf. Arch sells the intermediates to us at a formula-based price, which results in a fixed percentage profit share. We then directly market and sell the intermediates to customers in the generic pharmaceutical industry, including Arch. Sales to Arch are recognized net of the manufacturing costs charged by Arch. Total product and collaborative research and development revenues recorded from Arch was $387,000, $442,000, and $323,000 during the years ended December 31, 2007, 2008 and 2009, respectively.

In August 2008, we further expanded our relationship with Arch by entering into several enzyme and supply agreements, and product territory agreements (“2008 Agreements”). The 2008 Agreements, among other things, provided biocatalytic supply specifications from us to Arch, intermediate supply from Arch to us, and services to be performed by Arch over the term of the agreements for an expanded product portfolio. In February 2010, we consolidated certain of the contractual terms in our agreements with Arch by simultaneously terminating all of our existing agreements with Arch, other than the Master Services Agreement with Arch entered into as of August 1, 2006, and entering into two new agreements with Arch.

4. Acquisition of BioCatalytics

On July 17, 2007, we acquired 100% of the outstanding stock of BioCatalytics for total consideration of $2.4 million. BioCatalytics offers a range of enzymes for chemical synthesis. It also provides synthesis services of metabolites and other compounds. We acquired BioCatalytics to expand our product offerings and customer relationships.

The BioCatalytics acquisition was accounted for as a business combination using the purchase method of accounting. Accordingly, the results of BioCatalytics are included in our consolidated financial statements from the date of acquisition.

The aggregate purchase price consisted of the following (in thousands):

Cash consideration	$ 1,000
Fair value of common stock issued	1,228
Direct transaction costs	219
Total purchase price	$ 2,447

Codexis, Inc.

Notes to Consolidated Financial Statements — (Continued)

The allocation of the total purchase price to the assets acquired and liabilities assumed based on their respective fair values at the acquisition date is as follows (in thousands):

	December 31, 2007	2008 Adjustments	December 31, 2008
Total current assets	$ 1,041	$ —	$ 1,041
Property and equipment, net and other noncurrent assets	601	728	1,329
Total liabilities assumed	(1,227)	(854)	(2,081)
Core technology	440	—	440
Customer relationships	490	—	490
Noncompete agreement	90	—	90
Goodwill	1,012	126	1,138
Total purchase price	$ 2,447	$ —	$ 2,447

In the year ended December 31, 2008, we completed an analysis of the tax returns filed by BioCatalytics prior to our acquisition. The analysis revealed additional tax liabilities. These liabilities relate to income taxes and associated interest and penalties in pre-acquisition tax periods. As a result of the analysis, we recorded a tax liability of $0.9 million as well as $0.7 million in related assets that are discussed further below.

The merger agreement relating to the BioCatalytics acquisition provides that the former shareholder will reimburse us for his share of the tax liability associated with the final return. As a result, we have recorded a current tax liability and a corresponding receivable from the former shareholder in the amount of $0.4 million. The adjustment to other noncurrent assets comprises the $0.4 million receivable from the former shareholder and $0.3 million of deferred tax assets.

Customer relationships and core technology are being amortized over an expected useful life of five years. The non-compete agreement is being amortized over its expected useful life of three years.

5. Joint Development Agreement with CO_2 Solution

On December 15, 2009, we entered into an exclusive joint development agreement with CO_2 Solution, a company based in Quebec City, Canada, whose shares are publicly traded in Canada on TSX Venture Exchange. Under the agreement, we agreed to conduct research and development activities jointly with CO_2 Solution with the goal of advancing the development of carbon capture technology. The joint development agreement extends until January 31, 2011, and each party bears the costs it incurs under the agreement. As part of the agreement, we acquired a license for limited use of CO_2 Solution's intellectual property. We also purchased 10,000,000 common shares (approximately 16.6% of total common shares outstanding) of CO_2 Solution in a private placement. We cannot re-sell the shares of CO_2 Solution until April 15, 2010. We made an aggregate payment of $2.3 million upon signing of the agreement. Of this amount, we allocated $1.3 million to the investment in CO_2 Solution common shares based on their fair value. We allocated the remaining $1.0 million to the license we acquired to use CO_2 Solution's intellectual property, and recognized this amount in research and development expense during the year ended December 31, 2009, as the technology is still in the early stages of development and there is no alternative future use for the licensed technology.

Codexis, Inc.

Notes to Consolidated Financial Statements — (Continued)

We concluded that through December 31, 2009 we did not have the ability to exercise significant influence over CO_2 Solution's operating and financial policies. Due to the short resale restriction period, we consider our investment in CO_2 Solution common shares as an investment in a marketable security that is available for sale, and carry it at fair value in other non-current assets, with changes in fair value recognized in other comprehensive income (loss). We estimate the fair value of restricted common shares using the fair value of unrestricted common shares as determined by trading on TSX Venture Exchange, discounted for lack of marketability of the shares. We estimate the value of the discount for lack of marketability using the Black Scholes option pricing model for put options, as the market risk of an investment in a restricted common share could be hedged with a purchase of a put option to sell such share at the current market price upon the expiration of the restriction period. We used the following assumptions in applying the Black Scholes option pricing model: exercise price equal to the fair value of the unrestricted share on the date of the estimate, expected term equal to the period through the end of the restriction (April 15, 2010), volatility based on CO_2 Solution common stock volatility (132% during December 2009), and risk-free interest rate of 0.2-0.3% during December 2009.

At December 31, 2009, the estimated fair value of our investment in CO_2 Solution restricted common stock was $1.2 million, and the unrealized loss was $145,000. We concluded the unrealized loss was temporary at December 31, 2009, as it was caused primarily by the discount for lack of marketability (resale restriction), which expires on April 15, 2010.

6. Balance Sheets and Statements of Operations Details

Cash Equivalents and Marketable Securities

At December 31, 2008, cash equivalents and marketable securities consisted of the following (in thousands):

	December 31, 2008			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
Money market funds	$ 15,992	$ —	$ —	$ 15,992
Corporate debt obligations	3,492	7	—	3,499
Government-sponsored enterprise securities	11,723	6	(1)	11,728
Total	31,207	13	(1)	31,219
Less amounts classified as cash equivalents	(15,992)	—	—	(15,992)
Total marketable securities	$ 15,215	$ 13	$ (1)	$ 15,227

Codexis, Inc.

Notes to Consolidated Financial Statements — (Continued)

At December 31, 2009, cash equivalents and marketable securities consisted of the following (in thousands):

	December 31, 2009			
	Cost or Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
Money market funds	$ 23,722	$ —	$ —	$ 23,722
U.S. Treasury obligations	1,754	1	—	1,755
Government-sponsored enterprise securities	23,507	20	(2)	23,525
Common shares of CO_2 Solution	1,316	—	(145)	1,171
Total	50,299	21	(147)	50,173
Less amounts classified as cash equivalents	(25,225)	—	1	(25,224)
Less amounts included in other non-current assets	(1,316)	—	145	(1,171)
Marketable securities included in current assets	$ 23,758	$ 21	$ (1)	$ 23,778

All debt marketable securities held as of December 31, 2008 and 2009 had maturities of less than one year.

Inventories

Inventories consisted of the following (in thousands):

	December 31,	
	2008	2009
Raw materials	$ 924	$ 1,210
Work in process	14	198
Finished goods	2,038	1,507
Total inventories	$ 2,976	$ 2,915

Property and Equipment

Property and equipment consisted of the following (in thousands):

	December 31,	
	2008	2009
Laboratory equipment	$ 17,558	$ 24,381
Leasehold improvements	7,375	9,221
Computer equipment and software	1,466	2,079
Office equipment and furniture	708	732
Construction in progress	1,605	2,449
	28,712	38,862
Less: accumulated depreciation and amortization	(12,706)	(17,281)
Property and equipment	$ 16,006	$ 21,581

Codexis, Inc.

Notes to Consolidated Financial Statements — (Continued)

Included in property and equipment, net is $75,000 of equipment under capital lease arrangements at December 31, 2008. Included in accumulated depreciation and amortization is $248,000 of accumulated amortization related to equipment under capital leases at December 31, 2008. We had no assets held under capital lease arrangements at December 31, 2009.

Intangible Assets

At December 31, 2008 and 2009, intangible assets consisted of the following (in thousands):

	December 31, 2008			December 31, 2009		
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Value	Gross Carrying Amount	Accumulated Amortization	Net Carrying Value
Customer relationships	$ 2,850	$ (1,921)	$ 929	$ 3,098	$ (2,753)	$ 345
Developed and core technology	1,430	(670)	760	1,534	(968)	566
Tradename	90	(86)	4	99	(99)	—
Noncompete agreements	90	(44)	46	90	(73)	17
Foreign exchange adjustments	5	49	54	—	—	—
	$ 4,465	$ (2,672)	$ 1,793	$ 4,821	$ (3,893)	$ 928

The estimated amortization expense through the year ending December 31, 2012 is as follows at December 31, 2009 (in thousands):

Year ending December 31:	Cost of Product Revenues	Selling, General and Administrative	Total
2010	$ 244	$ 207	$451
2011	244	98	342
2012	77	58	135
	$ 565	$ 363	$928

Goodwill

The changes in the carrying value of goodwill are as follows (in thousands):

	Years Ended December 31,	
	2008	2009
Balance at beginning of year	$3,099	$3,137
Additions due to BioCatalytics acquisition	126	—
Foreign exchange adjustments	(88)	104
Balance at end of year	$3,137	$3,241

Interest Expense and Other, Net

Interest expense and other, net consisted of the following (in thousands):

	Years Ended December 31,		
	2007	2008	2009
Interest expense	$ 829	$2,021	$1,413
Foreign exchange losses (gains)	173	415	(59)
Remeasurement of redeemable convertible preferred stock warrant liabilities	1,328	(103)	627
Other	203	32	56
Interest expense and other, net	$2,533	$2,365	$2,037

7. Fair Value

Assets and liabilities recorded at fair value in the consolidated financial statements are categorized based upon the level of judgment associated with the inputs used to measure their fair value. Hierarchical levels which are directly related to the amount of subjectivity associated with the inputs to the valuation of these assets or liabilities are as follows:

Level 1 — Inputs that are unadjusted, quoted prices in active markets for identical assets or liabilities at the measurement date.

Level 2 — Inputs (other than quoted prices included in Level 1) that are either directly or indirectly observable for the asset or liability through correlation with market data at the measurement date and for the duration of the instrument's anticipated life.

Level 3 — Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities and which reflect management's best estimate of what market participants would use in pricing the asset or liability at the measurement date. Consideration is given to the risk inherent in the valuation technique and the risk inherent in the inputs to the model.

The following table presents our financial instruments that were measured at fair value on a recurring basis at December 31, 2008 by level within the fair value hierarchy (in thousands):

	December 31, 2008			
	Level 1	Level 2	Level 3	Total
Financial Assets				
Money market funds	$ 15,992	$ —	$ —	$ 15,992
Corporate debt obligations	—	3,499	—	3,499
Government-sponsored enterprise securities	—	11,728	—	11,728
Total	$ 15,992	$ 15,227	$ —	$ 31,219
Financial Liability				
Redeemable convertible preferred stock warrant liability	$ —	$ —	$ 1,382	$ 1,382

Codexis, Inc.

Notes to Consolidated Financial Statements — (Continued)

The following table presents our financial instruments that were measured at fair value on a recurring basis at December 31, 2009 by level within the fair value hierarchy (in thousands):

	December 31, 2009			
	Level 1	Level 2	Level 3	Total
Financial Assets				
Money market funds	$ 23,722	$ —	$ —	$ 23,722
U.S. Treasury obligations	—	1,755	—	1,755
Government-sponsored enterprise securities	—	23,525	—	23,525
Common shares of CO_2 Solution	—	—	1,171	1,171
Total	$ 23,722	$ 25,280	$ 1,171	$ 50,173
Financial Liability				
Redeemable convertible preferred stock warrant liability	$ —	$ —	$ 2,009	$ 2,009

The valuation of the common shares of CO_2 Solution and of the redeemable convertible preferred stock warrant liability is discussed in Notes 5 and 11, respectively.

The change in the value of the warrant liability is summarized below (in thousands):

	Years Ended December 31,	
	2008	2009
Fair value at beginning of year	$ 1,485	$ 1,382
Change in fair value recorded in interest expense and other, net	(103)	627
Fair value at end of year	$ 1,382	$ 2,009

The change in the fair value of the common shares of CO_2 Solution is summarized below (in thousands):

	Year Ended December 31, 2009
Fair value at beginning of year	$ —
Acquisition of shares	1,316
Change in fair value recorded in accumulated other comprehensive income (loss)	(145)
Fair value at end of year	$ 1,171

8. Related Party Transactions with Maxygen

Maxygen founded Codexis in 2002 and remains one of our stockholders. During the years ended December 31, 2007, 2008, and 2009, Maxygen provided to Codexis certain legal and administrative services, with total fees paid to Maxygen of $652,000, $268,000, and $101,000, respectively. At December 31, 2008 and 2009, we owed Maxygen $26,000 and $34,000, respectively, in connection with such services.

In August 2006, we entered into an amendment to the license agreement with Maxygen. Under the amendment, we are required to pay Maxygen a fee based on a percentage of all consideration we receive

from third parties related to the use of certain intellectual property owned or controlled by Maxygen in the specified field of biofuels. Specifically, we will owe Maxygen fees in connection with consideration we receive in the form of (1) up-front option and/or license fees, (2) FTE funding for biofuels research, (3) milestone payments, (4) payments from the sale of our equity securities and (5) payments in connection with the commercialization of energy products made with a biocatalyst developed using the licensed technology. If we directly commercialize an energy product that is made using any biocatalyst developed from the technology licensed from Maxygen, we will owe Maxygen a 2% royalty on our net sales of the energy product and on amounts received from any sublicensee or third party for the use of the energy product, to the extent that we utilize such energy product to provide services to such sublicensee or third party. With regard to FTE funding, we are only obligated to pay Maxygen 20% of the portion of any consideration received in excess of a specified amount. In the case of consideration received from the sale of our equity securities to Shell, we were obligated to pay Maxygen 20% of any excess paid above $5.96 per share, the price per share of our Series D preferred stock.

We expense all payments owed to Maxygen as they become due as collaborative research and development expenses, which we report as research and development expenses in our consolidated statements of operations. We are also obligated to reimburse up to 20% of the costs incurred by Maxygen related to the prosecution and maintenance of the patents licensed from Maxygen relating to our core technology. Further, in the event that any subsidiary or affiliate of ours develops and/or sells any energy applications using the Maxygen technology, we are obligated to transfer to Maxygen a percentage of the value of the subsidiary or affiliate that is attributable to the Maxygen technology and give Maxygen an option to acquire a percentage of the other consideration that we invest in such affiliate or subsidiary.

Currently, we pay Maxygen a fee based on our collaborative research and development agreement with Shell (see Note 3). We expensed $7.9 million, $0.9 million and $5.5 million during the years ended December 31, 2007, 2008 and 2009, respectively. Amounts payable to Maxygen were $409,000 and $1.3 million at December 31, 2008 and 2009, respectively.

9. Financing Obligations

Financing obligations, net of debt discounts and issuance costs, consisted of the following (in thousands):

	December 31,	
	2008	2009
General Electric Capital Corporation and Oxford Finance Corporation (2007 agreement)	$12,228	$ 7,789
Oxford Finance Corporation (2005 agreement)	551	153
Lighthouse Capital Partners V, L.P.	103	—
A German bank	721	—
Total loans payable	13,603	7,942
Capital leases	78	—
	13,681	7,942
Less: current portion	(5,194)	(5,368)
Financing obligations, net of current portion	$ 8,487	$ 2,574

Codexis, Inc.

Notes to Consolidated Financial Statements — (Continued)

Loans Payable

In September 2007, we entered into a loan and security agreement with General Electric Capital Corporation and Oxford Finance Corporation under which we could borrow up to $15.0 million. In connection with the execution of the loan and security agreement, we incurred costs of $269,000 and, in addition, we issued the lenders a warrant to purchase 72,727 shares of Series D redeemable convertible preferred stock with an estimated fair value of $297,000, which was recorded in the consolidated balance sheet as a debt discount that is being amortized to interest expense over the life of the loans (see Note 11). During the year ended December 31, 2007, we drew down the entire $15.0 million, net of issuance costs. The loan agreement provides for 6 monthly payments of interest only and 36 monthly installments of principal and interest, with an additional 4% payment due upon final maturity of each funding. Interest accrues at 9.4% per annum. The loan is secured by substantially all of our assets except for intellectual property.

The loan contains a number of covenants that, among other things, restrict, subject to certain exceptions, our and our subsidiaries' ability to incur additional debt or issue certain types of redeemable preferred stock, grant liens on our assets including our intellectual property, sell assets including our intellectual property, engage in mergers and acquisitions, declare or pay dividends to our stockholders, make investments, loans and advances and amend our license agreement with Maxygen. The agreement also defines events of defaults, the occurrence of which may permit the lenders to declare all amounts outstanding under the loan agreement to be immediately due and payable. In addition, the lenders have the right to declare all amounts outstanding under the loan agreement to be immediately due and payable upon the occurrence of an event which has a material adverse effect on our business, assets or operations. At December 31, 2009, we were in compliance with the covenants of the loan and security agreement. During the years ended December 31, 2007, 2008 and 2009, we recorded interest expense of $67,000, $250,000 and $171,000 respectively, for the amortization of the debt discounts and issuance costs, related to these loans.

In October 2005, we entered into a loan agreement with Oxford Finance Corporation to borrow up to $3.0 million to be used for equipment purchases. Borrowings under the agreement to purchase equipment are secured by the equipment financed. The ability to make new borrowings under this financing agreement expired on December 31, 2006. Each borrowing is being repaid over 48-months from the date of drawdown at a fixed interest rate ranging from 9.9% to 10.7% per annum.

In February 2004, we entered into a loan agreement with Lighthouse Capital Partners V, L.P. to borrow up to $4.8 million to be used for equipment purchases and to fund working capital requirements. Borrowings under this agreement to purchase equipment are secured by the equipment financed, while borrowings to fund working capital requirements are unsecured. The ability to make new borrowings under this financing agreement expired on March 31, 2005. The borrowings are being repaid over 48-months from the date of drawdown at a fixed interest rate ranging from 9.2% to 10.9% per annum and were repaid in full in January 2009.

In August 2001, JFC entered into a loan agreement with a German bank denominated in Euros and borrowed 511,000 Euro at a fixed interest rate of 7.9% per annum. The loan required interest only payments of 10,000 Euro ($15,000, $14,000 and $15,000 as of December 31, 2007, December 31, 2008 and September 30, 2009, respectively) per quarter until September 2011, at which time the entire principal was payable in full.

In November 2009, in connection with the closure of our German operations, we repaid the loan of 511,000 Euro in full due to the German bank.

Codexis, Inc.

Notes to Consolidated Financial Statements — (Continued)

Future Payments Under Financing Obligations

Future payments due for all financing obligations are as follows as of December 31, 2009 (in thousands):

Years ending December 31:	
2010	$ 5,920
2011	2,711
Total payments	8,631
Less: amount representing interest	(689)
Outstanding principal balance of financing obligations	7,942
Less: current portion of financing obligations	(5,368)
Long-term portion of financing obligations	$ 2,574

10. Commitments and Contingencies

Operating Leases

In October 2003, we entered into an operating lease agreement with a third party landlord for our facilities in Redwood City, California. The terms of the agreement included scheduled rent increases through the lease expiration in January 2011. During 2007 and 2008, we leased additional facilities from the same landlord adjacent to our current headquarters. The new leases expire in April 2012 and March 2013. We have an option to renew each of the three leases for a five year period. Rent expense is recognized on a straight-line basis over the term of the lease. In accordance with the terms of the lease agreement, we exercised our right to deliver a letter of credit in lieu of a security deposit. This letter of credit was $562,000 as of December 31, 2009 and 2008 and is recorded as restricted cash on the consolidated balance sheets.

Landlord allowances for leasehold improvements were $149,000, $436,000 and $162,000 for the years ended December 31, 2007, 2008 and 2009, respectively. We recorded these amounts as lease incentive obligations that are being amortized as a reduction of rent expense on a straight-line basis over the term of the operating lease.

We also rent facilities in Singapore, Germany and Hungary. Rent expense is being recognized on a straight-line basis over the respective terms of these leases.

We recorded a liability of $349,000 in the year ended December 31, 2007 related to asset retirement obligations from operating leases, whereby we must restore the facilities that we are renting to their original form. We are expensing the asset retirement obligation over the terms of the respective leases. We review the estimated obligation each period and we make adjustments if our estimates change.

Codexis, Inc.

Notes to Consolidated Financial Statements — (Continued)

Future minimum payments under noncancellable operating leases, net of noncancellable subleases of $170,000, are as follows at December 31, 2009 (in thousands):

	Lease Payments
Year ending December 31:	
2010	$ 2,936
2011	1,559
2012	1,228
2013	349
	$ 6,072

Total rent expense under operating leases was $2.1 million, $3.6 million and $3.3 million during the years ended December 31, 2007, 2008 and 2009, respectively. Deferred rent of $412,000 and $321,000 at December 31, 2008 and 2009, respectively, is included in other accrued liabilities on our consolidated balance sheets.

Litigation

We have been subject to various legal proceedings related to matters that have arisen during the ordinary course of business. Although there can be no assurance as to the ultimate disposition of these matters, we have determined, based upon the information available, that the expected outcome of these matters, individually or in the aggregate, will not have a material adverse effect on our consolidated financial position, results of operations or cash flows.

Indemnifications

We are required to recognize a liability for the fair value of any obligations we assume upon the issuance of a guarantee. We have certain agreements with licensors, licensees and collaborators that contain indemnification provisions. In such provisions, we typically agree to indemnify the licensor, licensee and collaborator against certain types of third party claims. The maximum amount of the indemnifications is not limited. We accrue for known indemnification issues when a loss is probable and can be reasonably estimated. There were no accruals for expenses related to indemnification issues for any periods presented.

Other contingencies

In November 2009, one of our foreign subsidiaries sold intellectual property to us. Under the local laws, the sale of intellectual property to a nonresident legal entity is deemed an export and is not subject to value added tax. However, there is uncertainty regarding whether the items sold represented intellectual property or research and development services, which would subject the sale to value added tax. We believe that the uncertainty results in an exposure to pay value added tax that is more than remote but less than likely to occur and, accordingly, have not recorded an accrual for this exposure. Should the sale be deemed a sale of research and development services, we could be obligated to pay an estimated amount of $0.6 million.

11. Warrants

In connection with debt offerings at various times between the years ended December 31, 2004 and 2007, we issued warrants to purchase a total of 574,152 shares of our Series D redeemable convertible

preferred stock and warrants to purchase a total of 39,234 shares of our common stock. The warrants are exercisable at any time during their respective terms. During the year ended December 31, 2007, a warrant to purchase 285,714 shares of Series D redeemable convertible preferred stock was exercised (see Note 3). At December 31, 2008 and 2009, the following warrants were issued and outstanding:

Issue Date	Class of Shares Upon Exercise	Shares Subject to Warrants	Exercise Price per Share	Expiration
February 12, 2004	Common	30,784	$ 0.60	February 12, 2011
October 25, 2005	Common	6,066	1.05	October 25, 2012
May 25, 2006	Series D	215,711	5.96	May 25, 2013
July 17, 2007	Common	2,384	12.45	February 9, 2016
September 28, 2007	Series D	72,727	8.25	September 28, 2017

The fair value of the redeemable convertible preferred stock warrants which are recorded as liabilities in our consolidated balance sheets and are remeasured to fair value at each balance sheet date was determined using the Black-Scholes option pricing model with the following assumptions:

	December 31,		
	2007	2008	2009
Expected term in years (equals the remaining contractual term)	5.4 - 9.8	4.4 - 8.7	3.4 - 7.7
Expected volatility	44%	57% - 65%	69% - 77%
Range of risk-free interest rates	3.8% - 4.8%	1.3% - 2.1%	1.64% - 3.3%
Expected dividend yield	0.0%	0.0%	0.0%

12. Redeemable Convertible Preferred Stock

The designated, issued and outstanding shares and carrying values of our redeemable convertible preferred stock were as follows at December 31, 2008 (in thousands):

Series	Number of Shares		Carrying Value
	Designated	Issued and Outstanding	
Series A	4,000	4,000	$ 1
Series B	5,401	5,401	27,779
Series C	1,010	1,010	9,969
Series D	7,437	6,998	42,764
Series E	4,289	4,104	52,233
	22,137	21,513	$ 132,746

Codexis, Inc.

Notes to Consolidated Financial Statements — (Continued)

The designated, issued and outstanding shares, aggregate liquidation preferences and carrying values of our redeemable convertible preferred stock were as follows at December 31, 2009 (in thousands):

Series	Number of Shares		Aggregate Liquidation Preference	Carrying Value
	Designated	Issued and Outstanding		
Series A	4,000	4,000	$ 30,000	$ 1
Series B	5,401	5,401	25,005	27,779
Series C	1,010	1,010	9,997	9,969
Series D	7,437	6,998	41,708	42,764
Series E	4,289	4,104	52,333	52,233
Series F	4,000	3,686	47,000	46,926
	26,137	25,199	$ 206,043	$ 179,672

We recorded the redeemable convertible preferred stock at fair value on the dates of issuance, net of issuance costs. We classify the redeemable convertible preferred stock outside of stockholders' deficit because the shares contain redemption features that are not solely within our control. For the years ended December 31, 2007, 2008 and 2009, we did not adjust the carrying values of the redeemable convertible preferred stock to the deemed redemption values of such shares since a liquidation event is not probable. Subsequent adjustments to increase the carrying values to the ultimate redemption values will be made only when it becomes probable that such a liquidation event will occur.

The significant rights, privileges and preferences of our redeemable convertible preferred stock are as follows:

Voting Rights — The holders of Series A through F redeemable convertible preferred stock are all entitled to one vote for each share of common stock into which such share may be converted, and the vote of the holders of a majority of our Series B, C, D, E and F redeemable convertible preferred stock (voting together as a single class and on an as-if-converted basis) is required to effect certain corporate actions. In addition, the vote of the holders of a majority of our Series D redeemable convertible preferred stock is required to affect (i) any winding up or liquidation of our Singapore subsidiary, (ii) a significant reduction in the number of employees at our Singapore subsidiary or (iii) a significant reduction in the overall technological capacity of our Singapore subsidiary's operations.

Dividends — The holders of the redeemable convertible preferred stock are entitled, when, as, and if declared by the board of directors, to non-cumulative dividends of (i) $0.60 per share for Series A, (ii) $0.38 per share for Series B, (iii) $0.80 per share for Series C, (iv) $0.48 per share for Series D, (v) $1.02 per share for Series E and (vi) $1.02 per share for Series F. The Series B, C, D, E and F redeemable convertible preferred stock dividends are to be paid in advance of any distributions to the holders of Series A convertible preferred stock and common stock. The Series A convertible preferred stock dividends are to be paid in advance of any distributions to the holders of common stock. Once the redeemable convertible preferred stockholders have received their dividend preference, and in the event dividends are paid on any share of common stock, the holders of all series of redeemable convertible preferred stock are entitled to additional dividends equal to those paid or set aside to the common stockholders determined on an as-if-converted basis. No dividends have been declared or paid as of December 31, 2008 and 2009.

Liquidation — In the event of any voluntary or involuntary liquidation, dissolution or winding up of our company, all of our assets available for distribution among the holders of redeemable convertible preferred stock are required to be distributed in the following order: (i) each holder of Series D, E and F

redeemable convertible preferred stock is entitled to receive a liquidation preference of $5.96, $12.75 and $12.75 per share, respectively, together with any declared but unpaid dividends, before any payments can be made to holders of Series A, B and C redeemable convertible preferred stock, (ii) each holder of Series B and C redeemable convertible preferred stock is entitled to receive a liquidation preference of $4.64 and $9.90 per share, respectively, together with any declared but unpaid dividends, before any payments can be made to holders of Series A convertible preferred stock, and (iii) each holder of Series A convertible preferred stock is entitled to receive a liquidation preference of $7.50 per share, together with any declared but unpaid dividends. After payment of these preferential amounts, the remaining assets are required to be distributed ratably to holders of common stock. In the event that the assets available for distribution are insufficient to make the full per share distributions, all such assets are required to be distributed among the holders of the respective series in proportion to the full preference to which such holders would otherwise be entitled. Any of the following shall be deemed a liquidation, dissolution or winding up of our company: (1) a consolidation or merger of our company with or into any other corporation or other entity or person, or any other corporate reorganization, in which (x) we do not survive or (y) our stockholders immediately prior to such consolidation, merger or reorganization, own less than 50% of our voting power immediately after such consolidation, merger or reorganization; (2) any transaction or series of related transactions to which we are a party in which greater than 50% of our voting power is transferred; or (3) a sale, lease, exclusive license or other disposition of all or substantially all of our assets. As the holders of our redeemable convertible preferred stock may elect a majority of the members of our board of directors, and control the vote of our stockholders, a liquidation may not be in our control. Accordingly, all series of redeemable convertible preferred stock are classified outside of permanent equity.

From our inception through February 2005, Maxygen held a majority of our outstanding voting rights and, therefore, consolidated us as a subsidiary of Maxygen through that date. Based upon Maxygen's control of us during this period, we recorded accretion adjustments to Maxygen's Series B convertible preferred stock through the end of 2004, the last balance sheet date at which Maxygen retained such control. Subsequently our board of directors has not indicated that a deemed redemption or liquidation event, as described in the preceding paragraph, was being considered or was probable due to the reduction of Maxygen's voting rights to less than a majority of our outstanding shares. Accordingly, during 2007, 2008 and 2009, we did not adjust the carrying value of our Series A, B, C, D, E and F redeemable convertible preferred stock to the amounts we would have paid if a deemed redemption payment had become probable.

Conversion — The holders of Series B through F redeemable convertible preferred stock have the right, at the option of the holder, at any time, to convert their shares into shares of common stock on a 1-for-1 basis, subject to adjustment for antidilution, stock splits, reclassifications and the like. The holders of the Series A convertible preferred stock have the right, at the option of the holder, at any time, to convert their shares into shares of common stock on a 1-for-1.01 basis, subject to adjustment for antidilution, stock splits, reclassifications and the like. Conversion of all outstanding redeemable convertible preferred stock is automatic (i) at any time upon the affirmative election of the holders of at least two-thirds of the then outstanding shares of the Series B, C, D, E and F, voting together as a single class and on an as-if-converted basis, or (ii) immediately upon the closing of a firmly underwritten public offering in which the gross cash proceeds to us before underwriting discounts, commissions and fees are equal to or exceed $50.0 million and our value immediately prior to the offering is equal to or exceeds $250.0 million.

Redemption — At any time on or after December 31, 2013, the holders of at least a majority of the then-outstanding shares of Series B, D and E redeemable convertible preferred stock, voting or consenting together as a separate series, may require us to redeem each of these series of redeemable convertible

preferred stock in three annual installments. The redemption price for each share will be payable in cash. Shares of Series B redeemable convertible preferred stock are to be redeemed at a sum equal to the applicable original issue price per share plus five percent (5%) of the original issue price per annum from the Series B original issue date until the Series D original issue date and eight percent (8%) of the original issue price per annum from the Series D original issue date until the applicable Series B redemption date, plus declared but unpaid dividends. Shares of Series D and E redeemable convertible preferred stock are to be redeemed at a sum equal to the applicable original issue price per share plus eight percent (8%) of the original issue price per annum from the original issue date until the applicable redemption date, plus declared but unpaid dividends.

13. Stockholders' Deficit

In 2002, we adopted the 2002 Stock Option Plan (the "Plan"), under which our board of directors may issue incentive stock options, nonstatutory stock options (options that do not qualify as incentive stock options) and restricted stock to our employees, officers, directors or consultants. As of December 31, 2009, we have reserved 10,505,094 shares of common stock for issuance under the Plan. Options granted under the Plan expire no later than 10 years from the date of grant. For incentive stock options and nonstatutory stock options, the option price shall be at least 100% and 85%, respectively, of the fair value of the common stock on the date of grant, as determined by the board of directors. If, at the time of a grant, the optionee directly or by attribution owns stock possessing more than 10% of the total combined voting power of all of our outstanding capital stock, the exercise price for these options must be at least 110% of the fair value of the underlying common stock. Options typically vest over a four-year period at a rate of no less than 25% per year but may be granted with different vesting terms.

In the year ended December 31, 2007, our board of directors amended the Plan to allow for the early exercise of options prior to vesting. During the year ended December 31, 2007, we issued an aggregate of 86,661 unvested shares of common stock with an average exercise price of $1.22 pursuant to the early exercise of stock options. Prior to the year ended December 31, 2007, we had not issued any shares of common stock pursuant to the early exercise of stock options. The amounts received in exchange for these shares have been recorded as a liability in the accompanying consolidated balance sheet and are reclassified into equity as the shares vest. These amounts were insignificant in all periods presented.

During the year ended December 31, 2009, in connection with a termination of an executive officer, we extended the exercise period for his stock option awards to three years following the termination date, resulting in incremental stock compensation expense of $190,000. We also paid this officer cash severance benefits of $160,000.

We may also from time to time grant stock options outside the Plan. These grants and the options outstanding outside the Plan were insignificant in all periods presented.

Codexis, Inc.

Notes to Consolidated Financial Statements — (Continued)

A summary of stock option activity is as follows:

		Options Outstanding	
	Shares Available for Grant	Number of Options	Weighted-Average Exercise Price per Share
December 31, 2007	1,631,097	6,021,120	$ 2.91
Authorized	2,211,875	—	—
Grants	(1,403,619)	1,403,619	10.75
Exercises	—	(345,737)	1.08
Cancelled	631,260	(631,260)	6.06
December 31, 2008	3,070,613	6,447,742	4.41
Grants	(2,121,405)	2,121,405	8.03
Exercises	—	(66,076)	1.77
Cancelled	604,665	(616,539)	6.41
December 31, 2009	1,553,873	7,886,532	5.25

The following table summarizes information about stock options outstanding and exercisable at December 31, 2009:

	Options Outstanding			Options Exercisable	
Exercise Prices	Number of Options	Weighted-Average Remaining Contractual Term (Years)	Weighted-Average Exercise Price per Share	Number of Options	Weighted-Average Exercise Price per Share
$.60-1.05	2,038,106	4.1	$ 0.82	2,027,368	$ 0.82
$2.45-$2.45	1,583,606	6.8	2.45	1,180,847	2.45
$6.70-8.69	2,476,602	8.4	7.17	822,051	6.95
$9.09-$11.85	1,788,218	8.9	10.10	508,008	10.74
	7,886,532	7.1	5.25	4,538,274	3.46

The following table summarizes information about stock options as of December 31, 2009 that are vested and are expected to vest:

	Number of Options Outstanding	Weighted-Average Exercise Price per Share	Weighted-Average Remaining Contractual Term (Years)	Aggregate Intrinsic Value (In Thousands)
Vested	4,395,589	$ 3.30	5.7	$ 31,419
Expected to vest	3,017,433	7.68	8.9	8,439
Total vested and expected to vest	7,413,022	5.09	7	$ 39,858

The weighted-average grant date fair value of options granted during the years ended December 31, 2007, 2008 and 2009 was $1.97, $5.33 and $5.17, respectively.

At December 31, 2009, exercisable options had a weighted average exercise price of $3.46 per share and an intrinsic value of $31.7 million. The aggregate intrinsic value of exercised stock options was $869,000, $374,000 and $418,000 during the years ended December 31, 2007, 2008 and 2009, respectively. The intrinsic value of stock options outstanding, exercised, exercisable and expected-to-vest is calculated based on the difference between the exercise price and the fair value of our common stock.

Codexis, Inc.

Notes to Consolidated Financial Statements — (Continued)

Stock-based compensation costs capitalized during the years ended December 31, 2007, 2008 and 2009 were insignificant. There were no stock-based compensation tax benefits during the years ended December 31, 2007, 2008 or 2009.

At December 31, 2009, there was $13.7 million of unrecognized stock-based compensation cost which is expected to be recognized over an average period of 2.8 years.

Stock-Based Compensation Expense

We estimate the fair value of stock-based awards granted to employees and directors using the Black-Scholes option-pricing model. The Black-Scholes option-pricing model requires the use of highly subjective and complex assumptions to determine the fair value of stock-based awards, including the expected life of the option and expected volatility of the underlying stock over the expected life of the related grants. As a private entity, company specific historical volatility data are not available. As a result, we estimate the expected volatility based on the historical volatility of a group of unrelated public companies within our industry. We will continue to consistently apply this process until a sufficient amount of historical information regarding the volatility of our own share price becomes available. Due to our limited history of grant activity, the expected life of options granted to employees is calculated using the "simplified method" permitted by the SEC as the average of the total contractual term of the option and its vesting period. The risk-free rate assumption was based on U.S. Treasury instruments whose terms were consistent with the terms of our stock options. The expected dividend assumption was based on our history and expectation of dividend payouts.

The following assumptions were used to estimate the fair value of our employee option grants:

	Year Ended December 31,		
	2007	2008	2009
Weighted-average expected life (years)	6.0	6.1	6.3
Weighted-average expected volatility	48%	57%	74%
Weighted-average risk-free interest rates	4.3%	3.2%	2.6%
Expected dividend yield	0.0%	0.0%	0.0%

During the years ended December 31, 2007, 2008 and 2009, we also granted options to purchase 220,662, 20,000 and 86,666 shares of common stock, respectively, to non-employees. For options granted to non-employees, the Black-Scholes option-pricing model was applied using the following assumptions during the years ended December 31, 2007, 2008 and 2009:

	Year Ended December 31,		
	2007	2008	2009
Remaining contractual option life (years)	9 - 10	7 - 9	6 - 10
Volatility	44% - 49%	49%	73% - 89%
Risk-free interest rate	3.9% - 5.0%	1.9% - 2.1%	2.3% - 3.9%
Expected dividend yield	0.0%	0.0%	0.0%

We recognized stock-based compensation expense during the year ended December 31, 2007 of $1.3 million, of which $788,000 was recorded as a selling, general and administrative expense and $468,000 was recorded as a research and development expense. For the year ended December 31, 2008, we recognized stock-based compensation expense of $3.5 million, of which $2.0 million was recorded as selling, general and administrative expense and $1.5 million was recorded as a research and development expense. For the year ended December 31, 2009, we recognized stock-based compensation expense of $4.8

million, of which $2.5 million was recorded as selling, general and administrative expense and $2.3 million was recorded as a research and development expense.

Shares Reserved

Common stock reserved for future issuance is as follows (in thousands):

	December 31, 2009
Conversion of redeemable convertible preferred stock	25,240
Warrants to purchase redeemable convertible preferred and common stock	328
Stock options:	
Outstanding	7,887
Reserved for future grants	1,554
Total common stock reserved for future issuance	35,009

14. Income Taxes

Our loss before provision (benefit) for income taxes was as follows (in thousands):

	Years Ended December 31,		
	2007	2008	2009
United States	$ (35,504)	$ (42,144)	$ (18,940)
Foreign	(3,881)	(2,656)	(1,283)
Loss before provision (benefit) for income taxes	$ (39,385)	$ (44,800)	$ (20,223)

The tax provision (benefit) for the years ended December 31, 2007, 2008 and 2009 consists primarily of taxes attributable to foreign operations. The components of the provision (benefit) for income taxes are as follows (in thousands):

	Years Ended December 31,		
	2007	2008	2009
Current provision (benefit):			
Federal	$ —	$ 88	$ 70
State	4	6	5
Foreign	287	384	489
Total current provision	291	478	564
Deferred provision (benefit):			
Federal	(131)	—	—
State	—	—	—
Foreign	(568)	(151)	(498)
Total deferred (benefit)	(699)	(151)	(498)
Total provision (benefit)	$ (408)	$ 327	$ 66

Codexis, Inc.

Notes to Consolidated Financial Statements — (Continued)

Reconciliation of the provision (benefit) for income taxes calculated at the statutory rate to our provision (benefit) for income taxes is as follows (in thousands):

	Years Ended December 31,		
	2007	2008	2009
Tax benefit at federal statutory rate	$(13,781)	$(15,680)	$(7,078)
State taxes	(1,827)	(1,724)	(526)
Research and development credits	(483)	(427)	(269)
Foreign operations taxed at different rates	1,047	1,144	1,347
Stock-based compensation	—	554	823
Other nondeductible items	560	2,601	835
Change in valuation allowance	14,076	13,859	4,934
Provision (benefit) for income taxes	$ (408)	$ 327	$ 66

Significant components of our deferred tax assets and liabilities are as follows (in thousands):

	December 31,	
	2008	2009
Deferred tax assets:		
Federal, state and foreign net operating loss carryforwards	$ 34,690	$ 36,019
Federal and state credits	2,314	2,715
Deferred contract revenues	7,408	9,015
Capitalized research and development	209	149
Other	4,498	6,288
Acquired intangible assets	2,065	2,218
Total deferred tax assets	51,184	56,404
Deferred tax liabilities:		
Other	(484)	(117)
Total deferred tax liabilities	(484)	(117)
Valuation allowance	(50,752)	(55,686)
Net deferred tax assets (liabilities)	$ (52)	$ 601

Realization of the deferred tax assets is dependent upon future taxable income, if any, the amount and timing of which are uncertain. Accordingly, the net deferred tax assets in the United States and Germany have been fully reserved by a valuation allowance. The net valuation allowance increased by $14.1 million, $13.9 million and $4.9 million during the years ended December 31, 2007, 2008 and 2009, respectively. At such time as it is determined that it is more likely than not that the deferred tax assets are realizable, the valuation allowance will be reduced.

As of December 31, 2009, we had federal NOL carryforwards of $92.8 million. We also had federal research and development tax credit carryforwards of $3.3 million. The federal NOL carryforwards will expire at various dates beginning in 2022 through 2029 if not utilized and the federal research and development tax credits will expire at various dates beginning in 2022 through 2029 if not utilized.

As of December 31, 2009, we had state NOL carryforwards of $84.0 million. We also had state research and development tax credit carryforwards of $3.5 million. The state NOL carryforwards will expire at various dates beginning in 2013 through 2029 if not utilized and the state research and development tax credits will not expire.

Codexis, Inc.

Notes to Consolidated Financial Statements — (Continued)

As of December 31, 2009, we had foreign NOL carryforwards of $3.3 million which do not expire.

Current federal and California tax laws include substantial restrictions on the utilization of NOLs and tax credit carryforwards in the event of an ownership change of a corporation. Accordingly, our ability to utilize NOLs and tax credit carryforwards may be limited as a result of such ownership changes. Such a limitation could result in the expiration of carryforwards before they are utilized.

We have not recorded deferred income taxes applicable to undistributed earnings of a foreign subsidiary that are indefinitely reinvested in foreign operations. Undistributed earnings amounted to $2.0 million at December 31, 2009. Generally, such earnings become subject to U.S. tax upon the remittance of dividends and under certain other circumstances.

A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows (in thousands):

	December 31,	
	2008	2009
Balance at beginning of year	$2,798	$5,123
Additions based on tax positions related to current year	1,991	1,143
Additions for tax positions of prior years	601	—
Reductions for tax positions of prior years	(267)	(367)
Balance at end of year	$5,123	$5,899

We recognize interest and penalties in income tax expense. Total interest and penalties recognized in the consolidated statement of operations was $49,000, $120,000 and $76,000, respectively, during the years ended December 31, 2007, 2008 and 2009. The total unrecognized tax benefits that, if recognized, would impact our effective tax rate are $1.4 million. We do not expect any unrecognized tax benefits to be recognized within the next 12 months. We are subject to examination by U.S. federal or state tax authorities for substantially all prior years and foreign tax authorities for years ended December 31, 2007 and thereafter.

15. 401(k) Plan

In January 2005, we implemented a 401(k) Plan covering certain employees. Currently, all of our U.S. based employees over the age of 18 are eligible to participate in the 401(k) Plan. Under the 401(k) Plan, eligible employees may elect to reduce their current compensation up to a certain annual limit and contribute these amounts to the 401(k) Plan. We may make matching or other contributions to the 401(k) Plan on behalf of eligible employees. In the years ended December 31, 2007, 2008 and 2009, we did not make any contributions to the 401(k) Plan on behalf of eligible employees.

16. Restructuring Charges

In 2009, the board of directors approved and committed to plans to reduce our cost structure, which included a relocation of our operation in Germany to facilities in the United States and in Singapore, a rationalization of the Company's product offerings and closure of the facility in Germany, and employee terminations in Germany and the United States. Total costs of the plans were $1.4 million, including $0.5 million in inventory write downs, $0.4 million in lease termination costs, and $0.4 million in employee severance and benefits. The inventory write downs of $0.5 million were included in cost of product revenue and the remaining $0.9 million were included in selling, general and administrative expenses in the

consolidated statements of operations. As of December 31, 2009, $1.2 million related to these expenses has been paid or charged off and the remaining $0.2 million is recorded in other accrued liabilities on the consolidated balance sheet.

In 2008, the board of directors approved and committed to plans to reduce our cost structure. The restructuring plan applied to employees and facilities worldwide. We expensed $1.1 million for facilities, $0.6 million for employees and $0.2 million in other costs associated with the closure of the Pasadena site for a total of $2.0 million in the year ended December 31, 2008. Restructuring expense was included in selling, general and administrative expenses in the consolidated statements of operations. As of December 31, 2008, $0.4 million had been paid and the remaining expenses were recorded on the consolidated balance sheet in other accrued liabilities for $0.8 million and in other long-term liabilities for $0.7 million. During the year ended December 31, 2009, $0.8 million was paid, and $0.3 million was reversed as reduction of selling, general and administrative expense due to a change in estimated costs of restructuring when the facility was subleased. The amounts included in other accrued liabilities on the consolidated balance sheet as of December 31, 2009 under this restructuring plan were $0.5 million.

17. Segment Reporting

Operating segments are defined as components of an enterprise about which separate financial information is available that is evaluated regularly by the chief operating decision maker, or decision making group, in deciding how to allocate resources and in assessing performance. Our chief operating decision maker is our Chief Executive Officer and our board of directors. The Chief Executive Officer and our board of directors reviews financial information presented on a consolidated basis, accompanied by information about revenues by geographic region, for purposes of allocating resources and evaluating financial performance. We have one business activity and there are no segment managers who are held accountable for operations, operating results beyond revenue goals or gross margins, or plans for levels or components below the consolidated unit level. Accordingly, we have a single reporting segment.

Operations outside of the United States consist principally of research and development and sales activities. Geographic revenues are identified by the location of the customer and consist of the following (in thousands):

	Years Ended December 31,		
	2007	2008	2009
Revenues			
Americas(1)	$ 15,010	$ 35,166	$ 65,713
Europe	4,005	8,165	7,028
Asia	6,318	7,147	10,167
	$ 25,333	$ 50,478	$ 82,908

(1) Primarily United States.

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Notes to Consolidated Financial Statements — (Continued)

Geographic presentation of identifiable long-lived assets below shows those assets that can be directly associated with a particular geographic area and consist of the following (in thousands):

	December 31,		
	2007	2008	2009
Long-lived assets			
Americas(1)	$ 9,470	$ 11,270	$ 19,439
Europe	651	2,437	3,911
Asia	4,780	5,146	4,332
	$ 14,901	$ 18,853	$ 27,682

(1) Primarily United States.

18. Subsequent Events

On March 30, 2010, our board of directors approved an amended and restated certificate of incorporation that will increase the authorized common stock to 100,000,000 shares and authorize 5,000,000 shares of preferred stock immediately prior to the completion of the initial public offering of our common stock.

On March 30, 2010, our board of directors approved an amended and restated certificate of incorporation effecting a 2-for-3 reverse stock split of our authorized, issued and outstanding shares of common stock and convertible preferred stock. The par value of the common and convertible preferred stock will not be adjusted as a result of the reverse stock split. All authorized, issued and outstanding common stock, convertible preferred stock, warrants for common stock, warrants for preferred stock, and per share amounts contained in our financial statements have been retroactively adjusted to reflect this reverse stock split for all periods presented. The reverse stock split will be effected immediately prior to the effectiveness of a registration statement relating to the initial public offering of our common stock.

On March 30, 2010, our board of directors approved the 2010 Equity Incentive Award Plan which will become effective upon the completion of the initial public offering of our common stock. A total of 1,100,000 shares of common stock were initially reserved for future issuance under the 2010 Equity Incentive Award Plan and any shares of common stock reserved for future grant or issuance under our 2002 Stock Plan but which remain unissued will be added to the shares to be reserved under our 2010 Equity Incentive Award Plan upon effectiveness of the 2010 Equity Incentive Award Plan.


CODEXIS®
Biobased Solutions for the Low Carbon Economy

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 13. ***Other Expenses of Issuance and Distribution***

The following table sets forth the fees and expenses, other than underwriting discounts and commissions, payable in connection with the registration of the common stock hereunder. All amounts are estimates except the SEC registration fee, the FINRA filing fee and The Nasdaq Global Market listing fee.

Securities and Exchange Commission registration fee	$ 7,380
FINRA filing fee	10,850
Nasdaq Global Market listing fee	125,000
Blue Sky fees and expenses	15,000
Printing and engraving expenses	300,000
Legal fees and expenses	1,300,000
Accounting fees and expenses	1,900,000
Transfer Agent and Registrar fees	7,000
Miscellaneous expenses	834,770
Total	4,500,000

Item 14. ***Indemnification of Directors and Officers***

Section 145 of the Delaware General Corporation Law provides that a corporation may indemnify its directors and officers from certain expenses in connection with legal proceedings and permits a corporation to include in its charter documents, and in agreements between the corporation and its directors and officers, provisions expanding the scope of indemnification beyond that specifically provided by this section.

The Registrant's amended and restated certificate of incorporation provides for the indemnification of directors to the fullest extent permissible under Delaware law.

The Registrant's amended and restated bylaws provide for the indemnification of officers, directors and third parties acting on the Registrant's behalf if such persons act in good faith and in a manner reasonably believed to be in and not opposed to the Registrant's best interest, and, with respect to any criminal action or proceeding, such indemnified party had no reason to believe his or her conduct was unlawful.

The Registrant has entered into indemnification agreements with each of its directors, and will enter into new indemnification agreements with each of its directors and executive officers before the completion of this offering, in addition to the indemnification provisions provided for in its charter documents. The Registrant intends to enter into indemnification agreements with any new directors and executive officers in the future.

The underwriting agreement (a form of which is filed as Exhibit 1.1 hereto) provides for indemnification by the underwriters of the Registrant, the Registrant's executive officers and directors, and indemnification of the underwriters by the Registrant for certain liabilities, including liabilities arising under the Securities Act of 1933, as amended, in connection with matters specifically provided in writing by the underwriters for inclusion in the registration statement.

The Registrant intends to purchase and maintain insurance on behalf of any person who is or was a director or officer against any loss arising from any claim asserted against him or her and incurred by him or her in that capacity, subject to certain exclusions and limits of the amount of coverage.

Item 15. ***Recent Sales of Unregistered Securities***

Since January 1, 2007, the registrant has issued and sold the following unregistered securities:

1. In July 2007, the Registrant issued and sold 642,281 shares of common stock to the sole shareholder of BioCatalytics, Inc. as partial consideration for the Registrant's acquisition of BioCatalytics, Inc.
2. In July 2007, the Registrant converted a warrant issued by a newly-acquired subsidiary to its landlord into a warrant to purchase an aggregate of 2,384 shares of its common stock at an exercise price of $12.45 per share. The warrant may be exercised at any time prior to its termination date, which is the 10th anniversary of its issue date.
3. In September 2007, the Registrant issued warrants to purchase an aggregate of up to 72,727 shares of its Series D convertible preferred stock at an exercise price of $8.25 per share to certain lenders to the Registrant. The warrants may be exercised at any time prior to their respective termination dates, which are the 10th anniversaries of their issue dates.
4. In November and December 2007, the Registrant issued and sold 4,104,512 shares of Series E convertible preferred stock to venture capital funds and other investors at a per share price of $12.75, for aggregate consideration of approximately $52.0 million. Upon completion of this offering, these shares of Series E convertible preferred stock will convert into 4,104,512 shares of the Registrant's common stock.
5. In September 2008, the Registrant granted a stock option to purchase 5,208 shares of the Registrant's common stock to a former director of the Registrant at an exercise price of $10.79 per share. The stock option has since been cancelled.
6. In September 2008, the Registrant granted a stock option to purchase 6,666 shares of the Registrant's common stock to an employee of the Registrant at an exercise price of $6.86 per share. The stock option has since been cancelled.
7. Between March and November 2009, the Registrant issued and sold 3,686,271 shares of Series F convertible preferred stock to venture capital funds and other investors at a per share price of $12.75, for aggregate consideration of approximately $47 million. Upon completion of this offering, these shares of Series F convertible preferred stock will convert into 3,686,271 shares of the Registrant's common stock.
8. Since January 1, 2007 through March 31, 2010, the Registrant granted stock options to purchase 7,932,936 shares of the registrant's common stock at exercise prices ranging from $2.45 to $11.87 per share to employees, consultants and directors of the Registrant. Since January 1, 2007 through March 31, 2010, the Registrant had issued and sold an aggregate of 903,561 shares of its common stock to the Registrant's employees, consultants and directors at prices ranging from $0.60 to $10.50 per share pursuant to exercises of options.

The issuance of securities described above in paragraphs (1) through (5) and (7) were exempt from registration under the Securities Act of 1933, as amended, in reliance on Section 4(2) of the Securities Act of 1933, as amended, and Regulation D promulgated thereunder, as transactions by an issuer not involving any public offering. The purchasers of the securities in these transactions represented that they were accredited investors and that they were acquiring the securities for investment only and not with a view toward the public sale or distribution thereof. Such purchasers received written disclosures that the securities had not been registered under the Securities Act of 1933, as amended, and that any resale must be made pursuant to a registration statement or an available exemption from registration. All purchasers either received adequate financial statement or non-financial statement information about the Registrant or had adequate access, through their relationship with the Registrant, to financial statement or non-financial statement information about the Registrant. The sale of these securities was made without general solicitation or advertising.

The issuance of securities described above in paragraphs (6) and (8) were exempt from registration under the Securities Act of 1933, as amended, in reliance on Rule 701, Section 4(2) and Regulation S of the Securities Act of 1933, as amended, pursuant to compensatory benefit plans or agreements approved by the Registrant's board of directors.

All certificates representing the securities issued in these transactions described in this Item 15 included appropriate legends setting forth that the securities had not been offered or sold pursuant to a registration statement and describing the applicable restrictions on transfer of the securities. There were no underwriters employed in connection with any of the transactions set forth in this Item 15.

Item 16. ***Exhibits and Financial Statement Schedules***

(a) Exhibits

Exhibit No.	Description
1.1#	Form of Underwriting Agreement.
3.1#	Seventh Amended and Restated Certificate of Incorporation of the Registrant, as currently in effect.
3.2#	Form of Amended and Restated Certificate of Incorporation of the Registrant, to be in effect upon completion of the offering.
3.3#	Amended and Restated Bylaws of the Registrant, as currently in effect.
3.4#	Form of Amended and Restated Bylaws of the Registrant, to be in effect upon completion of the offering.
3.5	Form of Eighth Amended and Restated Certificate of Incorporation of the Registrant, to be in effect immediately prior to the effectiveness of the Registration Statement.
4.1#	Form of the Registrant's Common Stock Certificate.
4.2#	Fifth Amended and Restated Investor Rights Agreement dated March 4, 2009.
4.3#	Form of Warrant to purchase shares of Common Stock issued in connection with the Loan and Security Agreement dated as of February 12, 2004.
4.4#	Warrant to purchase shares of Common Stock issued to Oxford Finance Corporation dated October 25, 2005.
4.5#	Form of Warrant to purchase shares of Series D preferred stock issued in connection with the Bridge Loan Agreement dated as of May 25, 2006.
4.6#	Form of Warrant to purchase shares of Series D preferred stock issued in connection with the Loan and Security Agreement dated as of September 28, 2007.
4.7#	Warrant to purchase shares of Common Stock issued to Alexandria Equities, LLC.
4.8#	Registration Rights Agreement among the Company, Jülich Fine Chemicals GmbH and the other parties named therein, dated February 11, 2005.
4.9#	Fifth Amended and Restated Voting Agreement dated March 4, 2009.
4.10#	Amendment to Fifth Amended and Restated Voting Agreement dated February 25, 2010.
5.1#	Opinion of Latham & Watkins LLP.

Exhibit No.	Description
10.1A†	Loan and Security Agreement by and among the Company, General Electric Capital Corporation and Oxford Finance Corporation dated as of September 28, 2007.
10.1B†#	First Amendment to Loan and Security Agreement by and among the Company, General Electric Capital Corporation and Oxford Finance Corporation dated as of November 9, 2007.
10.2A†	License Agreement by and between Maxygen, Inc. and the Company effective as of March 28, 2002 (the Maxygen License).
10.2B†#	Amendment No. 1 to the Maxygen License effective as of September 13, 2002.
10.2C#	Amendment No. 2 to the Maxygen License effective as of October 1, 2002.
10.2D†#	Amendment No. 3 to the Maxygen License effective as of August 22, 2006.
10.2E†#	Side Letter by and between the Company and Maxygen, Inc. re: the Maxygen License dated as of February 18, 2005.
10.2F†#	Side Letter by and between the Company and Maxygen, Inc. re: the Maxygen License dated as of September 11, 2007.
10.2G†#	Side Letter by and between the Company and Maxygen, Inc. re: the Maxygen License dated as of September 24, 2007.
10.3A†	Amended and Restated Collaborative Research Agreement by and between the Company and Equilon Enterprises LLC dba Shell Oil Products US effective as of November 1, 2006.
10.3B†	Amendment to the Amended and Restated Collaborative Research Agreement, by and between the Company and Equilon Enterprises LLC dba Shell Oil Products US effective as of March 4, 2009.
10.3C†	Amendment No. 2 to the Amended and Restated Collaborative Research Agreement, by and between the Company and Equilon Enterprises LLC dba Shell Oil Products US effective as of February 23, 2010.
10.4A†	Amended and Restated License Agreement by and between the Company and Equilon Enterprises LLC dba Shell Oil Products US effective as of November 1, 2006.
10.4B	Amendment to the Amended and Restated License Agreement by and between the Company and Equilon Enterprises LLC dba Shell Oil Products US effective as of March 4, 2009.
10.5†	Collaborative Research and License Agreement by and among the Company, Iogen Energy Corporation and Equilon Enterprises LLC dba Shell Oil Products US effective as of July 10, 2009.
10.6†	License Agreement by and among the Company, Dyadic International (USA), Inc. and Dyadic International, Inc. effective as of November 14, 2008.
10.7A†#	Product Supply Agreement by and between Codexis Laboratories India Private Limited and Arch Pharmalabs Limited, effective as of February 16, 2010.
10.7B†	Enzyme and Product Supply Agreement by and between the Company and Arch Pharmalabs Limited, effective as of February 16, 2010.
10.7C†	Memorandum of Understanding for Transfer Pricing and Royalty Calculation by and between the Company and Arch Pharmalabs Limited, effective as of February 16, 2010.
10.7D†	Memorandum of Understanding for Transfer Pricing by and between Codexis Laboratories India Private Limited and Arch Pharmalabs Limited, effective as of February 16, 2010.

Exhibit No.	Description
10.8A#	Lease Agreement by and between the Company and Metropolitan Life Insurance Company dated as of February 1, 2004.
10.8B#	Amendment to Lease Agreement by and between the Company and Metropolitan Life Insurance Company dated as of June 1, 2004.
10.8C#	Amendment to Lease Agreement by and between the Company and Metropolitan Life Insurance Company dated as of March 9, 2007.
10.8D#	Amendment to Lease Agreement by and between the Company and Metropolitan Life Insurance Company dated as of March 31, 2008.
10.9#	Master Security Agreement by and between the Company and Oxford Finance Corporation effective as of October 25, 2005.
10.10#	Codexis, Inc. 2002 Stock Plan, as amended, and Form of Stock Option Agreement.
10.11#	Codexis, Inc. 2010 Equity Incentive Award Plan and Form of Stock Option Agreement.
10.12A#	Offer Letter Agreement by and between the Company and Alan Shaw dated as of July 29, 2003.
10.13A#	Offer Letter Agreement by and between the Company and Robert S. Breuil dated as of December 22, 2005.
10.13C#	Separation Agreement by and between the Company and Robert S. Breuil dated as of June 30, 2009.
10.13D#	Amendment to Separation Agreement by and between the Company and Robert S. Breuil effective as of September 25, 2009.
10.14A#	Offer Letter Agreement by and between the Company and Douglas T. Sheehy dated as of February 26, 2007.
10.15#	Offer Letter Agreement by and between Company and David L. Anton dated as of February 15, 2008.
10.16#	Employment Contract by and between the Company and Peter Seufer-Wasserthal dated as of March 6, 2006.
10.17#	Consulting Agreement by and between the Company and Alexander A. Karsner dated as of December 14, 2009.
10.18#	Form of Indemnification Agreement between the Company and each of its directors, as currently in effect.
10.19#	Form of Indemnification Agreement between the Company and each of its directors, officers and certain employees, to be in effect before the completion of the offering.
10.20#	Offer Letter Agreement by and between the Company and Robert J. Lawson dated as of October 16, 2009.
10.21#	2008 Executive Incentive Compensation Plan.
10.22#	2009 Executive Incentive Compensation Plan.
10.23#	Form of Change of Control Severance Agreement between the Company and certain of its officers.

Exhibit No.	Description
10.24†#	Letters of Offer and Acceptance, dated as of September 28, 2009, by and between Codexis Laboratories Singapore Pte Ltd and the Economic Development Board of Singapore regarding the grant for the development of the Codexis Gene Shuffling Centre of Excellence.
10.25#	Offer Letter Agreement by and between the Company and Joseph J. Sarret, M.D. dated as of January 24, 2007.
21#	List of Subsidiaries.
23.1	Consent of independent registered public accounting firm.
23.2#	Consent of Latham & Watkins LLP (included in Exhibit 5.1).
24.1#	Power of Attorney (see page II-7 of the original filing of this Form S-1).

† Certain portions have been omitted pursuant to a confidential treatment request. Omitted information has been filed separately with the SEC.
# Previously filed.

(b) Financial Statement Schedules

Schedules not listed above have been omitted because the information required to be set forth therein is not applicable or is shown in the financial statements or notes thereto.

Item 17. ***Undertakings***

Insofar as indemnification for liabilities arising under the Securities Act of 1933, as amended, may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act of 1933, as amended, and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act of 1933, as amended, and will be governed by the final adjudication of such issue.

The Registrant hereby undertakes that:

(a) The Registrant will provide to the underwriters at the closing as specified in the underwriting agreement, certificates in such denominations and registered in such names as required by the underwriters to permit prompt delivery to each purchaser.

(b) For purposes of determining any liability under the Securities Act of 1933, as amended, the information omitted from a form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in the form of prospectus filed by the Registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act of 1933, as amended, shall be deemed to be part of this registration statement as of the time it was declared effective.

(c) For the purpose of determining any liability under the Securities Act of 1933, as amended, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant has duly caused this Amendment No. 7 to the Registration Statement on Form S-1 to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Redwood City, State of California, on the 5th day of April, 2010.

CODEXIS, INC.

By: /S/ ALAN SHAW
Alan Shaw
President and Chief Executive Officer

Pursuant to the requirements of the Securities Act of 1933, as amended, this Amendment No. 7 to the Registration Statement has been signed by the following persons in the capacities indicated below.

Signature	Title	Date
/S/ ALAN SHAW Alan Shaw	President and Chief Executive Officer, Director (Principal Executive Officer)	April 5, 2010
/S/ ROBERT J. LAWSON Robert J. Lawson	Senior Vice President and Chief Financial Officer (Principal Financial and Accounting Officer)	April 5, 2010
* Thomas R. Baruch	Chairman of the Board of Directors	April 5, 2010
* Alexander A. Karsner	Director	April 5, 2010
* Bernard J. Kelley	Director	April 5, 2010
* Bruce Pasternack	Director	April 5, 2010
* Chris Streng	Director	April 5, 2010
* James R. Sulat	Director	April 5, 2010
* Dennis P. Wolf	Director	April 5, 2010
* Mun Yew Wong	Director	April 5, 2010
*By: /S/ ALAN SHAW Alan Shaw Attorney-in-fact		April 5, 2010

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EXHIBIT INDEX

Exhibit No.	Description
1.1#	Form of Underwriting Agreement.
3.1#	Seventh Amended and Restated Certificate of Incorporation of the Registrant, as currently in effect.
3.2#	Form of Amended and Restated Certificate of Incorporation of the Registrant, to be in effect upon completion of the offering.
3.3#	Amended and Restated Bylaws of the Registrant, as currently in effect.
3.4#	Form of Amended and Restated Bylaws of the Registrant, to be in effect upon completion of the offering.
3.5	Form of Eighth Amended and Restated Certificate of Incorporation of the Registrant, to be in effect immediately prior to the effectiveness of the Registration Statement.
4.1#	Form of the Registrant's Common Stock Certificate.
4.2#	Fifth Amended and Restated Investor Rights Agreement dated March 4, 2009.
4.3#	Form of Warrant to purchase shares of Common Stock issued in connection with the Loan and Security Agreement dated as of February 12, 2004.
4.4#	Warrant to purchase shares of Common Stock issued to Oxford Finance Corporation dated October 25, 2005.
4.5#	Form of Warrant to purchase shares of Series D preferred stock issued in connection with the Bridge Loan Agreement dated as of May 25, 2006.
4.6#	Form of Warrant to purchase shares of Series D preferred stock issued in connection with the Loan and Security Agreement dated as of September 28, 2007.
4.7#	Warrant to purchase shares of Common Stock issued to Alexandria Equities, LLC.
4.8#	Registration Rights Agreement among the Company, Jülich Fine Chemicals GmbH and the other parties named therein, dated February 11, 2005.
4.9#	Fifth Amended and Restated Voting Agreement dated March 4, 2009.
4.10#	Amendment to Fifth Amended and Restated Voting Agreement dated February 25, 2010.
5.1#	Opinion of Latham & Watkins LLP.
10.1A†	Loan and Security Agreement by and among the Company, General Electric Capital Corporation and Oxford Finance Corporation dated as of September 28, 2007.
10.1B†#	First Amendment to Loan and Security Agreement by and among the Company, General Electric Capital Corporation and Oxford Finance Corporation dated as of November 9, 2007.
10.2A†	License Agreement by and between Maxygen, Inc. and the Company effective as of March 28, 2002 (the Maxygen License).
10.2B†#	Amendment No. 1 to the Maxygen License effective as of September 13, 2002.
10.2C#	Amendment No. 2 to the Maxygen License effective as of October 1, 2002.
10.2D†#	Amendment No. 3 to the Maxygen License effective as of August 22, 2006.
10.2E†#	Side Letter by and between the Company and Maxygen, Inc. re: the Maxygen License dated as of February 18, 2005.
10.2F†#	Side Letter by and between the Company and Maxygen, Inc. re: the Maxygen License dated as of September 11, 2007.
10.2G†#	Side Letter by and between the Company and Maxygen, Inc. re: the Maxygen License dated as of September 24, 2007.

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Exhibit No.	Description
10.3A†	Amended and Restated Collaborative Research Agreement by and between the Company and Equilon Enterprises LLC dba Shell Oil Products US effective as of November 1, 2006.
10.3B†	Amendment to the Amended and Restated Collaborative Research Agreement by and between the Company and Equilon Enterprises LLC dba Shell Oil Products US effective as of March 4, 2009.
10.3C†	Amendment No. 2 to the Amended and Restated Collaborative Research Agreement, by and between the Company and Equilon Enterprises LLC dba Shell Oil Products US effective as of February 23, 2010.
10.4A†	Amended and Restated License Agreement by and between the Company and Equilon Enterprises LLC dba Shell Oil Products US effective as of November 1, 2006.
10.4B	Amendment to the Amended and Restated License Agreement by and between the Company and Equilon Enterprises LLC dba Shell Oil Products US effective as of March 4, 2009.
10.5†	Collaborative Research and License Agreement by and among the Company, Iogen Energy Corporation and Equilon Enterprises LLC dba Shell Oil Products US effective as of July 10, 2009.
10.6†	License Agreement by and among the Company, Dyadic International (USA), Inc. and Dyadic International, Inc. effective as of November 14, 2008.
10.7A†#	Product Supply Agreement by and between Codexis Laboratories India Private Limited and Arch Pharmalabs Limited, effective as of February 16, 2010.
10.7B†	Enzyme and Product Supply Agreement by and between the Company and Arch Pharmalabs Limited, effective as of February 16, 2010.
10.7C†	Memorandum of Understanding for Transfer Pricing and Royalty Calculation by and between the Company and Arch Pharmalabs Limited, effective as of February 16, 2010.
10.7D†	Memorandum of Understanding for Transfer Pricing by and between Codexis Laboratories India Private Limited and Arch Pharmalabs Limited, effective as of February 16, 2010.
10.8A#	Lease Agreement by and between the Company and Metropolitan Life Insurance Company dated as of February 1, 2004.
10.8B#	Amendment to Lease Agreement by and between the Company and Metropolitan Life Insurance Company dated as of June 1, 2004.
10.8C#	Amendment to Lease Agreement by and between the Company and Metropolitan Life Insurance Company dated as of March 9, 2007.
10.8D#	Amendment to Lease Agreement by and between the Company and Metropolitan Life Insurance Company dated as of March 31, 2008.
10.9#	Master Security Agreement by and between the Company and Oxford Finance Corporation effective as of October 25, 2005.
10.10#	Codexis, Inc. 2002 Stock Plan, as amended, and Form of Stock Option Agreement.
10.11#	Codexis, Inc. 2010 Equity Incentive Award Plan and Form of Stock Option Agreement.
10.12A#	Offer Letter Agreement by and between the Company and Alan Shaw dated as of July 29, 2003.
10.13A#	Offer Letter Agreement by and between the Company and Robert S. Breuil dated as of December 22, 2005.

Exhibit No.	Description
10.13C#	Separation Agreement by and between the Company and Robert S. Breuil dated as of June 30, 2009.
10.13D#	Amendment to Separation Agreement by and between the Company and Robert S. Breuil effective as of September 25, 2009.
10.14A#	Offer Letter Agreement by and between the Company and Douglas T. Sheehy dated as of February 26, 2007.
10.15#	Offer Letter Agreement by and between Company and David L. Anton dated as of February 15, 2008.
10.16#	Employment Contract by and between the Company and Peter Seufer-Wasserthal dated as of March 6, 2006.
10.17#	Consulting Agreement by and between the Company and Alexander A. Karsner dated as of December 14, 2009.
10.18#	Form of Indemnification Agreement between the Company and each of its directors, as currently in effect.
10.19#	Form of Indemnification Agreement between the Company and each of its directors, officers and certain employees, to be in effect before the completion of the offering.
10.20#	Offer Letter Agreement by and between the Company and Robert J. Lawson dated as of October 16, 2009.
10.21#	2008 Executive Incentive Compensation Plan.
10.22#	2009 Executive Incentive Compensation Plan.
10.23#	Form of Change of Control Severance Agreement between the Company and certain of its officers.
10.24†#	Letters of Offer and Acceptance, dated as of September 28, 2009, by and between Codexis Laboratories Singapore Pte Ltd and the Economic Development Board of Singapore regarding the grant for the development of the Codexis Gene Shuffling Centre of Excellence.
10.25#	Offer Letter Agreement by and between the Company and Joseph J. Sarret, M.D. dated as of January 24, 2007.
21#	List of Subsidiaries
23.1	Consent of independent registered public accounting firm.
23.2#	Consent of Latham & Watkins LLP (included in Exhibit 5.1).
24.1#	Power of Attorney (see page II-7 of the original filing of this Form S-1).

† Certain portions have been omitted pursuant to a confidential treatment request. Omitted information has been filed separately with the SEC.
# Previously filed.

EXHIBIT 3.5

FORM OF EIGHTH AMENDED AND RESTATED

CERTIFICATE OF INCORPORATION

OF

CODEXIS, INC.

Alan Shaw hereby certifies that:

ONE: The original name of this corporation is Codexis, Inc. and the date of filing the original Certificate of Incorporation of this corporation with the Secretary of State of the State of Delaware was January 31, 2002.

TWO: He is the duly elected and acting President of Codexis, Inc., a Delaware corporation.

THREE: The Certificate of Incorporation of this corporation is hereby amended and restated to read as follows:

I.

The name of the corporation is Codexis, Inc. (the "Corporation").

II.

The address of the registered office of this Corporation in the State of Delaware is 2711 Centerville Road, Suite 400, City of Wilmington, County of New Castle, 19808, and the name of the registered agent of this Corporation in the State of Delaware at such address is Corporation Service Company.

III.

The purpose of the Corporation is to engage in any lawful act or activity for which a corporation may be organized under the General Corporation Law of the State of Delaware.

IV.

A. **Reverse Stock Split**. Without any further action on the part of any stockholders of the Corporation, effective immediately prior to the effectiveness of the Registration Statement on Form S-1 (File No. 333-164044) originally filed by the Corporation on December 28, 2009, as amended through the time of effectiveness, a reverse stock split of this Corporation's outstanding Common Stock (as defined below) and Preferred Stock (as defined below) shall be effected, whereby each three (3) shares of issued and outstanding Common Stock shall be reconstituted and exchanged for two (2) shares of Common Stock, and each three (3) shares of issued and outstanding Preferred Stock shall be reconstituted and exchanged for two (2) shares of Preferred Stock of the same series as each such original share of Preferred Stock (the "Reverse Stock Split"). Such conversions shall be effected on a certificate-by-certificate basis.

Each stock certificate representing shares of Preferred Stock or Common Stock prior to the Reverse Stock Split shall thereafter represent that number of shares of Preferred Stock or Common Stock for which the shares of Preferred Stock or Common Stock, as applicable, represented by such certificate prior to the Reverse Stock Split shall have been reconstituted and exchanged; provided, however, that each person holding of record a stock certificate or certificates that represented shares of Preferred Stock or Common Stock shall receive, upon surrender of such certificate or certificates, unless otherwise instructed by such stockholder, certificates or book entry shares evidencing and representing the number of shares of Preferred Stock or Common Stock to which such person is entitled. Any certificate for one or more shares of Preferred Stock or Common Stock not so surrendered shall be deemed to represent that number of shares of Preferred Stock or Common Stock for which the shares of Preferred Stock or Common Stock, as applicable, represented by such certificate prior to the Reverse Stock Split shall have been reconstituted and exchanged.

No fractional shares shall be issued for shares of Preferred Stock or Common Stock pursuant to the Reverse Stock Split. If the Reverse Stock Split would result in the issuance of any fractional share, the Corporation shall, in lieu of issuing any fractional share, pay cash equal to the product of (i) such fraction, (ii) the fair market value of one share of Common Stock on the date of the Reverse Stock Split (as determined by the Board of Directors), and (iii) in the case of shares of Preferred Stock, the number of shares of Common Stock into which one share of such Preferred Stock would convert on the date of the Reverse Stock Split (which may vary by series of Preferred Stock). All share, per share and dollar references in this Eighth Amended and Restated Certificate of Incorporation (the "Restated Certificate") reflect the Corporation's capital stock as existing after the Reverse Stock Split.

B. **Classes of Stock**. The Corporation is authorized to issue two classes of stock to be designated, respectively, "Common Stock" and "Preferred Stock." The total number of shares which the Corporation is authorized to issue is seventy-one million four hundred sixty-nine thousand nine hundred twenty-three (71,469,923) shares, forty-five million three hundred thirty-three thousand three hundred thirty three (45,333,333) of which shall be Common Stock (the "Common Stock") and twenty-six million one hundred thirty-six thousand five hundred ninety (26,136,590) shares of which shall be Preferred Stock (the "Preferred Stock"). The Preferred Stock shall have a par value of one-hundredth of one cent ($0.0001) per share and the Common Stock shall have a par value of one-hundredth of one cent ($0.0001) per share.

C. Subject to compliance with applicable protective and voting rights provisions that have been granted to outstanding series of Preferred Stock in this Restated Certificate, and irrespective of the provisions of Section 242(b)(2) of the General Corporation Law of the State of Delaware, the number of authorized shares of Common Stock may be increased or decreased (but not below the number of shares of Common Stock then outstanding) by the affirmative vote of the holders of a majority of the stock of the Corporation (voting together on an as-if-converted basis).

D. Four million (4,000,000) of the authorized shares of Preferred Stock are hereby designated "Series A Preferred Stock" (the "Series A Preferred"). Five million four hundred thousand seven hundred thirty-four (5,400,734) of the authorized shares of Preferred Stock are hereby designated "Series B Preferred Stock" (the "Series B Preferred"). One million nine thousand seven hundred sixty-three (1,009,763) of the authorized shares of Preferred Stock are hereby designated "Series C Preferred Stock" (the "Series C Preferred"). Seven million four hundred thirty-six thousand five hundred thirty-four (7,436,534) of the authorized shares of Preferred Stock are hereby designated "Series D Preferred Stock" (the "Series D Preferred"). Four million two hundred eighty-nine thousand five hundred fifty-eight (4,289,558) of the authorized shares of Preferred Stock are hereby designated "Series E Preferred Stock" (the "Series E Preferred"). Four million (4,000,000) of the authorized shares of Preferred Stock are hereby designated "Series F Preferred Stock" (the "Series F Preferred").

E. The rights, preferences, privileges, restrictions and other matters relating to the Preferred Stock are as follows:

1. Dividend Rights.

(a) The holders of Series B Preferred, Series C Preferred, Series D Preferred, Series E Preferred and Series F Preferred, on a pari passu basis, in preference to the holders of Series A Preferred and in preference to the holders of Common Stock, shall be entitled to receive, when and as declared by the Board of Directors, but only out of funds that are legally available therefor, cash dividends at the rate of eight percent (8%) of the applicable Original Issue Price (as defined below) per annum on each outstanding share of Series B Preferred, Series C Preferred, Series D Preferred, Series E Preferred and Series F Preferred (in each case as adjusted for any stock dividends, combinations, splits, recapitalizations and the like with respect to such shares). The holders of Series A Preferred, in preference to the holders of Common Stock of the Corporation, shall be entitled to receive, when and as declared by the Board of Directors, but only out of funds that are legally available therefor, cash dividends at the rate of eight percent (8%) of the applicable Original Issue Price (as defined below) per annum on each outstanding share of Series A Preferred (as adjusted for any stock dividends, combinations, splits, recapitalizations and the like with respect to such shares). The "Original Issue Price" of the Series A Preferred shall be seven dollars and fifty-cents ($7.50) per share (as adjusted for any stock dividends, combinations, splits, recapitalizations and the like with respect to such shares). The "Original Issue Price" of the Series B Preferred shall be four dollars and sixty-two nine tenths cents ($4.629) per share (as adjusted for any stock dividends, combinations, splits, recapitalizations and the like with respect to such shares). The "Original Issue Price" of the Series C Preferred shall be nine dollars and ninety and thirty-three hundredths of a cent ($9.9033) per share (as adjusted for any stock dividends, combinations, splits, recapitalizations and the like with respect to such shares). The "Original Issue Price" of the Series D Preferred shall be five dollars and ninety-five five tenths cents ($5.955) per share (as adjusted for any stock dividends, combinations, splits, recapitalizations and the like with respect to such shares). The "Original Issue Price" of the Series E Preferred shall be twelve dollars and seventy-five cents ($12.75) per share (as adjusted for any stock dividends, combinations, splits, recapitalizations and the like with respect to such shares). The "Original Issue Price" of the Series F Preferred shall be twelve dollars and seventy-five cents ($12.75) per share (as adjusted for any stock dividends, combinations, splits, recapitalizations and the like with respect to such shares). Such dividends shall be payable only when, as and if declared by the Board of Directors and shall be non-cumulative.

(b) So long as any shares of Series B Preferred, Series C Preferred, Series D Preferred, Series E Preferred and Series F Preferred shall be outstanding, no dividend, whether in cash or property, shall be paid or declared, nor shall any other distribution be made, on any Series A Preferred or Common Stock, nor shall any shares of Series A Preferred or Common Stock of the Corporation be purchased, redeemed, or otherwise acquired for value by the Corporation (except for acquisitions of Common Stock by the Corporation pursuant to agreements that permit the Corporation to repurchase such shares upon termination of services to the Corporation or in exercise of the Corporation's right of first refusal upon a proposed transfer) until all dividends (set forth in Section 1(a) above) on the Series B Preferred, the Series C Preferred, the Series D Preferred, the Series E Preferred and the Series F Preferred shall have been paid or declared and set apart. So long as any shares of Series A Preferred shall be outstanding, no dividend, whether in cash or property, shall be paid or declared, nor shall any other distribution be made, on any Common Stock, nor shall any shares of any Common Stock of the Corporation be purchased, redeemed, or otherwise acquired for value by the Corporation (except for acquisitions of Common Stock by the Corporation pursuant to agreements that permit the Corporation to repurchase such shares upon termination of services to the Corporation or in exercise of the Corporation's right of first refusal upon a proposed transfer) until all dividends (set forth in Section 1(a) above) on the Series A Preferred shall have been paid or declared and set apart. In the event dividends are paid on any share of Common Stock, an additional dividend shall be paid with respect to all outstanding shares of Preferred Stock in an amount equal per share (on an as-if-converted to Common Stock basis) to the amount paid or set aside for each share of Common Stock. The provisions of this Section 1(b) shall not, however, apply to (i) a dividend payable in Common Stock or (ii) any repurchase of any outstanding securities of the Corporation that is approved by the Corporation's Board of Directors.

2. Voting Rights.

(a) General Rights. The holder of each share of Preferred Stock shall have the right to one vote for each share of Common Stock into which such Preferred Stock could be converted on the record date for the vote or written consent of stockholders. In all cases any fractional share, determined on an aggregate conversion basis, shall be rounded to the nearest whole share. Except as otherwise provided herein or as required by law, with respect to such vote, such holder shall have full voting rights and powers equal to the voting rights and powers of the holders of Common Stock, and shall be entitled, notwithstanding any provision hereof, to notice of any stockholders' meeting in accordance with the Bylaws of the Corporation, and shall be entitled to vote, together with holders of Common Stock, with respect to any matter upon which holders of Common Stock have the right to vote.

(b) Protective Provisions; Vote of Series B Preferred, Series C Preferred, Series D Preferred, Series E Preferred and Series F Preferred In addition to any other vote or consent required herein or by law, the vote or written consent of the holders of at least a majority of the then outstanding Series B Preferred, Series C Preferred, Series D Preferred, Series E Preferred and Series F Preferred (voting together as a single class and not as a separate series and on an as-if-converted basis) (for so long as at least an aggregate of three million three hundred thirty-three thousand three hundred thirty-three (3,333,333) shares of Series B Preferred, Series C Preferred, Series D Preferred, Series E Preferred and Series F Preferred (subject to adjustment for any stock split, reverse stock split or other similar event affecting such Preferred Stock) remain outstanding) shall be necessary for effecting or validating the following actions:

(i) Any amendment, alteration, repeal or waiver of any provision of this Restated Certificate or the Bylaws of the Corporation (by merger, consolidation or otherwise and including any filing of a Certificate of Designation);

(ii) Any increase or decrease in the authorized or designated number of shares of Common Stock or Preferred Stock or any series or class of Common Stock or Preferred Stock;

(iii) Any authorization or any designation, whether by reclassification or otherwise, of any new class or series of stock or any other securities convertible into equity securities of the Corporation ranking on a parity with or senior to the Series B Preferred, Series C Preferred, Series D Preferred, Series E Preferred or Series F Preferred in right of redemption, liquidation preference, conversion, voting or dividends or any increase in the authorized or designated number of any such new class or series;

(iv) Any authorization or issuance of any new class or series of stock or any other securities convertible into equity securities of the Corporation ranking junior to the Series B Preferred, Series C Preferred, Series D Preferred, Series E Preferred or Series F Preferred for consideration other than cash;

(v) Any redemption or repurchase of Common Stock or Preferred Stock (except (x) for acquisitions of Common Stock by the Corporation pursuant to agreements that permit the Corporation to repurchase such shares upon termination of services to the Corporation or in exercise of the Corporation's right of first refusal upon a proposed transfer, or (y) in connection with the redemption of Series B Preferred, Series D Preferred, Series E Preferred and Series F Preferred as provided in Section 5 of this Restated Certificate);

(vi) Any agreement by the Corporation or its stockholders regarding an Asset Transfer or Acquisition (each as defined in Section 3(e));

(vii) Any action that results in the payment or declaration of a dividend on any shares of Common Stock or Preferred Stock (other than a dividend payable solely in shares of capital stock);

(viii) Any agreement by the Corporation to become indebted for borrowed money or capital lease obligations greater than five million dollars ($5,000,000) in the aggregate;

(ix) Any merger or consolidation of the Corporation or any voluntary dissolution, winding up or liquidation of the Corporation;

(x) Any recapitalization of the Corporation;

(xi) Any increase or decrease in the authorized number of members of the Corporation's Board of Directors from ten (10), except as provided in Sections 5(a)(iv), 5(b)(iv), 5(c)(iv) and/or 5(d) of Section D of this Article IV;

(xii) Any agreement by the Corporation to acquire a corporation or other entity or person;

(xiii) Any action that alters or changes the rights, preferences and privileges of the Series A Preferred Stock so as to affect the Series A Preferred Stock adversely, but which does not so affect the entire class of Preferred Stock;

(xiv) Any action that alters or changes the rights, preferences and privileges of the Series B Preferred Stock so as to affect the Series B Preferred Stock adversely, but which does not so affect the entire class of Preferred Stock;

(xv) Any action that alters or changes the rights, preferences and privileges of the Series C Preferred Stock so as to affect the Series C Preferred Stock adversely, but which does not so affect the entire class of Preferred Stock;

(xvi) Any action that alters or changes the rights, preferences and privileges of the Series D Preferred;

(xvii) Any action that alters or changes the rights, preferences and privileges of the Series E Preferred; or

(xviii) Any action that alters or changes the rights, preferences and privileges of the Series F Preferred.

For the purposes of this Restated Certificate "Affiliate" shall mean any corporation or other entity that is directly or indirectly controlling, controlled by or under the common control with the subject entity. For the purpose of this definition, "control" shall mean the direct or indirect ownership of at least fifty percent (50%) of the outstanding shares or other voting rights of the subject entity to elect directors or equivalent governing body, or if not meeting the preceding, any entity owned or controlled by or owning or controlling at the maximum control or ownership right permitted in the country where such entity exists.

(c) Protective Provisions; Separate Vote of Series D Preferred. So long as Biomedical Sciences Investment Fund Pte Ltd ("Bio*One") (with its Affiliates) shall hold not less than three million three hundred thirty-three thousand three hundred thirty-three (3,333,333) shares of Series D Preferred Stock (as adjusted for stock splits and combinations), representing not less than 10% of the Company's outstanding Common Stock (as calculated on a fully diluted as-if-converted basis, assuming conversion or exercise of all convertible or exercisable securities and including all shares reserved for issuance pursuant to any stock option or similar plan), the vote or written consent of Bio*One shall be necessary for the Board to take action to effect any of the following:

(i) any voluntary dissolution, winding up or liquidation of Codexis Laboratories Singapore Pte. Ltd. ("Codexis Singapore") other than in connection with an Asset Transfer or an Acquisition;

(ii) a significant reduction in the number of employees at Codexis Singapore; or

(iii) a significant reduction in the overall technological capacity of the Codexis Singapore operations.

(d) Election of Board of Directors. The holders of Common Stock and Preferred Stock, voting together as a single class and on an as-if-converted basis, shall be entitled to elect all members of the Board of Directors at each meeting or pursuant to each consent of the Corporation's stockholders for the election of directors, to remove from office such directors, and, subject to the provisions of the Corporation's bylaws, to fill any vacancy caused by the resignation, death or removal of such directors.

3. Liquidation Rights.

(a) Upon any liquidation, dissolution or winding up of the Corporation, whether voluntary or involuntary, before any distribution or payment shall be made to the holders of any Series C Preferred, Series B Preferred, Series A Preferred or Common Stock, the holders of Series D Preferred, Series E Preferred and Series F Preferred shall be entitled to be paid out of the assets of the Corporation an amount per share of Series D Preferred, Series E Preferred or Series F Preferred equal to the applicable Original Issue Price plus all declared and unpaid dividends on the Series D Preferred, Series E Preferred and Series F Preferred, respectively, (as adjusted for any stock dividends, combinations, splits, recapitalizations and the like with respect to such shares) for each share of Series D Preferred, Series E Preferred or Series F Preferred, respectively, held by them. If, upon any such liquidation, distribution or winding up, the assets of the Corporation shall be insufficient to make payment in full to all holders of Series D Preferred, Series E Preferred and Series F Preferred of the liquidation preference set forth in this Section 3(a), then such assets legally available for distribution shall be distributed among the holders of Series D Preferred, Series E Preferred and Series F Preferred at the time outstanding, ratably in proportion to the full amounts to which they would otherwise be respectively entitled.

(b) After the payment of the full liquidation preference of the Series D Preferred, Series E Preferred and Series F Preferred as set forth in Section 3(a) above, before any distribution or payment shall be made to the holders of any Series A Preferred or Common Stock, the holders of Series B Preferred and the Series C Preferred, on a pari passu basis, shall be entitled to be paid out of the assets of the Corporation an amount per share of Series B Preferred or Series C Preferred equal to the applicable Original Issue Price plus all declared and unpaid dividends on the Series B Preferred and Series C Preferred, respectively, (in each case as adjusted for any stock dividends, combinations, splits, recapitalizations and the like with respect to such shares) for each share of Series B Preferred or Series C Preferred, respectively, held by them. If, upon any such liquidation, distribution or winding up, the assets of the Corporation shall be insufficient to make payment in full to all holders of Series B Preferred and Series C Preferred of the liquidation preference set forth in this Section 3(b), then such assets legally available for distribution shall be distributed among the holders of Series B Preferred and Series C Preferred at the time outstanding, ratably in proportion to the full amounts to which they would otherwise be respectively entitled.

(c) After the payment of the full liquidation preference of the Series E Preferred, Series D Preferred, Series C Preferred and the Series B Preferred as set forth in Sections 3(a) and 3(b) above, before any distribution or payment shall be made to the holders of any Common Stock, the holders of Series A Preferred shall be entitled to be paid out of the assets of the Corporation an amount per share of Series A Preferred equal to the applicable Original Issue Price plus all declared and unpaid dividends on the Series A Preferred (as adjusted for any stock dividends, combinations, splits, recapitalizations and the like with respect to such shares) for each share of Series A Preferred held by them. If, upon any such liquidation, distribution or winding up, the assets of the Corporation shall be insufficient to make payment in full to all holders of Series A Preferred of the liquidation preference set forth in this Section 3(c), then such assets legally available for distribution shall be distributed among the holders of Series A Preferred at the time outstanding, ratably in proportion to the full amounts to which they would otherwise be respectively entitled.

(d) After the payment of the full liquidation preference of the Preferred Stock as set forth in Sections 3(a), 3(b) and 3(c) above, the remaining assets of the Corporation legally available for distribution, if any, shall be distributed ratably to the holders of the then outstanding Common Stock.

(e) The following events shall be considered a liquidation under this Section:

(i) any consolidation or merger of the Corporation with or into any other corporation or other entity or person, or any other corporate reorganization, in which either (i) the Corporation does not survive (except a transaction in which the holders of capital stock of the Corporation, immediately prior to such merger, consolidation or other corporate reorganization, continue to hold at least fifty percent (50%) of the voting power of capital stock of the surviving or acquiring entity) (ii) the stockholders of the Corporation immediately prior to such consolidation, merger or reorganization, own less than fifty percent (50%) of the Corporation's voting power immediately after such consolidation, merger or reorganization, or (iii) any transaction or series of related transactions to which the Corporation is a party in which in excess of fifty percent (50%) of the Corporation's voting power is transferred, excluding in each case any consolidation or merger effected exclusively to change the domicile of the Corporation (an "Acquisition"); or

(ii) a sale, lease, exclusive license or other disposition of all or substantially all of the assets of the Corporation (an "Asset Transfer").

(f) Notwithstanding the above, for purposes of determining the amount each holder of shares of Preferred Stock is entitled to receive with respect to a Liquidation Event, each such holder of shares of a series of Preferred Stock shall be deemed to have converted (regardless of whether such holder actually converted) such holder's shares of such series into shares of Common Stock immediately prior to the Liquidation Event if, as a result of an actual conversion, such holder would receive, in the aggregate and without satisfaction of any conditions or contingencies, an amount greater than the amount that would be distributed to such holder if such holder did not convert such series of Preferred Stock into shares of Common Stock. If any such holder shall be deemed to have converted shares of Preferred Stock into Common Stock pursuant to this paragraph, then such holder shall not be entitled to receive any distribution that would otherwise be made to holders of Preferred Stock that have not converted (or have not been deemed to have converted) into shares of Common Stock.

(g) For the purposes of this Section 3, if the consideration received by the Corporation is other than cash, its value will be deemed its fair market value as determined in good faith by the Board of Directors. Any securities shall be valued as follows:

(i) Securities not subject to investment letter or other similar restrictions on free marketability covered by (ii) below:

(A) If traded on a securities exchange or through the Nasdaq National Market, the value shall be deemed to be the average of the closing prices of the securities on such quotation system over the thirty (30) day period ending three (3) days prior to the closing;

(B) If actively traded over-the-counter, the value shall be deemed to be the average of the closing bid or sale prices (whichever is applicable) over the thirty (30) day period ending three (3) days prior to the closing; and

(C) If there is no active public market, the value shall be the fair market value thereof, as mutually determined by the Board of Directors and the holders of not less than a majority of the then outstanding Preferred Stock (voting together as a single class and not as separate series and on an as-if-converted basis).

(ii) The method of valuation of securities subject to investment letter or other restrictions on free marketability (other than restrictions arising solely by virtue of a stockholder's status as an affiliate or former affiliate) shall be to make an appropriate discount from the market value determined as above in (i) (A), (B) or (C) to reflect the approximate fair market value thereof, as mutually determined by the Board of Directors and the holders of not less than a majority of the then outstanding Preferred Stock (voting together as a single class and not as separate series and on an as-if-converted basis).

4. Conversion Rights.

The holders of the Preferred Stock shall have the following rights with respect to the conversion of the Preferred Stock into shares of Common Stock (the "Conversion Rights"):

(a) Optional Conversion. Subject to and in compliance with the provisions of this Section 4, any shares of Preferred Stock may, at the option of the holder, be converted at any time into fully-paid and nonassessable shares of Common Stock; provided that requests to convert shall to the extent possible be done at least five days before an applicable Series B Redemption Date, Series D Redemption Date or Series E Redemption Date (as defined in Section 5). The number of shares of Common Stock to which a holder of Preferred Stock shall be entitled upon conversion shall be the product obtained by multiplying the applicable "Preferred Stock Conversion Rate" then in effect (determined as provided in Section 4(b)) by the number of shares of Preferred Stock, as applicable, being converted.

(b) Preferred Stock Conversion Rate. The conversion rate in effect at any time for conversion of the Preferred Stock (the "Preferred Stock Conversion Rate") shall be the quotient obtained by dividing the applicable Original Issue Price of the Preferred Stock by the applicable "Preferred Stock Conversion Price," calculated as provided in Section 4(c).

(c) Preferred Stock Conversion Price. The initial conversion price per share for the Preferred Stock (the "Preferred Stock Conversion Price") shall be as follows: the Preferred Stock Conversion Price for the Series A Preferred shall be seven dollars forty-two five tenths cents ($7.425); the Preferred Stock Conversion Price for the Series B Preferred shall be the Original Issue Price of the Series B Preferred; the Preferred Stock Conversion Price for the Series C Preferred shall be the Original Issue Price of the Series C Preferred; the Preferred Stock Conversion Price for the Series D Preferred shall be the Original Issue Price of the Series D Preferred; the Preferred Stock Conversion Price for the Series E Preferred shall be the Original Issue Price of the Series E Preferred; and the Preferred Stock Conversion Price for the Series F Preferred shall be the Original Issue Price of the Series F Preferred. Such Preferred Stock Conversion Prices shall be adjusted from time to time in accordance with this Section 4. All references to the applicable Preferred Stock Conversion Price herein shall mean the applicable Preferred Stock Conversion Price as so adjusted.

(d) Mechanics of Conversion. Each holder of Preferred Stock who desires to convert the same into shares of Common Stock pursuant to Section 4(a) shall surrender the certificate or certificates therefor, duly endorsed, at the office of the Corporation or any transfer agent for the Preferred Stock, and shall give written notice to the Corporation at such office that such holder elects to convert the same. Such notice shall state the number of shares of Preferred Stock being converted and the name or names in which the certificate or certificates for shares of Common Stock are to be issued. Thereupon, the Corporation shall promptly issue and deliver at such office to such holder a certificate or certificates for the number of shares of Common Stock to which such holder is entitled and shall promptly pay (i) in cash or, to the extent sufficient funds are not then legally available therefor, in Common Stock (at the Common Stock's fair market value determined by the Board of Directors as of the date of such conversion), any declared and unpaid dividends on the shares of Preferred Stock being converted and (ii) in cash (at the Common Stock's fair market value determined by the Board of Directors as of the date of conversion) the value of any fractional share of Common Stock otherwise issuable to any holder of Preferred Stock. Such conversion shall be deemed to have been made at the close of business on the date of such surrender of the certificates representing the shares of Preferred Stock to be converted, and the person entitled to receive the shares of Common Stock issuable upon such conversion shall be treated for all purposes as the record holder of such shares of Common Stock on such date.

In connection with an automatic conversion pursuant to section 4(l), each stock certificate representing shares, or each book entry representing uncertificated shares, of Series A Preferred, Series B Preferred, Series C Preferred, Series D Preferred, Series E Preferred or Series F Preferred shall thereafter represent that respective number of shares of Common Stock into which the shares of Series A Preferred, Series B Preferred, Series C Preferred, Series D Preferred, Series E Preferred or Series F Preferred represented by such certificate or book entry shall have been converted; provided, however, that each person holding of record a stock certificate or certificates that represented shares of Series A Preferred, Series B Preferred, Series C Preferred, Series D Preferred, Series E Preferred or Series F Preferred shall receive, upon surrender of such certificate or certificates, unless otherwise instructed by such stockholder, book entry shares in lieu of a new certificate or certificates evidencing and representing the number of shares of Common Stock to which such person is entitled**.**

(e) Adjustment for Stock Splits and Combinations. If the Corporation shall at any time or from time to time after the date of the filing of this Restated Certificate (the "Filing Date") effect a subdivision of the outstanding Common Stock without a corresponding subdivision of the Preferred Stock, the applicable Preferred Stock Conversion Price in effect immediately before that subdivision shall be proportionately decreased. Conversely, if the Corporation shall at any time or from time to time after the Filing Date combine the outstanding shares of Common Stock into a smaller number of shares without a corresponding combination of the Preferred Stock, the applicable Preferred Stock Conversion Price in effect immediately before the combination shall be proportionately increased. Any adjustment under this Section 4(e) shall become effective at the close of business on the date the subdivision or combination becomes effective.

(f) Adjustment for Common Stock Dividends and Distributions. If the Corporation at any time or from time to time after the Filing Date makes, or fixes a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable in additional shares of Common Stock, in each such event the applicable Preferred Stock Conversion Price that is then in effect shall be decreased as of the time of such issuance or, in the event such record date is fixed, as of the close of business on such record date, by multiplying the applicable Preferred Stock Conversion Price then in effect by a fraction (i) the numerator of which is the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date, and (ii) the denominator of which is the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date plus the number of shares of Common Stock issuable in payment of such dividend or distribution; provided, however, that if such record date is fixed and such dividend is not fully paid or if such distribution is not fully made on the date fixed therefor, the applicable Preferred Stock Conversion Price shall be recomputed accordingly as of the close of business on such record date and thereafter the applicable Preferred Stock Conversion Price shall be adjusted pursuant to this Section 4(f) to reflect the actual payment of such dividend or distribution.

(g) Adjustment for Reclassification, Exchange and Substitution. If at any time or from time to time after the Filing Date, the Common Stock issuable upon the conversion of the Preferred Stock is changed into the same or a different number of shares of any class or classes of stock, whether by recapitalization, reclassification or otherwise (other than an Acquisition or Asset Transfer as defined in Section 3(e) or a subdivision or combination of shares or stock dividend or a reorganization, merger, consolidation or sale of assets provided for elsewhere in this Section 4), in any such event each holder of Preferred Stock shall have the right thereafter to convert such stock into the kind and amount of stock and other securities and property receivable upon such recapitalization, reclassification or other change by holders of the maximum number of shares of Common Stock into which such shares of Preferred Stock could have been converted immediately prior to such recapitalization, reclassification or change, all subject to further adjustment as provided herein or with respect to such other securities or property by the terms thereof.

(h) Reorganizations, Mergers or Consolidations. If at any time or from time to time after the Filing Date, there is a capital reorganization of the Common Stock or the merger or consolidation of the Corporation with or into another corporation or another entity or person (other than an Acquisition or Asset Transfer as defined in Section 3(e) or a recapitalization, subdivision, combination, reclassification, exchange or substitution of shares provided for elsewhere in this Section 4), as a part of such capital reorganization, provision shall be made so that the holders of the Preferred Stock shall thereafter be entitled to receive upon conversion of the Preferred Stock the number of shares of stock or other securities or property of the Corporation to which a holder of the number of shares of Common Stock deliverable upon conversion would have been entitled on such capital reorganization, subject to adjustment in respect of such stock or securities by the terms thereof. In any such case, appropriate adjustment shall be made in the application of the provisions of this Section 4 with respect to the rights of the holders of Preferred Stock after the capital reorganization to the end that the provisions of this Section 4 (including adjustment of the applicable Preferred Stock Conversion Price then in effect and the number of shares issuable upon conversion of the Preferred Stock) shall be applicable after that event and be as nearly equivalent as practicable.

(i) Sale of Shares Below Preferred Stock Conversion Price.

(i) If at any time or from time to time after the Filing Date, the Corporation issues or sells, or is deemed by the express provisions of this subsection (i) to have issued or sold, Additional Shares of Common Stock (as defined in subsection (i)(iv) below), other than as a dividend or other distribution on any class of stock as provided in Section 4(f) above, and other than a subdivision or combination of shares of Common Stock as provided in Section 4(e) above, for an Effective Price (as defined in subsection (i)(iv) below) less than the then effective applicable Preferred Stock Conversion Price, then and in each such case the then existing applicable Preferred Stock Conversion Price shall be reduced, as of the opening of business on the date of such issue or sale, to a price determined by multiplying the applicable Preferred Stock Conversion Price by a fraction (i) the numerator of which shall be (A) the number of shares of Common Stock deemed outstanding (as defined below) immediately prior to such issue or sale, plus (B) the number of shares of Common Stock that the aggregate consideration received (as defined in subsection (i)(ii)) by the Corporation for the total number of Additional Shares of Common Stock so issued would purchase at such applicable Preferred Stock Conversion Price with respect to which this adjustment is being made, and (ii) the denominator of which shall be the number of shares of Common Stock deemed outstanding (as defined below) immediately prior to such issue or sale plus the total number of Additional Shares of Common Stock so issued. For the purposes of the preceding sentence, the number of shares of Common Stock deemed to be outstanding as of a given date shall be the sum of (A) the number of shares of Common Stock actually outstanding (excluding shares subject to repurchase by the Corporation at cost), (B) the number of shares of Common Stock into which the then outstanding shares of Preferred Stock could be converted if fully converted on the day immediately preceding the given date, and (C) the number of shares of Common Stock which could be obtained through the exercise or conversion of all other rights, options and convertible securities vested on the day immediately preceding the given date. No adjustment shall be made to the Preferred Stock Conversion Price in an amount less than one cent per share. Any adjustment otherwise required by this Section 4(i) that is not required to be made due to the preceding sentence shall be included in any subsequent adjustment to the Preferred Stock Conversion Price.

(ii) For the purpose of making any adjustment required under this Section 4(i), the consideration received by the Corporation for any issue or sale of securities shall (A) to the extent it consists of cash, be computed at the net amount of cash received by the Corporation after deduction of any underwriting or similar commissions, compensation or concessions paid or allowed by the Corporation in connection with such issue or sale but without deduction of any expenses payable by the Corporation, (B) to the extent it consists of consideration other than cash, be computed at the fair value of that consideration as determined in good faith by the Board of Directors, and (C) if Additional Shares of Common Stock, Convertible Securities (as defined in subsection (i)(iii)) or rights or options to purchase either Additional Shares of Common Stock or Convertible Securities are issued or sold together with other stock or securities or other assets of the Corporation for a consideration which covers both, be computed as the portion of the consideration so received that may be reasonably determined in good faith by the Board of Directors to be allocable to such Additional Shares of Common Stock, Convertible Securities or rights or options.

(iii) For the purpose of the adjustment required under this Section 4(i), if the Corporation issues or sells (i) stock or other securities convertible into, Additional Shares of Common Stock (such convertible stock or securities being herein referred to as "Convertible Securities") or (ii) rights or options for the purchase of Additional Shares of Common Stock or Convertible Securities and if the Effective Price of such Additional Shares of Common Stock is less than the applicable Preferred Stock Conversion Price, in each case the Corporation shall be deemed to have issued at the time of the issuance of such rights or options or Convertible Securities the maximum number of Additional Shares of Common Stock issuable upon exercise or conversion thereof and to have received as consideration for the issuance of such shares an amount equal to the total amount of the consideration, if any, received by the Corporation for the issuance of such rights or options or Convertible Securities, plus, in the case of such rights or options, the minimum amounts of consideration, if any, payable to the Corporation upon the exercise of such rights or options, plus, in the case of Convertible Securities, the minimum amounts of consideration, if any, payable to the Corporation (other than by cancellation of liabilities or obligations evidenced by such Convertible Securities) upon the conversion thereof; provided that if in the case of Convertible Securities the minimum amounts of such consideration cannot be ascertained, but are a function of antidilution or similar protective clauses, the Corporation shall be deemed to have received the minimum amounts of consideration without reference to such clauses; provided further that if the minimum amount of consideration payable to the Corporation upon the exercise or conversion of rights, options or Convertible Securities is reduced over time or on the occurrence or non-occurrence of specified events other than by reason of antidilution adjustments, the Effective Price shall be recalculated using the figure to which such minimum amount of consideration is reduced; provided further that if the minimum amount of consideration payable to the Corporation upon the exercise or conversion of such rights, options or Convertible Securities is subsequently increased, the Effective Price shall be again recalculated using the increased minimum amount of consideration payable to the Corporation upon the exercise or conversion of such rights, options or Convertible Securities. No further adjustment of the applicable Preferred Stock Conversion Price, as adjusted upon the issuance of such rights, options or Convertible Securities, shall be made as a result of the actual issuance of Additional Shares of Common Stock on the exercise of any such rights or options or the conversion of any such Convertible Securities. If any such rights or options or the conversion privilege represented by any such Convertible Securities shall expire without having been exercised, the applicable Preferred Stock Conversion Price as adjusted upon the issuance of such rights, options or Convertible Securities shall be readjusted to the applicable Preferred Stock Conversion Price which would have been in effect had an adjustment been made on the basis that the only Additional Shares of Common Stock so issued were the Additional Shares of Common Stock, if any, actually issued or sold on the exercise of such rights or options or rights of conversion of such Convertible Securities, and such Additional Shares of Common Stock, if any, were issued or sold for the consideration actually received by the Corporation upon such exercise, plus the consideration, if any, actually received by the Corporation for the granting of all such rights or options, whether or not exercised, plus the consideration received for issuing or selling the Convertible Securities actually converted, plus the consideration, if any, actually received by the Corporation (other than by cancellation of liabilities or obligations evidenced by such Convertible Securities) on the conversion of such Convertible Securities, provided that such readjustment shall not apply to prior conversions of Preferred Stock.

(iv) "Additional Shares of Common Stock" shall mean all shares of Common Stock issued by the Corporation or deemed to be issued pursuant to this Section 4(i), whether or not subsequently reacquired or retired by the Corporation other than (A) shares of Common Stock issued upon conversion of the Preferred Stock; (B) shares of Common Stock and/or options, warrants or other Common Stock purchase rights, and the Common Stock issued pursuant to such options, warrants or other rights (as adjusted for any stock dividends, combinations, splits, recapitalizations and the like) after the Filing Date, issued to employees, officers or directors of, or consultants or advisors to the Corporation or any subsidiary pursuant to stock purchase or stock option plans or other agreements or arrangements that are approved by the Board of Directors; (C) shares of Common Stock issued pursuant to the exercise of options, warrants or convertible securities outstanding as of the Filing Date; (D) shares of Common Stock issued pursuant to a merger, consolidation, acquisition or similar business combination approved by the Board of Directors; (E) shares of Common Stock issued in connection with any stock split, stock dividend or recapitalization by the Corporation for which an adjustment is made
under sections 4(e), (f) or (g) hereof; (F) shares of Common Stock or Preferred Stock, or warrants to purchase shares of Common Stock or Preferred Stock, issued pursuant to any equipment leasing, real property leasing or loan arrangement, or debt financing from a bank or similar financial or lending institution approved by the Board of Directors; (G) shares of Common Stock or Preferred Stock issued pursuant to the exercise of warrants issued pursuant to clause (F) of this Section 4(i)(iv); (H) shares of Common Stock and/or options, warrants or other Common Stock purchase rights issued pursuant to any licensing transaction approved by the Board of Directors; (I) shares of Common Stock and/or options, warrants or other Common Stock purchase rights issued in connection with strategic alliances, joint ventures, manufacturing, marketing or distribution arrangements or technology transfer or development arrangements; provided, however, that any such strategic transaction and the issuance of shares therein, has been approved by the Board of Directors; (J) shares of Common Stock and/or options, warrants or other Common Stock purchase rights issued in connection with the establishment of any enzyme manufacturing facility owned and/or operated by the Corporation; provided, however, that any such transaction and the issuance of shares therein, has been approved by the Board of Directors; or (K) shares of Series F Preferred Stock issued pursuant to that certain Series F Preferred Stock Purchase Agreement dated on or about March 3, 2009, as amended from time to time. References to Common Stock in the subsections of this clause (iv) above shall mean all shares of Common Stock issued by the Corporation or deemed to be issued pursuant to this Section 4(i). The "Effective Price" of Additional Shares of Common Stock shall mean the quotient determined by dividing the total number of Additional Shares of Common Stock issued or sold, or deemed to have been issued or sold by the Corporation under this Section 4(i), into the aggregate consideration received, or deemed to have been received by the Corporation for such issue under this Section 4(i), for such Additional Shares of Common Stock.

(j) Certificate of Adjustment. In each case of an adjustment or readjustment of the applicable Preferred Stock Conversion Price for the number of shares of Common Stock or other securities issuable upon conversion of the Preferred Stock, if the Preferred Stock is then convertible pursuant to this Section 4, the Corporation, at its expense, shall compute such adjustment or readjustment in accordance with the provisions hereof and prepare a certificate showing such adjustment or readjustment, and shall mail such certificate, by first class mail, postage prepaid, to each registered holder of Preferred Stock at the holder's address as shown in the Corporation's books. The certificate shall set forth such adjustment or readjustment, showing in detail the facts upon which such adjustment or readjustment is based, including a statement, as applicable, of (i) the consideration received or deemed to be received by the Corporation for any Additional Shares of Common Stock issued or sold or deemed to have been issued or sold, (ii) the applicable Preferred Stock Conversion Price at the time in effect, (iii) the number of Additional Shares of Common Stock and (iv) the type and amount, if any, of other property which at the time would be received upon conversion of the Preferred Stock.

(k) Notices of Record Date. Upon (i) any taking by the Corporation of a record of the holders of any class of securities for the purpose of determining the holders thereof who are entitled to receive any dividend, other distribution or other right, or (ii) any Acquisition (as defined in Section 3(e)) or other capital reorganization of the Corporation, any reclassification or recapitalization of the capital stock of the Corporation, any merger or consolidation of the Corporation with or into any other corporation, or any Asset Transfer (as defined in Section 3(d)), or any voluntary or involuntary dissolution, liquidation or winding up of the Corporation, the Corporation shall mail to each holder of Preferred Stock at least ten (10) days prior to the record date specified therein (or such shorter period approved by a majority of the outstanding Preferred Stock) a notice specifying (A) the date on which any such record is to be taken for the purpose of such dividend, distribution or right and a description of such dividend, distribution or right, (B) the date on which any such Acquisition, reorganization, reclassification, transfer, consolidation, merger, Asset Transfer, dissolution, liquidation or winding up is expected to become effective, and (C) the date, if any, that is to be fixed as to when the holders of record of Common Stock (or other securities) shall be entitled to exchange their shares of Common Stock (or other securities) for securities or other property deliverable upon such Acquisition, reorganization, reclassification, transfer, consolidation, merger, Asset Transfer, dissolution, liquidation or winding up.

(l) Automatic Conversion.

(i) Each share of Preferred Stock shall automatically be converted into shares of Common Stock, based on the then-effective applicable Preferred Stock Conversion Price, (A) at any time upon the affirmative election of the holders of at least sixty-six and two-thirds percent (66 2/3%) of the then outstanding shares of the Series B Preferred, Series C Preferred, Series D Preferred, Series E Preferred and Series F Preferred (voting together as a single class and not as a separate series and on an as-if-converted basis) or (B) immediately upon the closing of a firmly underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended, covering the offer and sale of Common Stock for the account of the Corporation in which (x) the gross cash proceeds to the Corporation (before underwriting discounts, commissions and fees) are at least fifty million dollars ($50,000,000) and (y) the pre-money valuation of the Corporation (calculated based on capital stock outstanding on an as-converted basis, assuming conversion or exercise of all convertible or exercisable securities and including all shares reserved for issuance pursuant to any stock option or similar plan) immediately prior to the offering is at least two hundred fifty million dollars ($250,000,000). Upon such automatic conversion, any declared and unpaid dividends shall be paid in accordance with the provisions of Section 4(d).

(ii) Upon the occurrence of either of the events specified in Section 4(l)(i) above, the applicable outstanding shares of Preferred Stock shall be converted automatically without any further action by the holders of such shares and whether or not the certificates representing such shares are surrendered to the Corporation or its transfer agent; provided, however, that the Corporation shall not be obligated to issue certificates evidencing the shares of Common Stock issuable upon such conversion unless the certificates evidencing such shares of Preferred Stock are either delivered to the Corporation or its transfer agent as provided below, or the holder notifies the Corporation or its transfer agent that such certificates have been lost, stolen or destroyed and executes an agreement satisfactory to the Corporation to indemnify the Corporation from any loss incurred by it in connection with such certificates. Upon the occurrence of such automatic conversion of the Preferred Stock, the holders of Preferred Stock shall surrender the certificates representing such shares at the office of the Corporation or any transfer agent for the Preferred Stock. Thereupon, there shall be issued and delivered to such holder promptly at such office and in its name as shown on such surrendered certificate or certificates, a certificate or certificates for the number of shares of Common Stock into which the shares of Preferred Stock surrendered were convertible on the date on which such automatic conversion occurred, and any declared and unpaid dividends shall be paid in accordance with the provisions of Section 4(d).

(m) Fractional Shares. No fractional shares of Common Stock shall be issued upon conversion of Preferred Stock. If the conversion would result in the issuance of any fractional share, the Corporation shall, in lieu of issuing any fractional share, pay cash equal to the product of such fraction multiplied by the Common Stock's fair market value (as determined by the Board of Directors) on the date of conversion.

(n) Reservation of Stock Issuable Upon Conversion. The Corporation shall at all times reserve and keep available out of its authorized but unissued shares of Common Stock, solely for the purpose of effecting the conversion of the shares of the Preferred Stock, such number of its shares of Common Stock as shall from time to time be sufficient to effect the conversion of all outstanding shares of the Preferred Stock. If at any time the number of authorized but unissued shares of Common Stock shall not be sufficient to effect the conversion of all then outstanding shares of the Preferred Stock, the Corporation will take such corporate action as may, in the opinion of its counsel, be necessary to increase its authorized but unissued shares of Common Stock to such number of shares as shall be sufficient for such purpose.

(o) Notices. Any notice required by the provisions of this Section 4 shall be in writing and shall be deemed effectively given: (i) upon personal delivery to the party to be notified, (ii) when sent by confirmed facsimile if sent during normal business hours of the recipient; if not, then on the next business day, (iii) five (5) days after having been sent by registered or certified mail, return receipt requested, postage prepaid, or (iv) one (1) day after deposit with a nationally recognized overnight courier, specifying next day delivery, with verification of receipt. All notices shall be addressed to each holder of record at the address of such holder appearing on the books of the Corporation.

(p) Payment of Taxes. The Corporation will pay all taxes (other than taxes based upon income) and other governmental charges that may be imposed with respect to the issue or delivery of shares of Common Stock upon conversion of shares of Preferred Stock, excluding any tax or other charge imposed in connection with any transfer involved in the issue and delivery of shares of Common Stock in a name other than that in which the shares of Preferred Stock so converted were registered.

(q) No Dilution or Impairment. Without the consent of the holders of then outstanding Preferred Stock as required under Section 2(b), the Corporation shall not amend this Restated Certificate or participate in any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or take any other voluntary action, for the purpose of avoiding or seeking to avoid the observance or performance of any of the terms to be observed or performed hereunder by the Corporation, but shall at all times in good faith assist in carrying out all such action as may be reasonably necessary or appropriate in order to protect the conversion rights of the holders of the Preferred Stock against dilution or other impairment.

5. Redemption.

(a) The Corporation shall be obligated to redeem the Series E Preferred as follows:

(i) At any time on or after December 31, 2013, the holders of at least a majority of the then outstanding shares of Series E Preferred, voting or consenting together as a separate series, may require the Corporation, to the extent it may lawfully do so, to redeem the Series E Preferred in three (3) annual installments as provided in subparagraph (ii) below. The Corporation shall effect such redemptions beginning on the date sixty (60) days after the date the holders provide notice to the Corporation of their election to redeem their shares of Series E Preferred (the date of the first such redemption, the "First Series E Redemption Date" and the date of such notice, the "Series E Redemption Notice Date"). The Corporation shall redeem one third (1/3) of the Series E Preferred on the First Series E Redemption Date, one third (1/3) of the Series E Preferred on or before the first anniversary of the First Series E Redemption Date (the "Second Series E Redemption Date") and the final one third (1/3) of the Series E Preferred on or before the second anniversary of the First Series E Redemption Date (the "Third Series E Redemption Date," and, with the First Series E Redemption Date, Second Series E Redemption Date and Third Series E Redemption Date each referred to as a "Series E Redemption Date").

(ii) Each redemption shall be effected on the applicable date by paying in cash in exchange for the shares of Series E Preferred to be redeemed a sum equal to the applicable Original Issue Price per share of the Series E Preferred (as adjusted for any stock dividends, combinations, splits, recapitalizations and the like) plus eight percent (8%) of the applicable Original Issue Price (as adjusted for any stock dividends, combinations, splits, recapitalizations and the like with respect to such shares) per annum from the date that the first share of Series E Preferred was issued (the "Series E Original Issue Date") until the applicable Series E Redemption Date, plus declared and unpaid dividends with respect to such shares. The number of shares of Series E Preferred that the Corporation shall be required to redeem on any one Series E Redemption Date shall be equal to the amount determined by dividing (A) the aggregate number of shares of Series E Preferred outstanding immediately prior to the Series E Redemption Date by (B) the number of remaining Series E Redemption Dates (including the Series E Redemption Date to which such calculation applies). Shares subject to redemption pursuant to this Section 5(a) shall be redeemed from each holder of Series E Preferred on a pro rata basis.

(iii) At least thirty (30) days but no more than sixty (60) days prior to the First Series E Redemption Date, the Corporation shall send a notice (a "Series E Redemption Notice") to all holders of Series E Preferred setting forth (A) the redemption price for the shares to be redeemed; and (B) the place at which such holders may obtain payment of the redemption price upon surrender of their share certificates.

(iv) Subject to Section 5(d), if the Corporation does not have sufficient funds legally available to redeem all shares to be redeemed at the applicable Series E Redemption Date, then (i) it shall redeem such shares pro rata (based on the portion of the aggregate redemption price payable to them) to the extent possible and (ii) the holders of the Series E Preferred shall be entitled to elect a majority of the members of the Board of Directors at each meeting or pursuant to each consent of the Corporation's stockholders for the election of directors, and to remove from office such directors and to fill any vacancy caused by the resignation, death or removal of such directors and the number of directors constituting the Corporation's Board of Directors shall be automatically increased to a number such that representatives of the Series E Preferred will constitute a majority of the members of the Board of Directors. Subject to Section 5(d), at any time thereafter when additional funds of the Corporation are legally available for the redemption of shares of Series E Preferred, such funds will immediately be used to redeem the balance of the shares that the Corporation has become obligated to redeem on any Series E Redemption Date but that it has not redeemed.

(v) On or prior to each Series E Redemption Date, the Corporation shall deposit the redemption price of all shares to be redeemed with a bank or trust company having aggregate capital and surplus in excess of one hundred million dollars ($100,000,000), as a trust fund for the benefit of the respective holders of shares designated for redemption but not yet redeemed, with irrevocable instructions and authority to the bank or trust company to pay, on and after such Series E Redemption Date, the redemption price of the shares to their respective holders upon the surrender of their share certificates. Any moneys deposited by the Corporation pursuant to this Section 5(a) for the redemption of shares thereafter converted into shares of Common Stock pursuant to Section 4 hereof no later than the fifth (5th) day preceding the applicable Series E Redemption Date shall be returned to the Corporation forthwith upon such conversion. The balance of any funds deposited by the Corporation pursuant to this Section 5(a) remaining unclaimed at the expiration of one (1) year following the applicable Series E Redemption Date shall be returned to the Corporation promptly upon its written request; provided that the stockholder to which such money would be payable hereunder shall be entitled, upon proof of its ownership of such shares of Series E Preferred and payment of any bond requested by the Corporation, to receive such monies without interest from the applicable Series E Redemption Date.

(vi) On or after each Series E Redemption Date, each holder of shares of Series E Preferred to be redeemed shall surrender such holder's certificates representing such shares to the Corporation in the manner and at the place designated in the Series E Redemption Notice, and thereupon the redemption price of such shares shall be payable to the order of the person whose name appears on such certificate or certificates as the owner thereof and each surrendered certificate shall be canceled. From and after each Series E Redemption Date, unless there shall have been a default in payment of the redemption price or the Corporation is unable to pay the redemption price due to not having sufficient legally available funds, all rights of the holder of such shares as holder of Series E Preferred (except the right to receive the redemption price without interest upon surrender of their certificates), shall cease and terminate with respect to such shares; provided, however, that in the event that shares of Series E Preferred are not redeemed due to a default in payment by the Corporation or because the Corporation does not have sufficient legally available funds, such shares of Series E Preferred shall remain outstanding and shall be entitled to all of the rights and preferences provided herein.

(vii) In the event of a call for redemption of the Series E Preferred, the Conversion Rights (as defined in Section 4) for such Series E Preferred shall terminate as to the shares designated for redemption at the close of business on the fifth (5th) day preceding each Series E Redemption Date, unless default is made in payment of the redemption price.

(viii) Within five (5) days after the Series E Redemption Notice Date, the Company shall deliver a notice to the holders of Series B Preferred and Series D Preferred notifying such holders of (x) the intent of the holders of Series E Preferred to exercise their redemption rights pursuant to this Section 5 and (y) the Series E Redemption Notice Date. Subject to Section 5(d), provided that such holders deliver notice to the Corporation of their election to redeem their shares of Series B Preferred or Series D Preferred, as applicable, within thirty (30) days after the Series E Redemption Notice Date, the holders of at least a majority of the then outstanding shares of Series B Preferred or Series D Preferred, as applicable, each voting as a separate series, may require the Corporation, to the extent it may lawfully do so, to redeem the Series B Preferred or Series D Preferred, as applicable, in three (3) annual installments on each of the Series E Redemption Dates, pursuant to Sections 5(b)(ii) through 5(b)(vii) and/or 5(c)(ii) through 5(c)(vii), as applicable, and such dates shall also be deemed to be Series B Redemption Dates and/or Series D Redemption Dates.

(b) The Corporation shall be obligated to redeem the Series D Preferred as follows:

(i) At any time on or after December 31, 2013, the holders of at least a majority of the then outstanding shares of Series D Preferred, voting or consenting together as a separate series, may require the Corporation, to the extent it may lawfully do so, to redeem the Series D Preferred in three (3) annual installments as provided in subparagraph (ii) below. The Corporation shall effect such redemptions beginning on the date sixty (60) days after the date the holders provide notice to the Corporation of their election to redeem their shares of Series D Preferred (the date of the first such redemption, the "First Series D Redemption Date" and the date of such notice, the "Series D Redemption Notice Date"). The Corporation shall redeem one third (1/3) of the Series D Preferred on the First Series D Redemption Date, one third (1/3) of the Series D Preferred on or before the first anniversary of the First Series D Redemption Date (the "Second Series D Redemption Date") and the final one third (1/3) of the Series D Preferred on or before the second anniversary of the First Series D Redemption Date (the "Third Series D Redemption Date," and, with the First Series D Redemption Date, Second Series D Redemption Date and Third Series D Redemption Date each referred to as a "Series D Redemption Date").

(ii) Each redemption shall be effected on the applicable date by paying in cash in exchange for the shares of Series D Preferred to be redeemed a sum equal to the applicable Original Issue Price per share of the Series D Preferred (as adjusted for any stock dividends, combinations, splits, recapitalizations and the like) plus eight percent (8%) of the applicable Original Issue Price (as adjusted for any stock dividends, combinations, splits, recapitalizations and the like with respect to such shares) per annum from the date that the first share of Series D Preferred was issued (the "Series D Original Issue Date") until the applicable Series D Redemption Date, plus declared and unpaid dividends with respect to such shares. The number of shares of Series D Preferred that the Corporation shall be required to redeem on any one Series D Redemption Date shall be equal to the amount determined by dividing (A) the aggregate number of shares of Series D Preferred outstanding immediately prior to the Series D Redemption Date by (B) the number of remaining Series D Redemption Dates (including the Series D Redemption Date to which such calculation applies). Shares subject to redemption pursuant to this Section 5(b) shall be redeemed from each holder of Series D Preferred on a pro rata basis.

(iii) At least thirty (30) days but no more than sixty (60) days prior to the First Series D Redemption Date, the Corporation shall send a notice (a "Series D Redemption Notice") to all holders of Series D Preferred setting forth (A) the redemption price for the shares to be redeemed; and (B) the place at which such holders may obtain payment of the redemption price upon surrender of their share certificates.

(iv) Subject to Section 5(d), if the Corporation does not have sufficient funds legally available to redeem all shares to be redeemed at the applicable Series D Redemption Date, then (i) it shall redeem such shares pro rata (based on the portion of the aggregate redemption price payable to them) to the extent possible and (ii) the holders of the Series D Preferred shall be entitled to elect a majority of the members of the Board of Directors at each meeting or pursuant to each consent of the Corporation's stockholders for the election of directors, and to remove from office such directors and to fill any vacancy caused by the resignation, death or removal of such directors and the number of directors constituting the Corporation's Board of Directors shall be automatically increased to a number such that representatives of the Series D Preferred will constitute a majority of the members of the Board of Directors. Subject to Section 5(d), at any time thereafter when additional funds of the Corporation are legally available for the redemption of shares of Series D Preferred, such funds will immediately be used to redeem the balance of the shares that the Corporation has become obligated to redeem on any Series D Redemption Date but that it has not redeemed.

(v) On or prior to each Series D Redemption Date, the Corporation shall deposit the redemption price of all shares to be redeemed with a bank or trust company having aggregate capital and surplus in excess of one hundred million dollars ($100,000,000), as a trust fund for the benefit of the respective holders of shares designated for redemption but not yet redeemed, with irrevocable instructions and authority to the bank or trust company to pay, on and after such Series D Redemption Date, the redemption price of the shares to their respective holders upon the surrender of their share certificates. Any moneys deposited by the Corporation pursuant to this Section 5(b) for the redemption of shares thereafter converted into shares of Common Stock pursuant to Section 4 hereof no later than the fifth (5th) day preceding the applicable Series D Redemption Date shall be returned to the Corporation forthwith upon such conversion. The balance of any funds deposited by the Corporation pursuant to this Section 5(b) remaining unclaimed at the expiration of one (1) year following the applicable Series D Redemption Date shall be returned to the Corporation promptly upon its written request; provided that the stockholder to which such money would be payable hereunder shall be entitled, upon proof of its ownership of such shares of Series D Preferred and payment of any bond requested by the Corporation, to receive such monies without interest from the applicable Series D Redemption Date.

(vi) On or after each Series D Redemption Date, each holder of shares of Series D Preferred to be redeemed shall surrender such holder's certificates representing such shares to the Corporation in the manner and at the place designated in the Series D Redemption Notice, and thereupon the redemption price of such shares shall be payable to the order of the person whose name appears on such certificate or certificates as the owner thereof and each surrendered certificate shall be canceled. From and after each Series D Redemption Date, unless there shall have been a default in payment of the redemption price or the Corporation is unable to pay the redemption price due to not having sufficient legally available funds, all rights of the holder of such shares as holder of Series D Preferred (except the right to receive the redemption price without interest upon surrender of their certificates), shall cease and terminate with respect to such shares; provided, however, that in the event that shares of Series D Preferred are not redeemed due to a default in payment by the Corporation or because the Corporation does not have sufficient legally available funds, such shares of Series D Preferred shall remain outstanding and shall be entitled to all of the rights and preferences provided herein.

(vii) In the event of a call for redemption of the Series D Preferred, the Conversion Rights (as defined in Section 4) for such Series D Preferred shall terminate as to the shares designated for redemption at the close of business on the fifth (5th) day preceding each Series D Redemption Date, unless default is made in payment of the redemption price.

(viii) Within five (5) days after the Series D Redemption Notice Date, the Company shall deliver a notice to the holders of Series B Preferred and Series E Preferred notifying such holders of (x) the intent of the holders of Series D Preferred to exercise their redemption rights pursuant to this Section 5 and (y) the Series D Redemption Notice Date. Subject to Section 5(d), provided that such holders deliver notice to the Corporation of their election to redeem their shares of Series B Preferred or Series E Preferred, as applicable, within thirty (30) days after the Series D Redemption Notice Date, the holders of at least a majority of the then outstanding shares of Series B Preferred or Series E Preferred, as applicable, each voting as a separate series, may require the Corporation, to the extent it may lawfully do so, to redeem the Series B Preferred or Series E Preferred, as applicable, in three (3) annual installments on each of the Series D Redemption Dates, pursuant to Sections 5(a)(ii) through 5(a)(vii) and/or 5(c)(ii) through 5(c)(vii), as applicable, and such dates shall also be deemed to be Series B Redemption Dates and/or Series E Redemption Dates.

(c) The Corporation shall be obligated to redeem the Series B Preferred as follows:

(i) At any time on or after December 31, 2013, the holders of at least a majority of the then outstanding shares of Series B Preferred, voting or consenting together as a separate series, may require the Corporation, to the extent it may lawfully do so, to redeem the Series B Preferred in three (3) annual installments as provided in subparagraph (ii) below. The Corporation shall effect such redemptions beginning on the date sixty (60) days after the date the holders provide notice to the Corporation of their election to redeem their shares of Series B Preferred (the date of the first such redemption, the "First Series B Redemption Date" and the date of such notice, the "Series B Redemption Notice Date"). The Corporation shall redeem one third (1/3) of the Series B Preferred on the First Series B Redemption Date, one third (1/3) of the Series B Preferred on or before the first anniversary of the First Series B Redemption Date (the "Second Series B Redemption Date") and the final one third (1/3) of the Series B Preferred on or before the second anniversary of the First Series B Redemption Date (the "Third Series B Redemption Date," with the First Series B Redemption Date, Second Series B Redemption Date and Third Series B Redemption Date each referred to as a "Series B Redemption Date," and with each Series D Redemption Date and each Series E Redemption Date, a "Redemption Date").

(ii) Each redemption shall be effected on the applicable date by paying in cash in exchange for the shares of Series B Preferred to be redeemed a sum equal to the applicable Original Issue Price per share of the Series B Preferred (as adjusted for any stock dividends, combinations, splits, recapitalizations and the like) plus five percent (5%) of the applicable Original Issue Price (as adjusted for any stock dividends, combinations, splits, recapitalizations and the like) per annum from the date that the first share of Series B Preferred was issued until the Series E Original Issue Date and eight percent (8%) of the applicable Original Issue Price (as adjusted for any stock dividends, combinations, splits, recapitalizations and the like) per annum from the Series D Original Issue Date until the applicable Series B Redemption Date, plus declared and unpaid dividends with respect to such shares. The number of shares of Series B Preferred that the Corporation shall be required to redeem on any one Series B Redemption Date shall be equal to the amount determined by dividing (A) the aggregate number of shares of Series B Preferred outstanding immediately prior to the Series B Redemption Date by (B) the number of remaining Series B Redemption Dates (including the Series B Redemption Date to which such calculation applies). Shares subject to redemption pursuant to this Section 5(c) shall be redeemed from each holder of Series B Preferred on a pro rata basis.

(iii) At least thirty (30) days but no more than sixty (60) days prior to the First Series B Redemption Date, the Corporation shall send a notice (a "Series B Redemption Notice") to all holders of Series B Preferred setting forth (A) the redemption price for the shares to be redeemed; and (B) the place at which such holders may obtain payment of the redemption price upon surrender of their share certificates.

(iv) Subject to Section 5(d), if the Corporation does not have sufficient funds legally available to redeem all shares to be redeemed at the applicable Series B Redemption Date, then (i) it shall redeem such shares pro rata (based on the portion of the aggregate redemption price payable to them) to the extent possible and (ii) the holders of the Series B Preferred shall be entitled to elect a majority of the members of the Board of Directors at each meeting or pursuant to each consent of the Corporation's stockholders for the election of directors, and to remove from office such directors and to fill any vacancy caused by the resignation, death or removal of such directors and the number of directors constituting the Corporation's Board of Directors shall be automatically increased to a number such that representatives of the Series B Preferred will constitute a majority of the members of the Board of Directors. Subject to Section 5(d), at any time thereafter when additional funds of the Corporation are legally available for the redemption of shares of Series B Preferred, such funds will immediately be used to redeem the balance of the shares that the Corporation has become obligated to redeem on any Series B Redemption Date but that it has not redeemed.

(v) On or prior to each Series B Redemption Date, the Corporation shall deposit the redemption price of all shares to be redeemed with a bank or trust company having aggregate capital and surplus in excess of one hundred million dollars ($100,000,000), as a trust fund for the benefit of the respective holders of shares designated for redemption but not yet redeemed, with irrevocable instructions and authority to the bank or trust company to pay, on and after such Series B Redemption Date, the redemption price of the shares to their respective holders upon the surrender of their share certificates. Any moneys deposited by the Corporation pursuant to this Section 5(c) for the redemption of shares thereafter converted into shares of Common Stock pursuant to Section 4 hereof no later than the fifth (5th) day preceding the applicable Series B Redemption Date shall be returned to the Corporation forthwith upon such conversion. The balance of any funds deposited by the Corporation pursuant to this Section 5(c) remaining unclaimed at the expiration of one (1) year following the applicable Series B Redemption Date shall be returned to the Corporation promptly upon its written request; provided that the stockholder to which such money would be payable hereunder shall be entitled, upon proof of its ownership of such shares of Series B Preferred and payment of any bond requested by the Corporation, to receive such monies without interest from the applicable Series B Redemption Date.

(vi) On or after each Series B Redemption Date, each holder of shares of Series B Preferred to be redeemed shall surrender such holder's certificates representing such shares to the Corporation in the manner and at the place designated in the Series B Redemption Notice, and thereupon the redemption price of such shares shall be payable to the order of the person whose name appears on such certificate or certificates as the owner thereof and each surrendered certificate shall be canceled. From and after each Series B Redemption Date, unless there shall have been a default in payment of the redemption price or the Corporation is unable to pay the redemption price due to not having sufficient legally available funds, all rights of the holder of such shares as holder of Series B Preferred (except the right to receive the redemption price without interest upon surrender of their certificates), shall cease and terminate with respect to such shares; provided, however, that in the event that shares of Series B Preferred are not redeemed due to a default in payment by the Corporation or because the Corporation does not have sufficient legally available funds, such shares of Series B Preferred shall remain outstanding and shall be entitled to all of the rights and preferences provided herein.

(vii) In the event of a call for redemption of the Series B Preferred, the Conversion Rights (as defined in Section 4) for such Series B Preferred shall terminate as to the shares designated for redemption at the close of business on the fifth (5th) day preceding each Series B Redemption Date, unless default is made in payment of the redemption price.

(viii) Within five (5) days after the Series B Redemption Notice Date, the Company shall deliver a notice to the holders of Series D Preferred and Series E Preferred notifying such holders of (x) the intent of the holders of Series B Preferred to exercise their redemption rights pursuant to this Section 5 and (y) the Series B Redemption Notice Date. Subject to Section 5(d), provided that such holders deliver notice to the Corporation of their election to redeem their shares of Series D Preferred or Series E Preferred, as applicable, within thirty (30) days after the Series B Redemption Notice Date, the holders of at least a majority of the then outstanding shares of Series D Preferred or Series E Preferred, as applicable, each voting as a separate series, may require the Corporation, to the extent it may lawfully do so, to redeem the Series D Preferred or Series E Preferred, as applicable, in three (3) annual installments on each of the Series B Redemption Dates, pursuant to Sections 5(a)(ii) through 5(a)(vii) and/or Sections 5(b)(ii) through 5(b)(vii), as applicable, and such dates shall also be deemed to be Series D Redemption Dates and/or Series E Redemption Dates.

(d) If the Corporation does not have sufficient funds legally available to redeem on any Redemption Date all shares of Series B Preferred, Series D Preferred and the Series E Preferred and of any other class or series of stock to be redeemed on such Redemption Date, the Corporation shall redeem a pro rata portion of each holder's redeemable shares of such stock out of funds legally available therefor, based on the respective amounts which would otherwise be payable in respect of the shares to be redeemed if the legally available funds were sufficient to redeem all such shares, and shall redeem the remaining shares to have been redeemed as soon as practicable after the Corporation has funds legally available therefor. If, pursuant to Sections 5(a), 5(b) and/or 5(c) hereof, the holders of more than one of the Series B Preferred, the Series D Preferred and the Series E Preferred shall be entitled to elect a majority of the members of the Board of Directors at each meeting or pursuant to each consent of the Corporation's stockholders for the election of directors, then holders of the outstanding Series B Preferred, Series D Preferred and/or Series E Preferred, as applicable (voting together as a single class and not as a separate series and on an as-if-converted basis) shall be entitled to elect a majority of the members of the Board of Directors at each meeting or pursuant to each consent of the Corporation's stockholders for the election of directors, and to remove from office such directors and to fill any vacancy caused by the resignation, death or removal of such directors and the number of directors constituting the Corporation's Board of Directors shall be automatically increased to a number such that representatives of the Series B Preferred, Series D Preferred and/or the Series E Preferred, as applicable, will constitute a majority of the members of the Board of Directors.

V.

A. The liability of the directors for monetary damages shall be eliminated to the fullest extent allowed under applicable law.

B. Each person who is or is made a party or is threatened to be made a party to or is involved in any action, suit or proceeding, whether civil, criminal, administrative or investigative (hereinafter a "proceeding"), by reason of the fact that he or she, or a person of whom he or she is the legal representative, is or was a director or officer of the Corporation or is or was serving at the request of the Corporation as a director, officer, employee or agent of another corporation or of a partnership, joint venture, trust or other enterprise, including service with respect to employee benefit plans, whether the basis of such proceeding is alleged action in an official capacity as a director, officer, employee or agent or in any other capacity while serving as a director, officer, employee or agent, shall be indemnified and held harmless by the Corporation to the fullest extent authorized by the Delaware General Corporation Law, as the same exists or may hereafter be amended (but, in the case of any such amendment, only to the extent that such amendment permits the Corporation to provide broader indemnification rights than said law permitted the Corporation to provide prior to such amendment), against all expense, liability and loss (including attorneys' fees, judgments, fines, Employee Retirement Income Security Act excise taxes or penalties and amounts paid or to be paid in settlement) reasonably incurred or suffered by such person in connection therewith and such indemnification shall continue as to a person who has ceased to be a director, officer, employee or agent and shall inure to the benefit of his or her heirs, executors and administrators; provided, however, that, except as provided in the second paragraph hereof, the Corporation shall indemnify any such person seeking indemnification in connection with a proceeding (or part thereof) initiated by such person only if such proceeding (or part thereof) was authorized by the Board of Directors of the Corporation. The right to indemnification conferred in this section shall be a contract right and shall include the right to be paid by the Corporation any expenses incurred in defending any such proceeding in advance of its final disposition; provided, however, that, if the Delaware General Corporation Law requires, the payment of such expenses incurred by a director or officer in his or her capacity as a director or officer (and not in any other capacity in which service was or is rendered by such person while a director or officer, including, without limitation, service to an employee benefit plan) in advance of the final disposition of a proceeding, shall be made only upon delivery to the Corporation of an undertaking, by or on behalf of such director or officer, to repay all amounts so advanced if it shall ultimately be determined that such director or officer is not entitled to be indemnified under this section or otherwise. The Corporation may, by action of its Board of Directors, provide indemnification to employees and agents of the Corporation with the same scope and effect as the foregoing indemnification of directors and officers.

If a claim under the first paragraph of this section (B) is not paid in full by the Corporation within thirty (30) days after a written claim has been received by the Corporation, the claimant may at any time thereafter bring suit against the Corporation to recover the unpaid amount of the claim and, if successful in whole or in part, the claimant shall be entitled to be paid also the expense of prosecuting such claim. It shall be a defense to any such action (other than an action brought to enforce a claim for expenses incurred in defending any proceeding in advance of its final disposition where the required undertaking, if any is required, has been tendered to the Corporation) that the claimant has not met the standards of conduct which make it permissible under the Delaware General Corporation Law for the Corporation to indemnify the claimant for the amount claimed, but the burden of proving such defense shall be on the Corporation. Neither the failure of the Corporation (including its Board of Directors, independent legal counsel, or its stockholders) to have made a determination prior to the commencement of such action that indemnification of the claimant is proper in the circumstances because he or she has met the applicable standard of conduct set forth in the Delaware General Corporation Law, nor an actual determination by the Corporation (including its Board of Directors, independent legal counsel, or its stockholders) that the claimant has not met such applicable standard of conduct, shall be a defense to the action or create a presumption that the claimant has not met the applicable standard of conduct.

The right to indemnification and the payment of expenses incurred in defending a proceeding in advance of its final disposition conferred in this section shall not be exclusive of any other right which any person may have or hereafter acquire under any statute, provision of this Restated Certificate or Bylaws of the Corporation, agreement, vote of stockholders or disinterested directors or otherwise.

The Corporation may maintain insurance, at its expense, to protect itself and any director, officer, employee or agent of the Corporation or another corporation, partnership, joint venture, trust or other enterprise against any such expense, liability or loss, whether or not the Corporation would have the power to indemnify such person against such expense, liability or loss under the Delaware General Corporation Law.

C. Any repeal or modification of this Article V shall only be prospective and shall not effect the rights under this Article V in effect at the time of the alleged occurrence of any action or omission to act giving rise to liability.

VI.

For the management of the business and for the conduct of the affairs of the Corporation, and in further definition, limitation and regulation of the powers of the Corporation, of its directors and of its stockholders or any class thereof, as the case may be, it is further provided that:

A. The management of the business and the conduct of the affairs of the Corporation shall be vested in its Board of Directors. The number of directors which shall constitute the whole Board of Directors shall be fixed by the Board of Directors in the manner provided in the Bylaws, subject to any restrictions that may be set forth in this Restated Certificate.

B. Subject to compliance with applicable protective voting rights that have been or may be granted to the Preferred Stock or series thereof in a Certificate of Designation or this Restated Certificate and to the indemnification provisions in the Bylaws, the Board of Directors may from time to time make, amend, supplement or repeal the Bylaws; provided, however, that the stockholders may change or repeal any Bylaw adopted by the Board of Directors by the affirmative vote of the percentage of holders of capital stock as provided therein; and, provided further, that no amendment or supplement to the Bylaws adopted by the Board of Directors shall vary or conflict with any amendment or supplement thus adopted by the stockholders.

C. The directors of the Corporation need not be elected by written ballot unless the Bylaws so provide.

*** * * ***

FOUR: This Restated Certificate has been duly approved by the Board of Directors of this Corporation.

FIVE: This Restated Certificate has been duly adopted in accordance with the provisions of Sections 228, 242 and 245 of the General Corporation Law of the State of Delaware by the Board of Directors and the stockholders of the Corporation. The total number of outstanding shares entitled to vote or act by written consent was two million six hundred thirteen one hundred fifteen (2,613,115) shares of Common Stock, four million (4,000,000) shares of Series A Preferred, five million four hundred thousand seven hundred thirty-four (5,400,734) shares of Series B Preferred, one million nine thousand seven hundred sixty-three (1,009,763) shares of Series C Preferred, six million nine hundred ninety-seven thousand nine hundred eighty-two (6,997,982) shares of Series D Preferred and four million one hundred four thousand five hundred sixteen (4,104,516) shares of Series E Preferred. All of the outstanding shares of Common Stock, Series A Preferred, Series B Preferred, Series C Preferred, Series D Preferred and Series E Preferred approved this Restated Certificate by written consent in accordance with Section 228 of the General Corporation Law of the State of Delaware and written notice of such was given by the Corporation in accordance with Section 228.

[Signature Page Follows]

IN WITNESS WHEREOF, Codexis, Inc. has caused this Eighth Amended and Restated Certificate of Incorporation to be signed by its President this [_____] day of [_____], 2010.

CODEXIS, INC.

By: _____
President

EXHIBIT 10.1A

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

EXECUTION COPY

LOAN AND SECURITY AGREEMENT

THIS LOAN AND SECURITY AGREEMENT, dated as of September 28, 2007 (as amended, restated, supplemented or otherwise modified from time to time (this "Agreement")) is among GENERAL ELECTRIC CAPITAL CORPORATION ("GECC"), in its capacity as agent for Lenders (as defined below), together with its successors and assigns in such capacity, "Agent"), OXFORD FINANCE CORPORATION ("Oxford"), the other financial institutions who are or hereafter become parties to this Agreement as lenders (together with GECC and Oxford, collectively the "Lenders", and each individually, a "Lender") and CODEXIS, INC., a Delaware corporation ("Borrower"). Agent has an office at 83 Wooster Heights Road, Fifth Floor, Danbury, CT 06810 (the "Agent's Office"). Borrower's mailing address and chief executive office is 200 Penobscot Drive, Redwood City, CA 94063.

RECITALS

Borrower wishes to borrow funds from time to time from Lenders, and Lenders desire to make loans, advances and other extensions of credit, severally and not jointly, to Borrower from time to time pursuant to the terms and conditions of this Agreement.

AGREEMENT

Borrower, Agent and Lenders agree as follows:

1. DEFINITIONS.

As used in this Agreement, all capitalized terms shall have the definitions as provided herein. Any accounting term used but not defined herein shall be construed in accordance with generally accepted accounting principles in the United States of America, as in effect from time to time ("GAAP") and all calculations shall be made in accordance with GAAP. The term "financial statements" shall include the accompanying notes and schedules. All other terms used but not defined herein shall have the meaning given to such terms in the Uniform Commercial Code as adopted in the State of New York, as amended and supplemented from time to time (the "UCC").

2. LOANS AND TERMS OF PAYMENT.

2.1. **Promise to Pay.** Borrower promises to pay Agent, for the ratable accounts of Lenders, when due pursuant to the terms hereof, the aggregate unpaid principal amount of all loans, advances and other extensions of credit made severally by the Lenders to Borrower, together with interest on the unpaid principal amount of such loans, advances and other extensions of credit at the interest rates set forth herein.

2.2. **Term Loans.**

(a) Commitment. Subject to the terms and conditions hereof, each Lender, severally, but not jointly, agrees to make term loans (each a "Term Loan" and collectively, the "Term Loans") to Borrower from time to time on any Business Day (as defined below) during the period from the Closing Date (as defined below) until March 31, 2008 (the "Commitment Termination Date") in an aggregate principal amount not to exceed such Lender's commitment as identified on Schedule A hereto (such commitment of each

Lender as it may be amended to reflect assignments made in accordance with this Agreement or terminated or reduced in accordance with this Agreement, its "Commitment", and the aggregate of all such commitments, the "Commitments"). Notwithstanding the foregoing, the aggregate principal amount of the Term Loans made hereunder shall not exceed $15,000,000 (the "Total Commitment"). Each Lender's obligation to fund a Term Loan shall be limited to such Lender's Pro Rata Share (as defined below) of such Term Loan. Subject to the terms and conditions hereof, the initial Term Loan shall be made on the Closing Date in an aggregate principal amount equal to $10,000,000 (the "Initial Term Loan"). After the Initial Term Loan, Borrower may request no more than five (5) additional Term Loans and such subsequent Term Loan must be in an amount equal to at least $1,000,000.

(b) Method of Borrowing. When Borrower desires a Term Loan, Borrower will notify Agent (which notice shall be irrevocable) by facsimile (or by telephone, provided that such telephonic notice shall be promptly confirmed in writing, but in any event on or before the following Business Day) on the date that is ten (10) Business Days prior to the day the Term Loan is to be made (or such shorter period of time as Agent may agree). Agent and Lenders may act without liability upon the basis of such written or telephonic notice believed by Agent to be from Borrower's chief executive officer, chief financial officer, general counsel or controller (each of such officers, a "Proper Officer"). Agent and Lenders shall have no duty to verify the authenticity of the signature appearing on any such written notice.

(c) Funding of Term Loans. Promptly after receiving a request for a Term Loan, Agent shall notify each Lender of the contents of such request and such Lender's Pro Rata Share of the requested Term Loan. Upon the terms and subject to the conditions set forth herein, each Lender, severally and not jointly, shall make available to Agent its Pro Rata Share of the requested Term Loan, in lawful money of the United States of America in immediately available funds, to the Collection Account (as defined below) prior to 11:00 a.m. Connecticut time on the specified date. Agent shall, unless it shall have determined that one of the conditions set forth in Section 4.1 or 4.2, as applicable, has not been satisfied, by 4:00 p.m. Connecticut time on such day, credit the amounts received by it in like funds to Borrower by wire transfer to, unless otherwise specified in a Disbursement Letter (as defined below), the following deposit account of Borrower (or such other deposit account as specified in writing by a Proper Officer of Borrower and acceptable to Agent) (the "Designated Deposit Account"):

Bank Name: State Street Bank & Trust Company
Bank Address: Crown Colony Park
1200 Crown Colony Drive
Quincy, MA 02169-0938
Attn: Kevin Hughes
ABA#: [*]
Account #: [*]
Account Name: Custody Services
Ref: For final credit to account: Codexis DE0843

(d) Notes. The Term Loans of each Lender shall be evidenced by a promissory note substantially in the form of Exhibit A hereto (each a "Note" and, collectively, the "Notes"), and Borrower shall execute and deliver a Note to each Lender. Each Note shall

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represent the obligation of Borrower to pay to such Lender the amount of such Lender's Commitment or, if less, the aggregate unpaid principal amount of all Term Loans made by such Lender to or on behalf of Borrower pursuant to this Agreement, in each case together with interest thereon as prescribed in Section 2.3(b).

(e) Agent May Assume Funding. Unless Agent shall have received notice from a Lender prior to the date of any particular Term Loan that such Lender will not make available to Agent such Lender's Pro Rata Share of such Term Loan, Agent may assume that such Lender has made such amount available to it on the date of such Term Loan in accordance with subsection (c) of this Section 2.2, and may (but shall not be obligated to), in reliance upon such assumption, make available a corresponding amount for the account of Borrower on such date. If and to the extent that such Lender shall not have so made such amount available to Agent, such Lender and Borrower severally agree to repay to Agent forthwith on demand such corresponding amount together with interest thereon, for each day from the day such amount is made available to Borrower until the day such amount is repaid to Agent, at (i) in the case of Borrower, a rate per annum equal to the interest rate applicable thereto pursuant to Section 2.3(a), and (ii) in the case of such Lender, a floating rate per annum equal to, for each day from the day such amount is made available to Borrower until such amount is reimbursed to Agent, the weighted average of the rates on overnight federal funds transactions among members of the Federal Reserve System, as determined by Agent in its sole discretion (the "Federal Funds Rate") for the first Business Day and thereafter, at the interest rate applicable to such Term Loan. If such Lender shall repay such corresponding amount to Agent, the amount so repaid shall constitute such Lender's loan included in such Term Loan for purposes of this Agreement.

2.3. **Interest and Repayment.**

(a) Interest. Each Term Loan shall accrue interest in arrears from the date made until such Term Loan is fully repaid at a fixed per annum rate of interest equal to the sum of (i) the greater of (A) the Treasury Rate (as defined below) in effect on the day that is three (3) Business Days prior to the making of such Term Loan as determined by Agent or (B) 4.60%, plus (ii) 4.83%. All computations of interest and fees calculated on a per annum basis shall be made by Agent on the basis of a 360-day year, in each case for the actual number of days occurring in the period for which such interest and fees are payable. Each determination of an interest rate or the amount of a fee hereunder shall be made by Agent and shall be conclusive, binding and final for all purposes, absent manifest error. As used herein, the term "Treasury Rate" means a per annum rate of interest equal to the rate published by the Board of Governors of the Federal Reserve System in Federal Reserve Statistical Release H.15 entitled "Selected Interest Rates" under the heading "U.S. Government Securities/Treasury Constant Maturities" as the three year treasuries constant maturities rate. In the event Release H.15 is no longer published, Agent shall select a comparable publication to determine the U.S. Treasury note yield to maturity.

(b) Payments of Principal and Interest. For each Term Loan, Borrower shall pay to the Agent, for the ratable benefit of the Lenders, (i) six (6) consecutive payments of interest only (payable in arrears) at the rate of interest determined in accordance with Section 2.3(a) on the first day of each calendar month (a "Scheduled Payment Date") commencing on the first day of the second calendar month occurring after the month during which such Term Loan was made and (ii) thirty-six (36) equal consecutive

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payments of principal and interest (payable in arrears) at the rate of interest determined in accordance with Section 2.3(a) (a "Scheduled Payment") on each Scheduled Payment Date commencing on the first day of the eighth calendar month occurring after the month during which such Term Loan was made. The amount of each such payment of principal and interest shall be calculated by the Agent and shall be sufficient to fully amortize the principal and interest due with respect to the applicable Term Loan over such repayment period. Notwithstanding the foregoing, all unpaid principal and accrued interest with respect to a Term Loan is due and payable in full to Agent, for the ratable benefit of Lenders, on the earlier of (A) the first day of the forty-third (43rd) month following the date such Term Loan was made or (B) the date that such Term Loan otherwise becomes due and payable hereunder, whether by acceleration of the Obligations pursuant to Section 8.2 or otherwise (the earlier of (A) or (B), the "Applicable Term Loan Maturity Date"). Each Scheduled Payment, when paid, shall be applied first to the payment of accrued and unpaid interest on the applicable Term Loan and then to unpaid principal balance of such Term Loan. Without limiting the foregoing, all Obligations shall be due and payable on the Applicable Term Loan Maturity Date for the last Term Loan made.

Notwithstanding any provision in this Agreement to the contrary, all unpaid principal and accrued interest with respect to each Term Loan and all other Obligations hereunder shall become due and payable in full on the earlier to occur of (such earlier date, the "Final Maturity Date"): (1) the Applicable Term Loan Maturity Date for the last Term Loan made hereunder or (2) the date that is 91 days before the first date on which any holders of the Series E preferred stock proposed to be issued by Borrower pursuant to Section 7.2(g) shall have any contractual right or rights set forth in Borrower's organizational documents to redeem or demand repurchase of such preferred stock.

(c) Interim Interest Payment. For each Term Loan, Borrower shall make an advance payment of interest on the date of funding such Term Loan for the period from such date to and including the last day of the month in which such Term Loan was so made.

(d) No Reborrowing. Once a Term Loan is repaid or prepaid, it cannot be reborrowed.

(e) Payments. All payments (including prepayments) to be made by Borrower under any Debt Document shall be made in immediately available funds in U.S. dollars, without setoff or counterclaim to the Collection Account (as defined below) before 1:00 p.m. Connecticut time on the date when due. All payments received by Agent after 1:00 p.m. Connecticut time on any Business Day or at any time on a day that is not a Business Day shall be deemed to be received on the next Business Day. Whenever any payment required under this Agreement would otherwise be due on a date that is not a Business Day, such payment shall instead be due on the next Business Day, and additional fees or interest, as the case may be, shall accrue and be payable for the period of such extension. All regularly scheduled payments due to Agent and Lenders under Section 2.3(b) shall be effected by automatic debit of the appropriate funds from Borrower's operating account specified on the EPS Setup Form (as defined below). As used herein, the term "Collection Account" means the following account of Agent (or such other account as Agent shall identify to Borrower in writing):

Bank Name: Deutsche Bank
Bank Address: New York, NY
ABA#: [*]

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Account Number: [*]
Account Name: HH Cash Flow Collections
Ref: Codexis, Inc./HFS 2670

(f) Withholdings and Increased Costs. All payments shall be made free and clear of any taxes, withholdings, duties, impositions or other charges (other than taxes on the overall net income of any Lender and comparable taxes), such that Agent and Lenders will receive the entire amount of any Obligations (as defined below), regardless of source of payment. If Agent or any Lender shall have determined that the introduction of or any change in, after the date hereof, any law, treaty, governmental (or quasi-governmental) rule, regulation, guideline or order reduces the rate of return on Agent or such Lender's capital as a consequence of its obligations hereunder or increases the cost to Agent or such Lender of agreeing to make or making, funding or maintaining any Term Loan, then Borrower shall from time to time upon written demand by Agent or such Lender (with a copy of such demand to Agent) promptly pay to Agent for its own account or for the account of such Lender, as the case may be, additional amounts sufficient to compensate Agent or such Lender for such reduction or for such increased cost; provided that no Lender shall be entitled to payment of any amounts under this Section 2.3(f) unless it has delivered such statement to Borrower within 180 days after the occurrence of the changes or events giving rise to the increased costs to or reduction in amounts received by such Lender. A certificate as to the amount of such reduction or such increased cost submitted by Agent or such Lender (with a copy to Agent) to Borrower shall be conclusive and binding on Borrower, absent manifest error. This provision shall survive the termination of this Agreement.

(g) Loan Records. Each Lender shall maintain in accordance with its usual practice accounts evidencing the Obligations of Borrower to such Lender resulting from each Term Loan of such Lender from time to time, including the amounts of principal and interest payable and paid to such Lender from time to time under this Agreement. Agent shall maintain in accordance with its usual practice a loan account on its books to record the Term Loans and other extensions of credit made by Lenders hereunder, and all payments thereon made by Borrower. The entries made in the such accounts shall, to the extent permitted by applicable law, be prima facie evidence of the existence and amounts of the Obligations recorded therein; provided, however, that no error in such account and no failure of any Lender or Agent to maintain any such account shall affect the obligations of Borrower to repay the Obligations in accordance with their terms.

2.4. **Prepayments.** Borrower can voluntarily prepay, upon 3 Business Days' prior written notice to Agent, any Term Loan in full, but not in part. Upon the date of (a) any voluntary prepayment of a Term Loan in accordance with the immediately preceding sentence or (b) any mandatory prepayment of a Term Loan required under this Agreement (whether by acceleration of the Obligations pursuant to Section 8.2 or otherwise), Borrower shall pay to Agent, for the ratable benefit of the Lenders, a sum equal to (i) all outstanding principal plus any unpaid interest accrued through the date of such prepayment with respect to the such Term Loan, (ii) the Final Payment Fee (as such term is defined in Section 2.7(d)) for such Term Loan, and (iii) a prepayment premium (as yield maintenance for loss of bargain and not as a penalty) equal to: (A) **5%** on such principal prepayment amount, if such prepayment is made on or before the one year anniversary of such Term Loan, (B) 4% on such principal prepayment amount, if such prepayment is made after the one year anniversary of such Term Loan but on or before the two year anniversary of such Term Loan, and (C) 2% on such principal prepayment amount, if such prepayment is made after the two year anniversary of such Term Loan but before the Applicable Term Loan Maturity

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Date for such Term Loan; provided, however, that Borrower shall not be obligated to pay the amounts described in clauses (A), (B) or (C) above in connection with a prepayment in full of the Term Loan and the other Obligations hereunder in the event that either (i) Borrower has requested in writing that the Requisite Lenders consent to a transaction that is not permitted under Section 7.5 and the Requisite Lenders have not consented to such transaction on or prior to the Response Date (as defined below) or (ii) Borrower has requested in writing that the Requisite Lenders consent to any amendment, modification or waiver of the Maxygen License Agreement for which the consent of the Requisite Lenders is required under Section 7.11(a) and the Requisite Lenders have not consented to such amendment, modification or waiver on or prior to the Response Date. Borrower shall have no obligation upon any prepayment of any Term Loan hereunder to pay, in addition to the amounts specified in this Section 2.4, any yield maintenance with respect to unaccrued interest that would have accrued through the maturity of a Term Loan had such Term Loan not been prepaid.

2.5. **Late Fees.** If Agent does not receive any Scheduled Payment or other payment under any Debt Document from Borrower within 3 days after its due date, then, at Agent's election, Borrower agrees to pay to Agent for the ratable benefit of all Lenders, a late fee equal to (a) 5% of the amount of such unpaid payment or (b) such lesser amount that, if paid, would not cause the interest and fees paid by Borrower under this Agreement to exceed the Maximum Lawful Rate (as defined below) (the "Late Fee").

2.6. **Default Rate.** All Term Loans and other Obligations shall bear interest, at the option of Agent or upon the request of the Requisite Lenders (as defined below), from and after the occurrence and during the continuation of an Event of Default (as such terms are defined below), at a rate equal to the lesser of (a) 5% above the rate of interest applicable to such Obligations as set forth in Section 2.3(a) immediately prior to the occurrence of the Event of Default and (b) the Maximum Lawful Rate (the "Default Rate"). The application of the Default Rate shall not be interpreted or deemed to extend any cure period or waive any Default or Event of Default or otherwise limit the Agent's or any Lender's right or remedies hereunder. All interest payable at the Default Rate shall be payable on demand.

2.7. **Lender Fees.**

(a) Upfront Payment. Prior to the advance of the Initial Term Loan, in consideration for Lenders' agreement to underwrite the transaction contemplated by this Agreement, Borrower has paid to Agent, for the ratable benefit of Lenders, and Agent hereby acknowledges receipt of, a payment in the amount of $25,000 (the "Upfront Payment"). The Upfront Payment shall be applied towards the fees and expenses of Agent's counsel incurred in connection with the preparation and negotiation of the Debt Documents on or before the Closing Date. Upon application of the Upfront Payment to such fees and expenses, concurrently with the advance of the Initial Term Loan, Borrower shall reimburse Agent for any such fees and expenses in excess of $25,000 (which aggregate amount of fees and expenses of Agent's counsel incurred in connection with the preparation and negotiation of the Debt Documents on or before the Closing Date shall not exceed $65,000).

(b) Closing Fee. On the Closing Date, Borrower shall pay to Agent, for the ratable benefit of Lenders, a $50,000 fee which shall be fully earned by Lenders, in accordance with their Pro Rata Shares, and non-refundable when paid.

(c) Unused Line Fee. On the Commitment Termination Date, Borrower shall pay to Agent, for the ratable benefit of Lenders, a fee equal to 2% of the undrawn amount of the

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Total Commitment as of such date (the "Unused Line Fee"), which fee shall be fully earned by Lenders, in accordance with their Pro Rata Shares, and non-refundable when paid. Notwithstanding the foregoing, a Lender shall not be entitled to receive (and Borrower shall not be obligated to pay) such Lender's Pro Rata Share of the Unused Line Fee to the extent (i) Borrower satisfied all conditions set forth in Section 4.2 with respect to a requested Term Loan and (ii) such Lender failed to advance its Pro Rata Share of such Term Loan.

(d) Final Payment Fee. Upon the repayment in full of all outstanding principal amounts with respect to any Term Loan (whether voluntarily, scheduled or mandatory or otherwise), Borrower shall pay to Agent, for the ratable accounts of Lenders, a fee equal to 4% of the original principal amount of such Term Loan (the "Final Payment Fee").

2.8. **Maximum Lawful Rate.** Anything herein, any Note or any other Debt Document (as defined below) to the contrary notwithstanding, the obligations of Borrower hereunder and thereunder shall be subject to the limitation that payments of interest shall not be required, for any period for which interest is computed hereunder, to the extent (but only to the extent) that contracting for or receiving such payment by Agent and Lenders would be contrary to the provisions of any law applicable to Agent and Lenders limiting the highest rate of interest which may be lawfully contracted for, charged or received by Agent and Lenders, and in such event Borrower shall pay Agent and Lenders interest at the highest rate permitted by applicable law ("Maximum Lawful Rate"); provided, however, that if at any time thereafter the rate of interest payable hereunder or thereunder is less than the Maximum Lawful Rate, Borrower shall continue to pay interest hereunder at the Maximum Lawful Rate until such time as the total interest received by Agent and Lenders is equal to the total interest that would have been received had the interest payable hereunder been (but for the operation of this paragraph) the interest rate payable since the making of the Initial Term Loan as otherwise provided in this Agreement, any Note or any other Debt Document.

3. CREATION OF SECURITY INTEREST.

3.1. **Grant of Security Interest.** As security for the prompt payment and performance, whether at the stated maturity, by acceleration or otherwise, of all Term Loans and other debt, obligations and liabilities of any kind whatsoever of Borrower to Agent and Lenders under the Debt Documents (whether for principal, interest, fees, expenses, prepayment premiums, indemnities, reimbursements or other sums, and whether or not such amounts accrue after the filing of any petition in bankruptcy or after the commencement of any insolvency, reorganization or similar proceeding, and whether or not allowed in such case or proceeding), absolute or contingent, now existing or arising in the future, including but not limited to the payment and performance of any outstanding Notes, and any renewals, extensions and modifications of such Term Loans (such indebtedness under the Notes, Term Loans and other debt, obligations and liabilities in connection with the Debt Documents are collectively called the "Obligations"), Borrower does hereby grant to Agent, on behalf of itself and Lenders, a security interest in the property listed below (all hereinafter collectively called the "Collateral"):

All of Borrower's personal property of every kind and nature (except for Intellectual Property, as defined in, and to the extent excluded pursuant to, Section 3.3) whether now owned or hereafter acquired by, or arising in favor of, Borrower, and regardless of where located, including, without limitation, all accounts, chattel paper (whether tangible or electronic), commercial tort claims, deposit accounts, documents, equipment, financial assets, fixtures, goods, instruments, investment property, inventory, letter-of-credit rights, letters of credit, securities, supporting obligations, cash, cash equivalents, any other contract rights (including, without limitation, rights under any license agreements), or

rights to the payment of money, and general intangibles, and all books and records of Borrower relating thereto, and in and against all additions, attachments, accessories and accessions to such property, all substitutions, replacements or exchanges therefor, all proceeds, insurance claims, products, profits and other rights to payments not otherwise included in the foregoing (with each of the foregoing terms that are defined in the UCC having the meaning set forth in the UCC).

Notwithstanding anything herein to the contrary, in no event shall the Collateral include or the security interest granted under Section 3.1 hereof attach to:

(a) any lease, license, contract or agreement to which Borrower is a party, and any of its rights or interest thereunder, if and to the extent that a security interest is prohibited by or in violation of (i) any law, rule or regulation applicable to Borrower, or (ii) a term, provision or condition of any such lease, license, contract, property right or agreement (unless such law, rule, regulation, term, provision or condition would be rendered ineffective with respect to the creation of the security interest hereunder pursuant to Sections 9-406, 9-407, 9-408 or 9-409 of the UCC (or any successor provision or provisions) of any relevant jurisdiction or any other applicable law (including the Bankruptcy Code) or principles of equity); provided, however, that the Collateral shall include (and such security interest shall attach) immediately at such time as the contractual or legal prohibition shall no longer be applicable and to the extent severable, shall attach immediately to any portion of such lease, license, contract or agreement not subject to the prohibitions specified in (i) or (ii) above; provided further that the exclusions referred to in clause (a) of this paragraph shall not include any proceeds of any such lease, license, contract or agreement;

(b) more than 65% of the outstanding capital stock of a Controlled Foreign Corporation (as defined in the Internal Revenue Code); or

(c) the equipment specifically listed on Schedule B hereto under "Existing Liens" and financed pursuant to (i) the Loan and Security Agreement, dated as of February 12, 2004, by and between Lighthouse Capital Partners V, L.P. and the Borrower and (ii) Master Security Agreement No. 5081102, dated as of October 25, 2005 by and between Oxford Finance Corporation and the Borrower, and in and against all additions, attachments, accessories, and accessions to such equipment, all substitutions, replacements or exchanges therefore, and all insurance and/or other proceeds thereof.

Borrower hereby represents and covenants that such security interest constitutes a valid, first priority security interest in the presently existing Collateral, and will constitute a valid, first priority security interest in Collateral acquired after the date hereof, in each case with respect to priority only, subject to any Permitted Liens with respect to the Collateral. Borrower hereby covenants that it shall give written notice to Agent promptly upon the acquisition by Borrower or creation in favor of Borrower of any commercial tort claim after the Closing Date.

3.2. **Financing Statements.** Borrower hereby authorizes Agent to file UCC financing statements with all appropriate jurisdictions to perfect Agent's security interest (for the benefit of itself and the Lenders) granted hereby.

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3.3. **Grant of Security Interest in Proceeds of Intellectual Property.** The Collateral shall not include any of Borrower's intellectual property, which shall be defined as any and all copyright, trademark, servicemark, patent, design right, software, trade secret and intangible rights of Borrower and any applications, registrations, claims, products, awards, judgments, amendments, renewals, extensions, improvements and insurance claims related thereto (collectively, "Intellectual Property") now owned or hereafter acquired, or any claims for damages by way of any past, present or future infringement of any of the foregoing; provided, however, that the Collateral shall include all cash, royalty fees, other proceeds, accounts and general intangibles that consist of rights of payment to or on behalf of Borrower or proceeds from the sale, licensing or other disposition of all or any part of, or rights in, the Intellectual Property by or on behalf of Borrower ("Rights to Payment"). Notwithstanding the foregoing, to the extent it is necessary under applicable law in any bankruptcy or insolvency proceeding involving Borrower for Agent (on behalf of itself and Lenders) to have a security interest in the underlying Intellectual Property in order for Agent to have (i) a security interest in the Rights to Payment and (ii) a security interest in any payments with respect to Rights to Payment that are received after the commencement of such bankruptcy or insolvency proceeding, then the Collateral shall automatically, and effective as of the date hereof, include the Intellectual Property only to the extent necessary to permit attachment and perfection of Agent's security interest (on behalf of itself and Lenders) in the Rights to Payment and any payments in respect thereof that are received after the commencement of any bankruptcy or insolvency proceeding. Agent hereby agrees on behalf of itself and the Lenders that, if Agent obtains a security interest in the Intellectual Property pursuant to the immediately preceding sentence, Agent will not exercise any remedies (under the UCC or otherwise) with respect to the Intellectual Property (other than remedies with respect to Rights to Payment or any other proceeds of the Intellectual Property). For the avoidance of doubt, none of the provisions of this Section 3.3 shall be construed to provide Lenders with a consent or other blocking right in connection with licenses granted by Borrower in accordance with the terms and conditions of Section 7.3.

3.4. **Termination of Security Interest.** Subject to Section 10.9, Agent's lien on the Collateral (on behalf of itself and Lenders) shall continue until all of the Obligations are repaid in full in cash and all of the Commitments hereunder are terminated or fulfilled (the "Termination Date"). Upon the Termination Date, Agent shall, at Borrower's sole cost and expense and without any recourse, representation or warranty, release its liens in the Collateral, and all rights remaining therein, if any, shall revert to Borrower.

4. CONDITIONS OF CREDIT EXTENSIONS

4.1. **Conditions Precedent to Initial Term Loan.** No Lender shall be obligated to make the Initial Term Loan, or to take, fulfill, or perform any other action hereunder, until the following have been delivered to the Agent (the date on which the Lenders make the Initial Term Loan after all such conditions shall have been satisfied in a manner satisfactory to Agent or waived in accordance with this Agreement, the "Closing Date"):

(a) a counterpart of this Agreement duly executed by Borrower;

(b) a certificate executed by the Secretary of Borrower, the form of which is attached hereto asExhibit B (the "Secretary's Certificate"), providing verification of incumbency and attaching (i) Borrower's board resolutions approving the transactions contemplated by this Agreement and the other Debt Documents and (ii) Borrower's governing documents;

(c) Notes duly executed by Borrower in favor of each applicable Lender;

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(d) filed copies of UCC financing statements, collateral assignments, and terminations statements, with respect to the Collateral, as Agent shall request;

(e) certificates of insurance evidencing the insurance coverage, and satisfactory additional insured and lender loss payable endorsements, in each case as required pursuant to Section 6.4 herein;

(f) current UCC lien, judgment, bankruptcy and tax lien search results demonstrating that there are no other security interests or liens on the Collateral, other than Permitted Liens (as defined below);

(g) a Warrant in favor of each Lender, duly executed by Borrower, substantially in the form provided by Agent;

(h) a certificate of good standing of Borrower from the jurisdiction of Borrower's organization and a certificate of foreign qualification from each jurisdiction where Borrower's failure to be so qualified could reasonably be expected to have a Material Adverse Effect (as defined below), in each case as of a recent date acceptable to Agent;

(i) a landlord consent and/or bailee letter in favor of Agent executed by the landlord or bailee, as applicable, for any third party location where (i) Borrower's principal place of business, (ii) any of Borrower's books or records or (iii) Collateral with an aggregate value in excess of $25,000 is located, a form of which is attached hereto as Exhibit C-1 and Exhibit C-2, as applicable ("Access Agreement");

(j) a legal opinion of Borrower's counsel, in form and substance satisfactory to Agent;

(k) a completed EPS set-up form, a form of which is attached hereto asExhibit E (the "EPS Setup Form");

(l) a completed perfection certificate, duly executed by Borrower, a form of which Agent previously delivered to Borrower (the "Perfection Certificate");

(m) one or more Account Control Agreements (as defined below), in form and substance reasonably acceptable to Agent, duly executed by Borrower and the applicable depository or financial institution, for each deposit and securities account (other than accounts used exclusively for payroll and withholding tax purposes) listed on the Perfection Certificate;

(n) a pledge agreement, in form and substance satisfactory to Agent, executed by Borrower and pledging to Agent, for the benefit of itself and the Lenders, a security interest in (a) 100% of the shares of the outstanding capital stock, of any class, of each Subsidiary (as defined below) of Borrower that is incorporated under the laws of any State of the United States or the District of Columbia; (b) shares of the outstanding capital stock of any class of each Subsidiary of Borrower that is not incorporated under the laws of any State of the United States or the District of Columbia that constitute 65% of the total combined voting power of all capital stock of all classes of such Subsidiary and (c) any and all Indebtedness owing to Borrower (the "Pledge Agreement");

(o) a disbursement instruction letter, in form and substance satisfactory to Agent, executed by Borrower, Agent and each Lender (the "Disbursement Letter");

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(p) a guaranty and security agreement (the "Guaranty"), in form and substance satisfactory to Agent, executed by Wasabi Acquisition LLC, a Delaware limited liability company (in such capacity, the "Guarantor") and guaranteeing the payment and performance of the Obligations and granting a lien in the collateral described therein (the "Guarantor Collateral");

(q) all other documents and instruments as Agent may reasonably deem necessary or appropriate to effectuate the intent and purpose of this Agreement (together with the Agreement, the Notes, the Perfection Certificate, the Pledge Agreement, the Secretary's Certificate, the Disbursement Letter and all other agreements, instruments, documents and certificates executed and/or delivered to or in favor of Agent from time to time in connection with this Agreement or the transactions contemplated hereby (excluding the Warrant), the "Debt Documents"); and

(r) Agent and Lenders shall have received the fees required to be paid by Borrower, if any, in the respective amounts specified in Section 2.7, and Borrower shall have reimbursed Agent and Lenders for all fees, costs and expenses of closing presented as of the date of this Agreement.

4.2. **Conditions Precedent to All Term Loans.** No Lender shall be obligated to make any Term Loan, including the Initial Term Loan, unless the following additional conditions have been satisfied:

(a) (i) all representations and warranties in Section 5 below shall be true as of the date of such Term Loan; (ii) no Event of Default or any other event, which with the giving of notice or the passage of time, or both, would constitute an Event of Default (such event, a "Default"), has occurred or begun, irrespective of any cure periods therefor, or will result from the making of any Term Loan, without the waiver of Lenders at their sole discretion, and (iii) Agent shall have received a certificate from a Proper Officer of Borrower confirming each of the foregoing;

(b) Agent shall have received the redelivery or supplemental delivery of the items set forth in the following sections to the extent circumstances have changed since the Initial Term Loan: Sections 4.1(b), (e), (f), (g), (h), (i), (j), (l) and (o);

(c) with respect to each Term Loan other than the Initial Term Loan, Agent shall have received evidence satisfactory to Agent that Borrower has, at the time of and after giving effect to such Term Loan, either (a) a Cash Burn Amount (defined below) that is greater than zero, or (b) unrestricted cash and Cash Equivalents (as defined below) as shown on the consolidated balance sheet of Borrower and its consolidated Subsidiaries (collectively, "Balance Sheet Cash") in an amount equal to or greater than the product of (A) negative twelve (-12) times (B) the Cash Burn Amount (as defined below); and

(d) Agent shall have received such other documents, agreements, instruments or information as Agent shall reasonably request.

As used herein, the term "Cash Burn Amount" means, with respect to Borrower and its consolidated Subsidiaries, as of any date of determination and based on the financial statements most recently delivered to Agent and the Lenders in accordance with this Agreement, the difference between:

(1) the quotient of (i) the sum of, without duplication, (A) net income (loss), plus (B) depreciation and amortization, minus (C) non-financed capital expenditures, in each case of

clauses (A), (B) and (C), for the immediately preceding twelve month period on a trailing basis, divided by (ii) twelve,

minus

(2) the quotient of (i) the current portion of interest bearing liabilities due and payable in the immediately succeeding 12 months divided by (ii) twelve.

At such times that the Cash Burn Amount is zero or a positive number, Borrower will be deemed to be "Cashflow Positive" for purposes of this Agreement. Conversely, at any time that the Cash Burn Amount is a negative number, Borrower will be deemed to be "Cashflow Negative" for purposes of this Agreement.

5. REPRESENTATIONS AND WARRANTIES OF BORROWER.

Borrower represents, warrants and covenants to Agent and each Lender that:

5.1. **Due Organization and Authorization.** Borrower's exact legal name is as set forth in the preamble of this Agreement and Borrower is, and will remain, duly organized, existing and in good standing under the laws of the State of Delaware, has its chief executive office at the location specified in the preamble, and is, and will remain, duly qualified and licensed in every jurisdiction wherever necessary to carry on its business and operations, except where the failure to be so qualified and licensed could not reasonably be expected to have a Material Adverse Effect. This Agreement and the other Debt Documents have been duly authorized, executed and delivered by Borrower and constitute legal, valid and binding agreements enforceable in accordance with their terms. The execution, delivery and performance by Borrower of each Debt Document executed or to be executed by it is in each case within Borrower's powers.

5.2. **Required Consents.** Except for the filing of a Form D with respect to the issuance of the Warrants, no filing, registration, qualification with, or approval, consent or withholding of objections from, any governmental authority or instrumentality or any other entity or person is required with respect to the entry into, or performance by Borrower of, any of the Debt Documents, except any already obtained.

5.3. **No Conflicts.** The entry into, and performance by Borrower of, the Debt Documents will not (a) violate any of the organizational documents of Borrower, (b) violate any law, rule, regulation, order, award or judgment applicable to Borrower, or (c) result in any breach of or constitute a default under, or result in the creation of any lien, claim or encumbrance on any of Borrower's property (except for liens in favor of Agent, on behalf of itself and Lenders) pursuant to, any indenture, mortgage, deed of trust, bank loan, credit agreement, or other Material Agreement (as defined below) to which Borrower is a party. As used herein, "Material Agreement" shall mean (i) any agreement or contract to which Borrower or any of its Subsidiaries is a party and involving the receipt or payment of amounts in the aggregate exceeding $250,000 per year, (ii) any agreement or contract to which Borrower or any of its Subsidiaries is a party the termination of which could reasonably be expected to have a Material Adverse Effect and (iii) each agreement relating to the Subordinated Indebtedness (as defined below). A description of all Material Agreements as of the Closing Date is set forth on Schedule B hereto.

5.4. **Litigation.** There are no actions, suits, proceedings or, to Borrower's knowledge, investigations pending against or affecting Borrower before any court, federal, state, provincial, municipal or other governmental department, commission, board, bureau, agency or instrumentality, domestic or foreign, or any basis thereof, which involves the possibility of any judgment or liability that could

reasonably be expected to have a Material Adverse Effect, or which questions the validity of the Debt Documents, or the other documents required thereby or any action to be taken pursuant to any of the foregoing, nor does Borrower have reason to believe that any such actions, suits, proceedings or investigations are threatened. As used in this Agreement, the term "Material Adverse Effect" shall mean a material adverse effect on any of (a) the operations, business, assets, properties or condition (financial or otherwise) of Borrower, individually, or Borrower and its Subsidiaries (as defined below), collectively, but excluding any effect arising solely and directly from the failure of the Borrower to execute an agreement with Royal Dutch Shell PLC (or any subsidiary entity thereof, each "Shell") or the associated loss of economic benefit directly attributable to the failure to execute such an agreement, (b) the ability of Borrower to perform any of its obligations under any Debt Document to which it is a party, (c) the legality, validity or enforceability of any Debt Document, (d) the rights and remedies of Agent or Lenders under any Debt Document or (e) the validity, perfection or priority of any lien in favor of Agent, on behalf of itself and Lenders, on any of the Collateral.

5.5. **Financial Statements.** All financial statements delivered to Agent and Lenders pursuant to Section 6.3 have been prepared materially in accordance with GAAP (subject, in the case of unaudited financial statements, to the absence of footnotes and normal year-end and audit adjustments), and since the date of the most recent audited financial statement, no event has occurred which has had or could reasonably be expected to have a Material Adverse Effect. There has been no material adverse deviation from the most recent annual operating plan of Borrower delivered to Agent and Lenders in accordance with Section 6.3.

5.6. **Use of Proceeds.** The proceeds of the Term Loans shall be used for working capital and general corporate purposes.

5.7. **Collateral.** Borrower is, and will remain, the sole and lawful owner, and in possession of, the Collateral, and has the sole right and lawful authority to grant the security interest described in this Agreement. The Collateral is, and will remain, free and clear of all liens, claims and encumbrances of any kind whatsoever, except for (a) liens in favor of Agent, on behalf of itself and Lenders, to secure the Obligations, (b) liens (i) with respect to the payment of taxes, assessments or other governmental charges or (ii) of suppliers, carriers, materialmen, warehousemen, workmen or mechanics and other similar liens, in each case imposed by law and arising in the Ordinary Course of Business, and securing amounts that are not yet due or that are being contested in good faith by appropriate proceedings diligently conducted and with respect to which adequate reserves or other appropriate provisions are maintained on the books of Borrower or its Subsidiaries in accordance with GAAP and which do not involve, in the judgment of Agent, any risk of the sale, forfeiture or loss of any of the Collateral (a "Permitted Contest"), (c) zoning restrictions, easements, rights of way, encroachments or other restrictions on the use of, and other minor defects or irregularities in title with respect to, any real property of Borrower or its Subsidiaries so long as the same do not materially impair the use of such real property by Borrower or such Subsidiary, (d) purported liens evidenced by the filing of precautionary UCC financing statements relating solely to operating leases of personal property entered into in the Ordinary Course of Business, (e) liens in favor of customs and revenue authorities arising as a matter of law to secure payment of customs duties in connection with the importation of goods, (f) liens existing on the date hereof and set forth on Schedule B hereto, (g) liens securing Indebtedness (as defined below) permitted under Section 7.2(c) below, provided that (i) such liens exist prior to the acquisition of, or attach substantially simultaneous with, or within 20 days after the, acquisition, repair, improvement or construction of, such property financed by such Indebtedness and (ii) such liens do not extend to any property of Borrower or its Subsidiaries other than the property (and proceeds thereof) acquired or built, or the improvements or repairs, financed by such Indebtedness, and (h) licenses described in Section 7.3(b) below (all of such liens described in the foregoing clauses (a) through (h) are called "Permitted Liens"). "Ordinary Course of Business" means,

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions

with respect to Borrower and its Subsidiaries, the operation of the business of Borrower and its Subsidiaries consistent with Borrower's business plan as of the Closing Date, it being understood and acknowledged by the Lenders that the business of Borrower and/or its Subsidiaries involves entering into corporate collaborations in the fields of energy, chemicals, carbon management and pharmaceuticals pursuant to exclusive and non-exclusive licenses of Intellectual Property.

5.8. **Compliance with Laws.** Borrower is and will remain in full compliance in all material respects with all laws, statutes, ordinances, rules and regulations applicable to it including, without limitation, (a) for so long as Borrower is a private company, ensuring that no person who owns, directly, or indirectly, 20% or more of the capital stock of Borrower is or shall be (i) listed on the Specially Designated Nationals and Blocked Person List maintained by the Office of Foreign Assets Control ("OFAC"), Department of Treasury, and/or any other similar lists maintained by OFAC pursuant to any authorizing statute, Executive Order or regulation or (ii) a person designated under Section 1(b), (c) or (d) of Executive Order No. 13224 (September 23, 2001), any related enabling legislation or any other similar Executive Orders, (b) compliance with all applicable Bank Secrecy Act ("BSA") laws, regulations and government guidance on BSA compliance and on the prevention and detection of money laundering violations, (c) meeting the minimum funding requirements of the United States Employee Retirement Income Security Act of 1974 (as amended, "ERISA") with respect to any employee benefit plans subject to ERISA, (d) Borrower is not an "investment company" or a company "controlled" by an "investment company" within the meaning of the Investment Company Act of 1940 and (e) Borrower is not engaged principally, or as one of the important activities, in the business of extending credit for the purpose of purchasing or carrying margin stock (within the meaning of Regulations T, U and X of the Board of Governors of the Federal Reserve System (the "Federal Reserve Board").

5.9. **Intellectual Property.** The Intellectual Property is and will remain free and clear of all liens, claims and encumbrances of any kind whatsoever, except for Permitted Liens described in clauses (b)(i) and (e) of Section 5.7. Borrower has not and will not enter into any other agreement or financing arrangement in which a negative pledge in Borrower's Intellectual Property is granted to any other party except for exclusive licenses in existence as of the date hereof or entered into in compliance with the terms and conditions of Section 7.3(d). As of the Closing Date and each date a Term Loan is advanced to Borrower, Borrower does not have any interest in, or title to any Intellectual Property except as disclosed in the Perfection Certificate. Borrower owns or has rights to use all Intellectual Property material to the conduct of its business as now or heretofore conducted by it or proposed to be conducted by it, without any actual or claimed infringement upon the rights of third parties. Borrower is in full compliance in all material respects with all provisions of (a) that certain License Agreement between Maxygen, Inc. ("Maxygen") and Borrower dated March 28, 2002 (as heretofore amended, supplemented or otherwise modified from time to time, the "Maxygen License Agreement") and (b) that certain License and Collaboration Agreement between Maxygen and Novozymes, Inc. dated September 17, 1997, as assigned by Maxygen to Borrower, and as amended from time to time pursuant to the terms and conditions of this Agreement. Borrower has no knowledge of any material breach by Maxygen under the Maxygen License Agreement.

5.10. **Solvency.** Both immediately before and immediately after giving effect to each Term Loan, the transactions contemplated herein, and the payment and accrual of all transaction costs in connection with the foregoing, Borrower is and will be Solvent. As used herein, "Solvent" means, with respect to Borrower on a particular date, that on such date (a) the fair value of the property of Borrower is greater than the total amount of liabilities, including contingent liabilities (excluding the non-current portion of facility leases), of Borrower; (b) the present fair salable value of the assets of Borrower is not less than the amount that will be required to pay the probable liability of Borrower on its debts as they become absolute and matured; (c) Borrower does not intend to, and does not believe that it will, incur

debts or liabilities beyond Borrower's ability to pay as such debts and liabilities mature; (d) Borrower is not engaged in a business or transaction, and is not about to engage in a business or transaction, for which Borrower's property would constitute an unreasonably small capital; and (e) is not "insolvent" within the meaning of Section 101 (32) of the United States Bankruptcy Code (11 U.S.C. § 101, et. seq.), as amended. The amount of contingent liabilities (such as litigation, guaranties and pension plan liabilities) at any time shall be computed as the amount that, in light of all the facts and circumstances existing at the time, represents the amount that can be reasonably be expected to become an actual or matured liability.

5.11. **Taxes; Pension.** All tax returns, reports and statements, including information returns, required by any governmental authority to be filed by Borrower and its Subsidiaries have been filed with the appropriate governmental authority and except as set forth in Section 10 of the Perfection Certificate delivered on or prior to the Closing Date all taxes, levies, assessments and similar charges have been paid prior to the date on which any fine, penalty, interest or late charge may be added thereto for nonpayment thereof (or any such fine, penalty, interest, late charge or loss has been paid), excluding taxes, levies, assessments and similar charges or other amounts which are the subject of a Permitted Contest. Proper and accurate amounts have been withheld by Borrower from its respective employees for all periods in compliance with applicable laws and such withholdings have been timely paid to the respective governmental authorities. Borrower has paid all amounts necessary to fund all present pension, profit sharing and deferred compensation plans in accordance with their terms, and Borrower has not withdrawn from participation in, and has not permitted partial or complete termination of, or permitted the occurrence of any other event with respect to, any such plan which could reasonably be expected to result in any liability of Borrower in excess of $50,000 in the aggregate, including any liability to the Pension Benefit Guaranty Corporation or its successors or any other governmental authority.

5.12. **Full Disclosure.** Borrower hereby confirms that all of the information disclosed on the Perfection Certificate is true, correct and complete as of the date of this Agreement and true, correct and complete in all material respects as of the date of each Term Loan. No representation, warranty or other statement made by or on behalf of Borrower contains any untrue statement of a material fact or omits to state a material fact necessary to make the statements contained therein not misleading, it being recognized by Agent and Lenders that the projections and forecasts provided by Borrower in good faith and based upon reasonable and stated assumptions are not to be viewed as facts and that actual results during the period or periods covered by any such projections and forecasts may differ from the projected or forecasted results.

6. AFFIRMATIVE COVENANTS.

6.1. **Good Standing.** Borrower shall maintain its and each of its Subsidiaries' existence and good standing in its jurisdiction of organization and maintain qualification in each jurisdiction in which the failure to so qualify could reasonably be expected to have a Material Adverse Effect. Borrower shall maintain, and shall cause each of its Subsidiaries to maintain, in full force all licenses, approvals and agreements, the loss of which could reasonably be expected to have a Material Adverse Effect. "Subsidiary" means, with respect to Borrower, any entity the management of which is, directly or indirectly controlled by, or of which an aggregate of more than 50% of the outstanding voting capital stock (or other voting equity interest) is, at the time, owned or controlled, directly or indirectly by, Borrower or one or more Subsidiaries of Borrower.

6.2. **Notice to Agent.** Borrower shall provide Agent with (a) notice of the occurrence of any Default or Event of Default, promptly (but within 3 Business Days) after the date any "officer" (as defined in Rule 16a-1 promulgated under the Securities Exchange Act of 1934, as amended) or a Proper Officer (each such "officer" or such Proper Officer, an "Executive Officer") of Borrower becomes aware

of the occurrence of any such event the occurrence of any such event, (b) copies of all statements, reports and notices made available generally by Borrower to its securityholders or to any holders of Subordinated Indebtedness (as defined below), all notices sent to Borrower by the holders of such Subordinated Indebtedness, and all reports, registration statements and prospectuses filed with the Securities and Exchange Commission ("SEC") (excluding notices filed by Borrower on behalf of officers and directors pursuant to Section 16 of the Securities Exchange Act of 1934) or any securities exchange or governmental authority exercising a similar function, promptly, but in any event within 5 days of delivering or receiving such information to or from such persons, (c) a report of any legal actions pending or threatened against Borrower or any Subsidiary that could reasonably be expected to result in damages or costs to Borrower or any Subsidiary of $250,000 or more promptly upon (but within 3 Business Days after) receipt of notice thereof, (d) within 45 days of the end of each calendar quarter, a list of any new applications or registrations that Borrower has made or filed in respect of any Intellectual Property or a change in status of any outstanding application or registration during the immediately preceding calendar quarter, and (e) copies of all material statements, reports and notices delivered to or by Borrower in connection with the Maxygen License Agreement promptly but in any event within 3 Business Days of delivering or receiving such information.

6.3. **Financial Statements.** If Borrower is a private company, it shall deliver to Agent and Lenders (a) unaudited consolidated and, if available, consolidating balance sheets, statements of operations and cash flow statements within 45 days of each month end, in a form acceptable to Agent and certified by Borrower's chief executive officer or chief financial officer, (b) an updated capitalization table of Borrower in the form that Borrower uses with its existing investors within (i) 5 Business Days after the date of each funding of a Term Loan hereunder and (ii) 45 days after each quarter end and (c) beginning with the fiscal year ending December 31, 2008, its complete annual audited consolidated and, if available, consolidating financial statements prepared under GAAP and certified by an independent certified public accountant selected by Borrower and satisfactory to Agent (it being understood that any "Big Four" accounting firm shall be acceptable to Agent) within 120 days of the fiscal year end or, if sooner, at such time as Borrower's Board of Directors receives the certified audit; provided, however, that Borrower shall deliver the certified audits for the fiscal years ending December 31, 2006 and December 31, 2007 to Agent and Lenders on or prior to the earlier of (x) the date that is 5 days after the date on which Borrower receives the respective certified audit and (y) June 30, 2008. If Borrower is a publicly held company, it shall provide to Agent and Lenders (A) quarterly unaudited consolidated and, if available, consolidating balance sheets, statements of operations and cash flow statements that have been reviewed in accordance with standards of the Public Accounting Oversight Board (United States) by a recognized firm of certified public accounts, and (B) annual audited consolidated and, if available, consolidating balance sheets, statements of operations and cash flows certified by a recognized firm of certified public accountants. The financial statements described in the foregoing clauses (A) and (B) shall be delivered within 5 Business Days after the statements are provided to Borrower in reviewed/certified form by such public accountants, and if Agent requests, Borrower shall deliver to Agent and Lenders monthly unaudited and unreviewed consolidated balance sheets, statements of operations and cash flow statements within 30 days after the end of each month. All such statements are to be materially prepared using GAAP (subject, in the case of unaudited financial statements, to the absence of footnotes and normal year-end and audit adjustments) and, if Borrower is a publicly held company, are to be materially in compliance with applicable SEC requirements. All financial statements delivered pursuant to this Section 6.3 shall be accompanied by a compliance certificate, signed by the chief financial officer of Borrower, in the form attached hereto as Exhibit D. Borrower shall deliver to Agent and Lenders (i) as soon as available and in any event not later than 30 days after the end of each fiscal year of Borrower, an annual operating plan for Borrower, on a consolidated and, if available, consolidating basis, approved by the Board of Directors of Borrower, for the current fiscal year, in form and substance satisfactory to Agent and (ii) such budgets, sales projections, or other financial information as Agent or any Lender may

reasonably request from time to time generally prepared by Borrower in the Ordinary Course of Business. Lenders and Agent hereby acknowledge that until all of the information contained in the financial statements provided by Borrower pursuant to this section is fully disclosed in Borrower's public filings with the SEC, such information will remain both material and non-public; for the avoidance of doubt, forward-looking statements, including but not limited to the annual operating plan and sales projections that Borrower will provide to Lenders and Agent pursuant to this section, will be material and non-public information until Borrower has filed with the SEC financial statements reporting results for all of the time periods covered by such plans and projections. The Borrower hereby agrees that, notwithstanding any repayment of the Term Loans or termination of this Agreement, so long as Borrower is a private company Borrower shall continue to deliver to each Lender the documents required under this Section 6.3 until each of the Warrants have either expired by their terms or been exercised. The provisions of the immediately preceding sentence shall survive the termination of this Agreement.

6.4. **Insurance.** Borrower, at its expense, shall maintain, and shall cause each Subsidiary to maintain, insurance (including, without limitation, comprehensive general liability, hazard, and business interruption insurance) with respect to all of its properties and businesses (including, the Collateral), in such amounts and covering such risks as is carried generally in accordance with sound business practice by companies in similar businesses similarly situated and in any event with deductible amounts, insurers and policies that shall be reasonably acceptable to Agent. Borrower shall deliver to Agent within fourteen (14) days after the Closing Date certificates of insurance evidencing such coverage, together with endorsements to such policies naming Agent as a lender loss payee or additional insured, as appropriate, in form and substance satisfactory to Agent (except that Agent shall not be named as loss payee with respect to insurance covering equipment described in clause (c) of Section 3.1 hereof). Each policy shall provide that coverage may not be canceled or altered by the insurer except upon 10 days prior written notice to Agent and shall not be subject to co-insurance (except for retentions and deductibles that are customarily set forth in such policies). Borrower appoints Agent as its attorney-in-fact to make, settle and adjust all claims under and decisions with respect to Borrower's policies of insurance, and to receive payment of and execute or endorse all documents, checks or drafts in connection with insurance payments only to the extent necessary to satisfy all Obligations hereunder. Agent shall not act as Borrower's attorney-in-fact unless an Event of Default has occurred and is continuing. The appointment of Agent as Borrower's attorney in fact is a power coupled with an interest and is irrevocable until all of the Obligations are indefeasibly paid in full. Proceeds of insurance shall be applied, at the option of Agent, to repair or replace the Collateral or to reduce any of the Obligations.

6.5. **Taxes.** Borrower shall, and shall cause each Subsidiary that is incorporated under the laws of any State of the United States or the District of Columbia to, timely file all tax reports and pay and discharge all federal taxes and material state and local taxes, assessments and governmental charges or levies imposed upon it, or its income or profits or upon its properties or any part thereof, before the same shall be in default and before the date on which penalties attach thereto except to the extent such taxes, assessments or governmental charges or levies are the subject of a Permitted Contest.

6.6. **Agreement with Landlord/Bailee.** Borrower shall obtain and maintain such Access Agreement(s) with respect to any real property on which (a) Borrower's principal place of business, (b) any of Borrower's books or records or (c) Collateral with an aggregate value in excess of $25,000 is located (other than real property owned by Borrower) as Agent may require.

6.7. **Protection of Intellectual Property.** Borrower shall take all necessary actions to: (a) protect, defend and maintain the validity and enforceability of its Intellectual Property to the extent material to the conduct of its business now or heretofore conducted by it or proposed to be conducted by it, (b) promptly advise Agent in writing of material infringements of its Intellectual Property of which any

Executive Officer of Borrower has knowledge and, should the Intellectual Property be material to Borrower's business and should Borrower have enforcement rights with respect to such Intellectual Property, promptly sue for infringement, misappropriation or dilution and to recover any and all damages for such infringement, misappropriation or dilution, (c) not allow any Intellectual Property material to Borrower's business to be abandoned, forfeited or dedicated to the public without Agent's written consent, and (d) notify Agent reasonably promptly (but in any event within 3 Business Days) if it knows or has reason to know that any application or registration relating to any patent, trademark or copyright (now or hereafter existing) material to its business may become abandoned or dedicated, or if any adverse determination or development (including the institution of, or any such determination or development in, any proceeding in the United States Patent and Trademark Office, the United States Copyright Office or any court) regarding Borrower's ownership of any Intellectual Property material to its business, its right to register the same, or to keep and maintain the same. Borrower shall remain liable under each of its Intellectual Property licenses pursuant to which it is a licensee ("Licenses") to observe and perform all of the conditions and obligations to be observed and performed by it thereunder. None of Agent or any Lender shall have any obligation or liability under any such License by reason of or arising out of this Agreement, the granting of a lien, if any, in such License or the receipt by Agent (on behalf of itself and Lenders) of any payment relating to any such License. None of Agent or any Lender shall be required or obligated in any manner to perform or fulfill any of the obligations of Borrower under or pursuant to any License, or to make any payment, or to make any inquiry as to the nature or the sufficiency of any payment received by it or the sufficiency of any performance by any party under any License, or to present or file any claims, or to take any action to collect or enforce any performance or the payment of any amounts which may have been assigned to it or which it may be entitled at any time or times.

6.8. **Special Collateral Covenants.**

(a) Until the occurrence of any Event of Default, Borrower shall remain in possession of the Collateral at the location(s) specified on the Perfection Certificate; except that Agent, on behalf of itself and Lenders, shall have the right to possess (i) any chattel paper or instrument that constitutes a part of the Collateral, and (ii) any other Collateral in which Agent's security interest (on behalf of itself and Lenders) may be perfected only by possession. Agent may inspect (and representatives of any Lender may accompany Agent on any such inspection) any of the Collateral during normal business hours, and in the absence of a Default or an Event of Default, with reasonable frequency and after giving Borrower reasonable prior notice. If Agent asks, Borrower will promptly notify Agent in writing of the location of any Collateral.

(b) Borrower shall (i) use the Collateral only in its trade or business, (ii) maintain all of the Collateral in good operating order and repair, normal wear and tear excepted, and (iii) use and maintain the Collateral only in compliance with manufacturers' recommendations and all applicable laws.

(c) Agent and Lenders do not authorize and Borrower agrees it shall not (i) part with possession of any of the Collateral (except to Agent (on behalf of itself and Lenders), for maintenance and repair or for a Permitted Disposition), or (ii) remove any of the Collateral from the continental United States.

(d) Borrower shall pay promptly when due all taxes, license fees, assessments and public and private charges levied or assessed on any of the Collateral, on its use, or on this Agreement or any of the other Debt Documents. At its option, Agent may discharge taxes, liens, security interests or other encumbrances at any time levied or placed on the

Collateral and may pay for the maintenance, insurance and preservation of the Collateral and effect compliance with the terms of this Agreement or any of the other Debt Documents. Borrower agrees to reimburse Agent, on demand, all reasonable costs and expenses incurred by Agent in connection with such payment or performance and agrees that such reimbursement obligation shall constitute Obligations.

(e) Borrower shall, at all times, keep accurate and complete records of the Collateral that has an acquisition cost of $2,500 or more, and Agent shall have the right to (i) inspect and make copies of all of Borrower's books and records relating to the Collateral during normal business hours and (ii) contact Borrower's accountants, and in the absence of a Default or an Event of Default, after giving Borrower reasonable prior notice.

(f) Borrower agrees and acknowledges that any third person who may at any time possess all or any portion of the Collateral shall be deemed to hold, and shall hold, the Collateral as the agent of, and as pledge holder for, Agent (on behalf of itself and Lenders). Agent may at any time give notice to any third person described in the preceding sentence that such third person is holding the Collateral as the agent of, and as pledge holder for, Agent (on behalf of itself and Lenders).

6.9. **Further Assurances.** Borrower shall, upon request of Agent, furnish to Agent such further information, execute and deliver to Agent such documents and instruments (including, without limitation, UCC financing statements) and shall do such other acts and things as Agent may at any time reasonably request relating to the perfection or protection of the security interest created by this Agreement or for the purpose of carrying out the intent of this Agreement and the other Debt Documents.

6.10. **Additional Subsidiaries.** Promptly (and in any event within thirty (30) days) after the formation or acquisition of any Subsidiary of Borrower, Borrower shall cause to be executed and delivered to Agent the following: (i) by such new Subsidiary other than a Foreign Subsidiary (as hereinafter defined), a Guaranty pursuant to which such Subsidiary shall guarantee the payment and performance of all of the Obligations and pursuant to which Agent, for the benefit of itself and the Lenders, shall be granted a first priority (subject to Permitted Liens) and perfected security interest in all assets of such Subsidiary of the same types constituting "Collateral" under Section 3.1 hereof to secure the Obligations, (ii) by the Borrower or any Guarantor (as applicable) that is such Subsidiary's direct parent company, an amendment to the Pledge Agreement delivered on the Closing Date or a new Pledge Agreement substantially in the form of the Pledge Agreement delivered on the Closing Date (or otherwise in form and substance reasonably satisfactory to Lender), as applicable, and pursuant to which either (1) all of the capital stock of such new Subsidiary (if such Subsidiary is not a Foreign Subsidiary) or (2) 65% of the capital stock of such new Subsidiary (if such Subsidiary is a Foreign Subsidiary) shall be pledged to Agent, for the benefit of the Lenders, on a first priority and perfected basis to secure the Obligations, and (iii) by the Borrower, such other related documents (including closing certificates, legal opinions and other similar documents) as Agent may reasonably request, all in form and substance reasonably satisfactory to Agent; provided, however, that this Section 6.10 shall not operate as a consent to any formation or acquisition of a Subsidiary that is not expressly permitted under this Agreement.

7. NEGATIVE COVENANTS

7.1. **Liens.** Borrower shall not, and shall not permit any Subsidiary to, create, incur, assume or permit to exist any lien, security interest, claim or encumbrance or grant any negative pledges on any Collateral or Intellectual Property, except Permitted Liens, and with respect to Intellectual Property, except as contemplated by Section 7.3(d).

7.2. **Indebtedness.** Borrower shall not, and shall not permit any Subsidiary to, directly or indirectly create, incur, assume, permit to exist, guarantee or otherwise become or remain directly or indirectly liable with respect to, any Indebtedness (as hereinafter defined), except for the following:

(a) the Obligations;

(b) Indebtedness existing on the date hereof and set forth on Schedule B to this Agreement and any modification, replacement, refinancing, refunding, renewal or extension thereof, provided that the principal amount thereof does not exceed the principal amount thereof immediately prior to such modification, replacement, refinancing, refunding, renewal or extension plus other reasonable amounts paid and fees and expenses incurred in connection with such modification, replacement, refinancing, refunding, renewal or extension;

(c) Indebtedness incurred on or after the Closing Date consisting of non-real estate capitalized lease obligations and non-real estate purchase money Indebtedness, in each case incurred by Borrower or any of its Subsidiaries to finance the acquisition, repair, improvement or construction of fixed or capital assets of such person, provided that (i) the aggregate outstanding principal amount of all such Indebtedness incurred on or after the Closing Date under this clause (c) at any time does not exceed (1) at any time that Borrower is Cash Flow Positive, an amount equal to twenty percent (20%) of Balance Sheet Cash of the Borrower at such time, and (2) at any time that Borrower is Cash Flow Negative, an amount equal to the lesser of (A) $5,000,000 and (B) twenty percent (20%) of Balance Sheet Cash of the Borrower at such time, and (ii) the principal amount of such Indebtedness does not exceed the lower of the cost or fair market value of the property so acquired or built or of such repairs or improvements financed with such Indebtedness (each measured at the time of such acquisition, repair, improvement or construction is made);

(d) unsecured Indebtedness in an aggregate amount not to exceed (i) at any time that Borrower is Cash Flow Positive, an amount equal to twenty percent (20%) of Balance Sheet Cash of the Borrower at such time, and (ii) at any time that Borrower is Cash Flow Negative, an amount equal to the lesser of (1) $2,000,000 and (2) twenty percent (20%) of Balance Sheet Cash of the Borrower at such time, provided that all unsecured Indebtedness under this clause (d) is subordinated to the Obligations on terms and conditions reasonably acceptable to Agent ("Subordinated Indebtedness");

(e) the incurrence of any Indebtedness by any Subsidiary of Borrower to Borrower, or the incurrence of any Indebtedness of Borrower to any Subsidiary of Borrower, provided that (i) Borrower and any such Subsidiary shall have executed and delivered to Borrower, or such Subsidiary, as applicable, a demand note (each, an "Intercompany Note") to evidence such intercompany loans or advances owing at any time by such Subsidiary to Borrower or by Borrower to such Subsidiary, which Intercompany Note shall be in form and substance reasonably satisfactory to Agent and in the case of any Intercompany Note evidencing a loan or advance by Borrower or any Guarantor to the Borrower or any Subsidiary, as applicable, shall be pledged and delivered to Agent pursuant to the Pledge Agreement as additional Collateral for the Obligations, (ii) any and all Indebtedness of Borrower or any Guarantor to any Subsidiary of Borrower shall be subordinated to the Obligations pursuant to the subordination terms set forth in each Intercompany Note, (iii) the aggregate principal amount of any Indebtedness issued under this clause (e) in any

fiscal quarter and owing to Borrower or any Guarantor by those Subsidiaries of Borrower organized under the laws of a jurisdiction other than any state of the United States or the District of Columbia (such Subsidiaries, the "Foreign Subsidiaries"), when added to the aggregate amount of any investments by Borrower or any Guarantor in the Foreign Subsidiaries made in such fiscal quarter pursuant to Section 7.7(d)(v), shall not exceed the amount equal to twenty percent (20%) of the Balance Sheet Cash of the Borrower as of the first day of the fiscal quarter in which such loan or advance is made, and (iv) no Default or Event of Default would occur both before and after giving effect to any such Indebtedness;

(f) Indebtedness of Foreign Subsidiaries under working capital lines of credit or similar credit facilities, provided that such Indebtedness is not guaranteed by Borrower or Guarantor;

(g) Indebtedness consisting of Series E preferred stock of the Borrower that are subject to mandatory redemption or repurchase rights, provided that: (i) the mandatory redemption or repurchase rights of such preferred stock are not exercisable by the holders of such preferred stock until 91 days after the Applicable Term Loan Maturity Date for the last Term Loan advanced hereunder, (ii) such preferred stock is issued within six (6) months after the Closing Date, (iii) such preferred stock is issued at an offering price of not less than $5.50 per share (as adjusted from time to time for stock splits, stock combinations, stock dividends and the like), and (iv) such preferred stock is issued for aggregate cash proceeds to the Borrower of not more than $60,000,000; and

(h) Indebtedness consisting of the repurchase and redemption rights of shares of Series D Preferred Stock of the Borrower issued in connection with the exercise of the Warrants.

As used in this Agreement, the term "Indebtedness" shall mean, with respect to any person, at any date, without duplication, (1) all obligations of such person for borrowed money, (2) all obligations of such person evidenced by bonds, debentures, notes or other similar instruments, or upon which interest payments are customarily made, (3) all obligations of such person to pay the deferred purchase price of property or services, but excluding obligations to trade creditors incurred in the Ordinary Course of Business and not past due by more than 90 days, (4) all capital lease obligations of such person, (5) the principal balance outstanding under any synthetic lease, tax retention operating lease, off-balance sheet loan or similar off-balance sheet financing product, (6) all obligations of such person to purchase securities (or other property) which arise out of or in connection with the issuance or sale of the same or substantially similar securities (or property), (7) all contingent or non-contingent obligations of such person to reimburse any bank or other person in respect of amounts paid under a letter of credit or similar instrument, (8) all equity securities of such person subject to repurchase or redemption otherwise than at the sole option of such person, (9) all "earnouts" and similar payment obligations of such person, (10) all indebtedness secured by a lien on any asset of such person, whether or not such indebtedness is otherwise an obligation of such person, (11) all obligations of such person under any foreign exchange contract, currency swap agreement, interest rate swap, cap or collar agreement or other similar agreement or arrangement designed to alter the risks of that person arising from fluctuations in currency values or interest rates, in each case whether contingent or matured, and (12) all obligations or liabilities of others guaranteed by such person. Without limiting the generality of the immediately preceding sentence, "Indebtedness" shall not include (A) any obligations owing under operating leases for real property leased by Borrower or any of its Subsidiaries or (B) any landlord-financed tenant improvements that are capitalized into such operating leases.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions

7.3. **Dispositions.** Borrower shall not, and shall not permit any Subsidiary to, convey, sell, rent, lease, sublease, mortgage, license, transfer or otherwise dispose of (collectively, "Transfer") any of the Collateral or any Intellectual Property, except for the following (collectively, "Permitted Dispositions"): (a) sales of Inventory in the Ordinary Course of Business, (b) non-exclusive licenses for the use of Borrower's Intellectual Property, in each case in the Ordinary Course of Business, (c) dispositions by Borrower or any of its Subsidiaries of tangible assets for cash and fair value that are no longer used or useful in the business of Borrower or such Subsidiary so long as (i) no Default or Event of Default exists at the time of such disposition or would be caused after giving effect thereto and (ii) the fair market value of all such assets disposed of does not exceed $50,000 in the aggregate during any calendar year, and (d) exclusive licenses for the use of Borrower's Intellectual Property, so long as, with respect to each such exclusive license, (i) no Default of Event of Default exists at the time of such Transfer, (ii) the license constitutes an arms-length transaction made in the Ordinary Course of Business and the terms of which, on their face, do not provide for a sale or assignment of any Intellectual Property, (iii) the Borrower delivers no later than 10 days prior to execution of definitive documents, written notice and a brief summary as of such date of the terms of the license to Agent, (iv) the Borrower delivers to Agent copies of the final executed licensing documents in connection with the license promptly upon consummation of the license, and (v) all royalties, milestone payments or other proceeds arising from the licensing agreement are paid to a deposit account that is governed by an Account Control Agreement.

7.4. **Change in Name, Location or Executive Office; Change in Business; Change in Fiscal Year.** Borrower shall not, and shall not permit any Subsidiary to, (a) change its name or its state of organization, (b) relocate its chief executive office without 30 days prior written notification to Agent, (c) engage in any business other than or reasonably related or incidental to the businesses currently engaged in by Borrower or any of its Subsidiaries, or (d) change its fiscal year end. Borrower shall not, and taken together with its Subsidiaries as a whole shall not, cease to conduct business substantially in the manner conducted by Borrower or any of its Subsidiaries as of the date of this Agreement.

7.5. **Mergers or Acquisitions.** Borrower shall not merge or consolidate, or permit any Subsidiary to merge or consolidate, with or into any other person or entity (other than mergers of a Subsidiary into Borrower in which Borrower is the surviving entity) or acquire, or permit any Subsidiary to acquire, all or substantially all of the capital stock or property of another person or entity. Notwithstanding the foregoing, Borrower any of its Subsidiaries may acquire all or substantially all of the assets or stock of another person or entity (such person or entity, the "Target") so long as (a) Agent and each Lender shall receive at least ten (10) Business Days' prior written notice of such proposed acquisition, which notice shall include a reasonably detailed description of such proposed acquisition; (b) such acquisition shall only comprise a business, or those assets of a business, substantially of the type engaged in by Borrower or its Subsidiaries as of the Closing Date, or in the fields of energy, chemicals, carbon management and pharmaceuticals or natural extensions thereof or technologies related thereto; (c) such acquisition shall be consensual and shall have been approved by Target's board of directors or similar governing body (as applicable); (d) that portion of the purchase price paid and/or payable in cash and Cash Equivalents in connection with all acquisitions during the term of this Agreement (less any cash or Cash Equivalents acquired from Target, but including all transaction costs and all Indebtedness, liabilities and contingent obligations incurred or assumed in connection therewith or otherwise reflected in a consolidated balance sheet of Borrower and Target) shall not exceed the greater of (1) $10,000,000 and (2) thirty-five percent (35%) of the net cash proceeds from all public offerings of common stock of the Borrower; (e) if at the time of and after giving effect to such acquisition Borrower is, or on a pro forma basis will become, Cash Flow Negative, Agent shall have received evidence satisfactory to Agent that Borrower has, at the time of and after giving effect to such acquisition, Balance Sheet Cash in an amount equal to or greater than the product of (i) negative eighteen times (ii) the Cash Burn Amount; (f) the business and assets acquired in such Permitted Acquisition shall be free and clear of all liens (other

than Permitted Liens); (g) at or prior to the closing of any permitted acquisition (other than an acquisition by a Foreign Subsidiary or by Borrower or Guarantor of a Foreign Subsidiary), Agent will be granted a first priority perfected lien (subject to Permitted Liens) in all assets acquired pursuant thereto or in the assets and stock of Target, and Borrower or Guarantor (as applicable) and Target shall have executed such documents and taken such actions as may be required by Agent in connection therewith; (h) on or prior to the date of such acquisition, Agent shall have received, in form and substance reasonably satisfactory to Agent, copies of the acquisition agreement and related agreements and instruments, and all opinions, certificates, lien search results and other documents reasonably requested by Agent; and (i) at the time of such acquisition and after giving effect thereto, no Default or Event of Default has occurred and is continuing.

7.6. **Restricted Payments.** Borrower shall not, and shall not permit any Subsidiary to, (a) declare or pay any dividends or make any other distribution or payment on account of or redeem, retire, defease or purchase any capital stock (other than (i) the payment of dividends to Borrower or any Guarantor, (ii) absent the occurrence and the continuance of a Default or Event of Default before and after giving effect to any such payment, the payment of dividends with respect to the Series B Preferred Stock and the Series D Preferred Stock, so long as such dividends do not exceed $500,000 in the aggregate during any calendar year, (iii) the distribution of dividends payable solely in capital stock of the Borrower, and (iv) absent the occurrence and the continuance of a Default or Event of Default before and after giving effect to any such repurchase payment, the repurchase of shares, options or warrants thereof from employees, former employees, directors, former directors, consultants, former consultants, advisors or former advisors and their permitted transferees or estates, of Borrower or any of its Subsidiaries upon their death, termination of their employment or service period or retirement, so long as such repurchase payments do not exceed $250,000 in the aggregate during any calendar year, and (iv) dividends payable exclusively in the capital stock of the Borrower), (b) make any payment in respect of management fees or consulting fees (or similar fees) to any equityholder or other affiliate of Borrower other than (i) fees for general and administrative services provided to Borrower and its Subsidiaries by Maxygen in an aggregate amount not to exceed $1,225,000 during any calendar year and (ii) royalties or other payments in connection with Intellectual Property licenses from Maxygen in an amount not to exceed the amounts calculated to be paid under the Maxygen License Agreement as may be amended pursuant to Section 7.11, (c) be a party to or bound by an agreement that restricts a Subsidiary from paying dividends or otherwise distributing property to Borrower, (d) make any payments of intercompany Indebtedness that is owing by Borrower or any Guarantor (except as provided in the subordination terms of the applicable Intercompany Note then in effect with respect to such intercompany Indebtedness) or (e) purchase or make any payment on or with respect to any Subordinated Indebtedness, except as expressly permitted by the subordination terms thereof that have been approved by Agent.

7.7. **Investments.** Borrower shall not, and shall not permit any Subsidiary to, directly or indirectly (a) acquire or own, or make any loan, advance or capital contribution (an "Investment") in or to any person or entity, (b) acquire any Subsidiary (other than pursuant to the terms and conditions of Section 7.5 and upon the satisfaction of each of the conditions set forth in Section 6.10) or create any Subsidiary (unless each of the conditions set forth in Section 6.10 are satisfied), or (c) engage in any joint venture or partnership with any other person or entity, other than, with respect to each of the foregoing clauses (a), (b) and (c): (i) Investments existing on the date hereof and set forth on Schedule B to this Agreement, (ii) Investments in cash and Cash Equivalents (as defined below), (iii) Investments by way of intercompany loans to the extent permitted under Section 7.2(d), (iv) loans or advances to employees of Borrower or any of its Subsidiaries to finance travel, entertainment and relocation expenses and other ordinary business purposes in the ordinary course of business as presently conducted, provided that the aggregate outstanding principal amount of all loans and advances permitted pursuant to this clause (iv) shall not exceed $25,000 at any time, (v) capital contributions by the Borrower or any Guarantor to the

Borrower or any Guarantor; and (vi) capital contributions by Borrower or any Guarantor to the Foreign Subsidiaries (A) in an aggregate amount in any fiscal quarter which, when added to the aggregate amount of any loans made by Borrower or any Guarantor to the Foreign Subsidiaries in such fiscal quarter pursuant to Section 7.2(e), shall not exceed twenty percent (20%) of the Balance Sheet Cash of the Borrower as of the first day of the fiscal quarter in which such investment is made and (B) so long as no Default or Event of Default would occur both before and after giving effect to any such capital contribution. The term "Cash Equivalents" means (u) any readily-marketable securities (i) issued by, or directly, unconditionally and fully guaranteed or insured by the United States federal government or (ii) issued by any agency of the United States federal government the obligations of which are fully backed by the full faith and credit of the United States federal government, (v) any readily-marketable direct obligations issued by any other agency of the United States federal government, any state of the United States or any political subdivision of any such state or any public instrumentality thereof, in each case having a rating of at least "A-1" from S&P or at least "P-1" from Moody's, (w) any commercial paper rated at least "A-1" by S&P or "P-1" by Moody's and issued by any entity organized under the laws of any state of the United States, (x) any U.S. dollar-denominated time deposit, insured certificate of deposit, overnight bank deposit or bankers' acceptance issued or accepted by (i) Agent or (ii) any commercial bank that is (A) organized under the laws of the United States, any state thereof or the District of Columbia, (B) "adequately capitalized" (as defined in the regulations of its primary federal banking regulators) and (C) has Tier 1 capital (as defined in such regulations) in excess of $250,000,000, (y) shares of any United States money market fund that (i) has substantially all of its assets invested continuously in the types of investments referred to in clause (u), (v), (w) or (x) above with maturities as set forth in the proviso below, (ii) has net assets in excess of $500,000,000 and (iii) has obtained from either S&P or Moody's the highest rating obtainable for money market funds in the United States; provided, however, that the maturities of all obligations specified in any ofclauses (u), (v), (w) and (x) above shall not exceed 365 days, and (z) in the case of Investments by any Foreign Subsidiary, Cash Equivalents shall also include (i) direct obligations of the sovereign nation (or any agency thereof) in which such Foreign Subsidiary is organized and is conducting business or where such Investment is made, or in obligations fully and unconditionally guaranteed by such sovereign nation (or any agency thereof), in each case maturing within 365 days after such date and having, at the time of the acquisition thereof, a rating equivalent to at least A-1 from S&P and at least P-1 from Moody's, (ii) investments of the type and maturity described in clauses (u) through (y) above of foreign obligors, which Investments or obligors (or the parents of such obligors) have ratings described in such clauses or equivalent ratings from comparable foreign rating agencies, (iii) shares of money market mutual or similar funds which invest exclusively in assets otherwise satisfying the requirements of this definition (including this proviso) and (iv) other short-term investments utilized by Foreign Subsidiaries in accordance with normal investment practices for cash management in investments analogous to the foregoing investments in clauses (u) through (y).

7.8. **Transactions with Affiliates.** Borrower shall not, and shall not permit any Subsidiary to, directly or indirectly enter into or permit to exist any transaction with any Affiliate (as defined below) of Borrower or any Subsidiary except for transactions that are in the Ordinary Course of Business, upon fair and reasonable terms that are no more favorable to such Affiliate of Borrower or such Subsidiary than would be obtained in an arm's length transaction. Without limiting the generality of the immediately preceding sentence, the following transactions and agreements shall be deemed to be in compliance with this Section 7.8: (1) the Maxygen License Agreement (as amended or modified from time to time in accordance with the terms and conditions of this Agreement) and (2) any agreements between the Borrower and Shell entered into from time to time after the Closing Date and relating to either (A) an equity investment by Shell in the Borrower and the grant by the Borrower of investor rights to Shell (including without limitation, one or more board of director seats and/or attendant rights) and (B) a licensing and/or joint venture arrangement related to one or more of the following fields: conversion of

biomass to chemicals, fuel additives, lubricants or fuels; conversion of sugars to chemicals, fuel additives, lubricants or fuels; and carbon management, including, but not limited to, conversion of carbon to biomass and sequestration of carbon to storage materials. As used herein, "Affiliate" shall mean, with respect to Borrower or any Subsidiary, (a) each person that, directly or indirectly, owns or controls 5% or more of the stock or membership interests having ordinary voting power in the election of directors or managers of Borrower or any Subsidiary, and (b) each person that controls, is controlled by or is under common control with Borrower or any Subsidiary.

7.9. **Compliance.** Borrower shall not, and shall not permit any Subsidiary to (a) fail to comply in all material respects with the laws and regulations described in clauses (a) through and including (d) of Section 5.8 herein, (b) use any portion of the Term Loans to purchase or carry margin stock (within the meaning of Regulation U of the Federal Reserve Board) or (c) fail to comply with or violate any other law or regulation, the failure or violation of which law or regulation described in this clause (c) could reasonably be expected to have a Material Adverse Effect, or permit any Subsidiary to do any of the foregoing.

7.10. **Deposit Accounts and Securities Accounts.** Other than with respect to deposit accounts used solely to fund payroll and withholding taxes, Borrower will not directly or indirectly maintain or establish any deposit account or securities account, unless Agent, Borrower and the depository institution or securities intermediary at which the account is or will be maintained enter into a deposit account control agreement or securities account control agreement, as the case may be (an "Account Control Agreement"), in form and substance satisfactory to Agent (which agreement shall provide that such depository institution or securities intermediary shall comply with all instructions of Agent without further consent of Borrower, including, without limitation, an instruction by Agent to follow a notice of exclusive control or similar notice (such notice, a "Notice of Exclusive Control")), prior to or concurrently with the establishment of such deposit account or securities account (or in the case of any such deposit account or securities account maintained as of the date hereof, prior to or concurrently with the entering into this Agreement). Agent may give a Notice of Exclusive Control with respect to any deposit account or securities account at any time at which an Event of Default has occurred and is continuing.

7.11. **Amendments to Certain Material Agreements.** Borrower shall not amend, modify or waive any provision of (a) the Maxygen License Agreement (unless the net effect of such amendment, modification or waiver of the Maxygen License Agreement in the reasonable business judgment of the Borrower is not materially adverse to Borrower and its Subsidiaries taken as a whole) or (b) any document relating to any of the Subordinated Indebtedness, in each case without the prior written consent of Agent and the Requisite Lenders.

8. DEFAULT AND REMEDIES.

8.1. **Events of Default.** Borrower shall be in default under this Agreement and each of the other Debt Documents if (each of the following, an "Event of Default"):

(a) Borrower shall fail to pay (i) any principal when due, or (ii) any interest, fees or other Obligations (other than as specified in clause (i) within a period of 3 Business Days after the due date thereof (other than on the Applicable Term Loan Maturity Date));

(b) Borrower or, to the extent such obligations are incorporated into the Guaranty, Guarantor breaches any of its obligations under Section 6.1 (solely as it relates to maintaining its existence), Section 6.2, Section 6.3, Section 6.4 or Article 7;

(c) Borrower or, subject to Section 8.1(b), Guarantor breaches any of their other respective obligations under any of the Debt Documents or the Warrant and fails to cure such breach within 30 days after the earlier of (i) the date on which an Executive Officer of Borrower or Guarantor, as applicable, becomes aware, or but for such officer's gross negligence should have become aware, of such failure and (ii) the date on which notice shall have been given to Borrower from Agent;

(d) any warranty, representation or statement made or deemed made by or on behalf of Borrower or Guarantor in any of the Debt Documents or otherwise in connection with any of the Obligations in writing shall be false or misleading in any material respect;

(e) any of the Collateral or the Guarantor Collateral with a value in excess of $50,000 in the aggregate is subjected to attachment, execution, levy, seizure or confiscation in any legal proceeding or otherwise, and such attachment, execution, levy, seizure or confiscation continues unremedied for a period of 20 days;

(f) one or more judgments, orders or decrees shall be rendered against Borrower or Guarantor that exceeds by more than $150,000 any insurance coverage applicable thereto (to the extent the relevant insurer has been notified of such claim and has not denied coverage therefor) and either (i) enforcement proceedings shall have been commenced by any creditor upon any such judgment, order or decree or (ii) such judgment, order or decree shall not have been vacated or discharged for a period of 30 consecutive days and there shall not be in effect (by reason of a pending appeal or otherwise) any stay of enforcement thereof;

(g) [intentionally omitted];

(h) (i) Borrower or any Subsidiary shall generally not pay its debts as such debts become due, shall admit in writing its inability to pay its debts generally, shall make a general assignment for the benefit of creditors, or shall cease doing business as a going concern, (ii) any proceeding shall be instituted by or against Borrower or any Subsidiary seeking to adjudicate it a bankrupt or insolvent or seeking liquidation, winding up, reorganization, arrangement, adjustment, protection, relief, composition of it or its debts or any similar order, in each case under any law relating to bankruptcy, insolvency or reorganization or relief of debtors or seeking the entry of an order for relief or the appointment of a custodian, receiver, trustee, conservator, liquidating agent, liquidator, other similar official or other official with similar powers, in each case for it or for any substantial part of its property and, in the case of any such proceedings instituted against (but not by or with the consent of) Borrower or such Subsidiary, either such proceedings shall remain undismissed or unstayed for a period of 60 days or more or any action sought in such proceedings shall occur or (iii) Borrower or any Subsidiary shall take any corporate or similar action or any other action to authorize any action described in clause (i) or (ii) above;

(i) Borrower or Guarantor files any amendment or termination statement relating to a filed financing statement describing the Collateral or the Guarantor Collateral;

(j) an event or development occurs which has a Material Adverse Effect;

(k) (i) any provision of any Debt Document shall fail to be valid and binding on, or enforceable against, Borrower, (ii) any Debt Document purporting to grant a security

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions

interest to secure any Obligation shall fail to create a valid and enforceable security interest on any Collateral with a value in excess of $25,000 in the aggregate purported to be covered thereby or such security interest shall fail or cease to be a perfected lien with the priority required in the relevant Debt Document or (iii) any subordination provision set forth in any document evidencing or relating to the Subordinated Indebtedness shall, in whole or in part, terminate or otherwise fail or cease to be valid and binding on, or enforceable against, or any agent for or holder of the Subordinated Indebtedness (or such person shall so state in writing), or Borrower shall state in writing that any of the events described in clause (i), (ii) or (iii) above shall have occurred;

(l) (i) Borrower or any Subsidiary defaults under any Specified Agreement (after any applicable grace period contained therein), (ii) (A) Borrower or any Subsidiary fails to make (after any applicable grace period) any payment when due (whether due because of scheduled maturity, required prepayment provisions, acceleration, demand or otherwise) on any Indebtedness of Borrower or such Subsidiary and, in each case, such failure relates to Indebtedness having a principal amount of $500,000 or more ("Material Indebtedness"), (B) any other event shall occur or condition shall exist under any contractual obligation relating to any such Material Indebtedness, if the effect of such event or condition is to accelerate, or to permit the acceleration of, the maturity of such Material Indebtedness or (C) any such Material Indebtedness shall become or be declared to be due and payable, or be required to be prepaid, redeemed, defeased or repurchased (other than by a regularly scheduled required prepayment), prior to the stated maturity thereof or prior to the first date on which the same could be mandatorily redeemed, or (iii) Borrower or any Subsidiary fails to make any payment when due (after any applicable grace period) or otherwise materially defaults under any obligation for payments due under any lease agreement for real property (after any grace period contained therein) which requires payments by the Borrower or such Subsidiary in excess of $1,000,000 in any fiscal year; "Specified Agreement" shall mean (1) while the Borrower is a private company, any Material Agreement to which Borrower or any Subsidiary is a party and involving the receipt or payment of amounts in the aggregate exceeding $1,000,000 per year and (2) while the Borrower is a public company, any commercial agreement with a third party which is or would be deemed a "material contract" (as such term is defined in Item 601 of Regulation S-K promulgated under the United States securities laws) of the Borrower or its Subsidiaries; or

(m) (i) any of the chief executive officer, the chief financial officer or the chief scientific officer of Borrower as of the date hereof shall cease to be involved in the day to day operations (including research development) or management of the business of Borrower, and a successor of such officer reasonably acceptable to Agent is not appointed on terms reasonably acceptable to Agent within 90 days of such cessation or involvement, (ii) the acquisition, directly or indirectly, by any person or group (as such term is used in Section 13(d)(3) of the Exchange Act) of more than forty percent (40%) of the voting power of the voting stock of Borrower by way of merger or consolidation or otherwise (other than in connection with an initial public offering of Borrower), (iii) during any period of twelve consecutive calendar months, individuals who at the beginning of such period constituted the board of directors of Borrower (together with any new directors whose election by the board of directors of Borrower or whose nomination for election by the stockholders of Borrower was approved by a vote of at least two-thirds of the directors then still in office who either were directors at the beginning of such period or whose election or nomination for election was previously so approved) cease for any

reason other than death or disability to constitute a majority of the directors then in office (other than in connection with an initial public offering of Borrower), (iv) Borrower ceases to own and control, directly or indirectly, (A) 100% of the economic and voting rights associated with the outstanding voting capital stock (or other voting equity interest) of each Subsidiary of Borrower that is incorporated under the laws of any State of the United States or the District of Columbia and (B) with respect to Subsidiaries of Borrower that are not incorporated under the laws of any State of the United States or the District of Columbia, the maximum allowable ownership percentage of economic and voting rights allowable under applicable law, or (v) the occurrence of any "change of control" or any term of similar effect under any Subordinated Indebtedness document.

8.2. **Lender Remedies.** Upon the occurrence of any Event of Default, Agent may, and at the written request of the Requisite Lenders shall, terminate the Commitments with respect to further Term Loans and declare any or all of the Obligations to be immediately due and payable, without demand or notice to Borrower and the accelerated Obligations shall bear interest at the Default Rate pursuant to Section 2.6, provided that, upon the occurrence of any Event of Default specified in Section 8.1(h) above, the Obligations shall be automatically accelerated. After the occurrence of an Event of Default, Agent shall have (on behalf of itself and Lenders) all of the rights and remedies of a secured party under the UCC, and under any other applicable law. Without limiting the foregoing, Agent shall have the right to, and at the written request of the Requisite Lenders shall, (a) notify any account debtor of Borrower or any obligor on any instrument which constitutes part of the Collateral to make payments to Agent (for the benefit of itself and Lenders), (b) with or without legal process, enter any premises where the Collateral may be and take possession of and remove the Collateral from the premises or store it on the premises, (c) sell the Collateral at public or private sale, in whole or in part, and have the right to bid and purchase at such sale, or (d) lease or otherwise dispose of all or part of the Collateral, applying proceeds from such disposition to the Obligations in accordance with Section 8.4. If requested by Agent, Borrower shall promptly assemble the Collateral and make it available to Agent at a place to be designated by Agent. Agent may also render any or all of the Collateral unusable at Borrower's premises and may dispose of such Collateral on such premises without liability for rent or costs. Any notice that Agent is required to give to Borrower under the UCC of the time and place of any public sale or the time after which any private sale or other intended disposition of the Collateral is to be made shall be deemed to constitute reasonable notice if such notice is given in accordance with this Agreement at least 10 days prior to such action. Effective only upon the occurrence and during the continuance of an Event of Default, Borrower hereby irrevocably appoints Agent (and any of Agent's designated officers or employees) as Borrower's true and lawful attorney to: (i) take any of the actions specified above in this paragraph; (ii) endorse Borrower's name on any checks or other forms of payment or security that may come into Agent's possession; (iii) settle and adjust disputes and claims respecting the accounts directly with account debtors, for amounts and upon terms which Agent determines to be reasonable; and (iv) do such other and further acts and deeds in the name of Borrower that Agent may deem necessary or desirable to enforce its rights in or to any of the Collateral or to perfect or better perfect Agent's security interest (on behalf of itself and Lenders) in any of the Collateral. The appointment of Agent as Borrower's attorney in fact is a power coupled with an interest and is irrevocable until the Termination Date.

8.3. **Additional Remedies.** In addition to the remedies provided in Section 8.2 above, Borrower hereby grants to Agent (on behalf of itself and Lenders) and any transferee of Collateral, for purposes of exercising its remedies as provided herein, an irrevocable, nonexclusive license (exercisable without payment of royalty or other compensation to Borrower and subject to any exclusive licenses granted in compliance with the terms and conditions of Section 7.3(d)) to use, license or sublicense any Intellectual Property now owned or hereafter acquired by Borrower, and wherever the same may be located, and

including in such license access to all media in which any of the licensed items may be recorded or stored and to all computer software and programs used for the compilation or printout thereof.

8.4. **Application of Proceeds.** Proceeds from any Transfer of the Collateral or the Intellectual Property (other than Permitted Dispositions) and all payments made or proceeds of Collateral received by Agent during the continuance of an Event of Default may be applied in Agent's sole discretion: (a) first, to pay all fees, costs, indemnities, reimbursements and expenses then due to Agent under the Debt Documents in its capacity as Agent under the Debt Documents, (b) second, to pay all fees, costs, indemnities, reimbursements and expenses then due to Lenders under the Debt Documents in accordance with their respective Pro Rata Shares, until paid in full, (c) third, to pay all interest on the Term Loans then due to Lenders in accordance with their respective Pro Rata Shares, until paid in full (other than interest accrued after the commencement of any proceeding referred to in Section 8.1(h) if a claim for such interest is not allowable in such proceeding), (d) fourth, to pay all principal on the Term Loans then due to Lenders in accordance with their respective Pro Rata Shares, until paid in full (e) fifth, to pay all other Obligations then due to Lenders in accordance with their respective Pro Rata Shares, until paid in full (including, without limitation, all interest accrued after the commencement of any proceeding referred to in Section 8.1(h) whether or not a claim for such interest is allowable in such proceeding), and (f) sixth, to Borrower or as otherwise required by law. Borrower shall remain fully liable for any deficiency.

9. THE AGENT.

9.1. **Appointment of Agent.**

(a) Each Lender hereby appoints GECC (together with any successor Agent pursuant to Section 9.9) as Agent under the Debt Documents and authorizes the Agent to (a) execute and deliver the Debt Documents and accept delivery thereof on its behalf from Borrower, (b) take such action on its behalf and to exercise all rights, powers and remedies and perform the duties as are expressly delegated to the Agent under such Debt Documents and (c) exercise such powers as are reasonably incidental thereto. The provisions of this Article 9 are solely for the benefit of Agent and Lenders and none of Borrower nor any other person shall have any rights as a third party beneficiary of any of the provisions hereof. In performing its functions and duties under this Agreement and the other Debt Documents, Agent shall act solely as an agent of Lenders and does not assume and shall not be deemed to have assumed any obligation toward or relationship of agency or trust with or for Borrower or any other person. Agent shall have no duties or responsibilities except for those expressly set forth in this Agreement and the other Debt Documents. The duties of Agent shall be mechanical and administrative in nature and Agent shall not have, or be deemed to have, by reason of this Agreement, any other Debt Document or otherwise a fiduciary or trustee relationship in respect of any Lender. Except as expressly set forth in this Agreement and the other Debt Documents, Agent shall not have any duty to disclose, and shall not be liable for failure to disclose, any information relating to Borrower or any of its Subsidiaries that is communicated to or obtained by GECC or any of its affiliates in any capacity.

(b) Without limiting the generality of clause (a) above, Agent shall have the sole and exclusive right and authority (to the exclusion of the Lenders), and is hereby authorized, to (i) act as the disbursing and collecting agent for the Lenders with respect to all payments and collections arising in connection with the Debt Documents (including in any other bankruptcy, insolvency or similar proceeding), and each person making any payment in connection with any Debt Document to any Lender is hereby authorized to

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions

make such payment to Agent, (ii) file and prove claims and file other documents necessary or desirable to allow the claims of Agent and Lenders with respect to any Obligation in any proceeding described in any bankruptcy, insolvency or similar proceeding (but not to vote, consent or otherwise act on behalf of such Lender), (iii) act as collateral agent for Agent and each Lender for purposes of the perfection of all liens created by the Debt Documents and all other purposes stated therein, (iv) manage, supervise and otherwise deal with the Collateral, (v) take such other action as is necessary or desirable to maintain the perfection and priority of the liens created or purported to be created by the Debt Documents, (vi) except as may be otherwise specified in any Debt Document, exercise all remedies given to Agent and the other Lenders with respect to the Collateral, whether under the Debt Documents, applicable law or otherwise and (vii) execute any amendment, consent or waiver under the Debt Documents on behalf of any Lender that has consented in writing to such amendment, consent or waiver; provided, however, that Agent hereby appoints, authorizes and directs each Lender to act as collateral sub-agent for Agent and the Lenders for purposes of the perfection of all liens with respect to the Collateral, including any deposit account maintained by Borrower with, and cash and cash equivalents held by, such Lender, and may further authorize and direct the Lenders to take further actions as collateral sub-agents for purposes of enforcing such liens or otherwise to transfer the Collateral subject thereto to Agent, and each Lender hereby agrees to take such further actions to the extent, and only to the extent, so authorized and directed. Agent may, upon any term or condition it specifies, delegate or exercise any of its rights, powers and remedies under, and delegate or perform any of its duties or any other action with respect to, any Debt Document by or through any trustee, co-agent, employee, attorney-in-fact and any other person (including any Lender). Any such person shall benefit from this Article 9 to the extent provided by Agent.

(c) If Agent shall request instructions from Requisite Lenders or all affected Lenders with respect to any act or action (including failure to act) in connection with this Agreement or any other Debt Document, then Agent shall be entitled to refrain from such act or taking such action unless and until Agent shall have received instructions from Requisite Lenders or all affected Lenders, as the case may be, and Agent shall not incur liability to any person by reason of so refraining. Agent shall be fully justified in failing or refusing to take any action hereunder or under any other Debt Document (a) if such action would, in the opinion of Agent, be contrary to law or any Debt Document, (b) if such action would, in the opinion of Agent, expose Agent to any potential liability under any law, statute or regulation or (c) if Agent shall not first be indemnified to its satisfaction against any and all liability and expense which may be incurred by it by reason of taking or continuing to take any such action. Without limiting the foregoing, no Lender shall have any right of action whatsoever against Agent as a result of Agent acting or refraining from acting hereunder or under any other Debt Document in accordance with the instructions of Requisite Lenders or all affected Lenders, as applicable.

9.2. **Agent's Reliance, Etc.** Neither Agent nor any of its affiliates nor any of their respective directors, officers, agents, employees or representatives shall be liable for any action taken or omitted to be taken by it or them hereunder or under any other Debt Documents, or in connection herewith or therewith, except for damages caused by its or their own gross negligence or willful misconduct as finally determined by a court of competent jurisdiction. Without limiting the generality of the foregoing, Agent: (a) may treat the payee of any Note as the holder thereof until such Note has been assigned in accordance

with Section 10.1; (b) may consult with legal counsel, independent public accountants and other experts, whether or not selected by it, and shall not be liable for any action taken or omitted to be taken by it in good faith in accordance with the advice of such counsel, accountants or experts; (c) shall not be responsible or otherwise incur liability for any action or omission taken in reliance upon the instructions of the Requisite Lenders, (d) makes no warranty or representation to any Lender and shall not be responsible to any Lender for any statements, warranties or representations made in or in connection with this Agreement or the other Debt Documents; (e) shall not have any duty to inspect the Collateral (including the books and records) or to ascertain or to inquire as to the performance or observance of any provision of any Debt Document, whether any condition set forth in any Debt Document is satisfied or waived, as to the financial condition of Borrower or as to the existence or continuation or possible occurrence or continuation of any Default or Event of Default and shall not be deemed to have notice or knowledge of such occurrence or continuation unless it has received a notice from Borrower or any Lender describing such Default or Event of Default clearly labeled "notice of default"; (f) shall not be responsible to any Lender for the due execution, legality, validity, enforceability, effectiveness, genuineness, sufficiency or value of, or the attachment, perfection or priority of any lien created or purported to be created under or in connection with, any Debt Document or any other instrument or document furnished pursuant hereto or thereto; and (g) shall incur no liability under or in respect of this Agreement or the other Debt Documents by acting upon any notice, consent, certificate or other instrument or writing (which may be by telecopy, telegram, cable or telex) believed by it to be genuine and signed or sent or otherwise authenticated by the proper party or parties.

9.3. **GECC and Affiliates.** GECC shall have the same rights and powers under this Agreement and the other Debt Documents as any other Lender and may exercise the same as though it were not Agent; and the term "Lender" or "Lenders" shall, unless otherwise expressly indicated, include GECC in its individual capacity. GECC and its affiliates may lend money to, invest in, and generally engage in any kind of business with, Borrower, any of Borrower's Subsidiaries, any of their Affiliates and any person who may do business with or own securities of Borrower, any of Borrower's Subsidiaries or any such Affiliate, all as if GECC were not Agent and without any duty to account therefor to Lenders. GECC and its affiliates may accept fees and other consideration from Borrower for services in connection with this Agreement or otherwise without having to account for the same to Lenders. Each Lender acknowledges the potential conflict of interest between GECC as a Lender holding disproportionate interests in the Term Loans and GECC as Agent, and expressly consents to, and waives, any claim based upon, such conflict of interest.

9.4. **Lender Credit Decision.** Each Lender acknowledges that it has, independently and without reliance upon Agent or any other Lender and based on the financial statements referred to in Section 6.3 and such other documents and information as it has deemed appropriate, made its own credit and financial analysis of Borrower and its own decision to enter into this Agreement. Each Lender also acknowledges that it will, independently and without reliance upon Agent or any other Lender and based on such documents and information as it shall deem appropriate at the time, continue to make its own credit decisions in taking or not taking action under this Agreement. Each Lender acknowledges the potential conflict of interest of each other Lender as a result of Lenders holding disproportionate interests in the Term Loans, and expressly consents to, and waives, any claim based upon, such conflict of interest.

9.5. **Indemnification.** Lenders shall and do hereby indemnify Agent (to the extent not reimbursed by Borrower and without limiting the obligations of Borrower hereunder), ratably according to their respective Pro Rata Shares from and against any and all liabilities, obligations, losses, damages, penalties, actions, judgments, suits, costs, expenses or disbursements of any kind or nature whatsoever that may be imposed on, incurred by, or asserted against Agent in any way relating to or arising out of this Agreement or any other Debt Document or any action taken or omitted to be taken by Agent in

connection therewith; provided that no Lender shall be liable for any portion of such liabilities, obligations, losses, damages, penalties, actions, judgments, suits, costs, expenses or disbursements resulting from Agent's gross negligence or willful misconduct as finally determined by a court of competent jurisdiction. Without limiting the foregoing, each Lender agrees to reimburse Agent promptly upon demand for its Pro Rata Share of any out-of-pocket expenses (including reasonable counsel fees) incurred by Agent in connection with the preparation, execution, delivery, administration, modification, amendment or enforcement (whether through negotiations, legal proceedings or otherwise) of, or legal advice in respect of rights or responsibilities under, this Agreement and each other Debt Document, to the extent that Agent is not reimbursed for such expenses by Borrower. The provisions of this Section 9.5 shall survive the termination of this Agreement.

9.6. **Successor Agent.** Agent may resign at any time by giving not less than 30 days' prior written notice thereof to Lenders and Borrower. Upon any such resignation, the Requisite Lenders shall have the right to appoint a successor Agent. If no successor Agent shall have been so appointed by the Requisite Lenders and shall have accepted such appointment within 30 days after the resigning Agent's giving notice of resignation, then the resigning Agent may, on behalf of Lenders, appoint a successor Agent, which shall be a Lender, if a Lender is willing to accept such appointment, or otherwise shall be a commercial bank or financial institution or a subsidiary of a commercial bank or financial institution if such commercial bank or financial institution is organized under the laws of the United States of America or of any State thereof and has a combined capital and surplus of at least $300,000,000. If no successor Agent has been appointed pursuant to the foregoing, within 30 days after the date such notice of resignation was given by the resigning Agent, such resignation shall become effective and the Requisite Lenders shall thereafter perform all the duties of Agent hereunder until such time, if any, as the Requisite Lenders appoint a successor Agent as provided above. Upon the acceptance of any appointment as Agent hereunder by a successor Agent, such successor Agent shall succeed to and become vested with all the rights, powers, privileges and duties of the resigning Agent. Upon the earlier of the acceptance of any appointment as Agent hereunder by a successor Agent or the effective date of the resigning Agent's resignation, the resigning Agent shall be discharged from its duties and obligations under this Agreement and the other Debt Documents, except that any indemnity rights or other rights in favor of such resigning Agent shall continue. After any resigning Agent's resignation hereunder, the provisions of this Section 9 shall inure to its benefit as to any actions taken or omitted to be taken by it while it was acting as Agent under this Agreement and the other Debt Documents.

9.7. **Setoff and Sharing of Payments.** In addition to any rights now or hereafter granted under applicable law and not by way of limitation of any such rights, upon the occurrence and during the continuance of any Event of Default and subject to Section 9.8(e), each Lender is hereby authorized at any time or from time to time upon the direction of Agent, without notice to Borrower or any other person, any such notice being hereby expressly waived, to offset and to appropriate and to apply any and all balances held by it at any of its offices for the account of Borrower (regardless of whether such balances are then due to Borrower) and any other properties or assets at any time held or owing by that Lender or that holder to or for the credit or for the account of Borrower against and on account of any of the Obligations that are not paid when due. Any Lender exercising a right of setoff or otherwise receiving any payment on account of the Obligations in excess of its Pro Rata Share thereof shall purchase for cash (and the other Lenders or holders shall sell) such participations in each such other Lender's or holder's Pro Rata Share of the Obligations as would be necessary to cause such Lender to share the amount so offset or otherwise received with each other Lender or holder in accordance with their respective Pro Rata Shares of the Obligations. Borrower agrees, to the fullest extent permitted by law, that (a) any Lender may exercise its right to offset with respect to amounts in excess of its Pro Rata Share of the Obligations and may sell participations in such amounts so offset to other Lenders and holders and (b) any Lender so purchasing a participation in the Term Loans made or other Obligations held by other Lenders or holders

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may exercise all rights of offset, bankers' lien, counterclaim or similar rights with respect to such participation as fully as if such Lender or holder were a direct holder of the Term Loans and the other Obligations in the amount of such participation. Notwithstanding the foregoing, if all or any portion of the offset amount or payment otherwise received is thereafter recovered from the Lender that has exercised the right of offset, the purchase of participations by that Lender shall be rescinded and the purchase price restored without interest. The term "Pro Rata Share" means, with respect to any Lender at any time, the percentage obtained by dividing (x) the Commitment of such Lender then in effect (or, if such Commitment is terminated, the aggregate outstanding principal amount of the Term Loans owing to such Lender) by (y) the Total Commitment then in effect (or, if the Total Commitment is terminated, the outstanding principal amount of the Term Loans owing to all Lenders).

9.8. **Advances; Payments; Non-Funding Lenders; Information; Actions in Concert.**

(a) Advances; Payments. If Agent receives any payment for the account of Lenders on or prior to 1:00 p.m. Connecticut time on any Business Day, Agent shall pay to each applicable Lender such Lender's Pro Rata Share of such payment on such Business Day. If Agent receives any payment for the account of Lenders after 1:00 p.m. Connecticut time on any Business Day, Agent shall pay to each applicable Lender such Lender's Pro Rata Share of such payment on the next Business Day. To the extent that any Lender has failed to fund any such payments and Term Loans (a "Non-Funding Lender"), Agent shall be entitled to set off the funding short-fall against that Non-Funding Lender's Pro Rata Share of all payments received from Borrower.

(b) Return of Payments.

(i) If Agent pays an amount to a Lender under this Agreement in the belief or expectation that a related payment has been or will be received by Agent from Borrower and such related payment is not received by Agent, then Agent will be entitled to recover such amount (including interest accruing on such amount at the Federal Funds Rate for the first Business Day and thereafter, at the rate otherwise applicable to such Obligation) from such Lender on demand without setoff, counterclaim or deduction of any kind.

(ii) If Agent determines at any time that any amount received by Agent under this Agreement must be returned to Borrower or paid to any other person pursuant to any insolvency law or otherwise, then, notwithstanding any other term or condition of this Agreement or any other Debt Document, Agent will not be required to distribute any portion thereof to any Lender. In addition, each Lender will repay to Agent on demand any portion of such amount that Agent has distributed to such Lender, together with interest at such rate, if any, as Agent is required to pay to Borrower or such other person, without setoff, counterclaim or deduction of any kind.

(c) Non-Funding Lenders. The failure of any Non-Funding Lender to make any Term Loan or any payment required by it hereunder shall not relieve any other Lender (each such other Lender, an "Other Lender") of its obligations to make such Term Loan, but neither any Other Lender nor Agent shall be responsible for the failure of any Non-Funding Lender to make a Term Loan or make any other payment required hereunder. Notwithstanding anything set forth herein to the contrary, a Non-Funding Lender shall not have any voting or consent rights under or with respect to any Debt Document or constitute a "Lender" (or be included in the calculation of "Requisite Lender" hereunder) for any voting or consent rights under or with respect to any Debt Document. At

Borrower's request, Agent or a person reasonably acceptable to Agent shall have the right with Agent's consent and in Agent's sole discretion (but shall have no obligation) to purchase from any Non-Funding Lender, and each Non-Funding Lender agrees that it shall, at Agent's request, sell and assign to Agent or such person, all of the Commitments and all of the outstanding Term Loans of that Non-Funding Lender for an amount equal to the principal balance of all Term Loans held by such Non-Funding Lender and all accrued interest and fees with respect thereto through the date of sale, such purchase and sale to be consummated pursuant to an executed Assignment Agreement (as defined below).

(d) Dissemination of Information. Agent shall use reasonable efforts to provide Lenders with any notice of Default or Event of Default received by Agent from, or delivered by Agent to Borrower, with notice of any Event of Default of which Agent has actually become aware and with notice of any action taken by Agent following any Event of Default; provided that Agent shall not be liable to any Lender for any failure to do so, except to the extent that such failure is attributable to Agent's gross negligence or willful misconduct as finally determined by a court of competent jurisdiction. Lenders acknowledge that Borrower is required to provide financial statements to Lenders in accordance with Section 6.3 hereto and agree that Agent shall have no duty to provide the same to Lenders.

(e) Actions in Concert. Anything in this Agreement to the contrary notwithstanding, each Lender hereby agrees with each other Lender that no Lender shall take any action to protect or enforce its rights arising out of this Agreement, the Notes or any other Debt Documents (including exercising any rights of setoff) without first obtaining the prior written consent of Agent and Requisite Lenders, it being the intent of Lenders that any such action to protect or enforce rights under this Agreement and the Notes shall be taken in concert and at the direction or with the consent of Agent and Requisite Lenders.

10. MISCELLANEOUS.

10.1. **Assignment.** Subject to the terms of this Section 10.1, any Lender may make an assignment to an assignee of, or sell participations in, at any time or times, the Debt Documents, its Commitment, Term Loans or any portion thereof or interest therein, including any Lender's rights, title, interests, remedies, powers or duties thereunder. Any assignment by a Lender shall: (i) except in the case of an assignment to a Qualified Assignee (as defined below), require the consent of each Lender (which consent shall not be unreasonably withheld, conditioned or delayed), (ii) in the case of an assignment to an entity that is not a Qualified Assignee (as defined below), require the consent of Borrower (which consent shall not be unreasonably withheld, conditioned or delayed), (iii) require the execution of an assignment agreement in form and substance reasonably satisfactory to, and acknowledged by, Agent (an "Assignment Agreement"); (iv) be conditioned on such assignee Lender representing to the assigning Lender and Agent that it is purchasing the applicable Commitment and/or Term Loans to be assigned to it for its own account, for investment purposes and not with a view to the distribution thereof; (v) be in an aggregate amount of not less than $1,000,000, unless such assignment is made to an existing Lender or an affiliate of an existing Lender or is of the assignor's (together with its affiliates') entire interest of the Term Loans or is made with the prior written consent of Agent; and (vi) include a payment to Agent of an assignment fee of $3,500. In the case of an assignment by a Lender under this Section 10.1, the assignee shall have, to the extent of such assignment, the same rights, benefits and obligations as all other Lenders hereunder. The assigning Lender shall be relieved of its obligations hereunder with respect to its Commitment and Term Loans, as applicable, or assigned portion thereof from and after the date of such

assignment. Borrower hereby acknowledges and agrees that any assignment shall give rise to a direct obligation of Borrower to the assignee and that the assignee shall be considered to be a "Lender". In the event any Lender assigns or otherwise transfers all or any part of the Commitments and Obligations, Agent shall so notify Borrower and Borrower shall, upon the request of Agent, execute new Notes in exchange for the Notes, if any, being assigned. Agent may amend Schedule A to this Agreement to reflect assignments made in accordance with this Section.

As used herein, "Qualified Assignee" means (a) any Lender and any affiliate of any Lender and (b) any commercial bank, savings and loan association or savings bank or any other entity which is an "accredited investor" (as defined in Regulation D under the Securities Act) which extends credit or buys loans as one of its businesses, including insurance companies, mutual funds, lease financing companies and commercial finance companies, in each case, which has a rating of BBB or higher from S&P and a rating of Baa2 or higher from Moody's at the date that it becomes a Lender and in each case of clauses (a) and (b), which, through its applicable lending office, is capable of lending to Borrower without the imposition of any withholding or similar taxes; provided that no person proposed to become a Lender after the Closing Date and determined by Agent to be acting in the capacity of a vulture fund or distressed debt purchaser shall be a Qualified Assignee, and no person or Affiliate of such person proposed to become a Lender after the Closing Date and that holds any subordinated debt or stock issued by Borrower shall be a Qualified Assignee.

10.2. **Notices.** All notices, requests or other communications given in connection with this Agreement shall be in writing, shall be addressed to the parties at their respective addresses set forth on the signature pages hereto below such parties' name or in the most recent Assignment Agreement executed by any Lender (unless and until a different address may be specified in a written notice to the other party delivered in accordance with this Section), and shall be deemed given (a) on the date of receipt if delivered by hand, (b) on the date of sender's receipt of confirmation of proper transmission if sent by facsimile transmission, (c) on the next Business Day after being sent by a nationally-recognized overnight courier, and (d) on the fourth Business Day after being sent by registered or certified mail, postage prepaid. As used herein, the term "Business Day" shall mean and include any day other than Saturdays, Sundays, or other days on which commercial banks in New York, New York are required or authorized to be closed.

10.3. **Correction of Debt Documents.** Agent may correct patent errors and fill in all blanks in this Agreement or the Debt Documents consistent with the agreement of the parties.

10.4. **Performance.** Time is of the essence of this Agreement. This Agreement shall be binding, jointly and severally, upon all parties described as the "Borrower" and their respective successors and assigns, and shall inure to the benefit of Agent, Lenders, and their respective successors and assigns.

10.5. **Payment of Fees and Expenses.** Borrower agrees to pay or reimburse upon demand for all reasonable fees, costs and expenses incurred by Agent and Lenders in connection with (a) the investigation, preparation, negotiation, execution, administration of, or any amendment, modification, waiver or termination of, this Agreement or any other Debt Document, (b) the administration of any transaction contemplated hereby or thereby and (c) the enforcement, assertion, defense or preservation of Agent's and Lenders' rights and remedies under this Agreement or any other Debt Document, in each case of clauses (a) through (c), including, without limitation, reasonable attorney's fees and expenses, reasonable fees of consultants, auditors and appraisers and UCC and other corporate search and filing fees and wire transfer fees; provided that Borrower's reimbursement of the fees and expenses of Agent's counsel incurred in connection with the preparation and negotiation of the Debt Documents on or before the Closing Date shall be subject to the limitations set forth in Section 2.7(a). Borrower further agrees

that such fees, costs and expenses shall constitute Obligations. This provision shall survive the termination of this Agreement.

10.6. **Indemnity.** Borrower shall and does hereby indemnify and defend Agent, Lenders, and their respective successors and assigns, and their respective directors, officers, employees, consultants, attorneys, agents and affiliates (each an "Indemnitee") from and against all liabilities, losses, damages, expenses, penalties, claims, actions and suits (including, without limitation, related attorneys' fees) of any kind whatsoever arising, directly or indirectly, which may be imposed on, incurred by or asserted against such Indemnitee as a result of or in connection with this Agreement, the other Debt Documents or any of the transactions contemplated hereby or thereby (the "Indemnified Liabilities"); provided that Borrower shall have no obligation to any Indemnitee hereunder with respect to any Indemnified Liabilities to the extent such Indemnified Liabilities arise from the gross negligence, willful misconduct, or bad faith of that Indemnitee or arise from the material breach of the obligations of such Indemnitee hereunder by such Indemnitee, in each case as determined by the final non-appealable judgment of a court of competent jurisdiction. This provision shall survive the termination of this Agreement.

10.7. **Rights Cumulative.** Agent's and Lenders' rights and remedies under this Agreement or otherwise arising are cumulative and may be exercised singularly or concurrently. Neither the failure nor any delay on the part of Agent or any Lender to exercise any right, power or privilege under this Agreement shall operate as a waiver, nor shall any single or partial exercise of any right, power or privilege preclude any other or further exercise of that or any other right, power or privilege. NONE OF AGENT OR ANY LENDER SHALL BE DEEMED TO HAVE WAIVED ANY OF ITS RESPECTIVE RIGHTS UNDER THIS AGREEMENT OR UNDER ANY OTHER AGREEMENT, INSTRUMENT OR PAPER SIGNED BY BORROWER UNLESS SUCH WAIVER IS EXPRESSED IN WRITING AND SIGNED BY AGENT, REQUISITE LENDERS OR ALL LENDERS, AS APPLICABLE. A waiver on any one occasion shall not be construed as a bar to or waiver of any right or remedy on any future occasion.

10.8. **Entire Agreement; Amendments, Waivers.**

(a) This Agreement and the other Debt Documents constitute the entire agreement between the parties with respect to the subject matter hereof and thereof and supersede all prior understandings (whether written, verbal or implied) with respect to such subject matter. Section headings contained in this Agreement have been included for convenience only, and shall not affect the construction or interpretation of this Agreement.

(b) Except for actions expressly permitted to be taken by Agent, no amendment, modification, termination or waiver of any provision of this Agreement or any other Debt Document, or any consent to any departure by Borrower therefrom, shall in any event be effective unless the same shall be in writing and signed by Agent, Borrower and Lenders having more than (x) 60% of the aggregate Commitments of all Lenders or (y) if such Commitments have expired or been terminated, 60% of the aggregate outstanding principal amount of the Term Loans (the "Requisite Lenders"); provided, however, that so long as a party that is a Lender hereunder on the Closing Date does not assign any portion of its Commitment or Term Loan, such Lender shall be deemed to be a Requisite Lender. Except as set forth in clause (c) below, all such amendments, modifications, terminations or waivers requiring the consent of any Lenders shall require the written consent of Requisite Lenders.

(c) No amendment, modification, termination or waiver of any provision of this Agreement or any other Debt Document shall, unless in writing and signed by Agent and each Lender directly affected thereby: (i) increase or decrease any Commitment of any Lender or increase or decrease the Total Commitment (which shall be deemed to affect all Lenders), (ii) reduce the principal of or rate of interest on any Obligation or the amount of any fees payable hereunder, (iii) postpone the date fixed for any payment of principal of or interest on any Term Loan, or any fees hereunder, (iv) release all or substantially all of the Collateral, except as otherwise expressly permitted in the Debt Documents, (v) subordinate the lien granted in favor of the Agent securing the Obligations, (vi) release Borrower from its obligations hereunder and under the other Debt Documents or any guarantor from its guaranty of the Obligations or (vi) amend, modify, terminate or waive Section 8.4 or 10.8(b) or (c).

(d) Notwithstanding any provision in this Section 10.8 to the contrary, no amendment, modification, termination or waiver affecting or modifying the rights or obligations of Agent hereunder shall be effective unless signed by Borrower, Agent and Requisite Lenders.

(e) Subject to the terms and conditions of this Section 10.8, if Agent receives a written notice from Borrower requesting the consent of the Requisite Lenders to a proposed acquisition by Borrower that is not permitted under Section 7.5 or requesting the consent of the Requisite Lenders to a proposed amendment, modification or waiver of the Maxygen License Agreement to the extent required under Section 7.11(a), then, on or before the 15th day after the date on which Agent receives such notice (the "Response Date"), Agent shall advise Borrower in writing whether the consent of the Requisite Lenders to such acquisition or such amendment, modification or waiver has been obtained (the "Response"); provided that if Borrower does not receive a Response from Agent on or prior to the Response Date, Agent and all Lenders shall be deemed to have not consented to such acquisition or such amendment, modification or waiver.

10.9. **Binding Effect.** This Agreement shall continue in full force and effect until the Termination Date; provided, however, that the provisions of Sections 2.3(f), 9.5, 10.5, 10.6 and 10.13 and the other indemnities contained in the Debt Documents shall survive the Termination Date. The surrender, upon payment or otherwise, of any Note or any of the other Debt Documents evidencing any of the Obligations shall not affect the right of Agent to retain the Collateral for such other Obligations as may then exist or as it may be reasonably contemplated will exist in the future. This Agreement and the grant of the security interest in the Collateral pursuant to Section 3.1 shall automatically be reinstated if Agent or any Lender is ever required to return or restore the payment of all or any portion of the Obligations (all as though such payment had never been made).

10.10. **Use of Logo.** Borrower authorizes each Lender to use its name, logo and/or trademark without notice to or consent by Borrower, in connection with certain promotional materials that such Lender may disseminate to the public. The promotional materials may include, but are not limited to, brochures, video tape, internet website, press releases, advertising in newspaper and/or other periodicals, lucites, and any other materials relating the fact that such Lender has a financing relationship with Borrower and such materials may be developed, disseminated and used without Borrower's review. Nothing herein obligates Lenders to use Borrower's name, logo and/or trademark, in any promotional materials of Agent. Borrower shall not, and shall not permit any of its Affiliates to, issue any press release or other public disclosure (other than any document filed with any governmental authority relating to a public offering of the securities of Borrower) using the name, logo or otherwise referring to General

Electric Capital Corporation, GE Healthcare Financial Services, Inc. or of any of their affiliates, the Debt Documents or any transaction contemplated herein or therein without at least two (2) Business Days prior written notice to and the prior written consent of Agent unless, and only to the extent that, Borrower or such affiliate is required to do so under applicable law and then, only after consulting with Agent prior thereto.

10.11. **Waiver of Jury Trial.** EACH OF BORROWER, AGENT AND LENDERS UNCONDITIONALLY WAIVE ANY AND ALL RIGHT TO A JURY TRIAL OF ANY CLAIM OR CAUSE OF ACTION BASED UPON OR ARISING OUT OF THIS AGREEMENT, ANY OF THE OTHER DEBT DOCUMENTS, ANY OF THE INDEBTEDNESS SECURED HEREBY, ANY DEALINGS AMONG BORROWER, AGENT AND/OR LENDERS RELATING TO THE SUBJECT MATTER OF THIS TRANSACTION OR ANY RELATED TRANSACTIONS, AND/OR THE RELATIONSHIP THAT IS BEING ESTABLISHED AMONG BORROWER, AGENT AND/OR LENDERS. THE SCOPE OF THIS WAIVER IS INTENDED TO BE ALL ENCOMPASSING OF ANY AND ALL DISPUTES THAT MAY BE FILED IN ANY COURT. THIS WAIVER IS IRREVOCABLE. THIS WAIVER MAY NOT BE MODIFIED EITHER ORALLY OR IN WRITING. THE WAIVER ALSO SHALL APPLY TO ANY SUBSEQUENT AMENDMENTS, RENEWALS, SUPPLEMENTS OR MODIFICATIONS TO THIS AGREEMENT, ANY OTHER DEBT DOCUMENTS, OR TO ANY OTHER DOCUMENTS OR AGREEMENTS RELATING TO THIS TRANSACTION OR ANY RELATED TRANSACTION. THIS AGREEMENT MAY BE FILED AS A WRITTEN CONSENT TO A TRIAL BY THE COURT.

10.12. **Governing Law.** THIS AGREEMENT, THE OTHER DEBT DOCUMENTS AND THE RIGHTS AND OBLIGATIONS OF THE PARTIES HEREUNDER AND THEREUNDER SHALL IN ALL RESPECTS BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH, THE INTERNAL LAWS OF THE STATE OF NEW YORK (WITHOUT REGARD TO THE CONFLICT OF LAWS PRINCIPLES OF SUCH STATE), INCLUDING ALL MATTERS OF CONSTRUCTION, VALIDITY AND PERFORMANCE, REGARDLESS OF THE LOCATION OF THE COLLATERAL. IF ANY ACTION ARISING OUT OF THIS AGREEMENT OR ANY OTHER DEBT DOCUMENT IS COMMENCED BY AGENT IN THE STATE COURTS OF THE STATE OF NEW YORK OR IN THE U.S. DISTRICT COURT FOR THE DISTRICT OF NEW YORK, BORROWER HEREBY CONSENTS TO THE JURISDICTION OF ANY SUCH COURT IN ANY SUCH ACTION AND TO THE LAYING OF VENUE IN THE STATE OF NEW YORK. ANY PROCESS IN ANY SUCH ACTION SHALL BE DULY SERVED IF MAILED BY REGISTERED MAIL, POSTAGE PREPAID, TO BORROWER AT ITS ADDRESS DESCRIBED IN SECTION 10.2, OR IF SERVED BY ANY OTHER MEANS PERMITTED BY APPLICABLE LAW.

10.13. **Confidentiality.** All of the financial statements and reports furnished by Borrower to Agent under Section 6.3 hereof shall be deemed confidential and shall not be disclosed by Agent and Lenders to any other persons except as provided herein. Agent and Lenders acknowledge that after the Borrower is a publicly traded company, such financial statements and reports may be material non-public information as more fully described in Section 6.3. In addition, any other information from time to time delivered to Agent and/or the Lenders by Borrower which is identified as confidential and which is not in the public domain shall be held by Agent or such Lender as confidential; provided that Agent and each Lender may make disclosure of such information (i) to its independent accountants and legal counsel (which persons shall be likewise bound by the provisions of this Section 10.13), (ii) pursuant to statutory and regulatory requirements, (iii) pursuant to any mandatory court order or subpoena or in connection with any legal process, (iv) pursuant to any written agreement hereafter made between Agent, any Lender and Borrower to which such information relates, which agreement permits such disclosure, (v) as necessary in connection with the exercise of any remedy by Agent or any Lender under the Debt

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Documents, (vi) consisting of general portfolio information that does not identify Borrower or any of its Subsidiaries, (vii) which was heretofore been publicly disclosed or is otherwise available to such Agent and/or Lender on a non-confidential basis from a source that is not, to its knowledge, subject to a confidentiality agreement with Borrower, (viii) in connection with any litigation to which Agent or any Lender or its affiliates is a party, or (ix) subject to an agreement containing provisions substantially the same as those set forth in this Section 10.13, to any assignee of or participant in, or prospective assignee of or participant in, any of the Obligations; provided that Agent shall use reasonable efforts to provide written notice to Borrower of any disclosures of such information made by Agent pursuant to the immediately preceding clauses (ii), (iii) or (viii) so long as Agent is not prohibited from delivering such notice pursuant to any of the matters described in such clauses.

10.14. **Counterparts.** This Agreement may be executed in any number of counterparts and by different parties in separate counterparts, each of which when so executed shall be deemed to be an original and all of which when taken together shall constitute one and the same agreement. Delivery of an executed signature page of this Agreement by facsimile transmission or electronic transmission shall be as effective as delivery of a manually executed counterpart hereof.

[*Signature Page Follows****]***

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IN WITNESS WHEREOF, Borrower, Agent and Lenders, intending to be legally bound hereby, have duly executed this Agreement in one or more counterparts, each of which shall be deemed to be an original, as of the day and year first aforesaid.

BORROWER:

CODEXIS, INC.

By: /s/ Alan Shaw
Name: Alan Shaw
Title: President and Chief Executive Officer

Address For Notices:

Codexis Inc.
Chief Financial Officer
200 Penobscot Drive
Redwood City, CA 94063
Attention: Mr. Robert Breuil
Phone: (650) 421-8120
Facsimile: (650) 298-5837

Codexis, Inc.
General Counsel
200 Penobscot Drive
Redwood City, CA 94063
Attention: Mr. Doug Sheehy
Phone: (650) 421-8160
Facsimile: (650) 421-8108

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AGENT AND LENDER:

GENERAL ELECTRIC CAPITAL CORPORATION

By: /s/ Scott R. Towers
Name: Scott R. Towers
Title: Duly Authorized Signatory

Address For Notices:

General Electric Capital Corporation
c/o GE Healthcare Financial Services, Inc., LSF
83 Wooster Heights Road, Fifth Floor
Danbury, Connecticut 06810
Attention: Senior Vice President of Risk Phone: (203) 205-5200
Facsimile: (203) 205-2192

With a copy to:

General Electric Capital Corporation
c/o GE Healthcare Financial Services, Inc.
Two Bethesda Metro Center, Suite 600
Bethesda, Maryland 20814
Attention: General Counsel Phone: (301) 961-1640
Facsimile: (301) 664-9866

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LENDER:

OXFORD FINANCE CORPORATION

By: /s/ T.A. Lex
Name: T.A. Lex
Title: COO

Address For Notices:

Oxford Finance Corporation
133 North Fairfax Street
Alexandria, VA 22314
Attention: EVP + COO
Phone: (703) 519-4900
Facsimile: (703) 519-6010

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SCHEDULE A
COMMITMENTS

Name of Lender	Commitment of such Lender	Pro Rata Share
General Electric Capital Corporation	$ 7,500,000	50%
Oxford Finance Corporation	$ 7,500,000	50%
TOTAL	$ 15,000,000	100%

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SCHEDULE B
DISCLOSURES

[To be scheduled by Borrower]

Existing Liens

Debtor	Secured Party	Collateral	State and Jurisdiction	Filing Date and Number (include original file date and continuations, amendments, etc.)

Existing Indebtedness

Debtor	Creditor	Amount of Indebtedness outstanding as of _____ ____, ____	Maturity Date

Existing Investments

Debtor	Type of Investment	Date	Amount Outstanding as of _____

Material Contracts

1.

2.

3.

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EXHIBIT A

FORM OF PROMISSORY NOTE

[September __, 2007]

FOR VALUE RECEIVED, CODEXIS, INC., a Delaware corporation located at the address stated below ("Borrower"), promises to pay to the order of [**Lender**] or any subsequent holder hereof (each, a "Lender"), the principal sum of _____ and ____/100 Dollars (**$____**) or, if less, the aggregate unpaid principal amount of all Term Loans made by Lender to or on behalf of Borrower pursuant to the Agreement (as hereinafter defined). All capitalized terms, unless otherwise defined herein, shall have the respective meanings assigned to such terms in the Agreement.

This Promissory Note is issued pursuant to that certain Loan and Security Agreement, dated as of **[August __, 2007]**, among Borrower, General Electric Capital Corporation, as agent and lender, **[the other lenders signatory thereto] [, and Lender]** (as amended, restated, supplemented or otherwise modified from time to time, the "Agreement"), is one of the Notes referred to therein, and is entitled to the benefit and security of the Debt Documents referred to therein, to which Agreement reference is hereby made for a statement of all of the terms and conditions under which the loans evidenced hereby were made.

The principal amount of the indebtedness evidenced hereby shall be payable in the amounts and on the dates specified in the Agreement. Interest thereon shall be paid until such principal amount is paid in full at such interest rates and at such times as are specified in the Agreement. The terms of the Agreement are hereby incorporated herein by reference.

All payments shall be applied in accordance with the Agreement. The acceptance by Lender of any payment which is less than payment in full of all amounts due and owing at such time shall not constitute a waiver of Lender's right to receive payment in full at such time or at any prior or subsequent time. The payment of any Scheduled Payment prior to its due date shall result in a corresponding increase in the portion of the Scheduled Payment credited to the remaining unpaid principal balance.

All amounts due hereunder and under the other Debt Documents are payable in the lawful currency of the United States of America. Borrower hereby expressly authorizes Lender to insert the date value as is actually given in the blank space on the face hereof and on all related documents pertaining hereto.

This Note is secured as provided in the Agreement and the other Debt Documents. Reference is hereby made to the Agreement and the other Debt Documents for a description of the properties and assets in which a security interest has been granted, the nature and extent of the security interest, the terms and conditions upon which the security interest was granted and the rights of the holder of the Note in respect thereof.

Time is of the essence hereof. If Lender does not receive from Borrower payment in full of any Scheduled Payment or any other sum due under this Note or any other Debt Document within 3 days after its due date, Borrower agrees to pay the Late Fee in accordance with the Agreement. Such Late Fee will be immediately due and payable, and is in addition to any other costs, fees and expenses that Borrower may owe as a result of such late payment.

This Note may be voluntarily prepaid only as permitted under Section 2.4 of the Agreement. After a Default or an Event of Default, this Note shall bear interest at a rate per annum equal to the Default Rate pursuant to Section 2.6 of the Agreement.

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Borrower and all parties now or hereafter liable with respect to this Note, hereby waive presentment, demand for payment, notice of nonpayment, protest, notice of protest, notice of dishonor, and all other notices in connection herewith, as well as filing of suit (if permitted by law) and diligence in collecting this Note or enforcing any of the security hereof, and agree to pay (if permitted by law) all expenses incurred in collection, including reasonable attorneys' fees and expenses.

THIS NOTE SHALL BE CONSTRUED IN ACCORDANCE WITH AND GOVERNED BY THE LAWS OF THE STATE OF NEW YORK.

No variation or modification of this Note, or any waiver of any of its provisions or conditions, shall be valid unless such variation or modification is made in accordance with Section 10.8 of the Agreement. Any such waiver, consent, modification or change shall be effective only in the specific instance and for the specific purpose given.

IN WITNESS WHEREOF, Borrower has duly executed this Note as of the date first above written.

CODEXIS, INC.

By: _____
Name: _____
Title: _____
Federal Tax ID #: _____
Address: 200 Penobscot Drive
Redwood City, CA 94063

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EXHIBIT B

SECRETARY'S CERTIFICATE OF AUTHORITY

[DATE]

Reference is made to the Loan and Security Agreement, dated as of **[September __, 2007]** (as amended, restated, supplemented or otherwise modified from time to time, the "Agreement"), among Codexis, Inc., a Delaware corporation (the "Borrower"), General Electric Capital Corporation, a Delaware corporation ("GECC"), as a lender and as agent (in such capacity, together with its successors and assigns in such capacity, "Agent"), and the other lenders signatory thereto from time to time (GECC and such other lenders, the "Lenders"). Capitalized terms used but not defined herein are used with the meanings assigned to such terms in the Agreement.

I, **[_____]**, do hereby certify that:

(i) I am the duly elected, qualified and acting **[**Assistant**]** Secretary of Borrower;

(ii) attached hereto as Exhibit A is a true, complete and correct copies of Borrower's Certificate of Incorporation and the Bylaws, each of which is in full force and effect on and as of the date hereof;

(iii) each of the following named individuals is a duly elected or appointed, qualified and acting Proper Officer of Borrower who holds the offices set opposite such individual's name, and such individual is authorized to sign the Debt Documents and all other notices, documents, instruments and certificates to be delivered pursuant thereto, and the signature written opposite the name and title of such officer is such officer's genuine signature:

Name	Title	Signature
Alan Shaw	Chief Executive Officer	_____
Robert S. Breuil	Chief Financial Officer	_____
Douglas T. Sheehy	General Counsel	_____
Brian P. Dowd	Controller	_____

(iv) attached hereto as Exhibit B are true, complete and correct copies of resolutions adopted by the Board of Directors of Borrower (the "Board") authorizing the execution, delivery and performance of the Debt Documents to which Borrower is a party, which resolutions were duly adopted by the Board on **[DATE]** and all such resolutions are in full force and effect on the date hereof in the form in which adopted without amendment, modification, rescission or revocation;

(iv) the foregoing authority shall remain in full force and effect, and Agent and each Lender shall be entitled to rely upon same, until written notice of the modification, rescission or revocation of same, in whole or in part, has been delivered to Agent and each Lender, but no such modification, rescission or revocation shall, in any event, be effective with respect to any documents executed or actions taken in reliance upon the foregoing authority before said written notice is delivered to Agent and each Lender; and

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(v) no Default or Event of Default exists under the Agreement, and all representations and warranties of Borrower in the Debt Documents are true and correct in all respects on and as of the date hereof, except to the extent such representations and warranties expressly relate to an earlier date, in which case such representations and warranties were true and correct in all respects on and as of such earlier date.

[Signature page follows]

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IN WITNESS WHEREOF, I have hereunto set my hand as of the first date written above

Name: _____
Title: **[Assistant]** Secretary

The undersigned does hereby certify on behalf of Borrower that he is the duly elected or appointed, qualified and acting **[TITLE]** of Borrower and that **[NAME FROM ABOVE]** is the duly elected or appointed, qualified and acting **[Assistant]** Secretary of Borrower, and that the signature set forth immediately above is his genuine signature.

Name: _____
Title: _____

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EXHIBIT B TO SECRETARY'S CERTIFICATE OF AUTHORITY

FORM OF RESOLUTIONS

BOARD RESOLUTIONS

_____, 2007

WHEREAS, Codexis, Inc., a Delaware corporation ("Borrower") has requested that General Electric Capital Corporation, a Delaware corporation ("GECC"), as agent (in such capacity, the "Agent") and lender, and certain other lenders (GECC and such other lenders, collectively, the "Lenders") provide a credit facility in an original principal amount not to exceed $15,000,000 (the "Credit Facility"); and

WHEREAS, the terms of the Credit Facility are set forth in a loan and security agreement by and among Borrower, Agent, and the Lenders and certain related agreements, documents and instruments described in detail below; and

WHEREAS, the Board of Directors of Borrower (the "Directors") deems it advisable and in the best interests of Borrower to execute, deliver and perform its obligations under those transaction documents described and referred to below.

NOW, THEREFORE, be it

RESOLVED, that the Credit Facility be, and it hereby is, approved; and further

RESOLVED, that the form of Loan and Security Agreement (the "Loan and Security Agreement"), by and among Borrower, Agent and the Lenders, as presented to the Directors, be and it hereby is, approved and the Chief Executive Officer, Chief Financial Officer, General Counsel and/or Controller of Borrower (collectively, the "Proper Officers") be, and each of them hereby is, authorized and directed on behalf of Borrower to execute and deliver to Agent the Loan and Security Agreement, in substantially the form as presented to the Directors, with such changes as the Proper Officers may approve, such approval to be conclusively evidenced by execution and delivery thereof; and further

RESOLVED, that the form of Promissory Note (the "Note"), as presented to the Directors, be, and it hereby is, approved and the Proper Officers be, and each of them hereby is, authorized and directed on behalf of Borrower to execute and deliver to Lender one or more promissory Notes, in substantially the form as presented to the Directors, with such changes as the Proper Officers may approve, such approval to be conclusively evidenced by execution and delivery thereof; and further

RESOLVED, that the form of Pledge Agreement (the "Pledge Agreement"), by and among Borrower, Agent and the Lenders, as presented to the Directors, be and it hereby is, approved and the Proper Officers be, and each of them hereby is, authorized and directed on behalf of Borrower to execute and deliver to Agent the Pledge Agreement, in substantially the form as presented to the Directors, with such changes as the Proper Officers may approve, such approval to be conclusively evidenced by execution and delivery thereof; and further

RESOLVED, that issuance of a warrant to the Lenders substantially in the form of the Warrant as presented to the Directors (each, a "Warrant"), and the sale and issuance of preferred stock upon exercise of the Warrant as described therein, be, and hereby is, approved and the Proper Officers be, and each of them hereby is, authorized and directed on behalf of Borrower to execute and deliver to the Lenders the

Warrants, in substantially the form as presented to the Directors, with such changes as the Proper Officers may approve, such approval to be conclusively evidenced by execution and delivery thereof; and further

RESOLVED, that the Proper Officers be, and each of them hereby is, authorized and directed to execute and deliver any and all other agreements, certificates, security agreements, financing statements, indemnification agreements, instruments and documents (together with the Loan and Security Agreement, the Notes, and the Pledge Agreement, the "Debt Documents") and take any and all other further action, in each case, as may be required or which they may deem appropriate, on behalf of Borrower, in connection with the Loan and Security Agreement and carrying into effect the foregoing resolutions, transactions and matters contemplated thereby; and further

RESOLVED, that Borrower is hereby authorized to perform its obligations under the Debt Documents, including, without limitation, the borrowing of any advances made under the Loan and Security Agreement and the granting of any security interest in Borrower's assets contemplated thereby to secure Borrower's obligations in connection therewith; and further

RESOLVED, that in addition to executing any documents approved in the preceding resolutions, the Secretary or any Assistant Secretary of Borrower may attest to such Debt Documents, the signature thereon or the corporate seal of Borrower thereon; and further

RESOLVED, that any actions taken by the Proper Officers prior to the date of these resolutions in connection with the transactions contemplated by these resolutions are hereby ratified and approved; and further

RESOLVED, that these resolutions shall be valid and binding upon Borrower.

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EXHIBIT C-1

FORM OF LANDLORD CONSENT

[Landlord]
[Address]

[_____, __]

Ladies and Gentlemen:

General Electric Capital Corporation (together with its successors and assigns, if any, "Agent") and certain other lenders (the "Lenders") have entered into, or is about to enter into, a Loan and Security Agreement, dated as of **[September __, 2007]** (as amended, restated, supplemented or otherwise modified from time to time, the "Agreement") with Codexis, Inc., a Delaware corporation ("Borrower"), pursuant to which Borrower has granted, or will grant, to Agent, on behalf of itself and the Lenders, a security interest in certain assets of Borrower, including, without limitation, all of Borrower's cash, cash equivalents, accounts, books and records, goods, inventory, machinery, equipment, furniture and trade fixtures (such as equipment bolted to floors), together with all addition, substitutions, replacements and improvements to, and proceeds, including, insurance proceeds, of the foregoing, but excluding building fixtures (such as plumbing, lighting and HVAC systems (collectively, the "Collateral"). Some or all of the Collateral is, or will be, located at certain premises known as [_____] in the City or Town of**[**_____, County of _____ and State of _____**]** ("Premises"), and Borrower occupies the Premises pursuant to a lease, dated as of **[DATE]**, between Borrower, as tenant, and you, **[NAME]**, as **[owner/landlord/mortgagee/realty manager]** (as amended, restated, supplemented or otherwise modified from time to time, the "Lease").

By your signature below, you hereby agree (and we shall rely on your agreement) that: (i) the Lease is in full force and effect and you are not aware of any existing defaults thereunder, (ii) the Collateral is, and shall remain, personal property regardless of the method by which it may be, or become, affixed to the Premises; (iii) you agree to use your best efforts to provide Agent with written notice of any default by Borrower under the Lease resulting in a termination of the Lease ("Default Notice") and Agent shall have the right, but not the obligation to cure such default within 15 days following Agent's receipt of such Default Notice, (iv) your interest in the Collateral and any proceeds thereof (including, without limitation, proceeds of any insurance therefor) shall be, and remain, subject and subordinate to the interests of Agent and you agree not to levy upon any Collateral or to assert any landlord lien, right of distraint or other claim against the Collateral for any reason; (v) Agent, and its employees and agents, shall have the right, from time to time, to enter into the Premises for the purpose of inspecting the Collateral; and (vi) Agent, and its employees and agents, shall have the right, upon any default by Borrower under the Agreement, to enter into the Premises and to remove or otherwise deal with the Collateral, including, without limitation, by way of public auction or private sale (provided that, if Agent conducts a public auction or private sale of the Collateral at the Premises, Agent shall use reasonable efforts to notify Landlord first and to hold such auction or sale in a manner that would not unduly disrupt Landlord's or any other tenant's use of the Premises). Agent agrees to repair or reimburse you for any physical damage actually caused to the Premises by Agent, or its employees or agents, during any such removal or inspection (other than ordinary wear and tear), provided that it is understood by the parties hereto that Agent shall not be liable for any diminution in value of the Premises caused by the removal or absence of the Collateral therefrom. You hereby acknowledge that Agent shall have no obligation to remove or dispose of the Collateral from the Premises and no action by Agent pursuant to this Consent

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shall be deemed to be an assumption by Agent of any obligation under the Lease and, except as provided in the immediately preceding sentence, Agent shall not have any obligation to you.

You hereby acknowledge and agree that Borrower's granting of a security interest in the Collateral in favor of Agent, on behalf of itself and the Lenders, shall not constitute a default under the Lease nor permit you to terminate the Lease or re-enter or repossess the Premises or otherwise be the basis for the exercise of any remedy available to you.

This Consent and the agreements contained herein shall be binding upon, and shall inure to the benefit of, any successors and assigns of the parties hereto (including any transferees of the Premises). This Consent shall terminate upon the indefeasible payment of Borrower's indebtedness in full in immediately available funds and the satisfaction in full of Borrower's performance of its obligations under the Agreement and the related documents.

This Consent and any amendments, waivers, consents or supplements hereto or in connection herewith may be executed in any number of counterparts and by different parties hereto in separate counterparts, each of which when so executed and delivered shall be deemed an original, but all such counterparts together shall constitute but one and the same instrument; signature pages may be detached from multiple separate counterparts and attached to a single counterpart so that all signature pages are physically attached to the same document. Delivery of an executed signature page of this Consent or any delivery contemplated hereby by facsimile or electronic transmission shall be as effective as delivery of a manually executed counterpart thereof.

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We appreciate your cooperation in this matter of mutual interest.

GENERAL ELECTRIC CAPITAL CORPORATION, as Agent

By: _____

Name: _____

Title: _____

General Electric Capital Corporation
c/o GE Healthcare Financial Services, Inc., LSF
83 Wooster Heights Road, Fifth Floor
Danbury, Connecticut 06810
Attention: Senior Vice President of Risk Phone: (203) 205-5200
Facsimile: (203) 205-2192

With a copy to:
General Electric Capital Corporation
c/o GE Healthcare Financial Services, Inc.
Two Bethesda Metro Center, Suite 600
Bethesda, Maryland 20814
Attention: General Counsel
Phone: (301) 961-1640
Facsimile: (301) 664-9866

AGREED TO AND ACCEPTED BY:

_____, as **[owner/landlord/mortgagee/realty manager]**

By: _____

Name: _____

Title: _____

Address:

AGREED TO AND ACCEPTED BY:

CODEXIS, INC., as Borrower

By: _____

Name: _____

Title: _____

Interest in the Premises (check applicable box)

- ☐ Owner
- ☐ Mortgagee
- ☐ Landlord
- ☐ Realty Manager

Address:

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions

EXHIBIT C-2

FORM OF BAILEE CONSENT

[Letterhead of GE Capital]

____ __, 200_

[**NAME OF BAILEE**]
_____
_____

Dear Sirs:

Re: Codexis, Inc. (the "Borrower")

Please accept this letter as notice that we have entered into or may enter into financing arrangements with the Borrower under which the Borrower has granted to us continuing security interests in substantially all personal property and assets of the Borrower and the proceeds thereof, including, without limitation, certain equipment owned by the Borrower held by you at the manufacturing facility (the "Premises") owned by you and located at **[_____]**(the "Personal Property").

Please acknowledge that as a result of such arrangements, you are holding all of the Personal Property solely for our benefit and subject only to the terms of this letter and our instructions; provided, however, that until further written notice from us, you are authorized to use and/or release any and all of the Personal Property in your possession as directed by the Borrower in the ordinary course of business. The foregoing instructions shall continue in effect until we modify them in writing, which we may unilaterally do without any consent or approval from the Borrower. Upon receipt of our instructions, you agree that (a) you will release the Personal Property only to us or our designee; (b) you will cooperate with us in our efforts to assemble, sell (whether by public or private sale), take possession of, and remove all of the Personal Property located at the Premises; (c) you will permit the Personal Property to remain on the Premises for forty-five (45) days after your receipt of our instructions or at our option, to have the Personal Property removed from the Premises within a reasonable time, not to exceed forty-five (45) days after your receipt of our instructions; (d) you will not hinder our actions in enforcing our liens on the Personal Property; and (e) after receipt of our instructions, you will abide solely by our instructions with respect to the Personal Property, and not those of the Borrower.

You hereby waive and release in our favor: (a) any contractual lien, security interest, charge or interest and any other lien which you may be entitled to whether by contract, or arising at law or in equity against any Personal Property; (b) any and all rights granted under any present or future laws to levy or distrain for rent or any other charges which may be due to you against the Personal Property; and (c) any and all other claims, liens, rights of offset, deduction, counterclaim and demands of every kind which you have or may hereafter have against the Personal Property.

You agree that (i) you have not and will not commingle the Personal Property with any other property of a similar kind owned or held by you in any manner such that the Personal Property is not readily identifiable, (ii) you have not and will not issue any negotiable or non-negotiable documents or instruments relating to the Personal Property, and (iii) the Personal Property is not and will not be deemed to be fixtures.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions

Notwithstanding the foregoing, all of your charges of any nature whatsoever shall continue to be charged to and paid by the Borrower and we shall not be liable for such charges.

You hereby authorize us to file at any time such financing statements naming you as the debtor/bailee, Borrower as the secured party/bailor, and us as the Borrower's assignee, indicating as the collateral goods of the Borrower now or hereafter in your custody, control or possession and proceeds thereof, and including any other information with respect to the Borrower required under the Uniform Commercial Code for the sufficiency of such financing statement or for it to be accepted by the filing office of any applicable jurisdiction (and any amendments or continuations with respect thereto).

The arrangement as outlined herein is to continue without modification, until we have given you written notice to the contrary.

EACH OF THE PARTIES HERETO HEREBY WAIVES ITS RIGHTS TO A JURY TRIAL OF ANY CLAIM OR CAUSE OF ACTION BASED UPON OR ARISING OUT OF THIS LETTER.

Any notice(s) required or desired to be given hereunder shall be directed to the party to be notified at the address stated herein.

The terms and conditions contained herein are to be construed and enforced in accordance with the laws of the State of Connecticut.

This terms and conditions contained herein shall inure to the benefit of and be binding upon the parties hereto and their respective successors and permitted assigns.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions

The Borrower has signed below to indicate its consent to and agreement with the foregoing arrangements, terms and conditions. By your signature below, you hereby agree to be bound by the terms and conditions of this letter.

Very truly yours,

GENERAL ELECTRIC CAPITAL CORPORATION

By: _____

Name: _____

Title: Duly Authorized Signatory

General Electric Capital Corporation
c/o GE Healthcare Financial Services, Inc., LSF
83 Wooster Heights Road, Fifth Floor
Danbury, Connecticut 06810
Attention: Senior Vice President of Risk
Phone: (203) 205-5200
Facsimile: (203) 205-2192

With a copy to:

General Electric Capital Corporation
c/o GE Healthcare Financial Services, Inc.
Two Bethesda Metro Center, Suite 600
Bethesda, Maryland 20814
Attention: General Counsel
Phone: (301) 961-1640
Facsimile: (301) 664-9866

Agreed to:

CODEXIS, INC.

By: _____

Name: _____

Title: _____

Address: _____

_____

_____

[NAME OF BAILEE]

By: _____

Name: _____

Title: _____

Address: _____

_____

_____

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EXHIBIT D

COMPLIANCE CERTIFICATE

[DATE]

Reference is made to the Loan and Security Agreement, dated as of **[September __, 2007]** (as amended, restated, supplemented or otherwise modified from time to time, the "Agreement"), among Codexis, Inc., a Delaware corporation (the "Borrower"), General Electric Capital Corporation, a Delaware corporation ("GECC"), in its capacity as agent (in such capacity, together with its successors and assigns, in such capacity, the "Agent") and lender, and the other lenders signatory thereto (GECC and such other lenders, the "Lenders"). Capitalized terms used but not defined herein are used with the meanings assigned to such terms in the Agreement.

I, **[_____]**, do hereby certify that:

(i) I am the duly elected, qualified and acting **[TITLE]** of Borrower;

(ii) attached hereto as Exhibit A are **[the monthly financial statements]/[annual audited financial statements]/[quarterly financial statements]** as required under Section 6.3 of the Agreement and that such financial statements are materially prepared in accordance with GAAP (subject, in the case of unaudited financial statements, to the absence of footnotes and normal year-end and audit adjustments) and are consistently applied from one period to the next except as explained in an accompanying letter or footnotes;

(iii) no Default or Event of Default has occurred under the Agreement which has not been previously disclosed, in writing, to Lender; and

[(iv) all representations and warranties of Borrower stated in the Debt Documents are true and correct in all material respects on and as of the date hereof, except to the extent such representations and warranties expressly relate to an earlier date, in which case such representations and warranties were true and correct in all respects on and as of such earlier date.][1]

IN WITNESS WHEREOF, I have hereunto set my hand as of the first date written above

_____

Name: _____

Title: _____

[1] Subsection (iv) to be included only in Compliance Certificates delivered in connection with quarterly or annual financial statements or in connection with advances of each Term Loan.

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EXHIBIT E

EPS Setup Form	**Submit Via Fax:** **ATTN: EPS Facilitator** **(262) 798-4530**	GE Healthcare Financial Services Phone: (262) 798-4494 Fax: (262) 798-4530

1. Sender Information:

Sender Name:
Sender Phone Number:

Instructions To Enroll In EPS Plan:

A. Complete sections 1 - 7
(signature and all other information is required)

B. Include a copy of a voided check, on which is noted your bank, branch and account number

C. **Please submit via Fax to: (262) 798-4530**

2. Authorization Agreement for Pre-Arranged Payment Plan:

(a) Codexis, Inc., ("Borrower") authorizes General Electric Capital Corporation ("Agent") to initiate debit entries for payment becoming due pursuant to the terms and conditions set forth in the Loan and Security Agreement, dated as of [**September __, 2007**] (as amended, restated, supplemented or otherwise modified from time to time, the "Agreement"), among Borrower, Agent and the lenders signatory thereto.

(b) Borrower understands that the basic term loan payment and all applicable taxes are solely its responsibility. If payment is not satisfied due to account closure, insufficient funds, or cancellation of any required automated payment services, Borrower agrees to remit payment plus any applicable late charges, as set forth in the Agreement.

(c) It is incumbent upon Borrower to give written notice to Agent of any changes to this authorization or the below referenced bank account information 10 days prior to payment date; Borrower may revoke this authorization by giving 10 days written notice to Agent unless otherwise stipulated in the Agreement.

(d) If a deduction is made in error, Borrower has the right to be paid within five business days by Agent the amount of the erroneous deduction, provided Agent is notified in writing of such error.

(e) Cosigner must also sign if the account is a joint account.

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3. **Agent Account Number(s):** (Invoice **Billing ID**, 10-digit number formatted: 1234567-001)

Account:	**Account:**	**Account:**	**Account:**
Account:	**Account:**	**Account:**	**Account:**

4. First Payment Debit Date (mm/dd/yy) **First Payment:**

5. Complete ALL Bank and Borrower Information:

BANK	**Name of Bank or Financial Institution:**	**Bank Account Number:**	**ABA Routing Number (9-digit number)**
INFO	**Address of Bank or Financial Institution:**	**City:**	**State: Zip Code:**

	Signatures	Company	Contact
	Signature of Authorized Signer: Date:	**Company Name:**	**Contact Name:**
BORROWER	**Name of Joint Account Holder: (Please Print)**	**Company Address:**	**Contact Phone Number:**
INFO	**Signature of Joint Account Holder: Date:**	**City:**	**Contact Fax Number:**
	Name of Authorized Signer: (Please Print)	**State: Zip Code:**	**Contact email address:**

6. Would you like to have property taxes paid via EPS on above accounts?

Check (X): YES: ☐ NO: ☐

7. Would you like to receive a complementary invoice?

Check (X): YES: ☐ NO: ☐

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EXHIBIT 10.2A

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

LICENSE AGREEMENT

This LICENSE AGREEMENT (the "Agreement"), effective as of March 28, 2002 (the "Effective Date"), is made by and between Maxygen, Inc., a Delaware corporation ("MUS"), and Codexis, Inc., a Delaware corporation ("Codexis").

BACKGROUND

A. MUS owns and/or controls certain intellectual property, tangible property and technology potentially useful for discovery, research, development and commercialization of Products (as defined herein) for use in the Codexis Field (as defined herein); and

B. Codexis desires to obtain the right to use such intellectual property, tangible property and technology of MUS in connection with its discovery, research, development and commercialization of Products (as defined herein) in the Codexis Field; and

C. MUS is willing to grant to Codexis, and Codexis is willing to accept, such rights, subject to the terms and conditions set forth in this Agreement; and

D. MUS and Codexis have entered into a Services Agreement, a Patent Assignment Agreement, a Trademark Assignment Agreement and a Stock Issuance and Asset Contribution Agreement, of even date herewith.

NOW THEREFORE, for good and valuable consideration, the sufficiency and receipt of which is hereby acknowledged, the Parties hereby agree as follows:

1. DEFINITIONS. The terms defined in this Article 1 shall have the meanings set forth below for purposes of this Agreement:

1.1 **"Affiliate"** shall mean a corporation or other entity that is directly or indirectly controlling, controlled by or under common control with another entity. For the purposes of this definition, "control" shall mean the direct or indirect ownership of fifty percent (50%) or more of the outstanding shares or securities (representing the right to vote for the election of directors or other managing authority) of such corporation or other entity; provided, such corporation or other entity shall be deemed to be an Affiliate only so long as such ownership or control exists.

1.2 **"Agrochemical"** means any chemical intended for plant protection or plant growth applications (e.g., any insecticide, nematicide, insect growth regulator, plant growth regulator, fertilizer or herbicide).

1.3 **"Assignment Agreement"** shall mean that certain Patent Assignment Agreement between MUS and Codexis entered of even date herewith.

1.4 **"Assigned Patents"** shall mean (a) the Patent Applications and Patents assigned to Codexis pursuant to the Assignment Agreement; and (b) those Patent

Applications and Patents owned by Third Parties, to which MUS obtained license rights for use inside and outside the Codexis Field pursuant to an agreement entered by MUS with a Third Party, which agreement was assigned by MUS to Codexis in connection with the establishment of Codexis, Inc.

1.5 **"Biocatalyst"** shall mean a whole cell (live or dead) of a Microbe or Type II Plant which has been modified using Enabling Technology (whether by Gene Expression Manipulation and/or Metabolic Pathway Manipulation and/or Strain Improvement or otherwise) that can perform enzymatic catalysis of a particular chemical reaction.

1.6 **"Basic Chemical"** shall mean a chemical having a molecular weight of less than [*] which is suitable for use as a feedstock for multiple chemical reactions. By way of illustration and without limitation, a chemical monomer or oligomer suitable for polymerization, or a carbohydrate intended for use as a carbon source in fermentation, would each be a Basic Chemical, if the applicable molecule had a molecular weight of less than [*].

1.7 **"Biocatalyst Commercialization"** shall mean (i) the preparation, screening and commercial use of Biocatalysts for the purpose of allowing the selection and commercialization of Biocatalysts solely for use for Bulk Production, and (ii) the manufacture and commercial sale of Biocatalysts solely for use for Bulk Production.

1.8 **"Building Block"** shall mean any non-polypeptide chemical (optionally containing one or more chiral centers), having a molecular weight of more than [*] and less than [*], that (a) is not a Basic Chemical or a Functional Compound, and (b) is intended for addition to one or more Templates to make a Functional Compound.

1.9 **"Building Block Development"** shall mean the development of one or more Building Blocks for use in Template Decoration.

1.10 **"Bulk Production"** shall mean production by Codexis via enzymatic catalysis (using an Enzyme Product or a Biocatalyst) or fermentation of:

(a) any Enzyme Product or Biocatalyst for sale to a Third Party (other than an Affiliate of Codexis) for manufacture of Catalysis Products, or

(b) any Catalysis Product or Fermentation Product for sale to a Third Party (other than an Affiliate of Codexis) for further processing or formulation, or

(c) any Catalysis Product or Fermentation Product which will be formulated by Codexis for sale to a Third Party, which Product contains one or more Functional Compounds approved by a Regulatory Authority for human or veterinary pharmaceutical use, where such Functional Compound(s) (i) is (are) no longer covered by issued patents in the country where such production will occur, or (ii) is (are) covered by issued patents owned or Controlled by a Third Party (other than an Affiliate of Codexis) that has contracted to have Codexis formulate such Product on behalf of such Third Party.

1.11 **"Catalysis Product"** shall mean a Template, Building Block, Functional Compound and/or Intermediate that, in each case, is produced in substantially pure, noncellular form via enzymatic catalysis using an Enzyme Product or a Biocatalyst.

1.12 **"Codexis Field"** shall mean:

(a) Biocatalyst Commercialization and Enzyme Commercialization, subject to the limitations set forth in Section 2.2.2 and the rights of MUS and Third Parties described in Section 2.8;

(b) Building Block Development; and

(c) Bulk Production, subject to the limitations set forth in Section 2.2.2 and the rights of MUS and Third Parties described in Section 2.8.

1.13 **"Confidential Information"** shall mean (i) any proprietary or confidential information or material in tangible form disclosed by one Party to the other that is marked as "Confidential" or with some similar marking or legend reasonably indicating its confidential nature at the time it is delivered to the receiving Party, or (ii) proprietary or confidential information disclosed orally or in other intangible form by one Party to the other hereunder that is identified as confidential or proprietary when disclosed. Confidential Information may include information of Third Parties.

1.14 **"Control"** or **"Controlled"** shall mean possession of the ability to grant the licenses or sublicenses as provided for herein, or to transfer Materials as provided for herein, without (i) violating the terms of any agreement or other arrangement with any Third Party, and/or (ii) incurring a contractual payment obligation to a Third Party for the grant or practice of such license or sublicense, as the case may be, provided, if such a contractual payment obligation would be due to a Third Party for the grant or practice of such a sublicense to the applicable intellectual property or materials, such intellectual property and Materials shall also be deemed to fall within the scope of this definition, if Codexis or MUS, as the case may be, agrees in writing pursuant to Section 2.1.4(b) to be responsible for any and all payments due to the licensor of such intellectual property or Materials for the grant or practice of such sublicense.

1.15 **"Detection and Research Reagent Field"** shall mean the field set forth on **Exhibit A** hereto.

1.16 **"Discovery"** means the generation, identification and/or assessment of any potential human or veterinary therapeutic or prophylactic or Agrochemical, and/or modification of a potential human or veterinary therapeutic or prophylactic or Agrochemical to improve its suitability for such use.

1.17 **"Enabling Technology"** shall mean all Patent Applications and Patents Controlled by MUS on or before the Separation Event relating to (i) methods of generating genetic diversity (including, without limitation, DNA Shuffling with tangible materials or in silico), or the use thereof, and/or (ii) generally applicable screening techniques, methodologies or processes for identifying genetic variants of interest. Enabling Technology shall include MUS' interest in Third Party Improvements, if any. A list of Patent Applications and Patents within the Enabling Technology existing as of the Effective Date is attached as **Exhibit B** hereto.

1.18 **"Enzyme Commercialization"** shall mean (i) the preparation, screening and commercial use of Enzyme Libraries for the purpose of allowing the selection and

commercialization of one or more Enzyme Products solely for use for Bulk Production, and (ii) the manufacture and commercial sale of Enzyme Products solely for use for Bulk Production.

1.19 **"Enzyme Library"** shall mean a set of two or more variant but related enzymes (or genes encoding such enzymes), in each case, that are made using Enabling Technology.

1.20 **"Enzyme Product"** shall mean an enzyme selected from an Enzyme Library.

1.21 **"Excluded Technology"** shall mean the Patent Applications and Patents within the Enabling Technology listed on **Exhibit C** hereto.

1.22 **"Expression Host(s)"** shall mean eukaryotic and/or procaryotic and/or archaebacter cells of any type.

1.23 **"Fermentation Product"** shall mean any Template, Building Block, Functional Compound and/or Intermediate that is produced via fermentation of a Microbe and/or Category II Plant that has been modified with Enabling Technology (whether by Gene Expression Manipulation and/or Metabolic Pathway Manipulation and/or Strain Improvement or otherwise).

1.24 **"Functional Compound"** shall mean any non-polypeptide, organic chemical produced in substantially pure form, having a molecular weight of less than [*], that is not a Basic Chemical and is used (i) as an active therapeutic agent for the treatment of any human or animal disease or condition, or (ii) to improve the flavor of human food or animal feed products, or (iii) to provide or alter the fragrance of perfumes, cosmetic and skin care products, or (iv) for external application to one or more Plants as an herbicide, pesticide or growth regulator.

1.25 **"Gene"** shall mean a structural gene, including optionally regulatory sequences therefor, including, without limitation, promoters, enhancers and downstream regulatory elements.

1.26 **"Gene Expression Manipulation"** shall mean alteration of one or more Gene(s) (e.g., alteration of a sequence of a structural gene or a sequence of a Gene regulatory element, such as a promoter) to enable and/or facilitate Product development or Bulk Production.

1.27 **"Glaxo Agreement"** shall mean the Affymax/Maxygen Technology Transfer Agreement, effective February 1, 1997, entered by and among Affymax Technologies N.V., Glaxo Group Limited and Maxygen, Inc., as modified on March 1, 1998. The Glaxo Agreement is Exhibit 10.15 to the Form S-1 effective December 15, 1999, filed by Maxygen, Inc. with the U.S. Securities and Exchange Commission.

1.28 **"Government Authority"** shall mean any supranational, national, regional, state or local government, court, governmental agency, authority, board, bureau, instrumentality or regulatory body.

1.29 **"Improvement"** shall mean any improvement of or to the Enabling Technology, which improvement is (a) conceived and reduced to practice or otherwise developed on or before the Separation Event by or on behalf of Codexis or a Third Party that has received a license to the Enabling Technology and is claimed in a published Patent Application or Patent owned or Controlled by Codexis or such Third Party, as the case may be, which Patent Application or Patent is filed on or before the third anniversary of the Separation Event, and (b) within the scope of a claim of a Patent Application or Patent within the Enabling Technology in any country, which claim is entitled to filing priority based on a Patent Application or Patent within the Enabling Technology that was filed on or before the Separation Event.

1.29.1 **"Codexis Improvement"** shall mean an Improvement owned or Controlled (other than through a license from MUS hereunder) by Codexis.

1.29.2 **"Third Party Improvement"** shall mean an Improvement owned by a Third Party and Controlled by MUS.

1.30 **"Intermediate"** shall mean with regard to a particular Functional Compound, a non-polypeptide, chemical produced in substantially pure form, having a molecular weight of less than [*], that is intended as and used as the chemical precursor of such Functional Compound. It is understood and agreed that Intermediate(s) shall not include chemicals having commercial utility for any purpose other than synthesis of the applicable Functional Compound (e.g., Basic Chemicals shall not be Intermediates).

1.31 **"Internal Research Use"** shall mean use by Codexis for internal research to assess the feasibility of producing a particular Product within the Codexis Field. It is understood and agreed that Internal Research Use does not include production of any Product for commercial sale or any other commercial use of any Product or the conduct of any Services.

1.32 **"Know-How"** shall mean any and all ideas, inventions, discoveries, data, information, and corresponding intellectual property rights, including, without limitation, instructions, processes, practices, methods, techniques, specifications, formulations, formulae, know-how, trade secrets, protocols, skill, experience, opinions, results of studies, technical drawings and related copyrights, bioinformatics tools (including software) and related copyrights, and biological, chemical, pharmacological, toxicological, stability, biochemical, pharmaceutical, physical and analytical, pre-clinical and clinical, safety, efficacy, manufacturing and quality control data, documentation and information, in each case, whether or not patentable, and that are (i) not generally known or available to the public, (ii) Controlled by MUS prior to the Separation Event and (iii) reasonably related to the use of Enabling Technology and/or the Product Technology in the Codexis Field.

1.33 **"Materials"** shall mean any chemical or biological substances including any: (i) organic or inorganic chemical element or compound; (ii) nucleic acid; (iii) vector of any type (e.g., cosmid, plasmid, spore, phage, virus, or virus-like particle), and subunits of the foregoing; (iv) host organism, including procaryotic and/or eukaryotic cells or animals; (v) eukaryotic or prokaryotic cell line or expression system; (vi) protein, including any peptide or amino acid sequence, enzyme, antibody or protein conferring targeting properties and any fragment of any of the foregoing; (vii) genetic material, including, without limitation, any genetic nucleic acid construct, marker gene and genetic control element (e.g., promoter,

termination signal), gene, genome or variant of any of the foregoing; and/or (viii) assay or reagent, in each case, which are Controlled by MUS prior to the Separation Event and reasonably related to the use of Enabling Technology and/or the Product Technology in the Codexis Field.

1.34 **"Metabolic Pathway Manipulation"** shall mean alteration of one or more single Genes, multiple Genes, genetic pathways and/or genomes by modification of pathway control mechanisms to enable and/or facilitate:

(a) Product development via (i) altered pathway flux or activity, and/or (ii) altered Product yield; and/or

(b) Bulk Production.

1.35 **"Microbe"** shall mean whole (live or dead) procaryotic organisms and/or yeasts and/or fungi (excluding those which are Type II Plants), or extracts thereof.

1.36 **"Novo Agreement"** shall mean the License and Commercialization Agreement effective September 17, 1997, entered by and between Maxygen, Inc. and Novo Nordisk A/S, as amended. The Novo Agreement, with the amendments thereto dated June 29, 1998, July 29, 1998 and April 12, 1999, are set forth in Exhibit 10.11 to the Form S-1 effective December 15, 1999 filed by Maxygen, Inc. with the U.S. Securities and Exchange Commission.

1.37 **"Party"** shall mean MUS or Codexis, individually, and "**Parties**" shall mean MUS and Codexis, collectively.

1.38 **"Patent Applications and Patents"** shall mean any and all United States provisional and/or utility patent applications, including, without limitation, all divisions, renewals, continuations in whole or in part, substitutions and patents of addition thereof, and any and all foreign counterparts of any of the foregoing, and any letters patent and/or registrations issuing on any of the foregoing (including, without limitation, all reissues, renewals, extensions, confirmations, re-registrations, re-examinations, re-validations, supplementary protection certificates and/or other governmental actions that extend the term of any such letters patent) which may be granted on any of the foregoing in the United States and/or other any countries or multinational jurisdictions of the world.

1.39 **"Plant(s)"** shall mean whole Plants, Plant seeds, Plant parts, Plant cells and/or Plant cell cultures derived from Category I Plants and/or Category II Plants.

1.39.1 **"Category I Plants"** shall mean:

(a) land plants, including nonseed plants (Bryophytes, Tracheophytes) such as liverworts, mosses, ferns, and seed plants, such as gymnosperms and angiosperms (monocot and dicots); and/or

(b) non-land plants, including the Prasinophytes, Chlorophyceae, Trebouxiouphyceae, Ulvophyceae, Chlorokybales, Streptophyta, Klebsormidiales, Zygnematales, Charales, Coleochaetales and Embryophytes.

1.39.2 **"Category II Plants"** shall mean:

(a) mushrooms (Basidiomycetes); and/or

(b) photosynthetic bacteria, including, but not limited to blue green algae (Cyanobacteria); and/or

(c) eukaryotic photosynthetic algae and microalgea including, but not limited to green algae (Chlorophytes and Euglenophytes), yellow algae (Cyanophytes), brown algae (Phaeophytes, Xanthophytes, Eustigmatophytes and Raphidophytes) and red algae (Rhodophytes); and/or

(d) microalgae, including but not limited to diatoms (Chrysophytes and Pyrrophytes).

1.40 **"Product"** shall mean any Catalysis Product, Enzyme Product, Biocatalyst or Fermentation Product that:

(a) is made or developed with the use of Enabling Technology, whether by Gene Expression Manipulation and/or Metabolic Pathway Manipulation and/or Strain Improvement or otherwise (e.g., incorporates any variant gene made with Enabling Technology, and/or any protein or peptide expressed therefrom), and/or

(b) is developed with the use of Product Technology, or incorporates, or is made using, or is substantially derived from, Product Technology.

1.41 **"Product Technology"** shall mean the Patent Applications and Patents Controlled by MUS on or before the Separation Event that are necessary or useful for use in the Codexis Field, that are not included in Enabling Technology. A list of the Patent Applications and Patents within the Product Technology existing as of the Effective Date is attached as **Exhibit D** hereto.

1.42 **"Prosecution Costs"** shall mean all costs (including, without limitation, filing fees and annuities, and attorney, agent and/or expert fees) incurred by MUS in connection with the (a) preparation, filing, prosecution (including, without limitation, any appeal) and/or maintenance of any Patent Application or Patent within the Enabling Technology or the Product Technology in any country or multinational jurisdiction of the world, or (b) conduct of any interference, opposition, re-examination, reissue or similar proceedings with respect to any Patent Application or Patent within the Enabling Technology or the Product Technology in any country or multinational jurisdiction of the world.

1.43 **"Regulatory Agency"** shall mean the FDA, the Committee on Proprietary Medicinal Products ("CPMP") of the European Medicines Evaluation Agency, and other Governmental Authority having similar jurisdiction over the development, manufacturing, and marketing of human or veterinary pharmaceuticals and/or food or feed ingredients or products.

1.44 **"Separation Event"** shall mean the first date that the combined ownership of Codexis' outstanding shares by MUS and its Affiliates falls below fifty percent (50%) of the voting power entitled to vote in the election of Codexis' directors.

1.45 **"Service"** shall mean any activity conducted by Codexis on behalf of a Third Party in which Enabling Technology and/or Product Technology is used to discover, research or develop or produce any Product(s).

1.46 **"Shuffling"** shall mean the recombination and/or rearrangement and/or mutation of genetic material for the creation of genetic diversity.

1.47 **"Stock Issuance and Asset Purchase Agreement"** shall mean that certain Stock Issuance and Asset Contribution Agreement entered by MUS and Codexis of even date herewith.

1.48 **"Strain Improvement"** shall mean modification of a Microbe or a Category II Plant to enhance its suitability for use in Bulk Production of one or more Fermentation Products.

1.49 **"Sublicensee"** shall mean a Third Party to whom Codexis has granted a sublicense of its rights in Section 2.1.

1.50 **"Template"** shall mean the minimally active, non-polypeptide chemical structure (e.g., a pharmacophore) having a molecular weight of less than [*], that is common to a family of chemical structures, and (a) is known to possess measurable specific bioactivity (e.g., biostimulatory, bioinhibitory, receptor binding, enzyme substrate, channel blocking or similar activities) in a particular *in vitro* or *in vivo* disease model system, and (b) is useful as an Intermediate.

1.51 **"Template Decoration"** shall mean modification of a Template by a Third Party (other than an Affiliate of Codexis) by attaching, via one or more chemical and/or enzymatic steps, one or more Building Blocks to generate an organic chemical product (including, without limitation, a Product or a Functional Compound) having a molecular weight of less than [*].

1.52 **"Third Party"** means any person or entity other than MUS or Codexis (or their successors in interest).

1.53 **"Third Party Agreement"** shall mean any agreement that was entered or is entered by MUS with a Third Party prior to the Separation Event (excluding those agreements assigned to Codexis pursuant to the Stock and Asset Purchase Agreement), pursuant to which MUS obtained or obtains a license, with the right to sublicense, of Patent Applications and/or Patents within the Enabling Technology useful in the Codexis Field.

2. LICENSE GRANTS TO CODEXIS

2.1 Grants.

2.1.1 Licenses. Subject to the terms and conditions herein, including without limitation Sections 2.2, 2.4, 2.6, 2.7 and 2.8, MUS hereby grants to Codexis, and Codexis hereby accepts, irrevocable (except as, provided in Sections 9.4.1, 12.2, 12.3 and 12.4), worldwide, royalty-free (subject to Section 2.1.5(b)) licenses, as follows:

(a) with respect to the Enabling Technology and related Know-How:

(i) an exclusive license in Microbes to develop, make, have made, use, import, have imported, offer for sale, sell or otherwise commercialize or distribute Products and corresponding Services in the Codexis Field; and

(ii) a non-exclusive license in Category II Plants to develop, make, have made, use, import, have imported, offer for sale, sell or otherwise commercialize or distribute Products and Services in the Codexis Field; and

(b) with respect to the Enabling Technology and related Know-How, a non-exclusive license to develop, make and use Expression Hosts for Internal Research Use; and

(c) with respect to the Product Technology and related Know-How, an exclusive license to develop, make, have made, use, import, have imported, offer for sale, sell or otherwise commercialize or distribute Products and corresponding Services in the Codexis Field.

2.1.2 Bailment. MUS hereby grants to Codexis, and Codexis hereby accepts, a bailment to non-exclusively use the Materials provided by MUS to Codexis to practice the licenses granted in Section 2.1.1.

2.1.3 Further License Grants. In addition to the licenses granted in Section 2.1.1 above, at such time, if any, that MUS assigns to Codexis the Subject Agreements (as defined below), then, subject to the terms and conditions of this Agreement, MUS shall concurrently grant to Codexis, licenses under the Enabling Technology and related Know-How, and Product Technology and related Know-How, to the extent necessary for Codexis to allow it to perform its contractual obligations existing as of the date of assignment with regard to such Subject Agreements, for the sole purpose of allowing Codexis to perform such contractual obligations under such agreements. For purposes of this Section 2.1.3, the "Subject Agreements" shall mean (i) the Novo Agreement; (ii) the Collaborative Research and Development Agreement entered by Maxygen, Inc. and Technological Resources Pty Limited effective January 19, 2000, (iii) the Research Agreement entered by Maxygen, Inc. and Chevron U.S.A, Inc. effective October 11, 2000, (iv) the Collaborative Agreement entered by Maxygen, Inc. and Hercules Incorporated effective October 31, 2000; (v) the Collaboration Agreement entered by Maxygen, Inc. and Cargill-Dow L.L.C., effective March 19, 2002; (vi) the Research Agreement entered by Maxygen, Inc. and Pfizer, Inc., effective September 13, 2000, as amended prior to the Effective Date of this Agreement; and (vii) the Agreement entered by Maxygen, Inc. and Gist-Brocades B.V., effective March 15, 1999, as amended prior to the Effective Date of this Agreement.

2.1.4 Know-How. All Know-How licensed to Codexis hereunder shall be treated as Confidential Information of MUS subject to Article 6 below.

2.1.5 Third Party Agreements.

(a) Codexis acknowledges that certain Patent

Applications and Patents within the Enabling Technology have been or may be licensed to MUS pursuant to the Third Party Agreement(s), and that the sublicenses granted by MUS to Codexis with respect thereto are subordinate to the terms of any such Third Party Agreement. Codexis further acknowledges that any breach of such terms by Codexis or its Sublicensees may result in damage to MUS and/or other sublicensees of the subject Enabling Technology, which may include, without limitation, loss of license rights to such Enabling Technology and/or monetary damages, and agrees to act reasonably to avoid any breach of such terms.

(b) Codexis further acknowledges that, with respect to Patent Applications and Patents licensed to MUS pursuant to a Third Party Agreement, the sublicense by MUS to Codexis may result in payment obligations to the Third Party for the grant and/or practice of such sublicense to Codexis, and agrees that Codexis shall only receive such a sublicense if it agrees in writing, in a form reasonably acceptable to MUS, to pay any such amounts due for the grant of a sublicense to Codexis or practice of such a sublicense by Codexis or its Sublicensees (which payments, may include milestone payments and/or royalties on product sales), and to otherwise comply with the terms of such Third Party Agreement.

(c) MUS shall promptly notify Codexis of the terms of any such Third Party Agreement as they relate to the licenses granted hereunder to Codexis.

2.2 Limitations on Licenses.

2.2.1 Limited MUS Rights. It is understood and agreed that with respect to any aspect of the Enabling Technology or Product Technology, as the case may be, for which MUS has less than fully exclusive, worldwide rights (i.e., co-exclusive, non-exclusive, limited territorial or otherwise restricted rights) for use in the Codexis Field, the licenses provided in Section 2.1 shall be limited to those rights that MUS Controls and has the right to sublicense to Codexis in the Codexis Field.

2.2.2 No License Rights. Notwithstanding Section 2.1, it is understood and agreed that no license or right is granted with regard to the Enabling Technology or Product Technology, and/or related Know-How and Materials:

(a) to develop, make, have made, use, import, have imported, offer for sale or otherwise commercialize or distribute Products (or Services using such Products):

(i) that are made in Category I Plants; or

(ii) that are intended to enable or facilitate the performance of any method within the Enabling Technology by a Third Party (other than a Sublicensee), whether in the form of an instrument, a kit, or set of materials or reagents, or instruction set, protocol or software, computer program or any other form; or

(b) to make, have made, use, promote, market, distribute and/or

(i) Licensed Products (as defined in the Novo Agreement) within the exclusive licenses granted to Novo Nordisk for use in the Novo Nordisk Field (as defined in the Novo Agreement); or

(ii) any products (including, without limitation, any Products) intended for use in the Detection and Research Reagent Field; or

(c) to conduct ab initio drug Discovery (i.e., discovery or development of novel pharmaceutical products) or otherwise identify or develop potential human or veterinary therapeutic or prophylactic products (e.g., small molecules, proteins (including, without limitation, enzymes) or vaccines); or

(d) to make, have made, sell, distribute and/or otherwise commercialize analogs of any Functional Compound for use in the Discovery of pharmaceutical and/or Agrochemical products; or

(e) to make, have made, sell, distribute and/or otherwise commercialize any organic chemical (including, without limitation, any Product or Functional Compound) or set of organic chemicals to which one or more Building Blocks have been added, in each case, for use in the Discovery of pharmaceutical and/or Agrochemical products; or

(f) to make, have made, use or distribute (by sale, license, lease, placement or otherwise) variant nucleic acids or proteins made with the use of Enabling Technology for: (i) the discovery or identification of the properties of such nucleic acids or proteins (except Enzyme Products and corresponding DNA), (ii) the discovery of ligands, agonists or antagonists of ligands to any such nucleic acids or proteins, (iii) to discover or develop or modify substances for use to cure, treat, prevent or modulate any human or veterinary or plant disease or condition or for production, purification, or formulation of pharmaceuticals, vaccines and/or Agrochemicals, and/or (iv) any use outside the Codexis Field; or

(g) to make, have made, use or distribute (by sale, license, lease, placement or otherwise) of any variant nucleic acids or proteins made with the use of Enabling Technology (except Enzyme Products and corresponding DNA) for the comparative evaluation of the properties of such nucleic acids or proteins or the elucidation of structure-function relationships with respect thereto; or

(h) to make, have made, use or distribute (by sale, license, lease, placement or otherwise) of any variant nucleic acids or proteins made with the use of Enabling Technology (except Enzyme Products and corresponding DNA) for the discovery of ligands, agonists or antagonists of ligands to any such variant nucleic acids or proteins made with the use of Enabling Technology or the elucidation of related structure-function relationships, in each case, to facilitate discovery of pharmaceuticals, vaccines and/or Agrochemicals.

It is understood and agreed that the license granted Codexis herein shall not include any right or license to use Enabling Technology or Product Technology or related Know-How or Materials to modify any Template, Functional Compound or other compound for discovery by Codexis or any Sublicensee of novel pharmaceutical and/or Agrochemical products.

2.2.3 Acknowledgement. Codexis acknowledges and agrees that MUS shall have the right, without violating any term of this Agreement, to grant to Third Parties, including without limitation Affiliates of MUS, licenses under the Enabling Technology, to develop, make, have made, use, import, have imported, and offer for sale Products (and/or Services) for use in fields outside the Codexis Field.

2.3 Right to Sublicense. Codexis (or its successor) may grant sublicenses to the Enabling Technology, Product Technology and related Know-How to such Third Parties as it deems appropriate, but such sublicenses may only grant rights to practice in the Codexis Field; provided, Codexis may not sublicense the rights granted in Section 2.1.1(b) except in connection with a grant of a sublicense of the rights granted it in Section 2.1.1(a). Codexis (or its successor) may grant licenses to the Assigned Patents as it deems appropriate.

2.4 Continued License Rights. Upon the occurrence of the Separation Event:

(a) all licenses granted under this Agreement in effect as of the Separation Event shall remain in effect, subject to the terms and conditions of this Agreement; and

(b) Codexis shall not receive additional license rights to Patent Applications and Patents within Enabling Technology or Product Technology conceived and reduced to practice or otherwise developed after the Separation Event, except with respect to claims of Patent Applications or Patents within the Enabling Technology or Product Technology (as the case may be) for which MUS is entitled to claim filing priority based on another Patent Application or Patent within the Enabling Technology filed on or before the Separation Event. By way of illustration and without limitation, Codexis would be entitled to license rights to a divisional Patent Application (filed after the Separation Event) of a Patent Application within the Enabling Technology filed prior to the Separation Event, but would not have license rights to those claims of a continuation-in-part Patent Application (filed after the Separation Event) of a Patent Application or Patent within the Enabling Technology filed on or before the Separation Event, which claims relate to subject matter conceived and reduced to practice or otherwise developed after the Separation Event.

2.5 Grantback License to Improvements. Codexis shall grant and hereby grants to MUS a non-exclusive, irrevocable, royalty-free, worldwide license, with the right to grant and authorize sublicenses, with respect to all Codexis Improvements for use outside the Codexis Field. With respect to any and all sublicenses granted by Codexis to Enabling Technology or related Know-How on or before the third anniversary of the Separation Event, Codexis shall use reasonable efforts to retain Control of Improvements made by any such Sublicensee sufficient to convey a license as described in the preceding sentence to MUS. Any and all Codexis Improvements may be sublicensed by MUS, in MUS' sole discretion, for use outside the Codexis Field.

2.6 Prohibition on Transfer. Prior to the Separation Event, neither this Agreement nor the licenses granted to Codexis in Section 2.1 may be assigned by merger, operation of law or otherwise, without the prior express written consent of MUS, which MUS may grant or refuse to grant in its sole discretion.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

2.7 Retained Rights.

2.7.1 MUS. Notwithstanding the license grants in Section 2.1, the Parties agree that:

(a) MUS and its wholly-owned Affiliates shall until the Separation Event, retain the right to conduct research with the Enabling Technology and related Know-How in the Codexis Field for the purpose of (i) improving and expanding Enabling Technology, and/or (ii) exploring applications of the Enabling Technology for areas outside the Codexis Field; provided, MUS and its wholly-owned Affiliates shall not use the Enabling Technology for the primary intended purpose of developing any Products or Services for use in the Codexis Field, on its own behalf or on behalf of any Third Party.

(b) At all times during and after this Agreement, nothing herein shall restrict, or be construed to restrict, MUS' right to practice and grant licenses to practice the Enabling Technology and Product Technology and/or use related Know-How, outside the Codexis Field. It is understood and agreed that, at all times, MUS shall retain (i) the right (sublicensable to its Affiliates) to internally use the Enabling Technology, Product Technology and related Know-How to discover, develop and commercialize novel pharmaceutical and/or agrochemical products by any means, which may include, without limitation, the development of Building Blocks, the addition of Building Blocks to Templates and/or analoging of Functional Compounds, and (ii) the sublicensable right to make and/or have made, use, import, have imported, offer for sale and/or sell any such products.

2.7.2 Codexis. Except as expressly set forth in this Agreement, nothing herein shall limit the ability of Codexis to use any other intellectual property, tangible property or technology developed by it or acquired by it (by license, acquisition or otherwise) for any purpose, in or outside the Codexis Field.

2.8 Third Party Rights. Codexis hereby acknowledges that MUS has informed Codexis prior to the Effective Date that:

2.8.1 In connection with the initial establishment of MUS, in theGlaxo Agreement MUS has granted perpetual, worldwide, non-exclusive licenses to certain entities associated with Glaxo Wellcome to use certain Enabling Technology for internal research purposes only (the "Glaxo Rights"), and Codexis hereby agrees that the rights and licenses granted Codexis in Section 2.1 are subject to the Glaxo Rights.

2.8.2 Prior to the Effective Date, MUS has granted to Third Parties licenses to certain Enabling Technology and related Know-How in fields outside the Codexis Field, and that after the Effective Date, MUS may grant licenses under the Enabling Technology and related Know-How to other Third Parties (including, without limitation, other Affiliates of MUS) for use outside the Codexis Field.

2.8.3 Novo Nordisk has granted to MUS a co-exclusive, worldwide license to certain Patent Applications and Patents within the Enabling Technology to make, have made and use products (including, without limitation, Products) for the development and commercialization of products for the cure, treatment, mitigation and prevention of human or animal diseases.

2.8.4 MUS has granted to Novo Nordisk in the Novo Agreement exclusive rights to use Enabling Technology to make or have made Licensed Products for use in the Novo Nordisk Field and the Preferred Areas (as such terms are defined in the Novo Agreement).

2.8.5 MUS intends to use Enabling Technology itself and/or to grant to one or more other Third Parties rights to use Enabling Technology to discover novel pharmaceutical and/or Agrochemical products, and to develop, make, have made, use and commercialize such products.

2.9 Delivery. Promptly following the Effective Date, at Codexis' written request, MUS shall, to the extent that these are in MUS' possession and MUS Controls the same, deliver to Codexis (a) documents (in electronic or hard copy format) embodying Know-How, as agreed by the Parties, and (b) samples of any Materials necessary to allow Codexis to establish initial stocks of the same, provided, in each case, MUS shall have no on-going obligation to deliver further Know-How or Materials, unless otherwise agreed in writing by the Parties.

2.10 Improvements. Until the third anniversary of the Separation Event, Codexis and MUS shall each annually notify the other of any Patent Applications or Patents claiming one or more Improvements which such Party owns or Controls, and provide to the other Party copies of any of the foregoing which have not been previously provided to such other Party.

2.11 No Implied Rights. No rights, options or licenses with respect to any intellectual property owned by Maxygen or Codexis are granted or will be deemed granted under this Agreement or in connection with it, other than those rights expressly granted in this Agreement.

2.12 U.S. Rights. Codexis acknowledges that certain of the inventions claimed in the Patent Applications and Patents within the Enabling Technology and/or the Product Technology have been made with funds provided by the U.S. Government, and that with respect thereto the U.S. government retains a non-exclusive license as set forth in 35 U.S.C. §202. At Codexis' written request, MUS will provide to Codexis a list of the Patent Applications and Patents that, to the best of MUS' then-current knowledge, claim inventions made with funds provided by the U.S. Government. In addition, Codexis acknowledges that 35 U.S.C. §200 et seq. sets forth additional obligations with regard to inventions made with U.S. government funds and products based thereon, including, without limitation, a preference for manufacture in the United States pursuant to 35 U.S.C. §204.

3. ASSIGNMENT TO CODEXIS; LICENSE TO MUS

3.1 Assignment. The Parties acknowledge that MUS has assigned to Codexis certain Patent Applications and Patents in the Assignment Agreement.

3.2 License to MUS. In partial consideration for the rights granted herein, Codexis shall grant and hereby grants, and MUS hereby accepts, a non-exclusive, irrevocable (unless in the case of Patent Applications and Patents within the scope of Section 1.4(b), prohibited by the applicable Third Party Agreement), royalty-free (subject to Section 3.3)

worldwide license under the Assigned Patents, with the right to grant and authorize sublicenses to licensees of the Enabling Technology and Product Technology, to develop, make, have made, use, import, have imported, offer for sale, sell or otherwise commercialize or distribute Products and Services solely outside the Codexis Field.

3.3 Third Party Agreements.

3.3.1 MUS acknowledges that certain Patent Applications and Patents within the Assigned Patents have been or may be licensed to Codexis pursuant to the Third Party Agreement(s), and that the sublicenses granted by Codexis to MUS with respect thereto are subordinate to the terms of any such Third Party agreement. MUS further acknowledges that any breach of such terms by MUS or its sublicensees may result in damage to Codexis and/or other sublicensees of the subject Assigned Patents, which may include, without limitation, loss of license rights to such Assigned Patents and/or monetary damages, and agrees to act reasonably to avoid any breach of such terms.

3.3.2 MUS further acknowledges that, with respect to Patent Applications and Patents licensed to Codexis pursuant to a Third Party agreement, the sublicense by Codexis to MUS may result in payment obligations to the Third Party for the grant and/or practice of such sublicense to MUS, and agrees that MUS shall only receive such a sublicense if it agrees in writing, in a form reasonably acceptable to Codexis, to pay any such amounts due for the grant of a sublicense to MUS or practice of such a sublicense by MUS or its sublicensees (which payments, may include milestone payments and/or royalties on product sales), and to otherwise comply with the terms of such Third Party agreement.

3.3.3 Codexis shall promptly notify MUS of the terms of any such Third Party agreement as they relate to the licenses granted hereunder to MUS.

4. COVENANTS

4.1 Use Within the Codexis Field. Codexis covenants that it will not knowingly practice its licenses to the Enabling Technology and related Know-How, or its licenses to the Product Technology and related Know-How, for the purpose of developing or commercializing Products or Services for use outside the Codexis Field.

4.2 Use Outside the Codexis Field. MUS covenants that it will not knowingly use its retained rights with regard to the Enabling Technology or the Product Technology, or knowingly practice its license to Codexis Improvements (if any), for the purpose of developing or commercializing Products or Services for use in the Codexis Field; provided that such covenants shall be subject to Section 2.7.1 and further provided that such covenants shall terminate with regard to any Patent Applications and/or Patents for which Codexis' license terminates pursuant to Sections 9.4.1, 12.2, 12.3 and/or 12.4 below.

5. CONSIDERATION. In partial consideration for the rights granted hereunder, Codexis shall issue to MUS one million (1,000,000) shares of Common Stock and six million (6,000,000) shares of Series A Preferred Stock of Codexis pursuant to the Stock Issuance and Asset Contribution Agreement by and between MUS and Codexis of even date hereof.

6. CONFIDENTIALITY

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

6.1 Confidential Information. Except as expressly provided herein, the Parties agree that, for the term of this Agreement and for five (5) years thereafter, each Party shall keep completely confidential and shall not publish, permit access to or otherwise disclose and shall not use for any purpose except to practice the rights granted in Article 2 or as expressly permitted in this Article 6, any Confidential Information furnished to such Party by the disclosing Party hereto pursuant to this Agreement, except to the extent that it can be established by the receiving Party by competent proof that such Confidential Information:

(a) was already known to the receiving Party, other than under an obligation of confidentiality, at the time of initial disclosure hereunder;

(b) was generally available to the public or otherwise part of the public domain at the time of its initial disclosure to the Receiving Party hereunder;

(c) became generally available to the public or otherwise part of the public domain after its disclosure hereunder and other than through any act of commission or omission of the receiving Party in breach of this Agreement;

(d) was independently developed by the receiving Party without reference to any information or materials disclosed by or on behalf of the disclosing Party, as demonstrated by contemporaneous documentation; or

(e) was subsequently disclosed to the receiving Party by a Third Party without breach of any legal obligation to the disclosing Party.

6.2 Permitted Disclosures. Each Party may disclose the other Party's Confidential Information, to the extent such disclosure is reasonably necessary in filing or prosecuting Patent Applications within the Enabling Technology and/or Product Technology, prosecuting or defending litigation, complying with applicable laws or regulations or otherwise submitting information to tax or other Government Authorities (including, without limitation, in filings with the U.S. Food & Drug Administration, U.S. Environmental Protection Agency, U.S. Department of Agriculture and/or similar foreign regulatory entities), conducting clinical or field trials, or making a permitted sublicense or otherwise exercising its rights hereunder; provided, after the Separation Event, Codexis may not use Confidential Information received from MUS in connection with filing or prosecuting Patent Applications without MUS' prior written consent. Each time a Party is required to disclose, or in the exercise of its rights hereunder, makes any disclosure of the other Party's Confidential Information, other than pursuant to a confidentiality agreement with confidentiality and non-disclosure obligations at least as restrictive as those set forth in this Agreement, such Party will give reasonable advance notice to such other Party of such contemplated disclosure and, save to the extent inappropriate in the case of Patent Applications, will use reasonable efforts to secure confidential treatment of such information of the other Party prior to each such disclosure (whether through protective orders or otherwise).

6.3 Duty of Care. Each Party agrees (a) to keep in confidence and trust all of the other Party's Confidential Information received by it, (b) not to use Confidential Information of the other Party other than as expressly permitted under the terms of this Agreement or any other agreement between the Parties, (c) to take reasonable steps to prevent unauthorized disclosure or use of the other Party's Confidential Information, and to prevent it from falling into the public domain or the possession of unauthorized persons, and (d) to disclose

the Confidential Information only to those persons who need access to the Confidential Information for purposes of the Party carrying out its business as contemplated herein and, except as permitted under Section 6.4, only to those persons who have executed a confidentiality agreement with confidentiality and non-disclosure obligations at least as restrictive as those set forth in this Agreement that protects the other Party's Confidential Information.

6.4 Terms. Except as expressly provided in this Agreement, each Party agrees not to disclose any terms of this Agreement to any Third Party without the written consent of the other Party; provided, disclosures may be made to: (i) its wholly-owned Affiliates; (ii) professional advisors, potential or actual, licensees or sublicensees, acquirors, acquirees or business partners, in each case, so long as they are bound by obligations requiring reasonable precautions be taken to protect the confidentiality and prevent misuse of such information; and/or (iii) the extent required to comply with applicable laws and regulations.

7. REPRESENTATIONS AND WARRANTIES

7.1 MUS. MUS represents and warrants, as of the Effective Date, that:

7.1.1 it has the right to enter this Agreement, has the power and authority to execute and deliver this Agreement and to perform its obligations hereunder, and that the execution, delivery, and performance by MUS of this Agreement, except as otherwise disclosed to Codexis in writing prior to the Effective Date, will not conflict with or result in any breach of, or constitute a default under, any security agreement, commitment, contract, or other agreement, instrument or undertaking to which MUS is a party;

7.1.2 MUS owns or Controls the Enabling Technology and the Product Technology;

7.1.3 to the best of its knowledge, except as previously disclosed to Codexis in writing prior to the Effective Date, it has not received a claim from a Third Party alleging that the practice of the Enabling Technology or the Product Technology in the Codexis Field would infringe any patent, copyright, or other intellectual property right of a Third Party; and

7.1.4 it will not during the term of this Agreement violate the covenant in Section 4.2.

7.2 Codexis. Codexis represents and warrants, that:

7.2.1 as of the Effective Date, that it has the right to enter this Agreement, has the power and authority to execute and deliver this Agreement and to perform its obligations hereunder, and that the execution, delivery, and performance by Codexis of this Agreement will not conflict with or result in any breach of, or constitute a default under, any security agreement, commitment, contract, or other agreement, instrument or undertaking to which Codexis is a party; and

7.2.2 it will not during the term of this Agreement violate the covenant in Section 4.1.

7.3 Disclaimers. Nothing in this Agreement shall be construed as:

(a) a representation or warranty of either Party as to the validity or scope or enforceability of any Patent Application or Patent licensed under this Agreement;

(b) a representation or warranty of either Party that any Product or Service developed, made, used, sold or marketed or otherwise commercially exploited under any license granted in this Agreement is or will be free from infringement of Patents of Third Parties;

(c) a requirement that either Party file any Patent Application, secure any Patent, or maintain any Patent in force; or

(d) an obligation to bring or prosecute any actions or suits against Third Parties for patent infringement of any Patent licensed under this Agreement.

7.4 No Warranty. Except as expressly provided in this Article 7, THE ENABLING TECHNOLOGY, PRODUCT TECHNOLOGY, KNOW-HOW AND MATERIALS ARE LICENSED TO CODEXIS "AS IS". EXCEPT AS OTHERWISE EXPRESSLY SET FORTH IN THIS ARTICLE 7, MUS SPECIFICALLY DISCLAIMS ALL WARRANTIES, STATUTORY, EXPRESS OR IMPLIED, OR ARISING FROM A COURSE OF DEALING OR USAGE OF TRADE, WITH REGARD TO THE ENABLING TECHNOLOGY, KNOW-HOW, MATERIALS, IMPROVEMENTS, PRODUCTS AND/OR THE PRODUCT TECHNOLOGY, INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT OF ANY INTELLECTUAL PROPERTY RIGHTS OF A THIRD PARTY.

7.5 Limitation of Liability. NEITHER PARTY SHALL BE LIABLE FOR ANY LOST REVENUES OR PROFITS OF ANY PERSON OR ENTITY OR ANY OTHER INCIDENTAL, SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES ARISING OUT OF OR IN CONNECTION WITH THIS AGREEMENT, EVEN IF SUCH PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

8. RIGHT OF NEGOTIATION

8.1 Right of Negotiation. Codexis hereby grants to MUS until the Separation Event a first right of negotiation with regard to any Enzyme Libraries and/or Products developed by Codexis or its Sublicensees as a result of the use or practice of the Enabling Technology and/or related Know-How that have application(s) outside the Codexis Field. Until the Separation Event, Codexis shall notify MUS of such Enzyme Libraries and/or Products prior to their respective first commercial use or sale and, at the request of MUS, the Parties will negotiate in good faith the terms of a license to MUS (or an entity that is then a MUS Affiliate) for the development and commercialization of such Enzyme Library or Product outside the Codexis Field.

8.2 No Agreement. Notwithstanding Section 8.1, if the Parties are unable to reach agreement on the terms of a license within one hundred twenty (120) days of the

commencement of such negotiations for the applicable Enzyme Library or Product, Codexis shall have no obligation to grant to MUS or any MUS Affiliate a license with regard to such Enzyme Library or Product.

9. PATENT PROSECUTION

9.1 Enabling Technology.

9.1.1 Intent. The Parties recognize that it is their shared goal to obtain the broadest patent coverage available with regard to the Enabling Technology, consistent with the goal of obtaining patents that are valid and enforceable as against Third Parties. The Parties recognize the value and importance of coordinating the Patent Prosecution (as defined in Section 9.1.2) of Patent Applications and Patents within the Enabling Technology and of MUS' knowledge, prior experience and expertise with the Patent Prosecution of the Enabling Technology. Codexis acknowledges that there will be multiple licensees of the Enabling Technology and that MUS has the responsibility to determine how to best conduct Patent Prosecution of the Patents within the Enabling Technology for the benefit of all licensees, including Third Parties other than Codexis, and Codexis further acknowledges that such responsibility may affect MUS' determination whether to undertake a particular act or elect not to undertake any particular action in connection with the Patent Prosecution of a particular Patent Application and/or Patent within the Enabling Technology in any particular instance.

9.1.2 Rights. MUS (or its designee) shall have the right, but not the obligation, to prepare, file and prosecute patent applications within the Enabling Technology and to conduct any interferences, oppositions, re-examinations, reissues or similar proceedings, with respect thereto, and to maintain any patents resulting from the foregoing activities ("Patent Prosecution"). MUS shall keep Codexis reasonably informed with respect to such Patent Prosecution activities, and Codexis may consult with MUS and provide advice to MUS regarding such Patent Prosecution activities, but MUS shall have the right to take such acts in connection therewith as MUS, in its sole discretion, deems appropriate.

9.1.3 Sharing of Prosecution Costs. In partial consideration for the grant of the licenses granted in Section 2.1, Codexis shall pay to MUS amounts for Prosecution Costs incurred after the Effective Date in connection with the activities described in Section 9.1.2 as set forth on **Exhibit E** hereto.

9.1.4 Opt Out by MUS. If MUS does not wish to conduct Patent Prosecution with regard to any Patent Application or Patent within the Enabling Technology in a particular country, and believes that the conduct of such activities will not have a material adverse effect on other patent applications and/or patents within the Enabling Technology, and no Third Party has the right to prosecute the applicable Patent Application or Patent, MUS shall notify Codexis (and any other licensees of such Patent Application or Patent) that Codexis (together with any other interested licensees thereof) may conduct such Patent Prosecution, in MUS' name. Within thirty (30) days after the date of such notice, Codexis shall notify MUS whether or not Codexis wishes to participate in the conduct of such Patent Prosecution activities in the applicable country(ies) with regard to the applicable Patent Application or Patent. In such event, (i) the prosecuting entity(ies) (i.e., Codexis and any other interested licensees of the Enabling Technology) shall keep MUS fully informed of all actions and decisions made in connection with such Patent Prosecution (including, without limitation, by promptly providing

MUS with copies of all correspondence sent to or received from any patent office), (ii) MUS shall have the right to consult and provide advice with respect to such Patent Prosecution activities, and (iii) Codexis and such other prosecuting entities shall be solely responsible for paying the Prosecution Costs for such activities. It is understood and agreed that if MUS believes that the Patent Prosecution of a particular patent application or patent could have a material adverse effect on other patent applications or patents within the Enabling Technology (e.g., due to issues relating to double patenting) that MUS shall have the right to decline to allow Codexis and Third Parties to conduct Patent Prosecution with respect to the subject Patent Application or Patent.

9.1.5 Opt Out By Codexis.

(a) In the event that Codexis does not wish to retain its license rights under this Agreement to any Patent Application or Patent within the Enabling Technology or Product Technology in any country, it shall have the right to terminate its license to such Patent Application and/or Patent with one hundred and twenty (120) days prior written notice to MUS identifying the specific Patent Application(s) and/or Patent(s) (by country or, as applicable, multinational jurisdiction) to which it wishes to relinquish its license. In any such event, as of the effective date of such termination, Codexis' license to the applicable Patent Applications and Patents shall terminate, shall not be entitled to further consultation and/or information rights as described in Sections 9.1.2 and 9.1.6, with regard to such Patent Applications and/or Patents, and Codexis shall have no obligation to pay Prosecution Costs incurred after the effective date of termination with respect to the applicable Patent Application and/or Patent. Codexis shall remain obligated to pay its share of any Patent Prosecution expenses incurred prior to the applicable effective date of termination.

(b) If MUS wishes to continue to conduct Patent Prosecution with respect to any Patent Application or Patent to which Codexis has relinquished its rights pursuant to Section 9.1.5(a), MUS may do so, at its own expense and in its own name. In any such case, Codexis shall provide MUS with a power of attorney to the extent necessary to conduct such activities.

9.1.6 Information. If Codexis conducts or otherwise participates in any Patent Prosecution activities pursuant to Section 9.1.4, Codexis shall keep MUS fully informed as to the status of such patent matters, including, without limitation, by providing MUS a reasonable opportunity to review and comment on any documents relating to the applicable Patent Application or Patent which will be filed in any patent office before such filing, and promptly providing to MUS copies of any material documents relating to applicable Patent Applications or Patents which are received from such patent offices, including notice, without limitation, of all interferences, reissues, reexaminations, oppositions or requests for patent term extensions.

9.2 Product Technology.

9.2.1 Rights. Codexis shall have the initial right, but not the obligation, to conduct Patent Prosecution of Patent Applications and Patents within the Product Technology exclusively licensed to it, unless such Patent Applications and Patents claim methods and/or compositions that have substantial, commercially valuable applications outside

the Codexis Field, in which case, MUS shall have the initial right but not the obligation to conduct Patent Prosecution of such Patent Applications and Patents.

9.2.2 Sharing of Prosecution Costs. Codexis shall be responsible for all Prosecution Costs in connection with Patent Prosecution activities described in Section 9.2.1 conducted by or under authority of Codexis. If MUS conducts the Patent Prosecution activities described in Section 9.2.1 with regard to any Patent Applications and Patents that are Product Technology, Codexis shall pay to MUS fifty percent (50%) of the Prosecution Costs incurred by MUS after the Effective Date in connection with such activities. Such amounts will be paid to MUS (or its designee) within forty-five (45) days of an invoice therefore.

9.2.3 Opt Out.

(a) By MUS. If MUS has the right to conduct Patent Prosecution with regard to any Patent Application or Patent in any particular country or, if applicable, multinational jurisdiction, pursuant to this Section 9.2, but does not wish to conduct such activities with regard to any Patent Application or Patent within such country or multinational jurisdiction, as the case may be, it shall notify Codexis (and any other licensees of such Patent Application or Patent), and subject to any Third Party right to prosecute the applicable Patent Application or Patent that was granted prior to the Effective Date, Codexis (and the other licensees) may thereafter notify MUS that such entities wish to conduct such Patent Prosecution activities in the applicable country(ies) with regard to the applicable Patent Application or Patent in MUS' name. In such event, (i) the prosecuting entity(ies) shall keep MUS fully informed of all actions and decisions made in connection with such Patent Prosecution (including, without limitation, by promptly providing MUS with copies of all correspondence sent to or received from any patent office), (ii) MUS shall have the right to consult and provide advice with respect to such Patent Prosecution activities, and Codexis and such Third Parties shall be solely responsible for paying the Prosecution Costs thereof.

(b) By Codexis. If Codexis has the right to conduct Patent Prosecution with regard to any Patent Application or Patent in any particular country or, if applicable, multinational jurisdiction, pursuant to this Section 9.2, but does not wish to conduct such activities with regard to any Patent Application or Patent within such country or multinational jurisdiction, as the case may be, it shall notify MUS (and any other licensees of such Patent Application or Patent), and subject to any Third Party right to prosecute the applicable Patent Application or Patent that was granted prior to the Effective Date, MUS (and the other licensees) may thereafter notify Codexis that such entities wish to conduct such Patent Prosecution activities in the applicable country(ies) with regard to the applicable Patent Application or Patent, and MUS and such Third Parties shall be solely responsible for paying the Prosecution Costs thereof. In such event, Codexis shall have no further license rights under this Agreement with regard to the applicable Patent Applications and/or Patents, shall not be entitled to further consultation and/or information rights as described in Section 9.2.4, with regard to such Patent Applications and/or Patents, and shall have no obligation to pay Prosecution Costs incurred after the effective date of termination with respect to the applicable Patent Application and/or Patent. Codexis shall remain obligated to pay its share of any Patent Prosecution expenses incurred prior to the applicable effective date of termination.

9.2.4 Information. The Party conducting Patent Prosecution activities pursuant to this Section 9.2 shall keep the other Party fully informed as to the status of

such patent matters, including, without limitation, by providing the other Party a reasonable opportunity, to review and comment on any documents relating to the applicable Patent Application or Patent which will be filed in any patent office before such filing, and promptly providing the other Party copies of any material documents relating to applicable Patent Applications or Patents which the Party conducting such activities receives from such patent offices, including notice, without limitation, of all interferences, reissues, reexaminations, oppositions or requests for patent term extensions.

9.3 Payments; Interest. All payments due to MUS under this Article 9 shall be paid in U.S. dollars by wire transfer in immediately available funds to a bank account designated by MUS. Any payment or portion thereof that is not paid on the date such payments are due under this Agreement shall bear interest at the lesser of (i) the prime rate as reported by the J.P. Morgan Chase & Co., New York, New York (or its successor) on the date such payment is due, plus an additional two percent (2%), or (ii) the maximum rate permitted by law, in each case, per annum calculated from the first date such payment is delinquent to the date such payment is actually made. This Section 9.3 shall in no way limit any other remedies available for late payment.

9.4 Jointly Owned Patent Applications and Patents.

9.4.1 Joint Activities. If any invention is jointly owned by the Parties (each a "Joint Invention"), the Parties will (except as the Parties may otherwise agree in writing) cooperate to file, prosecute and maintain Patent Applications covering invention(s) jointly owned by the Parties in the United States, the United Kingdom, France and Germany (e.g., through a European Patent Convention application) and Japan (collectively, the "Core Countries") and other countries or multinational jurisdictions agreed upon in writing by the Parties. The Parties shall agree which Party shall be responsible for conducting such activities with respect to a particular Joint Invention. The Party conducting such activities shall keep the other Party fully informed as to the status of such patent matters, including, without limitation, by providing the other Party a reasonable opportunity, to review and comment on any documents relating to the Joint Invention which will be filed in any patent office before such filing, and promptly providing the other Party copies of any material documents relating to Joint Invention which the Party conducting such activities receives from such patent offices, including notice, without limitation, of all interferences, reissues, reexaminations, oppositions or requests for patent term extensions. Subject to Sections 9.4.2, the Parties will share equally all expenses and fees associated with the filing, prosecution, issuance and maintenance of any Patent Application and resulting Patent for a Joint Invention in the Core Countries and other agreed countries or multinational jurisdictions.

9.4.2 Opt Out. In the event that either Party wishes to seek Patent protection with respect to any Joint Invention outside the Core Countries, it shall notify the other Party hereto. If both Parties wish to seek Patent protection with respect to such Joint Invention in such country or countries, activities shall be subject to Section 9.4.1. If only one Party wishes to seek Patent protection with respect to such Joint Invention in such country or countries, it may conduct Patent Prosecution activities with respect to such Patent Applications and Patents, at its own expense and in its own name. In any such case, the Party declining to participate in such Patent Prosecution activities shall provide the Party that is conducting such activities with a power of attorney to the extent necessary to conduct such activities.

9.5 Improvements. With regard to any Patent Application claiming one or more Improvements, the owner(s) of such Patent Application (or its designee) shall have the exclusive right, but not the obligation, to conduct Patent Prosecution of Patent Applications and Patents, as such owner(s) deem appropriate, at its (their) sole expense, unless such Patent Application claims a Joint Invention, in which event it shall be subject to Section 9.4.

9.6 Separation Event. Within sixty (60) days following the Separation Event, MUS shall provide to Codexis with a written list of all Patent Applications and Patents within the Enabling Technology as of the Separation Event, and Codexis shall provide to MUS a written list of all Patent Applications and Patents within the Codexis Improvements as of the Separation Event. Within thirty (30) days following each of the first three (3) annual anniversaries of the Separation Event, Codexis shall update its written list of Patent Applications and Patents within the Codexis Improvements.

9.7 Common Interest. MUS and Codexis acknowledge that in the course of conducting the activities described in Articles 9 and 10 of this Agreement, the Parties may discuss information related to Patent Applications and Patents and other intellectual property rights of the Parties and their Affiliates and/or of Third Parties, and/or conduct by Third Parties that may constitute infringement of one or more of the patents licensed under this Agreement, and the Parties may wish to review documents and information of the other Party that is protected by the attorney-client privilege and/or the attorney work-product doctrine, and agree that disclosure of such documents and information, in confidence, will further the mutual interests of the Parties. Accordingly, the Parties agree that a community of interest exists between MUS and Codexis as to these matters and therefore the disclosure of privileged information in the conduct of activities pursuant to Articles 9 and 10 of this Agreement shall not constitute a waiver of any such privilege. Each Party will treat all such information received from the other Party under this Agreement that is marked, by the Party to which the privilege runs, as "Confidential" or "Privileged" or "Attorney Work Product," or in a similar manner to reasonably indicate its protected and confidential nature, and will take precautions to preserve the confidentiality and privilege of said information as if it were its own privileged information or attorney work product.

10. PATENT ENFORCEMENT ACTIONS

10.1 Infringement. If Codexis becomes aware of any actual or potential infringement of any Enabling Technology or Product Technology, or if MUS becomes aware of any actual or potential infringement of any Enabling Technology or Product Technology in the Codexis Field or any declaratory judgment action or similar proceeding with respect to any Patent within the Enabling Technology or Product Technology, then such Party shall promptly notify the other Party in writing of such actual or potential infringement or proceeding, providing an explanation of the basis of its conclusion.

10.2 Enabling Technology.

10.2.1 Intent. The Parties recognize that it is their shared goal to maintain the broadest patent coverage available with regard to the Enabling Technology, consistent with the goal of obtaining patents that are valid and enforceable as against Third Parties. The Parties recognize the value and importance of coordinating the enforcement of Patent Applications and Patents within the Enabling Technology and of MUS' knowledge, prior

experience and expertise with the Patent Prosecution and enforcement of Patent Rights. Codexis hereby acknowledges that there will be multiple licensees of the Enabling Technology and that MUS has the responsibility to determine how to best enforce and defend the Patents within the Enabling Technology for the benefit of all licensees, including Third Parties other than Codexis, and Codexis further acknowledges that such responsibility may affect MUS' determination whether to enforce particular Patent Applications and Patents within the Enabling Technology in any particular instance.

10.2.2 MUS. As between MUS and Codexis, MUS shall have the initial right, but not the obligation, to enforce and/or defend in any declaratory judgment or similar action, the Patents within Enabling Technology both in and outside of the Codexis Field, except as provided in Section 10.4. Codexis acknowledges that (i) certain patents within the Enabling Technology are and will be owned by Third Parties and, that in some cases, such Third Parties may have retained or may retain the first right, or the sole right to enforce such patents, and (ii) prior to the Effective Date, MUS has granted to Third Parties rights to conduct or participate in the enforcement and/or defense of Patent Applications and/or Patents within the Enabling Technology owned by MUS. In connection with any action brought or defended by MUS pursuant to this Section 10.2.2, MUS shall be responsible for its costs incurred in connection with such actions or proceedings and may retain any recovery obtained in connection therewith.

10.2.3 Codexis. If MUS elects not to pursue an infringement by any Third Party with respect to a patent within the Enabling Technology, and Codexis believes that such infringement would have a material adverse impact on Codexis' exercise of its rights or practice of its license in the Codexis Field, Codexis may, with notice to MUS, request the right to enforce specific patents within the Enabling Technology against such infringement. Any such request shall contain a detailed factual explanation of (i) the specific patent(s) it believes are/have been infringed, (ii) the basis for its belief that infringement has occurred, and (iii) the material adverse impact(s) that it believes such infringement will/has caused Codexis. MUS shall have one hundred and eighty (180) days from its receipt of the foregoing explanation (and such other information as MUS may reasonably request) to notify Codexis whether it intends to commence an enforcement action against such Third Party. Codexis shall have the right (subject to the consent of owner of the applicable patents if these are not owned by MUS, and subject to any rights granted to a Third Party prior to the Effective Date) to enforce the relevant patents within the Enabling Technology against the Third Party identified by Codexis in the Codexis Field, unless within such one hundred and eighty (180) day period, (A) MUS initiates and diligently pursues steps to abate the alleged such infringement, or (B) MUS notifies Codexis that MUS believes that such enforcement may have a material adverse impact on MUS or one or more other licensees of the Enabling Technology, or (C) MUS notifies Codexis that it disagrees with Codexis' factual conclusions provided in its notice described above, in which event the matter shall be submitted to a neutral expert for prompt determination, with the expenses of such neutral assessment being shared equally by MUS and Codexis. In the event that Codexis enforces the applicable patent, MUS agrees to cooperate in connection with such action, including by joinder as a party, if required by applicable law. If Codexis enforces the applicable patent, then Codexis shall pay all costs of conducting any such action, and any recovery shall be allocated as agreed by the Parties.

10.3 Product Technology.

10.3.1 Infringement in the Codexis Field.

(a) So long as it retains an exclusive license to the applicable Patent within the Product Technology and such Patent has applications only in the Codexis Field, Codexis shall have the first right but not the obligation to enforce Patents within the Product Technology against any infringements by Third Parties in the Codexis Field and defend any declaratory judgment action. If Codexis fails to initiate a suit to enforce such patent in any jurisdiction against a commercially significant infringement in the Codexis Field within one (1) year of a request by MUS to do so, MUS may initiate suit against such infringement, at its expense. In such event, Codexis agrees to join in such action, if required by applicable law.

(b) If Codexis does not have an exclusive license to the applicable Patent, and/or if such Patent claims inventions having one or more applications outside the Codexis Field, then MUS shall have the first right, but not the obligation, to enforce patents within the Product Technology against any infringements by Third Parties in the Codexis Field and defend any declaratory judgment action with respect thereto. If MUS fails to initiate a suit to enforce such patent in any jurisdiction against a commercially significant infringement in the MUS Field within one (1) year of a request by Codexis to do so, Codexis may initiate suit against such infringement, at its expense. In such event, MUS agrees to join in such action, if required by applicable law.

(c) Notwithstanding Section 10.3.1(b), Codexis acknowledges that (i) certain patents within the Product Technology are and will be owned by Third Parties and, that in some cases, such Third Parties may have retained or may retain the first right, or the sole right to enforce such patents, and (ii) prior to the Effective Date, MUS has granted to Third Parties rights to conduct or participate in the enforcement and/or defense of Patent Applications and/or Patents within the Product Technology owned by MUS.

10.3.2 Infringement Outside the Codexis Field. MUS (or its designee) shall have the right but not the obligation to pursue infringement of Patents within the Product Technology outside the Codexis Field, but shall consult with Codexis before commencing any such suit.

10.3.3 Recoveries. Any recovery by such Party received as a result of any such claim, suit or proceeding brought pursuant to this Section 10.3 shall be used first to reimburse the Party(ies) for all expenses (including attorneys and professional fees) incurred in connection with such claim, suit or proceeding. The remainder shall be divided as follows: (a) in any suit relating primarily to infringement in the Codexis Field, seventy percent (70%) to the Party initiating the suit, and thirty percent (30%) to the other Party, and (b) in any suit primarily relating to infringement outside the Codexis Field, as may be agreed by the Parties in writing.

10.4 Jointly Owned Technology. In the event that any patent that is jointly owned by MUS and Codexis is infringed by a Third Party, Codexis and MUS shall discuss whether, and, if so, how, to enforce or defend such jointly owned Patent in an infringement action, declaratory judgment or other proceeding. In the event only one Party wishes to participate in such proceeding, it shall have the right to proceed alone, at its expense, and may retain any recovery.

10.5 Improvements. The owner of any Patent claiming an Improvement (or its designee) shall have the exclusive right, but not the obligation, to defend and enforce such Patent, at its expense, except as the Parties may otherwise agree in writing.

10.6 General.

10.6.1 Cooperation. In connection with any such claim, suit or proceeding subject to Sections 10.2, 10.3 and/or 10.4, the Parties shall cooperate with each other and shall keep each other reasonably informed of all material developments in connection with any such claim, suit or proceeding. At the request and expense of the Party initiating any such claim, suit or proceeding, the other Party agrees to cooperate and join in any such claim, suit or proceeding in the event that under applicable law the other Party is necessary or indispensable to such proceedings or such joinder of such Party is otherwise required by applicable law; provided, however, MUS shall not be obligated to participate as a party or otherwise in any proceeding in which MUS would be in an adversarial relationship with any Maxygen Affiliate or another entity which is a licensee of the Enabling Technology.

10.6.2 Settlements; Admissions. Neither Party shall enter into any settlement agreement with any Third Party that would conflict with rights granted to the other Party under this Agreement without the prior written consent of such affected Party, which consent shall not be unreasonably withheld. Neither Party shall enter into any agreement that makes any admission regarding (i) wrongdoing on the part of the other Party, or (ii) the validity/invalidity, enforceability/unenforceability or infringement/absence of infringement of any Patents licensed hereunder, without the prior written consent of the other Party, which consent shall not be unreasonably withheld.

10.7 Infringement Claims.

10.7.1 Notice; Cooperation. If any claim, suit or proceeding is commenced alleging patent infringement against MUS or Codexis due to the manufacture, use, sale, offer for sale or importation of a Product or provision of a Service, such Party shall promptly notify the other Party hereto. The Parties shall cooperate reasonably with each other in connection with any such claim, suit or proceeding and shall keep each other reasonably informed of all material developments in connection with any such claim, suit or proceeding.

10.7.2 MUS Responsibility. If such claim, suit or proceeding subject to this Section 10.7 is based solely on an allegation that the practice of the Enabling Technology infringed a patent owned by a Third Party, then MUS shall have the right and responsibility to conduct the defense of such action, and shall pay the costs of defense of any such action, unless Codexis knew or should have known (through the conduct of reasonable patent and/or literature searches and/or other customary inquiries) of the existence of the enforced Third Party patent prior to the conduct of the allegedly infringing acts.

10.7.3 Codexis Responsibility. If any claim, suit or proceeding subject to this Section 10.7 is not based solely on an allegation that the practice of the Enabling Technology infringed a patent owned by a Third Party, then Codexis shall have the right and responsibility to conduct the defense of such action, and shall pay the costs of defense of any such action.

11. INDEMNIFICATION

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

11.1 Indemnification by Codexis.

11.1.1 Indemnity Obligation. Codexis agrees to indemnify and hold harmless MUS, and its Affiliates (and with respect to Enabling Technology licensed to MUS by a Third Party, such Third Party) and their respective officers, directors, employees and agents (each a "MUS Indemnitee") from and against all actions, claims, losses, liabilities, costs and expenses (including, without limitation, reasonable attorneys' and expert fees and costs of litigation) and/or judgments finally awarded and/or entered by a court of competent jurisdiction and/or any amounts paid in settlement that any MUS Indemnitee may suffer as a result of any Third Party claims, demands, actions or other proceedings arising out of or in connection with: (i) any practice by Codexis or its Sublicensees of the licenses and rights granted herein to Codexis to the Enabling Technology, Product Technology, Know-How and/or Materials, except as expressly set forth in Section 10.7.2; and/or (ii) any breach of Codexis' representations and warranties in Section 7.2; and/or (iii) any acts (whether of omission or commission) by Codexis and/or its Sublicensees, relating to the development, manufacture, importation, use, offer for sale, sale and/or other commercial exploitation of any products or services (including, without limitation, Products or Services), including, without limitation, product liability and environmental claims, except, in each case, to the extent due to the negligence or willful misconduct of MUS.

11.1.2 Procedure. If MUS intends to claim indemnification under Section 11.1.1, MUS shall promptly notify Codexis in writing of any claim in respect of any MUS Indemnitee for indemnification, and, except as otherwise expressly provided in this Agreement, Codexis shall have control of the defense and/or settlement thereof using counsel reasonably acceptable to MUS. However, if MUS believes that due to potential conflicts of interest between MUS and Codexis representation of MUS by Codexis' counsel would be inappropriate (e.g., due to issues relating to the field or scope of the rights licensed to Codexis in this Agreement, and rights licensed to another entity), MUS may select separate counsel and Codexis shall be responsible for the costs of such representation of MUS. Under all other circumstances, MUS may, in its sole discretion, participate in any such proceeding with separate counsel of its choice, at its own expense. The foregoing indemnity obligation shall not apply to amounts paid by MUS in settlement of any claim if such settlement is effected by MUS without the consent of Codexis, which consent shall not be withheld unreasonably. At Codexis' request and expense, MUS and its employees and agents shall provide reasonable cooperation to Codexis and its legal representatives in the investigation of and preparation for the defense against any action, claim or liability covered by this indemnification. The Indemnitor shall not enter into any settlement or consent to an adverse judgment in any such claim, demand, action or other proceeding that admits wrongdoing on the part of the other Party or its officers, directors, employees and agents, or which imposes additional obligations on the other Party, without the prior express written consent of the other Party, which consent shall not be unreasonably withheld or delayed.

11.2 Indemnification by MUS.

11.2.1 Indemnity Obligation. MUS agrees to indemnify and hold harmless Codexis, and its Affiliates and their respective officers, directors, employees and agents (each a "Codexis Indemnitee") from and against all actions, claims, losses, liabilities, costs and expenses (including, without limitation, reasonable attorneys' and expert fees and costs of litigation) and/or judgments finally awarded and/or entered by a court of competent jurisdiction

and/or any amounts paid in settlement that any Codexis Indemnitee may suffer as a result of any Third Party claims, demands, actions or other proceedings arising out of or in connection with: (i) any practice by Codexis or its licensees of the licenses and rights granted herein to Codexis with regard to the Enabling Technology, to the extent set forth in Section 10.7.2; and/or (ii) any breach of MUS' representations and warranties in Section 7.1, and/or (iii) any practice by MUS of the licenses and rights granted MUS to the Codexis Improvements and Assigned Patents, except, in each case, to the extent due to the negligence or willful misconduct of Codexis.

11.2.2 Procedure. If Codexis intends to claim indemnification under Section 11.2.1, Codexis shall promptly notify MUS in writing of any claim in respect of any Codexis Indemnitee claim for such indemnification, and, except as otherwise expressly provided in this Agreement, MUS shall have control of the defense and/or settlement thereof using counsel reasonably acceptable to Codexis. Under all other circumstances, Codexis may, in its sole discretion, participate in any such proceeding with separate counsel of its choice, at its own expense. The foregoing indemnity obligation shall not apply to amounts paid by Codexis in settlement of any claim if such settlement is effected by Codexis without the consent of MUS, which consent shall not be withheld unreasonably. At MUS' request and expense, Codexis and its employees and agents shall provide reasonable cooperation to MUS and its legal representatives in the investigation of and preparation for the defense against any action, claim or liability covered by this indemnification. The Indemnitor shall not enter into any settlement or consent to an adverse judgment in any such claim, demand, action or other proceeding that admits wrongdoing on the part of the other Party or its officers, directors, employees and agents, or which imposes additional obligations on the other Party, without the prior express written consent of the other Party, which consent shall not be unreasonably withheld or delayed.

12. TERMINATION

12.1 Term. This Agreement shall be effective as of the Effective Date and, unless terminated earlier as provided in this Article 12 or as otherwise agreed by the Parties in writing, shall remain in force and effect until the expiration of the last to expire patent within the Enabling Technology and/or the Product Technology. Thereafter, Codexis shall retain a non-exclusive, royalty-free license to the Know-How and Materials transferred by MUS to Codexis for fifty (50) years following the termination or expiration of this Agreement.

12.2 Termination on Business Cessession. Prior to the Separation Event, (i) in the event of a dissolution or liquidation of Codexis, (ii) upon the institution by Codexis of insolvency, receivership or bankruptcy proceedings or any other proceedings for the settlement of debts, (ii) upon the institution of such proceedings against Codexis, which are not dismissed without prejudice or otherwise resolved in Codexis' favor within sixty (60) days thereafter, (upon Codexis' making a general assignment for the benefit of its creditors, or (iv) in the event that a substantial portion of Codexis' assets or the conduct of Codexis' business shall be substantially encumbered by extraordinary governmental action or by operation of law, MUS may in any of the foregoing circumstances, at its option and in its sole discretion, terminate this Agreement, effective immediately upon giving written notice of termination to Codexis.

12.3 Termination for Failure to Pay Patent Prosecution Expenses. If Codexis fails to timely pay amounts due with respect to Patent Prosecution of any particular Patent Application or Patent owned by MUS more than three times in any three (3) year period, MUS shall have the right with one hundred and eighty (180) days notice to Codexis, to terminate

Codexis' license to such Patent Application or Patent (the "Subject Patent Application or Patent") and all other Patent Applications and Patents licensed to Codexis hereunder in the same Patent family (i.e., that claim filing priority to the same Patent Application(s) or Patent(s) as the Subject Patent Application or Patent).

12.4 Breach of a Third Party Agreement. If Codexis breaches the terms of any Third Party agreement pursuant to which it has license or sublicense rights hereunder, whether by failure to timely pay amounts due under such agreement or otherwise, and after notice from the licensor or MUS of such breach fails to cure such breach within the period for cure provided in the applicable agreement, then MUS shall have the right with thirty (30) days notice to Codexis, to terminate Codexis' license or sublicense, as the case may be, granted hereunder to all Patent Applications and Patents, Know-How and/or Materials covered by such agreement.

12.5 Effect of Termination.

12.5.1 Rights and Obligations. Termination of this Agreement for any reason shall not release any Party hereto from any liability that, at the time of such termination, has already accrued or that is attributable to a period prior to such termination nor preclude either Party from pursuing all rights and remedies it may have hereunder or at law or in equity with respect to any breach of this Agreement.

12.5.2 Licenses. In the event of any termination of this Agreement pursuant to Section 12.2, Codexis' license(s) shall terminate concurrently.

12.6 Survival. The provisions of Sections 2.5, 2.6, 2.7, 2.11, 3.1, 3.2, 3.3, 7.5, 9.4, 10.7, 12.5 and 12.6, and Articles 4, 6, 11, 13 and 14 shall survive the expiration or termination of this Agreement for any reason.

13. DISPUTE RESOLUTION

13.1 Mediation. If a dispute arises out of or relates to this Agreement, or the breach thereof, and if the dispute cannot be settled through negotiation, the Parties agree first to try in good faith to settle the dispute by mediation before resorting legal action.

13.2 Jurisdiction; Venue. All disputes arising out of this Agreement (except any dispute relating to the infringement, validity or enforceability of any patent subject to this Agreement) shall be subject to the exclusive jurisdiction and venue of the California state courts of San Mateo County (or, if there is federal jurisdiction, the United States District Court for the Northern District of California), and the Parties hereby irrevocably consent to the personal jurisdiction of and venue in such courts.

13.3 Legal Expenses. The prevailing Party (if any is determined by the finder of fact) in any legal action brought by one Party against the other shall be entitled, in addition to any other rights and remedies it may have, to reimbursement for its expenses incurred thereby, including court costs and reasonable attorneys' and expert fees and expenses.

14. MISCELLANEOUS

14.1 Governing Law. This Agreement (and any dispute relating to its construction, performance and/or breach) shall be governed by the laws of the State of California, without reference to conflicts of laws principles of that State or of any other jurisdiction.

14.2 Notices. Any notice provided under this Agreement by one Party to the other Party shall be in writing and shall be deemed to have been effectively given (i) upon receipt when delivered personally, (ii) one day after sending when sent by internationally recognized express mail service (such as Federal Express or DHL), or (iii) five (5) days after sending when sent by regular mail, and in each case sent to the other Party at its address indicated below:

In the case of MUS:

Maxygen, Inc.
515 Galveston Drive
Redwood City, CA 94063
Attn: General Counsel

In the case of Codexis:

Codexis, Inc.
515 Galveston Drive
Redwood City, CA 94063
Attn: President

or to such other address as MUS or Codexis shall have last designated to the other by written notice in accordance with this Section 14.2.

14.3 Independent Contractors. This Agreement does not create or imply a principal agent, employer, employee, partnership, joint venture, or any other relationship except that of independent contractors between the Parties, and neither Party shall have any right, power or authority to create any obligation, express or implied, on behalf of the other in connection with the performance hereunder.

14.4 Non-Waiver. The failure or delay of either Party at any time to require performance by the other Party of any provision hereof shall not affect in any way, or act as a waiver of, the right to require such other Party to perform in accordance with this Agreement at any other time, nor shall the waiver of either Party of a breach of a provision of this Agreement be held or taken to be a waiver of the provision itself or any previous or subsequent breach thereof. No waiver shall be binding unless in writing.

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14.5 Severability: Partial Invalidity. If any provision of this Agreement is held to be invalid in whole or in part by a court of competent jurisdiction, then the remaining provisions shall remain, nevertheless, in full force and effect. The Parties agree to renegotiate in good faith any provision held invalid and to be bound by the mutually agreed substitute provision in order to give the most approximate effect originally intended by the Parties.

14.6 Assignment. Prior to a Separation Event, Codexis may not assign this Agreement or any of its rights nor delegate or transfer any of its obligations hereunder without the prior express written consent of MUS, which consent MUS shall not be obligated to give. After a Separation Event, Codexis may upon notice to MUS assign this Agreement to a Third Party in connection with a merger, sale of all or substantially all of its assets, or other corporate reorganization of Codexis. MUS may assign this Agreement and its rights and obligations under this Agreement, without restriction. Any purported assignment not expressly permitted by this Section 14.6 shall be null and void. Subject to the above restrictions, this Agreement shall inure to the benefit of and bind the successors and assigns of the Parties.

14.7 Export Control. In exercising its rights under this Agreement, each Party agrees to comply strictly and fully with all export controls imposed, by any country or organization or nations within whose jurisdiction the Party operates or does business. Each Party agrees not to export or permit exportation of any software products or any related technical data or any direct product of any related technical data, related to or serving as a component of the Products, without complying with the export control laws in the relevant jurisdiction. In particular, the Parties acknowledge that they are subject to United States laws and regulations controlling the export of products or technical information. Codexis agrees that it will not export, directly or indirectly, any technical information acquired under this Agreement or any Products using such technical information to any country for which the United States government or agency thereof at the time of export requires an export license or other governmental approval, without first obtaining the written consent to do so from the Department of Commerce or other agency of the United States government when required by an applicable statute or regulation.

14.8 Further Assurances. At any time or from time to time on and after the date of this Agreement, either Party shall at the request of the other Party (i) deliver to the requesting Party such records, data or other documents consistent with the provisions of this Agreement, (ii) execute, and deliver or cause to be delivered, all such consents, documents or further instruments of assignment, transfer or license, and (iii) take or cause to be taken all such actions, as the requesting Party may reasonably deem necessary or desirable in order for the requesting Party to obtain the full benefits of this Agreement and the transactions contemplated hereby.

14.9 Force Maieure. Neither Party shall lose any rights hereunder or be liable to the other Party for damages or losses (except for payment obligations) on account of failure of performance by the defaulting Party if the failure is occasioned by war, strike, fire, act of terrorism, Act of God, earthquake, flood, lockout, embargo, governmental acts or orders or restrictions, failure of suppliers (including, without limitation, energy suppliers), or any other reason where failure to perform is beyond the reasonable control and not caused by the negligence, intentional conduct or misconduct of the nonperforming Party and the nonperforming Party has exerted reasonable efforts to avoid or remedy such force majeure; provided, however, that in no event shall a Party be required to settle any labor dispute or disturbance.

14.10 No Implied Rights. Only the rights granted pursuant to the express terms of this Agreement shall be of any legal force or effect. No other rights shall be created by implication, estoppel or otherwise.

14.11 No Third Party Rights. This Agreement has been entered for the benefit of the Parties and, except as expressly set forth herein or as otherwise may be agreed in writing by the Parties, is not intended to benefit any Third Party.

14.12 Entire Agreement; Modification. This Agreement, including its Exhibits which are incorporated by reference herein, together with the Services Agreement, Patent Assignment Agreement, Trademark Agreement and Stock Issuance and Asset Contribution Agreement, contains the Parties' entire understanding with respect to the subject matter hereof. There are no promises, covenants or undertakings, oral or written, other than those set forth herein with respect to the subject matter hereof, and neither Party is relying upon any representations or warranties except as set forth herein. This Agreement may not be modified except by a writing signed by both Parties.

14.13 Headings. The captions to the several Sections and Articles hereof are not a part of this Agreement, but are included merely for convenience of reference only and shall not affect its meaning or interpretation.

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the Effective Date.

MAXYGEN, INC.

By: /s/ Russell J. Howard
Name: Russell J. Howard
Title: CEO

CODEXIS, INC.

By: /s/ Alan Shaw
Name: Alan Shaw
Title: President

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EXHIBIT A

DETECTION AND RESEARCH REAGENT FIELD

"Detection and Research Reagent Field" means making, having made, using, and selling of reagents, instruments, and services for the diagnostics and research supply markets, only as follows: (1) clinical and diagnostic tests, including those conducted to identify genetic disease predisposition, genetic or other disease conditions, and infectious or pathogenic agents, as well as those conducted for other medical, agricultural or veterinary purposes; (2) tests for analytical/bioanalytical purposes, including those conducted for biomedical, chemical, or medical research or treatment purposes, for environmental purposes, and for forensic purposes, including paternity, maternity, or identity tests; and (3) sequencing and sequence analysis of nucleic acids or other biological polymers for any purpose.

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EXHIBIT B

ENABLING TECHNOLOGY

Case No.	*Sub Case*	*Country*	*Appl. No.*	*Title*

[*]

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EXHIBIT C

EXCLUDED TECHNOLOGY

Case No.	*Sub Case*	*Country*	*Appl. No.*	*Title*

[*]

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EXHIBIT D

CODEXIS PRODUCT TECHNOLOGY

Case No.	*Sub Case*	*Country*	*Appl. No.*	*Title*

[*]

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EXHIBIT E

PROSECUTION COSTS FOR ENABLING TECHNOLOGY

In partial consideration for the grant of the licenses granted in Section 2.1 of the Agreement, Codexis shall pay to MUS twenty percent (20%) of the Prosecution Costs incurred after the Effective Date with regard to Enabling Technology. However, during the period until the fourth anniversary of the Effective Date, such payments to MUS shall not exceed the amounts below:

	Maximum Prosecution Costs for Enabling Technology
First 12 months after Effective Date	$575,000
Next 12 months after Effective Date	$625,000
Next 12 months after Effective Date	$675,000
Next 12 months after Effective Date	$750,000

The applicable amounts will be paid to MUS (or its designee) within forty-five (45) days of an invoice therefor.

Prior to the fourth anniversary of the Effective Date, Codexis and MUS shall negotiate and agree in writing on the amounts Codexis will pay to MUS for Prosecution Costs with regard to the Enabling Technology after the fourth anniversary of the Effective Date. However, unless otherwise agreed by Codexis and MUS, in any calendar year such payments shall not exceed the aggregate amount due to MUS for Prosecution Costs for Enabling Technology for the 12 month period from the third anniversary of the Effective Date until the fourth anniversary of the Effective Date.

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AMENDED AND RESTATED COLLABORATIVE RESEARCH AGREEMENT

THIS AMENDED AND RESTATED COLLABORATIVE RESEARCH AGREEMENT, together with exhibits and schedules attached hereto, (the "**Amended and Restated Research Agreement**" or the "**Agreement**") is entered into as of the Execution Date and effective as of November 1, 2006 (the "**Effective Date**"), by and between **Equilon Enterprises LLC dba Shell Oil Products US**, a Delaware limited liability company, having a place of business at 910 Louisiana Street, Houston, Texas 77002 ("**Shell**"), and **Codexis, Inc.**, a Delaware corporation, having a place of business at 200 Penobscot Drive, Redwood City, California 94063 ("**Codexis**"). Shell and Codexis may each be referred to herein individually as a "**Party**" or, collectively, as the "**Parties**."

RECITALS

WHEREAS, Codexis possesses certain valuable business and/or technical knowledge, information and/or expertise applicable to the enhancement of the performance of certain enzymatically catalyzed processes.

WHEREAS, Shell and Codexis entered into a certain Collaborative Research Agreement, effective as of November 1, 2006, as amended, pursuant to which Codexis has agreed to work exclusively with Shell in the Field of Use (as defined below) to develop certain new biocatalytic processes for use in the conversion of biomass to fuels and/or fuel additives and/or lubricants.

WHEREAS, the Parties desire to amend and restate such Collaborative Research Agreement to revise the scope of, and increase the resources devoted to, the collaboration between the Parties, all on the terms and conditions set forth below.

NOW, THEREFORE, in consideration of the promises and undertakings set forth herein, the Parties agree as follows:

ARTICLE 1

DEFINITIONS

Capitalized terms not otherwise defined herein will have the meaning set forth below:

1.1 "Acquired Technology" has the meaning set forth in Section 7.1.

1.2 "Affiliate" means,

(a) with respect to Codexis, any business entity controlling, controlled by, or under common control with Codexis. For the purpose of this Section 1.2(a) only, "control" means (i) the possession, directly or indirectly, of the power to direct the management or policies of a business entity, whether through the ownership of voting securities, by contract or otherwise, or (ii) the ownership, directly or indirectly, of at least fifty percent (50%) of the voting securities

or other ownership interest of a business entity; provided that, if local law requires a minimum percentage of local ownership, control will be established by direct or indirect beneficial ownership of one hundred percent (100%) of the maximum ownership percentage that may, under such local law, be owned by foreign interests; and

(b) with respect to Shell, Royal Dutch Shell plc and any company (other than Shell) which is from time to time directly or indirectly affiliated with Royal Dutch Shell plc. For the purpose of this Section 1.2(b) only, a particular company is (i) directly affiliated with another company or companies if that latter company beneficially owns or those latter companies together beneficially own fifty per cent or more of the voting rights attached to the ownership interest of the particular company; and (ii) is indirectly affiliated with company or companies if a series of companies can be specified, beginning with that latter company or companies and ending with the first mentioned company, so related that each company of the series (except the latter company or companies) is directly affiliated with one or more of the companies earlier in the series.

1.3 "Amended and Restated License Agreement" means the Amended and Restated License Agreement entered into by Shell and Codexis on the Execution Date and effective as of the Effective Date.

1.4 "Biocatalyst" means an enzyme or a Microbe that can enzymatically catalyze a particular chemical reaction, and which enzyme or Microbe arose out of the Program.

1.5 "Biomass" means organic, non-fossil, plant-derived matter available on a renewable basis, including, for example, crops and/or trees grown or harvested for use for fuel and/or fuel additive production, agricultural food and feed crops, aquatic plants and, in each case, organic wastes derived from the foregoing, including municipal wastes (e.g., newspapers).

1.6 "Codexis Technology" means (a) the Shuffling Technology and any improvements to the Shuffling Technology developed by employees of or consultants to Shell and/or employees of or consultants to Codexis in performance of the Program; and (b) any other Technology that is or was (i) developed by employees of or consultants to Codexis, alone or jointly with Third Parties, prior to or during the Term outside the scope of activities described in any Research Plan; or (ii) acquired during the Term by purchase, license, assignment or other means from Third Parties by Codexis, in each of case (b)(i) and (b)(ii), introduced by Codexis into the activities to be conducted under any Research Plan.

1.7 "Confidential Information" means any and all non-public and proprietary Information that is specifically designated as such and that is disclosed by either Party to the other in written or other similar form in connection with this Amended and Restated Research Agreement and that, if orally or visually disclosed, shall be summarized in writing in detail and specifically designated as proprietary and such summary delivered to the receiving Party within thirty (30) days after such disclosure.

1.8 "Contract Year" means a year beginning on the Effective Date, or an anniversary of the Effective Date during the Term, and ending one (1) year after such respective date.

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1.9 "Control" means, with respect to an item, Information, Patent Right or an intellectual property right, possession of the ability, whether arising by ownership or license or otherwise, to grant a license or sublicense as provided for herein under such item, Information, Patent Right or right without violating the terms of any written agreement with a Third Party.

1.10 "Execution Date" means November 1, 2007.

1.11 "Field of Use" means the conversion of (a) Biomass into fermentable sugars, such sugars to be converted into (i) liquid fuel and/or liquid fuel additives and/or (ii) Lubricants, and (b) fermentable sugars derived from Biomass into (i) liquid fuel and/or liquid fuel additives, and/or (ii) Lubricants. For purposes of this Section 1.11 only, (1) "liquid" means a substance that is a liquid at a temperature of twenty-five (25) degrees Celsius under atmospheric pressure, and (2) "fuel additive" means a substance which is added to fuel to modify the characteristics of such fuel, including, for example, biodegradability, combustibility, viscosity, performance and/or emissions profile. For avoidance of doubt the "Field of Use" shall not include any material obtained from Biomass that is used as an ingredient in human food or animal feed products.

1.12 "FTE" means the efforts of one or more employees of Codexis equivalent to the efforts of one Codexis full time employee (i.e., an employee that works at least one thousand seven hundred sixty (1760) hours per year).

1.13 "Information" means data, results, evaluations, inventories, Microbes, show-how, know-how, computer chip and programs, processes, machines, biological chemicals, intermediates, trade secrets, techniques, methods, developments, materials, methods of analysis, compositions of matter, copyrights or other information.

1.14 "Lubricant" means materials compounded or blended from ingredients that are used primarily for lubrication of motor vehicles or mobile or stationary machinery or equipment, including engine oils, power steering fluids, transmission fluids, brake fluids, gear oils, shock absorber fluids, industrial fluids, process oils, metalworking oils, cutting oils, electrical oils, hydraulic oils, railroad oils, refrigerator oils, aircraft turbine, aircraft hydraulic and aircraft engine oils, food grade oils, turbine oils, greases and by-products of compound blending such as line wash, line clippings, cut oil and off-specification grease.

1.15 "Microbes" means whole (live or dead) prokaryotic organisms and/or yeasts and/or fungi or extracts thereof. Microbes shall not include land plants, including nonseed plants (Bryophytes, Tracheophytes) such as liverworts, mosses, ferns, and seed plants, such as gymnosperms and angiosperms (monocot and dicots); and/or non-land plants, including Prasinophytes, Chlorophyceae, Trebouxiouphyceae, Ulvophyceae, Chlorokybales, Streptophyta, Klebsormidiales, Zygnematales, Charales, Coleochaetales and Embryophytes.

1.16 "Oversight Committee" has the meaning set forth in Section 2.3(a).

1.17 "Patent Rights" means all patent applications and patents, whether domestic or foreign, covering patentable inventions within the Codexis Technology, the Shell Technology and the Program Technology, as applicable, all continuations, continuations-in-part and divisions of such patent applications and of patent applications from which such patents issued, all patents

issuing from any of such patent applications, and all renewals, reissues, re-examinations and extensions of any of such patents.

1.18 "Program" means the program of activities conducted by Codexis and/or Shell pursuant to this Amended and Restated Research Agreement, as further described in the Research Plans.

1.19 "Program Technology" means Technology (other than Codexis Technology and/or Shell Technology) either (a) developed by employees of or consultants to Shell and/or employees of or consultants to Codexis during the Term in the course of activities described in the Research Plans; or (b) acquired during the Term by purchase, license, assignment or other means from Third Parties by Codexis and/or Shell for the purpose of the Research Plans.

1.20 "Research Committee" has the meaning set forth in Section 2.2(a).

1.21 "Research Plan" means a written plan to be agreed upon by the Parties describing activities to be carried out in connection with each work stream, which plan may be amended from time to time by agreement between the Parties. Each Research Plan, and any amendment thereto, shall be attached to this Amended and Restated Research Agreement as a schedule to Exhibit 1.21.

1.22 "Series D Stock Purchase Agreement" has the meaning set forth in Section 3.5(a).

1.23 "Series E Stock Purchase Agreement" has the meaning set forth in Section 3.5(b).

1.24 "Shell Technology" means any Technology that is or was (a) developed by employees of or consultants to Shell or an Affiliate of Shell, alone or jointly with Third Parties, prior to or during the Term outside the scope of activities described in any Research Plan; or (b) acquired during the Term by purchase, license, assignment or other means from Third Parties by Shell or an Affiliate of Shell, in each of case (a) or (b), introduced by Shell into the activities to be conducted under any Research Plan.

1.25 "Shuffling" means the characterization, development and optimization of genes and proteins for commercial uses through the recombination and/or rearrangement and/or mutation of genetic material for the creation of genetic diversity.

1.26 "Shuffling Technology" means any and all techniques, methodologies, processes, materials and/or instrumentation Controlled by Codexis, including without limitation any and all patent rights, know-how, confidential information and materials relating thereto, that, in each case, relates to Shuffling, and generally applicable screening techniques, methodologies, or processes of using the resulting genetic material to identify potential usefulness.

1.27 "Technology" means and includes all materials, technology, technical information, intellectual property, know-how, expertise and trade secrets related to the Field of Use.

1.28 "Term" has the meaning set forth in Section 11.1.

1.29 "Third Party" means any party other than Codexis, Shell or Affiliates of either Party.

1.30 "Warrant Agreement" has the meaning set forth in Section 8.2.

1.31 "Year Four Goal(s)" shall have the meaning set forth in Section 2.8(c).

1.32 "Year One Final Milestone" shall mean the achievement of the criteria set forth on Exhibit 1.32.

1.33 "Year Six Goal(s)" shall have the meaning set forth in Section 2.8(d).

ARTICLE 2

PROGRAM ACTIVITIES

2.1 Purpose. Codexis and Shell shall conduct the Program during the Term. The objective of the Program is to utilize Shuffling Technology to conduct research, and to discover and develop Biocatalysts, and associated processes for the use of such Biocatalysts, in the Field of Use, all as described in further detail in the Research Plans.

2.2 Research Committee.

(a) Function. Shell and Codexis shall establish a Research Committee (the "**Research Committee**") to:

(i) review the Research Plans as proposed by the Parties pursuant to Section 2.7, and to make recommendations to the Oversight Committee with respect to such proposed Research Plans;

(ii) review and evaluate progress under the Research Plans;

(iii) amend the Research Plans, as appropriate;

(iv) review annual milestones for activities to be carried out under each Research Plan by the Parties as defined and pursuant to Section 2.8(b), and to make recommendations to the Oversight Committee with respect to such proposed Milestones;

(v) review the Year Four Goal(s) proposed by the Parties pursuant to Section 2.8(c), and to make recommendations to the Oversight Committee with respect to such proposed Year Four Goal(s) on or before the May 1, 2009;

(vi) review the Year Six Goal(s) proposed by the Parties pursuant to Section 2.8(d), and to make recommendations to the Oversight Committee with respect to such proposed Year Six Goal(s) on or before May 1, 2010;

(vii) make recommendations to the Oversight Committee with respect to whether Milestones for the activities to be carried out under each Research Plan, the Year Four Goal(s) and the Year Six Goal(s) have been achieved;

(viii) coordinate and monitor publication of research results obtained from, and the exchange of Information that relates to, the Program;

(ix) review and, if appropriate, investigate through appointment of a patent subcommittee or otherwise, at the election of the Research Committee, any issues that either Party may raise with respect to intellectual property rights of any Third Party directly relevant to the activities under the Research Plans and to make recommendations to the Parties regarding the appropriate action, if any, with respect thereto, including, for example, a recommendation to obtain a license from a Third Party. For purposes of clarification, each Party shall notify the other Party, through the Research Committee, of any and all intellectual property of a Third Party which the notifying Party believes is directly relevant to the activities under the Research Plans which such Party becomes aware during the Term; and

(x) provide a written meeting discussion summary to the Oversight Committee of each meeting of the Research Committee within ten (10) business days after each such meeting.

(b) Membership. Shell and Codexis each, in its sole discretion, shall appoint three (3) members to the Research Committee and shall provide written notice to the other Party of the names and contact information of such three (3) members within five (5) days after the Effective Date. Each Party may appoint substitutes for its members at any time, such substitution to be effective immediately upon providing the name and contact information of such substitute to the other Party's representatives on the Research Committee.

(c) Chair. The Research Committee shall be chaired by two (2) co-chairpersons, one appointed by Shell and one appointed by Codexis.

(d) Meetings. The Research Committee shall meet at least quarterly, at places and on dates selected in turn by each Party. Representatives of Shell or Codexis or both, in addition to members of the Research Committee, may attend such meetings at the invitation of either Party.

(e) Minutes. The Research Committee shall keep accurate written minutes of its deliberations that record all proposed decisions and all actions recommended or taken. Drafts of the minutes shall be delivered to all Research Committee members within ten (10) business days after each such meeting. The Party hosting the meeting shall be responsible for the preparation and circulation of the draft minutes. Draft minutes shall be edited within ten (10) business days after reception of the draft minutes by the co-chairpersons and shall be issued in final form only after each chairperson provides their respective approval and agreement. A final copy of the minutes shall be issued no later than thirty (30) business days after each respective meeting.

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(f) Decisions.

(i) Decision Making Process of the Research Committee. All decisions of the Research Committee shall be made by unanimous vote or written consent, as indicated by both co-chairpersons of the Research Committee signing the final written minutes thereof. Codexis representatives collectively shall have one (1) vote and Shell representatives collectively shall have one (1) vote; provided, however, that in the case of a deadlock where unanimity has not been reached, the final decision with respect to matters concerning technical aspects within the scope of an approved Research Plan shall be made by Codexis; provided further, that the scope and goal(s) of such Research Plan, including (A) the annual Milestone(s) for such Research Plan, the Year Four Goal and the Year Six Goal, and (B) whether such Milestone(s), Year Four Goal and Year Six Goal have been achieved, shall never be considered "technical aspects." If a disagreement among members of the Research Committee with respect to matters other than "technical aspects" remains unresolved for more than thirty (30) business days after the Research Committee first addresses such matter (or such longer period as the Parties may mutually agree upon), such disagreement shall be submitted to the Oversight Committee for resolution. Notwithstanding anything to the contrary, the Research Committee shall have no authority to alter, modify or amend any of the rights and obligations of the Parties set forth under this Amended and Restated Research Agreement.

(ii) Decision Making Process if the Research Committee is Disbanded. If the Research Committee is disbanded pursuant to Section 2.2(h), then after such disbanding, decisions formerly within the jurisdiction of the Research Committee shall be submitted to the Oversight Committee for resolution. If the Oversight Committee has been disbanded pursuant to Section 2.3(h), then decisions shall be submitted to senior executive officers of each Party having authority to make decisions in such matters as designated by each Party in a written notice to the other Party (**"Executives"**), subject to the decision making processes and principles set forth in Section 2.3(f)(i) as if Section 2.3(f)(i) applied to decisions to be made by such Executives.

(g) Expenses. Shell and Codexis shall each bear all expenses of their respective members related to their participation on the Research Committee.

(h) Disbanding of the Research Committee. The Parties shall have the right to disband the Research Committee upon mutual agreement. Failure to agree to disband the Research Committee shall not constitute a breach of this Agreement, nor trigger the Dispute Resolution process as described in Section 12.7. The Research Committee shall be automatically disbanded upon the expiration or termination of the Agreement as set forth in Article 11.

2.3 Oversight Committee.

(a) Function. Shell and Codexis shall establish an Oversight Committee (the "**Oversight Committee**") to:

(i) set priorities for the Parties' performance under the Program;

(ii) review summaries of meetings and other reports of the Research Committee;

(iii) review and approve recommendations from the Research Committee with respect to the Milestones for the activities to be carried out for each Research Plan, the Year Four Goal(s) and the Year Six Goal(s), and to approve such Milestones;

(iv) determine whether Milestones for the activities to be carried out under each Research Plan, the Year Four Goal(s) and the Year Six Goal(s) have been achieved;

(v) review, provide comment on, and approve Research Plans;

(vi) review the activities and obligations of the Parties and the Research Committee under this Agreement;

(vii) resolve any disputes or disagreements submitted to it by the Research Committee, and, if applicable, submit disputes or disagreements that it does not resolve within the time provided in Section 2.3(f)(i) to designated Executives of the Parties, as further described in Section 2.3(f)(i);

(viii) review all material data arising in the course of activities conducted pursuant to this Amended and Restated Research Agreement by either Party;

(ix) appoint subcommittees as it deems appropriate for carrying out the Program; and

(x) perform such other functions as appropriate to further the purposes of this Amended and Restated Research Agreement as determined by the Parties, including without limitation the periodic evaluation of performance against goals.

(b) Membership. Shell and Codexis each, in its sole discretion, shall appoint three (3) members to the Oversight Committee and shall provide written notice to the other Party of the names and contact information of all such members within five (5) days after the Execution Date. Each Party may appoint substitutes for its members at any time, such substitution to be effective immediately upon providing the name and contact information of such substitute to the other Party's representatives on the Oversight Committee.

(c) Chair. The Oversight Committee shall be chaired by two (2) co-chairpersons, one appointed by Shell and one appointed by Codexis.

(d) Meetings. The Oversight Committee shall meet at least bi-annually, at places and on dates selected in turn by each Party. Representatives of Shell or Codexis or both, in addition to members of the Oversight Committee, may attend such meetings at the invitation of either Party.

(e) Minutes. The Oversight Committee shall keep accurate written minutes of its deliberations that record all proposed decisions and all actions recommended or taken. Drafts

of the minutes shall be delivered to all Oversight Committee members within ten (10) business days after each meeting. The Party hosting the meeting shall be responsible for the preparation and circulation of the draft minutes. Draft minutes shall be edited by the co-chairpersons and shall be issued in final form only after each chairperson provides their respective approval and agreement. A final copy of the minutes shall be issued within thirty (30) business days after each respective meeting.

(f) Decisions.

(i) Decision Making Process of the Oversight Committee. All decisions of the Oversight Committee shall be made by unanimous vote or written consent, as indicated by the co-chairpersons of the Oversight Committee signing the written minutes thereof, with Codexis representatives collectively having one (1) vote and Shell representatives collectively having one (1) vote; provided, however, that in the case of a deadlock where unanimity has not been reached, the final decisions shall be made by Shell except with respect to (A) the approval or modification of the annual Milestone(s) for each Research Plan, the Year Four Goal(s) or the Year Six Goal(s), (B) the approval or amendment of any Research Plan, (C) the determination as to whether Milestones for the activities to be carried out under each Research Plan, the Year Four Goal(s) or the Year Six Goal(s) have been achieved, (D) the acquisition of Third Party rights pursuant to Section 7.1, (E) the determination to have any party that is a Third Party as of the Execution Date participate in the activities to be conducted under the Program, (F) the introduction of Third Party Information into the Program, or (G) any decision that has a reasonable likelihood of having a material adverse impact on Codexis' business as conducted at the time of such decision or as contemplated to be conducted at the time of such decision. Notwithstanding anything to the contrary, except with respect to the approval of the Research Plans, the annual milestones for the activities carried out under each Research Plan, the Year Four Goal(s), the Year Six Goal(s), and any amendments to any of the foregoing, the Oversight Committee shall have no authority to alter, modify or amend any of the rights and obligations of the Parties set forth under this Amended and Restated Research Agreement. If the Oversight Committee is unable to resolve any dispute, controversy, or claim with respect to items (A) – (G) above in this Section 2.3(f)(i) within thirty (30) days after it first addresses such matter (or such longer period as the Parties may mutually agree upon), then the dispute shall be referred to Executives of each Party. For purposes of clarification, all matters related to "technical aspects" of an approved Research Plan shall be resolved in accordance with Section 2.2(f)(i).

(ii) Decision Making Process If the Oversight Committee is Disbanded. If the Oversight Committee is disbanded by mutual agreement of the Parties prior to the expiration or termination of the Agreement pursuant to Section 2.3(h), then after such disbanding, decisions formerly within the jurisdiction of the Oversight Committee shall be submitted for resolution by designated Executives of each Party, subject to the decision making processes and principles set forth in Section 2.3(f)(i) as if Section 2.3(f)(i) applied to decisions to be made by such Executives.

(g) Expenses. Shell and Codexis shall each bear all expenses of their respective members related to their participation on the Oversight Committee.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

(h) Disbanding of the Oversight Committee. The Parties shall have the right to disband the Oversight Committee upon mutual agreement. Failure to agree to disband the Oversight Committee shall not constitute a breach of this Agreement, nor trigger any Dispute Resolution process as described in Section 12.7. Additionally, the Oversight Committee shall be disbanded automatically upon the expiration or termination of the Agreement as set forth in Article 11.

2.4 Reports and Materials.

(a) Reports.

(i) During the Term, each Party shall provide to the Research Committee:

(1) summary written reports within thirty (30) days after the end of each three (3) month period commencing on the Effective Date, describing such Party's work and progress, if any, under the Research Plans;

(2) annual executive summaries within thirty (30) days after each anniversary of the Effective Date for each Research Plan for which work was performed during the relevant Contract Year;

(3) a comprehensive written report within thirty (30) days after completion of all work under each Research Plan, describing in detail the work accomplished by it under such Research Plan and discussing and evaluating the results of such work; and

(4) a comprehensive written report within thirty (30) days after the end of the Term, describing in detail the work accomplished by it under the Research Plans during the Term and discussing and evaluating the results of such work.

(ii) During the Term, the Research Committee shall provide a written meeting discussion summary report to the Oversight Committee of each meeting of the Research Committee within ten (10) business days after each such meeting.

(iii) Any report delivered to a Party hereunder shall be owned by the delivering Party;provided, however, all such reports shall be deemed to be Confidential Information of both Parties for purposes of Article 6.

(b) Materials. Codexis and Shell shall, during the Term, as a matter of course as described in the Research Plans, or upon each other's written or oral request, furnish to each other samples of biochemical, biological or synthetic chemical materials which are part of Shell Technology, Codexis Technology or Program Technology which are necessary for each Party to carry out its responsibilities under the Research Plans.

2.5 Laboratory Facility and Personnel.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

(a) Codexis shall provide suitable laboratory facilities, equipment and personnel for the work to be done by Codexis in carrying out the Research Plans. For purposes of clarification, except as set forth in Section 2.5(b) below, all fees and payments due to Codexis hereunder for the provision of laboratory facilities, equipment and personnel are set forth in Article 3 below.

(b) Shell shall be responsible, at Shell's sole cost and expense, for providing suitable laboratory facilities, equipment and personnel for the work to be done by Shell at Shell facilities, if any, in carrying out the Research Plans; provided that from time to time during the Term after the second (2nd) anniversary of the Effective Date, upon the written agreement of the Parties, Codexis shall make commercially reasonable efforts to accommodate no more than four (4) Shell employees at Codexis' facilities in Redwood City, California, for periods of up to six (6) months, at Shell's sole cost and expense, in order to permit such Shell employees to carry out activities under the Research Plans; provided further, that any such Shell employee shall first execute a confidentiality agreement with Codexis acceptable to Shell and to Codexis prohibiting such Shell employee from using or disclosing confidential information of Codexis for any purpose other than as necessary to carry out activities under the Research Plans (such limitations on use and disclosure to include without limitation disclosure to or use for the benefit of Shell or any Shell Affiliate); provided further that Shell shall agree to serve as a surety as to, and with respect to any damages suffered by Codexis or its Affiliates as a result of the breach of the non-use and non-disclosure restrictions set forth in such confidentiality agreement by such Shell employee, including without limitation any breach that may occur after such Shell employee is no longer an employee of Shell; provided further that in a circumstance of a former employee of Shell, Codexis shall first pursue its full legal rights against such former employee and/or Third Party that caused any such damages to Codexis, before Codexis seeks any relief from Shell but, thereafter, will not be required to reassert against Shell any claim or demand previously asserted against such former employee and/or such Third Party that, in such previous action, was resolved in favor of Codexis.

2.6 Efforts.

(a) Each Party shall use commercially reasonable efforts during the Term to perform that part of the Program for which such Party is responsible pursuant to the terms and conditions of this Amended and Restated Research Agreement, and to complete such tasks in compliance with the schedule set forth in the applicable Research Plan.

(b) FTEs.

(i) Beginning on the Effective Date and ending on March 31, 2007, Codexis shall assign eight (8) FTEs to perform Codexis' obligations under the Program, and to complete the tasks assigned to Codexis in the Research Plan for such period. The Parties acknowledge and agree that as of the Execution Date, Codexis has fulfilled its obligations under this Section 2.6(b)(i).

(ii) Beginning on April 1, 2007 and ending on October 31, 2007, Codexis shall assign twelve (12) FTEs to perform Codexis' obligations under the Program, and to complete the tasks assigned to Codexis in the Research Plan for such period. The Parties

acknowledge and agree that as of the Execution Date, Codexis has fulfilled its obligations under this Section 2.6(b)(ii) for the period beginning on April 1, 2007 and ending on the Execution Date.

(iii) Subject to Section 2.6(c), after the first anniversary of the Effective Date, during the Term, Codexis shall assign, on or before the dates set forth in the table in this Section 2.6(b)(iii), below, no less than the corresponding number of FTEs set forth in the table in this Section 2.6(b)(iii), below, to perform Codexis' obligations under the Program, and to complete the tasks assigned to Codexis in the Research Plans.

Total Number of FTEs	Date
24	November 1, 2007
48	April 1, 2008
72	August 1, 2008

Notwithstanding the foregoing, either Party, upon not less than thirty (30) days prior written notice, may extend, by up to sixty (60) days, the dates set forth under the heading "Date" in the table above in this Section 2.6(b)(iii); provided, however, that under no circumstances will the total delay of any such date be greater than sixty (60) days, whether the delay is requested by Shell, Codexis, or both.

(iv) In the event that Codexis has resources available to dedicate to an approved Research Plan in advance of the schedule set forth in Section 2.6(b)(iii), Codexis shall allocate such resources to the Program upon thirty (30) days advance written notice to Shell.

(c) Reduction in FTEs.

(i) During the period beginning on August 1, 2008 and ending on the third (3rd) anniversary of the Effective Date, Shell shall have the right to reduce the total number of FTEs assigned by Codexis to perform Codexis' obligations under the Program by up to twelve (12) FTEs upon sixty (60) days advance notice.

(ii) After the third (3rd) anniversary of the Effective Date, Shell shall have the right to reduce the total number of FTEs assigned by Codexis to perform Codexis' obligations under the Program upon advance notice; provided, however, that the number of FTEs that may be reduced will not be greater than as set forth in, and implemented after written notice thereof in accordance with, the table in this Section 2.6(c)(ii), below; provided, further, however, that no reductions may be noticed during the applicable standstill period set forth in this Section 2.6(c)(ii), below, immediately after an FTE reduction already noticed (each such period during which no subsequent notice may be given, a "**Standstill Period**").

Number of FTEs that May Be Reduced	Standstill Period	Advance Notice Required
≤ 12	90 days	30 days
13 ≤ 48	180 days	90 days
> 48	360 days	180 days

By way of example, if Shell elects to reduce the number of FTEs by twelve (12) FTEs or less, no additional reductions may be made by Shell during the ninety (90) day Standstill Period beginning on the date of advance written notice of such reduction election. Similarly, if Shell elects to reduce the number of FTEs by more than twelve (12) FTEs but less than or equal to forty-eight (48) FTEs, no additional reductions may be made by Shell during the one hundred eighty (180) day Standstill Period beginning on the date of advance written notice of such reduction election.

2.7 Approval of Research Plans. Prior to beginning work, Codexis shall provide a proposed Research Plan to Shell for each work stream. Shell may comment on, and may make recommendations to, such proposed Research Plan from Codexis. The Parties shall submit such proposed Research Plan to the Research Committee for consideration and recommendation to the Oversight Committee for approval.

2.8 Milestones.

(a) Year One Final Milestone. Shell acknowledges that, as of the Execution Date, Codexis has achieved the Year One Final Milestone.

(b) Annual Milestones. Prior to beginning work, Codexis shall provide a proposal to Shell for annual milestones for each work stream. The Parties shall submit such proposed milestones to the Research Committee for consideration and recommendation to the Oversight Committee for approval.

(c) Year Four Goal(s). Unless otherwise agreed by the Parties in writing, prior to March 1, 2009, Codexis shall provide a proposal to Shell for Program progress goal(s) to be achieved as of the fourth (4th) anniversary of the Effective Date (the "**Year Four Goal(s)**"). The Parties shall submit such proposed Year Four Goal(s) to the Research Committee for consideration and recommendation to the Oversight Committee for approval. For purposes of clarification, it is the intent of the Parties that the Year Four Goal(s) will be more technically challenging to achieve than the annual Milestones established in accordance with Section 2.8(b).

(d) Year Six Goal(s). Unless otherwise agreed by the Parties in writing, prior to March 1, 2010, Codexis shall provide a proposal to Shell for Program progress goal(s) to be achieved as of the sixth (6th) anniversary of the Effective Date (the "**Year Six Goal(s)**"). The Parties shall submit such proposed Year Six Goal(s) to the Research Committee for consideration and recommendation to the Oversight Committee for approval. For purposes of

clarification, it is the intent of the Parties that the Year Six Goal(s) will be more technically challenging to achieve than the annual Milestones established in accordance with Section 2.8(b).

(e) Milestone Verification.

(i) In the event that Codexis reasonably believes that it has achieved a particular annual Milestone, the Year Four Goal(s) or the Year Six Goal(s), Codexis shall deliver written notice thereof to Shell (each such notice, a "**Milestone Notice**"). Within ten (10) business days after delivery of a particular Milestone Notice, Codexis shall provide to Shell sufficient quantities of any relevant Biocatalyst to permit Shell to verify that the annual Milestone, Year Four Goal(s) or Year Six Goal(s), as the case may be, in such Milestone Notice has been achieved.

(ii) In the event that Shell cannot verify Codexis' assertion that Codexis has achieved the annual Milestone, Year Four Goal(s) or Year Six Goal(s), as the case may be, identified in a particular Milestone Notice, Shell shall provide written notice thereof to Codexis (each such notice, a "**Nonreplication Notice**"). The annual Milestone, Year Four Goal(s) or Year Six Goal(s), as the case may be, identified in each Milestone Notice shall be deemed to have been achieved unless Shell provides a Nonreplication Notice within ninety (90) days after Shell's receipt of such Milestone Notice; provided that upon written notice provided prior to the expiration of such ninety (90) day period, Shell may seek an extension of such ninety (90) day period of up to forty-five (45) days to provide such Nonreplication Notice, not to be unreasonably withheld by Codexis. Upon Codexis' receipt of a Nonreplication Notice, the Parties will determine a mutually agreeable time to perform the applicable tests necessary to replicate the identified annual asserted Milestone, Year Four Goal(s) or Year Six Goal(s), as the case may be, that is the subject of such Nonreplication Notice, such tests to be performed, at Shell's sole option and expense (1) by Shell at a Shell facility, with Codexis observing; (2) by Codexis at a Codexis facility, with Shell observing; or (3) by a mutually agreeable Third Party at such Third Party's facilities, with both Codexis and Shell observing. The outcome of such test shall be determinative of whether the annual Milestone, Year Four Goal(s) or Year Six Goal(s), as the case may be, has been achieved. In the event that Shell elects to have such test performed by a mutually agreeable Third Party, Codexis shall first execute a sponsored research agreement with such Third Party substantially in the form attached hereto as Exhibit 2.8(e)(ii).

ARTICLE 3

FEES AND PAYMENTS

3.1 Codexis Technology Access Fee. In consideration of the use of Codexis' Technology and Codexis' related technical knowledge and expertise during the first (1st) Contract Year of the Term, Shell shall pay to Codexis a non-refundable, non-creditable technology access fee of Two Million Eight Hundred Thousand United States Dollars ($2,800,000) on the Effective Date. The Parties acknowledge and agree that, as of the Execution Date, such technology access fee has been fully (a) earned by Codexis and (b) paid by Shell.

3.2 Exclusivity Fee. During the Term, Codexis (a) will act exclusively with Shell regarding the rights and research described herein; and (b) will not (i) conduct research, discover

or develop Biocatalysts, and associated processes for the use of such Biocatalysts, in the Field of Use for any other party or (ii) enter into any other agreements to conduct research, discover or develop Biocatalysts, and associated processes for the use of such Biocatalysts, in the Field of Use (including without limitation any agreement to convert Biomass to fermentable sugars unless such other party has provided express assurance in a written agreement that such fermentable sugars shall be used only outside the Field of Use), as more fully described with respect to both (a) and (b) in this Amended and Restated Research Agreement and pursuant to the covenant in Section 9.3. In consideration of such research activities performed exclusively for Shell in the Field of Use, Shell shall pay to Codexis an exclusivity fee of Twenty Million United States Dollars ($20,000,000) on the Execution Date. Except as expressly provided in Section 11.4(a), such exclusivity fee shall be non-refundable and non-creditable. For purposes of clarification, Shell acknowledges and agrees that such covenant regarding such exclusivity shall expire upon termination or expiration of this Agreement; provided that in the event of any Renewal Term in accordance with Section 11.1, Shell shall not be required to pay any additional exclusivity fee beyond that set forth in this Section 3.2 in order to maintain the research exclusivity as described herein and in Section 9.3 for the duration of this Agreement, including during the Initial Term and any such Renewal Term.

3.3 FTE Payments.

(a) First Contract Year. During the first (1st) Contract Year of the Term, Shell shall pay to Codexis a research funding fee based on an FTE rate equal to Four Hundred Thousand United States Dollars ($400,000) per year for each of the FTEs assigned by Codexis to perform Codexis' obligations under the Program during such first (1st) Contract Year. Such FTE rate includes any and all associated overhead expenses, normal laboratory supplies and consumables expenses, and typical operational research expenses. The Parties acknowledge and agree that, as of the Execution Date, the FTE payments for the first (1st) Contract Year of the Term have been paid by Shell.

(b) After the First Contract Year. During the second (2nd) Contract Year of the Term, Shell shall pay to Codexis a research funding fee based on an FTE rate equal to Four Hundred Twenty Thousand United States Dollars ($420,000) per year for each of the FTEs assigned by Codexis to perform Codexis' obligations under the Program during the second (2nd) Contract Year of the Term. Such FTE rate shall be increased annually at the beginning of each subsequent Contract Year of the Term by an amount equal to five percent (5%) of the FTE rate for the preceding Contract Year. Such FTE rate includes any and all associated overhead expenses, normal laboratory supplies and consumables expenses, and typical operational research expenses. Such FTE payments in each Contract Year shall be made in six (6) equal installments (each an "**FTE Installment**"), each in advance of work actually performed based on the planned utilization of FTEs for the following two (2) months; provided, however, that, in the event either Party elects to reduce the number of FTEs working on the Program pursuant to Section 2.6(c), a corresponding reduction will be made to the amount of the next FTE Installment. In the event that Codexis dedicates FTEs to the Program in advance of the schedule set forth in Section 2.6(b)(iii) in accordance with Section 2.6(b)(iv), Shell shall make an additional payment to Codexis on or before the date such increase shall become effective, which amount shall be equal to (i) the then-current FTE rate, times (ii) the number of additional FTEs,

times (iii) the number of days until the date on which the next FTE Installment is required to be paid pursuant to this Section 3.3(b), above, divided by (iv) three hundred sixty-five (365).

3.4 Milestone Payments.

(a) Shell shall pay to Codexis a one-time, non-refundable, non-creditable milestone payment equal to **[*]** within thirty (30) days after the receipt by Shell of the report due from Codexis at six (6) months after the Effective Date, as provided in Section 2.4(a)(i)(1). The Parties acknowledge and agree that, as of the Execution Date, such Milestone payment has been fully (i) earned by Codexis and (ii) paid by Shell.

(b) For each Contract Year during the Initial Term beginning with the third (3rd) Contract Year, Shell shall pay to Codexis a non-refundable, non-creditable Milestone payment equal to [*] (for a total of [*]) upon achievement of the Milestones for each of the then-current Research Plans established in accordance with Section 2.8(b), such amount to be distributed equally among all such then-current Research Plans. By way of example, if there are five (5) Research Plans in a Contract Year and Codexis achieves the Milestone established for each of three (3) of the five (5) Research Plans before the end of such Contract Year, Shell shall pay to Codexis a payment equal to [*] for that Contract Year; provided that, if Codexis achieves the Milestones established for the fourth (4th) or fifth (5th) Research Plans after such Contract Year and before the three (3) month anniversary of the expiration of such Contract Year, Shell shall pay Codexis a payment equal to [*] for each such Milestone after such Milestone has been achieved. For purposes of clarification, for purposes of this Section 3.4(b), "achievement of the applicable Milestone" means that Codexis delivers to Shell a Milestone Notice for such Milestone within the relevant time period, even if the verification of such Milestone Notice occurs after the expiration of such time period; provided, however, that payment for any Milestone due pursuant to this Section 3.4(b) will be due and payable in accordance with Section 3.6 only after the achievement of such Milestone has been verified in accordance with Section 2.8(e).

(c) Upon the achievement of the Year Four Goal(s), Shell shall pay to Codexis a one-time, non-refundable, non-creditable Milestone payment equal to**[*]**; provided, however, that payment for the Year Four Goal(s) due pursuant to this Section 3.4(c) will be due and payable in accordance with Section 3.6 only after the achievement of such Year Four Goal(s) has been verified in accordance with Section 2.8(e).

(d) Upon the achievement of the Year Six Goal(s), Shell shall pay to Codexis a one-time, non-refundable, non-creditable Milestone payment equal to**[*]**; provided, however, that payment for the Year Six Goal(s) due pursuant to this Section 3.4(d) will be due and payable in accordance with Section 3.6 only after the achievement of such Year Six Goal(s) has been verified in accordance with Section 2.8(e).

(e) For each Contract Year, if any, of (i) the Initial Term beyond the sixth (6th) Contract Year in the event that the Parties agree to extend the Initial Term beyond the six (6) year anniversary of the Effective Date in accordance with Section 11.1, and (ii) each Renewal Term, Shell shall pay to Codexis a non-refundable, non-creditable Milestone payment equal to **[*]** upon achievement of the Milestones for each of the then-current Research Plans established

in accordance with Section 2.8(b), such amount to be distributed equally among all then-current Research Plans. By way of example, if there are five (5) Research Plans in a Contract Year and Codexis achieves the Milestone established for each of three (3) of the five (5) Research Plans before the end of such Contract Year, Shell shall pay to Codexis a payment equal to **[*]** for that Contract Year; provided that, if Codexis achieves the Milestones established for the fourth (4th) or fifth (5th) Research Plans after such Contract Year and before the expiration of this Agreement, Shell shall pay Codexis a payment equal to **[*]** for each such Milestone after such Milestone has been achieved. For purposes of clarification, for purposes of this Section 3.4(e), "achievement of the applicable Milestone" means that Codexis delivers to Shell a Milestone Notice for such Milestone within the relevant time period, even if the verification of such Milestone Notice occurs after the expiration of such time period; provided, however, that payment for any such Milestone due pursuant to this Section 3.4(e) will be due and payable in accordance with Section 3.6 only after the achievement of such Milestone has been verified in accordance with Section 2.8(e).

3.5 Equity Payments.

(a) Series D Stock Purchase Agreement. Upon the Effective Date, Shell shall purchase Three Million United States Dollars ($3,000,000) of Series D Preferred Stock of Codexis, pursuant to the terms and conditions of a stock purchase agreement in the form attached hereto as Schedule A, appended to and made part of this Amended and Restated Research Agreement, (the "**Series D Stock Purchase Agreement**") at Three United States Dollars and Ninety-Seven Cents ($3.97) per share. The Parties acknowledge and agree that, as of the Execution Date, such Series D Preferred Stock has been (i) issued to Shell by Codexis and (ii) paid for in full by Shell.

(b) Series E Stock Purchase Agreement. On or before the Execution Date, Shell shall purchase a sufficient number of shares of Series E Preferred Stock of Codexis, pursuant to the terms and conditions of a stock purchase agreement substantially in the form attached hereto as Schedule B, appended to and made part of this Amended and Restated Research Agreement, (the "**Series E Stock Purchase Agreement**") at Eight United States Dollars and Fifty Cents ($8.50) per share, such that immediately after such purchase, Shell shall own ten percent (10.0%) of the equity securities of Codexis on a fully diluted basis; provided that at each Subsequent Closing (as defined in the Series E Stock Purchase Agreement), if any, Shell shall purchase an additional number of shares of Series E Preferred Stock such that immediately after each such Subsequent Closing Shell shall own ten percent (10.0%) of the equity securities of Codexis on a fully diluted basis. Notwithstanding anything to the contrary, the Parties acknowledge and agree that the maximum amount that Shell shall be required to invest under the Series E Stock Purchase Agreement shall be Thirty Million Seven Hundred Three Thousand Five Hundred Sixty-Four United States Dollars ($30,703,564). For purposes of this Section 3.5(b) only, "fully diluted basis" means all shares of Codexis common stock then outstanding, assuming full exercise and/or conversion of all outstanding Codexis securities exercisable and/or convertible into Codexis common stock and including shares reserved for issuance in connection with options not yet granted under any Codexis equity incentive plan.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

(c) On or before the Execution Date, Shell will exercise, in full, the Warrant Agreement.

3.6 Mode of Payment. All payments made pursuant to this Amended and Restated Research Agreement, other than those due on the Execution Date or the Effective Date or under Section 5.2, shall be due and payable within sixty (60) days following receipt by Shell of a relevant invoice from Codexis. Such payments shall be made by direct wire transfer of United States Dollars in immediately available funds in the requisite amount to such bank account as Codexis may from time to time designate by written notice to Shell. Payments will be free and clear of any taxes (and net of any withholding and other taxes imposed on the payee), fees or charges, to the extent applicable.

3.7 Late Payment Interest. Any payment due and payable to Codexis under the terms and conditions of Section 3.3, 3.4, or 5.2 made by Shell later than sixty (60) days after the date such payment is due and payable shall bear interest as of the day after the date such payment was due and payable and shall continue to accrue such interest until such payment is made at a rate equal to the lesser of either (a) two percent (2%) above the prime rate as reported by Citibank, New York, New York, as of the date such payment was due and payable, or (b) the maximum rate permitted by applicable law. The Parties acknowledge and agree that, as of the Execution Date, there are no outstanding late payments due to Codexis that would be subject to interest payments pursuant to this Section 3.7.

ARTICLE 4

INTELLECTUAL PROPERTY RIGHTS

4.1 Ownership.

(a) Shell Technology. Subject to the rights expressly granted to Codexis under the terms and conditions of this Amended and Restated Research Agreement and the Amended and Restated License Agreement, Shell or its Affiliates owns or otherwise controls and shall own or otherwise control all right, title and interest in, to and under any and all Shell Technology.

(b) Codexis Technology. Subject to the rights expressly granted to Shell under the terms and conditions of this Amended and Restated Research Agreement and the Amended and Restated License Agreement, Codexis owns or otherwise controls and shall own or otherwise control all right, title and interest in, to and under any and all Codexis Technology.

(c) Program Technology. Subject to the rights expressly granted to Shell under the terms and conditions of this Amended and Restated Research Agreement and the Amended and Restated License Agreement, Codexis owns or otherwise controls and shall own or otherwise control all right, title and interest in, to and under any and all Program Technology.

4.2 Grant of Research Licenses.

(a) Codexis grants to Shell a non-exclusive, irrevocable, worldwide, royalty-free license, including the right to grant sublicenses to its Affiliates, to make and use Codexis Technology and Program Technology solely to conduct activities in accordance with Shell's responsibilities, to be articulated under each Research Plan; provided, however, that this license does not include and Shell shall not acquire, by virtue of this license, any rights in, to or under the Shuffling Technology.

(b) Shell grants to Codexis a non-exclusive, irrevocable, worldwide, royalty-free license, including the right to grant sublicenses to its Affiliates, to make and use Shell Technology solely to conduct activities in accordance with Codexis' responsibilities, to be articulated under each Research Plan.

4.3 Limitation. Except as expressly provided in this Amended and Restated Research Agreement and the Amended and Restated License Agreement, no right, title or interest is granted by either Party to the other Party.

ARTICLE 5

PATENT PROSECUTION AND MAINTENANCE

5.1 Filing, Prosecution and Maintenance by Codexis. With respect to the Program Patent Rights arising from the Program, Codexis shall have the right, but not an obligation to:

(a) file applications for letters patent on any invention included in such Patent Rights;

(b) take all reasonable steps to prosecute all pending and new patent applications included within such Program Technology;

(c) respond to oppositions, nullity actions, re-examinations, revocation actions and similar proceedings filed by Third Parties against the grant of letters patent for such applications; and

(d) maintain in force any letters patent included in such Patent Rights by duly filing all necessary papers and paying any fees required by the patent laws of the particular country in which such letters patent were granted.

In addition, Codexis shall have the right, but not the obligation, to initiate and prosecute oppositions, nullity actions, re-examinations, revocation actions and similar proceedings against the grant of letters patent owned by Third Parties that may limit the ability of the Parties to exploit the Program Technology.

Notwithstanding the foregoing, Codexis shall consult with Shell regarding countries in which such patent applications or issued patents, as applicable, should be filed, prosecuted, and/or maintained. If Codexis agrees to file, prosecute, and/or maintain such patent applications or issued patents, as applicable, Codexis shall do so as set forth in this Section 5.1, above, in those countries where Shell requests that Codexis file, prosecute, and/or maintain such applications;

provided that Codexis, at its option and exercise, may file prosecute, and/or maintain applications in countries where Shell does not request that Codexis file, prosecute, and/or maintain such applications. If Codexis does not agree to file, prosecute, and/or maintain such patent applications or issued patents, as applicable, Codexis shall provide Shell with written notice of any decision to not file a patent application or to abandon a pending application or an issued patent included in such Patent Rights, such notice to be delivered at least thirty (30) days prior to any action required to obtain or maintain such pending application or such issued patent, as the case may be. Thereafter, Shell shall have the option, at its expense, of filing such an application, or continuing to prosecute any such pending patent application or of keeping the issued patent in force, as applicable. In the event that Shell exercises such option for any such pending application or such issued patent, Codexis shall assign to Shell such pending application or such issued patent, as the case may be. Codexis shall cooperate fully with, and take all necessary actions requested by, Shell in connection with the preparation, prosecution and maintenance of any such letters patent included in such Patent Rights.

5.2 Reimbursement of Costs for Filing, Prosecuting and Maintaining Patent Rights. Within thirty (30) days after receipt of an invoice from Codexis, Shell shall reimburse Codexis for a portion of the costs of (a) filing, prosecuting, responding to opposition and maintaining patent applications and patents in countries where Shell requests that patent applications be filed, prosecuted and maintained, and (b) filing, prosecuting, and responding to oppositions, nullity actions, re-examinations, revocation actions and similar proceedings against the grant of letters patent owned by Third Parties that may limit the ability of the Parties to exploit the Program Technology. Such reimbursement shall equal fifty percent (50%) of such costs actually incurred in the United States, Europe, Argentina, Australia, Brazil, China, India, Japan, Singapore, South Korea and Turkey, and one hundred percent (100%) of such costs elsewhere, and in each case, shall be in addition to payments under Article 3. However, Shell may, upon sixty (60) days notice, request that Codexis discontinue filing or prosecution of patent applications in any country and shall have no obligation after the effective date of such notice to reimburse Codexis for the costs of filing, prosecuting, responding to opposition or maintaining such patent application or patent in such country. Codexis shall pay all costs in those countries in which Shell does not request that Codexis file, prosecute or maintain patent applications and patents, but in which Codexis, at its option, elects to do so.

ARTICLE 6

CONFIDENTIALITY

6.1 Confidentiality Obligations. The Parties agree that, during the Term and for five (5) years thereafter, all Confidential Information disclosed by one Party to the other Party hereunder shall be received and maintained by the receiving Party in strict confidence, shall not be used for any purpose other than the purposes expressly permitted by this Amended and Restated Research Agreement, and shall not be disclosed to any Third Party. The Parties acknowledge and agree that the structure and composition of each particular Biocatalyst developed under the Program shall be deemed Confidential Information of Codexis, subject to the confidentiality and non-use obligations set forth in this Article 6. Shell shall limit the disclosure of Third Party Information to Codexis to that required for the Program. No Third

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

Party Information shall be disclosed until (i) Shell has described the general nature and scope of the information to be disclosed and the terms and conditions attaching to disclosure and use; and (ii) Codexis has agreed to receive such information in confidence under such terms and conditions. The obligations of confidentiality and non-use set forth in the first sentence of this Section 6.1 will not apply to any information to the extent that it can be established by the receiving Party that such information:

(a) was already known to the receiving Party or its Affiliates at the time of disclosure without restriction as to confidentiality or use, as evidenced by competent evidence;

(b) was generally available to the public or was otherwise part of the public domain at the time of its disclosure to the receiving Party or its Affiliates;

(c) became generally available to the public or otherwise becomes part of the public domain after its disclosure and other than through any fault of the receiving Party or its Affiliates in breach of this Amended and Restated Research Agreement;

(d) was subsequently lawfully disclosed to the receiving Party or its Affiliates by a Third Party without restriction as to confidentiality or use and other than in contravention of a confidentiality obligation of such Third Party to the disclosing Party or its Affiliates; or

(e) is independently developed by employees or agents of the receiving Party or its Affiliates without reliance upon or access to Confidential Information of the disclosing Party or its Affiliates, as evidenced by competent evidence.

Each Party represents and warrants that it has or will obtain written agreements from each of its consultants who perform work on the Program or otherwise have a need to know the other Party's Confidential Information, which agreements will obligate such persons to obligations of confidentiality and non-use no less restrictive than those assumed by the Parties herein, and to assign to such Party all inventions made by such persons during the course of performing any tasks associated with the Program. Further, each Party represents and warrants that those of its employees which perform work on the Program or otherwise have a need to know the other Party's Confidential Information are bound by obligations of confidentiality and non-use to the employer Party. Either Party may disclose Confidential Information of the other Party to such Party's Affiliates, provided that any such Affiliate agrees prior to such disclosure to be bound by obligations of confidentiality and non-use no less restrictive than those assumed by such disclosing Party herein.

Notwithstanding this Article 6 the receiving Party may disclose any Confidential Information of the disclosing Party that the receiving Party is required to disclose under applicable laws or regulations or an order by a court or other regulatory body having competent jurisdiction; provided, however, that except where impracticable, the receiving Party shall give the disclosing Party reasonable advance notice of such disclosure requirement (which shall include a copy of any applicable subpoena or order) and shall afford the disclosing Party a reasonable opportunity to oppose, limit or secure confidential treatment for such required disclosure. In the event of any such required disclosure, the receiving Party shall disclose only that portion of the Confidential Information of the disclosing Party that the receiving Party is legally required to disclose and, in

the event a protective order is obtained by the disclosing Party, nothing in this Article 6 shall be construed to authorize the receiving Party to use or disclose any disclosing Party Confidential Information to parties other than such court or regulatory body or beyond the scope of the protective order. Codexis and its Affiliates may disclose this Amended and Restated Research Agreement if required to be disclosed by applicable State or federal tax or securities laws to the extent, and only to the extent, such laws require such disclosure and Codexis provides Shell a reasonable opportunity to review and comment on the general text of such disclosure.

6.2 Press Releases. Except to the extent required by law or regulation or as otherwise permitted in accordance with this Section 6.2, no Party shall make any public announcements concerning this Amended and Restated Research Agreement or the terms hereof without the prior written consent of the other Party and the Parties shall agree on the content and timing of any such public announcement. Notwithstanding the foregoing, the Parties will issue a mutually acceptable joint press release within sixty (60) days after the first anniversary of the Effective Date.

ARTICLE 7

ACQUISITION OF RIGHTS FROM THIRD PARTIES

7.1 Acquisition of Rights from Third Parties. In the event that during the Term, either Party makes a determination that there may be an opportunity to acquire technology or patents or information from a Third Party that may be useful in the Program (collectively, the "**Acquired Technology**"), such Party, at its sole discretion, will notify the other Party thereof through the Research Committee. Codexis and Shell shall decide, considering the recommendations of the Research Committee and the Oversight Committee, if such rights of a Third Party should be acquired in connection with the Program and, if so, whether by Codexis, Shell or both. If acquired, such rights shall become part of the Confidential Information, Technology or Patent Rights, whichever is appropriate, of the acquiring Party or Parties. Notwithstanding anything to the contrary, the decision to acquire such rights shall not be considered a "technical aspect" for purposes of section 2.2(f) of this Restated and Amended Research Agreement.

7.2 Payments. [*] for payments owed by **[*]** to any Third Party in connection with any agreed acquisition of Acquired Technology pursuant to Section 7.1; provided that, **[*]** such Acquired Technology for purposes **[*]**, the Parties shall first agree on the proportion of such payments to be **[*]** for the use of such Acquired Technology in the **[*]**.

ARTICLE 8

OTHER AGREEMENTS

8.1 Amended and Restated License Agreement. Concurrently with the execution of this Amended and Restated Research Agreement, Codexis and Shell shall enter into the Amended and Restated License Agreement substantially in the form attached hereto as Schedule C, appended to and made part of this Amended and Restated Research Agreement.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

8.2 Issuance of Warrants. On the Effective Date, Codexis issued a warrant agreement, as attached hereto as Schedule D, and appended to and made part of this Amended and Restated Research Agreement (the "**Warrant Agreement**"), wherein Codexis agreed to issue warrants for the purchase of Three Million United States Dollars ($3,000,000) of preferred stock by Shell at the following price per share, as more fully set forth in the Warrant Agreement:

(a) In the event that Codexis fails to achieve the Year One Final Milestone, the purchase price per share shall equal Three United States Dollars and Ninety-Seven Cents ($3.97); and

(b) In the event that Codexis achieves the Year One Final Milestone, the purchase price per share shall equal Seven United States Dollars ($7.00).

Notwithstanding anything to the contrary, Shell acknowledges that the Year One Final Milestone has been achieved for purposes of this Section 8.2(b). On or before the Execution Date, Shell will exercise, in full, the Warrant Agreement.

8.3 Entire Agreement. This Amended and Restated Research Agreement, the Amended and Restated License Agreement, the Series D Stock Purchase Agreement, and the Series E Stock Purchase Agreement are the sole agreements with respect to the subject matter hereof and supersede all other prior and contemporaneous agreements and understandings between the Parties with respect to same, including without limitation that certain Non-Binding Term Sheet by and between Codexis and Shell dated as of August 23, 2006, that certain Collaborative Research Agreement by and between Codexis and Shell effective as of November 1, 2006, as amended, and that certain License Agreement by and between Codexis and Shell effective as of November 1, 2006.

ARTICLE 9

REPRESENTATIONS AND WARRANTIES

9.1 Representations by Codexis. Codexis represents and warrants that, as of the Execution Date: (a) it is duly organized and validly existing under the laws of the jurisdiction of its incorporation and has full corporate power and authority to enter into this Amended and Restated Research Agreement; (b) it is in good standing with all relevant governmental authorities; (c) it has taken all corporate actions necessary to authorize the execution and delivery of this Amended and Restated Research Agreement and the performance of its obligations under this Amended and Restated Research Agreement; (d) the performance of its obligations under this Amended and Restated Research Agreement do not conflict with, or constitute a default under its charter documents, any contractual obligation of Codexis or any court order; (e) it Controls the Codexis Technology and it has the right to make the grants set forth in this Amended and Restated Research Agreement; (f) it is not aware of, and has not been served with, any suit or action pending in any court against Codexis, alleging patent infringement based on the use of Codexis Technology by Codexis or any Affiliate or licensee of Codexis, and Codexis has not received any communications or notice alleging any such patent infringement; and (g) it has not (i) provided any Third Party, including the United States government or agency thereof, any claim to rights relating to the Codexis Technology or the Program Technology, or (ii) entered

into any agreements, commitments or other arrangement with any Third Party, including the United States government or agency thereof, in each case that would (1) prohibit Codexis from fulfilling its obligations hereunder or (2) be inconsistent or in conflict with the rights granted to Shell hereunder.

9.2 Representations by Shell. Shell represents and warrants that, as of the Execution Date: (a) it is duly organized and validly existing under the laws of the jurisdiction of its formation and has full corporate power and authority to enter into this Amended and Restated Research Agreement; (b) it is in good standing with all relevant governmental authorities; (c) it has taken all corporate actions necessary to authorize the execution and delivery of this Amended and Restated Research Agreement and the performance of its obligations under this Amended and Restated Research Agreement; (d) the performance of its obligations under this Amended and Restated Research Agreement does not constitute either a default under its charter documents or a violation of any court order; and (e) it or one of its Affiliates Controls the Shell Technology and it has the right to make the grants set forth in this Amended and Restated Research Agreement.

9.3 Covenants of Codexis. Codexis covenants that, during the Term, without the prior written consent of Shell, it (a) will act exclusively with Shell regarding the rights and research described herein; (b) will not (i) conduct research, discover or develop biocatalysts, and associated processes for the use of such biocatalysts, in the Field of Use for any other party or (ii) enter into any other agreements to conduct research, discover or develop biocatalysts, and associated processes for the use of such biocatalysts, in the Field of Use (including without limitation any agreement to convert Biomass to fermentable sugars unless such other party has provided express assurance in a written agreement that such fermentable sugars shall be used only outside the Field of Use); (c) will maintain technical personnel with sufficient skill, experience and expertise to perform its obligations under the Program; and (d) will not (i) provide any Third Party, including the United States government or agency thereof, any claim to rights relating to the Codexis Technology or the Program Technology, or (ii) enter into any agreements, commitments or other arrangement with any Third Party, including the United States government or agency thereof, in each case that would (1) prohibit Codexis from fulfilling its obligations hereunder or (2) be inconsistent or in conflict with the rights granted to Shell hereunder. Codexis further covenants that, during the Term, (A) Codexis will provide written notice to Shell in the event that Codexis has a bona fide business opportunity with a Third Party available to Codexis that would involve the conversion of Biomass into fermentable sugars, such sugars to be used to generate product(s) outside the Field of Use and, to the extent that Codexis is not precluded, whether by confidentiality obligations or other similar restrictions, Codexis shall inform Shell of the name of such Third Party and such product(s) outside the Field of Use; and (B) in the event that Codexis reasonably believes that any Third Party with which Codexis entered into an agreement in accordance with Section 9.3(b)(ii) above is practicing intellectual property owned or otherwise controlled by Codexis to convert Biomass to fermentable sugars, where such sugars are being used in the Field of Use for the benefit of such Third Party or any party other than Shell or a Shell Affiliate, Codexis shall take reasonable steps, including appropriate legal action, to enforce its rights to stop such use.

9.4 Covenants of Shell. Shell covenants that it will not, without the prior written consent of Codexis, (a) reverse engineer, deconstruct or in any way determine, or attempt to reverse engineer, deconstruct or in any way determine, the structure or composition of any Biocatalyst developed by Codexis hereunder, except as expressly provided under 7.3(a) of the Amended and Restated License Agreement for any particular identified Biocatalyst; or (b) modify or otherwise create any derivative of any such Biocatalyst; or (c) do indirectly, either through a Third Party or a Shell Affiliate, any of the activities contained in (a) or (b) above that Shell itself agrees not to do. Notwithstanding the foregoing, in the event that Shell desires to modify or otherwise create any derivative of any Biocatalyst developed by Codexis hereunder and Codexis notifies Shell in writing within one hundred twenty (120) days after receipt by Codexis of a written request by Shell to modify or otherwise create any derivative of any such Biocatalyst that it is unwilling or unable to perform such modification or otherwise create such derivative under commercially reasonable terms, then Shell shall be relieved of its obligations under this Section 9.4 with respect to such Biocatalyst.

9.5 Disclaimer of Warranties. EXCEPT AS SPECIFICALLY SET FORTH IN THIS ARTICLE 9, NEITHER PARTY MAKES ANY REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR USE, NON-INFRINGEMENT, AND ANY OTHER STATUTORY WARRANTY.

ARTICLE 10

INDEMNIFICATION

10.1 Employees and Property. Each of Codexis and Shell (each, the "**Indemnitor**") shall indemnify, defend and hold the other Party and its Affiliates and their respective agents, employees, consultants, officers and directors (the "**Indemnitees**") harmless from and against any and all liability, damage, loss, cost or expense (including reasonable attorneys' fees) (collectively "**Losses**"), arising from any claims or suits arising from (a) bodily injuries, including fatal injury or disease, to the Indemnitor's employees, and (b) damage to tangible, real or personal property of Indemnitor and/or Indemnitor's employees arising from or in connection with the performance of this Amended and Restated Research Agreement. THIS INDEMNITY SHALL APPLY IN FULL EVEN THOUGH THE CAUSE OF THE INJURIES, LOSS OR DAMAGE WAS THE NEGLIGENCE OF THE INDEMNITEE OR THE INDEMNITEE'S REPRESENTATIVES.

10.2 Third Parties.

(a) Indemnification by Codexis: Codexis shall indemnify, defend and hold the Shell Indemnitees harmless from and against any and all Losses arising out of any Third Party claims or suits arising from: (i) breach by Codexis of any of its representations, warranties or covenants under this Amended and Restated Research Agreement; or (ii) Codexis' failure to perform its obligations under this Amended and Restated Research Agreement; or (iii) during the Term, infringement of patent rights owned or otherwise controlled by such Third Party as a result of Codexis' research activities under this Amended and Reseated Research Agreement; provided that Codexis' indemnification obligations pursuant to this Section 10.2(a)(iii) shall not extend to

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

any such Loss that arises from Codexis' activities with respect to intellectual property provided to Codexis or any Affiliate of Codexis by or on behalf of Shell or any Affiliate of Shell, or to such activities with respect to improvements made by Codexis or any Affiliate of Codexis to such intellectual property under the Program; or (iv) the negligence, willful misconduct or strict liability of Codexis or its Affiliates, and its or their directors, officers, agents, employees, sublicensees or consultants; except in any such case for Losses to the extent, and only to the extent, reasonably attributable to a breach by Shell of its representations and warranties set forth in this Amended and Restated Research Agreement or the Shell Indemnitees having committed an act or acts of gross negligence, recklessness or willful misconduct. For purposes of clarification, the Parties acknowledge and agree that Codexis' indemnification obligations pursuant to Section 10.2(a)(iii) shall not apply to any liability, damage, loss, cost or expense (including attorneys' fees) as a result of any activities conducted under the Amended and Restated License Agreement.

(b) Indemnification by Shell: Shell shall fully indemnify, defend and hold the Codexis Indemnitees harmless from and against any and all Losses arising out of any Third Party claims or suits arising from: (i) breach by Shell of its representations, warranties or covenants under this Amended and Restated Research Agreement; or (ii) Shell's failure to perform its obligations under this Amended and Restated Research Agreement; or (iii) the use under this Amended and Restated Research Agreement by Shell of any Biocatalyst except to the extent such Losses relate to the infringement of any intellectual property right of a Third Party; or (iv) infringement of patent rights owned or otherwise controlled by such Third Party as a result of intellectual property provided to Codexis or any Affiliate of Codexis by or on behalf of Shell or any Affiliate of Shell, or to such activities with respect to improvements made by Codexis or any Affiliate of Codexis to such intellectual property under the Program; or (v) the negligence, willful misconduct or strict liability of Shell or its Affiliates, and its or their directors, officers, agents, employees, sublicensees or consultants; or (v) the activities of Shell employees carrying out Research Plans in Codexis' facilities pursuant to Section 2.5(b); except in any such case for Losses to the extent, and only to the extent, reasonably attributable to a breach by Codexis of its representations and warranties set forth in this Amended and Restated Research Agreement or the Codexis Indemnitees having committed an act or acts of gross negligence, recklessness or willful misconduct.

10.3 Environmental. Notwithstanding any other indemnification obligation in this Amended and Restated Research Agreement, and in addition to any rights the Parties may have under relevant federal, state, or local statutory and common laws, each Party shall fully indemnify, defend and hold the other Party and its Affiliates harmless from and against any and all Losses incurred as a result of Environmental Matters; provided, however, that this indemnification shall not apply to the extent any such Losses result from the acts or omissions of personnel of the indemnified Party or its Affiliates which occur at any site of the indemnified Party or the site of any supplier of the indemnified Party. For purposes of this Section 10.3, "**Environment Matters**" shall mean:

(a) the operation by the indemnifying Party, its Affiliates, sublicensees or subcontractors of any site or facility in a manner that is not in compliance with and in violation of any Environmental Law;

(b) any release of Hazardous Materials into the environment by the indemnifying Party, its Affiliates, sublicensees or subcontractors; or any Hazardous Materials that have been Disposed of at a site of the indemnifying Party or any site of any supplier (other than Codexis as supplier) of the indemnifying Party or other site or facility operated by the indemnifying Party, its Affiliates or its subcontractors, as the term Disposed is defined in applicable Environmental Laws;

(c) any failure to obtain or maintain all permits and provide all notices required by Environmental Laws for the lawful operation of any site of the indemnifying Party or any site of any supplier of the indemnifying Party or other facilities or sites operated by the indemnifying Party, its Affiliates, sublicensees or subcontractors; and

(d) any other actual or alleged act or omission relating to the handling or disposal of Hazardous Materials at any site of the indemnifying Party or any site of any supplier of the indemnifying Party or the handling or disposal of Hazardous Materials by the indemnifying Party, its Affiliates, sublicensees or subcontractors at any other facility or site.

For purposes of this Section 10.3, "**Environmental Law**" shall mean any treaty, law, ordinance, regulation or order of any jurisdiction, relating to environmental matters, including, but not limited to, matters governing air pollution; water pollution; the use, handling, reporting, release, storage, transport, or disposal of Hazardous Materials as defined herein above; exposure to or discharge of Hazardous Materials; occupational safety and health; and public health.

For purposes of this Section 10.3, "**Hazardous Materials**" includes, but is not limited to, air contaminant, water pollutant, hazardous material, hazardous waste, hazardous substance, toxic and hazardous substance, medical waste, infectious waste, "chemicals know to the State of California to cause cancer or reproductive toxicity", asbestos and PCB's, as such substances are defined under any applicable federal, state or local statute, regulation, rule or ordinance.

10.4 Notification of Claim; Conditions to Indemnification Obligations. As a condition to a Party's right to receive indemnification under this Article 10, it shall: (a) promptly notify ("**Claim Notice**") the other Party as soon as it becomes aware of a claim or suit for which indemnification may be sought pursuant hereto; provided that the failure to give a Claim Notice promptly shall not prejudice the rights of an indemnified Party except to the extent that the failure to give such prompt notice materially adversely affects the ability of the indemnifying Party to defend the claim or suit); (b) cooperate with the indemnifying Party in the defense of such claim or suit, at the expense of the indemnifying Party; and (c) if the indemnifying Party confirms in writing to the indemnified Party its intention to defend such claim or suit within fifteen (15) business days of receipt of the Claim Notice, permit the indemnifying Party to control the defense of such claim or suit, including without limitation the right to select defense counsel; provided that if the indemnifying Party fails to (i) provide such confirmation in writing within the fifteen (15) business day period; or (ii) diligently and reasonably defend such suit or claim at any time, its right to defend the claim or suit shall terminate immediately in the case of (i) and otherwise upon twenty (20) days' written notice to the indemnifying Party and the indemnified Party may assume the defense of such claim or suit at the sole expense of the indemnifying Party and may settle or compromise such claim or suit without the consent of the

indemnifying Party. In no event, however, may the indemnifying Party compromise or settle any claim or suit in a manner which admits fault or negligence on the part of any indemnified Party or that otherwise materially affects such indemnified Party's rights under this Amended and Restated Research Agreement or requires any payment by an indemnified Party without the prior written consent of such indemnified Party. Except as expressly provided above, the indemnifying Party will have no liability under this Article 10 with respect to claims or suits settled or compromised without its prior written consent. The indemnified Party shall have the right, but not the duty, at its sole cost and expense, to participate in the defense of any claim or suit hereunder with attorneys of its own selection without relieving the indemnifying Party of any of its obligations hereunder.

ARTICLE 11

TERM AND TERMINATION

11.1 Term. The initial term of this Amended and Restated Research Agreement will commence on the Effective Date and, unless earlier terminated in accordance with Section 11.2, 11.3, 12.2 or 12.4 below, shall continue in effect until six (6) years after the Effective Date ("**Initial Term**"); provided, however, that on or before the fourth (4th) anniversary of the Effective Date, the Parties will engage in discussions concerning the progress of the research under the Program, applicable future Milestones and Program needs, including the projected number of FTEs to complete the work under the Program, and the Parties shall determine whether the Initial Term will be extended under the same terms and conditions of this Restated and Amended Research Agreement. The term of this Amended and Restated Research Agreement may be extended after the Initial Term by consecutive, successive two (2) year periods (each, a "**Renewal Term**") upon the mutual written agreement of the Parties at least six (6) months prior to the end of the Initial Term or the current Renewal Term, as applicable (the Initial Term, together with any and all Renewal Terms, the "**Term**").

11.2 Termination for Convenience.

(a) At any time after the third (3rd) anniversary of the Effective Date, Shell may, in its sole discretion, terminate this Amended and Restated Research Agreement upon six (6) months written notice to Codexis.

(b) If at any time after the third (3rd) anniversary of the Effective Date, Shell determines, in accordance with Section 2.6(c), to decrease the number of FTEs assigned by Codexis to perform Codexis' obligations under the Program to less than twenty-four (24), Codexis shall have the right, but not the obligation, to terminate this Amended and Restated Research Agreement upon ninety (90) days written notice to Shell; provided, however that in the event that (i) each such FTE reduction by Shell occurs after successful achievement of the applicable Milestone for each Research Plan and (ii) Shell (or a Shell Affiliate or sublicensee) is actively developing the Program Technology for commercial application, then Codexis shall have no right to terminate this Amended and Restated Research Agreement pursuant to this Section 11.2(b).

11.3 Termination Upon Material Breach. Material failure by a Party to comply with any of its obligations contained herein shall entitle the Party not in default to give to the Party in default written notice (a "**Default Notice**") specifying the nature of the default in reasonable detail, requiring such defaulting Party to make good or otherwise cure such default, and stating the non-defaulting Party's intention to terminate this Amended and Restated Research Agreement if such default is not cured. If such default is not cured within sixty (60) days after the date the Default Notice was sent, then the Party not in default shall be entitled, without prejudice to any other rights conferred on it by this Amended and Restated Research Agreement, and in addition to any other remedies available to it by law or in equity, to terminate this Amended and Restated Research Agreement by written notice of termination to the defaulting Party; provided, however, that if the Party receiving such Default Notice (the "**Disputing Party**") has a reasonable basis for disputing that it is in default and such Party provides written notice thereof to the other Party before the expiration of such sixty (60) day cure period, then the Disputing Party shall have the right, prior to the expiration of such sixty (60) day period, to submit such dispute for resolution in accordance with the provisions of Section 12.7; provided further that in the event that as a result of such resolution, the Disputing Party is found to be in default and such default is not cured within forty-five (45) days after the date of such resolution, then the Party not in default shall be entitled, without prejudice to any other rights conferred on it by this Amended and Restated Research Agreement, and in addition to any other remedies available to it by law or in equity, to terminate this Amended and Restated Research Agreement by written notice of termination to the Disputing Party.

11.4 Consequences of Expiration or Termination.

(a) If Shell terminates this Amended and Restated Research Agreement pursuant to Section 11.3 (Material Breach), 12.2 (Assignment) or 12.4 (Force Majeure), or if Codexis terminates this Amended and Restated Research Agreement pursuant to Section 11.2(b) (Termination for Convenience), then (i) the Amended and Restated License Agreement shall continue according to its terms; and (ii) Codexis shall pay to Shell any amount previously paid to Codexis pursuant to Section 3.3 that, as of the effective date of such termination, has not been spent on performing Codexis' obligations under the Program and does not correspond to a non-cancellable commitment with respect to such performance; provided, however, that in the event that Shell terminates this Amended and Restated Research Agreement prior to the sixth (6th) anniversary of the Effective Date pursuant to Section 11.3 (Material Breach), 12.2 (Assignment) or 12.4 (Force Majeure) (provided such termination pursuant to Section 12.4 occurs no sooner than nine (9) months after the applicable force majeure event and provided further that Codexis is the Party affected by such force majeure event and provides Shell with the full particulars thereof as soon as it becomes aware of the same (including its best estimate of the likely extent and duration of the interference with its activities), and Codexis can represent in good faith that it can resume its performance under this Amended and Restated Research Agreement, no later than nine (9) months after such force majeure event), Codexis shall refund the exclusivity fee paid by Shell to Codexis in accordance with Section 3.2 on a *pro rata* basis based on the quotient obtained by dividing (A) the duration of time remaining between the effective date of such termination and the sixth (6th) year anniversary of the Effective Date by (B) five (5) years. By way of example, if Shell terminates this Amended and Restated Research Agreement pursuant to

Section 11.3 on the fourth (4th) anniversary of the Effective Date, then Codexis shall refund Eight Million United States Dollars ($8,000,000) to Shell.

(b) The following Articles and Sections of this Amended and Restated Research Agreement shall survive its termination or expiration: Articles 4, 5, 10 and 12, and Sections 2.4(a)(iii), 6.1, 8.3, 9.4, 9.5 and 11.4.

(c) Termination of this Amended and Restated Research Agreement for any reason shall be without prejudice to (i) the rights and obligations of the Parties set forth in any Articles or Sections which provide by their terms performance by either Party subsequent to termination; (ii) Codexis' rights to receive all payments accrued under Article 3 (subject to Section 11.4(a) above, if applicable), or (iii) any other remedies which either Party may otherwise have.

ARTICLE 12

GENERAL PROVISIONS

12.1 Relationship of the Parties. The Parties shall perform their obligations under this Amended and Restated Research Agreement as independent contractors and nothing contained in this Amended and Restated Research Agreement shall be construed to make either Codexis or Shell partners, joint venturers, principals, representatives or employees of the other. In particular, without limiting the generality of the foregoing, (a) none of the FTEs assigned by Codexis to perform its obligations under the Program shall be construed, or deemed to be, employees of Shell, and (b) none of the personnel assigned by Shell to perform its obligations under the Program shall be construed, or deemed to be, employees of Codexis. Neither Party shall have any right, power or authority, express or implied, to bind the other. Shell and Codexis agree that this Amended and Restated Research Agreement shall not constitute a partnership for tax purposes. In the event, however, that this Amended and Restated Research Agreement were so construed, then Shell and Codexis agree to be excluded from the provisions of Subchapter K of the United States Internal Revenue Code of 1986, as amended.

12.2 Assignments. Except as expressly provided herein, neither this Amended and Restated Research Agreement nor any interest hereunder may be assigned, nor any other obligation delegated, by a Party without the prior written consent of the other Party; provided, however, that each Party shall have the right to assign this Amended and Restated Research Agreement without consent to an Affiliate of such Party or to any successor in interest to such Party by way of merger, consolidation or other business reorganization or the sale of all or substantially all of its assets and further provided that in the event the non-assigning Party believes, in its sole discretion, that the assignment is to a direct competitor of such non-assigning Party in the Field of Use, such non-assigning Party may immediately terminate this Amended and Restated Research Agreement. This Amended and Restated Research Agreement shall be binding upon successors and permitted assigns of the Parties. Any assignment not in accordance with this Section 12.2 will be null and void.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

12.3 Further Actions. Each Party agrees to execute, acknowledge and deliver such further instruments and to do all such other acts as may be necessary or appropriate in order to carry out the express provisions of this Amended and Restated Research Agreement.

12.4 Force Majeure. Neither Party shall be liable to the other for failure or delay in the performance of any of its obligations under this Amended and Restated Research Agreement for the time and to the extent such failure or delay is caused by earthquake, riot, civil commotion, war, terrorist acts, strike, flood, or governmental acts or restriction that is beyond the control of the respective Party. The Party affected by such force majeure will provide the other Party with full particulars thereof as soon as it becomes aware of the same (including its best estimate of the likely extent and duration of the interference with its activities), and will use commercially reasonable efforts to overcome the difficulties created thereby and to resume performance of its obligations as soon as practicable. If the performance of any obligation under this Amended and Restated Research Agreement is delayed owing to a force majeure for any continuous period of more than ninety (90) days, either Party may terminate this Amended and Restated Research Agreement by giving to the other Party not less than ten (10) business days notice in writing. In the event of any force majeure event that delays the performance of either Party under this Amended and Reseated Research Agreement, the Term shall automatically be extended for the period of time that such performance is delayed. In the event of any force majeure event that delays Codexis' performance under this Amended and Restated Research Agreement, Shell's payment obligations pursuant to Section 3.3 shall be suspended for the duration of such delay. Notwithstanding anything to the contrary, the payment of money shall not be subject to this Section 12.4.

12.5 Captions. The captions to this Amended and Restated Research Agreement are for convenience only, and are to be of no force or effect in construing or interpreting any of the provisions of this Amended and Restated Research Agreement.

12.6 Governing Law. This Amended and Restated Research Agreement will be governed by and interpreted in accordance with the laws of the State of New York, applicable to contracts entered into and to be performed wholly within the State of New York, excluding conflict of laws principles.

12.7 Dispute Resolution; Jurisdiction and Venue. Any controversy or claim ("**Dispute**"), whether based on contract, tort, statute or other legal or equitable theory (including but not limited to any claim of fraud, misrepresentation or fraudulent inducement or any question of validity or effect of this Amended and Restated Research Agreement including this clause) arising out of or related to this Amended and Restated Research Agreement (including but not limited to any amendments, annexations, and extensions) or the breach thereof shall be settled by consultation between the Parties initiated by written notice of the Dispute to the other Party. In the event such consultation does not settle the Dispute within thirty (30) days after written notice of such Dispute, then the Dispute shall be settled by binding arbitration in accordance with the then current commercial arbitration rules of the American Arbitration Association and this provision. The arbitration shall be governed by the United States Arbitration Act, 9 U.S.C. §§ 1-16 (the "**Act**") to the exclusion of any provision of state law inconsistent therewith or which would produce a different result. Judgment upon the award rendered by the arbitrator may be

entered by any court having jurisdiction. The arbitration shall be held in Chicago, Illinois. The Parties shall attempt in good faith to agree on a single neutral arbitrator with relevant industry experience to conduct the arbitration. If the Parties do not agree on a single neutral arbitrator within ten (10) days after receipt of an arbitration notice, each Party shall select one (1) arbitrator and the two (2) Party-selected arbitrators shall select a third arbitrator with relevant industry experience to constitute a panel of three (3) arbitrators to conduct the arbitration in accordance with the Act. In the event that only one of the Parties selects an arbitrator, then such arbitrator shall be entitled to act as the sole arbitrator to resolve the Dispute or any and all unresolved issues subject to the arbitration. Each and all arbitrator(s) of the arbitration panel conducting the arbitration must and shall agree to render an opinion within twenty (20) days after the final hearing before the panel. The arbitrator(s) shall determine the claim of the Parties and render a final award in accordance with the substantive law of the State of New York, excluding the conflicts provisions of such law. The arbitrator shall set forth the reasons for the award in writing. The terms hereof shall not limit any obligations of a Party to defend, indemnify or hold harmless another Party against court proceedings or other claims, losses damages or expenses. All proceedings and decisions of the arbitrator(s) shall be deemed Confidential Information of each of the Parties, and shall be subject to Article 6 hereof. Notwithstanding anything herein to the contrary, a Party may seek a temporary restraining order or a preliminary injunction from any court of competent jurisdiction in order to prevent immediate and irreparable injury, loss, or damage on a provisional basis, pending the decision of the arbitrator(s) on the ultimate merits of any Dispute. Each Party agrees that all Disputes arising under this Amended and Restated Research Agreement shall be brought only against the Parties of this Agreement, as applicable and neither Party shall name an Affiliate company, except as may be required by Article 12.2.

12.8 Notices and Deliveries. Any notice, request, delivery, approval or consent required or permitted to be given under this Amended and Restated Research Agreement will be in writing and will be deemed to have been sufficiently given on the date of receipt if delivered in person, transmitted by telecopier (receipt verified) or by express courier service (signature required) or five (5) days after it was sent by registered letter, return receipt requested (or its equivalent), provided that no postal strike or other disruption is then in effect or comes into effect within two (2) days after such mailing, to the Party to which it is directed at its address or facsimile number shown below or such other address or facsimile number as such Party will have last given by notice to the other Party.

If to Codexis, addressed to:

Codexis, Inc.
200 Penobscot Drive
Redwood City, CA 94063
Attention: Chief Executive Officer
Telephone: 650-980-5600
Fax: 650-298-5449

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

with a copy to:

Codexis, Inc.
200 Penobscot Drive
Redwood City, CA 94063
Attention: General Counsel
Telephone: 650-421-8160
Fax: 650-421-8108

If to Shell, addressed to:

Shell Oil Products (US)
910 Louisiana Street
Houston, TX 77002
Attention: Fuel Development Program Manager—Americas
Telephone: 713-241-1461
Fax: 713-241-9800

with a copy to:

Shell Oil Company
Associate General Counsel, Intellectual Property Services
910 Louisiana
Houston, TX 77002
Fax: 713-241-6617

12.9 No Consequential Damages. EXCEPT PURSUANT TO ARTICLE 10 OR AS A RESULT OF ANY CONFIDENTIALITY AGREEMENT ENTERED INTO BETWEEN CODEXIS AND A SHELL EMPLOYEE IN ACCORDANCE WITH SECTION 2.5(b), IN NO EVENT WILL A PARTY OR ANY OF ITS RESPECTIVE AFFILIATES BE LIABLE TO THE OTHER PARTY OR ANY OF ITS AFFILIATES FOR SPECIAL, INDIRECT, CONSEQUENTIAL OR PUNITIVE DAMAGES, WHETHER IN CONTRACT, WARRANTY, TORT, NEGLIGENCE, STRICT LIABILITY OR OTHERWISE, INCLUDING BUT NOT LIMITED TO, LOSS OF PROFITS OR REVENUE, OR CLAIMS OF CUSTOMERS OF ANY OF THEM OR OTHER THIRD PARTIES FOR SUCH DAMAGES.

12.10 Waiver. A waiver by a Party of any of the terms and conditions of this Amended and Restated Research Agreement in any instance will not be deemed or construed to be a waiver of such term or condition for the future, or of any subsequent breach hereof. All rights, remedies, undertakings, obligations and agreements contained in this Amended and Restated Research Agreement will be cumulative and none of them will be in limitation of any other remedy, right, undertaking, obligation or agreement of either Party.

12.11 Severability. When possible, each provision of this Amended and Restated Research Agreement will be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Amended and Restated Research Agreement is held to

be prohibited by or invalid under applicable law, such provision will be ineffective but only to the extent of such prohibition or invalidity, without invalidating the remainder of such provision or of this Amended and Restated Research Agreement. The Parties will make a good faith effort to replace the invalid or unenforceable provision with a valid one which in its economic effect is most consistent with the invalid or unenforceable provision.

12.12 Counterparts. This Amended and Restated Research Agreement may be executed simultaneously in counterparts, any one of which need not contain the signature of more than one Party but both such counterparts taken together will constitute one and the same agreement.

12.13 Compliance with Laws. Each Party shall comply with all applicable statutes, laws, regulations, enactments, directives and ordinances and all injunctions, decisions, directives, judgments and orders of any governmental authority in effect at any time in connection with the performance of its obligations under this Amended and Restated Research Agreement.

12.14 Amendment. No amendment of any provision of this Amended and Restated Research Agreement shall be binding on a Party to this Amended and Restated Research Agreement unless consented to in writing and signed by such Party. Signatures and writings in an electronic form do not constitute or create a writing signed by a Party.

[Signature page follows]

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IN WITNESS WHEREOF, the Parties have caused this Amended and Restated Research Agreement to be executed by their respective duly authorized officers as of the Execution Date, each copy of which will for all purposes be deemed to be an original.

CODEXIS, INC.

By: /s/ Alan Shaw
Name: Alan Shaw
Title: President

EQUILON ENTERPRISES LLC

DBA SHELL OIL PRODUCTS US

By: /s/ David A. Sexton
Name: David A. Sexton
Title: President

[Signature Page to Amended and Restated Collaborative Research Agreement]

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EXHIBIT 1.21

Research Plans

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

Schedule 1

Research Plan for First Contract Year

Summary

Key technoeconomic parameters for the **[*]** include:

(i) yield of **[*]**,

(ii) enzyme load,

(iii) cost of enzyme manufacture,

(iv) equipment costs,

(v) residence time of reaction, and

(vi) energy usage.

Enzyme systems improved for activity in **[*]** process conditions can reduce enzyme load requirements, reduce residence time, and improve volumetric productivity of**[*]**. Therefore, the goal of the research program is to **[*]**.

For this 12 month research plan, efforts will be focused on:

(i) identifying and obtaining **[*]** genes and enzymes to assemble a baseline **[*]** system,

(ii) identifying and obtaining suitable **[*]**, and

(iii) enabling and executing an evolution campaign directed at **[*]**.

Development of an evolution-suitable system will include:

(i) establishment of a genetic expression system, and

(ii) development of screening and assay formats, in each case suitable for high-throughput catalyst production and analysis.

Implementation of the evolution campaign will consist of

(i) generation of initial genetic diversity,

(ii) library design,

(iii) DNA shuffling and library construction, and

(iv) implementation of the screening program to identify enzyme variants possessing improved properties.

The screening process may consist of a series of tiered assays, starting with high-throughput, simple screens, and gradually shifting to lower throughput, but more informationally oriented assays. Assay data and mutational analysis will be assessed, and desirable variants and/or mutations will be re-introduced into subsequent “rounds” of evolution and screening, until enzyme variants are identified that meet or exceed the desired performance criteria. Ultimately, improved enzyme variants will be assessed under **[*]** conditions, which may include a

determination of their activity in the presence of other enzymes in the cellulase system, and activity on (or in the presence of) **[*]**. It is anticipated that the evolution campaign may begin with **[*]**; as more **[*]** and **[*]** are developed in the program, these may be implemented in the **[*]** process. This approach would allow for the simultaneous execution of the evolution campaign with assay development.

Introduction

Enzymatic saccharification of cellulosics involves a mixture of enzymes that work together synergistically. Cellulases such as endo-ß-1,4-glucanase (EC 3.2.1.4), exo-cellobiohydrolase (EC 3.2.1.91), and ß-glucosidase (ß-D-glucosidic glucohydrolase; EC 3.2.1.21) are required. In this type of system, endoglucanase and cellobiohydrolase enzymes degrade cellulose to cellobiose, which is then cleaved to glucose by ß-glucosidase. For hemicellulosic biomass, additional enzymes are required to degrade carbohydrate polymers such as xylan, arabinoxylan, and others; such enzymes include various xylanase, debranching enzymes, and others.

The available literature suggests that improvements in the cellulase system may be achieved by improving the activity of the **[*]** component. **[*]** and **[*]** are inhibited by **[*]** (**[*]**); for example, commonly used cellulases are inhibited by **[*]**% at a low concentration (**[*]** g/l) of **[*]** (**[*]**). One reported solution to this has been to add **[*]**, however this has not been viewed as cost-effective. A preferred solution would be to **[*]**. Therefore, this **[*]** is suggested as a **[*]** for this program. Several improvements in the **[*]** enzymes may be desired, such as:

(i) Decreased product inhibition. Although **[*]** enzymes from nature vary in their sensitivity to **[*]** inhibition, most **[*]** are highly sensitive to **[*]** inhibition, thereby limiting enzyme activity and overall **[*]** rate **[*]**.

(ii) Increased substrate tolerance. While some **[*]** from nature have been described **[*]**, most **[*]** are inhibited by **[*]**, limiting the potential for the final **[*]** rates.

(iii) Increased specific activity. Activity improvements with these enzymes have been demonstrated to result in increases in **[*]**.

(iv) Increased activity in process environment (thermoactivity, thermotolerance, pH etc). Ideally, all enzymes required for use in a given reaction will possess matching preferences for the environmental aspects of the reaction, such as pH and temperature activity optima. For example, most **[*]** and **[*]** enzymes possess an optimal **[*]** of ~**[*]**, so possessing a **[*]** with optimal activity at this **[*]** is desirable. The saccharification reaction may benefit from the **[*]** (i.e. **[*]** giving a **[*]** reaction), so increased activity at still **[*]** may also be desired. Since saccharification reactions typically run for considerable periods of time **[*]**), **[*]** is likely important. **[*]** have been reported (e.g. **[*]**) and will be **[*]** as **[*]**. Other process-relevant traits of interest may include alteration of **[*]**, and alleviation of inhibition from **[*]**.

(v) Altered substrate specificities. Although **[*]** are known to be most active on **[*]**, some possess activity on **[*]** with varying efficiencies on various **[*]** of substrates. For

example, the [*] cellobiose, cellotriose, cellotetraose, cellopentaose, and cellohexaose, with [*] of [*], respectively ([*]). Changing the substrate orientation towards [*] might be advantageous either to the [*] of the [*], or for the [*] for the ensuing [*], which have different preferences for the [*] and [*] of [*].

(vi) Increased expression, secretion. [*], a commonly used organism for cellulose production, does not produce and secrete sufficient [*] (~[*]% of total secreted proteins) to drive commercial saccharification demands ([*]). [*] cellulase preparations, [*], are considered most often for commercial saccharification ([*]), and [*] of this enzyme has been shown to result in increased saccharification ([*]). These enzymes could be engineered for improved expression for a particular expression host. Most [*] remain [*] of the producing fungus ([*]), which impedes their utility in saccharification. This feature is common in fungi, likely due to an evolutionary advantage of [*] the [*] near the [*] to facilitate the rapid [*] of [*] produced. This evolutionary constraint can [*], [*] the secretion capability and leading to a [*].

While particular enzymes in nature may possess certain characteristics for industrial use, it is rare that a native enzyme would possess all the preferred traits. The range of activities and properties known for related (homologous) enzymes may give an indication of the "evolvability" for a particular trait, that is, they are permitted by the enzyme [*]. Codexis technology allows for desirable properties from different enzymes to be combined, and improved further. Importantly, multiple properties may be evolved at the same time; such multi-trait evolution has been demonstrated using Codexis technology in other programs.

In addition to technical considerations, selection of [*] as the [*] provides practical advantages to the program, such as allowing for rapid program implementation due to the [*] of the [*], and a good potential for rapid implementation of [*] such as [*] and [*]. Starting materials for this [*] are likely to be available, including [*]. [*] should be of use in the development of the cellulase system.

Other enzyme targets for improvement will be considered during the course of the program. Possible candidates might include [*]. In each case, it is suggested that [*] utilize [*], or at a minimum [*]. This would allow for progress in the evolution campaign whilst the [*] formats are developed.

Process Definition

At the initiation of the program, an extensive review of the scientific, commercial, and patent literature will be conducted. Due to the large amount of prior work in this area, this is anticipated to be a significant task. This review is required to establish a reasonable understanding of relevant technical issues and, importantly, the intellectual property landscape, and the validation of appropriate research targets and materials. Suitable starting enzymes and the genes that encode them will be identified for use in the program. Possible licensing opportunities with third parties may also be identified. This activity will continue throughout the life of the research program in order to stay abreast of new information released during the

program term.

Establishing a System for the [*] Evolution Campaign

Genetic System Development for **[*]**

Several **[*]** sources of **[*]** have been identified and functionally expressed/secreted in prokaryotic and eukaryotic hosts. The starting gene(s) that will be used in this program will be determined by the **[*]** and **[*]**. One particular benefit to **[*]** is that if the program is **[*]**, the program may be **[*]**, even one with **[*]**. Codexis has successfully employed this approach in many other programs. Other relevant information, such as **[*]**, will be analyzed.

Genes will be obtained **[*]**, and their expression in appropriate **[*]** hosts will be assessed. High-throughput growth and expression formats will be developed to enable the handling of, for example, **[*]** isolates **[*]**. Suitable screening formats will result in the detection of the appropriate enzymatic activity in high-throughput, utilizing assay methods also developed under the program.

Assay Development **[*]**

[*]. If a genetic selection or a visual +/- activity screen utilizing is possible, very large numbers of isolates **[*]** may be screened to enrich for live isolates and exclude inactive isolates. Such selections and assays are possible for this target, and these will be tested for utility in this program. For example, a shuffled library expressed in a host strain (without **[*]** activity) may be plated on agar containing **[*]**; only isolates possessing active enzyme would survive. Alternatively, a colorimetric substrate or assay may be available, allowing for rapid visual identification of active isolates. These techniques are particularly useful when libraries **[*]**. More analytical methods for the isolation/extraction, separation, and detection of relevant compounds (such as **[*]**) will be developed and implemented. At least one analytical method should be suitable for use in sufficient throughput (e.g. **[*]**) to enable characterization of shuffled libraries, even in the absence of a prescreen or selection. The screening process will continue through more refined and more information-rich assays in lower throughput until the desired understanding of activity is obtained.

Appropriate characteristics for the desired enzyme activity will be incorporated into the assay, **[*].**

Ultimately, more complex assays will be used for screening. For example, assays incorporating **[*]**, and/or a **[*]** enzyme system, are important to the confirmation of the desired activity. However, such complex assays and systems require development. Therefore, the initial screening will proceed with **[*]** (e.g. **[*]** and **[*]**); the complex assays will be developed in parallel until they are sufficiently developed for use in the screening program. The enablement of **[*]** for **[*]** for assay is a significantly **[*]**. This will include accurate **[*]** of **[*]**, and **[*]** amenable implementation of **[*]** throughout the assay and **[*]** process. **[*]** (available commercially) and **[*]** are included in this format. External sources of **[*]** will need to be

identified and secured during the course of the program. Such sources might include **[*]**, **[*]** and/or **[*]**. **[*]** may contain significant amounts of other **[*]**, and will likely present additional **[*]** and assay.

[*].

The development of such **[*]** assays enables the assessment of **[*]** in systems, as well as supporting the future screening needs for the evolution of additional **[*]** enzymes, **[*]**.

Evolution Campaign [*]

[*]. Once sufficient genetic diversity is in hand, shuffled libraries will be generated to recombine mutations. Family shuffling, a technique that can recombine related genes (e.g. from different organisms) may also be used to exchange large blocks of genetic sequences. As such libraries are created and screened, the relationships between sequences and activities are assessed using a proprietary statistical method (ProSAR). Beneficial mutations and potentially beneficial mutations are carried through into subsequent library designs and rescreened, while deleterious mutations are discarded. Subsequent libraries may also include error-prone methods should additional diversity be desired in the library. This process of analysis, design, library construction and screening may be repeated many times to achieve desired activities.

It is anticipated that at least **[*]** rounds of shuffling and screening may be completed for this **[*]** within the 12 month period.

Establishing a Benchmark [*] System

The **[*]** improvement program entails **[*]**, which can then be used to assess shuffled **[*]** for improved properties. There are several different paths to enable this analysis. A preferred approach would entail cloning of the necessary **[*]** genes, production of enzymes separately, and formulation of the **[*]**. This approach would require functional expression of each of the **[*]** enzymes, and production of sufficient quantities of each enzyme for the activity studies. Using this approach, evolved enzyme variants may be substituted for unevolved enzymes (e.g. from the "baseline" system), and activities may be compared. Since this format allows for the independent control of each enzyme's loading, a factorial optimization of the **[*]** mixture is possible, **[*]**.

There are other approaches to enable a benchmark **[*]** system for the analysis of evolved enzyme variants. Although these are less desirable than that described above, they may be used as alternatives should difficulties arise. For example, it may be possible to obtain pure enzymes for each of the components from **[*]**, and proceed as above. A challenge to using this approach is that commercial **[*]** preparations tend to contain mixtures of **[*]**, making deconvolution of the activities difficult.

Alternatively, a **[*]** mixture such as that produced by a **[*]** producing organism (e.g. **[*]**) may be used as a baseline cocktail. The evolved enzyme could be spiked into the mixture, and activity compared to that obtained using the unevolved (parent) enzyme. This approach is similar to some commercial processes in which the activity of the system is "topped up" by the

addition of separately made enzymes. However, while this approach may be easier and quicker to achieve, the mixture of enzymes is neither controllable nor quantifiable, so the information derived from the experiment will like be of less value than that obtained by the preferred method above.

Another alternative would be to produce the **[*]** enzymes from **[*]**. This would provide stoichiometric control at the level, and perhaps assumed control of enzyme concentrations, although it would not enable independent control of each enzyme's concentration. This may also enable **[*]**.

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EXHIBIT 1.32

Year One Final Milestone

The Year One Final Milestone will consist of achievement of the **[*]** Performance Criteria and the Model **[*]** System Criteria set forth below:

[*] Performance Criteria:

A starting **[*]** enzyme will be evolved for improved activity using **[*]** substrate. Performance of the evolved **[*]** must show at least a **[*]** improvement compared to the performance of the starting **[*]** as measured by **[*]** under reaction conditions to include:

- **[*]** g/L substrate **[*]**
- **[*]** g/L **[*]**
- **[*]** buffer, **[*]**
- 24 h, **[*]** ◦ C

Model **[*]** System Criteria:

Put in place a model **[*]** system **[*]** will enable the evaluation of **[*]**.

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EXHIBIT 2.8(E)(II)

Form Sponsored Research Agreement

SPONSORED RESEARCH AGREEMENT

THIS SPONSORED RESEARCH AGREEMENT ("**Agreement**"), is made as of the __ day of _____, 200_ (the "**Effective Date**"), by and between **CODEXIS, INC.**, with principal place of business at 200 Penobscot Drive, Redwood City, California 94063 USA ("**Codexis**"), and _____, with a principal place of business at _____("**Company**").

In consideration of the mutual agreement between the parties hereto, it is agreed as follows:

Section 1. PRINCIPAL INVESTIGATOR AND RESEARCH PLAN

(a) Company will undertake the research project entitled "_____" ("**Study**"), in accordance with the research plan attached hereto as **Exhibit A** (the "**Research Plan**"), under the direction of _____ (the "**Principal Investigator**"). Any change in the scope of work to be performed with respect to the Study requires Codexis' prior written approval. The work will be commenced on _____, 200_ and will be completed within five (5) days thereafter.

(b) Company represents and warrants that it is in possession of all necessary equipment to accomplish the Study, including the specific equipment listed in Section __ of the Research Plan (the "will be due and payable in accordance with Section 3.6 only after the achievement of") and it will utilize such Necessary Equipment in the conduct of the Study.

(c) Company and Principal Investigator agree that all work for the Study will be performed at Company's facility located at_____ ("**Facility**"). Company and Principal Investigator agree that a single representative of Codexis (the "**Codexis Representative**") and a single representative (the "**Shell Representative**") of Equilon Enterprises LLC dba Shell Oil Products US ("**Shell**") shall be present at all times during the conduct of the Study at the Facility, which shall be scheduled at the mutual convenience of the Principal Investigator, the Codexis Representative and the Shell Representative.

Section 2. CODEXIS ENZYMES.

(a) Codexis will provide Principal Investigator with sufficient amounts of its [proprietary enzymes or microbes] identified on **Exhibit B** hereto (the "**Codexis Enzymes**") to conduct the Study as provided in the Research Plan. Company and Principal Investigator agree

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to use the Codexis Enzymes in strict accordance with the Research Plan, and not for any other purpose. Company and Principal Investigator shall not attempt to reverse engineer, deconstruct, in any way determine the structure or composition of any of the Codexis Enzymes, or modify the Codexis Enzymes in any way. Codexis Enzymes will not be used in humans under any circumstances, and will not be transferred to others outside of Principal Investigator's laboratory except with Codexis' prior written approval. Upon termination or expiration of the Study, Company and Principal Investigator will return any and all remaining quantities of Codexis Enzymes to Codexis.

(b) Company and Principal Investigator understand and agree that the Codexis Enzymes are experimental in nature and should be used with caution and prudence since all of their characteristics are not known. THE CODEXIS ENZYMES ARE SUPPLIED WITH NO WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

(c) Company and Principal Investigator acknowledge and agree that the Codexis Enzymes are and shall remain the sole property of Codexis.

(d) Company and Principal Investigator agree, to the extent permitted by governing law, to hold Codexis harmless from any claims or liability resulting from use of the Codexis Enzymes, except insofar as such claims or liability arise out of the gross negligence or wrongdoing of Codexis.

Section 3. PAYMENT

The total cost to Codexis for the work under this Agreement (inclusive of direct and indirect costs) is____ Dollars (US$____.00) to be paid to Company as follows: **[FILL IN SPECIFIC PAYMENT TERMS; WHAT FOLLOWS IS A SAMPLE APRPOACH]** (a) ____ Dollars (US$____.00) promptly after signing of this Agreement by each of the parties and the Principal Investigator, and receipt by Codexis (attn: Accounts Payable) of an invoice requesting such payment; and (b) ____ Dollars (US$____.00) promptly after receipt by Codexis (attn: _____) of a satisfactory final report for the Study (as set forth in Section 4) and receipt by Codexis (attn: Accounts Payable) of an invoice requesting such payment. Each check shall include the title of the Study and the name of the Company and the Principal Investigator.

Section 4. REPORT

(a) Principal Investigator will provide a written report to Codexis (to the attention of_____) regarding the work performed under the Research Plan, such report to be due no later than two (2) weeks after such work is completed. All reports shall be considered Confidential Information of Codexis (as defined below), and shall not be provided or disclosed to any party other than Codexis, except that a single copy of the report shall also be sent to Shell at the following address: _____.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

Section 5. TERM OF AGREEMENT AND TERMINATION

(a) This Agreement shall be in effect from the Effective Date through ____, 200_, unless earlier terminated as provided herein. The parties may extend the term of this Agreement by mutual written agreement.

(b) Either party may terminate this Agreement, such termination to be effective upon thirty (30) days' prior written notice to the other party, for any reason. If such termination is by Company, it shall refund any unused funding promptly to Codexis.

(c) If the Principal Investigator leaves the Company or is unable or unwilling to perform the Services required under this Agreement, Codexis may terminate this Agreement, with such termination to be effective thirty (30) days after written notice to the Company. The Company shall refund any unused funding promptly to Codexis.

(d) If Codexis terminates this Agreement pursuant to Section 5(c), Codexis will reimburse Company for all noncancellable obligations and expenses incurred through the date of termination. The provisions of Sections 2(b), 2(c), 2(d), 6, 7, 8, 10 and this Section 5(d) will survive expiration or termination of this Agreement.

Section 6. CONFIDENTIALITY

(a) Company and Principal Investigator agree to maintain in confidence and not to disclose or transfer to any other party the following: the existence and terms and conditions of this Sponsored Research Agreement; the Research Plan; all data and results of the work under this Agreement; all know-how, practices, processes, patentable and non-patentable inventions arising from the work under this Agreement; and all other information disclosed by Codexis to Company or Principal Investigator under this Agreement, whether in written, oral, graphic or electronic form (collectively referred to as "**Confidential Information**"). Company and Principal Investigator will use the Confidential Information only for purposes of conducting the Study and for no other purpose. Notwithstanding the foregoing, Company may disclose the Confidential Information to those of its employees who need to know such Confidential Information to perform its obligations under this Agreement, provided that such employees agree in writing to be bound by the terms of this Agreement.

(b) Disclosure of Confidential Information shall not be precluded if such disclosure is required under court order or applicable law or regulation, provided that Company first gives written notice to Codexis of the need for such disclosure so that Codexis may seek a protective order or other confidential treatment (if available).

(c) Upon termination or expiration of the Study, Company and Principal Investigator will return any and all Confidential Information to Codexis, except that Principal Investigator may retain one (1) copy solely for archival purposes.

(d) Notwithstanding anything to the contrary, Company and Principal

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Investigator may disclose (i) Confidential Information to the Shell Representative during the conduct of the Study, and (ii) the written report to Shell pursuant to Section 4(a).

(e) Without limiting the generality of the foregoing, Company and Principal Investigator acknowledge and agree that Confidential Information may not be published or disclosed in any scientific or other publication and this Section 6 precludes any such scientific or other publication or disclosure of any Confidential Information.

Section 7. PATENTS AND INVENTIONS

(a) At no additional cost, Company and Principal Investigator hereby assign to Codexis title to all know-how, all patentable and non-patentable inventions, and all other proprietary technology arising from the work under this Agreement or resulting from use of the Codexis Enzymes. Company warrants that each Company employee and other persons, if any, performing work under this Agreement is under obligation to assign all rights in any know-how, all patentable and non-patentable inventions, and all other proprietary technology resulting from the use of the Codexis Enzymes to Company. Codexis is free to use for any purposes information or materials supplied to it under this Agreement, and shall have the option (but not the obligation) to file at its own expense patent applications describing and claiming inventions it believes to be patentable. Company and Principal Investigator agree to cooperate, at Codexis' expense, in filing such applications (if any) and in the prosecution and maintenance of them before patent offices.

(b) No right or license is granted to Company or Principal Investigator with respect to the Codexis Enzymes, either expressly or by implication, other than the right to use the same for the work under the Research Plan in accordance with this Agreement.

Section 8. USE OF NAME

Company and Principal Investigator agree not to use Codexis' name without prior consent, except as necessary to identify Company as the Study site and Principal Investigator when required or desired to do so.

Section 9. NOTICES

Any notice to be given pursuant to this Agreement must be in writing and sent by telecopy or by overnight courier to the addresses set forth below. Notice shall be deemed to have been received on the same business day as telecopy (with machine confirmation of receipt) or three (3) business days following delivery of the document(s) to the courier.

If to Company:

_____

_____

_____

_____

_____

If to Codexis

Codexis, Inc.
Attn: General Counsel
200 Penobscot Drive
Redwood City, California 94063
Telecopy: +1 (650) 421-8108

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

With a copy to:

Telecopy: _____

Section 10. ASSIGNMENT

This Agreement shall not be assigned or otherwise transferred by Company or Principal Investigator to any party without Codexis' prior written consent.

Section 11. MISCELLANEOUS

(a) This Agreement, including **Exhibits A and B**, contains the entire agreement of the parties on the subject matter to which it relates, and supersedes all prior and contemporaneous proposals, discussions, and writings, by and between the parties, on such subject. No commitment or modification hereof shall be valid or binding upon the parties unless made in writing and signed by authorized representatives of the parties. No delay or omission by any party in exercising any right hereunder, at law or in equity, or any otherwise, shall impair any such right, or be construed as a waiver thereof, or any acquiescence therein, nor shall any single or partial exercise of any right preclude other or further exercise thereof, or the exercise of any other right. This Agreement shall be governed by the laws of _____, without regard to its conflict of laws principles.

(b) Company and Principal Investigator represent to Codexis that the terms of this Agreement do not violate and will not cause a breach of the terms of any other agreement or, to Company or Principal Investigator's knowledge, any applicable law, decree or regulations, to which Company or Principal Investigator is a party or by which it is subject or bound. Company and Principal Investigator further covenant that Company and Principal Investigator will not enter into any third party agreement where the terms of this Agreement will violate or cause a breach of the terms of such third party agreement.

(c) This Agreement may be executed in counterparts, each of which shall be treated as an original, but which together shall constitute a single instrument.

(d) No Third Party Beneficiaries. The parties to this Agreement do not intend that any terms hereof should be enforceable by any person who is not a party to this Agreement.

IN WITNESS WHEREOF, a duly authorized representative of each party has executed this Agreement as of the Effective Date set forth above.

CODEXIS, INC. **[COMPANY]**

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

By: _____	By: _____
Name: _____	Name: _____
Its: _____	Its: _____

I am the Principal Investigator for the Study described in this Agreement. By signing below, I indicate that I have reviewed this Agreement prior to committing to undertake the Study and agree to comply with the terms and conditions of this Agreement.

Principal Investigator Signature: _____

Name: _____

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SCHEDULE A

Series D Stock Purchase Agreement

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CODEXIS, INC.

SERIES D PREFERRED STOCK PURCHASE AGREEMENT

August 22, 2006

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EXHIBITS

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CODEXIS, INC.

SERIES D PREFERRED STOCK PURCHASE AGREEMENT

This Series D Preferred Stock Purchase Agreement (the "Agreement") is made and entered into as of August 22, 2006, by and among Codexis, Inc., a Delaware corporation (the "Company"), and the purchasers, severally and not jointly, listed on Exhibit A hereto, each of which is herein referred to as a "Purchaser" and all of which are collectively referred to herein as the "Purchasers".

Recitals

WHEREAS, the Company has authorized the sale and issuance of up to an aggregate of ten million one hundred thousand seven hundred and fifty six (10,100,756) shares of its Series D Preferred Stock (the "Shares"); and

WHEREAS, the Company desires to issue and sell the Shares to the Purchasers upon the terms and subject to the conditions set forth herein.

Agreement

NOW, THEREFORE, in consideration of the foregoing recitals and the mutual promises, representations, warranties, and covenants hereinafter set forth and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

1. Agreement to Sell and Purchase.

1.1 Authorization of Shares. On or prior to the Initial Closing (as defined in Section 2.1 below), the Company shall have authorized (a) the sale and issuance to the Purchasers of the Shares and (b) the issuance of such shares of Common Stock to be issued upon conversion of the Shares (the "Conversion Shares"). The Shares and the Conversion Shares shall have the rights, preferences, privileges and restrictions set forth in the Fifth Amended and Restated Certificate of Incorporation of the Company, in the form attached hereto as Exhibit B (the "Restated Charter"), which shall have been adopted by the Company and filed with the Secretary of State of the State of Delaware on or before the Initial Closing.

1.2 Sale and Purchase. Upon the terms and subject to the conditions hereof, at each Closing the Company hereby agrees to issue and sell to each Purchaser, and each Purchaser agrees to purchase from the Company, that number of Shares set forth opposite each Purchaser's name on Exhibit A hereto, at a purchase price of three dollars and ninety seven cents ($3.97) per share.

2. Closing, Delivery and Payment.

2.1 Closing. The initial closing of the sale and purchase of the Shares under this Agreement (the "Initial Closing") shall take place at 11:00 a.m., at the offices of Latham &

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Watkins LLP, 140 Scott Drive, Menlo Park, CA 94025 on such date as the Company and the Purchasers acquiring in the aggregate more than half of the Shares shall mutually agree, or at such other time, date and place as the Company and the Purchasers acquiring in the aggregate more than half of the Shares shall mutually agree (such date is hereinafter referred to as the "Initial Closing Date").

2.2 Subsequent Closings. Subject to the terms and conditions of this Agreement, the Company may sell, on or before October 22, 2006, any unsold Shares (up to a maximum aggregate of ten million one hundred thousand seven hundred and fifty six (10,100,756) shares at all Closings (as defined below), at the same price per share as the Shares sold at the Initial Closing to such other persons and entities as are determined by the Company and the Board of Directors of the Company, and approved in writing by holders of sixty percent (60%) of the Common Stock issuable or issued upon the conversion of the Shares (each approved new investor, an "Additional Purchaser"), following the fulfillment or waiver of the conditions set forth in Section 5 hereof or at such other time and place as the Company and the Additional Purchaser(s) mutually agree upon, orally or in writing (each of which time and place is designated as a "Subsequent Closing," and with the Initial Closing, each a "Closing"). Any Additional Purchaser shall be considered a "Purchaser" for purposes of this Agreement, and any Series D Preferred Stock so acquired by such Additional Purchaser shall be considered "Shares" for the purposes of this Agreement and all other agreements contemplated hereby upon execution by such Additional Purchaser of an appropriate counterpart signature page. Upon each such event, the Company shall prepare and distribute to the Purchasers (including the Additional Purchasers) a revised Exhibit A, which shall include the name of each Additional Purchaser and the number of shares of Series D Preferred Stock to be purchased by each Additional Purchaser. Upon the Subsequent Closing of the sale of shares of Series D Preferred Stock to any Additional Purchaser, such Additional Purchaser shall also, as evidenced by an applicable executed counterpart signature page, become a party to the Related Agreements and shall have the rights and obligations hereunder and thereunder. Each Subsequent Closing shall take place at the offices of Latham & Watkins LLP, 140 Scott Drive, Menlo Park, California. The Purchasers hereby irrevocably waive any pre-emptive rights or rights of first offer, and related notice rights, they may possess now or hereafter with respect to sales of Series D Preferred Stock made pursuant to this Section 2.2.

2.3 Delivery. At each Closing, upon the terms and subject to the conditions hereof, the Company will deliver to each Purchaser a certificate or certificates representing that number of Shares set forth opposite such Purchaser's name on Exhibit A hereto against payment of the purchase price therefore by check, wire transfer, cancellation of indebtedness (plus any accrued interest thereon) or any combination of the foregoing, at the option of each Purchaser. If a Purchaser effects payment in whole or in part by cancellation of indebtedness, then such Purchaser shall surrender to the Company for cancellation at the applicable Closing any evidence of such indebtedness or shall execute an instrument of cancellation in form and substance acceptable to the Company.

3. Representations and Warranties of the Company. Except as set forth on a Schedule of Exceptions delivered by the Company to the Purchasers, the Company hereby represents and warrants to the Purchasers as of the date of this Agreement and as of the Initial Closing as set forth below.

3.1 Organization, Good Standing and Qualification. The Company is a corporation duly organized, validly existing and in good standing under the laws of the State of Delaware. The Company has all requisite corporate power and authority: (i) to own and operate its properties and assets, (ii) to execute and deliver this Agreement, the Third Amended and Restated Investor Rights Agreement in the form attached hereto as Exhibit C (the "Investor Rights Agreement"), the Second Amended and Restated Right of First Refusal and Co-Sale Agreement in the form attached hereto as Exhibit D (the "Co-Sale Agreement") and the Third Amended and Restated Voting Agreement in the form attached hereto as Exhibit E (the "Voting Agreement") (collectively, the "Related Agreements"), (iii) to issue and sell the Shares and the Conversion Shares, (iv) to carry out the provisions of this Agreement, the Related Agreements and the Restated Charter and (v) to carry on its business as presently conducted and as proposed to be conducted. The Company is duly qualified and is authorized to do business and is in good standing as a foreign corporation in all jurisdictions in which the nature of its activities and of its properties (both owned and leased) makes such qualification necessary, except for those jurisdictions in which failure to do so would not have a material adverse effect on the Company or its business.

3.2 Subsidiaries. The Company does not own or control any equity security or other interest of any other corporation, limited partnership or other business entity. The Company is not a participant in any joint venture, partnership or similar arrangement.

3.3 Capitalization; Voting Rights.

(a) The authorized capital stock of the Company, immediately prior to the Initial Closing, consists of (i) forty million (40,000,000) shares of Common Stock, par value $0.0001 per share, of which one million, seven hundred twenty-four thousand, one hundred sixty six (1,724,166) shares are issued and outstanding, and (ii) twenty-six million six hundred fifteen thousand seven hundred forty-six (26,615,746) shares of Preferred Stock, par value $0.0001 per share, six million (6,0000,000) of which are designated Series A Preferred Stock, all of which are issued and outstanding, eight million one hundred one thousand one hundred one (8,101,101) of which are designated Series B Preferred Stock, all of which are issued and outstanding, one million five hundred fourteen thousand six hundred forty-five (1,514,645) of which are designated Series C Preferred Stock, all of which are issued and outstanding, and eleven million (11,000,000) of which are designated Series D Preferred Stock, none of which are issued and outstanding. The Company has a right of first refusal over transfers of all outstanding shares of Common Stock.

(b) The Company has reserved 9,100,000 shares of Common Stock for issuance to officers, directors, employees and consultants of the Company pursuant to its 2002 Stock Plan duly adopted by the Board of Directors and approved by the Company's stockholders (the "Stock Plan"). Of such reserved shares of Common Stock, 375,177 shares have been issued pursuant to exercised options, options to purchase 4,788,792 shares have been granted and are currently outstanding and 3,395,031 shares of Common Stock remain available for issuance pursuant to future grants under the Stock Plan. The Company has reserved (i) an aggregate of 46,176 shares of Common Stock for issuance to Lighthouse Capital Partners IV, L.P. and Lighthouse Capital Partners IV, L.P. pursuant to warrants dated February 12, 2004 (the "Lighthouse Warrants"), (ii) an aggregate maximum of 65,000 shares of Common Stock

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pursuant to the Non-Qualified Stock Option Agreement dated as of February 23, 2004 and Non-Qualified Stock Option Agreement dated as of January 1, 2005, each by and between the Company and Latham & Watkins LLP (the "Latham Options"), (iii) 9,100 shares of Common Stock for issuance to Oxford Finance Corporation pursuant to a warrant dated October 25, 2005 (the "Oxford Warrant") and (iv) an aggregate of 323,568 shares of Series D Preferred Stock for issuance to certain investors of the Company pursuant to warrants dated May 25, 2006 (the "Bridge Warrants"). At the Initial Closing, except for (i) outstanding options issued pursuant to the Stock Plan, the Lighthouse Warrants, the Latham Options, the Oxford Warrant and the Bridge Warrants and as set forth on Section 3.3(b) of the Schedule of Exceptions or options that may be issued in the ordinary course of business after August 22, 2006, (ii) the conversion privileges of the Preferred Stock and (iii) the rights granted pursuant to this Agreement and the Related Agreements, there are no outstanding options, warrants, rights (including conversion or preemptive rights and rights of first refusal), proxy or stockholder agreements, or agreements of any kind for the purchase or acquisition from the Company of any of its securities.

(c) All issued and outstanding shares of the Company's Common Stock and Preferred Stock (i) have been duly authorized and validly issued and are fully paid and nonassessable and (ii) were issued in compliance with all applicable state and federal laws concerning the issuance of securities.

(d) At the Initial Closing, the rights, preferences, privileges and restrictions of the Shares are as stated in the Restated Charter. Each series of Preferred Stock is convertible into Common Stock on a one-for-one basis as of the date hereof and the consummation of the transactions contemplated hereunder will not result in any anti-dilution adjustment or other similar adjustment to the outstanding shares of Preferred Stock. The Conversion Shares have been duly and validly reserved for issuance. When issued in compliance with the provisions of this Agreement and the Restated Charter, the Shares and the Conversion Shares will be validly issued, fully paid and nonassessable and will be free of any liens or encumbrances other than liens and encumbrances created by or imposed upon the Purchaser by entities other than the Company; provided, however, that the Shares and the Conversion Shares may be subject to restrictions on transfer under state and/or federal securities laws as set forth herein or as otherwise required by such laws at the time a transfer is proposed.

(e) All outstanding securities of the Company, including, without limitation, all outstanding shares of the capital stock of the Company, all shares of the capital stock of the Company issuable upon the conversion or exercise of all convertible or exercisable securities and all other securities that the Company is obligated to issue, are subject to a one hundred eighty (180) day "market stand-off" restriction upon an initial public offering of the Company's securities pursuant to a registration statement filed with the Securities and Exchange Commission ("SEC") pursuant to the Securities Act of 1933, as amended (the "Securities Act") in a form substantially identical to Section 2.12 of the Investor Rights Agreement.

(f) No stock plan, stock purchase, stock option or other agreement or understanding between the Company and any holder of any securities or rights exercisable or convertible for securities provides for acceleration or other changes in the vesting provisions or other terms of such agreement or understanding as the result of the occurrence of any event.

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3.4 Authorization; Binding Obligations. All corporate action on the part of the Company, its officers, directors and stockholders necessary for the authorization of this Agreement and the Related Agreements, the performance of all obligations of the Company hereunder and thereunder at the Initial Closing and the authorization, sale, issuance and delivery of the Shares pursuant hereto and the Conversion Shares pursuant to the Restated Charter has been taken or will be taken prior to the Initial Closing. The Agreement and the Related Agreements, when executed and delivered, will be valid and binding obligations of the Company enforceable in accordance with their terms, except (a) as limited by applicable bankruptcy, insolvency, reorganization, moratorium or other laws of general application affecting enforcement of creditors' rights, (b) general principles of equity that restrict the availability of equitable remedies, and (c) to the extent that the enforceability of the indemnification provisions may be limited by applicable laws. The issuance of the Shares hereunder and the subsequent conversion of the Shares into Conversion Shares are not and will not be subject to any preemptive rights or rights of first refusal that have not been properly waived or complied with.

3.5 Financial Statements. The Company has provided to the Purchasers (a) its financial statements (balance sheet and income and cash flow statements) at December 31, 2004, (b) its unaudited financial statements (balance sheet and income and cash flow statements) at December 31, 2005 and (c) its unaudited financial statements balance sheet and income and cash flow statements) as, at and for the six-month period ended June 30, 2006 (the "Statement Date") (collectively, the "Financial Statements"). The Financial Statements, together with the notes thereto, are complete and correct in all material respects and have been prepared in accordance with generally accepted accounting principles in the United States ("GAAP") consistently applied and present fairly the financial condition and position of the Company as of their respective dates; provided, however, that the unaudited Financial Statements are subject to normal recurring year-end audit adjustments (which will not be material either individually or in the aggregate), and do not contain all footnotes required under GAAP.

3.6 Liabilities. The Company has no material liabilities and no material contingent liabilities that are not disclosed in the Financial Statements, except (i) current liabilities incurred in the ordinary course of business subsequent to the Statement Date that have not been, either in any individual case or in the aggregate, materially adverse to the financial condition or operating results of the Company and (ii) obligations under contracts and commitments incurred in the ordinary course of business and not required under GAAP to be reflected in the Financial Statements, which, in both cases, individually or in the aggregate, are not material to the financial condition or operating results of the Company. The Company is not a guarantor or indemnitor of any indebtedness of any third party.

3.7 Agreements; Action.

(a) Except for the Related Agreements there are no agreements, understandings or proposed transactions between the Company and any of its officers, directors, affiliates or any affiliate thereof.

(b) There are no agreements, understandings, instruments, contracts or proposed transactions to which the Company is a party or by which it is bound, nor to its knowledge any judgments, orders, writs or decrees to which the Company is a party or by which

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it is bound, that may involve (i) obligations (contingent or otherwise) of, or payments to, the Company in excess of $50,000, or (ii) the transfer or license of any patent, copyright, trade secret or other proprietary right to or from the Company (other than licenses arising from the purchase of "off the shelf" or other standard products), (iii) indemnification by the Company with respect to infringements of proprietary rights (other than indemnification obligations arising from purchase or license agreements entered into in the ordinary course of business), (iv) provisions restricting or affecting development, manufacture, or distribution of the Company's products or services or proposed products or services or (v) any other material agreement.

(c) The Company has not (i) declared or paid any dividends, or authorized or made any distribution upon or with respect to any class or series of its capital stock, (ii) incurred or guaranteed any indebtedness for money borrowed or any other liabilities individually in excess of $50,000 or, in the case of indebtedness and/or liabilities individually less than $50,000, in excess of $250,000 in the aggregate, (iii) made any loans or advances to any person, other than ordinary advances for travel expenses, or (iv) sold, exchanged or otherwise disposed of any of its assets or rights, other than the sale of its inventory in the ordinary course of business.

(d) For the purposes of subsections (b) and (c) above, all indebtedness, liabilities, agreements, understandings, instruments, contracts and proposed transactions involving the same person or entity (including persons or entities the Company has reason to believe are affiliated therewith) shall be aggregated for the purpose of meeting the individual minimum dollar amounts of such subsections.

(e) The Company is not a party to and is not bound by any contract, agreement or instrument that materially adversely affects its business as now conducted or as proposed to be conducted, its properties or its financial condition.

(f) The Company has not engaged in the past three months in any discussion (i) with any representative of any corporation or corporations whereby the Company has agreed to or plans to consolidate or merge the Company with or into any such corporation or corporations, (ii) with any corporation, partnership, association or other business entity or any individual whereby the Company has agreed to or plans to sell, convey or dispose of all or substantially all of the assets of the Company or a transaction or series of related transactions in which more than fifty percent (50%) of the voting power of the Company is to be disposed of, other than as contemplated by this Agreement, or (iii) whereby the Company has agreed to or plans to any other form of liquidation, dissolution or winding up of the Company.

3.8 Obligations to Related Parties. There are no obligations of the Company to officers, directors, stockholders, or employees of the Company other than (a) for payment of salary for services rendered, (b) reimbursement for reasonable expenses incurred by officers of the Company on behalf of the Company, not in excess of $5,000 per person and (c) stock option agreements outstanding under any stock option plan approved by the Board of Directors of the Company. None of the officers, directors or stockholders of the Company or any members of their immediate families, are indebted to the Company. No officer, director or stockholder, or any member of their immediate families, is, directly or indirectly, interested in any material

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contract with the Company (other than such contracts as relate to any such person's ownership of capital stock or other securities of the Company).

3.9 Changes. Since the Statement Date there has not been:

(a) Any change in the assets, liabilities, financial condition or operations of the Company from that reflected in the Financial Statements, other than changes in the ordinary course of business, none of which individually or in the aggregate has had a material adverse effect on such assets, liabilities, financial condition or operations of the Company;

(b) Any resignation or termination of any officer, key employee or group of employees of the Company; and the Company, to the best of its knowledge, does not know of the impending resignation or termination of employment of any such officer, key employee or group of employees;

(c) Any material change, except in the ordinary course of business, in the contingent obligations of the Company by way of guaranty, endorsement, indemnity, warranty or otherwise;

(d) Any damage, destruction or loss, whether or not covered by insurance, materially and adversely affecting the assets, properties, business, operations or financial condition of the Company (as such business is presently conducted and as it is proposed to be conducted);

(e) Any waiver by the Company of a valuable right or of a debt owed to it;

(f) Any direct or indirect loans or guarantees made by the Company to any stockholder, employee, officer or director of the Company, other than advances made in the ordinary course of business;

(g) Any material change in any compensation arrangement or agreement with any employee, officer, director or stockholder;

(h) Any declaration or payment of any dividend or other distribution of the assets of the Company or any direct or indirect redemption, purchase or other acquisition of the Company's capital stock by the Company;

(i) Any labor organization activity related to the Company;

(j) Any debt, obligation or liability incurred, assumed or guaranteed by the Company, except those for immaterial amounts and other liabilities incurred in the ordinary course of business;

(k) Any sale, assignment or transfer of any patents, trademarks, copyrights, trade secrets or other intangible assets;

(l) Any change in any material agreement, collaboration, partnership or arrangement to which the Company is a party or by which it is bound that materially and adversely affects the business, assets, liabilities, financial condition or operations of the Company (as such business is presently conducted and as it is proposed to be conducted);

(m) Any other event or condition of any character that, either individually or cumulatively, has materially and adversely affected the business, assets, liabilities, financial condition or operations of the Company (as such business is presently conducted and as it is proposed to be conducted);

(n) Any satisfaction or discharge of any lien, claim or encumbrance or payment of any obligation by the Company, except in the ordinary course of business and which is not material to the assets, properties, financial condition, operating results or business of the Company (as such business is presently conducted and as it is proposed to be conducted);

(o) Receipt of notice that there has been a loss of, or material order cancellation by, any major customer of the Company;

(p) Any mortgage, pledge, transfer of a security interest in, or lien, created by the Company, with respect to any of its material properties or assets, except liens for taxes not yet due or payable; or

(q) Any arrangement or commitment by the Company to do any of the acts described in subsection (a) through (p) above.

3.10 Title to Properties and Assets; Liens, Etc. The Company has good and marketable title to its properties and assets, including the properties and assets reflected in the most recent balance sheet included in the Financial Statements, and good title to its leasehold estates (except for leasehold improvements installed by the Company in connection with the lease dated October, 2003 with Metropolitan Life Insurance Company), in each case subject to no mortgage, pledge, lien, lease, encumbrance or charge, other than (a) those resulting from taxes that have not yet become delinquent, (b) minor liens and encumbrances that do not materially detract from the value of the property subject thereto or materially impair the operations of the Company, (c) liens arising from the Loan & Security Agreement dated February 12, 2004 with Lighthouse Capital Partners V, L.P. and the Master Security Agreement, dated as of October 25, 2005, with Oxford Finance Corporation, (d) liens arising from the Bridge Loan Agreement dated May 25, 2006, between the Company and the Investors (as defined therein), pursuant to the Security Agreement dated May 25, 2006 between the Company, the Investors (as defined therein) and the Collateral Agent (as defined therein) and (e) those that have otherwise arisen in the ordinary course of business which do not materially impair the Company's ownership or use of such property or assets. The Company is in compliance with all material terms of each lease to which it is a party or is otherwise bound.

3.11 Intellectual Property. The Company owns or possesses sufficient legal rights to all patents, trademarks, service marks, trade names, copyrights, trade secrets, licenses, information and proprietary rights and processes necessary for the conduct of its business as currently conducted and as proposed to be conducted without any conflict with, or infringement

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of, the rights of others. The Company owns or possesses sufficient legal rights to all patents, trademarks, service marks, formulae, trade names, copyrights, trade secrets, licenses, information and proprietary rights and processes necessary for the conduct of its business as currently conducted and as proposed to be conducted without any conflict with, or infringement of, the rights of others. There are no outstanding options, licenses, agreements, claims, encumbrances or shared ownership of interests of any kind relating to anything referred to above in this Section 3.11 that is to any extent owned by or exclusively licensed to the Company, nor is the Company bound by or a party to any options, licenses or agreements of any kind with respect to the patents, trademarks, service marks, trade names, domain names, copyrights, trade secrets, licenses, information, proprietary rights and/or processes of any other person or entity, except, in either case, for standard end-user, object code, internal-use software license and support/maintenance agreements. The Company has not received any communications alleging that the Company has violated or, by conducting its business as currently conducted and as proposed to be conducted, would violate any of the patents, trademarks, service marks, trade names, copyrights, trade secrets or other proprietary rights or processes of any other person or entity. The Company is not aware that any of the employees or independent contractors of the Company is obligated under any contract (including licenses, covenants or commitments of any nature) or other agreement, or subject to any judgment, decree or order of any court or administrative agency, that would interfere with the use of such employee's or independent contractor's best efforts to promote the interests of the Company or that would conflict with the Company's business as currently conducted and as proposed to be conducted. To the knowledge of the Company, neither the execution or delivery of this Agreement, nor the carrying on of the Company's business as currently conducted and as proposed to be conducted by the employees and independent contractors of the Company, nor the conduct of the Company's business as currently conducted and as proposed to be conducted will conflict with or result in a breach of the terms, conditions or provisions of, or constitute a default under, any contract, covenant or instrument under which any such employee or independent contractor is now obligated. The Company does not believes it is or will be necessary to use any inventions of any of the employees of the Company (or persons the Company currently intends to hire) made prior to or outside the scope of their employment by the Company. Set forth in Section 3.11 of the Schedule of Exceptions is a listing of all patents and pending patent applications and registrations and applications for trademarks, copyrights and domain names of, or exclusively licensed to, the Company.

3.12 Compliance with Other Instruments. The Company is not in violation or default of any term of its Restated Charter or Bylaws, or of any material provision of any mortgage, indenture, contract, agreement, instrument or contract to which it is party or by which it is bound or of any judgment, decree, order or writ. The execution, delivery, and performance of and compliance with this Agreement, and the Related Agreements, and the issuance and sale of the Shares pursuant hereto and of the Conversion Shares pursuant to the Restated Charter, will not, with or without the passage of time or giving of notice, result in any such violation, or be in conflict with or constitute a default under any such term, or result in the creation of any mortgage, pledge, lien, encumbrance or charge upon any of the properties or assets of the Company or the suspension, revocation, impairment, forfeiture or nonrenewal of any permit, license, authorization or approval applicable to the Company, its business or operations or any of its assets or properties.

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3.13 Litigation. There is no action, suit, proceeding or governmental investigation pending or, to the Company's knowledge, currently threatened against the Company that questions the validity of this Agreement or the Related Agreements or the right of the Company to enter into any of such agreements, or to consummate the transactions contemplated hereby or thereby, or that would reasonably be expected to result, either individually or in the aggregate, in any material adverse change in the assets, condition or affairs or business as proposed to be conducted of the Company, financially or otherwise, or any change in the current equity ownership of the Company. The foregoing includes, without limitation, actions pending or, to the Company's knowledge, threatened involving the prior employment of any of the Company's employees, their use in connection with the Company's business of any information or techniques allegedly proprietary to any of their former employers, or their obligations under any agreements with prior employers. The Company is not a party or subject to the provisions of any order, writ, injunction, judgment or decree of any court or government agency or instrumentality. There is no action, suit, proceeding or investigation by the Company currently pending or that the Company intends to initiate.

3.14 Taxes.

(a) Tax Definitions. For the purposes of this Agreement:

(i) "Tax" or "Taxes" shall mean any federal, state local or foreign income, gross receipts, license, payroll, employment, excise, severance, stamp, occupation, premium, windfall profits, environmental, customs duties, capital stock, franchise, profits, withholding, social security, unemployment, disability, real property, personal property, sales, use, transfer, registration, value added, alternative or add-on minimum, estimated, or other tax of any kind whatsoever, including any interest, penalty, or addition thereto, whether disputed or not.

(ii) "Tax Return" shall mean any return, declaration, report, claim for refund, or information return or statement relating to Taxes, including any schedule or attachment thereto, and including any amendment thereof.

(b) Tax Returns and Payments. The Company has filed all material Tax Returns required to be filed by it. These Tax Returns are true and correct in all material respects. All Taxes shown to be due and payable on such Tax Returns, on or before the Initial Closing, and, to the Company's knowledge, all other Taxes due and payable by the Company, have been paid or will be paid prior to the time they become delinquent. The provision for Taxes as shown in the Financial Statements (as defined below) is adequate for Taxes due or accrued as of the date thereof. To the knowledge of the Company, there is no pending dispute with any taxing authority relating to any of such Tax Returns or any proposed liability for any material Taxes to be imposed upon the properties or assets of the Company. The Company has withheld or collected from each payment made to each of its employees the amount of all material Taxes, including, but not limited to, federal income taxes, Federal Insurance Contribution Act taxes and Federal Unemployment Tax Act taxes required to be withheld or collected therefrom, and has paid the same to the proper Tax receiving officers or authorized depositories. The Company has neither elected pursuant to the Internal Revenue Code of 1986, as amended (the "Code") to be treated as an "S" corporation or a collapsible corporation pursuant to Section 341(f) or Section

1362(a) of the Code, nor has it made any other elections pursuant to the Code (other than elections which relate solely to matters of accounting, depreciation or amortization) which would have a material effect on the Company, its financial condition, its business as presently conducted or presently proposed to be conducted or any of its properties or material assets.

3.15 Employees. The Company has no collective bargaining agreements with any of its employees. There is no labor union organizing activity pending or, to the Company's knowledge, threatened with respect to the Company. The Company is not a party to or bound by any currently effective employment contract, deferred compensation arrangement, bonus plan, incentive plan, profit sharing plan, retirement agreement, employment benefit plan described in section 3(2)(A) or Section 3(2)(B) of the Employment Retirement Income Security Act of 1974, or other employee compensation plan or agreement. To the Company's knowledge, no employee, nor any consultant with whom the Company has contracted, is in violation of any term of any employment contract, proprietary information agreement or any other agreement relating to the right of any such individual to be employed by, or to contract with, the Company because of the nature of the business to be conducted by the Company; and to the Company's knowledge, the performance of the Company's contracts with its independent contractors, will not result in any such violation. The Company has not received any notice alleging that any such violation has occurred. The Company has complied in all material respects with all applicable state and federal equal employment opportunity and other laws related to employment and immigration insofar as non-compliance may create a Company liability. The Company is not a party to or bound by any currently effective employment contract, deferred compensation agreement, bonus plan, incentive plan, profit sharing plan, retirement agreement, or other employee compensation agreement.

3.16 Registration Rights and Voting Rights. Except as required pursuant to the Investor Rights Agreement, the Company is presently not under any obligation, and has not granted any rights, to register (as defined in Section 1.1 of the Investor Rights Agreement), including piggyback rights, any of the Company's presently outstanding securities or any of its securities that may hereafter be issued. To the Company's knowledge, except as contemplated in the Voting Agreement, no stockholder of the Company has entered into any agreement with respect to the voting of equity securities of the Company.

3.17 Compliance with Laws; Permits. The Company is not in violation of any applicable statute, rule, regulation, order or restriction of any domestic or foreign government or any instrumentality or agency thereof in respect of the conduct of its business or the ownership of its properties which violation would materially and adversely affect the business, assets, liabilities, financial condition or operations of the Company. No governmental orders, permissions, consents, approvals or authorizations are required to be obtained and no registrations or declarations are required to be filed in connection with the execution and delivery of this Agreement and the issuance of the Shares or the Conversion Shares, except such as has been duly and validly obtained or filed, or with respect to any filings that must be made after the Initial Closing, as will be filed in a timely manner. The Company has not been nor is in default in any respect under such franchises, permits, licenses or similar authority which default would materially and adversely affect the business, assets, liabilities, financial condition or operations of the Company.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

3.18 Environmental and Safety Laws.

(a) The Company is, and at all times since inception has been, in compliance with all applicable environmental laws or regulations and orders of any governments or governmental authorities, and with all permits, certificates, approvals, licenses and other authorizations relating thereto, except for non-compliance that would not materially and adversely affect the business, assets, liabilities, financial condition or operations of the Company. The term "environmental laws or regulations" means those statutes and regulations governing: (i) air emissions, (ii) liquid discharges to streams, ponds, ditches or other surface waters, (iii) liquid discharges to ground waters, (iv) liquid discharges to publicly-owned treatment works, (v) disposal of solid and/or hazardous wastes, (vi) marking, maintenance and/or removal of electrical equipment containing PCBs, (vii) manufacture and/or construction (including renovation) involving asbestos materials, (viii) activities in or adjacent to fresh water wetlands, flood hazard areas, coastal zone management areas and/or historic preservation areas, (ix) registration, operation, testing and/or removal or replacement of storage tanks for petroleum products and/or hazardous substances, and (x) emergency, planning and community right-to-know laws, including submission of hazardous substance inventory information to any authorities under any applicable jurisdictions.

(b) Except in a manner that would not result in material liability to the Company, the Company has not caused, nor is it causing, any disposals, releases, or threatened releases of any Hazardous Materials (as defined below) on or under any properties that the Company (i) owns, leases, occupies or operates or (ii) previously owned, leased, occupied or operated.

(c) The Company has not either (i) arranged for the disposal or treatment of Hazardous Material at any facility or site owned or operated by another person from which facility or site there has been a release or there is a release or threatened release of a Hazardous Material, or (ii) accepted any Hazardous Material for transport to disposal or treatment facilities or other sites selected by the Company, from which facilities or sites there has been a release or there is a release or threatened release of a Hazardous Material.

(d) The Company has not installed, used, buried or removed any surface impoundment or underground tank or vessel or sump, drain or pipeline which holds or held Hazardous Materials on properties owned, leased, occupied or operated by the Company.

(e) There has been no claim, and there are no pending or threatened claims, including without limitation any litigation, administrative proceedings or investigations or any other actions, claims, demands, notices of potential responsibility or requests for information brought or threatened, against the Company alleging liability of the Company with respect to the presence, disposal, release or threatened release of any Hazardous Material on, from or under any of the properties referenced in (b) above or otherwise relating to potential environmental liabilities, or any settlement reached by the Company relating to any of the foregoing.

(f) From the date hereof through and including the Initial Closing, the Company shall immediately provide the Purchasers with a copy of any notice, citation or

complaint alleging that the Company is not in compliance with any environmental laws or regulations.

As used in this Agreement, "Hazardous Material" means any material, substance, waste or component thereof (whether a liquid, solid, or gas) that is prohibited, controlled, or regulated by any governmental entity having jurisdiction as a contaminant, pollutant, dangerous substance, toxic substance, hazardous waste, hazardous substance, hazardous material, dangerous good or petroleum, its derivatives, by-products or other hydrocarbons, pursuant to any applicable environmental or health and safety law, rule, or regulation.

3.19 Offering Valid. Assuming the accuracy of the representations and warranties of the Purchasers contained in Section 4.2, the offer, sale and issuance of the Shares and the Conversion Shares will be exempt from the registration requirements of the Securities Act, and will be exempt from registration, permit or qualification requirements of all applicable state securities laws. Neither the Company nor any agent on its behalf has solicited or will solicit any offers to sell or has offered to sell or will offer to sell all or any part of the Shares to any person or persons so as to bring the sale of such Shares by the Company within the registration provisions of the Securities Act or any state securities laws.

3.20 Full Disclosure. The Company has provided the Purchasers with all information requested by the Purchasers in connection with its decision to purchase the Shares, including all information the Company believes is reasonably necessary to make such investment decision. No certificates made or delivered in connection with this agreement or the Related Agreements contain any untrue statement of a material fact or omits to state a material fact necessary to make the statements herein or therein misleading.

3.21 Minute Books. The minute books of the Company made available to such Purchaser contain a complete summary of all meetings of directors and stockholders since the time of incorporation and reflect all transactions referred to in such minutes accurately in all material respects.

3.22 Real Property Holding Corporation. The Company is not a real property holding corporation within the meaning of Section 897(c)(2) of the Code and any regulations promulgated thereunder.

3.23 Executive Officers and Directors. To the knowledge of the Company no executive officer, person nominated to become an executive officer, director or person nominated to become a director of the Company (a) has filed a petition under the Federal bankruptcy laws or any state insolvency law, been adjudged a bankrupt or made a general assignment for benefit of creditors, or been an officer, director or principal of any entity that was reorganized in bankruptcy, adjudged a bankrupt or made a general assignment for benefit of creditors, (b) has been convicted in a criminal proceeding or is a named subject of a pending criminal proceeding (excluding minor traffic violations), (c) has been the subject of any professional disciplinary proceeding, (d) was the subject of any order, judgment, or decree, not subsequently reversed, suspended or vacated, of any court of competent jurisdiction or any Federal or State authority, permanently or temporarily enjoining such person from, or otherwise limiting, such person from any type of business practice, (e) has been suspended or expelled

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from membership in any securities or commodities exchange, association of securities or commodities dealers or investment advisors, (f) has had a license or registration as a dealer, broker, investment advisor or salesman, futures commission merchant, associated person, commodity pool operator, or commodity trading advisor denied, suspended or revoked, (g) has been enjoined or restrained by any court or government agency from the issuance, sale or offer for sale of securities or commodities, rendering securities or commodities advice, handling or managing trading accounts, or continuing any practices in connection with securities or commodities, or (h) has used or been known by any other name.

3.24 Insurance. The Company has in full force and effect fire and casualty insurance policies, with extended coverage, sufficient in amount (subject to reasonable deductibles) to allow it to replace any of its properties that might be damaged or destroyed. The Company has in full force and effect products liability and errors and omissions insurance in amounts customary for companies similarly situated.

3.25 Regulatory Compliance. As to each of the products of the Company, including, without limitation, products or compounds currently under research and/or development by the Company or its Subsidiary, subject to the jurisdiction of the Food and Drug Administration ("FDA") under the Federal Food, Drug and Cosmetic Act and the regulations thereunder ("FDCA") (each such product, a "Life Science Product"), such Life Science Product is being researched, developed, manufactured, tested, distributed, studied and/or marketed in compliance in all material respects with all applicable requirements under the FDCA and similar laws and regulations applicable to such Life Science Product, including those relating to investigational use, premarket approval, good manufacturing practices, labeling, advertising, record keeping, filing of reports and security. The Company has not received any notice or other communication from the FDA or any other federal, state or foreign governmental entity (i) contesting the premarket approval of, the uses of or the labeling and promotion of any Life Science Product or (ii) otherwise alleging any violation by the Company of any law, regulation or other legal provision applicable to a Life Science Product. Neither the Company, nor to the Company's knowledge, any officer, employee or agent of the Company has, with respect to a Life Science Product, (i) made an untrue statement of a material fact or fraudulent statement to the FDA or other federal, state or foreign governmental entity performing similar functions or (ii) failed to disclose a material fact required to be disclosed to the FDA or such other federal, state or foreign governmental entity.

4. Representations and Warranties of the Purchasers. Each Purchaser hereby represents and warrants to the Company as follows (such representations and warranties do not lessen or obviate the representations and warranties of the Company set forth in this Agreement):

4.1 Requisite Power and Authority. Such Purchaser has all necessary power and authority under all applicable provisions of law and regulations to execute and deliver this Agreement and the Related Agreements and to carry out their provisions. All action on such Purchaser's part required for the lawful execution and delivery of this Agreement and the Related Agreements have been or will be effectively taken prior to the Closing. Upon their execution and delivery, this Agreement and the Related Agreements will be valid and binding obligations of the Purchaser, enforceable in accordance with their terms, except (a) as limited by applicable bankruptcy, insolvency, reorganization, moratorium or other laws of general

application affecting enforcement of creditors' rights, (b) as limited by general principles of equity that restrict the availability of equitable remedies, and (c) to the extent that the enforceability of indemnification provisions may be limited by applicable laws.

4.2 Investment Representations. Such Purchaser understands that neither the Shares nor the Conversion Shares have been registered under the Securities Act. Such Purchaser also understands that the Shares are being offered and sold pursuant to an exemption from registration contained in the Securities Act based in part upon such Purchaser's representations contained in the Agreement. Such Purchaser hereby represents and warrants as follows:

(a) Purchaser Bears Economic Risk. Such Purchaser has substantial experience in evaluating and investing in private placement transactions of securities in companies similar to the Company so that it is capable of evaluating the merits and risks of its investment in the Company and has the capacity to protect its own interests. Such Purchaser must bear the economic risk of this investment indefinitely unless the Shares (or the Conversion Shares) are registered pursuant to the Securities Act, or an exemption from registration is available. Such Purchaser understands that the Company has no present intention of registering the Shares, the Conversion Shares or any shares of its Common Stock. Such Purchaser also understands that there is no assurance that any exemption from registration under the Securities Act will be available and that, even if available, such exemption may not allow such Purchaser to transfer all or any portion of the Shares or the Conversion Shares under the circumstances, in the amounts or at the times such Purchaser might propose.

(b) Acquisition for Own Account. Such Purchaser is acquiring the Shares and the Conversion Shares for such Purchaser's own account for investment only, and not with a view towards their distribution.

(c) Purchaser Can Protect Its Interest. Such Purchaser represents that by reason of its, or of its management's, business or financial experience, such Purchaser has the capacity to protect its own interests in connection with the transactions contemplated in this Agreement, and the Related Agreements. Further, such Purchaser is aware of no publication of any advertisement in connection with the transactions contemplated in the Agreement.

(d) Accredited Investor. Such Purchaser represents that it is an accredited investor within the meaning of Regulation D under the Securities Act.

(e) Company Information. Such Purchaser has received and read the Financial Statements and has had an opportunity to discuss the Company's business, management and financial affairs with directors, officers and management of the Company and has had the opportunity to review the Company's operations and facilities. Such Purchaser has also had the opportunity to ask questions of and receive answers from, the Company and its management regarding the terms and conditions of this investment.

(f) Rule 144. Such Purchaser acknowledges and agrees that the Shares, and, if issued, the Conversion Shares are "restricted securities" as defined in Rule 144 promulgated under the Securities Act as in effect from time to time and must be held indefinitely unless they are subsequently registered under the Securities Act or an exemption from such

registration is available. Such Purchaser has been advised or is aware of the provisions of Rule 144, which permits limited resale of shares purchased in a private placement subject to the satisfaction of certain conditions, including, among other things: the availability of certain current public information about the Company, the resale occurring following the required holding period under Rule 144 and the number of shares being sold during any three-month period not exceeding specified limitations.

(g) Residence. The office or offices of such Purchaser in which its investment decision was made is located at the address of such Purchaser set forth on the signature page hereto.

4.3 Transfer Restrictions. Such Purchaser acknowledges and agrees that the Shares and, if issued, the Conversion Shares are subject to restrictions on transfer as set forth in the Investor Rights Agreement.

5. Conditions to Closing.

5.1 Conditions to the Purchasers' Obligations at the Closing. The obligations of each Purchaser to purchase Shares at the Closing are subject to the satisfaction, at or prior to the Initial Closing Date, of the following conditions, the waiver of which shall not be effective against any Purchaser who does not consent in writing thereto:

(a) Representations and Warranties True; Performance of Obligations. The representations and warranties made by the Company in Section 3 shall be true and correct in all material respects as of the Initial Closing Date, with the same force and effect as if they had been made as of the Initial Closing Date, and the Company shall have performed all obligations and conditions herein required to be performed or observed by it on or prior to the Initial Closing.

(b) Consents, Permits, and Waivers. The Company shall have obtained any and all consents, permits and waivers necessary or appropriate for consummation of the transactions contemplated by the Agreement and the Related Agreements, except for such as may be properly obtained subsequent to the Initial Closing.

(c) Filing of Restated Charter. The Restated Charter shall have been filed with the Secretary of State of the State of Delaware and shall continue to be in full force and effect as of the Initial Closing Date.

(d) Compliance Certificate. The Company shall have delivered to each Purchaser a Compliance Certificate, executed by the President of the Company dated the Initial Closing Date, to the effect that the conditions specified in subsections (a), (b) and (c) of this Section 5.1 have been satisfied and that there has been no material adverse change in the business, operations, properties or assets of the Company since the Statement Date.

(e) Secretary's Certificate. Each Purchaser shall have received from the Company's Secretary or Assistant Secretary, a certificate having attached thereto (i) the Company's Certificate of Incorporation as in effect at the time of the Initial Closing, (ii) the

Company's Bylaws as in effect at the time of the Initial Closing, (iii) resolutions approved by the Board of Directors authorizing the transactions contemplated hereby, (iv) resolutions approved by the Company's stockholders authorizing the filing of the Restated Charter, and (v) good standing certificates (including tax good standing) with respect to the Company from the applicable authority(ies) in Delaware, California and any other jurisdiction in which the Company is qualified to do business, dated a recent date before the Initial Closing.

(f) Investor Rights Agreement. The Investor Rights Agreement substantially in the form attached hereto as Exhibit C shall have been executed and delivered by the parties thereto other than each Purchaser.

(g) Co-Sale Agreement. The Co-Sale Agreement substantially in the form attached hereto as Exhibit D shall have been executed and delivered by the parties thereto other than each Purchaser.

(h) Voting Agreement. The Voting Agreement substantially in the form attached hereto as Exhibit E shall have been executed and delivered by the parties thereto other than each Purchaser.

(i) Legal Opinion. Each Purchaser shall have received from legal counsel to the Company an opinion addressed to them, dated as of the Initial Closing Date, in substantially the form attached hereto as Exhibit F.

(j) Proceedings and Documents. All corporate and other proceedings in connection with the transactions contemplated at the Initial Closing hereby and all documents and instruments incident to such transactions shall be reasonably satisfactory in substance and form to each Purchaser and its special counsel, as applicable, and each Purchaser and its special counsel, as applicable, shall have received all such counterpart originals or copies of such documents as they may reasonably request.

(k) Performance of Obligations. The Company shall have performed and complied with all agreements and conditions herein required to be performed or complied with by the Company on or before the Initial Closing.

(l) Board of Directors. The Board shall consist of seven (7) members, which members shall be Alan Shaw, Bernard Kelley, Thomas Baruch, Patrick Enright, Russell Howard and Daniel Wang. There shall be one vacancy on the Board.

(m) Amendment to Maxygen Agreement. The Company shall have entered into an amendment to the License Agreement, effective as of March 28, 2002, as amended, between Maxygen, Inc. and the Company.

5.2 Conditions to the Company's Obligations at the Closing. The Company's obligation to issue and sell the Shares at each Closing is subject to the satisfaction, on or prior to such Closing, of the following conditions:

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(a) Representations and Warranties True. The representations and warranties in Section 4 made by each Purchaser shall be true and correct in all material respects as of the Closing, with the same force and effect as if they had been made on and as of that date.

(b) Consents, Permits, and Waivers. The Company shall have obtained any and all consents, permits and waivers necessary or appropriate for consummation of the transactions contemplated by the Agreement and the Related Agreements, except for such as may be properly obtained subsequent to the Closing.

(c) Performance of Obligations. The Purchasers shall have performed and complied with all agreements and conditions herein required to be performed or complied with by the Purchasers on or before the Closing.

(d) Filing of Restated Charter. The Restated Charter shall have been filed with the Secretary of State of the State of Delaware.

(e) Investor Rights Agreement. The Investor Rights Agreement substantially in the form attached hereto asExhibit C shall have been executed and delivered by the parties thereto other than the Company.

(f) Co-Sale Agreement. The Co-Sale Agreement substantially in the form attached hereto asExhibit D shall have been executed and delivered by the parties thereto other than the Company.

(g) Voting Agreement. The Voting Agreement substantially in the form attached hereto asExhibit E shall have been executed and delivered by the parties thereto other than the Company.

6. Miscellaneous.

6.1 Governing Law. This Agreement shall be governed in all respects by the laws of the State of California as such laws are applied to agreements between California residents entered into and performed entirely in California.

6.2 Survival. The representations, warranties and agreements made herein shall survive the closing of the transactions contemplated hereby, and shall in no way be affected by any investigation of the subject matter thereof made by or on behalf of the Purchaser or the Company. All statements as to factual matters contained in any certificate or other instrument delivered by or on behalf of the Company pursuant hereto in connection with the transactions contemplated hereby shall be deemed to be representations and warranties by the Company hereunder solely as of the date of such certificate or instrument.

6.3 Successors and Assigns. Except as otherwise provided herein, the provisions hereof shall inure to the benefit of, and be binding upon, the successors, assigns, heirs, executors and administrators of the parties hereto; provided, however, that the rights of a Purchaser to purchase Shares shall not be assignable without the consent of the Company; provided, further, however, the rights under this Agreement may be assignable to any entity affiliated by common control (or other related entity) of a Purchaser. Nothing in this Agreement,

express or implied, is intended to confer upon any party other than the parties hereto or their respective successors and assigns and rights, remedies, obligations, or liabilities under or by reason of this Agreement, except as expressly provided by this Agreement.

6.4 Entire Agreement. This Agreement, the exhibits and schedules hereto, the Related Agreements and the other documents delivered pursuant hereto constitute the full and entire understanding and agreement between the parties with regard to the subjects hereof and no party shall be liable or bound to any other in any manner by any representations, warranties, covenants and agreements except as specifically set forth herein and therein.

6.5 Severability. In case any provision of the Agreement shall be invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby and this Agreement shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein.

6.6 Amendment and Waiver. This Agreement may be amended or modified only upon the written consent of the Company and holders of at least sixty percent (60%) of the Common Stock issuable or issued upon the conversion of the Shares.

6.7 Delays or Omissions. It is agreed that no delay or omission to exercise any right, power or remedy accruing to any party, upon any breach, default or noncompliance by another party under this Agreement, the Related Agreements or the Restated Charter, shall impair any such right, power or remedy, nor shall it be construed to be a waiver of any such breach, default or noncompliance, or any acquiescence therein, or of or in any similar breach, default or noncompliance thereafter occurring. It is further agreed that any waiver, permit, consent or approval of any kind or character on the Purchaser's part of any breach, default or noncompliance under this Agreement, the Related Agreements or under the Restated Charter or any waiver on such party's part of any provisions or conditions of the Agreement, the Related Agreements, or the Restated Charter must be in writing and shall be effective only to the extent specifically set forth in such writing. All remedies, either under this Agreement, the Related Agreements, the Restated Charter, by law, or otherwise afforded to any party, shall be cumulative and not alternative.

6.8 Notices. All notices required or permitted hereunder shall be in writing and shall be deemed effectively given: (a) upon personal delivery to the party to be notified, (b) when sent by confirmed telex or facsimile if sent during normal business hours of the recipient, if not, then on the next business day, (c) five (5) days after having been sent by registered or certified mail, return receipt requested, postage prepaid, or (d) one (1) day after deposit with a nationally recognized overnight courier, specifying next day delivery, with written verification of receipt. All communications shall be sent to the respective addresses of the parties as set forth on the signature page hereof or at such other address as the Company or the Purchasers may designate by ten (10) days advance written notice to the other party hereto.

6.9 Expenses. The Company and each Purchaser shall bear their own expenses and legal fees incurred on their behalf with respect to this Agreement and the transactions contemplated hereby; provided, however, that at the Initial Closing, the Company shall pay the reasonable and documented fees and expenses, not to exceed $120,000 in the

aggregate, of (i) Gunderson Dettmer Stough Villeneuve Franklin & Hachigian, LLP, special counsel to Bio*One, and (ii) Foley & Lardner LP, intellectual property counsel to Bio*One, in connection with the transactions contemplated by this Agreement.

6.10 Attorneys' Fees. In the event that any suit or action is instituted to enforce any provision in this Agreement, the prevailing party in such dispute shall be entitled to recover from the losing party all fees, costs and expenses of enforcing any right of such prevailing party under or with respect to this Agreement, including without limitation, such reasonable fees and expenses of attorneys and accountants, which shall include, without limitation, all fees, costs and expenses of appeals.

6.11 Titles and Subtitles. The titles of the sections and subsections of the Agreement are for convenience of reference only and are not to be considered in construing this Agreement.

6.12 Counterparts. This Agreement may be executed in any number of counterparts and by facsimile, each of which shall be an original, but all of which together shall constitute one instrument.

6.13 Broker's Fees. Each party hereto represents and warrants that no agent, broker, investment banker, person or firm acting on behalf of or under the authority of such party hereto is or will be entitled to any broker's or finder's fee or any other commission directly or indirectly in connection with the transactions contemplated herein. Each party hereto further agrees to indemnify each other party for any claims, losses or expenses incurred by such other party as a result of the representation in this Section 6.13 being untrue.

6.14 Pronouns. All pronouns contained herein, and any variations thereof, shall be deemed to refer to the masculine, feminine or neutral, singular or plural, as to the identity of the parties hereto may require.

6.15 California Corporate Securities Law. THE SALE OF THE SECURITIES WHICH ARE THE SUBJECT OF THIS AGREEMENT HAS NOT BEEN QUALIFIED WITH THE COMMISSIONER OF CORPORATIONS OF THE STATE OF CALIFORNIA AND THE ISSUANCE OF SUCH SECURITIES OR THE PAYMENT OR RECEIPT OF ANY PART OF THE CONSIDERATION THEREFOR PRIOR TO SUCH QUALIFICATION OR IN THE ABSENCE OF AN EXEMPTION FROM SUCH QUALIFICATION IS UNLAWFUL. PRIOR TO ACCEPTANCE OF SUCH CONSIDERATION BY THE COMPANY, THE RIGHTS OF ALL PARTIES TO THIS AGREEMENT ARE EXPRESSLY CONDITIONED UPON SUCH QUALIFICATION BEING OBTAINED OR AN EXEMPTION FROM SUCH QUALIFICATION BEING AVAILABLE.

(*Signature Page Follows*)

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IN WITNESS WHEREOF, the parties hereto have executed this Series D Preferred Stock Purchase Agreement as of the date set forth in the first paragraph hereof.

CODEXIS, INC.

By: _____
Name:
Title:

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PURCHASERS:

MAXYGEN, INC.

By: _____
Name:
Title:

CMEA VENTURES LIFE SCIENCES 2000, L.P.

By: _____
Name:
Title:

CMEA VENTURES LIFE SCIENCES 2000, CIVIL LAW PARTNERSHIP

By: _____
Name:
Title:

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PEQUOT PRIVATE EQUITY FUND III, L.P.

By: PEQUOT CAPITAL MANAGEMENT, INC.,
its investment manager

By: _____
Name:
Title:

PEQUOT OFFSHORE PRIVATE EQUITY PARTNERS III, L.P.

By: PEQUOT CAPITAL MANAGEMENT, INC.,
its investment manager

By: _____
Name:
Title:

CTTV INVESTMENTS LLC

By: _____
Name:
Title:

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BIOMEDICAL SCIENCES INVESTMENT FUND PTE LTD

By: _____
Name:
Title:

ROBERT W. CRANMER-BROWN

By: _____
Name:

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THE CONUS FUND, L.P.

By: _____
Name:
Title:

EAST HUDSON INC. (BVI)

By: _____
Name:
Title:

THE CONUS FUND OFFSHORE LTD.

By: _____
Name:
Title:

THE CONUS FUND (QP) L.P.

By: _____
Name:
Title:

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EQUILON ENTERPRISES LLC DBA SHELL OIL PRODUCTS US

By: _____
Name:
Title:

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EXHIBIT A

SCHEDULE OF PURCHASERS

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SCHEDULE B

Form of Series E Stock Purchase Agreement

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CODEXIS, INC.

SERIES E PREFERRED STOCK PURCHASE AGREEMENT

November 13, 2007

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EXHIBITS

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CODEXIS, INC.

SERIES E PREFERRED STOCK PURCHASE AGREEMENT

This Series E Preferred Stock Purchase Agreement (the "Agreement") is made and entered into as of November 13, 2007, by and among Codexis, Inc., a Delaware corporation (the "Company"), and the purchasers, severally and not jointly, listed on Exhibit A hereto, each of which is herein referred to as a "Purchaser" and all of which are collectively referred to herein as the "Purchasers".

Recitals

WHEREAS, the Company has authorized the sale and issuance of up to an aggregate of six million four hundred thirty-four thousand three hundred thirty-eight (6,434,338) shares of its Series E Preferred Stock (the "Shares"); and

WHEREAS, the Company desires to issue and sell the Shares to the Purchasers upon the terms and subject to the conditions set forth herein.

Agreement

NOW, THEREFORE, in consideration of the foregoing recitals and the mutual promises, representations, warranties, and covenants hereinafter set forth and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

1. Agreement to Sell and Purchase.

1.1 Authorization of Shares. On or prior to the Initial Closing (as defined in Section 2.1 below), the Company shall have authorized (a) the sale and issuance to the Purchasers of the Shares and (b) the issuance of such shares of Common Stock to be issued upon conversion of the Shares (the "Conversion Shares"). The Shares and the Conversion Shares shall have the rights, preferences, privileges and restrictions set forth in the Sixth Amended and Restated Certificate of Incorporation of the Company, in the form attached hereto as Exhibit B (the "Restated Charter"), which shall have been adopted by the Company and filed with the Secretary of State of the State of Delaware on or before the Initial Closing.

1.2 Sale and Purchase. Upon the terms and subject to the conditions hereof, at each Closing the Company hereby agrees to issue and sell to each Purchaser, and each Purchaser agrees to purchase from the Company, that number of Shares set forth opposite each Purchaser's name on Exhibit A hereto, at a purchase price of eight dollars and fifty cents ($8.50) per share.

2. Closing, Delivery and Payment.

2.1 Closing. The initial closing of the sale and purchase of the Shares under this Agreement (the "Initial Closing") shall take place at 11:00 a.m., Pacific Time, at the offices of Latham & Watkins LLP, 140 Scott Drive, Menlo Park, CA 94025 on such date as the

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Company and the Purchasers acquiring in the aggregate more than half of the Shares shall mutually agree, or at such other time, date and place as the Company and the Purchasers acquiring in the aggregate more than half of the Shares shall mutually agree (such date is hereinafter referred to as the "Initial Closing Date").

2.2 Subsequent Closings. Subject to the terms and conditions of this Agreement, the Company may sell, on or before December 5, 2007, any unsold Shares (up to a maximum aggregate of six million four hundred thirty-four thousand three hundred thirty-eight (6,434,338) Shares at all Closings (as defined below), at the same price per share as the Shares sold at the Initial Closing to such other persons and entities as are determined by the Company and the Board of Directors of the Company (each such new investor, an "Additional Purchaser"), following the fulfillment or waiver of the conditions set forth in Section 5 hereof or at such other time and place as the Company and the Additional Purchaser(s) mutually agree upon, orally or in writing (each of which time and place is designated as a "Subsequent Closing," and with the Initial Closing, each a "Closing"). Any Additional Purchaser shall be considered a "Purchaser" for purposes of this Agreement, and any Series E Preferred Stock so acquired by such Additional Purchaser shall be considered "Shares" for the purposes of this Agreement and all other agreements contemplated hereby upon execution by such Additional Purchaser of an appropriate counterpart signature page. Upon each such event, the Company shall prepare and distribute to the Purchasers (including the Additional Purchasers) a revised Exhibit A, which shall include the name of each Additional Purchaser and the number of shares of Series E Preferred Stock to be purchased by each Additional Purchaser. Upon the Subsequent Closing of the sale of shares of Series E Preferred Stock to any Additional Purchaser, such Additional Purchaser shall also, as evidenced by an applicable executed counterpart signature page, become a party to the Related Agreements (as defined below) and shall have the rights and obligations hereunder and thereunder. Each Subsequent Closing shall take place at the offices of Latham & Watkins LLP, 140 Scott Drive, Menlo Park, California. The Purchasers hereby irrevocably waive any pre-emptive rights or rights of first offer, and related notice rights, they may possess now or hereafter with respect to sales of Series E Preferred Stock made pursuant to this Section 2.2.

2.3 Delivery. As soon as practicable following each Closing, upon the terms and subject to the conditions hereof, the Company will deliver to each Purchaser a certificate or certificates representing that number of Shares set forth opposite such Purchaser's name on Exhibit A hereto against payment of the purchase price therefore by check, wire transfer, past services rendered, or any combination of the foregoing.

3. Representations and Warranties of the Company. Except as set forth on a Schedule of Exceptions delivered by the Company to the Purchasers, the Company hereby represents and warrants to the Purchasers as of the date of this Agreement and as of the Initial Closing as set forth below.

3.1 Organization, Good Standing and Qualification. The Company is a corporation duly organized, validly existing and in good standing under the laws of the State of Delaware. The Company has all requisite corporate power and authority: (i) to own and operate its properties and assets, (ii) to execute and deliver this Agreement, the Fourth Amended and Restated Investor Rights Agreement in the form attached hereto as Exhibit C (the "Investor Rights Agreement"), the Third Amended and Restated Right of First Refusal and Co-Sale

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Agreement in the form attached hereto as Exhibit D (the "Co-Sale Agreement") and the Fourth Amended and Restated Voting Agreement in the form attached hereto as Exhibit E (the "Voting Agreement") (collectively, the "Related Agreements"), (iii) to issue and sell the Shares and the Conversion Shares, (iv) to carry out the provisions of this Agreement, the Related Agreements and the Restated Charter and (v) to carry on its business as presently conducted and as proposed to be conducted. The Company is duly qualified and is authorized to do business and is in good standing as a foreign corporation in all jurisdictions in which the nature of its activities and of its properties (both owned and leased) makes such qualification necessary, except for those jurisdictions in which failure to do so would not have a material adverse effect on the Company or its business.

3.2 Subsidiaries. The Company does not own or control any equity security or other interest of any other corporation, limited partnership or other business entity. The Company is not a participant in any joint venture, partnership or similar arrangement.

3.3 Capitalization; Voting Rights.

(a) The authorized capital stock of the Company, immediately prior to the Initial Closing, consists of (i) sixty-two million (62,000,000) shares of Common Stock, par value $0.0001 per share, of which three million three hundred thirty-nine thousand seven hundred six (3,339,706) shares are issued and outstanding, and (ii) thirty-three million two hundred four thousand eight hundred eighty-six (33,204,886) shares of Preferred Stock, par value $0.0001 per share, six million (6,0000,000) of which are designated Series A Preferred Stock, all of which are issued and outstanding, eight million one hundred one thousand one hundred one (8,101,101) of which are designated Series B Preferred Stock, all of which are issued and outstanding, one million five hundred fourteen thousand six hundred forty-five (1,514,645) of which are designated Series C Preferred Stock, all of which are issued and outstanding, eleven million one hundred fifty-four thousand eight hundred two (11,154,802) of which are designated Series D Preferred Stock, ten million four hundred ninety-six thousand nine hundred seventy-three (10,496,973) of which are issued and outstanding, and six million four hundred thirty-four thousand three hundred thirty-eight (6,434,338) of which are designated Series E Preferred Stock, none of which are issued and outstanding. The Company has a right of first refusal over transfers of all outstanding shares of Common Stock.

(b) The Company has reserved 12,457,642 shares of Common Stock for issuance to officers, directors, employees and consultants of the Company pursuant to its 2002 Stock Plan duly adopted by the Board of Directors and approved by the Company's stockholders, as amended (the "Stock Plan") or other plans, agreements or arrangements approved by the Board of Directors. Of such reserved shares of Common Stock, 997,294 shares have been issued pursuant to exercised options, options to purchase 8,889,559 shares have been granted and are currently outstanding and 2,570,789 shares of Common Stock remain available for issuance pursuant to future grants under the Stock Plan. The Company has reserved (i) an aggregate of 46,176 shares of Common Stock for issuance to Lighthouse Capital Partners IV, L.P. and Lighthouse Capital Partners IV, L.P. pursuant to warrants dated February 12, 2004 (the "Lighthouse Warrants"), (ii) an aggregate maximum of 65,000 shares of Common Stock pursuant to the Non-Qualified Stock Option Agreement dated as of February 23, 2004 and Non-Qualified Stock Option Agreement dated as of January 1, 2005, each by and between the

Company and Latham & Watkins LLP (the "Latham Options"), (iii) 9,100 shares of Common Stock for issuance to Oxford Finance Corporation pursuant to a warrant dated October 25, 2005 (the "Oxford Warrant"), (iv) an aggregate of 323,569 shares of Series D Preferred Stock for issuance to certain investors of the Company pursuant to warrants dated May 25, 2006 (the "Bridge Warrants"), (v) 3,577 shares of Common Stock for issuance to Alexandria Equities, LLC pursuant to a warrant dated February 9, 2006 and (vi) an aggregate of 109,091 shares of Series D Preferred Stock for issuance to General Electric Capital Corporation and Oxford Finance Corporation pursuant to warrants dated September 28, 2007 (the "Loan Warrants"). At the Initial Closing, except for (i) outstanding options issued pursuant to the Stock Plan, the Lighthouse Warrants, the Latham Options, the Oxford Warrant, the Bridge Warrants, the Loan Warrants and as set forth on Section 3.3(b) of the Schedule of Exceptions or options that may be issued in the ordinary course of business after the date of this Agreement, (ii) the conversion privileges of the Preferred Stock and (iii) the rights granted pursuant to this Agreement and the Related Agreements, there are no outstanding options, warrants, rights (including conversion or preemptive rights and rights of first refusal), proxy or stockholder agreements, or agreements of any kind for the purchase or acquisition from the Company of any of its securities.

(c) All issued and outstanding shares of the Company's Common Stock and Preferred Stock (i) have been duly authorized and validly issued and are fully paid and nonassessable and (ii) were issued in compliance with all applicable state and federal laws concerning the issuance of securities.

(d) At the Initial Closing, the rights, preferences, privileges and restrictions of the Shares are as stated in the Restated Charter. Each series of Preferred Stock is convertible into Common Stock on a one-for-one basis as of the date hereof and the consummation of the transactions contemplated hereunder will not result in any anti-dilution adjustment or other similar adjustment to the outstanding shares of Preferred Stock. The Conversion Shares have been duly and validly reserved for issuance. When issued in compliance with the provisions of this Agreement and the Restated Charter, the Shares and the Conversion Shares will be validly issued, fully paid and nonassessable and will be free of any liens or encumbrances other than liens and encumbrances created by or imposed upon the Purchaser by entities other than the Company; provided, however, that the Shares and the Conversion Shares may be subject to restrictions on transfer under state and/or federal securities laws as set forth herein or as otherwise required by such laws at the time a transfer is proposed.

(e) All outstanding securities of the Company, including, without limitation, all outstanding shares of the capital stock of the Company, all shares of the capital stock of the Company issuable upon the conversion or exercise of all convertible or exercisable securities and all other securities that the Company is obligated to issue, are subject to a one hundred eighty (180) day "market stand-off" restriction upon an initial public offering of the Company's securities pursuant to a registration statement filed with the Securities and Exchange Commission ("SEC") pursuant to the Securities Act of 1933, as amended (the "Securities Act") in a form substantially identical to Section 2.12 of the Investor Rights Agreement.

(f) No stock plan, stock purchase, stock option or other agreement or understanding between the Company and any holder of any securities or rights exercisable or

convertible for securities provides for acceleration or other changes in the vesting provisions or other terms of such agreement or understanding as the result of the occurrence of any event.

3.4 Authorization; Binding Obligations. All corporate action on the part of the Company, its officers, directors and stockholders necessary for the authorization of this Agreement and the Related Agreements, the performance of all obligations of the Company hereunder and thereunder at the Initial Closing and the authorization, sale, issuance and delivery of the Shares pursuant hereto and the Conversion Shares pursuant to the Restated Charter has been taken or will be taken prior to the Initial Closing. The Agreement and the Related Agreements, when executed and delivered, will be valid and binding obligations of the Company enforceable in accordance with their terms, except (a) as limited by applicable bankruptcy, insolvency, reorganization, moratorium or other laws of general application affecting enforcement of creditors' rights, (b) general principles of equity that restrict the availability of equitable remedies, and (c) to the extent that the enforceability of the indemnification provisions may be limited by applicable laws. The issuance of the Shares hereunder and the subsequent conversion of the Shares into Conversion Shares are not and will not be subject to any preemptive rights or rights of first refusal that have not been properly waived or complied with.

3.5 Financial Statements. The Company has provided to the Purchasers (a) its unaudited financial statements (balance sheet and income and cash flow statements) at December 31, 2005 and December 31, 2006 and (b) its unaudited financial statements balance sheet and income and cash flow statements) as, at and for the seven-month period ended July 31, 2007 (the "Statement Date") (collectively, the "Financial Statements"). The Financial Statements, together with the notes thereto, are complete and correct in all material respects and have been prepared in accordance with generally accepted accounting principles in the United States ("GAAP") consistently applied and present fairly the financial condition and position of the Company as of their respective dates; provided, however, that the unaudited Financial Statements are subject to normal recurring year-end audit adjustments (which will not be material either individually or in the aggregate), and do not contain all footnotes required under GAAP.

3.6 Liabilities. The Company has no material liabilities and no material contingent liabilities that are not disclosed in the Financial Statements, except (i) current liabilities incurred in the ordinary course of business subsequent to the Statement Date that have not been, either in any individual case or in the aggregate, materially adverse to the financial condition or operating results of the Company and (ii) obligations under contracts and commitments incurred in the ordinary course of business and not required under GAAP to be reflected in the Financial Statements, which, in both cases, individually or in the aggregate, are not material to the financial condition or operating results of the Company. The Company is not a guarantor or indemnitor of any indebtedness of any third party.

3.7 Agreements; Action.

(a) Except for the Related Agreements there are no agreements, understandings or proposed transactions between the Company and any of its officers, directors, affiliates or any affiliate thereof.

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(b) There are no agreements, understandings, instruments, contracts or proposed transactions to which the Company is a party or by which it is bound, nor to its knowledge any judgments, orders, writs or decrees to which the Company is a party or by which it is bound, that may involve (i) obligations (contingent or otherwise) of, or payments to, the Company in excess of $250,000, or (ii) the transfer or license of any patent, copyright, trade secret or other proprietary right to or from the Company (other than licenses entered into in the ordinary course of business involving payments to the Company not exceeding $250,000), (iii) indemnification by the Company with respect to infringements of proprietary rights (other than indemnification obligations arising from purchase or license agreements entered into in the ordinary course of business), (iv) provisions restricting or affecting development, manufacture, or distribution of the Company's products or services or proposed products or services or (v) any other material agreement.

(c) The Company has not (i) declared or paid any dividends, or authorized or made any distribution upon or with respect to any class or series of its capital stock, (ii) incurred or guaranteed any indebtedness for money borrowed or any other liabilities individually in excess of $250,000 or, in the case of indebtedness and/or liabilities individually less than $250,000, in excess of $500,000 in the aggregate, (iii) made any loans or advances to any person, other than ordinary advances for travel expenses, or (iv) sold, exchanged or otherwise disposed of any of its assets or rights, other than the sale of its inventory in the ordinary course of business.

(d) For the purposes of subsections (b) and (c) above, all indebtedness, liabilities, agreements, understandings, instruments, contracts and proposed transactions involving the same person or entity (including persons or entities the Company has reason to believe are affiliated therewith) shall be aggregated for the purpose of meeting the individual minimum dollar amounts of such subsections.

(e) The Company is not a party to and is not bound by any contract, agreement or instrument that materially adversely affects its business as now conducted or as proposed to be conducted, its properties or its financial condition.

(f) The Company has not engaged in the past three months in any discussion (i) with any representative of any corporation or corporations whereby the Company has agreed to or plans to consolidate or merge the Company with or into any such corporation or corporations, (ii) with any corporation, partnership, association or other business entity or any individual whereby the Company has agreed to or plans to sell, convey or dispose of all or substantially all of the assets of the Company or a transaction or series of related transactions in which more than fifty percent (50%) of the voting power of the Company is to be disposed of, other than as contemplated by this Agreement, or (iii) whereby the Company has agreed to or plans to engage in or pursue any other form of liquidation, dissolution or winding up of the Company.

3.8 Obligations to Related Parties. There are no obligations of the Company to officers, directors, stockholders, or employees of the Company other than (a) for payment of salary for services rendered, (b) reimbursement for reasonable expenses incurred by officers of the Company on behalf of the Company and (c) stock option agreements outstanding under any

stock option plan approved by the Board of Directors of the Company. None of the officers, directors or stockholders of the Company or any members of their immediate families, are indebted to the Company. No officer, director or stockholder, or any member of their immediate families, is, directly or indirectly, interested in any material contract with the Company (other than such contracts as relate to any such person's ownership of capital stock or other securities of the Company).

3.9 Changes. Since the Statement Date there has not been:

(a) Any change in the assets, liabilities, financial condition or operations of the Company from that reflected in the Financial Statements, other than changes in the ordinary course of business, none of which individually or in the aggregate has had a material adverse effect on such assets, liabilities, financial condition or operations of the Company;

(b) Any resignation or termination of any officer, key employee or group of employees of the Company; and the Company, to the best of its knowledge, does not know of the impending resignation or termination of employment of any such officer, key employee or group of employees;

(c) Any material change, except in the ordinary course of business, in the contingent obligations of the Company by way of guaranty, endorsement, indemnity, warranty or otherwise;

(d) Any damage, destruction or loss, whether or not covered by insurance, materially and adversely affecting the assets, properties, business, operations or financial condition of the Company (as such business is presently conducted and as it is proposed to be conducted);

(e) Any waiver by the Company of a valuable right or of a debt owed to it;

(f) Any direct or indirect loans or guarantees made by the Company to any stockholder, employee, officer or director of the Company, other than advances made in the ordinary course of business;

(g) Any material change in any compensation arrangement or agreement with any employee, officer, director or stockholder;

(h) Any declaration or payment of any dividend or other distribution of the assets of the Company or any direct or indirect redemption, purchase or other acquisition of the Company's capital stock by the Company;

(i) Any labor organization activity related to the Company;

(j) Any debt, obligation or liability incurred, assumed or guaranteed by the Company, except those for immaterial amounts and other liabilities incurred in the ordinary course of business;

(k) Any sale, assignment or transfer of any patents, trademarks, copyrights, trade secrets or other intangible assets;

(l) Any change in any material agreement, collaboration, partnership or arrangement to which the Company is a party or by which it is bound that materially and adversely affects the business, assets, liabilities, financial condition or operations of the Company (as such business is presently conducted and as it is proposed to be conducted);

(m) Any other event or condition of any character that, either individually or cumulatively, has materially and adversely affected the business, assets, liabilities, financial condition or operations of the Company (as such business is presently conducted and as it is proposed to be conducted);

(n) Any satisfaction or discharge of any lien, claim or encumbrance or payment of any obligation by the Company, except in the ordinary course of business and which is not material to the assets, properties, financial condition, operating results or business of the Company (as such business is presently conducted and as it is proposed to be conducted);

(o) Receipt of notice that there has been a loss of, or material order cancellation by, any major customer of the Company;

(p) Any mortgage, pledge, transfer of a security interest in, or lien, created by the Company, with respect to any of its material properties or assets, except liens for taxes not yet due or payable; or

(q) Any arrangement or commitment by the Company to do any of the acts described in subsection (a) through (p) above.

3.10 Title to Properties and Assets; Liens, Etc. The Company has good and marketable title to its properties and assets, including the properties and assets reflected in the most recent balance sheet included in the Financial Statements, and good title to its leasehold estates (except for leasehold improvements installed by the Company in connection with the lease dated October, 2003 with Metropolitan Life Insurance Company), in each case subject to no mortgage, pledge, lien, lease, encumbrance or charge, other than (a) those resulting from taxes that have not yet become delinquent, (b) minor liens and encumbrances that do not materially detract from the value of the property subject thereto or materially impair the operations of the Company, (c) liens arising from the Loan & Security Agreement dated February 12, 2004 with Lighthouse Capital Partners V, L.P. and the Master Security Agreement, dated as of October 25, 2005, with Oxford Finance Corporation, (d) liens resulting from the Loan and Security Agreement dated September 28, 2007, with General Electric Capital Corporation and Oxford Finance Corporation and (e) those that have otherwise arisen in the ordinary course of business which do not materially impair the Company's ownership or use of such property or assets. The Company is in compliance with all material terms of each lease to which it is a party or is otherwise bound.

3.11 Intellectual Property. The Company owns or possesses sufficient legal rights to all patents, trademarks, service marks, trade names, copyrights, trade secrets, licenses,

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information and proprietary rights and processes necessary for the conduct of its business as currently conducted and as proposed to be conducted without any conflict with, or infringement of, the rights of others. The Company owns or possesses sufficient legal rights to all patents, trademarks, service marks, formulae, trade names, copyrights, trade secrets, licenses, information and proprietary rights and processes necessary for the conduct of its business as currently conducted and as proposed to be conducted without any conflict with, or infringement of, the rights of others. There are no outstanding options, licenses, agreements, claims, encumbrances or shared ownership of interests of any kind relating to anything referred to above in this Section 3.11 that is to any extent owned by or exclusively licensed to the Company, nor is the Company bound by or a party to any options, licenses or agreements of any kind with respect to the patents, trademarks, service marks, trade names, domain names, copyrights, trade secrets, licenses, information, proprietary rights and/or processes of any other person or entity, except, in either case, for (a) standard end-user, object code, internal-use software license and support/maintenance agreements or (b) licenses or agreements entered into in the ordinary course of business involving payments to the Company not exceeding $250,000. The Company has not received any communications alleging that the Company has violated or, by conducting its business as currently conducted and as proposed to be conducted, would violate any of the patents, trademarks, service marks, trade names, copyrights, trade secrets or other proprietary rights or processes of any other person or entity. The Company is not aware that any of the employees or independent contractors of the Company is obligated under any contract (including licenses, covenants or commitments of any nature) or other agreement, or subject to any judgment, decree or order of any court or administrative agency, that would interfere with the use of such employee's or independent contractor's best efforts to promote the interests of the Company or that would conflict with the Company's business as currently conducted and as proposed to be conducted. To the knowledge of the Company, neither the execution or delivery of this Agreement, nor the carrying on of the Company's business as currently conducted and as proposed to be conducted by the employees and independent contractors of the Company, nor the conduct of the Company's business as currently conducted and as proposed to be conducted will conflict with or result in a breach of the terms, conditions or provisions of, or constitute a default under, any contract, covenant or instrument under which any such employee or independent contractor is now obligated. The Company does not believe it is or will be necessary to use any inventions of any of the employees of the Company (or persons the Company currently intends to hire) made prior to or outside the scope of their employment by the Company. Set forth in Section 3.11 of the Schedule of Exceptions is a listing of all patents and pending patent applications and registrations and applications for trademarks, copyrights and domain names of, or exclusively licensed to, the Company.

3.12 Compliance with Other Instruments. The Company is not in violation or default of any term of its Restated Charter or Bylaws, or of any material provision of any mortgage, indenture, contract, agreement, instrument or contract to which it is party or by which it is bound or of any judgment, decree, order or writ. The execution, delivery, and performance of and compliance with this Agreement, and the Related Agreements, and the issuance and sale of the Shares pursuant hereto and of the Conversion Shares pursuant to the Restated Charter, will not, with or without the passage of time or giving of notice, result in any such violation, or be in conflict with or constitute a default under any such term, or result in the creation of any mortgage, pledge, lien, encumbrance or charge upon any of the properties or assets of the

Company or the suspension, revocation, impairment, forfeiture or nonrenewal of any permit, license, authorization or approval applicable to the Company, its business or operations or any of its assets or properties.

3.13 Litigation. There is no action, suit, proceeding or governmental investigation pending or, to the Company's knowledge, currently threatened against the Company that questions the validity of this Agreement or the Related Agreements or the right of the Company to enter into any of such agreements, or to consummate the transactions contemplated hereby or thereby, or that would reasonably be expected to result, either individually or in the aggregate, in any material adverse change in the Company's assets, condition or affairs or in its business as conducted or as proposed to be conducted, financially or otherwise, or any change in the current equity ownership of the Company. The foregoing includes, without limitation, actions pending or, to the Company's knowledge, threatened involving the prior employment of any of the Company's employees, their use in connection with the Company's business of any information or techniques allegedly proprietary to any of their former employers, or their obligations under any agreements with prior employers. The Company is not a party or subject to the provisions of any order, writ, injunction, judgment or decree of any court or government agency or instrumentality. There is no action, suit, proceeding or investigation by the Company currently pending or that the Company intends to initiate.

3.14 Taxes.

(a) Tax Definitions. For the purposes of this Agreement:

(i) "Tax" or "Taxes" shall mean any federal, state local or foreign income, gross receipts, license, payroll, employment, excise, severance, stamp, occupation, premium, windfall profits, environmental, customs duties, capital stock, franchise, profits, withholding, social security, unemployment, disability, real property, personal property, sales, use, transfer, registration, value added, alternative or add-on minimum, estimated, or other tax of any kind whatsoever, including any interest, penalty, or addition thereto, whether disputed or not.

(ii) "Tax Return" shall mean any return, declaration, report, claim for refund, or information return or statement relating to Taxes, including any schedule or attachment thereto, and including any amendment thereof.

(b) Tax Returns and Payments. The Company has filed all material Tax Returns required to be filed by it. These Tax Returns are true and correct in all material respects. All Taxes shown to be due and payable on such Tax Returns, on or before the Initial Closing, and, to the Company's knowledge, all other Taxes due and payable by the Company, have been paid or will be paid prior to the time they become delinquent. The provision for Taxes as shown in the Financial Statements (as defined below) is adequate for Taxes due or accrued as of the date thereof. To the knowledge of the Company, there is no pending dispute with any taxing authority relating to any of such Tax Returns or any proposed liability for any material Taxes to be imposed upon the properties or assets of the Company. The Company has withheld or collected from each payment made to each of its employees the amount of all material Taxes,

including, but not limited to, federal income taxes, Federal Insurance Contribution Act taxes and Federal Unemployment Tax Act taxes required to be withheld or collected there from, and has paid the same to the proper Tax receiving officers or authorized depositories. The Company has neither elected pursuant to the Internal Revenue Code of 1986, as amended (the "Code") to be treated as an "S" corporation or a collapsible corporation pursuant to Section 341(f) or Section 1362(a) of the Code, nor has it made any other elections pursuant to the Code (other than elections which relate solely to matters of accounting, depreciation or amortization) which would have a material effect on the Company, its financial condition, its business as presently conducted or presently proposed to be conducted or any of its properties or material assets.

3.15 Employees. The Company has no collective bargaining agreements with any of its employees. There is no labor union organizing activity pending or, to the Company's knowledge, threatened with respect to the Company. The Company is not a party to or bound by any currently effective employment contract, deferred compensation arrangement, bonus plan, incentive plan, profit sharing plan, retirement agreement, employment benefit plan described in Section 3(2)(A) or Section 3(2)(B) of the Employment Retirement Income Security Act of 1974, or other employee compensation plan or agreement. To the Company's knowledge, no employee, nor any consultant with whom the Company has contracted, is in violation of any term of any employment contract, proprietary information agreement or any other agreement relating to the right of any such individual to be employed by, or to contract with, the Company because of the nature of the business to be conducted by the Company; and to the Company's knowledge, the performance of the Company's contracts with its independent contractors, will not result in any such violation. The Company has not received any notice alleging that any such violation has occurred. The Company has complied in all material respects with all applicable state and federal equal employment opportunity and other laws related to employment and immigration insofar as non-compliance may create a Company liability. The Company is not a party to or bound by any currently effective employment contract, deferred compensation agreement, bonus plan, incentive plan, profit sharing plan, retirement agreement, or other employee compensation agreement.

3.16 Registration Rights and Voting Rights. Except as required pursuant to the Investor Rights Agreement, the Company is presently not under any obligation, and has not granted any rights, to register (as defined in Section 1.1 of the Investor Rights Agreement), including piggyback rights, any of the Company's presently outstanding securities or any of its securities that may hereafter be issued. To the Company's knowledge, except as contemplated in the Voting Agreement, no stockholder of the Company has entered into any agreement with respect to the voting of equity securities of the Company.

3.17 Compliance with Laws; Permits. The Company is not in violation of any applicable statute, rule, regulation, order or restriction of any domestic or foreign government or any instrumentality or agency thereof in respect of the conduct of its business or the ownership of its properties which violation would materially and adversely affect the business, assets, liabilities, financial condition or operations of the Company. No governmental orders, permissions, consents, approvals or authorizations are required to be obtained and no registrations or declarations are required to be filed in connection with the execution and delivery of this Agreement and the issuance of the Shares or the Conversion Shares, except such as has been duly and validly obtained or filed, or with respect to any filings that must be made after the

Initial Closing, as will be filed in a timely manner. The Company has not been nor is in default in any respect under such franchises, permits, licenses or similar authority which default would materially and adversely affect the business, assets, liabilities, financial condition or operations of the Company.

3.18 Environmental and Safety Laws.

(a) The Company is, and at all times since inception has been, in compliance with all applicable environmental laws or regulations and orders of any governments or governmental authorities, and with all permits, certificates, approvals, licenses and other authorizations relating thereto, except for non-compliance that would not materially and adversely affect the business, assets, liabilities, financial condition or operations of the Company. The term "environmental laws or regulations" means those statutes and regulations governing: (i) air emissions, (ii) liquid discharges to streams, ponds, ditches or other surface waters, (iii) liquid discharges to ground waters, (iv) liquid discharges to publicly-owned treatment works, (v) disposal of solid and/or hazardous wastes, (vi) marking, maintenance and/or removal of electrical equipment containing PCBs, (vii) manufacture and/or construction (including renovation) involving asbestos materials, (viii) activities in or adjacent to fresh water wetlands, flood hazard areas, coastal zone management areas and/or historic preservation areas, (ix) registration, operation, testing and/or removal or replacement of storage tanks for petroleum products and/or hazardous substances, and (x) emergency, planning and community right-to-know laws, including submission of hazardous substance inventory information to any authorities under any applicable jurisdictions.

(b) Except in a manner that would not result in material liability to the Company, the Company has not caused, nor is it causing, any disposals, releases, or threatened releases of any Hazardous Materials (as defined below) on or under any properties that the Company (i) owns, leases, occupies or operates or (ii) previously owned, leased, occupied or operated.

(c) The Company has not either (i) arranged for the disposal or treatment of Hazardous Material at any facility or site owned or operated by another person from which facility or site there has been a release or there is a release or threatened release of a Hazardous Material, or (ii) accepted any Hazardous Material for transport to disposal or treatment facilities or other sites selected by the Company, from which facilities or sites there has been a release or there is a release or threatened release of a Hazardous Material.

(d) The Company has not installed, used, buried or removed any surface impoundment or underground tank or vessel or sump, drain or pipeline which holds or held Hazardous Materials on properties owned, leased, occupied or operated by the Company.

(e) There has been no claim, and there are no pending or threatened claims, including without limitation any litigation, administrative proceedings or investigations or any other actions, claims, demands, notices of potential responsibility or requests for information brought or threatened, against the Company alleging liability of the Company with respect to the presence, disposal, release or threatened release of any Hazardous Material on, from or under any of the properties referenced in (b) above or otherwise relating to potential

environmental liabilities, or any settlement reached by the Company relating to any of the foregoing.

(f) From the date hereof through and including the Initial Closing, the Company shall immediately provide the Purchasers with a copy of any notice, citation or complaint alleging that the Company is not in compliance with any environmental laws or regulations.

As used in this Agreement, "Hazardous Material" means any material, substance, waste or component thereof (whether a liquid, solid, or gas) that is prohibited, controlled, or regulated by any governmental entity having jurisdiction as a contaminant, pollutant, dangerous substance, toxic substance, hazardous waste, hazardous substance, hazardous material, dangerous good or petroleum, its derivatives, by-products or other hydrocarbons, pursuant to any applicable environmental or health and safety law, rule, or regulation.

3.19 Offering Valid. Assuming the accuracy of the representations and warranties of the Purchasers contained in Section 4.2, the offer, sale and issuance of the Shares and the Conversion Shares will be exempt from the registration requirements of the Securities Act, and will be exempt from registration, permit or qualification requirements of all applicable state securities laws. Neither the Company nor any agent on its behalf has solicited or will solicit any offers to sell or has offered to sell or will offer to sell all or any part of the Shares to any person or persons so as to bring the sale of such Shares by the Company within the registration provisions of the Securities Act or any state securities laws.

3.20 Full Disclosure. The Company has provided the Purchasers with all information requested by the Purchasers in connection with its decision to purchase the Shares, including all information the Company believes is reasonably necessary to make such investment decision. No representation or warranty of the Company contained in this Agreement, the schedules and exhibits attached hereto or any certificate furnished or to be furnished to the Purchasers at the Initial Closing, when read together, contains any untrue statement of a material fact or omits to state a material fact necessary to make the statements herein or therein misleading in light of the circumstances under which they were made.

3.21 Minute Books. The minute books of the Company made available to such Purchaser contain a complete summary of all meetings of directors and stockholders since the time of incorporation and reflect all transactions referred to in such minutes accurately in all material respects.

3.22 Real Property Holding Corporation. The Company is not a real property holding corporation within the meaning of Section 897(c)(2) of the Code and any regulations promulgated thereunder.

3.23 Executive Officers and Directors. To the knowledge of the Company no executive officer, person nominated to become an executive officer, director or person nominated to become a director of the Company (a) has filed a petition under the Federal bankruptcy laws or any state insolvency law, been adjudged a bankrupt or made a general assignment for benefit of creditors, or been an officer, director or principal of any entity that was

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reorganized in bankruptcy, adjudged a bankrupt or made a general assignment for benefit of creditors, (b) has been convicted in a criminal proceeding or is a named subject of a pending criminal proceeding (excluding minor traffic violations), (c) has been the subject of any professional disciplinary proceeding, (d) was the subject of any order, judgment, or decree, not subsequently reversed, suspended or vacated, of any court of competent jurisdiction or any Federal or State authority, permanently or temporarily enjoining such person from, or otherwise limiting, such person from any type of business practice, (e) has been suspended or expelled from membership in any securities or commodities exchange, association of securities or commodities dealers or investment advisors, (f) has had a license or registration as a dealer, broker, investment advisor or salesman, futures commission merchant, associated person, commodity pool operator, or commodity trading advisor denied, suspended or revoked, (g) has been enjoined or restrained by any court or government agency from the issuance, sale or offer for sale of securities or commodities, rendering securities or commodities advice, handling or managing trading accounts, or continuing any practices in connection with securities or commodities, or (h) has used or been known by any other name.

3.24 Insurance. The Company has in full force and effect fire and casualty insurance policies, with extended coverage, sufficient in amount (subject to reasonable deductibles) to allow it to replace any of its properties that might be damaged or destroyed. The Company has in full force and effect products liability and directors and officers insurance in amounts customary for companies similarly situated.

3.25 Regulatory Compliance. As to each of the products of the Company, including, without limitation, products or compounds currently under research and/or development by the Company or its Subsidiary, subject to the jurisdiction of the Food and Drug Administration ("FDA") under the Federal Food, Drug and Cosmetic Act and the regulations thereunder ("FDCA") (each such product, a "Life Science Product"), such Life Science Product is being researched, developed, manufactured, tested, distributed, studied and/or marketed in compliance in all material respects with all applicable requirements under the FDCA and similar laws and regulations applicable to such Life Science Product, including those relating to investigational use, premarket approval, good manufacturing practices, labeling, advertising, record keeping, filing of reports and security. The Company has not received any notice or other communication from the FDA or any other federal, state or foreign governmental entity (i) contesting the premarket approval of, the uses of or the labeling and promotion of any Life Science Product or (ii) otherwise alleging any violation by the Company of any law, regulation or other legal provision applicable to a Life Science Product. Neither the Company, nor to the Company's knowledge, any officer, employee or agent of the Company has, with respect to a Life Science Product, (i) made an untrue statement of a material fact or fraudulent statement to the FDA or other federal, state or foreign governmental entity performing similar functions or (ii) failed to disclose a material fact required to be disclosed to the FDA or such other federal, state or foreign governmental entity.

4. Representations and Warranties of the Purchasers. Each Purchaser hereby represents and warrants to the Company as follows (such representations and warranties do not lessen or obviate the representations and warranties of the Company set forth in this Agreement):

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4.1 Requisite Power and Authority. Such Purchaser has all necessary power and authority under all applicable provisions of law and regulations to execute and deliver this Agreement and the Related Agreements and to carry out their provisions. All action on such Purchaser's part required for the lawful execution and delivery of this Agreement and the Related Agreements have been or will be effectively taken prior to the Closing. Upon their execution and delivery, this Agreement and the Related Agreements will be valid and binding obligations of such Purchaser, enforceable in accordance with their terms, except (a) as limited by applicable bankruptcy, insolvency, reorganization, moratorium or other laws of general application affecting enforcement of creditors' rights, (b) as limited by general principles of equity that restrict the availability of equitable remedies, and (c) to the extent that the enforceability of indemnification provisions may be limited by applicable laws.

4.2 Investment Representations. Such Purchaser understands that neither the Shares nor the Conversion Shares have been registered under the Securities Act. Such Purchaser also understands that the Shares are being offered and sold pursuant to an exemption from registration contained in the Securities Act based in part upon such Purchaser's representations contained in the Agreement. Such Purchaser hereby represents and warrants as follows:

(a) Purchaser Bears Economic Risk. Such Purchaser has substantial experience in evaluating and investing in private placement transactions of securities in companies similar to the Company so that it is capable of evaluating the merits and risks of its investment in the Company and has the capacity to protect its own interests. Such Purchaser must bear the economic risk of this investment indefinitely unless the Shares (or the Conversion Shares) are registered pursuant to the Securities Act, or an exemption from registration is available. Such Purchaser understands that the Company has no present intention of registering the Shares, the Conversion Shares or any shares of its Common Stock. Such Purchaser also understands that there is no assurance that any exemption from registration under the Securities Act will be available and that, even if available, such exemption may not allow such Purchaser to transfer all or any portion of the Shares or the Conversion Shares under the circumstances, in the amounts or at the times such Purchaser might propose.

(b) Acquisition for Own Account. Such Purchaser is acquiring the Shares and the Conversion Shares for such Purchaser's own account for investment only, and not with a view towards their distribution.

(c) Purchaser Can Protect Its Interest. Such Purchaser represents that by reason of its, or of its management's, business or financial experience, such Purchaser has the capacity to protect its own interests in connection with the transactions contemplated in this Agreement, and the Related Agreements. Further, such Purchaser is aware of no publication of any advertisement in connection with the transactions contemplated in the Agreement.

(d) Accredited Investor. Such Purchaser represents that it is an accredited investor within the meaning of Regulation D under the Securities Act.

(e) Company Information. Such Purchaser has received and read the Financial Statements and has had an opportunity to discuss the Company's business, management and financial affairs with directors, officers and management of the Company and

has had the opportunity to review the Company's operations and facilities. Such Purchaser has also had the opportunity to ask questions of and receive answers from, the Company and its management regarding the terms and conditions of this investment.

(f) Rule 144. Such Purchaser acknowledges and agrees that the Shares, and, if issued, the Conversion Shares are "restricted securities" as defined in Rule 144 promulgated under the Securities Act as in effect from time to time and must be held indefinitely unless they are subsequently registered under the Securities Act or an exemption from such registration is available. Such Purchaser has been advised or is aware of the provisions of Rule 144, which permits limited resale of shares purchased in a private placement subject to the satisfaction of certain conditions, including, among other things: the availability of certain current public information about the Company, the resale occurring following the required holding period under Rule 144 and the number of shares being sold during any three-month period not exceeding specified limitations.

(g) Residence. The office or offices of such Purchaser in which its investment decision was made is located at the address of such Purchaser set forth on the signature page hereto.

4.3 Transfer Restrictions. Such Purchaser acknowledges and agrees that the Shares and, if issued, the Conversion Shares are subject to restrictions on transfer as set forth in the Investor Rights Agreement.

5. Conditions to Closing.

5.1 Conditions to the Purchasers' Obligations at the Closing. The obligations of each Purchaser to purchase Shares at the Closing are subject to the satisfaction, at or prior to the Initial Closing Date, of the following conditions, the waiver of which shall not be effective against any Purchaser who does not consent in writing thereto:

(a) Representations and Warranties True; Performance of Obligations. The representations and warranties made by the Company in Section 3 shall be true and correct in all material respects as of the Initial Closing Date, with the same force and effect as if they had been made as of the Initial Closing Date, and the Company shall have performed all obligations and conditions herein required to be performed or observed by it on or prior to the Initial Closing.

(b) Consents, Permits, and Waivers. The Company shall have obtained any and all consents, permits and waivers necessary or appropriate for consummation of the transactions contemplated by the Agreement and the Related Agreements, except for such as may be properly obtained subsequent to the Initial Closing.

(c) Filing of Restated Charter. The Restated Charter shall have been filed with the Secretary of State of the State of Delaware and shall continue to be in full force and effect as of the Initial Closing Date.

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(d) Compliance Certificate. The Company shall have delivered to each Purchaser a Compliance Certificate, executed by the President of the Company dated the Initial Closing Date, to the effect that the conditions specified in subsections (a), (b) and (c) of this Section 5.1 have been satisfied and that there has been no material adverse change in the business, operations, properties or assets of the Company since the Statement Date.

(e) Secretary's Certificate. Each Purchaser shall have received from the Company's Secretary or Assistant Secretary, a certificate having attached thereto (i) the Company's Certificate of Incorporation as in effect at the time of the Initial Closing, (ii) the Company's Bylaws as in effect at the time of the Initial Closing, (iii) resolutions approved by the Board of Directors authorizing the transactions contemplated hereby, (iv) resolutions approved by the Company's stockholders authorizing the filing of the Restated Charter, and (v) good standing certificates (including tax good standing) with respect to the Company from the applicable authority(ies) in Delaware, California and any other jurisdiction in which the Company is qualified to do business, dated a recent date before the Initial Closing.

(f) Investor Rights Agreement. The Investor Rights Agreement substantially in the form attached hereto asExhibit C shall have been executed and delivered by the parties thereto other than each Purchaser.

(g) Co-Sale Agreement. The Co-Sale Agreement substantially in the form attached hereto asExhibit D shall have been executed and delivered by the parties thereto other than each Purchaser.

(h) Voting Agreement. The Voting Agreement substantially in the form attached hereto asExhibit E shall have been executed and delivered by the parties thereto other than each Purchaser.

(i) Legal Opinion. Each Purchaser shall have received from legal counsel to the Company an opinion addressed to them, dated as of the Initial Closing Date, in substantially the form attached hereto as Exhibit F.

(j) Proceedings and Documents. All corporate and other proceedings in connection with the transactions contemplated at the Initial Closing hereby and all documents and instruments incident to such transactions shall be reasonably satisfactory in substance and form to each Purchaser and its special counsel, as applicable, and each Purchaser and its special counsel, as applicable, shall have received all such counterpart originals or copies of such documents as they may reasonably request.

(k) Performance of Obligations. The Company shall have performed and complied with all agreements and conditions herein required to be performed or complied with by the Company on or before the Initial Closing.

5.2 Conditions to the Company's Obligations at the Closing. The Company's obligation to issue and sell the Shares at each Closing is subject to the satisfaction, on or prior to such Closing, of the following conditions:

(a) Representations and Warranties True. The representations and warranties in Section 4 made by each Purchaser shall be true and correct in all material respects as of the Closing, with the same force and effect as if they had been made on and as of that date.

(b) Consents, Permits, and Waivers. The Company shall have obtained any and all consents, permits and waivers necessary or appropriate for consummation of the transactions contemplated by the Agreement and the Related Agreements, except for such as may be properly obtained subsequent to the Closing.

(c) Performance of Obligations. The Purchasers shall have performed and complied with all agreements and conditions herein required to be performed or complied with by the Purchasers on or before the Closing.

(d) Filing of Restated Charter. The Restated Charter shall have been filed with the Secretary of State of the State of Delaware.

(e) Investor Rights Agreement. The Investor Rights Agreement substantially in the form attached hereto asExhibit C shall have been executed and delivered by the parties thereto other than the Company.

(f) Co-Sale Agreement. The Co-Sale Agreement substantially in the form attached hereto asExhibit D shall have been executed and delivered by the parties thereto other than the Company.

(g) Voting Agreement. The Voting Agreement substantially in the form attached hereto asExhibit E shall have been executed and delivered by the parties thereto other than the Company.

6. Miscellaneous.

6.1 Governing Law. This Agreement shall be governed in all respects by the laws of the State of California as such laws are applied to agreements between California residents entered into and performed entirely in California.

6.2 Survival. The representations, warranties and agreements made herein shall survive the closing of the transactions contemplated hereby, and shall in no way be affected by any investigation of the subject matter thereof made by or on behalf of the Purchaser or the Company. All statements as to factual matters contained in any certificate or other instrument delivered by or on behalf of the Company pursuant hereto in connection with the transactions contemplated hereby shall be deemed to be representations and warranties by the Company hereunder solely as of the date of such certificate or instrument.

6.3 Successors and Assigns. Except as otherwise provided herein, the provisions hereof shall inure to the benefit of, and be binding upon, the successors, assigns, heirs, executors and administrators of the parties hereto; provided, however, that the rights of a Purchaser to purchase Shares shall not be assignable without the consent of the Company; provided, further, however, the rights under this Agreement may be assignable to any entity affiliated by common control (or other related entity) of a Purchaser. Nothing in this Agreement,

express or implied, is intended to confer upon any party other than the parties hereto or their respective successors and assigns and rights, remedies, obligations, or liabilities under or by reason of this Agreement, except as expressly provided by this Agreement.

6.4 Entire Agreement. This Agreement, the exhibits and schedules hereto, the Related Agreements and the other documents delivered pursuant hereto constitute the full and entire understanding and agreement between the parties with regard to the subjects hereof and no party shall be liable or bound to any other in any manner by any representations, warranties, covenants and agreements except as specifically set forth herein and therein.

6.5 Severability. In case any provision of the Agreement shall be invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby and this Agreement shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein.

6.6 Amendment and Waiver. This Agreement may be amended or modified only upon the written consent of the Company and holders of at least sixty percent (60%) of the Common Stock issuable or issued upon the conversion of the Shares.

6.7 Delays or Omissions. It is agreed that no delay or omission to exercise any right, power or remedy accruing to any party, upon any breach, default or noncompliance by another party under this Agreement, the Related Agreements or the Restated Charter, shall impair any such right, power or remedy, nor shall it be construed to be a waiver of any such breach, default or noncompliance, or any acquiescence therein, or of or in any similar breach, default or noncompliance thereafter occurring. It is further agreed that any waiver, permit, consent or approval of any kind or character on the Purchaser's part of any breach, default or noncompliance under this Agreement, the Related Agreements or under the Restated Charter or any waiver on such party's part of any provisions or conditions of the Agreement, the Related Agreements, or the Restated Charter must be in writing and shall be effective only to the extent specifically set forth in such writing. All remedies, either under this Agreement, the Related Agreements, the Restated Charter, by law, or otherwise afforded to any party, shall be cumulative and not alternative.

6.8 Notices. All notices required or permitted hereunder shall be in writing and shall be deemed effectively given: (a) upon personal delivery to the party to be notified, (b) when sent by confirmed telex or facsimile if sent during normal business hours of the recipient, if not, then on the next business day, (c) five (5) days after having been sent by registered or certified mail, return receipt requested, postage prepaid, or (d) one (1) day after deposit with a nationally recognized overnight courier, specifying next day delivery, with written verification of receipt. All communications shall be sent to the respective addresses of the parties as set forth on the signature page hereof or at such other address as the Company or the Purchasers may designate by ten (10) days advance written notice to the other party hereto.

6.9 Expenses. The Company and each Purchaser shall bear their own expenses and legal fees incurred on their behalf with respect to this Agreement and the transactions contemplated hereby; provided, however, that at the Initial Closing, the Company shall pay the reasonable and documented fees and expenses, not to exceed $40,000 in the

aggregate, of one counsel to the Purchasers, in connection with the transactions contemplated by this Agreement.

6.10 Attorneys' Fees. In the event that any suit or action is instituted to enforce any provision in this Agreement, the prevailing party in such dispute shall be entitled to recover from the losing party all fees, costs and expenses of enforcing any right of such prevailing party under or with respect to this Agreement, including without limitation, such reasonable fees and expenses of attorneys and accountants, which shall include, without limitation, all fees, costs and expenses of appeals.

6.11 Titles and Subtitles. The titles of the sections and subsections of the Agreement are for convenience of reference only and are not to be considered in construing this Agreement.

6.12 Counterparts. This Agreement may be executed in any number of counterparts and by facsimile, each of which shall be an original, but all of which together shall constitute one instrument.

6.13 Broker's Fees. Each party hereto represents and warrants that no agent, broker, investment banker, person or firm acting on behalf of or under the authority of such party hereto is or will be entitled to any broker's or finder's fee or any other commission directly or indirectly in connection with the transactions contemplated herein. Each party hereto further agrees to indemnify each other party for any claims, losses or expenses incurred by such other party as a result of the representation in this Section 6.13 being untrue.

6.14 Pronouns. All pronouns contained herein, and any variations thereof, shall be deemed to refer to the masculine, feminine or neutral, singular or plural, as to the identity of the parties hereto may require.

6.15 California Corporate Securities Law. THE SALE OF THE SECURITIES WHICH ARE THE SUBJECT OF THIS AGREEMENT HAS NOT BEEN QUALIFIED WITH THE COMMISSIONER OF CORPORATIONS OF THE STATE OF CALIFORNIA AND THE ISSUANCE OF SUCH SECURITIES OR THE PAYMENT OR RECEIPT OF ANY PART OF THE CONSIDERATION THEREFOR PRIOR TO SUCH QUALIFICATION OR IN THE ABSENCE OF AN EXEMPTION FROM SUCH QUALIFICATION IS UNLAWFUL. PRIOR TO ACCEPTANCE OF SUCH CONSIDERATION BY THE COMPANY, THE RIGHTS OF ALL PARTIES TO THIS AGREEMENT ARE EXPRESSLY CONDITIONED UPON SUCH QUALIFICATION BEING OBTAINED OR AN EXEMPTION FROM SUCH QUALIFICATION BEING AVAILABLE.

(*Signature Page Follows*)

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

IN WITNESS WHEREOF, the parties hereto have executed this Series E Preferred Stock Purchase Agreement as of the date set forth in the first paragraph hereof.

CODEXIS, INC.

By: _____
Name: Alan Shaw
Title: President

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PURCHASERS:

CMEA VENTURES LIFE SCIENCES 2000, L.P.

By: _____
Name:
Title:

CMEA VENTURES LIFE SCIENCES 2000, CIVIL LAW PARTNERSHIP

By: _____
Name:
Title:

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PURCHASERS:

CTTV INVESTMENTS LLC

By: _____
Name:
Title:

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PURCHASERS:

ROBERT W. CRANMER-BROWN

By: _____

Name:

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PURCHASERS:

EQUILON ENTERPRISES LLC DBA SHELL OIL PRODUCTS US

By: _____
Name:
Title:

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PURCHASERS:

GPSF SECURITIES INC.

By: _____
Name:
Title:

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PURCHASERS:

AFAC EQUITY, L.P.

By: _____
Name: Brian M. Feuer
Title: Portfolio Manager

Address:

McKinsey & Company, Inc.
55 East 52nd Street, 27th Floor
New York, New York, 10055
Office (212) 446-8029
Fax (646) 307-6552

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PURCHASERS:

CONUS FUND QP L.P.

By: _____
Name:
Title:

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PURCHASERS:

MALAYSIAN LIFE SCIENCES CAPITAL FUND, LTD.

By: Malaysian Life Sciences Capital Fund Management Company Ltd, its Manager

By: _____
Name: Dr. Roger Earl Wyse
Title: Co-Chairman

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SCHEDULE C

Form of Amended and Restated License Agreement

[SEE EXHIBIT 10.4A]

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SCHEDULE D

Warrant Agreement

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THIS SECURITY HAS NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT"). NO SALE OR DISPOSITION MAY BE EFFECTED WITHOUT THE PRIOR WRITTEN CONSENT OF THE COMPANY OR WITHOUT AN EFFECTIVE REGISTRATION STATEMENT RELATED THERETO OR AN OPINION OF COUNSEL FOR THE HOLDER, SATISFACTORY TO THE COMPANY, THAT SUCH REGISTRATION IS NOT REQUIRED UNDER THE ACT OR RECEIPT OF A NO-ACTION LETTER FROM THE SECURITIES AND EXCHANGE COMMISSION.

THE SALE OF THESE SECURITIES HAS NOT BEEN QUALIFIED WITH ANY STATE SECURITIES AUTHORITIES. THE RIGHTS OF ALL PARTIES TO THIS WARRANT ARE EXPRESSLY CONDITIONED UPON SUCH QUALIFICATION BEING OBTAINED UNLESS THE SALE IS SO EXEMPT.

THIS WARRANT MAY NOT BE EXERCISED EXCEPT IN COMPLIANCE WITH ALL APPLICABLE FEDERAL AND STATE SECURITIES LAWS TO THE REASONABLE SATISFACTION OF THE COMPANY AND LEGAL COUNSEL FOR THE COMPANY.

Void after November 1, 2008

CODEXIS, INC.

WARRANT AGREEMENT

THIS CERTIFIES THAT, for value received, Equilon Enterprises LLC dba Shell Oil Products US, a Delaware limited liability company, having a place of business at 910 Louisiana Street, Houston, Texas 77002 ("**Shell**") and its registered assigns (hereinafter called the "**Holder**") is entitled to purchase from Codexis, Inc., a Delaware corporation (the "**Company**") whose address is 200 Penobscot Drive, Redwood City, California 94063, at any time during the Term of the Warrant, as described in Section 2 hereof, a number of shares of the Company's Series D Preferred Stock (the "**Warrant Shares**") equal to the quotient obtained by dividing (A) $3,000,000 by (B) the Warrant Price (as defined below). This Warrant Agreement is a "**Warrant Agreement**" as defined in that certain Collaborative Research Agreement (the "**Research Agreement**"), dated as of November 1, 2006 by and among the Company and Shell. This Warrant may be exercised in whole or in part, at the option of the Holder of this Warrant, and the Holder is also entitled to exercise the other appurtenant rights, powers and privileges hereinafter set forth.

1. Warrant Price. The Warrant Price will be calculated as follows:

(a) In the event that the Company fails to achieve the Final Research Milestone (as defined in the Research Agreement) pursuant to the terms of the Research Agreement, the purchase price per share shall equal Three United States Dollars and Ninety-Seven Cents ($3.97); and

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(b) In the event that the Company achieves the Final Research Milestone pursuant to the terms of the Research Agreement, the purchase price per share shall equal Seven United States Dollars ($7.00).

(c) In the event that the Company consummates a Change of Control Transaction (as defined below) with an entity other than Shell or a Shell Affiliate (as defined in the Research Agreement) prior to the Price Determination Date (as defined below), the purchase price per share shall equal Seven United States Dollars ($7.00).

Notwithstanding anything to the contrary, in the event that the Company and Shell enter into a subsequent research agreement for the use of the Codexis Technology (as defined in the Research Agreement) in the Energy Field (as defined in the Research Agreement), including without limitation an extension of the Research Agreement of greater than three (3) months duration, during the term of the Research Agreement (the "**Deemed Milestone**"), then the Final Research Milestone will be deemed to have been achieved for purposes of this Section 1.

2. Term. This Warrant shall be exercisable from the Price Determination Date (as defined below) through the earlier of (i) 5:00 p.m. Pacific Standard Time on November 1, 2008, (ii) the date of the closing of the Company's initial public offering of its Common Stock, provided that the Warrant is exercised prior to such closing or (iii) the effective date (prior to the effective time) of (w) any consolidation or merger of the Company with or into another corporation (other than a merger with another corporation in which the Company is a continuing corporation and which does not result in any reclassification or change of outstanding securities issuable upon exercise of this Warrant), (x) any other corporate reorganization in which the Company shall not be the continuing or surviving entity of such consolidation, merger or reorganization, (y) any transaction in which in excess of 50% of the Company's voting power is transferred or (z) any sale of all or substantially all of the stock or assets of the Company (such a transaction, a "**Change of Control Transaction**") (such time period, the "**Term of the Warrant**"); provided that, if the Company consummates a Change of Control Transaction with an entity other than Shell or a Shell Affiliate prior to the Price Determination Date, this Warrant shall be exercisable on the effective date of such Change of Control Transaction at a purchase price per share equal to Seven United States Dollars ($7.00), as set forth in Section 1(c) above. For avoidance of doubt, if the Holder fails to exercise this Warrant during the Term of the Warrant, this Warrant, and all of the Holder's rights hereunder, shall terminate after the Term of the Warrant. Notwithstanding anything to the contrary, in the event that the Company terminates the Research Agreement due to a material breach thereof by Shell, as of the effective date of such termination, this Warrant, and all of the Holder's rights hereunder, shall terminate. For purposes of this Section 2, the "**Price Determination Date**" shall be the earlier of (A) the date on which the Company and Shell agree whether the Company has achieved the Final Research Milestone pursuant to the terms of the Research Agreement, and (B) the occurrence of the Deemed Milestone.

3. Method of Exercise; Payment; Issuance of New Warrant. Subject to Section 2 hereof, the purchase right represented by this Warrant may be exercised by the Holder, in whole or in part, by:

3.1 The surrender of this Warrant (with the Notice of Exercise form attached hereto asAttachment A and the Investment Representation Statement attached hereto as Attachment B duly executed) at the principal office of the Company; and

3.2 The payment to the Company, by check or wire transfer or any combination of the foregoing, of an amount equal to the then applicable Warrant Price per share multiplied by the number of Warrant Shares then being purchased.

If this Warrant should be exercised in part only, the Company shall, upon surrender of this Warrant, execute and deliver a new Warrant evidencing the rights of the Holder thereof to purchase the balance of the Warrant Shares purchasable hereunder. Upon receipt by the Company of this Warrant and such Notice of Exercise, together with, if applicable, the aggregate Warrant Price, at such office, or by the stock transfer agent or warrant agent of the Company at its office, the Holder shall be deemed to be the holder of record of the applicable Warrant Shares, notwithstanding that the stock transfer books of the Company shall then be closed or that certificates representing such Warrant Shares shall not then be actually delivered to the Holder. The Company shall pay any and all documentary stamp or similar issue or transfer taxes payable in respect of the issue or delivery of the Warrant Shares.

4. Stock Fully Paid; Reservation of Warrant Shares. All shares of stock which may be issued upon the exercise of the rights represented by this Warrant will, upon issuance, be fully paid and nonassessable, and free from all taxes, liens and charges with respect to the issue thereof. During the period within which the rights represented by this Warrant may be exercised, (i) the Company will at all times have authorized and reserved for the purpose of issue upon exercise of the purchase rights evidenced by this Warrant, a sufficient number of shares of its stock to provide for the exercise of the rights represented by this Warrant, and (ii) the issuance of such shares upon the exercise of the rights represented by this Warrant shall not be subject to preemptive rights of any stockholder of the Company or any other third party. In the event that there is an insufficient number of Warrant Shares reserved for issuance pursuant to the exercise of this Warrant, the Company will take appropriate action to authorize an increase in its capital stock to allow for such issuance or similar issuance acceptable to the Holder.

5. Adjustment of Warrant Price and Number of Warrant Shares. The number and kind of Warrant Shares purchasable upon the exercise of this Warrant and the Warrant Price shall be subject to adjustment from time to time upon the occurrence of certain events, as follows:

5.1 Subdivision or Combination of Warrant Shares. If the Company at any time while this Warrant remains outstanding and unexpired shall subdivide or combine its stock, the Warrant Price shall be proportionately decreased in the case of a subdivision or increased in the case of a combination.

5.2 Stock Dividends. If the Company at any time while this Warrant is outstanding and unexpired shall pay a dividend with respect to stock payable in, or make any other distribution with respect to stock (except any distribution specifically provided for in the foregoing Section 5.1) of, stock, then the Warrant Price shall be adjusted, from and after the date of determination of stockholders entitled to receive such dividend or distribution, to that price

determined by multiplying the Warrant Price in effect immediately prior to such date of determination by a fraction (i) the numerator of which shall be the total number of shares of stock outstanding immediately prior to such dividend or distribution, and (ii) the denominator of which shall be the total number of shares of stock outstanding immediately after such dividend or distribution.

5.3 Adjustment of Number of Warrant Shares. Upon each adjustment in the Warrant Price, the number of shares of stock purchasable hereunder shall be adjusted, to the nearest whole share, to the product obtained by multiplying the number of Warrant Shares purchasable immediately prior to such adjustment in the Warrant Price by a fraction, the numerator of which shall be the Warrant Price immediately prior to such adjustment and the denominator of which shall be the Warrant Price immediately thereafter.

6. Fractional Warrant Shares. No fractional Warrant Shares will be issued in connection with any exercise hereunder, but in lieu of such fractional shares the Company shall make a cash payment therefor upon the basis of the Warrant Price then in effect.

7. Compliance with Securities Act.

7.1 Compliance with Securities Act. The Holder, by acceptance hereof, agrees that this Warrant and the Warrant Shares are being acquired for investment and that he, she or it will not offer, sell or otherwise dispose of this Warrant or any Warrant Shares except under circumstances which will not result in a violation of the Securities Act of 1933, as amended (the "**Act**"). Upon exercise of this Warrant, the Holder hereof shall confirm in writing, in a form attached hereto asAttachment B, that the Warrant Shares so purchased are being acquired for investment and not with a view toward distribution or resale. In addition, the Holder shall provide such additional information regarding such Holder's financial and investment background, as the Company may reasonably request, as is relevant for purposes of determining the Holder's suitability with respect to a purchase of the Warrant Shares. This Warrant and all Warrant Shares (unless registered under the Act) shall be stamped or imprinted with a legend in substantially the following form:

> THIS SECURITY HAS NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT"). NO SALE OR DISPOSITION MAY BE EFFECTED WITHOUT THE PRIOR WRITTEN CONSENT OF THE COMPANY AND WITHOUT AN EFFECTIVE REGISTRATION STATEMENT RELATED THERETO OR AN OPINION OF COUNSEL FOR THE HOLDER, SATISFACTORY TO THE COMPANY, THAT SUCH REGISTRATION IS NOT REQUIRED UNDER THE ACT OR RECEIPT OF A NO-ACTION LETTER FROM THE SECURITIES AND EXCHANGE COMMISSION.

7.2 Conditions for Transfer. Neither this Warrant, the Warrant Shares nor the shares of Common Stock issuable upon conversion of the Warrant Shares may be transferred or assigned in whole or in part without compliance with all applicable federal and state securities laws by the transferor and the transferee (including the delivery of investment representation

letters and legal opinions satisfactory to the Company, if such are requested by the Company). Notwithstanding the foregoing, no investment representation letter or opinion of counsel shall be required for any transfer of this Warrant (or any portion thereof) or any shares of Series D Preferred Stock issued upon exercise hereof (or shares of Common Stock issuable upon conversion thereof) (i) in compliance with customary transactions pursuant to Rule 144 or Rule 144A of the Act, or (ii) by gift, will or intestate succession by the Holder to his or her spouse or lineal descendants or ancestors or any trust for any of the foregoing or by the Holder to its managers, partners, members, affiliates (as defined under Rule 404 promulgated under the Act) or subsidiaries, as applicable; provided, that in each of the foregoing cases, the transferee agrees in writing to be subject to the terms of this Section 7.2. In addition, if the holder of the Warrant (or any portion thereof) or any Series D Preferred Stock issued upon exercise hereof or any shares of Common Stock issuable upon conversion thereof delivers to the Company an unqualified opinion of counsel satisfactory to the Company that no subsequent transfer of such securities shall require registration under the Act, the Company shall, upon such contemplated transfer, promptly deliver new documents/certificates for such securities that do not bear the legend set forth in Section 7.1 above. Subject to the provisions of this Warrant with respect to compliance with the Act, title to this Warrant may be transferred by endorsement (by the Holder executing an assignment form) and delivery in the same manner as a negotiable instrument transferable by endorsement and delivery. Notwithstanding the foregoing, with respect to any offer, sale or other disposition of this Warrant or of securities into which this Warrant may be converted or for which it may be exercised, the Holder will give written notice to the Company, describing briefly the manner thereof. Unless the Company reasonably determines that such transfer would violate applicable securities laws, and notifies the Holder thereof within ten (10) business days after receiving notice of the transfer, the Holder may effect such transfer. Each Warrant thus transferred and each certificate representing the securities thus transferred shall bear a legend as to the applicable restrictions on transferability in order to ensure compliance with the Act, unless in the opinion of counsel for the Company, such legend is not required in order to ensure compliance with the Act. The Company may issue stop transfer instructions to its transfer agent in connection with such restrictions.

8. Rights of Stockholders. No Holder of this Warrant shall be entitled to vote or receive dividends or be deemed the holder of stock or any other securities of the Company which may at any time be issuable on the exercise hereof for any purpose, nor shall anything contained herein be construed to confer upon the Holder of this Warrant, as such, any of the rights of a stockholder of the Company or any right to vote for the election of directors or upon any matter submitted to stockholders at any meeting thereof, or to give or withhold consent to any corporate action (whether upon any recapitalization, issuance of stock, reclassification of stock, change of par value or change of stock to no par value, consolidation, merger, conveyance, or otherwise) or to receive notice of meetings, or to receive dividends or subscription rights or otherwise until this Warrant has been exercised and the Warrant Shares shall have become deliverable, as provided herein.

9. Stockholder Agreements. Upon exercise of this Warrant, the Holder agrees to execute and become a party to that certain Third Amended and Restated Voting Agreement, that certain Second Amended and Restated Right of First Refusal and Co-Sale Agreement, and that certain Third Amended and Restated Investor Rights Agreement, each made and entered into as of August 22, 2006 by and among the Company and certain stockholders of the Company.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

10. Governing Law. The terms and conditions of this Warrant and all acts and transactions pursuant hereto and the rights and obligations of the parties hereto shall be governed, construed and interpreted in accordance with California law, without giving effect to principles of conflicts of law.

11. Miscellaneous. The headings in this Warrant are for purposes of convenience and reference only, and shall not be deemed to constitute a part hereof. Neither this Warrant nor any term hereof may be changed, waived, discharged or terminated orally, but only by an instrument in writing signed by the Company and the registered Holder. Upon any Acquisition (as defined in the Amended and Restated Certificate of Incorporation of the Company), or any stock dividend, combination, stock split, reclassification or recapitalization of the capital stock of the Company, or the Company's initial public offering of its Common Stock, the Company shall provide to each Holder at such time, ten (10) days' prior notice to the closing of such events. All notices and other communications from the Company to the Holder shall be delivered by hand or mailed by first class registered or certified mail, postage prepaid, to the address furnished to the Company in writing by the Holder.

(Remainder of Page Intentionally Left Blank)

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IN WITNESS WHEREOF, the Company has caused this Warrant to be duly executed by its officers, thereunto duly authorized this first day of November, 2006.

CODEXIS, INC.

By: /s/ Alan Shaw
Name: Alan Shaw
Title: President

SIGNATURE PAGE TO WARRANT

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ATTACHMENT A

TO WARRANT AGREEMENT

NOTICE OF EXERCISE

TO: CODEXIS, INC.

1. The undersigned hereby elects to purchase __ shares of Series D Preferred Stock of CODEXIS, INC. as defined in and pursuant to the terms of the attached Warrant, and tenders herewith payment of the purchase price of such shares in full, together with all applicable transfer taxes, if any.

2. Please issue a certificate or certificates representing said shares of stock in the name of the undersigned or in such other name as is specified below:

Name: _____

Address: _____

_____

_____

3. The undersigned represents that the aforesaid shares of stock are being acquired for the account of the undersigned for investment and not with a view to, or for resale in connection with, the distribution thereof and that the undersigned has no present intention of distributing or reselling such shares. In support thereof, the undersigned has executed an Investment Representation Statement attached hereto as Attachment B.

WARRANTHOLDER

_____

(signature)

_____

(title)

Date: _____

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ATTACHMENT B

TO WARRANT AGREEMENT

INVESTMENT REPRESENTATION STATEMENT

PURCHASER :

COMPANY : CODEXIS, INC.

SECURITY :

AMOUNT :

DATE :

In connection with the purchase of the above-listed securities and underlying stock (the "**Securities**"), I, the Purchaser, represent to the Company the following:

(a) I am purchasing these Securities for my own account for investment purposes only and not with a view to, or for the resale in connection with, any "distribution" thereof for purposes of the Securities Act of 1933, as amended ("**Act**").

(b) I understand that the Securities have not been registered under the Act in reliance upon a specific exemption therefrom, which exemption depends upon, among other things, the bona fide nature of my investment intent as expressed herein. In this connection, I understand that, in the view of the Securities and Exchange Commission ("**SEC**"), the statutory basis for such exemption may be unavailable if my representation was predicated solely upon a present intention to hold these Securities for the minimum capital gains period specified under tax statutes, for a deferred sale, for or until an increase or decrease in the market price of the Securities, or for a period of one year or any other fixed period in the future.

(c) I further understand that the Securities must be held indefinitely unless subsequently registered under the Act or unless an exemption from registration is otherwise available. Moreover, I understand that the Company is under no obligation to register the Securities. In addition, I understand that the certificate evidencing the Securities will be imprinted with a legend which prohibits the transfer of the Securities unless they are registered or such registration is not required in the opinion of counsel for the Company.

(d) I am aware of the provisions of Rule 144, promulgated under the Act, which, in substance, permits limited public resale of "restricted securities" acquired, directly or indirectly, from the issuer thereof (or from an affiliate of such issuer), in a non-public offering subject to the satisfaction of certain conditions.

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(e) I further understand that at the time I wish to sell the Securities there may be no public market upon which to make such a sale.

WARRANTHOLDER

(signature)

(title)

Date:

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AMENDMENT TO THE AMENDED AND RESTATED COLLABORATIVE RESEARCH AGREEMENT

THIS AMENDMENT TO THE AMENDED AND RESTATED COLLABORATIVE RESEARCH AGREEMENT, together with exhibits and schedules attached hereto, (the "**Amendment**") is entered into and effective as of March 4, 2009 (the "**Amendment Date**") by and between **Equilon Enterprises LLC dba Shell Oil Products US**, a Delaware limited liability company, having a place of business at 910 Louisiana Street, Houston, Texas 77002, ("**Shell**") and **Codexis, Inc.**, a Delaware corporation, having a place of business at 200 Penobscot Drive, Redwood City, California 94063 ("**Codexis**"). Shell and Codexis may each be referred to herein individually as a '**Party**" or, collectively, as the "**Parties**."

WHEREAS, Shell and Codexis entered into (a) a certain Amended and Restated Collaborative Research Agreement, effective as of November 1, 2006, (the '**Research Agreement**") pursuant to which the Parties have collaborated to develop certain new biocatalytic processes for use in the conversion of biomass to fuels and/or fuel additives and/or lubricants, and (b) a certain Amended and Restated License Agreement, effective as of November 1, 2006 (the "**License Agreement**"); and

WHEREAS, the Parties desire to amend certain of the terms of the Research Agreement to revise the scope of, and to increase the resources devoted to, the collaboration between the Parties, all on the terms and conditions set forth below.

NOW, THEREFORE, in consideration of the promises and undertakings set forth herein, the Parties hereby agree as follows:

1. **ARTICLE 1**, **DEFINITIONS**, shall be amended as follows:

(a) Section 1.12 is hereby deleted and replaced in its entirety by the following:

1.12 "**FTE**" means the efforts of one or more employees of Codexis (hereinafter a "**Codexis FTE**") or Codexis Laboratories Hungary Kft, an Affiliate of Codexis, ("**CLH**") (hereinafter a "**CLH FTE**") equivalent to the efforts of one full time employee (i.e., an employee that works at least one thousand seven hundred sixty (1760) hours per year).

(b) Section 1.24 is hereby deleted and replaced in its entirety by the following:

1.24 "**Shell Technology**" means (a) any Technology that is or was (i) developed by employees of or consultants to Shell or an Affiliate of Shell, alone or jointly with Third Parties, prior to or during the Term outside the scope of activities described in any Research Plan; or (ii) acquired during the Term by purchase, license, assignment or other means from Third Parties by Shell or an Affiliate of Shell, in each of

case (b)(i) or (b)(ii), introduced by Shell into the activities to be conducted under any Research Plan; and (b) any Fuel Innovation.

(c) Section 1.31 is hereby deleted and replaced in its entirety by the following:

1.31 "**Year Four Goal(s)**" shall have the meaning set forth in Section 2.8(d).

(d) Section 1.33 is hereby deleted and replaced in its entirety by the following:

1.33 "**Year Six Goal(s)**" shall have the meaning set forth in Section 2.8(f).

(e) **ARTICLE 1, DEFINITIONS**, is hereby amended to include the following:

"**FTE Month**" means the efforts of one (1) FTE for one (1) calendar month.

"**Fuel Innovation**" means any technology and/or materials relating specifically to (a) a novel compound suitable for use as a liquid fuel, or as a fuel additive to a liquid fuel, or a Lubricant, and/or (b) the use of any compound as a liquid fuel, including without limitation any liquid fuel blend, or as a fuel additive to a liquid fuel, or a Lubricant, that, in (a) and/or (b), is or was developed under the Program by employees of or consultants to Codexis or an Affiliate of Codexis, alone or jointly with employees of or consultants to Shell or an Affiliate of Shell, during the Term, where (i) "liquid" means a substance that is a liquid at a temperature of twenty-five (25) degrees Celsius under atmospheric pressure, and (ii) "fuel additive" means a substance which is added to fuel to modify the characteristics of such fuel, including, for example, biodegradability, combustibility, viscosity, performance and/or emissions profile. For purposes of clarification, Fuel Innovation shall exclude any and all materials, technology, technical information, know-how, expertise and trade secrets relating to the biological manufacture of any compound that is, or the use of which is, Fuel Innovation.

"**Series F Stock Purchase Agreement**" shall have the meaning set forth in Section 3.5(d).

"**Year Three Goal(s)**" shall have the meaning set forth in Section 2.8(c).

"**Year Five Goal(s)**" shall have the meaning set forth in Section 2.8(e).

2. **ARTICLE 2**, **PROGRAM ACTIVITIES**, shall be amended as follows:

(a) Section 2.2(a)(vi) is hereby deleted and replaced in its entirety by the following:

(vi) review the Year Six Goal(s) proposed by the Parties pursuant to Section 2.8(f), and to make recommendations to the Oversight Committee with respect to such proposed Year Six Goal(s) on or before May 1, 2011;

(b) Section 2.2(a) is hereby amended to include the following:

(xi) review the Year Three Goal(s) proposed by the Parties pursuant to Section 2.8(c), and to make recommendations to the Oversight Committee with respect to such proposed Year Three Goal(s) on or before March 1, 2009.

(xii) review the Year Four Goal(s) proposed by the Parties pursuant to Section 2.8(d), and to make recommendations to the Oversight Committee with respect to such proposed Year Four Goal(s) on or before July 1, 2009.

(xiii) review the Year Five Goal(s) proposed by the Parties pursuant to Section 2.8(e), and to make recommendations to the Oversight Committee with respect to such proposed Year Five Goal(s) on or before May 1, 2010.

(c) Section 2.2(f)(i) is hereby deleted and replaced in its entirety by the following:

(i) Decision Making Process of the Research Committee. All decisions of the Research Committee shall be made by unanimous vote or written consent, as indicated by both co-chairpersons of the Research Committee signing the final written minutes thereof. Codexis representatives collectively shall have one (1) vote and Shell representatives collectively shall have one (1) vote; provided, however, that in the case of a deadlock where unanimity has not been reached, the final decision with respect to matters concerning technical aspects within the scope of an approved Research Plan shall be made by Codexis; provided further, that the scope and goal(s) of such Research Plan, including (A) the annual Milestone(s) for such Research Plan, the Year Three Goal(s), the Year Four Goal(s), the Year Five Goal(s) and the Year Six Goal(s), and (B) whether such Milestone(s), Year Three Goal(s), Year Four Goal(s), Year Five Goal(s) and Year Six Goal(s) have been achieved, shall never be considered "technical aspects." If a disagreement among members of the Research Committee with respect to matters other than "technical aspects" remains unresolved for more than thirty (30) business days after the Research Committee first addresses such matter (or such longer period as the Parties may mutually agree upon), such disagreement shall be submitted to the Oversight Committee for resolution. Notwithstanding anything to the contrary, the Research Committee shall have no authority to alter, modify or amend any of the rights and obligations of the Parties set forth under this Amended and Restated Research Agreement.

(d) Sections 2.3(a)(iii) and 2.3(a)(iv) are hereby deleted and replaced in their entirety by the following:

(iii) review and approve recommendations from the Research Committee with respect to the Milestones for the activities to be carried out for each Research Plan, the Year Three Goal(s), the Year Four Goal(s), the Year Five Goal(s) and the Year Six Goal(s), and to approve such Milestones;

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(iv) determine whether Milestones for the activities to be carried out under each Research Plan, the Year Three Goal(s), the Year Four Goal(s), the Year Five Goal(s) and the Year Six Goal(s) have been achieved;

(e) Section 2.3(f)(i) is hereby deleted and replaced in its entirety by the following:

(i) Decision Making Process of the Oversight Committee. All decisions of the Oversight Committee shall be made by unanimous vote or written consent, as indicated by the co-chairpersons of the Oversight Committee signing the written minutes thereof, with Codexis representatives collectively having one (1) vote and Shell representatives collectively having one (1) vote; provided, however, that in the case of a deadlock where unanimity has not been reached, the final decisions shall be made by Shell except with respect to (A) the approval or modification of the annual Milestone(s) for each Research Plan, the Year Three Goal(s), the Year Four Goal(s), the Year Five Goal(s) or the Year Six Goal(s), (B) the approval or amendment of any Research Plan, (C) the determination as to whether Milestones for the activities to be carried out under each Research Plan, the Year Three Goal(s), the Year Four Goal(s), the Year Five Goal(s) or the Year Six Goal(s) have been achieved, (D) the acquisition of Third Party rights pursuant to Section 7.1, (E) the determination to have any party that is a Third Party as of the Execution Date participate in the activities to be conducted under the Program, (F) the introduction of Third Party Information into the Program, or (G) any decision that has a reasonable likelihood of having a material adverse impact on Codexis' business as conducted at the time of such decision or as contemplated to be conducted at the time of such decision. Notwithstanding anything to the contrary, except with respect to the approval of the Research Plans, the annual milestones for the activities carried out under each Research Plan, the Year Three Goal(s), the Year Four Goal(s), the Year Five Goal(s) and the Year Six Goal(s), and any amendments to any of the foregoing, the Oversight Committee shall have no authority to alter, modify or amend any of the rights and obligations of the Parties set forth under this Amended and Restated Research Agreement. If the Oversight Committee is unable to resolve any dispute, controversy, or claim with respect to items (A) – (G) above in this Section 2.3(f)(i) within thirty (30) days after it first addresses such matter (or such longer period as the Parties may mutually agree upon), then the dispute shall be referred to Executives of each Party. For purposes of clarification, all matters related to "technical aspects" of an approved Research Plan shall be resolved in accordance with Section 2.2(f)(i).

(f) Section 2.6(b)(iii) is hereby deleted and replaced in its entirety by the following:

(iii) Subject to Section 2.6(c), after the first anniversary of the Effective Date, during the Term, Codexis shall assign, on or before the dates set forth in the table in this Section 2.6(b)(iii), below, no less than the corresponding number of FTEs set forth in the table in this Section 2.6(b)(iii), below, to perform Codexis' obligations under the Program, and to complete the tasks assigned to Codexis in the Research Plans.

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Total Number of FTEs	Date
24	November 1, 2007
48	April 1, 2008
78	August 1, 2008
88	September 1. 2008
98	October 1, 2008
111	January 1, 2009
125	February 1, 2009
128	March 1, 2009

The Parties agree that as of April 1, 2009, the allocation of FTEs between Codexis FTEs and CLH FTEs shall be approximately one hundred (100) Codexis FTEs and twenty-eight (28) CLH FTEs; provided, however, that Codexis shall have the right to make adjustments to such allocation as reasonably required to achieve the Milestones for the activities to be carried out under each Research Plan, the Year Three Goal(s), the Year Four Goal(s), the Year Five Goal(s) and/or the Year Six Goal(s), as applicable; provided, further, that Codexis, at each meeting of the Oversight Committee, shall inform the Oversight Committee of the then-current allocation of FTEs between Codexis FTEs and CLH FTEs and provide information to support such allocation, and in the event that any concern regarding such allocation is raised by the Oversight Committee, Codexis will re-allocate FTEs between Codexis FTEs and CLH FTEs in accordance with the recommendation of the Oversight Committee as soon as practicable.

(g) Section 2.6(b)(iv) is hereby deleted and replaced in its entirety by the following:

(iv) Prior to May 1, 2010, Codexis, upon the written request of Shell, shall increase the number of FTEs to perform Codexis' obligations under the Program by up to twenty-two (22) to a total number of FTEs of up to one hundred fifty (150). In the event that Shell delivers such a written request to Codexis, the Parties will agree upon the timing and rate of such FTE increase as well as the allocation of such additional FTEs between Codexis FTEs and CLH FTEs. On or after May 1, 2010, Shell, by written notice, may request that Codexis increase the number of FTEs to perform Codexis' obligations under the Program by up to twenty-two (22) to a total number of FTEs of up to one hundred fifty (150), and Codexis and Shell, in good faith, will discuss the benefits of implementing an increase in the number of such FTEs, but Codexis will have no obligation to agree to implement any increase in the number of such FTEs. In

the event that Shell and Codexis agree that an increase in the number of FTEs should be implemented, the Parties, prior to the implementation of such FTE increase, will discuss and agree on the timing and rate of such FTE increase as well as the allocation of such additional FTEs between Codexis FTEs and CLH FTEs.

(h) Section 2.6(b) is hereby amended to include the following:

(v) Notwithstanding anything to the contrary, in the event that Shell, in accordance with Section 2.6(c), exercises its right to reduce the total number of FTEs assigned by Codexis to perform Codexis' obligations under the Program, Codexis shall have the right to determine the allocation of Codexis FTEs and CLH FTEs comprising such reduction; provided, however, that Codexis shall consult with the Oversight Committee prior to making such determination.

(i) Section 2.6(c) is hereby deleted and replaced in its entirety by the following:

(c) Reduction in FTEs.

(i) During the period beginning on May 1, 2009 and ending on May 1, 2010, Shell shall have the right to reduce the total number of FTEs assigned by Codexis to perform Codexis' obligations under the Program by up to twelve (12) FTEs upon sixty (60) days advance notice.

(ii) After the fourth (4th) anniversary of the Effective Date, Shell shall have the right to reduce the total number of FTEs assigned by Codexis to perform Codexis' obligations under the Program upon advance notice; provided, however, that the number of FTEs that may be reduced will not be greater than as set forth in, and implemented after written notice thereof in accordance with, the table in this Section 2.6(c)(ii), below; provided, further, however, that no reductions may be noticed during the applicable standstill period set forth in this Section 2.6(c)(ii), below, immediately after a FTE reduction already noticed (each such period during which no subsequent notice may be given, a "**Standstill Period**").

Number of FTEs that May Be Reduced	Standstill Period	Advance Notice Required
£ 12	90 days	30 days
13 £ 48	180 days	90 days
49 £ 78	360 days	180 days
79 £ 98	360 days	270 days

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By way of example, if Shell elects to reduce the number of FTEs by twelve (12) FTEs or less, no additional reductions may be made by Shell during the ninety (90) day Standstill Period beginning on the date of advance written notice of such reduction election. Similarly, if Shell elects to reduce the number of FTEs by more than twelve (12) FTEs but less than or equal to forty-eight (48) FTEs, no additional reductions may be made by Shell during the one hundred eighty (180) day Standstill Period beginning on the date of advance written notice of such reduction election.

(j) Section 2.8 is hereby deleted and replaced in its entirety by the following:

2.8 Milestones.

(a) Year One Final Milestone. Shell acknowledges that, as of the Execution Date, Codexis has achieved the Year One Final Milestone.

(b) Annual Milestones. Prior to beginning work, Codexis shall provide a proposal to Shell for annual milestones for each work stream. The Parties shall submit such proposed milestones to the Research Committee for consideration and recommendation to the Oversight Committee for approval.

(c) Year Three Goal(s). Unless otherwise agreed by the Parties in writing, prior to February 14, 2009, Codexis shall provide a proposal to Shell for Program progress goal(s) to be achieved as of the third (3rd) anniversary of the Effective Date (the "**Year Three Goal(s)**"). The Parties shall submit such proposed Year Three Goal(s) to the Research Committee for consideration and recommendation to the Oversight Committee for approval. For purposes of clarification, it is the intent of the Parties that the Year Three Goal(s) will be more technically challenging to achieve than the annual Milestones established in accordance with Section 2.8(b).

(d) Year Four Goal(s). Unless otherwise agreed by the Parties in writing, prior to May 1, 2009, Codexis shall provide a proposal to Shell for Program progress goal(s) to be achieved as of the fourth (4th) anniversary of the Effective Date (the "**Year Four Goal(s)**"). The Parties shall submit such proposed Year Four Goal(s) to the Research Committee for consideration and recommendation to the Oversight Committee for approval. For purposes of clarification, it is the intent of the Parties that the Year Four Goal(s) will be more technically challenging to achieve than the annual Milestones established in accordance with Section 2.8(b).

(e) Year Five Goal(s). Unless otherwise agreed by the Parties in writing, prior to March 1, 2010, Codexis shall provide a proposal to Shell for Program progress goal(s) to be achieved as of the fifth (5th) anniversary of the Effective Date (the "**Year Five Goal(s)**"). The Parties shall submit such proposed Year Five Goal(s) to the Research Committee for consideration and recommendation to the Oversight Committee for approval. For purposes of clarification, it is the intent of the Parties that the Year Five

Goal(s) will be more technically challenging to achieve than the annual Milestones established in accordance with Section 2.8(b).

(f) Year Six Goal(s). Unless otherwise agreed by the Parties in writing, prior to March 1, 2011, Codexis shall provide a proposal to Shell for Program progress goal(s) to be achieved as of the sixth (6th) anniversary of the Effective Date (the "**Year Six Goal(s)**"). The Parties shall submit such proposed Year Six Goal(s) to the Research Committee for consideration and recommendation to the Oversight Committee for approval. For purposes of clarification, it is the intent of the Parties that the Year Six Goal(s) will be more technically challenging to achieve than the annual Milestones established in accordance with Section 2.8(b).

(e) Milestone Verification.

(i) In the event that Codexis reasonably believes that it has achieved a particular annual Milestone, the Year Three Goal(s), the Year Four Goal(s), the Year Five Goal(s) or the Year Six Goal(s), Codexis shall deliver written notice thereof to Shell (each such notice, a "**Milestone Notice**"). Within ten (10) business days after delivery of a particular Milestone Notice, Codexis shall provide to Shell sufficient quantities of any relevant Biocatalyst to permit Shell to verify that the annual Milestone, the Year Three Goal(s), the Year Four Goal(s), the Year Five Goal(s) or the Year Six Goal(s), as the case may be, in such Milestone Notice has been achieved.

(ii) In the event that Shell cannot verify Codexis' assertion that Codexis has achieved the annual Milestone, the Year Three Goal(s), the Year Four Goal(s), the Year Five Goal(s) or the Year Six Goal(s), as the case may be, identified in a particular Milestone Notice, Shell shall provide written notice thereof to Codexis (each such notice, a "**Nonreplication Notice**"). The annual Milestone, the Year Three Goal(s), the Year Four Goal(s), the Year Five Goal(s) or the Year Six Goal(s), as the case may be, identified in each Milestone Notice shall be deemed to have been achieved unless Shell provides a Nonreplication Notice within ninety (90) days after Shell's receipt of such Milestone Notice; provided that, upon written notice provided prior to the expiration of such ninety (90) day period, Shell may seek an extension of such ninety (90) day period of up to forty-five (45) days to provide such Nonreplication Notice, not to be unreasonably withheld by Codexis. Upon Codexis' receipt of a Nonreplication Notice, the Parties will determine a mutually agreeable time to perform the applicable tests necessary to replicate the identified annual asserted Milestone, the Year Three Goal(s), the Year Four Goal(s), the Year Five Goal(s) or the Year Six Goal(s), as the case may be, that is the subject of such Nonreplication Notice, such tests to be performed, at Shell's sole option and expense (A) by Shell at a Shell facility, with Codexis observing; (B) by Codexis at a Codexis facility, with Shell observing; or (C) by a mutually agreeable Third Party at such Third Party's facilities, with both Codexis and Shell observing. The outcome of such test shall be determinative of whether the annual Milestone, the Year Three Goal(s), the Year Four Goal(s), the Year Five Goal(s) or the Year Six Goal(s), as

the case may be, has been achieved. In the event that Shell elects to have such test performed by a mutually agreeable Third Party, Codexis shall first execute a sponsored research agreement with such Third Party substantially in the form attached hereto as Exhibit 2.8(e)(ii).

(k) ARTICLE 2, PROGRAM ACTIVITIES, is hereby amended to include the following:

2.9 Fuel Innovation. For each invention within the Fuel Innovation, Shell, for a period beginning on the date of filing of the first non-provisional patent application claiming such invention (the date of each such filing, the "Filing Date") and continuing until the three (3) year anniversary of the Filing Date (for each such invention, the "Exclusivity Period"), shall work exclusively with Codexis to identify biological methods of synthesis of the compound(s) that are claimed, or whose use as a liquid fuel, including without limitation any liquid fuel blend, or as a fuel additive to a liquid fuel, or a Lubricant, is claimed in such patent filing using biological materials, technology, technical information, know-how, expertise and trade secrets. For purposes of clarification, the term "exclusively," as used in the previous sentence with respect to Shell, shall permit Shell to conduct activities internally within Shell and with any party that is an Affiliate of Shell as of the Amendment Date (other than Iogen Energy Corporation, or any successor, assign or transferee of Iogen Energy Corporation), and that Shell shall not enter into any agreement with any Third Party, or with Iogen Energy Corporation, or any successor, assign or transferee of Iogen Energy Corporation, in each case, to develop biological methods of synthesis of any molecule within the Fuel Innovation, without the prior written consent of Codexis. Notwithstanding anything to the contrary, in the event that Shell or a Shell Affiliate (other than **[*]**) acquires one hundred percent (100%) of the voting shares of**[*]**, then the restrictions in this Section 2.9 with respect to the development of biological methods of synthesis of any molecule within the Fuel Innovation will not apply to **[*]**. In the event that Shell has not funded at least**[*]** FTE Months for the identification of biological methods of synthesis of the compound(s) disclosed in such patent filings using biological materials, technology, technical information, know-how, expertise and trade secrets during the applicable Exclusivity Period, such applicable Exclusivity Period shall be extended automatically for an additional two (2) year period and will expire on the five (5) year anniversary of the applicable Filing Date, and not on the three (3) year anniversary of the applicable Filing Date. Upon expiration of the applicable Exclusivity Period, either on the three (3) year anniversary of the applicable Filing Date, or on the five (5) year anniversary of the applicable Filing Date, Shell may continue to work with Codexis, but also may work on its own, with any Shell Affiliate or with any Third Party, to identify biological methods of synthesis of the compound(s) claimed in the applicable patent filings using biological materials, technology, technical information, know-how, expertise and trade secrets. Any and all patent applications and patents covering patentable inventions arising from the activities of Codexis and Shell under this Section 2.9 shall be deemed to be Program Patent Rights and any and all technology and materials arising from the activities of

Codexis and Shell under this Section 2.9 shall be deemed to be Program Licensed Technology, as set forth in the Amended and Restated License Agreement.

2.10 [*]. Promptly after the Amendment Date, the Parties shall meet and discuss in good faith the advantages and desirability of **[*]** in connection with the research and commercialization activities regarding **[*]** contemplated under the terms of this Agreement, including without limitation **[*]**.

3. ARTICLE 3, FEES AND PAYMENTS, shall be amended as follows:

(a) Section 3.3(b) is hereby deleted and replaced in its entirety by the following:

(b) Second Contract Year. During the second (2nd) Contract Year of the Term, Shell shall pay to Codexis a research funding fee based on a FTE rate equal to Four Hundred Twenty Thousand United States Dollars ($420,000) per year for each of the FTEs assigned by Codexis to perform Codexis' obligations under the Program during the second (2nd) Contract Year of the Term. Such FTE rate includes any and all associated overhead expenses, normal laboratory supplies and consumables expenses, and typical operational research expenses for the conduct of the Program. For the avoidance of doubt, except as expressly set forth in this Agreement or as set forth under the terms of the Series F Stock Purchase Agreement, no additional funds will be provided by Shell for the conduct of the Program, including, for example, funds for facilities, infrastructure, software, capital expenditures, equipment or any other type of expenditure.

(b) Section 3.3 is hereby amended to include the following:

(c) After the Second Contract Year. After the second (2nd) Contract Year of the Term, beginning on the second (2nd) anniversary of the Effective Date, Shell shall pay to Codexis a research funding fee based on (i) a Codexis FTE rate equal to Four Hundred Forty-One Thousand United States Dollars ($441,000) per year for each of the Codexis FTEs assigned by Codexis to perform Codexis' obligations under the Program and (ii) a CLH FTE rate equal to Three Hundred Fifty Thousand United States Dollars ($350,000) per year for each of the CLH FTEs assigned by Codexis to perform Codexis' obligations under the Program; in each case during the third (3rd) Contract Year of the Term. The Codexis FTE rate and the CLH FTE rate each shall be increased annually at the beginning of each subsequent Contract Year of the Term by an amount equal to the annual change in the index set forth on Schedule E (the "**FTE Index**") for each Codexis FTE and each CLH FTE. The increase in FTE rate, if any, with respect to each of the Codexis FTE rate and the CLH FTE rate, will be based on the change in the FTE Index during the most recent twelve (12) month period for which final, corrected data are available; provided, however, in the event that such change is a negative number, the relevant FTE rate shall remain unchanged for the subsequent Contract Year. Notwithstanding the previous sentence, in the event that the index set forth on Schedule F (the "**CLH FTE Index**") for a twelve (12) month period for which final, corrected data are available is greater than twice the FTE Index for such twelve (12)

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month period, the increase in FTE rate for CLH FTEs, but not for Codexis FTEs, will be based on the change in the CLH FTE Index. The Codexis FTE rate and the CLH FTE rate, each as set forth in this Section 3.3(c), include any and all associated overhead expenses, normal laboratory supplies and consumables expenses, and typical operational research expenses for the conduct of the Program. For the avoidance of doubt, except as expressly set forth in this Agreement or as set forth under the terms of the Series F Stock Purchase Agreement, no additional funds will be provided by Shell for the conduct of the Program, including, for example, funds for facilities, infrastructure, software, capital expenditures, equipment or any other type of expenditure. FTE payments in each Contract Year shall be made in six (6) equal installments (each an "**FTE Installment**"), each in advance of work actually performed based on the planned utilization of FTEs for the following two (2) months;provided, however, that, in the event either Party elects to reduce the number of FTEs working on the Program pursuant to Section 2.6(c), a corresponding reduction will be made to the amount of the next FTE Installment.

(c) Sections 3.4(b), (c), (d) and (e) are hereby deleted and replaced in their entirety by the following:

(b) For each Contract Year during the Initial Term beginning with the third (3rd) Contract Year, Shell shall pay to Codexis a non-refundable, non-creditable Milestone payment equal to [*] (for a total of [*]) upon achievement of the Milestones for each of the then-current Research Plans established in accordance with Section 2.8(b), such amount to be distributed among all such then-current Research Plans in accordance with the recommendation of the Oversight Committee. For purposes of clarification, for purposes of this Section 3.4(b), "achievement of the applicable Milestone" means that Codexis delivers to Shell a Milestone Notice for such Milestone within the relevant time period, even if the verification of such Milestone Notice occurs after the expiration of such time period; provided, however, that payment for any Milestone due pursuant to this Section 3.4(b) will be due and payable in accordance with Section 3.6 only after the achievement of such Milestone has been verified in accordance with Section 2.8(e).

(c) Upon the achievement of the Year Three Goal(s), Shell shall pay to Codexis a one-time, non-refundable, non-creditable Milestone payment equal to**[*]**, such amount to be distributed among all such then-current Research Plans in accordance with the recommendation of the Oversight Committee; provided, however, that payment for the Year Three Goal(s) due pursuant to this Section 3.4(c) will be due and payable in accordance with Section 3.6 only after the achievement of such Year Three Goal(s) has been verified in accordance with Section 2.8(e).

(d) Upon the achievement of the Year Four Goal(s), Shell shall pay to Codexis a one-time, non-refundable, non-creditable Milestone payment equal to**[*]**, such amount to be distributed among all such then-current Research Plans in accordance with the recommendation of the Oversight Committee; provided, however, that payment for the Year Four Goal(s) due pursuant to this Section 3.4(d) will be due and payable in

accordance with Section 3.6 only after the achievement of such Year Four Goal(s) has been verified in accordance with Section 2.8(e).

(e) Upon the achievement of the Year Five Goal(s), Shell shall pay to Codexis a one-time, non-refundable, non-creditable Milestone payment equal to **[*]**, such amount to be distributed among all such then-current Research Plans in accordance with the recommendation of the Oversight Committee; provided, however, that payment for the Year Five Goal(s) due pursuant to this Section 3.4(e) will be due and payable in accordance with Section 3.6 only after the achievement of such Year Five Goal(s) has been verified in accordance with Section 2.8(e).

(d) Section 3.4 is hereby amended to include the following:

(f) Upon the achievement of the Year Six Goal(s), Shell shall pay to Codexis a one-time, non-refundable, non-creditable Milestone payment equal to **[*]**, such amount to be distributed among all such then-current Research Plans in accordance with the recommendation of the Oversight Committee; provided, however, that payment for the Year Six Goal(s) due pursuant to this Section 3.4(f) will be due and payable in accordance with Section 3.6 only after the achievement of such Year Six Goal(s) has been verified in accordance with Section 2.8(e).

(g) For each Contract Year, if any, of (i) the Initial Term beyond the sixth (6th) Contract Year in the event that the Parties agree to extend the Initial Term beyond the six (6) year anniversary of the Effective Date in accordance with Section 11.1, and (ii) each Renewal Term, Shell shall pay to Codexis a non-refundable, non-creditable Milestone payment equal to **[*]** upon achievement of the Milestones for each of the then-current Research Plans established in accordance with Section 2.8(b), such amount to be distributed among all then-current Research Plans in accordance with the recommendation of the Oversight Committee. For purposes of clarification, for purposes of this Section 3.4(g), "achievement of the applicable Milestone" means that Codexis delivers to Shell a Milestone Notice for such Milestone within the relevant time period, even if the verification of such Milestone Notice occurs after the expiration of such time period; provided, however, that payment for any such Milestone due pursuant to this Section 3.4(g) will be due and payable in accordance with Section 3.6 only after the achievement of such Milestone has been verified in accordance with Section 2.8(e).

(h) Shell shall pay to Codexis a one-time, non-refundable, non-creditable milestone payment equal to **[*]** within thirty (30) days after the receipt by Shell of an invoice from Codexis, such invoice to be issued by Codexis to Shell after receipt by Codexis of notification, in writing, from Shell of the First Sale (as defined in the License Agreement) of the first Licensed Product (as defined in the License Agreement) pursuant to Section 3.1(d) of the License Agreement.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

(e) Section 3.5 is hereby amended to include the following:

(d) Series F Stock Purchase Agreement. On or before the Amendment Date, Shell shall purchase Thirty Million United States Dollars ($30,000,000) of Series F Preferred Stock of Codexis, pursuant to the terms and conditions of a stock purchase agreement substantially in the form attached hereto as Schedule G, appended to and made part of this Amended and Restated Research Agreement, (the "**Series F Stock Purchase Agreement**") at Eight United States Dollars and Fifty Cents ($8.50) per share.

4. ARTICLE 4, INTELLECTUAL PROPERTY RIGHTS, shall be amended as follows:

(a) Section 4.1(c) is hereby deleted and replaced in its entirety by the following:

(c) Program Technology. Shell hereby sells, assigns, delivers, conveys, transfers and sets over to Codexis the entire right, title and interest in and to any invention disclosed in any Program Technology and any patent application and/or patent arising therefrom. Subject to the rights expressly granted to Shell under the terms and conditions of this Amended and Restated Research Agreement and the Amended and Restated License Agreement, Codexis owns or otherwise controls and shall own or otherwise control all right, title and interest in, to and under any and all Program Technology.

(b) Section 4.3 (Limitation) is hereby re-numbered and, hereafter, shall be referred to as Section 4.4.

(c) **ARTICLE 4**, **INTELLECTUAL PROPERTY RIGHTS**, is hereby amended to include the following

4.3 [*].

(a) Assignment. Subject to the terms of this Amended and Restated Research Agreement and of the Amended and Restated License Agreement, Codexis hereby sells, assigns, delivers, conveys, transfers and sets over to Shell the entire right, title and interest in and to any invention disclosed in any **[*]**, including, but not limited to, the patent family designated by Codexis as Codexis internal reference number **[*]**, and any patent application and/or patent arising therefrom (the "**[*]**").

(b) Costs and Expenses. After the date of the assignment set forth in Section 4.3(a), Shell shall control and shall bear all costs of (i) filing, prosecuting, responding to opposition and maintaining patent applications and patents in the **[*]**, including without limitation the **[*]**, and (ii) filing, prosecuting, and responding to oppositions, nullity actions, re-examinations, revocation actions and similar proceedings against the grant of letters patent owned by Third Parties that may limit the ability to exploit the **[*]**. The Parties acknowledge and agree that Codexis, as of the date of the

assignment set forth in Section 4.3(a), has incurred costs and expenses relating to the prosecution of the **[*]** in an amount approximately equal to Eighty Three Thousand Six Hundred Eighty Five United States Dollars ($83,645) and that, in partial consideration for the assignment by Codexis set forth in Section 4.3(a), Shell will reimburse Codexis Forty One Thousand Eight Hundred Forty Two United States Dollars ($41,842), such reimbursement to be made within thirty (30) days after receipt by Shell of an invoice from Codexis, such invoice to include copies of the invoices received by Codexis constituting the costs and expenses relating to the prosecution of the **[*]**.

5. **ARTICLE 10**, **INDEMNIFICATION**, shall be amended as follows:

(a) Section 10.4 (Notification of Claim; Conditions to Indemnification Obligations) is hereby re-numbered and, hereafter, shall be referred to as Section 10.5.

(b) **ARTICLE 10, INDEMNIFICATION**, is hereby amended to include the following:

10.4 Fuel Innovation Indemnification. Shell shall fully indemnify, defend and hold the Codexis Indemnitees harmless from and against any and all Losses arising out of any Third Party claims or suits arising from use by Shell or any Affiliate of Shell, or any Third Party acting on behalf or for the benefit of Shell or any Affiliate of Shell, of Fuel Innovation; provided that nothing in this Section 10.4 shall limit Codexis' indemnification obligations under Section 10.2(a) with respect to any Losses arising out of any Third Party claims or suits arising from materials, technology, technical information, know-how, expertise and trade secrets relating to the biological manufacture of any compound that is, or the use of which is, Fuel Innovation.

6. **ARTICLE 11**, **TERM AND TERMINATION**, shall be amended as follows:

(a) Section 11.2 is hereby deleted and replaced in its entirety by the following:

11.2 Termination for Convenience.

(a) At any time after the fourth (4th) anniversary of the Effective Date, Shell, in its sole discretion, may terminate this Amended and Restated Research Agreement, such termination to be effective after nine (9) months written notice to Codexis. Notwithstanding the previous sentence, in the event that, pursuant to Section 2.6(b)(iv), the number of FTEs was increased to greater than one hundred twenty-eight (128), Shell, at any time after the fourth (4th) anniversary of the Effective Date, in its sole discretion, may terminate this Amended and Restated Research Agreement, such termination to be effective after twelve (12) months written notice to Codexis.

(b) If at any time after the fourth (4th) anniversary of the Effective Date, Shell determines, in accordance with Section 2.6(c), to decrease the number of FTEs assigned by Codexis to perform Codexis' obligations under the Program to less

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than **[*]**, Codexis shall have the right, but not the obligation, to terminate this Amended and Restated Research Agreement upon ninety (90) days written notice to Shell; provided, however that in the event that (i) each such FTE reduction by Shell occurs after successful achievement of the applicable Milestone for each Research Plan and (ii) Shell (or a Shell Affiliate or sublicensee) is actively developing the Program Technology for commercial application, then Codexis shall have no right to terminate this Amended and Restated Research Agreement pursuant to this Section 11.2(b).

(b) Section 11.4(b) is hereby deleted and replaced in its entirety by the following:

(b) The following Articles and Sections of this Amended and Restated Agreement shall survive its termination or expiration: Articles 4, 5, 10 and 12, and Sections 2.4(a)(iii), 2.9, 6.1, 8.3, 9.4, 9.5 and 11.4.

7. ARTICLE 12 – GENERAL PROVISIONS shall be amended to include the following:

12.15 Forecasts; Updates. After the Amendment Date, at the first meeting of the Research Committee in each calendar year, and at the first meeting of the Oversight Committee in each calendar year, Codexis shall provide a forecast of the anticipated expenditures by Codexis, if any, relating to acquisition of capital equipment or to improvement of facilities, in either case, for support of the Program during such calendar year. In addition, after the Amendment Date, at each meeting of the Research Committee, after the first such meeting, in each calendar year, Codexis shall provide an update regarding deviations, if any, from the forecast of the anticipated expenditures for such calendar year relating to acquisition of capital equipment or to improvement of facilities, in either case, for support of the Program, together with an explanation for such deviations.

12.16 Reports. After the Amendment Date, at each meeting of the Research Committee and the Oversight Committee, Codexis shall present a summary report of the number of FTEs assigned by Codexis to perform Codexis' obligations under the Program, including the allocation of such FTEs between Codexis FTEs and CLH FTEs. After the Amendment Date, within forty-five (45) days after the end of each calendar quarter, Codexis shall provide Shell a summary report of actual expenditures by Codexis, if any, relating to acquisition of capital equipment or to improvement of facilities, in either case, for support of the Program during the just ended calendar quarter.

12.17 Books and Records; Audit Rights. Codexis shall keep complete, true and accurate books of account and records for the purpose of verifying the reports presented by Codexis pursuant to Section 12.16. Said books and records will be kept for a period of at least three (3) years following the end of the calendar year to which they pertain and shall be available, after not less than fifteen (15) business days prior written notice, for inspection, such inspection to occur not more frequently than once in any calendar year during the Term, by Shell using Shell personnel or by an independent public accountant, certified in the U.S. and affiliated with an internationally recognized

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accounting firm selected by Shell and reasonably acceptable to Codexis, solely in order to, and only to the extent necessary to, verify the accuracy of the reports presented by Codexis pursuant to Section 12.16 that (a) Codexis assigned the number of FTEs set forth in Section 2.6(b), subject to Section 2.6(c), to perform Codexis' obligations under the Program, and (b) the expenditure by Codexis, if any, for the acquisition of any capital equipment and any facilities improvements indentified in such reports as being used in support of the Program. All materials made available for inspection by Codexis shall be Confidential Information in accordance with Article 6 and, in the event that Shell uses an independent public accountant to conduct such inspection, such public accountant will be obliged by Shell to treat all such materials as Confidential Information in accordance with Article 6. Shell share bear the full cost of the performance of any audit performed pursuant to this Section 12.17.

12.17 HSE. Codexis will take actions as are necessary to ensure that:

(a) it has a health, safety and environment policy that is in accordance with applicable law for the operations of Codexis' facilities that are involved in the Program (the "**HSE Policy**");

(b) it routinely advises Shell of any accidents arising directly out of or in connection with activities conducted under the Program which cause casualties or injuries or any negative effect on the environment which would be classified as a recordable OSHA event; and

(c) Shell, using Shell personnel, will have the right to audit Codexis' facilities for compliance with the HSE Policy, provided that the findings of such audit will be provided to both Codexis and Shell and will be deemed to be Confidential Information of Codexis, that at least ten (10) business days prior written notice of any such audit will be given to Codexis, and that such audits will not occur more frequently that annually.

8. OTHER PROVISIONS.

All provisions of the Research Agreement not expressly modified by this Amendment shall remain in full force and effect.

[*Signature Page Follows*]

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IN WITNESS WHEREOF, the Parties have caused this Amendment to be executed by their respective duly authorized officers as of the Amendment Date, each copy of which will for all purposes be deemed to be an original.

EQUILON ENTERPRISES LLC
DBA SHELL OIL PRODUCTS US

By: /s/ Richard M. Oblath
Name: Richard M. Oblath
Title: Attorney in Fact

CODEXIS, INC.

By: /s/ Alan Shaw
Name: Alan Shaw
Title: President & CEO

[Signature Page to the Amendment to the
Amended and Restated Collaborative Research Agreement]

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Schedule E

FTE Index

"**FTE Index**" means the U.S. Department of Labor, Bureau of Labor Statistics published Index: Series Id: CUURA422SA0, Not seasonably Adjusted; Consumer Price Index; All Urban Consumers; Area: San Francisco-Oakland-San Jose, CA; Item: All Items; Base Period: 1982-84=100, available as of the Amendment Date at http://data.bls.gov/cgi-bin/surveymost?cu. In the event that such index becomes unavailable, the Parties will agree on an index to be used in substitution of such unavailable index within sixty (60) days after the date that such index is no longer available.

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Schedule F

CLH FTE Index

"**CLH FTE Index**" means the Hungarian Central Statistical Office published Index: Consumer Price Index, 1990 = 100,0; Goods and services purchased by households, available as of the Amendment Date at http://portal.ksh.hu/pls/portal/ksh_web.tdb.view_cath?lang=EN&parent=4431. In the event that such index becomes unavailable, the Parties will agree on an index to be used in substitution of such unavailable index within sixty (60) days after the date that such index is no longer available.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

Schedule G

Form of Series F Stock Purchase Agreement

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CODEXIS, INC.

SERIES F PREFERRED STOCK PURCHASE AGREEMENT

March 4, 2009

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CODEXIS, INC.

SERIES F PREFERRED STOCK PURCHASE AGREEMENT

This Series F Preferred Stock Purchase Agreement (the "Agreement") is made and entered into as of March 4, 2009, by and among Codexis, Inc., a Delaware corporation (the "Company"), and the purchasers, severally and not jointly, listed on Exhibit A hereto, each of which is herein referred to as a "Purchaser" and all of which are collectively referred to herein as the "Purchasers".

Recitals

WHEREAS, the Company has authorized the sale and issuance of up to an aggregate of six million (6,000,000) shares of its Series F Preferred Stock (the "Shares"); and

WHEREAS, the Company desires to issue and sell the Shares to the Purchasers upon the terms and subject to the conditions set forth herein.

Agreement

NOW, THEREFORE, in consideration of the foregoing recitals and the mutual promises, representations, warranties, and covenants hereinafter set forth and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

1. Agreement to Sell and Purchase.

1.1 Authorization of Shares. On or prior to the Initial Closing (as defined in Section 2.1 below), the Company shall have authorized (a) the sale and issuance to the Purchasers of the Shares and (b) the issuance of such shares of Common Stock to be issued upon conversion of the Shares (the "Conversion Shares"). The Shares and the Conversion Shares shall have the rights, preferences, privileges and restrictions set forth in the Seventh Amended and Restated Certificate of Incorporation of the Company, in the form attached hereto as Exhibit B (the "Restated Charter"), which shall have been adopted by the Company and filed with the Secretary of State of the State of Delaware on or before the Initial Closing.

1.2 Sale and Purchase. Upon the terms and subject to the conditions hereof, at each Closing the Company hereby agrees to issue and sell to each Purchaser, and each Purchaser agrees to purchase from the Company, that number of Shares set forth opposite each Purchaser's name on Exhibit A hereto, at a purchase price of eight dollars and fifty cents ($8.50) per share.

2. Closing, Delivery and Payment.

2.1 Closing. The initial closing of the sale and purchase of the Shares under this Agreement (the "Initial Closing") shall take place at 11:00 a.m. Pacific Time, at the offices of

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Latham & Watkins LLP, 140 Scott Drive, Menlo Park, CA 94025 on such date as the Company and the Purchasers acquiring in the aggregate more than half of the Shares shall mutually agree, or at such other time, date and place as the Company and the Purchasers acquiring in the aggregate more than half of the Shares shall mutually agree (such date is hereinafter referred to as the "Initial Closing Date").

2.2 Subsequent Closings. Subject to the terms and conditions of this Agreement, the Company may sell any unsold Shares (up to a maximum aggregate of six million (6,000,000) at all Closings (as defined below), at the same price per share as the Shares) sold at the Initial Closing to such other persons and entities as are determined by the Company and the Board of Directors of the Company (each such new investor, an "Additional Purchaser"), following the fulfillment or waiver of the conditions set forth in Section 5 hereof or at such other time and place as the Company and the Additional Purchaser(s) mutually agree upon, orally or in writing (each of which time and place is designated as a "Subsequent Closing," and with the Initial Closing, each a "Closing"). Any Additional Purchaser shall be considered a "Purchaser" for purposes of this Agreement, and any Series F Preferred Stock so acquired by such Additional Purchaser shall be considered "Shares" for the purposes of this Agreement and all other agreements contemplated hereby upon execution by such Additional Purchaser of an appropriate counterpart signature page. Upon each such event, the Company shall prepare and distribute to the Purchasers (including the Additional Purchasers) a revised Exhibit A, which shall include the name of each Additional Purchaser and the number of shares of Series F Preferred Stock to be purchased by each Additional Purchaser. Upon the Subsequent Closing of the sale of shares of Series F Preferred Stock to any Additional Purchaser, such Additional Purchaser shall also, as evidenced by an applicable executed counterpart signature page, become a party to the Related Agreements (as defined below) and shall have the rights and obligations hereunder and thereunder. Each Subsequent Closing shall take place at the offices of Latham & Watkins LLP, 140 Scott Drive, Menlo Park, California. The Purchasers hereby irrevocably waive any pre-emptive rights or rights of first offer, and related notice rights, they may possess now or hereafter with respect to sales of Series F Preferred Stock made pursuant to this Section 2.2.

2.3 Delivery. As soon as practicable following each Closing, upon the terms and subject to the conditions hereof, the Company will deliver to each Purchaser a certificate or certificates representing that number of Shares set forth opposite such Purchaser's name on Exhibit A hereto against payment of the purchase price therefore by check, wire transfer, past services rendered, or any combination of the foregoing.

3. Representations and Warranties of the Company. Except as set forth on a Schedule of Exceptions delivered by the Company to the Purchasers, the Company hereby represents and warrants to the Purchasers as of the date of this Agreement and as of the Initial Closing as set forth below.

3.1 Organization, Good Standing and Qualification. The Company is a corporation duly organized, validly existing and in good standing under the laws of the State of Delaware. The Company has all requisite corporate power and authority: (i) to own and operate its properties and assets, (ii) to execute and deliver this Agreement, the Fifth Amended and Restated Investor Rights Agreement in the form attached hereto as Exhibit C (the "Investor

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Rights Agreement"), the Fourth Amended and Restated Right of First Refusal and Co-Sale Agreement in the form attached hereto as Exhibit D (the "Co-Sale Agreement") and the Fifth Amended and Restated Voting Agreement in the form attached hereto as Exhibit E (the "Voting Agreement") (collectively, the "Related Agreements"), (iii) to issue and sell the Shares and the Conversion Shares, (iv) to carry out the provisions of this Agreement, the Related Agreements and the Restated Charter and (v) to carry on its business as presently conducted and as proposed to be conducted. The Company is duly qualified and is authorized to do business and is in good standing as a foreign corporation in all jurisdictions in which the nature of its activities and of its properties (both owned and leased) makes such qualification necessary, except for those jurisdictions in which failure to do so would not have a material adverse effect on the Company or its business.

3.2 Subsidiaries. The Company does not own or control any equity security or other interest of any other corporation, limited partnership or other business entity. The Company is not a participant in any joint venture, partnership or similar arrangement.

3.3 Capitalization; Voting Rights.

(a) The authorized capital stock of the Company, immediately prior to the Initial Closing, consists of (i) sixty-eight million (68,000,000) shares of Common Stock, par value $0.0001 per share, of which three million nine hundred nineteen thousand six hundred seventy-three (3,919,673) shares are issued and outstanding, and (ii) thirty-nine million two hundred four thousand eight hundred eighty-six (39,204,886) shares of Preferred Stock, par value $0.0001 per share, six million (6,000,000) of which are designated Series A Preferred Stock, all of which are issued and outstanding, eight million one hundred one thousand one hundred one (8,101,101) of which are designated Series B Preferred Stock, all of which are issued and outstanding, one million five hundred fourteen thousand six hundred forty-five (1,514,645) of which are designated Series C Preferred Stock, all of which are issued and outstanding, eleven million one hundred fifty-four thousand eight hundred two (11,154,802) of which are designated Series D Preferred Stock, ten million four hundred ninety-six thousand nine hundred seventy-three (10,496,973) of which are issued and outstanding, six million four hundred thirty-four thousand three hundred thirty-eight (6,434,338) of which are designated Series E Preferred Stock, six million one hundred fifty-six seven hundred seventy five (6,156,775) of which are issued and outstanding, and six million (6,000,000) of which are designated Series F Preferred Stock, none of which are issued and outstanding. The Company has a right of first refusal over transfers of all outstanding shares of Common Stock.

(b) The Company has reserved fifteen million seven hundred fifty-seven thousand six hundred forty-two (15,757,642) shares of Common Stock for issuance to officers, directors, employees and consultants of the Company pursuant to its 2002 Stock Plan duly adopted by the Board of Directors and approved by the Company's stockholders, as amended (the "Stock Plan") or other plans, agreements or arrangements approved by the Board of Directors. Of such reserved shares of Common Stock, 1,577,261 shares have been issued pursuant to exercised options, options to purchase 9,380,769 shares have been granted and are currently outstanding and 4,799,612 shares of Common Stock remain available for issuance pursuant to future grants under the Stock Plan. The Company has reserved (i) an aggregate of

46,176 shares of Common Stock for issuance to Lighthouse Capital Partners IV, L.P. and Lighthouse Capital Partners IV, L.P. pursuant to warrants dated February 12, 2004 (the "Lighthouse Warrants"), (ii) an aggregate maximum of 65,000 shares of Common Stock pursuant to the Non-Qualified Stock Option Agreement dated as of February 23, 2004 and Non-Qualified Stock Option Agreement dated as of January 1, 2005, each by and between the Company and Latham & Watkins LLP (the "Latham Options"), (iii) 9,100 shares of Common Stock for issuance to Oxford Finance Corporation pursuant to a warrant dated October 25, 2005 (the "Oxford Warrant"), (iv) an aggregate of 323,569 shares of Series D Preferred Stock for issuance to certain investors of the Company pursuant to warrants dated May 25, 2006 (the "Bridge Warrants"), (v) 3,577 shares of Common Stock for issuance to Alexandria Equities, LLC pursuant to a warrant dated July 17, 2007, (vi) an aggregate of 109,091 shares of Series D Preferred Stock for issuance to General Electric Capital Corporation and Oxford Finance Corporation pursuant to warrants dated September 28, 2007 (the "Loan Warrants") and (vii) an aggregate of 3,124 shares of Common Stock pursuant to currently outstanding stock option grants made outside of the Stock Plan (the "Out-of-Plan Options"). At the Initial Closing, except for (i) outstanding options issued pursuant to the Stock Plan, the Lighthouse Warrants, the Latham Options, the Oxford Warrant, the Bridge Warrants, the Loan Warrants, the Out-of-Plan Options and as set forth on Section 3.3(b) of the Schedule of Exceptions or options that may be issued in the ordinary course of business after the date of this Agreement, (ii) the conversion privileges of the Preferred Stock and (iii) the rights granted pursuant to this Agreement and the Related Agreements, there are no outstanding options, warrants, rights (including conversion or preemptive rights and rights of first refusal), proxy or stockholder agreements, or agreements of any kind for the purchase or acquisition from the Company of any of its securities.

(c) All issued and outstanding shares of the Company's Common Stock and Preferred Stock (i) have been duly authorized and validly issued and are fully paid and nonassessable and (ii) were issued in compliance with all applicable state and federal laws concerning the issuance of securities.

(d) At the Initial Closing, the rights, preferences, privileges and restrictions of the Shares are as stated in the Restated Charter. Each series of Preferred Stock is convertible into Common Stock on a one-for-one basis as of the date hereof and the consummation of the transactions contemplated hereunder will not result in any anti-dilution adjustment or other similar adjustment to the outstanding shares of Preferred Stock. The Conversion Shares have been duly and validly reserved for issuance. When issued in compliance with the provisions of this Agreement and the Restated Charter, the Shares and the Conversion Shares will be validly issued, fully paid and nonassessable and will be free of any liens or encumbrances other than liens and encumbrances created by or imposed upon the Purchaser by entities other than the Company; provided, however, that the Shares and the Conversion Shares may be subject to restrictions on transfer under state and/or federal securities laws as set forth herein or as otherwise required by such laws at the time a transfer is proposed.

(e) All outstanding securities of the Company, including, without limitation, all outstanding shares of the capital stock of the Company, all shares of the capital stock of the Company issuable upon the conversion or exercise of all convertible or exercisable securities and all other securities that the Company is obligated to issue, are subject to a one

hundred eighty (180) day "market stand-off" restriction upon an initial public offering of the Company's securities pursuant to a registration statement filed with the Securities and Exchange Commission ("SEC") pursuant to the Securities Act of 1933, as amended (the 'Securities Act") in a form substantially identical to Section 2.12 of the Investor Rights Agreement.

(f) No stock plan, stock purchase, stock option or other agreement or understanding between the Company and any holder of any securities or rights exercisable or convertible for securities provides for acceleration or other changes in the vesting provisions or other terms of such agreement or understanding as the result of the occurrence of any event.

3.4 Authorization; Binding Obligations. All corporate action on the part of the Company, its officers, directors and stockholders necessary for the authorization of this Agreement and the Related Agreements, the performance of all obligations of the Company hereunder and thereunder at the Initial Closing and the authorization, sale, issuance and delivery of the Shares pursuant hereto and the Conversion Shares pursuant to the Restated Charter has been taken or will be taken prior to the Initial Closing. The Agreement and the Related Agreements, when executed and delivered, will be valid and binding obligations of the Company enforceable in accordance with their terms, except (a) as limited by applicable bankruptcy, insolvency, reorganization, moratorium or other laws of general application affecting enforcement of creditors' rights, (b) general principles of equity that restrict the availability of equitable remedies, and (c) to the extent that the enforceability of the indemnification provisions may be limited by applicable laws. The issuance of the Shares hereunder and the subsequent conversion of the Shares into Conversion Shares are not and will not be subject to any preemptive rights or rights of first refusal that have not been properly waived or complied with.

3.5 Financial Statements. The Company has provided to the Purchasers (a) its audited financial statements (balance sheet and income and cash flow statements) at December 31, 2007 and (b) its unaudited financial statements (balance sheet and income and cash flow statements) as, at and for the fiscal year ended December 31, 2008 (the "Statement Date") (collectively, the "Financial Statements"). The Financial Statements, together with the notes thereto, are complete and correct in all material respects and have been prepared in accordance with generally accepted accounting principles in the United States ("GAAP") consistently applied and present fairly the financial condition and position of the Company as of their respective dates; provided, however, that the unaudited Financial Statements are subject to normal recurring year-end audit adjustments (which will not be material either individually or in the aggregate), and do not contain all footnotes required under GAAP.

3.6 Liabilities. The Company has no material liabilities and no material contingent liabilities that are not disclosed in the Financial Statements, except (i) current liabilities incurred in the ordinary course of business subsequent to the Statement Date that have not been, either in any individual case or in the aggregate, materially adverse to the financial condition or operating results of the Company and (ii) obligations under contracts and commitments incurred in the ordinary course of business and not required under GAAP to be reflected in the Financial Statements, which, in both cases, individually or in the aggregate, are not material to the financial condition or operating results of the Company. The Company is not a guarantor or indemnitor of any indebtedness of any third party.

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3.7 Agreements; Action.

(a) Except for the Related Agreements there are no agreements, understandings or proposed transactions between the Company and any of its current officers, directors, affiliates or any affiliate thereof.

(b) There are no agreements, understandings, instruments, contracts or proposed transactions to which the Company is a party or by which it is bound, nor to its knowledge any judgments, orders, writs or decrees to which the Company is a party or by which it is bound, that may involve (i) obligations (contingent or otherwise) of, or payments to, the Company in excess of $500,000, or (ii) the transfer or license of any patent, copyright, trade secret or other proprietary right to or from the Company (other than licenses entered into in the ordinary course of business involving payments to the Company not exceeding $500,000), (iii) indemnification by the Company with respect to infringements of proprietary rights (other than indemnification obligations arising from purchase or license agreements entered into in the ordinary course of business), (iv) provisions restricting or affecting development, manufacture, or distribution of the Company's products or services or proposed products or services or (v) any other material agreement.

(c) The Company has not (i) declared or paid any dividends, or authorized or made any distribution upon or with respect to any class or series of its capital stock, (ii) incurred or guaranteed any indebtedness for money borrowed or any other liabilities individually in excess of $500,000 or, in the case of indebtedness and/or liabilities individually less than $500,000, in excess of $1,000,000 in the aggregate, (iii) made any loans or advances to any person, other than ordinary advances for travel expenses, or (iv) sold, exchanged or otherwise disposed of any of its assets or rights, other than the sale of its inventory in the ordinary course of business.

(d) For the purposes of subsections (b) and (c) above, all indebtedness, liabilities, agreements, understandings, instruments, contracts and proposed transactions involving the same person or entity (including persons or entities the Company has reason to believe are affiliated therewith) shall be aggregated for the purpose of meeting the individual minimum dollar amounts of such subsections.

(e) The Company is not a party to and is not bound by any contract, agreement or instrument that materially adversely affects its business as now conducted or as proposed to be conducted, its properties or its financial condition.

(f) The Company has not engaged in the past three months in any discussion (i) with any representative of any corporation or corporations whereby the Company has agreed to or plans to consolidate or merge the Company with or into any such corporation or corporations, (ii) with any corporation, partnership, association or other business entity or any individual whereby the Company has agreed to or plans to sell, convey or dispose of all or substantially all of the assets of the Company or a transaction or series of related transactions in which more than fifty percent (50%) of the voting power of the Company is to be disposed of, other than as contemplated by this Agreement, or (iii) whereby the Company has agreed to or

plans to engage in or pursue any other form of liquidation, dissolution or winding up of the Company.

3.8 Obligations to Related Parties. There are no obligations of the Company to officers, directors, stockholders, or employees of the Company other than (a) for payment of salary for services rendered, (b) reimbursement for reasonable expenses incurred by officers of the Company on behalf of the Company and (c) stock option agreements outstanding under any stock option plan approved by the Board of Directors of the Company. None of the officers, directors or stockholders of the Company or any members of their immediate families, are indebted to the Company. No officer, director or stockholder, or any member of their immediate families, is, directly or indirectly, interested in any material contract with the Company (other than such contracts as relate to any such person's ownership of capital stock or other securities of the Company).

3.9 Changes. Since the Statement Date there has not been:

(a) Any change in the assets, liabilities, financial condition or operations of the Company from that reflected in the Financial Statements, other than changes in the ordinary course of business, none of which individually or in the aggregate has had a material adverse effect on such assets, liabilities, financial condition or operations of the Company;

(b) Any resignation or termination of any officer, key employee or group of employees of the Company; and the Company, to the best of its knowledge, does not know of the impending resignation or termination of employment of any such officer, key employee or group of employees;

(c) Any material change, except in the ordinary course of business, in the contingent obligations of the Company by way of guaranty, endorsement, indemnity, warranty or otherwise;

(d) Any damage, destruction or loss, whether or not covered by insurance, materially and adversely affecting the assets, properties, business, operations or financial condition of the Company (as such business is presently conducted and as it is proposed to be conducted);

(e) Any waiver by the Company of a valuable right or of a debt owed to it;

(f) Any direct or indirect loans or guarantees made by the Company to any stockholder, employee, officer or director of the Company, other than advances made in the ordinary course of business;

(g) Any material change in any compensation arrangement or agreement with any employee, officer, director or stockholder;

(h) Any declaration or payment of any dividend or other distribution of the assets of the Company or any direct or indirect redemption, purchase or other acquisition of the Company's capital stock by the Company;

(i) Any labor organization activity related to the Company;

(j) Any debt, obligation or liability incurred, assumed or guaranteed by the Company, except those for immaterial amounts and other liabilities incurred in the ordinary course of business;

(k) Any sale, assignment or transfer of any patents, trademarks, copyrights, trade secrets or other intangible assets;

(l) Any change in any material agreement, collaboration, partnership or arrangement to which the Company is a party or by which it is bound that materially and adversely affects the business, assets, liabilities, financial condition or operations of the Company (as such business is presently conducted and as it is proposed to be conducted);

(m) Any other event or condition of any character that, either individually or cumulatively, has materially and adversely affected the business, assets, liabilities, financial condition or operations of the Company (as such business is presently conducted and as it is proposed to be conducted);

(n) Any satisfaction or discharge of any lien, claim or encumbrance or payment of any obligation by the Company, except in the ordinary course of business and which is not material to the assets, properties, financial condition, operating results or business of the Company (as such business is presently conducted and as it is proposed to be conducted);

(o) Receipt of notice that there has been a loss of, or material order cancellation by, any major customer of the Company;

(p) Any mortgage, pledge, transfer of a security interest in, or lien, created by the Company, with respect to any of its material properties or assets, except liens for taxes not yet due or payable; or

(q) Any arrangement or commitment by the Company to do any of the acts described in subsection (a) through (p) above.

3.10 Title to Properties and Assets; Liens, Etc. The Company has good and marketable title to its properties and assets, including the properties and assets reflected in the most recent balance sheet included in the Financial Statements, and good title to its leasehold estates (except for leasehold improvements installed by the Company in connection with the lease dated October, 2003 with Metropolitan Life Insurance Company), in each case subject to no mortgage, pledge, lien, lease, encumbrance or charge, other than (a) those resulting from taxes that have not yet become delinquent, (b) minor liens and encumbrances that do not materially detract from the value of the property subject thereto or materially impair the

operations of the Company, (c) liens arising from the Loan & Security Agreement dated February 12, 2004 with Lighthouse Capital Partners V, L.P. and the Master Security Agreement, dated as of October 25, 2005, with Oxford Finance Corporation, (d) liens resulting from the Loan and Security Agreement dated September 28, 2007, with General Electric Capital Corporation and Oxford Finance Corporation and (e) those that have otherwise arisen in the ordinary course of business which do not materially impair the Company's ownership or use of such property or assets. The Company is in compliance with all material terms of each lease to which it is a party or is otherwise bound.

3.11 Intellectual Property. The Company owns or possesses sufficient legal rights to all patents, trademarks, service marks, trade names, copyrights, trade secrets, licenses, information and proprietary rights and processes necessary for the conduct of its business as currently conducted and as proposed to be conducted without any conflict with, or infringement of, the rights of others. The Company owns or possesses sufficient legal rights to all patents, trademarks, service marks, formulae, trade names, copyrights, trade secrets, licenses, information and proprietary rights and processes necessary for the conduct of its business as currently conducted and as proposed to be conducted without any conflict with, or infringement of, the rights of others. There are no outstanding options, licenses, agreements, claims, encumbrances or shared ownership of interests of any kind relating to anything referred to above in this Section 3.11 that is to any extent owned by or exclusively licensed to the Company, nor is the Company bound by or a party to any options, licenses or agreements of any kind with respect to the patents, trademarks, service marks, trade names, domain names, copyrights, trade secrets, licenses, information, proprietary rights and/or processes of any other person or entity, except, in either case, for (a) standard end-user, object code, internal-use software license and support/maintenance agreements or (b) licenses or agreements entered into in the ordinary course of business involving payments to the Company not exceeding $500,000. The Company has not received any communications alleging that the Company has violated or, by conducting its business as currently conducted and as proposed to be conducted, would violate any of the patents, trademarks, service marks, trade names, copyrights, trade secrets or other proprietary rights or processes of any other person or entity. The Company is not aware that any of the employees or independent contractors of the Company is obligated under any contract (including licenses, covenants or commitments of any nature) or other agreement, or subject to any judgment, decree or order of any court or administrative agency, that would interfere with the use of such employee's or independent contractor's best efforts to promote the interests of the Company or that would conflict with the Company's business as currently conducted and as proposed to be conducted. To the knowledge of the Company, neither the execution or delivery of this Agreement, nor the carrying on of the Company's business as currently conducted and as proposed to be conducted by the employees and independent contractors of the Company, nor the conduct of the Company's business as currently conducted and as proposed to be conducted will conflict with or result in a breach of the terms, conditions or provisions of, or constitute a default under, any contract, covenant or instrument under which any such employee or independent contractor is now obligated. The Company does not believe it is or will be necessary to use any inventions of any of the employees of the Company (or persons the Company currently intends to hire) made prior to or outside the scope of their employment by the Company. Set forth in Section 3.11 of the Schedule of Exceptions is a listing of all patents

and pending patent applications and registrations and applications for trademarks, copyrights and domain names of, or exclusively licensed to, the Company.

3.12 Compliance with Other Instruments. The Company is not in violation or default of any term of its Restated Charter or Bylaws, or of any material provision of any mortgage, indenture, contract, agreement, instrument or contract to which it is party or by which it is bound or of any judgment, decree, order or writ. The execution, delivery, and performance of and compliance with this Agreement, and the Related Agreements, and the issuance and sale of the Shares pursuant hereto and of the Conversion Shares pursuant to the Restated Charter, will not, with or without the passage of time or giving of notice, result in any such violation, or be in conflict with or constitute a default under any such term, or result in the creation of any mortgage, pledge, lien, encumbrance or charge upon any of the properties or assets of the Company or the suspension, revocation, impairment, forfeiture or nonrenewal of any permit, license, authorization or approval applicable to the Company, its business or operations or any of its assets or properties.

3.13 Litigation. There is no action, suit, proceeding or governmental investigation pending or, to the Company's knowledge, currently threatened against the Company that questions the validity of this Agreement or the Related Agreements or the right of the Company to enter into any of such agreements, or to consummate the transactions contemplated hereby or thereby, or that would reasonably be expected to result, either individually or in the aggregate, in any material adverse change in the Company's assets, condition or affairs or in its business as conducted or as proposed to be conducted, financially or otherwise, or any change in the current equity ownership of the Company. The foregoing includes, without limitation, actions pending or, to the Company's knowledge, threatened involving the prior employment of any of the Company's employees, their use in connection with the Company's business of any information or techniques allegedly proprietary to any of their former employers, or their obligations under any agreements with prior employers. The Company is not a party or subject to the provisions of any order, writ, injunction, judgment or decree of any court or government agency or instrumentality. There is no action, suit, proceeding or investigation by the Company currently pending or that the Company intends to initiate.

3.14 Taxes.

(a) Tax Definitions. For the purposes of this Agreement:

(i) "Tax" or "Taxes" shall mean any federal, state local or foreign income, gross receipts, license, payroll, employment, excise, severance, stamp, occupation, premium, windfall profits, environmental, customs duties, capital stock, franchise, profits, withholding, social security, unemployment, disability, real property, personal property, sales, use, transfer, registration, value added, alternative or add-on minimum, estimated, or other tax of any kind whatsoever, including any interest, penalty, or addition thereto, whether disputed or not.

(ii) "Tax Return" shall mean any return, declaration, report, claim for refund, or information return or statement relating to Taxes, including any schedule or attachment thereto, and including any amendment thereof.

(b) Tax Returns and Payments. The Company has filed all material Tax Returns required to be filed by it. These Tax Returns are true and correct in all material respects. All Taxes shown to be due and payable on such Tax Returns, on or before the Initial Closing, and, to the Company's knowledge, all other Taxes due and payable by the Company, have been paid or will be paid prior to the time they become delinquent. The provision for Taxes as shown in the Financial Statements (as defined below) is adequate for Taxes due or accrued as of the date thereof. To the knowledge of the Company, there is no pending dispute with any taxing authority relating to any of such Tax Returns or any proposed liability for any material Taxes to be imposed upon the properties or assets of the Company. The Company has withheld or collected from each payment made to each of its employees the amount of all material Taxes, including, but not limited to, federal income taxes, Federal Insurance Contribution Act taxes and Federal Unemployment Tax Act taxes required to be withheld or collected therefrom, and has paid the same to the proper Tax receiving officers or authorized depositories. The Company has neither elected pursuant to the Internal Revenue Code of 1986, as amended (the "Code") to be treated as an "S" corporation or a collapsible corporation pursuant to Section 341(f) or Section 1362(a) of the Code, nor has it made any other elections pursuant to the Code (other than elections which relate solely to matters of accounting, depreciation or amortization) which would have a material effect on the Company, its financial condition, its business as presently conducted or presently proposed to be conducted or any of its properties or material assets.

3.15 Employees. The Company has no collective bargaining agreements with any of its employees. There is no labor union organizing activity pending or, to the Company's knowledge, threatened with respect to the Company. The Company is not a party to or bound by any currently effective employment contract, deferred compensation arrangement, bonus plan, incentive plan, profit sharing plan, retirement agreement, employment benefit plan described in Section 3(2)(A) or Section 3(2)(B) of the Employment Retirement Income Security Act of 1974, or other employee compensation plan or agreement. To the Company's knowledge, no employee, nor any consultant with whom the Company has contracted, is in violation of any term of any employment contract, proprietary information agreement or any other agreement relating to the right of any such individual to be employed by, or to contract with, the Company because of the nature of the business to be conducted by the Company; and to the Company's knowledge, the performance of the Company's contracts with its independent contractors, will not result in any such violation. The Company has not received any notice alleging that any such violation has occurred. The Company has complied in all material respects with all applicable state and federal equal employment opportunity and other laws related to employment and immigration insofar as non-compliance may create a Company liability. The Company is not a party to or bound by any currently effective employment contract, deferred compensation agreement, bonus plan, incentive plan, profit sharing plan, retirement agreement, or other employee compensation agreement.

3.16 Registration Rights and Voting Rights. Except as required pursuant to the Investor Rights Agreement, the Company is presently not under any obligation, and has not

granted any rights, to register (as defined in Section 1.1 of the Investor Rights Agreement), including piggyback rights, any of the Company's presently outstanding securities or any of its securities that may hereafter be issued. To the Company's knowledge, except as contemplated in the Voting Agreement, no stockholder of the Company has entered into any agreement with respect to the voting of equity securities of the Company.

3.17 Compliance with Laws; Permits. The Company is not in violation of any applicable statute, rule, regulation, order or restriction of any domestic or foreign government or any instrumentality or agency thereof in respect of the conduct of its business or the ownership of its properties which violation would materially and adversely affect the business, assets, liabilities, financial condition or operations of the Company. No governmental orders, permissions, consents, approvals or authorizations are required to be obtained and no registrations or declarations are required to be filed in connection with the execution and delivery of this Agreement and the issuance of the Shares or the Conversion Shares, except such as has been duly and validly obtained or filed, or with respect to any filings that must be made after the Initial Closing, as will be filed in a timely manner. The Company has not been nor is in default in any respect under such franchises, permits, licenses or similar authority which default would materially and adversely affect the business, assets, liabilities, financial condition or operations of the Company.

3.18 Environmental and Safety Laws.

(a) The Company is, and at all times since inception has been, in compliance with all applicable environmental laws or regulations and orders of any governments or governmental authorities, and with all permits, certificates, approvals, licenses and other authorizations relating thereto, except for non-compliance that would not materially and adversely affect the business, assets, liabilities, financial condition or operations of the Company. The term "environmental laws or regulations" means those statutes and regulations governing: (i) air emissions, (ii) liquid discharges to streams, ponds, ditches or other surface waters, (iii) liquid discharges to ground waters, (iv) liquid discharges to publicly-owned treatment works, (v) disposal of solid and/or hazardous wastes, (vi) marking, maintenance and/or removal of electrical equipment containing PCBs, (vii) manufacture and/or construction (including renovation) involving asbestos materials, (viii) activities in or adjacent to fresh water wetlands, flood hazard areas, coastal zone management areas and/or historic preservation areas, (ix) registration, operation, testing and/or removal or replacement of storage tanks for petroleum products and/or hazardous substances, and (x) emergency, planning and community right-to-know laws, including submission of hazardous substance inventory information to any authorities under any applicable jurisdictions.

(b) Except in a manner that would not result in material liability to the Company, the Company has not caused, nor is it causing, any disposals, releases, or threatened releases of any Hazardous Materials (as defined below) on or under any properties that the Company (i) owns, leases, occupies or operates or (ii) previously owned, leased, occupied or operated.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

(c) The Company has not either (i) arranged for the disposal or treatment of Hazardous Material at any facility or site owned or operated by another person from which facility or site there has been a release or there is a release or threatened release of a Hazardous Material, or (ii) accepted any Hazardous Material for transport to disposal or treatment facilities or other sites selected by the Company, from which facilities or sites there has been a release or there is a release or threatened release of a Hazardous Material.

(d) The Company has not installed, used, buried or removed any surface impoundment or underground tank or vessel or sump, drain or pipeline which holds or held Hazardous Materials on properties owned, leased, occupied or operated by the Company.

(e) There has been no claim, and there are no pending or threatened claims, including without limitation any litigation, administrative proceedings or investigations or any other actions, claims, demands, notices of potential responsibility or requests for information brought or threatened, against the Company alleging liability of the Company with respect to the presence, disposal, release or threatened release of any Hazardous Material on, from or under any of the properties referenced in (b) above or otherwise relating to potential environmental liabilities, or any settlement reached by the Company relating to any of the foregoing.

(f) From the date hereof through and including the Initial Closing, the Company shall immediately provide the Purchasers with a copy of any notice, citation or complaint alleging that the Company is not in compliance with any environmental laws or regulations.

As used in this Agreement, "Hazardous Material" means any material, substance, waste or component thereof (whether a liquid, solid, or gas) that is prohibited, controlled, or regulated by any governmental entity having jurisdiction as a contaminant, pollutant, dangerous substance, toxic substance, hazardous waste, hazardous substance, hazardous material, dangerous good or petroleum, its derivatives, by-products or other hydrocarbons, pursuant to any applicable environmental or health and safety law, rule, or regulation.

3.19 Offering Valid. Assuming the accuracy of the representations and warranties of the Purchasers contained in Section 4.2, the offer, sale and issuance of the Shares and the Conversion Shares will be exempt from the registration requirements of the Securities Act, and will be exempt from registration, permit or qualification requirements of all applicable state securities laws. Neither the Company nor any agent on its behalf has solicited or will solicit any offers to sell or has offered to sell or will offer to sell all or any part of the Shares to any person or persons so as to bring the sale of such Shares by the Company within the registration provisions of the Securities Act or any state securities laws.

3.20 Full Disclosure. The Company has provided the Purchasers with all information requested by the Purchasers in connection with its decision to purchase the Shares, including all information the Company believes is reasonably necessary to make such investment decision. No representation or warranty of the Company contained in this Agreement, the schedules and exhibits attached hereto or any certificate furnished or to be furnished to the

Purchasers at the Initial Closing, when read together, contains any untrue statement of a material fact or omits to state a material fact necessary to make the statements herein or therein misleading in light of the circumstances under which they were made.

3.21 Minute Books. The minute books of the Company made available to such Purchaser contain a complete summary of all meetings of directors and stockholders since the time of incorporation and reflect all transactions referred to in such minutes accurately in all material respects.

3.22 Real Property Holding Corporation. The Company is not a real property holding corporation within the meaning of Section 897(c)(2) of the Code and any regulations promulgated thereunder.

3.23 Executive Officers and Directors. To the knowledge of the Company no executive officer, person nominated to become an executive officer, director or person nominated to become a director of the Company (a) has filed a petition under the Federal bankruptcy laws or any state insolvency law, been adjudged a bankrupt or made a general assignment for benefit of creditors, or been an officer, director or principal of any entity that was reorganized in bankruptcy, adjudged a bankrupt or made a general assignment for benefit of creditors, (b) has been convicted in a criminal proceeding or is a named subject of a pending criminal proceeding (excluding minor traffic violations), (c) has been the subject of any professional disciplinary proceeding, (d) was the subject of any order, judgment, or decree, not subsequently reversed, suspended or vacated, of any court of competent jurisdiction or any Federal or State authority, permanently or temporarily enjoining such person from, or otherwise limiting, such person from any type of business practice, (e) has been suspended or expelled from membership in any securities or commodities exchange, association of securities or commodities dealers or investment advisors, (f) has had a license or registration as a dealer, broker, investment advisor or salesman, futures commission merchant, associated person, commodity pool operator, or commodity trading advisor denied, suspended or revoked, (g) has been enjoined or restrained by any court or government agency from the issuance, sale or offer for sale of securities or commodities, rendering securities or commodities advice, handling or managing trading accounts, or continuing any practices in connection with securities or commodities, or (h) has used or been known by any other name.

3.24 Insurance. The Company has in full force and effect fire and casualty insurance policies, with extended coverage, sufficient in amount (subject to reasonable deductibles) to allow it to replace any of its properties that might be damaged or destroyed. The Company has in full force and effect products liability and directors and officers insurance in amounts customary for companies similarly situated.

3.25 Regulatory Compliance. As to each of the products of the Company, including, without limitation, products or compounds currently under research and/or development by the Company or its Subsidiary, subject to the jurisdiction of the Food and Drug Administration ("FDA") under the Federal Food, Drug and Cosmetic Act and the regulations thereunder ("FDCA") (each such product, a "Life Science Product"), such Life Science Product is being researched, developed, manufactured, tested, distributed, studied and/or marketed in

compliance in all material respects with all applicable requirements under the FDCA and similar laws and regulations applicable to such Life Science Product, including those relating to investigational use, premarket approval, good manufacturing practices, labeling, advertising, record keeping, filing of reports and security. The Company has not received any notice or other communication from the FDA or any other federal, state or foreign governmental entity (i) contesting the premarket approval of, the uses of or the labeling and promotion of any Life Science Product or (ii) otherwise alleging any violation by the Company of any law, regulation or other legal provision applicable to a Life Science Product. Neither the Company, nor to the Company's knowledge, any officer, employee or agent of the Company has, with respect to a Life Science Product, (i) made an untrue statement of a material fact or fraudulent statement to the FDA or other federal, state or foreign governmental entity performing similar functions or (ii) failed to disclose a material fact required to be disclosed to the FDA or such other federal, state or foreign governmental entity.

4. Representations and Warranties of the Purchasers. Each Purchaser hereby represents and warrants to the Company as follows (such representations and warranties do not lessen or obviate the representations and warranties of the Company set forth in this Agreement):

4.1 Requisite Power and Authority. Such Purchaser has all necessary power and authority under all applicable provisions of law and regulations to execute and deliver this Agreement and the Related Agreements and to carry out their provisions. All action on such Purchaser's part required for the lawful execution and delivery of this Agreement and the Related Agreements have been or will be effectively taken prior to the Closing. Upon their execution and delivery, this Agreement and the Related Agreements will be valid and binding obligations of such Purchaser, enforceable in accordance with their terms, except (a) as limited by applicable bankruptcy, insolvency, reorganization, moratorium or other laws of general application affecting enforcement of creditors' rights, (b) as limited by general principles of equity that restrict the availability of equitable remedies, and (c) to the extent that the enforceability of indemnification provisions may be limited by applicable laws.

4.2 Investment Representations. Such Purchaser understands that neither the Shares nor the Conversion Shares have been registered under the Securities Act. Such Purchaser also understands that the Shares are being offered and sold pursuant to an exemption from registration contained in the Securities Act based in part upon such Purchaser's representations contained in the Agreement. Such Purchaser hereby represents and warrants as follows:

(a) Purchaser Bears Economic Risk. Such Purchaser has substantial experience in evaluating and investing in private placement transactions of securities in companies similar to the Company so that it is capable of evaluating the merits and risks of its investment in the Company and has the capacity to protect its own interests. Such Purchaser must bear the economic risk of this investment indefinitely unless the Shares (or the Conversion Shares) are registered pursuant to the Securities Act, or an exemption from registration is available. Such Purchaser understands that the Company has no present intention of registering the Shares, the Conversion Shares or any shares of its Common Stock. Such Purchaser also understands that there is no assurance that any exemption from registration under the Securities Act will be available and that, even if available, such exemption may not allow such Purchaser to

transfer all or any portion of the Shares or the Conversion Shares under the circumstances, in the amounts or at the times such Purchaser might propose.

(b) Acquisition for Own Account. Such Purchaser is acquiring the Shares and the Conversion Shares for such Purchaser's own account for investment only, and not with a view towards their distribution.

(c) Purchaser Can Protect Its Interest. Such Purchaser represents that by reason of its, or of its management's, business or financial experience, such Purchaser has the capacity to protect its own interests in connection with the transactions contemplated in this Agreement, and the Related Agreements. Further, such Purchaser is aware of no publication of any advertisement in connection with the transactions contemplated in the Agreement.

(d) Accredited Investor. Such Purchaser represents that it is an accredited investor within the meaning of Regulation D under the Securities Act.

(e) Company Information. Such Purchaser has received and read the Financial Statements and has had an opportunity to discuss the Company's business, management and financial affairs with directors, officers and management of the Company and has had the opportunity to review the Company's operations and facilities. Such Purchaser has also had the opportunity to ask questions of and receive answers from, the Company and its management regarding the terms and conditions of this investment.

(f) Rule 144. Such Purchaser acknowledges and agrees that the Shares, and, if issued, the Conversion Shares are "restricted securities" as defined in Rule 144 promulgated under the Securities Act as in effect from time to time and must be held indefinitely unless they are subsequently registered under the Securities Act or an exemption from such registration is available. Such Purchaser has been advised or is aware of the provisions of Rule 144, which permits limited resale of shares purchased in a private placement subject to the satisfaction of certain conditions, including, among other things: the availability of certain current public information about the Company, the resale occurring following the required holding period under Rule 144 and the number of shares being sold during any three-month period not exceeding specified limitations.

(g) Residence. The office or offices of such Purchaser in which its investment decision was made is located at the address of such Purchaser set forth on the signature page hereto.

4.3 Transfer Restrictions. Such Purchaser acknowledges and agrees that the Shares and, if issued, the Conversion Shares are subject to restrictions on transfer as set forth in the Investor Rights Agreement.

5. Conditions to Closing.

5.1 Conditions to the Purchasers' Obligations at the Closing. The obligations of each Purchaser to purchase Shares at the Closing are subject to the satisfaction, at or prior to the

Initial Closing Date, of the following conditions, the waiver of which shall not be effective against any Purchaser who does not consent in writing thereto:

(a) Representations and Warranties True; Performance of Obligations. The representations and warranties made by the Company in Section 3 shall be true and correct in all material respects as of the Initial Closing Date, with the same force and effect as if they had been made as of the Initial Closing Date, and the Company shall have performed all obligations and conditions herein required to be performed or observed by it on or prior to the Initial Closing.

(b) Consents, Permits, and Waivers. The Company shall have obtained any and all consents, permits and waivers necessary or appropriate for consummation of the transactions contemplated by the Agreement and the Related Agreements, except for such as may be properly obtained subsequent to the Initial Closing.

(c) Filing of Restated Charter. The Restated Charter shall have been filed with the Secretary of State of the State of Delaware and shall continue to be in full force and effect as of the Initial Closing Date.

(d) Compliance Certificate. The Company shall have delivered to each Purchaser a Compliance Certificate, executed by the President of the Company dated the Initial Closing Date, to the effect that the conditions specified in subsections (a), (b) and (c) of this Section 5.1 have been satisfied and that there has been no material adverse change in the business, operations, properties or assets of the Company since the Statement Date.

(e) Secretary's Certificate. Each Purchaser shall have received from the Company's Secretary or Assistant Secretary, a certificate having attached thereto (i) the Company's Certificate of Incorporation as in effect at the time of the Initial Closing, (ii) the Company's Bylaws as in effect at the time of the Initial Closing, (iii) resolutions approved by the Board of Directors authorizing the transactions contemplated hereby, (iv) resolutions approved by the Company's stockholders authorizing the filing of the Restated Charter, and (v) good standing certificates (including tax good standing) with respect to the Company from the applicable authority(ies) in Delaware, California and any other jurisdiction in which the Company is qualified to do business, dated a recent date before the Initial Closing.

(f) Investor Rights Agreement. The Investor Rights Agreement substantially in the form attached hereto asExhibit C shall have been executed and delivered by the parties thereto other than each Purchaser.

(g) Co-Sale Agreement. The Co-Sale Agreement substantially in the form attached hereto asExhibit D shall have been executed and delivered by the parties thereto other than each Purchaser.

(h) Voting Agreement. The Voting Agreement substantially in the form attached hereto asExhibit E shall have been executed and delivered by the parties thereto other than each Purchaser.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

(i) Legal Opinion. Each Purchaser shall have received from legal counsel to the Company an opinion addressed to them, dated as of the Initial Closing Date, in substantially the form attached hereto as Exhibit F.

(j) Proceedings and Documents. All corporate and other proceedings in connection with the transactions contemplated at the Initial Closing hereby and all documents and instruments incident to such transactions shall be reasonably satisfactory in substance and form to each Purchaser and its special counsel, as applicable, and each Purchaser and its special counsel, as applicable, shall have received all such counterpart originals or copies of such documents as they may reasonably request.

(k) Performance of Obligations. The Company shall have performed and complied with all agreements and conditions herein required to be performed or complied with by the Company on or before the Initial Closing.

5.2 Conditions to the Company's Obligations at the Closing. The Company's obligation to issue and sell the Shares at each Closing is subject to the satisfaction, on or prior to such Closing, of the following conditions:

(a) Representations and Warranties True. The representations and warranties in Section 4 made by each Purchaser shall be true and correct in all material respects as of the Closing, with the same force and effect as if they had been made on and as of that date.

(b) Consents, Permits, and Waivers. The Company shall have obtained any and all consents, permits and waivers necessary or appropriate for consummation of the transactions contemplated by the Agreement and the Related Agreements, except for such as may be properly obtained subsequent to the Closing.

(c) Performance of Obligations. The Purchasers shall have performed and complied with all agreements and conditions herein required to be performed or complied with by the Purchasers on or before the Closing.

(d) Filing of Restated Charter. The Restated Charter shall have been filed with the Secretary of State of the State of Delaware.

(e) Investor Rights Agreement. The Investor Rights Agreement substantially in the form attached hereto asExhibit C shall have been executed and delivered by the parties thereto other than the Company.

(f) Co-Sale Agreement. The Co-Sale Agreement substantially in the form attached hereto asExhibit D shall have been executed and delivered by the parties thereto other than the Company.

(g) Voting Agreement. The Voting Agreement substantially in the form attached hereto asExhibit E shall have been executed and delivered by the parties thereto other than the Company.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

6. Miscellaneous.

6.1 Governing Law. This Agreement shall be governed in all respects by the laws of the State of California as such laws are applied to agreements between California residents entered into and performed entirely in California.

6.2 Survival. The representations, warranties and agreements made herein shall survive the closing of the transactions contemplated hereby, and shall in no way be affected by any investigation of the subject matter thereof made by or on behalf of the Purchaser or the Company. All statements as to factual matters contained in any certificate or other instrument delivered by or on behalf of the Company pursuant hereto in connection with the transactions contemplated hereby shall be deemed to be representations and warranties by the Company hereunder solely as of the date of such certificate or instrument.

6.3 Successors and Assigns. Except as otherwise provided herein, the provisions hereof shall inure to the benefit of, and be binding upon, the successors, assigns, heirs, executors and administrators of the parties hereto; provided, however, that the rights of a Purchaser to purchase Shares shall not be assignable without the consent of the Company; provided, further, however, the rights under this Agreement may be assignable to any entity affiliated by common control (or other related entity) of a Purchaser. Nothing in this Agreement, express or implied, is intended to confer upon any party other than the parties hereto or their respective successors and assigns and rights, remedies, obligations, or liabilities under or by reason of this Agreement, except as expressly provided by this Agreement.

6.4 Entire Agreement. This Agreement, the exhibits and schedules hereto, the Related Agreements and the other documents delivered pursuant hereto constitute the full and entire understanding and agreement between the parties with regard to the subjects hereof and no party shall be liable or bound to any other in any manner by any representations, warranties, covenants and agreements except as specifically set forth herein and therein.

6.5 Severability. In case any provision of the Agreement shall be invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby and this Agreement shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein.

6.6 Amendment and Waiver. This Agreement may be amended or modified only upon the written consent of the Company and holders of at least sixty percent (60%) of the Common Stock issuable or issued upon the conversion of the Shares.

6.7 Delays or Omissions. It is agreed that no delay or omission to exercise any right, power or remedy accruing to any party, upon any breach, default or noncompliance by another party under this Agreement, the Related Agreements or the Restated Charter, shall impair any such right, power or remedy, nor shall it be construed to be a waiver of any such breach, default or noncompliance, or any acquiescence therein, or of or in any similar breach, default or noncompliance thereafter occurring. It is further agreed that any waiver, permit, consent or approval of any kind or character on the Purchaser's part of any breach, default or

noncompliance under this Agreement, the Related Agreements or under the Restated Charter or any waiver on such party's part of any provisions or conditions of the Agreement, the Related Agreements, or the Restated Charter must be in writing and shall be effective only to the extent specifically set forth in such writing. All remedies, either under this Agreement, the Related Agreements, the Restated Charter, by law, or otherwise afforded to any party, shall be cumulative and not alternative.

6.8 Notices. All notices required or permitted hereunder shall be in writing and shall be deemed effectively given: (a) upon personal delivery to the party to be notified, (b) when sent by confirmed telex or facsimile if sent during normal business hours of the recipient, if not, then on the next business day, (c) five (5) days after having been sent by registered or certified mail, return receipt requested, postage prepaid, or (d) one (1) day after deposit with a nationally recognized overnight courier, specifying next day delivery, with written verification of receipt. All communications shall be sent to the respective addresses of the parties as set forth on the signature page hereof or at such other address as the Company or the Purchasers may designate by ten (10) days advance written notice to the other party hereto.

6.9 Expenses. The Company and each Purchaser shall bear their own expenses and legal fees incurred on their behalf with respect to this Agreement and the transactions contemplated hereby; provided, however, that at the Initial Closing, the Company shall pay the reasonable and documented fees and expenses, not to exceed $30,000 in the aggregate, of one counsel to the Purchasers, in connection with the transactions contemplated by this Agreement.

6.10 Attorneys' Fees. In the event that any suit or action is instituted to enforce any provision in this Agreement, the prevailing party in such dispute shall be entitled to recover from the losing party all fees, costs and expenses of enforcing any right of such prevailing party under or with respect to this Agreement, including without limitation, such reasonable fees and expenses of attorneys and accountants, which shall include, without limitation, all fees, costs and expenses of appeals.

6.11 Titles and Subtitles. The titles of the sections and subsections of the Agreement are for convenience of reference only and are not to be considered in construing this Agreement.

6.12 Counterparts. This Agreement may be executed in any number of counterparts and by facsimile, each of which shall be an original, but all of which together shall constitute one instrument.

6.13 Broker's Fees. Each party hereto represents and warrants that no agent, broker, investment banker, person or firm acting on behalf of or under the authority of such party hereto is or will be entitled to any broker's or finder's fee or any other commission directly or indirectly in connection with the transactions contemplated herein. Each party hereto further agrees to indemnify each other party for any claims, losses or expenses incurred by such other party as a result of the representation in this Section 6.13 being untrue.

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6.14 Pronouns. All pronouns contained herein, and any variations thereof, shall be deemed to refer to the masculine, feminine or neutral, singular or plural, as to the identity of the parties hereto may require.

6.15 California Corporate Securities Law. THE SALE OF THE SECURITIES WHICH ARE THE SUBJECT OF THIS AGREEMENT HAS NOT BEEN QUALIFIED WITH THE COMMISSIONER OF CORPORATIONS OF THE STATE OF CALIFORNIA AND THE ISSUANCE OF SUCH SECURITIES OR THE PAYMENT OR RECEIPT OF ANY PART OF THE CONSIDERATION THEREFOR PRIOR TO SUCH QUALIFICATION OR IN THE ABSENCE OF AN EXEMPTION FROM SUCH QUALIFICATION IS UNLAWFUL. PRIOR TO ACCEPTANCE OF SUCH CONSIDERATION BY THE COMPANY, THE RIGHTS OF ALL PARTIES TO THIS AGREEMENT ARE EXPRESSLY CONDITIONED UPON SUCH QUALIFICATION BEING OBTAINED OR AN EXEMPTION FROM SUCH QUALIFICATION BEING AVAILABLE.

(*Signature Page Follows*)

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

IN WITNESS WHEREOF, the parties hereto have executed this Series F Preferred Stock Purchase Agreement as of the date set forth in the first paragraph hereof.

CODEXIS, INC.

By: _____
Name: Alan Shaw
Title: President

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

PURCHASERS:

EQUILON ENTERPRISES LLC DBA SHELL OIL PRODUCTS US

By: _____
Name: Richard M. Oblath
Title: Attorney in Fact

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EXHIBIT 10.3C

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

AMENDMENT NO. 2 TO THE AMENDED AND RESTATED COLLABORATIVE RESEARCH AGREEMENT

THIS AMENDMENT NO. 2 TO THE AMENDED AND RESTATED COLLABORATIVE RESEARCH AGREEMENT, together with exhibits and schedules attached hereto, (the "**Second Amendment**") is entered into and effective as of February 23, 2010 (the '**Second Amendment Date**") by and between **Equilon Enterprises LLC dba Shell Oil Products US**, a Delaware limited liability company, having a place of business at 910 Louisiana Street, Houston, Texas 77002, ("**Shell**") and **Codexis, Inc.**, a Delaware corporation, having a place of business at 200 Penobscot Drive, Redwood City, California 94063 ("**Codexis**"). Shell and Codexis may each be referred to herein individually as a "**Party**" or, collectively, as the "**Parties**."

WHEREAS, Shell and Codexis entered into a certain Amended and Restated Collaborative Research Agreement, effective as of November 1, 2006, and amended such agreement as of March 4, 2009, (collectively, the "**Research Agreement**") pursuant to which the Parties have collaborated to develop certain new biocatalytic processes for use in the conversion of biomass to fuels and/or fuel additives and/or lubricants; and

WHEREAS, the Parties desire to amend certain of the terms of the Research Agreement to revise and clarify such certain terms, all on the terms and conditions set forth below.

NOW, THEREFORE, in consideration of the promises and undertakings set forth herein, the Parties hereby agree as follows:

1. **ARTICLE 1**, **DEFINITIONS**, shall be amended as follows:

(a) Section 1.12 is hereby deleted and replaced in its entirety by the following:

1.12 "**FTE**" means the efforts of one or more employees of Codexis (hereinafter a "**Codexis FTE**") or an Affiliate of Codexis located in Hungary, ("**CLH**") (hereinafter a "**CLH FTE**") equivalent to the efforts of one full time employee (i.e., an employee that works at least one thousand seven hundred sixty (1760) hours per year).

2. **ARTICLE 2**, **PROGRAM ACTIVITIES**, shall be amended as follows:

(a) Section 2.4(a)(i)(1) is hereby deleted and replaced in its entirety by the following:

(1) summary written reports within thirty (30) days after the end of each calendar quarter, describing such Party's work and progress, if any, under the Research Plans;

(b) Section 2.4(a)(i)(2) is hereby deleted and replaced in its entirety by the following:

(2) annual executive summaries within thirty (30) days after the end of each calendar year for each Research Plan for which work was performed during the relevant calendar year;

(c) Section 2.4(b) is hereby deleted and replaced in its entirety by the following:

(b) Materials. During the Term, Codexis, and/or an Affiliate of Codexis, and Shell, and/or an Affiliate of Shell, shall, as a matter of course as described in the Research Plans, or upon each other's written or oral request, furnish to each other, and/or to each other's Affiliate(s), samples of biochemical, biological or synthetic chemical materials which are part of Shell Technology, Codexis Technology or Program Technology which are necessary for each Party to carry out its responsibilities under the Research Plans. As between the Parties and their Affiliates, as applicable, such materials will be governed by and subject to the terms and conditions set forth in the Research Agreement. Each Party confirms that, in the event (i) a Party provides materials to an Affiliate of the other Party and/or (ii) an Affiliate of a Party provides materials to an Affiliate of the other Party, prior to any provision of materials, the Party whose Affiliate is to receive such materials has advised such Affiliate of the restrictions contained in the Research Agreement relating to the provision of such materials by a Party and/or its Affiliate(s) to the other Party and/or its Affiliate(s), including restrictions on use, transfer, disclosure, and preparation of derivatives, and each Affiliate of a Party to receive such materials has agreed to abide by such restrictions prior to receipt of any such materials.

(d) Section 2.6(c) is hereby deleted and replaced in its entirety by the following:

(c) Reduction in FTEs.

(i) During the period beginning on May 1, 2009 and ending on November 1, 2010, Shell shall have the right to reduce the total number of FTEs assigned by Codexis to perform Codexis' obligations under the Program by up to twelve (12) FTEs upon sixty (60) days' advance written notice.

(ii) After the fourth (4th) anniversary of the Effective Date, Shell shall have the right to reduce the total number of FTEs assigned by Codexis to perform Codexis' obligations under the Program in accordance with the advance written notice and other requirements set forth in this Section 2.6(c)(ii). Any such advance written notice may be delivered by Shell to Codexis only on or after November 2, 2010 and the number of FTEs that may be reduced will not be greater than as set forth in, and implemented after written notice thereof in accordance with, the table in this Section 2.6(c)(ii), below. Notwithstanding anything to the contrary in this Section 2.6(c)(ii), no reductions may be noticed during the applicable standstill period as set forth in the table in this Section 2.6(c)(ii), below, immediately after a FTE reduction already noticed (each such period during which no subsequent notice may be given, a "**Standstill Period**").

Number of FTEs that May Be Reduced	Standstill Period	Advance Notice Required
≤ 12	90 days	30 days
13 ≤ 48	180 days	90 days
49 ≤ 78	360 days	180 days
79 ≤ 98	360 days	270 days

By way of example, if Shell elects to reduce the number of FTEs by twelve (12) FTEs or less, no additional reductions may be made by Shell during the ninety (90) day Standstill Period beginning on the date that Shell delivers advance written notice of such reduction election. Similarly, if Shell elects to reduce the number of FTEs by more than twelve (12) FTEs but less than or equal to forty-eight (48) FTEs, no additional reductions may be made by Shell during the one hundred eighty (180) day Standstill Period beginning on the date that Shell delivers advance written notice of such reduction election.

3. **ARTICLE 11**, **TERM AND TERMINATION**, shall be amended as follows:

(a) Section 11.2 is hereby deleted and replaced in its entirety by the following:

11.2 Termination for Convenience.

(a) At any time after the fourth (4th) anniversary of the Effective Date, Shell, in its sole discretion, may terminate this Amended and Restated Research Agreement, such termination to be effective after nine (9) months' advance written notice to Codexis; provided, however, that any such advance written notice may be delivered by Shell to Codexis only on or after November 2, 2010. By way of example, if notice of termination is delivered on November 2, 2010, then termination would be effective as of August 2, 2011. Notwithstanding the previous sentence, in the event that, pursuant to Section 2.6(b)(iv), the number of FTEs was increased to greater than one hundred twenty-eight (128), Shell, at any time after the fourth (4th) anniversary of the Effective Date, in its sole discretion, may terminate this Amended and Restated Research Agreement, such termination to be effective after twelve (12) months' advance written notice to Codexis; provided, however, that any such advance written notice may be delivered by Shell to Codexis only on or after November 2, 2010. By way of example, if notice of termination is delivered on November 2, 2010, then termination would be effective as of November 2, 2011.

(b) If at any time after the fourth (4th) anniversary of the Effective Date, Shell determines, in accordance with Section 2.6(c), to decrease the number of

FTEs assigned by Codexis to perform Codexis' obligations under the Program to less than **[*]**, Codexis shall have the right, but not the obligation, to terminate this Amended and Restated Research Agreement upon ninety (90) days' advance written notice to Shell; provided, however, that in the event that (i) each such FTE reduction by Shell occurs after successful achievement of the applicable Milestone for each Research Plan and (ii) Shell (or a Shell Affiliate or sublicensee) is actively developing the Program Technology for commercial application, then Codexis shall have no right to terminate this Amended and Restated Research Agreement pursuant to this Section 11.2(b).

4. OTHER PROVISIONS.

All provisions of the Research Agreement not expressly modified by this Second Amendment shall remain in full force and effect.

[*Signature Page Follows*]

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

IN WITNESS WHEREOF, the Parties have caused this Second Amendment to be executed by their respective duly authorized officers on the dates identified below but this Second Amendment shall become effective as of the Second Amendment Date, each copy of which will for all purposes be deemed to be an original.

EQUILON ENTERPRISES LLC **DBA SHELL OIL PRODUCTS US**		**CODEXIS, INC.**	
By:	/s/ Tom N. Smith	By:	/s/ Joseph Sarret
Name:	Tom N. Smith	Name:	Joseph Sarret
Title:	President	Title:	Chief Business Officer
Date:	2/23/10	Date:	2/23/10

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AMENDED AND RESTATED LICENSE AGREEMENT

THIS AMENDED AND RESTATED LICENSE AGREEMENT, together with exhibits attached hereto, (the "**Amended and Restated License Agreement**") is entered into as of the Execution Date and effective as of November 1, 2006 (the "**Effective Date**"), by and between **Equilon Enterprises LLC dba Shell Oil Products US**, a Delaware limited liability company, having a place of business at 910 Louisiana Street, Houston, Texas 77002 ("**Shell**"), and **Codexis, Inc.**, a Delaware corporation, having a place of business at 200 Penobscot Drive, Redwood City, California 94063 ("**Codexis**"). Shell and Codexis may each be referred to herein individually as a "**Party**" or, collectively, as the "**Parties**."

RECITALS

WHEREAS, Shell and Codexis entered into a certain License Agreement effective as of November 1, 2006, pursuant to which Codexis granted to Shell certain license rights under Codexis Patent Rights, Codexis Licensed Technology, Program Patent Rights and Program Technology (in each case, as defined below) so that Shell can manufacture, use, sell, offer for sale and import Licensed Products, including without limitation through the grant of sublicense rights for such purposes under such Codexis Patent Rights, Codexis Licensed Technology, Program Patent Rights and Program Technology.

WHEREAS, the Parties desire to amend and restate such License Agreement, all on the terms and conditions set forth below.

NOW, THEREFORE, in consideration of the promises and undertakings set forth herein, the Parties agree as follows:

ARTICLE 1

DEFINITIONS

Capitalized terms not otherwise defined herein will have the meaning set forth below.

1.1 "Acquired Technology" has the meaning set forth in the Amended and Restated Research Agreement.

1.2 "Affiliate" means,

(a) with respect to Codexis, any business entity controlling, controlled by, or under common control with Codexis. For the purpose of this Section 1.2(a) only, "control" means (i) the possession, directly or indirectly, of the power to direct the management or policies of a business entity, whether through the ownership of voting securities, by contract or otherwise, or (ii) the ownership, directly or indirectly, of at least fifty percent (50%) of the voting securities or other ownership interest of a business entity; provided that, if local law requires a minimum percentage of local ownership, control will be established by direct or indirect beneficial

ownership of one hundred percent (100%) of the maximum ownership percentage that may, under such local law, be owned by foreign interests; and

(b) with respect to Shell, Royal Dutch Shell plc and any company (other than Shell) which is from time to time directly or indirectly affiliated with Royal Dutch Shell plc. For the purpose of this Section 1.2(b) only, a particular company is (i) directly affiliated with another company or companies if that latter company beneficially owns or those latter companies together beneficially own fifty per cent or more of the voting rights attached to the ownership interest of the particular company; and (ii) is indirectly affiliated with company or companies if a series of companies can be specified, beginning with that latter company or companies and ending with the first mentioned company, so related that each company of the series (except the latter company or companies) is directly affiliated with one or more of the companies earlier in the series.

1.3 "**Amended and Restated Research Agreement**" means the Amended and Restated Collaborative Research Agreement entered into by Shell and Codexis on the Execution Date and effective as of the Effective Date.

1.4 "**Biocatalyst**" means an enzyme or a Microbe that can enzymatically catalyze a particular chemical reaction, and which enzyme or Microbe arose out of the Program.

1.5 "**Biomass**" means organic, non-fossil, plant-derived matter available on a renewable basis, including, for example, crops and/or trees grown or harvested for use for fuel and/or fuel additive production, agricultural food and feed crops, aquatic plants and, in each case, organic wastes derived from the foregoing, including municipal wastes (e.g., newspapers).

1.6 "**Codexis Licensed Technology**" means any Technology and Materials Controlled by Codexis as of the earlier of the expiration or termination of the Program that is necessary or useful for the practice of the Program Technology; provided that the Codexis Licensed Technology shall expressly exclude the Shuffling Technology.

1.7 "**Codexis Patent Rights**" means all Patents Controlled by Codexis covering Codexis Licensed Technology.

1.8 "**Confidential Information**" means any and all non-public and proprietary Information that is specifically designated as such and that is disclosed by either Party to the other in written or other similar form in connection with this Amended and Restated License Agreement and that, if orally or visually disclosed, shall be summarized in writing in detail and specifically designated as proprietary and such summary delivered to the receiving Party within thirty (30) days after such disclosure.

1.9 "**Contract Year**" means a year beginning on the Effective Date, or an anniversary of the Effective Date during the Term, and ending one (1) year after such respective date.

1.10 "**Control**" means, with respect to an item, Information, Patent or an intellectual property right, possession of the ability, whether arising by ownership or license or otherwise, to

grant a license or sublicense as provided for herein under such item, Information, Patent or right without violating the terms of any written agreement with any Third Party.

1.11 "**Execution Date**" means November 1, 2007.

1.12 "**First Sale**" means the first transfer by Shell or a Shell Affiliate or a sublicensee of a Licensed Product to (a) Shell or a Shell Affiliate (where Shell or such Shell Affiliate is the end-user of such Licensed Product) or (b) a Third Party, in exchange for cash, or cash equivalent to which value can be assigned after production of the **[*]** (i) **[*]** of Licensed Product in the **[*]** Field of Use, (ii) **[*]** of Licensed Product in the **[*]** Field of Use, and (iii) **[*]** of Licensed Product in the **[*]** Field of Use.

1.13 "**Fuel Field of Use**" means the conversion of fermentable sugars derived from Biomass into liquid fuel and/or liquid fuel additives. For purposes of this Section 1.13 only, (a) "liquid" means a substance that is a liquid at a temperature of twenty-five (25) degrees Celsius under atmospheric pressure, and (b) "fuel additive" means a substance which is added to fuel to modify the characteristics of such fuel, including, for example, biodegradability, combustibility, viscosity, performance and/or emissions profile.

1.14 "**Index**" means **[*]**. In the event that such index becomes unavailable, the Parties will agree on an index to be used in substitution of such unavailable index within sixty (60) days after the date that such index is no longer available.

1.15 "**Information**" means data, results, evaluations, inventories, Microbes, show-how, know-how, computer chip and programs, processes, machines, biological chemicals, intermediates, trade secrets, techniques, methods, developments, materials, methods of analysis, compositions of matter, copyrights or other information.

1.16 "**Intermediate Field of Use**" means the conversion of Biomass into fermentable sugars, such sugars to be converted into (a) liquid fuel and/or liquid fuel additives and/or (b) Lubricants. For purposes of this Section 1.16 only, (i) "liquid" means a substance that is a liquid at a temperature of twenty-five (25) degrees Celsius under atmospheric pressure, and (ii) "fuel additive" means a substance which is added to fuel to modify the characteristics of such fuel, including, for example, biodegradability, combustibility, viscosity and/or emissions profile. For purposes of clarification, the Intermediate Field of Use shall not include the Fuel Field of Use or the Lubricant Field of Use.

1.17 "**Licensed Field of Use**" means the Fuel Field of Use, the Intermediate Field of Use and the Lubricant Field of Use.

1.18 "**Licensed Product**" means any product, the manufacture, use, offer for sale, sale or importation of which, (a) is covered by one or more claims within the Program Patent Rights or the Codexis Patent Rights which has not expired and has not been held invalid or unenforceable by a court of competent jurisdiction from which no appeal can be taken, or (b) utilizes the Program Technology or the Codexis Licensed Technology.

1.19 "**Lubricant**" means materials compounded or blended from ingredients that are used primarily for lubrication of motor vehicles or mobile or stationary machinery or equipment, including engine oils, railroad oils, refrigerator oil, power steering fluids, transmission fluids, brake fluids, gear oils, shock absorber fluids, industrial fluids, process oils, metalworking oils, cutting oils, electrical oils, hydraulic oils, aircraft turbine, aircraft hydraulic and aircraft engine oils, food grade oils, turbine oils, greases and by-products of compound blending such as line wash, line clippings, cut oil and off-specification grease.

1.20 "**Lubricant Field of Use**" means the conversion of fermentable sugars derived from Biomass into a Lubricant.

1.21 "**Microbes**" means whole (live or dead) prokaryotic organisms and/or yeasts and/or fungi or extracts thereof. Microbes shall not include land plants, including nonseed plants (Bryophytes, Tracheophytes) such as liverworts, mosses, ferns, and seed plants, such as gymnosperms and angiosperms (monocot and dicots); and/or non-land plants, including Prasinophytes, Chlorophyceae, Trebouxiouphyceae, Ulvophyceae, Chlorokybales, Streptophyta, Klebsormidiales, Zygnematales, Charales, Coleochaetales and Embryophytes**.**

1.22 "**Monthly Index Average**" means the sum of the monthly values for the Index in the relevant period divided by the number of months in such period.

1.23 "**Patents**" means all patent applications and patents, whether domestic or foreign, covering patentable inventions within the Codexis Licensed Technology or the Program Technology, as applicable, all continuations, continuations in part and divisions of such patent applications and of patent applications from which such patents issued, all patents issuing from any of such patent applications, and all renewals, reissues, re-examinations and extensions of any of such patents.

1.24 "**Program**" has the meaning set forth in the Amended and Restated Research Agreement.

1.25 "**Program Licensed Technology**" means any Technology and Materials developed under the Amended and Restated Research Agreement related to the Program; provided, however, that Program Licensed Technology expressly excludes Shuffling Technology.

1.26 "**Program Patent Rights**" means the Patents covering Program Technology set forth onExhibit 1.26 attached hereto, as updated by the Parties from time to time in accordance with Section 4.1.

1.27 "**Royalty Adjustment Date**" means the date of First Sale of the first Licensed Product in the Licensed Field of Use or each anniversary of such date, as the context requires.

1.28 "**Shuffling**" means the characterization, development and optimization of genes and proteins for commercial uses through the recombination and/or rearrangement and/or mutation of genetic material for the creation of genetic diversity.

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1.29 "**Shuffling Technology**" means any and all techniques, methodologies, processes, materials and/or instrumentation Controlled by Codexis, including without limitation any and all patent rights, know-how, confidential information and materials relating thereto, that, in each case, relates to Shuffling, and generally applicable screening techniques, methodologies, or processes of using the resulting genetic material to identify potential usefulness.

1.30 "**Technology and Materials**" means and includes all materials, technology, technical information, intellectual property, know-how, expertise and trade secrets related to the Licensed Field of Use.

1.31 "**Third Party**" means any party other than Codexis, Shell or Affiliates of either Party.

ARTICLE 2

LICENSE GRANT

2.1 Grants to Shell. Subject to the terms and conditions of this Amended and Restated License Agreement:

(a) Codexis hereby grants to Shell, under all of Codexis' rights and interest in Program Patent Rights and Program Licensed Technology, an exclusive, worldwide, royalty-free license to manufacture and have manufactured (such have manufactured right subject to Section 2.4) Biocatalysts developed under the Program solely for the purpose of using such Biocatalysts in the manufacture of a Licensed Product in the Licensed Field of Use, such use in accordance with the license granted by Codexis to Shell under Section 2.1(b) and such license to include the right to grant sublicenses provided that any such grant of a sublicense is made together with a grant of a sublicense under the rights granted to Shell pursuant to Section 2.1(b); and

(b) Codexis hereby grants to Shell, under all of Codexis' rights and interest in Program Patent Rights and Program Licensed Technology, an exclusive, worldwide, royalty-bearing license, including the right to grant sublicenses, to manufacture, have manufactured, use, sell, offer for sale and import any Licensed Product in the Licensed Field of Use; and

(c) Codexis hereby grants to Shell, under all of Codexis' rights and interest in Codexis Patent Rights and Codexis Licensed Technology, a non-exclusive, worldwide, royalty-free (subject to Acquired Technology Third Party Payments in Section 3.2) license to:

(i) manufacture and have manufactured (such have manufactured right subject to Section 2.4) Biocatalysts developed under the Program solely for the purpose of using such Biocatalysts in the manufacture of a Licensed Product in the Licensed Field of Use, such use in accordance with the license granted by Codexis to Shell under Section 2.1(b) and such license to include the right to grant sublicenses provided that any such grant of a sublicense is made together with a grant of a sublicense under the rights granted to Shell pursuant to Section 2.1(b); and

(ii) manufacture, have manufactured, use, sell, offer for sale and import any Licensed Product in the Licensed Field of Use, such license to include the right to grant sublicenses provided that any such grant of a sublicense is made together with a grant of a sublicense under the rights granted to Shell pursuant to Section 2.1(b).

For purposes of clarification, Shell and Codexis acknowledge and agree that use of a Biocatalyst to manufacture a Licensed Product may generate by-products and other materials other than Licensed Products, and that the disposition of such by-products and other materials, whether by sale, use or disposal, is the exclusive responsibility and solely within the control and discretion of Shell, without any obligation to Codexis.

2.2 Reservation. Notwithstanding anything to the contrary, Codexis retains the right to use Program Patent Rights and Program Technology for internal research purposes in the Licensed Field of Use in accordance with the terms and conditions of the Amended and Restated Research Agreement.

2.3 Limitation.

(a) Except as expressly provided in this Amended and Restated License Agreement and the Amended and Restated Research Agreement, no right, title, or interest is granted by Codexis to Shell.

(b) Notwithstanding anything to the contrary, the licenses granted by Codexis to Shell under Section 2.1 do not include, and Shell shall not acquire by virtue of such license grants, any right in, to or under the Shuffling Technology.

2.4 Right of First Negotiation – Biocatalyst Manufacturing. In the event Shell, either itself or through an Affiliate of Shell, seeks to out-source the manufacture of any particular Biocatalyst developed under the Program, Shell shall provide written notice to Codexis and Codexis shall have a right of first negotiation for the manufacture of such particular Biocatalyst, under the terms and conditions of a separate Biocatalyst supply agreement which will be negotiated. The date of Codexis' receipt of such written notice will be the start of a one hundred twenty (120) day period during which, upon Codexis' election, the terms and conditions of such supply agreement will be negotiated. If mutually acceptable terms and conditions have not been agreed prior to the end of such one hundred twenty (120) day period, Shell, either itself or through an Affiliate of Shell, will be free to negotiate with Third Parties for the manufacture of such particular Biocatalyst, but may not enter into any agreement for such manufacture under terms and conditions that are less favorable to Shell (or its Affiliate) than the terms and conditions last offered to Codexis. For purposes of clarification, in the event that Shell grants a sublicense right under the Program Patent Rights or the Codexis Patent Rights to a Third Party pursuant to Section 2.1, Shell shall use best efforts to include similar rights of negotiation in favor of Codexis in any such sublicense.

ARTICLE 3

PAYMENTS, REPORTS AND RECORDS

3.1 Consideration.

(a) In consideration of the rights and license granted herein, Shell shall pay to Codexis **[*]** cents per gallon of Licensed Product, where such Licensed Product is sold or transferred in exchange for cash or cash equivalent or other consideration to which value can be assigned for use in the Intermediate Field of Use, by either Shell or a Shell Affiliate or a sublicensee to (1) Shell or a Shell Affiliate (where Shell or such Shell Affiliate is the end-user of such Licensed Product) or (2) a Third Party, in each case after the First Sale (in all cases, the "**Intermediate Royalty**"); provided that the Intermediate Royalty shall be adjusted on each Royalty Adjustment Date according to changes in the Index as set forth below:

(i) The initial adjustment shall be made on the date of First Sale of the first Licensed Product in the Licensed Field of Use by multiplying the initial Intermediate Royalty by (A/B), where A = the Monthly Index Average during the most recent twelve (12) month period for which final, corrected data are available preceding the date of First Sale of such first Licensed Product in the Licensed Field of Use, and B = the Monthly Index Average between November 1, 2007 and the most recent date for which final, corrected data are available prior to the date of First Sale of such Licensed Product.

(ii) After the year following the date of First Sale of the first Licensed Product in the Licensed Field of Use, the Intermediate Royalty shall be adjusted annually on each Royalty Adjustment Date by multiplying the then-current Intermediate Royalty by (X/Y), where X = the Monthly Index Average during the most recent twelve (12) month period preceding such Royalty Adjustment Date for which final, corrected data are available, and Y = the Monthly Index Average for the twelve (12) month period beginning sixteen (16) months prior to such Royalty Adjustment Date and ending twenty-seven (27) months prior to such Royalty Adjustment Date.

The adjustments to the Intermediate Royalty shall be rounded to the nearest **three (3) decimal places**. The Intermediate Royalty obtained after each adjustment shall be the Intermediate Royalty due from the applicable Royalty Adjustment Date until the subsequent Royalty Adjustment Date.

By way of example, if the Monthly Index Average during the twelve (12) month period preceding the date of First Sale of the first Licensed Product in the Licensed Field of Use for which final, corrected data are available equals two hundred twenty (220) and the Monthly Index Average between November 1, 2007 and the most recent date for which final, corrected data are available prior to the date of First Sale of such Licensed Product equals two hundred (200), then the Intermediate Royalty shall be adjusted by an amount equal to 220/200, or 1.1, such that the Intermediate Royalty for the subsequent twelve (12) month period shall equal **[*]** cents per gallon of Licensed Product in the Intermediate Field of Use times 1.1, or **[*]** cents per gallon of Licensed Product in the Intermediate Field of Use.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

By way of further example, if the Monthly Index Average during the most recent twelve (12) month period preceding the subsequent Royalty Adjustment Date for which final, corrected data are available equals two hundred nine (209), and the Monthly Index Average for the twelve (12) month period beginning sixteen (16) months prior to such Royalty Adjustment Date and ending twenty-seven (27) months prior to such Royalty Adjustment Date equals two hundred twenty (220), then on such Royalty Adjustment Date the Intermediate Royalty shall be adjusted by an amount equal to 209/220, or 0.95, such that, if the Intermediate Royalty on such Royalty Adjustment Date is equal to **[*]** cents per gallon, the Intermediate Royalty for the subsequent twelve (12) month period shall equal **[*]** cents per gallon of Licensed Product in the Intermediate Field of Use times 0.95, or **[*]** cents per gallon of Licensed Product in the Intermediate Field of Use.

(b) Subject to the last sentence of this paragraph, in consideration of the rights and license granted herein, Shell shall pay to Codexis **[*]** cents per gallon of Licensed Product, where such Licensed Product is sold or transferred in exchange for cash or cash equivalent or other consideration to which value can be assigned for use in the Fuel Field of Use, by either Shell or a Shell Affiliate or a sublicensee to (1) Shell or a Shell Affiliate (where Shell or such Shell Affiliate is the end-user of such Licensed Product) or (2) a Third Party, in each case after the First Sale (in all cases, the "**Fuel Royalty**"). Notwithstanding the foregoing, Shell and Codexis acknowledge and agree that as of Execution Date, there is insufficient data available to definitively determine the appropriate royalty rate for the manufacture, use, offer for sale, sale or importation of Licensed Product(s) in the Fuel Field of Use. The Parties thus agree to engage in negotiations regarding such royalty on or before **[*]**; provided, however, that, if the Parties are unable to agree upon such royalty rate after such negotiations, the royalty rate shall equal **[*]** cents per gallon of such Licensed Product; provided, further, that the Fuel Royalty shall be adjusted on each Royalty Adjustment Date according to changes in the Index as set forth below.

(i) The initial adjustment shall be made on the date of First Sale of the first Licensed Product in the Licensed Field of Use by multiplying the initial Fuel Royalty by (A/B), where A = the Monthly Index Average during the most recent twelve (12) month period for which final, corrected data are available preceding the date of First Sale of such first Licensed Product in the Licensed Field of Use, and B = the Monthly Index Average between November 1, 2007 and the most recent date for which final data are available prior to the date of First Sale of such Licensed Product.

(ii) After the year following the date of First Sale of the first Licensed Product in the Licensed Field of Use, the Fuel Royalty shall be adjusted annually on each Royalty Adjustment Date by multiplying the then-current Fuel Royalty by (X/Y), where X = the Monthly Index Average during the most recent twelve (12) month period preceding such Royalty Adjustment Date for which final, corrected data are available, and Y = the Monthly Index Average for the twelve (12) month period beginning sixteen (16) months prior to such Royalty Adjustment Date and ending twenty-seven (27) months prior to such Royalty Adjustment Date.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

The adjustments to the Fuel Royalty shall be rounded to the nearest three (3) decimal places. The Fuel Royalty obtained after each adjustment shall be the Fuel Royalty due from the applicable Royalty Adjustment Date until the subsequent Royalty Adjustment Date.

By way of example, if the Monthly Index Average during the twelve (12) month period preceding the date of First Sale of the first Licensed Product in the Licensed Field of Use for which final, corrected data are available equals two hundred twenty (220) and the Monthly Index Average between November 1, 2007 and the most recent date for which final, corrected data are available prior to the date of First Sale of such Licensed Product equals two hundred (200), then the Fuel Royalty shall be adjusted by an amount equal to 220/200, or 1.1, such that the Fuel Royalty for the subsequent twelve (12) month period shall equal **[*]** cents per gallon of Licensed Product in the Fuel Field of Use times 1.1, or **[*]** cents per gallon of Licensed Product in the Fuel Field of Use.

By way of further example, if the Monthly Index Average during the most recent twelve (12) month period preceding the subsequent Royalty Adjustment Date for which final, corrected data are available equals two hundred nine (209), and the Monthly Index Average for the twelve (12) month period beginning sixteen (16) months prior to such Royalty Adjustment Date and ending twenty-seven (27) months prior to such Royalty Adjustment Date equals two hundred twenty (220), then on such Royalty Adjustment Date the Fuel Royalty shall be adjusted by an amount equal to 209/220, or 0.95, such that, if the Fuel Royalty on such Royalty Adjustment Date is equal to **[*]** cents per gallon, the Fuel Royalty for the subsequent twelve (12) month period shall equal **[*]** cents per gallon of Licensed Product in the Fuel Field of Use times 0.95, or**[*]** cents per gallon of Licensed Product in the Fuel Field of Use.

(c) Shell and Codexis acknowledge and agree that Codexis will initiate work to develop Program Patent Rights and Program Licensed Technology with respect to Licensed Product(s) in the Lubricant Field of Use only after an appropriate royalty rate for such Licensed Products has been agreed upon by the Parties and, as of Execution Date, there is insufficient data available to definitively determine the appropriate royalty rate for the manufacture, use, offer for sale, sale or importation of Licensed Product(s) in the Lubricant Field of Use. The Parties thus agree to engage in negotiations regarding such royalty prior to initiating development of a Licensed Product within the Lubricant Field of Use. Notwithstanding, Codexis agrees to grant a right for the Lubricant Field of Use in similar scope to Section 2.1 at an agreed upon price per gallon or percentage of gross revenues.

(d) Shell shall notify Codexis promptly, in writing, of the date of the First Sale for each Licensed Product and, in the case where such First Sale is made by a sublicensee of Shell or a Shell Affiliate, the identity of such sublicensee.

(e) Beginning with the date of the First Sale of any Licensed Product, Shell, within ninety (90) days after the end of each calendar quarter after such date, shall provide to Codexis a statement of royalties due to Codexis pursuant to Sections 3.1(a), 3.1(b) and/or 3.1(c) and, together with such statement, the payments due to Codexis pursuant to such Sections 3.1(a), 3.1(b) and/or 3.1(c). All such reports will be held as Confidential Information in accordance with Article 5.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

3.2 Third Party Payments. If Codexis is required to pay a royalty or any other payment to any Third Party, other than Maxygen, Inc. or its successor, for the use of the Codexis Patent Rights and the Codexis Licensed Technology as a result of the use of any Acquired Technology, Shell shall reimburse Codexis for such royalty or other payment provided Shell has agreed in writing to obtain such Acquired Technology. For purposes of clarification, if Codexis uses such Acquired Technology for purposes outside the Licensed Field of Use, the Parties shall first agree on the proportion of such payments to be reimbursed by Shell for the use of such Acquired Technology in the Licensed Field of Use in accordance with Section 7.2 of the Amended and Restated Research Agreement.

3.3 Mode of Payment. All payments made pursuant to this Amended and Restated License Agreement shall be made by direct wire transfer of United States Dollars in immediately available funds in the requisite amount to such bank account as Codexis may from time to time designate by written notice to Shell. To the extent permitted under applicable law, the Parties shall use diligent efforts to utilize any exemption available to minimize any taxes, fees or other charges imposed on payments to Codexis under the terms of this Amended and Restated License Agreement.

3.4 Late Payment Interest. Any payment due and payable to Codexis under the terms and conditions of this Amended and Restated License Agreement made by Shell after the date such payment is due to be paid shall bear interest as of the day after the date such payment was due to be paid and shall continue to accrue such interest until payment of the amount due is made. The interest rate to be applied to any payment not paid when due shall be equal to the lesser of either (a) two percent (2%) above the prime rate as reported by Citibank, New York, New York on the date such payment was due to be paid, or (b) the maximum rate permitted by applicable law on such date, and shall apply until the date that payment is issued by Shell to Codexis.

3.5 Records.

(a) Shell will keep, and will require its Affiliates and sublicensees to keep, complete, true and accurate books of account and records for the purpose of showing the derivation of all Royalties payable to Codexis under this Amended and Restated License Agreement. Said books and records will be kept for at least three (3) years following the end of the calendar year to which they pertain and shall be available, after not less than fifteen (15) business days prior written notice, for inspection by an independent public accountant, certified in the U.S. and affiliated with an internationally recognized accounting firm selected by Codexis and reasonably acceptable to Shell, for the purpose of verifying statements provided to Codexis pursuant to Section 3.1(e) regarding royalties due to Codexis. Such independent public accountant will be obliged by Codexis to treat all materials made available for inspection by Shell as Confidential Information in accordance with Article 5.

(b) In the event that the independent public accountant described in Section 3.5(a) alleges that an underpayment or an overpayment has been made, and the Parties agree on the amount of such underpayment or such overpayment, Shell, in the event of an underpayment, will pay to Codexis the full amount of such underpayment within ten (10) days after such

agreement between the Parties or, in the event of an overpayment, may credit the amount of such overpayment against any future payment due to Codexis under this Amended and Restated License Agreement. Codexis shall bear the full cost of the performance of any audit performed under Section 3.5(a), unless such audit discloses a variance to the detriment of Codexis of more than ten percent (10%) (determined on an aggregate basis for all payments covered by the audit), and the Parties agree that such variance is correct, in which case, Shell shall bear the full cost of the performance of such audit.

(c) Notwithstanding the provisions of Section 10.7, in the event that the independent public accountant described in Section 3.5(a) alleges that an underpayment or an overpayment has been made, and the Parties do not agree on the amount of such underpayment or such overpayment, the Parties, within thirty (30) days, shall mutually select a U.S.-based internationally recognized public accounting firm which shall review the amount in dispute (including supporting documentation) and resolve such dispute within thirty (30) days after selection of such firm. Such U.S.-based internationally recognized public accounting firm will be obliged to Codexis to treat all materials made available for inspection as Confidential Information of Codexis or Shell in accordance with Article 5. In the event that such U.S.-based internationally recognized public accounting firm determines that an underpayment or an overpayment has been made, Shell, in the event of an underpayment, will pay to Codexis the full amount of such underpayment within ten (10) days after such agreement between the Parties or, in the event of an overpayment, may credit the amount of such overpayment against any future payment due to Codexis under this Agreement. Each Party shall pay fifty percent (50%) of the expenses for such public accounting firm; provided, however, that if the audit performed by such accounting firm discloses a variance to the detriment of Codexis of more than ten percent (10%) (determined on an aggregate basis for all payments covered by the audit), Shell shall reimburse Codexis for Codexis' portion of the expenses for such audit with fifteen (15) days after Codexis' written request for such reimbursement and, in addition, the cost of the initial audit by Codexis pursuant to Section 3.5(a). The recommendation of such U.S.-based internationally recognized public accounting firm pursuant to this Section 3.5(c) shall be final and binding upon the Parties.

3.6 Payment Term. Unless otherwise terminated as provided herein, Shell's payment obligations to Codexis pursuant to Section 3.1 of this Amended and Restated License Agreement shall continue:

(a) In the Intermediate Field of Use until the later of (i) twenty (20) years after the First Sale of a Licensed Product in the Intermediate Field of Use or (ii) the expiration of the last to expire patent included in the Codexis Patent Rights and Program Patent Rights;

(b) In the Fuel Field of Use until the later of (i) twenty (20) years after the First Sale of a Licensed Product in the Fuel Field of Use or (ii) the expiration of the last to expire patent included in the Codexis Patent Rights and Program Patent Rights; and

(c) In the Lubricant Field of Use until the later of (i) twenty (20) years after the First Sale of a Licensed Product in the Lubricant Field of Use or (ii) the expiration of the last to expire patent included in the Codexis Patent Rights and Program Patent Rights;

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

provided, however, in the event of the expiration of this Amended and Restated License Agreement as a result of expiration of the last to expire patent included in the Codexis Patent Rights and Program Patent Rights, or in the event of termination by Shell pursuant to Section 9.2, all licenses granted by Codexis to Shell pursuant to Section 2.1 shall remain in place in perpetuity.

ARTICLE 4

PATENT MATTERS

4.1 Provisions Concerning Filing, Prosecution and Maintenance of Patent Rights. The filing, prosecution and maintenance of Program Patent Rights during the term of this Amended and Restated License Agreement will be governed by Article 5 of the Amended and Restated Research Agreement. From time to time during the term of this Amended and Restated License Agreement, but at least once per each Contract Year, the Parties will update the list of patent applications and patents within the Program Patent Rights set forth on Exhibit 1.26 based on the filing, issuance or lapse of the relevant patent applications and patents.

4.2 Notice. Each Party shall promptly provide written notice to the other Party of any (a) alleged infringement by a Third Party of any Patents licensed to Shell hereunder, or (b) claim of infringement by a Third Party that the activities of a Party infringe patent rights of such Third Party. Together with such notice, the notifying Party shall provide the other Party with all available evidence of such alleged infringement which is not under confidentiality obligations with respect to a Third Party.

4.3 Enforcement by Codexis. During the term of this Amended and Restated License Agreement, Codexis shall have the right, but not the obligation, to institute legal action against a Third Party for infringement of any Patents licensed to Shell hereunder. Codexis shall bear the entire cost of such legal action, and shall be entitled to retain the entire amount of any recovery.

4.4 Enforcement by Shell. In the event that Codexis elects not to initiate legal action for infringement of any Patents exclusively licensed to Shell hereunder, Shell, after not less than twenty (20) business days prior written notice to Codexis, may initiate legal action for patent infringement and, to the extent necessary to initiate and maintain such legal action, join Codexis as a party plaintiff; provided that credible evidence of continuing infringement exists. Shell shall have the right to compromise, litigate, settle or otherwise dispose of any such legal action; provided, however, Shell shall keep Codexis informed of the status of any such legal action in a timely manner, and shall obtain Codexis' prior written consent to such part of any settlement which contemplates payment or other action by Codexis or has a material adverse effect on Codexis' business or the Program Patent Rights or the Codexis Patent Rights. In any such legal action, Codexis shall have the right, but not the obligation, at Codexis' expense, to be represented by counsel of Codexis' choosing.

4.5 Defense. [*] shall, at **[*]** expense, initiate legal action in defense of any claim of infringement by a Third Party of patents owned or otherwise controlled by such Third Party by

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

the practice of the Program Licensed Technology or the Codexis Licensed Technology in the Licensed Field of Use. **[*]** shall have the right to compromise, litigate, settle or otherwise dispose of any such legal action; provided, however, **[*]** shall keep **[*]** informed of the status of any such legal action in a timely manner, and shall not settle any such legal action under terms which would contemplate payment or other similar action by **[*]** or would have a material adverse effect on **[*]** business with respect to the Program Patent Rights or the Codexis Patent Rights in the Field of Use without **[*]** prior written consent. In any such legal action, **[*]** shall have the right, but not the obligation, at **[*]** expense (such expense not to be reimbursed by **[*]**), to be represented by counsel of **[*]** choosing.

4.6 Cooperation. In any suit or legal action to enforce and/or defend the Program Patent Rights or the Codexis Patent Rights, the Party not in control of such suit or legal action, at the reasonable request of the controlling Party, shall cooperate in all respects and, to the extent reasonably possible, have its employees testify when requested and make available relevant documents and information, including, for example, records, papers, samples, specimens, and the like.

ARTICLE 5

CONFIDENTIALITY

5.1 Confidentiality Obligations. The Parties agree that, during the term of this Amended and Restated License Agreement and for five (5) years thereafter, all Confidential Information disclosed by one Party to the other Party hereunder shall be received and maintained by the receiving Party in strict confidence, shall not be used for any purpose other than the purposes expressly permitted by this Amended and Restated License Agreement, and shall not be disclosed to any Third Party except to the extent necessary to grant a sublicense to the rights granted to Shell hereunder; provided that such disclosure is made under obligations of confidentiality and non-use no less restrictive than the obligations placed upon Shell herein. The Parties acknowledge and agree that the structure and composition of each particular Biocatalyst developed under the Program shall be deemed Confidential Information of Codexis, subject to the confidentiality and non-use obligations set forth in this Article 5. The obligations of confidentiality and non-use set forth in the first sentence of this Section 5.1 will not apply to any information to the extent that it can be established by the receiving Party that such information:

(a) was already known to the receiving Party or its Affiliates at the time of disclosure without restriction as to confidentiality or use, as evidenced by competent evidence;

(b) was generally available to the public or was otherwise part of the public domain at the time of its disclosure to the receiving Party or its Affiliates;

(c) became generally available to the public or otherwise becomes part of the public domain after its disclosure and other than through any fault of the receiving Party or its Affiliates in breach of this Amended and Restated License Agreement;

(d) was subsequently lawfully disclosed to the receiving Party or its Affiliates by a Third Party without restriction as to confidentiality or use and other than in contravention of a confidentiality obligation of such Third Party to the disclosing Party or its Affiliates; or

(e) is independently developed by employees or agents of the receiving Party or its Affiliates without reliance upon or access to Confidential Information of the disclosing Party or its Affiliates, as evidenced by competent evidence.

Each Party represents and warrants that it has or will obtain written agreements from each person who has a need to know the other Party's Confidential Information, which agreements will obligate such person to obligations of confidentiality and non-use no less restrictive than the obligations set forth herein, and to assign to such Party all inventions made by such person during the course of performing any tasks associated with the other Party's Confidential Information. Further, each Party represents and warrants that those of its employees which have a need to know the other Party's Confidential Information are bound by obligations of confidentiality and non-use to the employer Party. Either Party may disclose Confidential Information of the other Party to such Party's Affiliates or to sublicensees or, in the case of Shell, Third Parties for purposes of having any Biocatalyst manufactured in accordance with Section 2.4; provided that any such Affiliate, sublicensee or Third Party agrees prior to such disclosure to be bound by obligations of confidentiality and non-use no less restrictive than those assumed by such disclosing Party herein.

Notwithstanding this Article 5 the receiving Party may disclose any Confidential Information of the disclosing Party that the receiving Party is required to disclose under applicable laws or regulations or an order by a court or other regulatory body having competent jurisdiction; provided, however, that except where impracticable, the receiving Party shall give the disclosing Party reasonable advance notice of such disclosure requirement (which shall include a copy of any applicable subpoena or order) and shall afford the disclosing Party a reasonable opportunity to oppose, limit or secure confidential treatment for such required disclosure. In the event of any such required disclosure, the receiving Party shall disclose only that portion of the Confidential Information of the disclosing Party that the receiving Party is legally required to disclose and, in the event a protective order is obtained by the disclosing Party, nothing in this Article 5 shall be construed to authorize the receiving Party to use or disclose any disclosing Party Confidential Information to parties other than such court or regulatory body or beyond the scope of the protective order. Codexis and its Affiliates may disclose this Amended and Restated License Agreement if required to be disclosed by applicable State or federal tax or securities laws to the extent, and only to the extent, such laws require such disclosure and Codexis provides Shell a reasonable opportunity to review and comment on the general text of such disclosure.

ARTICLE 6

OTHER AGREEMENTS

6.1 Other Agreements. Concurrently with the execution of this Amended and Restated License Agreement, Codexis and Shell shall enter into the Amended and Restated Research Agreement and the Series E Stock Purchase Agreement (as defined in the Amended and Restated Research Agreement).

6.2 Entire Agreement. This Amended and Restated License Agreement, the Amended and Restated Research Agreement, the Series D Stock Purchase Agreement (as defined in the Amended and Restated

Research Agreement), and the Series E Stock Purchase Agreement are the sole agreements with respect to the subject matter hereof and supersede all other prior and contemporaneous agreements and understandings between the Parties with respect to same, including without limitation that certain Non-Binding Term Sheet by and between Codexis and Shell dated as of August 23, 2006, that certain Collaborative Research Agreement by and between Codexis and Shell effective as of November 1, 2006, as amended, and that certain License Agreement by and between Codexis and Shell effective as of November 1, 2006.

ARTICLE 7

REPRESENTATIONS AND WARRANTIES

7.1 Representations by Codexis. Codexis represents and warrants that, as of the Execution Date: (a) it is duly organized and validly existing under the laws of the jurisdiction of its incorporation and has full corporate power and authority to enter into this Amended and Restated License Agreement; (b) it is in good standing with all relevant governmental authorities; (c) it has taken all corporate actions necessary to authorize the execution and delivery of this Amended and Restated License Agreement and the performance of its obligations under this Amended and Restated License Agreement; (d) the performance of its obligations under this Amended and Restated License Agreement do not conflict with, or constitute a default under its charter documents, any contractual obligation of Codexis or any court order; (e) it has the right to make the license grants set forth in this Amended and Restated License Agreement; and (f) there are no preexisting agreements, commitments or other arrangements with any Third Party, including the United States government or any agency thereof, which will inhibit or restrict Codexis from carrying out the terms of this Amended and Restated License Agreement. Codexis further represents and warrants that it shall not, during the term of this Amended and Restated License Agreement, without the prior written consent of Shell (i) provide any Third Party, including the United States government or agency thereof, any claim to rights relating to the Codexis Licensed Technology (to the extent such Codexis Licensed Technology is licensed to Shell hereunder) or the Program Technology, or (ii) enter into any agreements, commitments or other arrangement with any Third Party, including the United States government or agency thereof, in each case that would (1) prohibit Codexis from fulfilling its obligations hereunder or (2) be inconsistent with the rights granted by Codexis to Shell under Section 2.1 and its obligations under Articles 4 and 5.

7.2 Representations by Shell. Shell represents and warrants that, as of the Execution Date: (a) it is duly organized and validly existing under the laws of the jurisdiction of its formation and has full corporate power and authority to enter into this Amended and Restated License Agreement; (b) it is in good standing with all relevant governmental authorities; (c) it

has taken all corporate actions necessary to authorize the execution and delivery of this Amended and Restated License Agreement and the performance of its obligations under this Amended and Restated License Agreement; and (d) the performance of its obligations under this Amended and Restated License Agreement do not conflict with, or constitute a default under its charter documents, any contractual obligation of Shell or any court order.

7.3 Covenants of Shell. Shell covenants that it will not, without the prior written consent of Codexis, (a) reverse engineer, deconstruct or in any way determine, or attempt to reverse engineer, deconstruct or in any way determine, the structure or composition of any Biocatalyst licensed to Shell hereunder; provided, however, that Shell may determine the structure and composition of a particular Biocatalyst developed under the Program for the purpose of manufacturing or having manufactured such a particular Biocatalyst solely for the purpose of manufacturing or having manufactured a Licensed Product in the Licensed Field of Use in accordance with the rights granted by Codexis to Shell pursuant to Section 2.1; or (b) modify or otherwise create any derivative of any such Biocatalyst; or (c) do indirectly, either through a Third Party or a Shell Affiliate, any of the activities contained in (a) or (b) above that Shell itself agrees not to do. Notwithstanding the foregoing, in the event that Shell desires to modify or otherwise create any derivative of any particular Biocatalyst developed under the Program and licensed by Codexis hereunder and Codexis notifies Shell in writing within one hundred twenty (120) days after receipt by Codexis of a written request by Shell to modify or otherwise create any derivative of any such Biocatalyst that it is unwilling or unable to perform such modification or otherwise create such derivative under commercially reasonable terms, then Shell shall be relieved of its obligations under this Section 7.3 with respect to such particular Biocatalyst.

7.4 Disclaimer of Warranties. EXCEPT AS SPECIFICALLY SET FORTH IN THIS ARTICLE 7, NEITHER PARTY MAKES ANY REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR USE, NON-INFRINGEMENT, AND ANY OTHER STATUTORY WARRANTY.

ARTICLE 8

INDEMNIFICATION

8.1 Indemnification by Codexis. Codexis shall fully indemnify, defend and hold Shell and its Affiliates, and their respective agents, employees, consultants, officers and directors (the "**Shell Indemnitees**") harmless from and against any and all liability, damage, loss, cost or expense (including reasonable attorneys' fees) arising out of Third Party claims or suits (collectively "**Losses**") arising from: (a) breach by Codexis of any of its representations and warranties under this Amended and Restated License Agreement; (b) failure to perform its obligations under this Amended and Restated License Agreement; (c) infringement of patent rights owned or otherwise controlled by such Third Party by the practice of the Program Patent Rights or the Program Licensed Technology pursuant to the terms of this Amended and Restated License Agreement; provided that Codexis' indemnification obligations pursuant to this Section

8.1(c) shall not extend to any intellectual property provided to Codexis or any Affiliate of Codexis by or on behalf of Shell or any Affiliate of Shell, or to improvements made by Codexis or any Affiliate of Codexis to such intellectual property; provided, further, that for purposes of this Section 8.1(c) only, "Losses" shall not include attorneys' fees; provided, further, that Codexis' indemnification obligations pursuant to this Section 8.1(c) shall not extend to any patent rights owned or otherwise controlled by a Third Party identified in a written notice by Codexis to Shell that would be infringed by the practice of the Program Patent Rights or the Program Licensed Technology, such notice to be provided to Shell within ninety (90) days after Codexis becomes aware of such patent rights and prior to the later of (1) the expiration or termination of the Amended and Restated Research Agreement and (2) the entry by Shell or a Shell Affiliate into a non-alterable commitment with respect to the use of the allegedly infringing Program Patent Rights or Program Licensed Technology; provided, further, that Codexis' indemnification obligations pursuant to this Section 8.1(c) shall be limited for any particular Loss to five million dollars ($5,000,000) where, for purposes of clarity, such five million dollars ($5,000,000) shall not include attorneys' fees; and provided, further, that the aggregate indemnification obligations of Codexis pursuant to this Section 8.1(c) shall be capped for all Losses at fifteen million dollars ($15,000,000) where, for purposes of clarity, such fifteen million dollars ($15,000,000) shall not include attorneys' fees; or (d) the negligence or willful misconduct of Codexis or its Affiliates, and its or their directors, officers, agents, employees, sublicensees or consultants; except in any such case for Losses to the extent, and only to the extent, reasonably attributable to a breach by Shell of its representations and warranties set forth in this Amended and Restated License Agreement or the Shell Indemnitees having committed an act or acts of gross negligence, recklessness or willful misconduct.

8.2 Indemnification by Shell. Shell shall fully indemnify, defend and hold Codexis and its Affiliates, and their respective agents, employees, consultants, officers and directors (the "**Codexis Indemnitees**") harmless from and against any and all Losses arising from: (a) breach by Shell of any of its representations and warranties under this Amended and Restated License Agreement; (b) failure to perform its obligations under this Amended and Restated License Agreement; (c) the use under this Amended and Restated License Agreement by Shell or a Shell Affiliate of any Biocatalyst except to the extent such Losses relate to the infringement of any intellectual property right of a Third Party; (d) the use under this Amended and Restated License Agreement by a Third Party sublicensee of any Biocatalyst except to the extent such Losses relate to the infringement of any intellectual property right of a Third Party; provided, however, that Shell's indemnification obligations pursuant to this Section 8.2(d) shall be limited for any particular Loss incurred as a result of activities conducted (i) in the Intermediate Field of Use to five million dollars ($5,000,000) and (ii) in the Fuel Field of Use to fifteen million dollars ($15,000,000); and provided, further, that the aggregate indemnification obligations of Shell pursuant to this Section 8.2(d) shall be capped for all Losses incurred as a result of activities conducted (i) in the Intermediate Field of Use at twenty-five million dollars ($25,000,000) and (ii) in the Fuel Field of Use at seventy-five million dollars ($75,000,000); or (e) infringement of patent rights owned or otherwise controlled by such Third Party by the practice of intellectual property provided to Codexis or any Affiliate of Codexis by or on behalf of Shell or any Affiliate of Shell, or to improvements made by Codexis or any Affiliate of Codexis to such intellectual property; or (f) the negligence or willful misconduct of Shell or its Affiliates, and its or their

directors, officers, agents, employees, sublicensees, or consultants; except in any such case for Losses to the extent, and only to the extent, reasonably attributable to a breach by Codexis of its representations and warranties set forth in this Amended and Restated License Agreement or the Codexis Indemnitees having committed an act or acts of gross negligence, recklessness or willful misconduct. Shell shall use commercially reasonable efforts to require Third Party sublicensees to indemnify Shell and Codexis against Losses due to such Third Party sublicensee's use of any Biocatalyst sublicensed to such Third Party sublicensee pursuant to this Amended and Restated License Agreement.

8.3 Environmental. Notwithstanding any other indemnification obligation in this Amended and Restated License Agreement, and in addition to any rights the Parties may have under relevant federal, state, or local statutory and common laws, each Party shall fully indemnify, defend and hold the other Party and its Affiliates harmless from and against any and all Losses incurred as a result of Environmental Matters; provided, however, that this indemnification shall not apply to the extent any such Losses result from the acts or omissions of personnel of the indemnified Party or its Affiliates which occur at any site of the indemnified Party or the site of any supplier of the indemnified Party. For purposes of this Section 8.3, "**Environment Matters**" shall mean:

(a) the operation by the indemnifying Party, its Affiliates, sublicensees, or subcontractors of any site or facility in a manner that is not in compliance with and in violation of any Environmental Law;

(b) any release of Hazardous Materials into the environment by the indemnifying Party, its Affiliates, sublicensees, or its subcontractors; or any Hazardous Materials that have been Disposed of at a site of the indemnifying Party or any site of any supplier (other than Codexis as supplier) of the indemnifying Party or other site or facility operated by the indemnifying Party, its Affiliates or its subcontractors, as the term Disposed is defined in applicable Environmental Laws;

(c) any failure to obtain or maintain all permits and provide all notices required by Environmental Laws for the lawful operation of any site of the indemnifying Party or any site of any supplier of the indemnifying Party or other facilities or sites operated by the indemnifying Party, its Affiliates, sublicensees, or its subcontractors; and

(d) any other actual or alleged act or omission relating to the handling or disposal of Hazardous Materials at any site of the indemnifying Party or any site of any supplier of the indemnifying Party or the handling or disposal of Hazardous Materials by the indemnifying Party, its Affiliates, sublicensees, or its subcontractors at any other facility or site.

For purposes of this Section 8.3, "**Environmental Law**" shall mean any treaty, law, ordinance, regulation or order of any jurisdiction, relating to environmental matters, including, but not limited to, matters governing air pollution; water pollution; the use, handling, reporting, release, storage, transport, or disposal of Hazardous Materials as defined herein above; exposure to or discharge of Hazardous Materials; occupational safety and health; and public health.

For purposes of this Section 8.3, "**Hazardous Materials**" includes, but is not limited to, air contaminant, water pollutant, hazardous material, hazardous waste, hazardous substance, toxic and hazardous substance, medical waste, infectious waste, "chemicals know to the State of California to cause cancer or reproductive toxicity", asbestos and PCB's, as such substances are defined under any applicable federal, state or local statute, regulation, rule or ordinance

8.4 Notification of Claim; Conditions to Indemnification Obligations.

(a) Except with respect to Shell's right to receive indemnification under Section 8.1(c), as a condition to a Party's right to receive indemnification under this Article 8, that Party shall: (a) promptly notify ("**Claim Notice**") the other Party as soon as it becomes aware of a claim or suit for which indemnification may be sought pursuant hereto (provided that the failure to give a Claim Notice promptly shall not prejudice the rights of an indemnified Party except to the extent that the failure to give such prompt notice materially adversely affects the ability of the indemnifying Party to defend the claim or suit); (b) cooperate with the indemnifying Party in the defense of such claim or suit, at the expense of the indemnifying Party; and (c) if the indemnifying Party confirms in writing to the indemnified Party its intention to defend such claim or suit within fifteen (15) business days of receipt of the Claim Notice, permit the indemnifying Party to control the defense of such claim or suit, including without limitation the right to select defense counsel; provided that if the indemnifying Party fails to (i) provide such confirmation in writing within the fifteen (15) business day period; or (ii) diligently and reasonably defend such suit or claim at any time, its right to defend the claim or suit shall terminate immediately in the case of (i) and otherwise upon twenty (20) days' written notice to the indemnifying Party and the indemnified Party may assume the defense of such claim or suit at the sole expense of the indemnifying Party and may settle or compromise such claim or suit without the consent of the indemnifying Party. In no event, however, may the indemnifying Party compromise or settle any claim or suit in a manner which admits fault or negligence on the part of any indemnified Party or that otherwise materially affects such indemnified Party's rights under this Amended and Restated License Agreement or requires any payment by an indemnified Party without the prior written consent of such indemnified Party. Except as expressly provided above, the indemnifying Party will have no liability under this Article 8 with respect to claims or suits settled or compromised without its prior written consent. The indemnified Party shall have the right, but not the duty, at its sole cost and expense, to participate in the defense of any claim or suit hereunder with attorneys of its own selection without relieving the indemnifying Party of any of its obligations hereunder.

(b) As a condition to Shell's right to receive indemnification under Section 8.1(c), Shell shall (i) promptly provide Codexis with a Claim Notice as soon as it becomes aware of a claim or suit for which indemnification may be sought pursuant to Section 8.1(c) (provided that the failure to give a Claim Notice promptly shall not prejudice the rights of Shell except to the extent that the failure to give such prompt notice materially adversely affects the ability of Codexis to defend the claim or suit); (ii) cooperate with Codexis in the defense of any suit, action or proceeding alleging the infringement of the intellectual property rights of a Third Party by reason of the use of Program Patent Rights or Codexis Patent Rights in the manufacture, use or sale of a Licensed Product; and (iii) give to Codexis all authority (including the right to exclusive

control of the defense of any such suit, action or proceeding and the exclusive right after consultation with Shell, to compromise, litigate, settle or otherwise dispose of any such suit, action or proceeding), at Codexis' expense, including by providing information and assistance necessary to defend or settle any such suit, action or proceeding; provided, however, Codexis shall keep Shell informed of the status of any such suit, action or proceeding in a timely manner, and must obtain Shell's prior written consent to such part of any settlement which contemplates payment or other action by Shell or has a material adverse effect on Shell's business or the use of Program Patent Rights or the Codexis Patent Rights. Codexis shall give Shell prompt written notice of the commencement of any such suit, action or proceeding or claim of infringement and will furnish Shell a copy of each communication relating to the alleged infringement. If it becomes necessary for defense of the suit, action or proceeding for Codexis to join Shell in any such suit, action or proceeding, Codexis may join Shell as a co-defendant if necessary or desirable, and thereafter Shell may participate in the prosecution of such suit, action or proceeding, at Shell's expense, and shall execute all documents and take all other actions, including giving testimony, which may reasonably be required in connection with such suit, action or proceeding.

ARTICLE 9

TERM AND TERMINATION

9.1 Term. The term of this Amended and Restated License Agreement will commence on the Effective Date and, unless earlier terminated in accordance with Section 9.2 or 9.3 below, shall continue in effect until the expiration of Shell's payments obligation to Codexis in accordance with Section 3.6.

9.2 Termination Upon Material Breach. Material failure by a Party to comply with any of its obligations contained herein shall entitle the Party not in default to give to the Party in default written notice (a "**Default Notice**") specifying the nature of the default, requiring such defaulting Party to make good or otherwise cure such default, and stating the non-defaulting Party's intention to terminate this Amended and Restated License Agreement if such default is not cured. If such default is not cured within sixty (60) days after the date the Default Notice was sent, then the Party not in default shall be entitled, without prejudice to any other rights conferred on it by this Amended and Restated License Agreement, and in addition to any other remedies available to it by law or in equity, to terminate this Amended and Restated License Agreement by written notice of termination to the defaulting Party; provided, however, that if the Party receiving such Default Notice (the "**Disputing Party**") has a reasonable basis for disputing that it is in default and such Party provides written notice thereof to the other Party before the expiration of such sixty (60) day cure period, then the Disputing Party shall have the right, prior to the expiration of such sixty (60) day period, to submit such dispute for resolution in accordance with the provisions of Section 10.7; provided further that in the event that as a result of such resolution, the Party receiving such Default Notice is found to be in default and such default is not cured within forty-five (45) days after the date of such resolution, then the Party not in default shall be entitled, without prejudice to any other rights conferred on it by this Amended and Restated License Agreement, and in addition to any other remedies available to it

by law or in equity, to terminate this Amended and Restated License Agreement by written notice of termination to the defaulting Party.

9.3 Termination by Shell. Shell shall have the right to terminate this Amended and Restated License Agreement at any time upon six (6) months prior written notice to Codexis.

9.4 Consequences of Expiration or Termination.

(a) The following Articles and Sections of this Amended and Restated License Agreement shall survive its termination or expiration: Articles 5, 8 and 10, and Sections 2.3, 3.5, 6.2, 7.3, 7.4 and 9.4. In addition, upon the expiration of this Amended and Restated License Agreement or in the event of termination by Shell pursuant to Section 9.2, Section 2.1 shall survive such expiration or termination, as the case may be.

(b) Termination of this Amended and Restated License Agreement for any reason shall be without prejudice to (i) the rights and obligations of the Parties set forth in any Articles or Sections which provide by their terms performance by either Party subsequent to termination; (ii) Codexis' rights to receive all payments accrued under Article 3 prior to the effective date of such termination, or (iii) any other remedies which either Party may otherwise have.

ARTICLE 10

GENERAL PROVISIONS

10.1 Relationship of the Parties. The Parties shall perform their obligations under this Amended and Restated License Agreement as independent contractors and nothing contained in this Amended and Restated License Agreement shall be construed to make either Codexis or Shell partners, joint venturers, principals, representatives or employees of the other. Neither Party shall have any right, power or authority, express or implied, to bind the other. Shell and Codexis agree that this Amended and Restated License Agreement shall not constitute a partnership for tax purposes. In the event, however, that this Amended and Restated License Agreement were so construed, then Shell and Codexis agree to be excluded from the provisions of Subchapter K of the United States Internal Revenue Code of 1986, as amended.

10.2 Assignments. Neither Party may transfer or assign its rights and obligations under this Amended and Restated License Agreement without the prior written consent of the other Party; provided that either Party may transfer or assign its rights and obligations under this Amended and Restated License Agreement to a successor to all or substantially all of its business or assets relating to this Amended and Restated License Agreement whether by sale, acquisition, merger, operation of law or otherwise. Notwithstanding anything to the contrary, any transferee, assignee or successor of a Party shall agree in writing to be bound by the terms of this Amended and Restated License Agreement prior to the effective date of transfer or assignment of this Amended and Restated License Agreement and, thereafter, this Amended and Restated License Agreement shall be binding upon such transferee, assignee or successor. Any attempted transfer

or assignment of this Amended and Restated License Agreement not in accordance with this Section 10.2 will be null and void.

10.3 Further Actions. Each Party agrees to execute, acknowledge and deliver such further instruments and to do all such other acts as may be necessary or appropriate in order to carry out the express provisions of this Amended and Restated License Agreement.

10.4 Force Majeure. Except for the payment of money, neither Party shall be liable to the other for failure or delay in the performance of any of its obligations under this Amended and Restated License Agreement for the time and to the extent such failure or delay is caused by earthquake, riot, civil commotion, war, terrorist acts, strike, flood, or governmental acts or restriction that is beyond the control of the respective Party. The Party affected by such force majeure will provide the other Party with full particulars thereof as soon as it becomes aware of the same (including its best estimate of the likely extent and duration of the interference with its activities), and will use commercially reasonable efforts to overcome the difficulties created thereby and to resume performance of its obligations as soon as practicable.

10.5 Captions. The captions to this Amended and Restated License Agreement are for convenience only, and are to be of no force or effect in construing or interpreting any of the provisions of this Amended and Restated License Agreement.

10.6 Governing Law. This Amended and Restated License Agreement will be governed by and interpreted in accordance with the laws of the State of New York, applicable to contracts entered into and to be performed wholly within the State of New York, excluding conflict of laws principles.

10.7 Dispute Resolution; Jurisdiction and Venue. Any controversy or claim ("**Dispute**"), whether based on contract, tort, statute or other legal or equitable theory (including but not limited to any claim of fraud, misrepresentation or fraudulent inducement or any question of validity or effect of this Amended and Restated License Agreement including this clause) arising out of or related to this Amended and Restated License Agreement (including but not limited to any amendments, annexations, and extensions) or the breach thereof shall be settled by consultation between the Parties initiated by written notice of the Dispute to the other Party. In the event such consultation does not settle the Dispute within thirty (30) days after written notice of such Dispute, then the Dispute shall be settled by binding arbitration in accordance with the then current commercial arbitration rules of the American Arbitration Association and this provision. The arbitration shall be governed by the United States Arbitration Act, 9 U.S.C. §§ 1-16 (the "**Act**") to the exclusion of any provision of state law inconsistent therewith or which would produce a different result. Judgment upon the award rendered by the arbitrator may be entered by any court having jurisdiction. The arbitration shall be held in Chicago, Illinois. The Parties shall agree on a single neutral arbitrator with relevant industry experience to conduct the arbitration. If the Parties do not agree on a single neutral arbitrator within ten (10) days after receipt of an arbitration notice, each Party shall select one (1) arbitrator and the two (2) Party-selected arbitrators shall select a third arbitrator with relevant industry experience to constitute a panel of three (3) arbitrators to conduct the arbitration in accordance with the Act. In the event that only one of the Parties selects an arbitrator, then such arbitrator shall be entitled to act as the

sole arbitrator to resolve the Dispute or any and all unresolved issues subject to the arbitration. Each and all arbitrator(s) of the arbitration panel conducting the arbitration must and shall agree to render an opinion within twenty (20) days after the final hearing before the panel. The arbitrator(s) shall determine the claim of the Parties and render a final award in accordance with the substantive law of the State of New York, excluding the conflicts provisions of such law. The arbitrator shall set forth the reasons for the award in writing. The terms hereof shall not limit any obligations of a Party to defend, indemnify or hold harmless another Party against court proceedings or other claims, losses damages or expenses. All proceedings and decisions of the arbitrator(s) shall be deemed Confidential Information of each of the Parties, and shall be subject to Article 5 hereof. Notwithstanding anything herein to the contrary, a party may seek a temporary restraining order or a preliminary injunction from any court of competent jurisdiction in order to prevent immediate and irreparable injury, loss, or damage on a provisional basis, pending the decision of the arbitrator(s) on the ultimate merits of any Dispute.

10.8 Notices and Deliveries. Any notice, request, delivery, approval or consent required or permitted to be given under this Amended and Restated License Agreement will be in writing and will be deemed to have been sufficiently given on the date of receipt if delivered in person, transmitted by telecopier (receipt verified) or by express courier service (signature required) or five (5) days after it was sent by registered letter, return receipt requested (or its equivalent), provided that no postal strike or other disruption is then in effect or comes into effect within two (2) days after such mailing, to the Party to which it is directed at its address or facsimile number shown below or such other address or facsimile number as such Party will have last given by notice to the other Party.

If to Codexis, addressed to:

Codexis, Inc.
200 Penobscot Drive
Redwood City, CA 94063
Attention: Chief Executive Officer
Telephone: 650-980-5600
Fax: 650-298-5449

with a copy to:

Codexis, Inc.
200 Penobscot Drive
Redwood City, CA 94063
Attention: General Counsel
Telephone: 650-421-8160
Fax: 650-421-8108

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

If to Shell, addressed to:

Shell Oil Products (US)
910 Louisiana Street
Houston, TX 77002
Attention: Fuel Development Program Manager (Americas)
Telephone: 713-241-1461
Fax: 713-241-9800

with a copy to:

Shell Oil Company
Associate General Counsel, Intellectual Property Services
910 Louisiana
Houston, TX 77002
Fax: 713-241-6617

10.9 No Consequential Damages. EXCEPT PURSUANT TO ARTICLE 8, IN NO EVENT WILL A PARTY OR ANY OF ITS RESPECTIVE AFFILIATES BE LIABLE TO THE OTHER PARTY OR ANY OF ITS AFFILIATES FOR SPECIAL, INDIRECT, CONSEQUENTIAL OR PUNITIVE DAMAGES, WHETHER IN CONTRACT, WARRANTY, TORT, NEGLIGENCE, STRICT LIABILITY OR OTHERWISE, INCLUDING BUT NOT LIMITED TO, LOSS OF PROFITS OR REVENUE, OR CLAIMS OF CUSTOMERS OF ANY OF THEM OR OTHER THIRD PARTIES FOR SUCH DAMAGES.

10.10 Waiver. A waiver by a Party of any of the terms and conditions of this Amended and Restated License Agreement in any instance will not be deemed or construed to be a waiver of such term or condition for the future, or of any subsequent breach hereof. All rights, remedies, undertakings, obligations and agreements contained in this Amended and Restated License Agreement will be cumulative and none of them will be in limitation of any other remedy, right, undertaking, obligation or agreement of either Party.

10.11 Severability. When possible, each provision of this Amended and Restated License Agreement will be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Amended and Restated License Agreement is held to be prohibited by or invalid under applicable law, such provision will be ineffective but only to the extent of such prohibition or invalidity, without invalidating the remainder of such provision or of this Amended and Restated License Agreement. The Parties will make an effort to replace the invalid or unenforceable provision with a valid one which in its economic effect is most consistent with the invalid or unenforceable provision.

10.12 Counterparts. This Amended and Restated License Agreement may be executed simultaneously in counterparts, any one of which need not contain the signature of more than one Party but both such counterparts taken together will constitute one and the same agreement.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

10.13 Compliance with Laws. Each Party shall comply with all applicable statutes, laws, regulations, enactments, directives and ordinances and all injunctions, decisions, directives, judgments and orders of any governmental authority in effect at any time in connection with the performance of its obligations under this Amended and Restated License Agreement.

10.14 Amendment. No amendment of any provision of this Amended and Restated License Agreement shall be binding on a Party to this Amended and Restated License Agreement unless consented to in writing and signed by such Party. Signatures and writings in an electronic form do not constitute or create a writing signed by a Party.

[Signature page follows]

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

IN WITNESS WHEREOF, the Parties have caused this Amended and Restated License Agreement to be executed by their respective duly authorized officers as of the Execution Date, each copy of which will for all purposes be deemed to be an original.

CODEXIS, INC.

By: /s/ Alan Shaw
Name: Alan Shaw
Title: President

EQUILON ENTERPRISES LLC

DBA SHELL OIL PRODUCTS US

By: /s/ David A. Sexton
Name: David A. Sexton
Title: President

[Signature Page to Amended and Restated License Agreement]

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

EXHIBIT 1.26

Program Patent Rights

Intentionally left blank as of the Execution Date.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

EXHIBIT 10.4B

AMENDMENT TO THE AMENDED AND RESTATED LICENSE AGREEMENT

THIS AMENDMENT TO THE AMENDED AND RESTATED LICENSE AGREEMENT, together with exhibits and schedules attached hereto, (the "**Amendment**") is entered into and effective as of March 4, 2009 (the "**Amendment Date**") by and between **Equilon Enterprises LLC dba Shell Oil Products US**, a Delaware limited liability company, having a place of business at 910 Louisiana Street, Houston, Texas 77002, ("**Shell**") and **Codexis, Inc.**, a Delaware corporation, having a place of business at 200 Penobscot Drive, Redwood City, California 94063 ("**Codexis**"). Shell and Codexis may each be referred to herein individually as a "**Party**" or, collectively, as the "**Parties**."

WHEREAS, Shell and Codexis entered into (a) a certain Amended and Restated License Agreement, effective as of November 1, 2006 (the "**License Agreement**") pursuant to which Codexis granted to Shell certain license rights under Codexis Patent Rights, Codexis Licensed Technology, Program Patent Rights and Program Technology so that Shell can manufacture, use, sell, offer for sale and import certain Licensed Products obtained from the conversion of biomass to fuels and/or fuel additives and/or lubricants, and (b) a certain Amended and Restated Collaborative Research Agreement, effective as of November 1, 2006, (the "**Research Agreement**") pursuant to which the Parties have collaborated to develop certain new biocatalytic processes for use in the conversion of biomass to fuels and/or fuel additives and/or lubricants; and

WHEREAS, the Parties desire to amend certain of the terms of the License Agreement on the terms and conditions set forth below.

NOW, THEREFORE, in consideration of the promises and undertakings set forth herein, the Parties hereby agree as follows:

1. **ARTICLE 8, INDEMNIFICATION**, shall be amended as follows:

(a) Section 8.4 (Notification of Claim; Conditions to Indemnification Obligations) is hereby re-numbered and, hereafter, shall be referred to as Section 8.5.

(b) **ARTICLE 8, INDEMNIFICATION**, is hereby amended to include the following:

8.4 Fuel Innovation Indemnification. Shell shall fully indemnify, defend and hold the Codexis Indemnitees harmless from and against any and all Losses arising out of any Third Party claims or suits arising from use by Shell or any Affiliate of Shell, or any Third Party acting on behalf or for the benefit of Shell or any Affiliate of Shell, of Fuel Innovation; provided that nothing in this Section 8.4 shall limit Codexis' indemnification obligations under Section 8.1 with respect to any Losses arising out of any Third Party claims or suits arising from materials, technology, technical information, know-how, expertise and trade secrets relating to the biological manufacture of any

compound that is, or the use of which is, Fuel Innovation. For purposes of this Section 8.4, the term "**Fuel Innovation**" means any technology and/or materials relating specifically to (a) a novel compound suitable for use as a liquid fuel, or as a fuel additive to a liquid fuel, or a Lubricant, and/or (b) the use of any compound as a liquid fuel, including without limitation any liquid fuel blend, or as a fuel additive to a liquid fuel, or a Lubricant, that, in (a) and/or (b), is or was developed under the Program by employees of or consultants to Codexis or an Affiliate of Codexis, alone or jointly with employees of or consultants to Shell or an Affiliate of Shell, during the Term, where (i) "liquid" means a substance that is a liquid at a temperature of twenty-five (25) degrees Celsius under atmospheric pressure, (ii) "fuel additive" means a substance which is added to fuel to modify the characteristics of such fuel, including, for example, biodegradability, combustibility, viscosity, performance and/or emissions profile, and (iii) "Term" has the meaning set forth in the Amended and Restated Research Agreement. For purposes of clarification, Fuel Innovation shall exclude any and all materials, technology, technical information, know-how, expertise and trade secrets relating to the biological manufacture of any compound that is, or the use of which is, Fuel Innovation.

2. OTHER PROVISIONS.

All provisions of the License Agreement not expressly modified by this Amendment shall remain in full force and effect.

[*Signature Page Follows*]

-IN WITNESS WHEREOF, the Parties have caused this Amendment to be executed by their respective duly authorized officers as of the Amendment Date, each copy of which will for all purposes be deemed to be an original.

EQUILON ENTERPRISES LLC
DBA SHELL OIL PRODUCTS US

By: /s/ Richard M. Oblath
Name: Richard M. Oblath
Title: Attorney in Fact

CODEXIS, INC.

By: /s/ Alan Shaw
Name: Alan Shaw
Title: President & CEO

[Signature Page to the Amendment to the
Amended and Restated License Agreement]

EXHIBIT 10.5

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

COLLABORATIVE RESEARCH AND LICENSE AGREEMENT

July 10, 2009

TABLE OF CONTENTS

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COLLABORATIVE RESEARCH AND LICENSE AGREEMENT

THIS COLLABORATIVE RESEARCH AND LICENSE AGREEMENT, together with schedules attached hereto (this **"Agreement") is entered into and effective as of July 10, 2009 (the "Effective Date**") by and between **Codexis, Inc.**, a Delaware corporation, having a place of business at 200 Penobscot Drive, Redwood City, California 94063, United States of America, ("**Codexis**"), **Iogen Energy Corporation**, a corporation existing under the law of Canada, having a place of business at 310 Hunt Club Road East, Ottawa, Ontario K1V 1C1, Canada, ("**IE**"), **Equilon Enterprises LLC dba Shell Oil Products US**, a Delaware limited liability company, having a place of business at 910 Louisiana Street, Houston, Texas 77002, ("**Shell US**"), and **Shell Chemicals Canada Limited**, a corporation existing under the laws of Canada, having a place of business at 400 - 4th Avenue S.W., P.O. Box 4280, Station 'C', Calgary, Alberta T2T 5Z5, Canada ("**Shell Canada**" and together with Shell US "**Shell**"). Codexis, IE, Shell US and Shell Canada may each be referred to herein individually as a "**Party**" or, collectively, as the "**Parties**."

RECITALS

WHEREAS, Codexis possesses certain valuable business and/or technical knowledge, information and/or expertise applicable to the enhancement of the performance of certain enzymatically and microbially catalyzed processes applicable to the conversion of Biomass to fuels;

WHEREAS, IE possesses certain valuable business and/or technical knowledge, information and/or expertise applicable to the conversion of Biomass to fuel, biocatalyst technology used therein, and scale-up of such processes and technology;

WHEREAS, Codexis and Shell US, entered into a certain License Agreement, effective as of November 1, 2006, as amended (the "**Codexis-Shell US License Agreement**"), and a certain Collaborative Research Agreement, effective as of November 1, 2006, as amended (the "**Codexis-Shell US Research Agreement**"), relating to Codexis developing certain new biocatalytic processes for use in the conversion of Biomass to fuels, fuel additives and lubricants;

WHEREAS, IE, Shell Canada and **[*]** entered into a certain **[*]** Agreement, effective as of **[*]**, as amended (the "**IE-Shell Canada [*] Agreement**"), and a certain **[*]** Agreement, effective as of **[*]**, as amended (the "**IE-Shell Canada [*] Agreement**"), relating to **[*]** conducting research and development in respect of the **[*]**; and

WHEREAS, Codexis and IE desire to engage in a collaborative effort relating to their respective collaborations with Shell US and Shell Canada pursuant to which the Parties will develop technology relating to the conversion of biomass to ethanol, focusing in particular on development of [*] for the production of ethanol from [*].

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

NOW, THEREFORE, in consideration of the promises and undertakings set forth herein, the Parties agree as follows:

ARTICLE 1

DEFINITIONS

Except as otherwise specifically noted in Schedules 1.63 and 4.4(e), capitalized terms not otherwise defined herein will have the meaning set forth below:

1.1 "Affiliate" means any business entity controlling, controlled by, or under common control with any Party. For the purpose of this Section 1.1 only, "control" means (a) the possession, directly or indirectly, of the power to direct the management or policies of a business entity, whether through the ownership of voting securities, by contract or otherwise, or (b) the ownership, directly or indirectly, of more than fifty percent (50%) of the voting securities or other ownership interest of a business entity; provided that, if local law requires a minimum percentage of local ownership, control will be established by direct or indirect beneficial ownership of one hundred percent (100%) of the maximum ownership percentage that may, under such local law, be owned by foreign interests. Notwithstanding anything to the contrary, for purposes of this Agreement, neither IE nor Codexis shall be deemed to be an Affiliate of Shell Canada or Shell US, or any Affiliate of Shell US or Shell Canada.

1.2 "Arbitral Tribunal" has the meaning set forth in Section 2 of Schedule 11.9.

1.3 "Arbitration Authority" has the meaning set forth in Section 1 of Schedule 11.9.

1.4 "Arbitration List" has the meaning set forth in Section 2 of Schedule 11.9.

1.5 "Background Technology" means Technology developed or acquired prior to or apart from the Program by Codexis or IE, as the case may be, that (a) is Technology outside the scope of Biocatalyst Technology, (b) Codexis or IE, as the case may be, has disclosed to the other Party to provide information relating to the Program pursuant to Section 2.3(a)(ii) or Section 2.3(b)(ii), as applicable; and (c) is not Introduced Program Technology.

1.6 "Biocatalyst" means an enzyme or a Microbe that can enzymatically catalyze a particular chemical reaction.

1.7 "Biocatalyst Technology" means any and all Technology pertaining or relating directly to the development, production and use of Biocatalysts, as set forth below:

(a) Microbial strains, enzymes, genes and genetic material, including all samples, compositions, analyses and data relating to such materials;

(b) Genetic and metabolic information, sequence information, information relating to gene expression or metabolic processes, and information relating to biocatalyst performance and the process conditions under which biocatalysts are used;

(c) Shuffling Technology (other than Codexis Shuffling Technology);

(d) Technology for the enzymatic saccharification of pretreated Biomass;

(e) Technology for the fermentation and scale-up of **[*]** enzyme production systems (other than **[*]**);

(f) Technology for the fermentation and scale-up of **[*]**, but solely for the purposes of, and to the extent useful in, the fermentation and scale-up of **[*]** enzyme production systems (other than **[*]**);

(g) Information regarding the characteristics and properties of pretreated Biomass, including, for example, composition, physical and/or chemical properties, and **[*]** and **[*]** for Biocatalysts present in such pretreated Biomass; and

(h) Technology for the production of **[*]** using Microbes, but solely for the purposes of, and to the extent useful in, the development or use of **[*]** Microbes.

For the avoidance of doubt, Biocatalyst Technology does not include any Biofuel Process Technology. The Parties each acknowledge and agree that any Technology that would be Biocatalyst Technology under this Section 1.7 and, in addition, would be Biofuel Process Technology under Section 1.8, will be deemed only to be Biocatalyst Technology and will not, for any purpose, be Biofuel Process Technology.

1.8 "Biofuel Process Technology" means any and all Technology pertaining or relating to processes or processing steps for the conversion of **[*]** to fuels or fuel blending components, including: **[*]**. For the avoidance of doubt, Biofuel Process Technology does not include any Biocatalyst Technology. The Parties each acknowledge and agree that any Technology that would be Biofuel Process Technology under this Section 1.8 and, in addition, would be Biocatalyst Technology under Section 1.7, will be deemed only to be Biocatalyst Technology and will not, for any purpose, be Biofuel Process Technology.

1.9 "Biomass" means organic, non-fossil, plant-derived matter available on a renewable basis, including, for example, crops and/or trees grown or harvested for use for fuel and/or fuel additive production, agricultural food and feed crops, aquatic plants and, in each case, organic wastes derived from the foregoing, including without limitation municipal wastes (e.g., newspapers). By way of example and not limitation, Biomass

includes all grown crop and plant fiber consisting primarily of cellulose, hemicellulose and lignin, such as grass, switchgrass, straw, corn stover, cane residuals, general cereal wastes and wood chips.

1.10 "Blend" means a combination of a specified ratio, or of specified amounts, of particular enzymes. For purposes of clarification, "Blend" does not include any means of producing combinations of particular enzymes simultaneously by a single host organism.

1.11 "Breaching Party" has the meaning set forth in Section 10.5(a).

1.12 "[*]" means any **[*]** material that was licensed by **[*]** and **[*]** (collectively, **"[*]"**) to Codexis pursuant to that certain **[*]** Agreement dated **[*]** (the **"Codexis-[*] Agreement"**), and any **[*]**, derivative or modification of the foregoing.

1.13 "[*]" means any **[*]**, that Codexis has **[*]** or has derived from **[*]**, and is identified by Codexis in accordance with Section 4.4(a) as subject to the terms and conditions of Section 4.4(b) – Section 4.4(h), together with any **[*]** thereof.

1.14 "[*]" means any **[*]** that Codexis has **[*]** or has derived from **[*]**, and is identified by Codexis in accordance with Section 4.4(a) as subject to the terms and conditions of Section 4.4(b) – Section 4.4(h), together with any **[*]** thereof.

1.15 "Calendar Year" means each respective period commencing on January 1 and ending December 31 of the relevant year.

1.16 "Claim Notice" has the meaning set forth in Section 9.5.

1.17 "Codexis Background Technology" means Background Technology Controlled by Codexis.

1.18 "Codexis Biocatalyst" has the meaning set forth in Section 4.8(a).

1.19 "Codexis-[*] Agreement" has the meaning set forth in Section 1.12.

1.20 "Codexis Introduced Program Technology" means Introduced Program Technology Controlled by Codexis.

1.21 "Codexis Jointly Invented Research Technology" has the meaning set forth in Section 3.3(b).

1.22 "Codexis Research Technology" has the meaning set forth in Section 3.3.

1.23 "Codexis Screening Technology" means (a) Technology Controlled by Codexis relating to particular assays used to evaluate the function of Biocatalysts developed under the Program, (b) Information regarding specific genetic modifications

to Biocatalysts and/or (c) other Information that Codexis identifies in writing as Codexis Screening Technology, that in each of (a), (b) and (c) Codexis discloses for use in the Program in accordance with Section 2.3(a)(ii). For the avoidance of doubt, Codexis Screening Technology does not include any Codexis Shuffling Technology. The Parties each acknowledge and agree that any Technology that would be Codexis Screening Technology under this Section 1.23 and, in addition, would be Codexis Shuffling Technology under Section 1.24, will be deemed only to be Codexis Screening Technology and will not, for any purpose, be Codexis Shuffling Technology.

1.24 "Codexis Shuffling Technology" means Shuffling Technology owned or otherwise controlled by Codexis. For the avoidance of doubt, Codexis Shuffling Technology does not include any Codexis Screening Technology. The Parties each acknowledge and agree that any Technology that would be Codexis Shuffling Technology under this Section 1.24 and, in addition, would be Codexis Screening Technology under Section 1.23, will be deemed only to be Codexis Screening Technology and will not, for any purpose, be Codexis Shuffling Technology.

1.25 "Codexis Solely Invented Research Technology" has the meaning set forth in Section 3.3(a).

1.26 "Commercial Improvements" mean any and all improvements made outside of the Program that, during the period beginning on the Effective Date and continuing until, and ending on, the **[*]** anniversary of the expiration of the Research Term, are (a) licensed to a Third Party by Codexis or its Affiliates, or (b) the subject of a release or covenant not to sue extended by Codexis or its Affiliates to a Third Party, or (c) put into commercial practice by Codexis or its Affiliates, or (d) the subject of a patent application, provisional application, or like filing anywhere in the world filed by Codexis or an Affiliate of Codexis; provided that, with respect to any provisional application, such provisional application is converted into a utility patent application. For purposes of clarification, in the event that a provisional application disclosing an improvement is filed by Codexis or an Affiliate of Codexis during the period described in this Section 1.26, and either (i) converted into a utility patent application after expiration of such period, or (ii) abandoned and, after expiration of such period, re-filed and then converted into a utility patent application, such disclosed improvement will be deemed to be a Commercial Improvement for purposes of this Section 1.26.

1.27 "Confidential Information" means any and all non-public and proprietary Information that is specifically designated as such and that is disclosed by a Party or its Affiliates to any of the other Parties or their respective Affiliates in written or other similar form in connection with this Agreement and that, if orally or visually disclosed, shall be summarized in writing in detail and specifically designated as proprietary and such summary delivered to the receiving Party within thirty (30) days after such disclosure.

1.28 "Control" means, with respect to an item, Information, Patent Right or an intellectual property right, possession of the ability, whether arising by ownership or

license or otherwise, to grant a license or sublicense as provided for under this Agreement under such item, Information, Patent Right or intellectual property right without violating the terms of any written agreement with a Third Party.

1.29 "Covenanting Party" has the meaning set forth in Section 4.4(e).

1.30 "Default Notice" has the meaning set forth in Section 10.4.

1.31 "Disputing Party" has the meaning set forth in Section 10.4.

1.32 "[*] Party" has the meaning set forth in Section 4.4(f).

1.33 "Environmental Law" has the meaning set forth in Section 9.4.

1.34 "Fuels Field" means the conversion of (a) Biomass into fermentable sugars, such sugars to be converted into (i) liquid fuel and/or liquid fuel additives and/or (ii) Lubricants, and (b) fermentable sugars derived from Biomass into (i) liquid fuel and/or liquid fuel additives, and/or (ii) Lubricants. For purposes of this Section 1.34 only, (1) "liquid" means a substance that is a liquid at a temperature of twenty-five (25) degrees Celsius under atmospheric pressure, and (2) "fuel additive" means a substance which is added to fuel to modify the characteristics of such fuel, including, for example, biodegradability, combustibility, viscosity, performance and/or emissions profile.

1.35 "Hazardous Materials" has the meaning set forth in Section 9.4.

1.36 "Information" means data, results, evaluations, inventories, Biocatalysts, show-how, know-how, computer chip and programs, processes, machines, biological chemicals, intermediates, trade secrets, techniques, methods, developments, materials, methods of analysis, compositions of matter, copyrights or other information.

1.37 "IE Background Technology" means Background Technology Controlled by IE.

1.38 "IE Biofuel Process Technology" means Biofuel Process Technology Controlled by IE.

1.39 "IE Research Technology" has the meaning set forth in Section 3.4.

1.40 "IE Introduced Program Technology" means Introduced Program Technology Controlled by IE.

1.41 "IE Jointly Invented Research Technology" has the meaning set forth in Section 3.4(b).

1.42 "IE Solely Invented Research Technology" has the meaning set forth in Section 3.4(a).

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

1.43 "International Trade Laws" has the meaning set forth in Section 11.4.

1.44 "Introduced Program Technology" means Technology Controlled by Codexis or IE, as applicable, that such Party developed or acquired prior to or apart from the Program and that such Party uses in the Program, or has disclosed for use in the Program, falling within the scope of:

(a) Biocatalyst Technology; or

(b) Any other Technology that such Party identifies (by providing notice pursuant to Section 11.10) as Introduced Program Technology, or requests (by providing notice pursuant to Section 11.10) the other Party work on and improve within the scope of the Program.

Notwithstanding anything to the contrary in this Agreement, Introduced Program Technology shall not include Codexis Shuffling Technology or IE Biofuel Process Technology.

1.45 "Jointly Owned Research Technology" has the meaning set forth in Section 3.6.

1.46 "Losses" has the meaning set forth in Section 9.1.

1.47 "Lubricant" means materials compounded or blended from ingredients that are used primarily for lubrication of motor vehicles or mobile or stationary machinery or equipment, including engine oils, power steering fluids, transmission fluids, brake fluids, gear oils, shock absorber fluids, industrial fluids, process oils, metalworking oils, cutting oils, electrical oils, hydraulic oils, railroad oils, refrigerator oils, aircraft turbine, aircraft hydraulic and aircraft engine oils, food grade oils, turbine oils, greases and by-products of compound blending such as line wash, line clippings, cut oil and off-specification grease.

1.48 "Microbes" means whole (live or dead) prokaryotic organisms and/or yeasts and/or fungi or extracts thereof. Microbes shall not include land plants, including nonseed plants (Bryophytes, Tracheophytes) such as liverworts, mosses, ferns, and seed plants, such as gymnosperms and angiosperms (monocot and dicots); and/or non-land plants, including Prasinophytes, Chlorophyceae, Trebouxiouphyceae, Ulvophyceae, Chlorokybales, Streptophyta, Klebsormidiales, Zygnematales, Charales, Coleochaetales and Embryophytes.

1.49 "Non-Breaching Party" has the meaning set forth in Section 10.5(a).

1.50 "Notice to Arbitrate" has the meaning set forth in Section 1 of Schedule 11.9.

1.51 "Out-Sourcing Party" has the meaning set forth in Section 4.7(a).

1.52 "Oversight Committee" has the meaning set forth in Section 2.2(a).

1.53 "Patent Committee" has the meaning set forth in Section 2.2(a)(viii).

1.54 "Patent Rights" means all patent applications and patents, including provisional applications, whether domestic or foreign, all continuations, continuations-in-part and divisions of such patent applications and of patent applications from which such patents issued, all patents issuing from any of such patent applications, and all renewals, reissues, re-examinations and extensions of any of such patents.

1.55 "Permitted Products" has the meaning set forth in Section 10.6(a).

1.56 "Program" means the program of activities conducted by Codexis and/or IE and/or Shell under the terms of this Agreement during the Research Term, as further described in Research Plans.

1.57 "Research Plan" means a written plan to be agreed upon by the Parties describing activities to be carried out in connection with each project under the Program, which plan may be amended from time to time by agreement between the Parties in accordance with Section 2.2(a)(ii).

1.58 "Research Technology" means Technology developed or acquired by IE, Codexis and/or Shell in carrying out the Program. Notwithstanding anything to the contrary, Research Technology shall not include Codexis Shuffling Technology or IE Biofuel Process Technology.

1.59 "Research Term" has the meaning set forth in Section 10.1(a).

1.60 "Rules" has the meaning set forth in Section 1 of Schedule 11.9.

1.61 "Shell Agreements" means (a) the Codexis-Shell US License Agreement, (b) the Codexis-Shell US Research Agreement, (c) the IE-Shell Canada **[*]** Agreement, and (d) the IE-Shell Canada **[*]** Agreement.

1.62 "Shell Biofuel Technology" means any Intellectual Property owned or controlled by Shell Canada and/or its Affiliates, or to which Shell Canada and/or its Affiliates have sub-licensable rights, that Shell Canada, in its sole discretion, chooses to both (a) make available to IE to use in the Development Program and (b) grant IE rights to use in conjunction with the IE Technology pursuant to the terms and conditions of Section [*] of the IE-Shell Canada [*] Agreement, where for purposes of this Section 1.62 the terms "Development Program," "Affiliates," "IE Technology" and "Intellectual Property" have the meanings set forth in Schedule 1.62.

1.63 "Shell Research Technology" means Research Technology that is owned by Shell pursuant to Section 3.5.

1.64 "Shuffling" means the characterization, development and optimization of genes and proteins for commercial uses through the recombination and/or rearrangement and/or mutation of genetic material for the creation of genetic diversity.

1.65 "Shuffling Technology" means any and all techniques, methodologies, processes, materials and/or instrumentation, including without limitation any and all Patent Rights, know-how, confidential information and materials relating thereto, that, in each case, relates to Shuffling, and generally applicable screening techniques, methodologies, or processes of using the resulting genetic material, enzymes and Microbes to identify potential usefulness of such genetic material, enzymes and Microbes.

1.66 "Technology" means and includes all materials, technology, technical Information, intellectual property, know-how, expertise and trade secrets.

1.67 "Term" has the meaning set forth in Section 10.1(b).

1.68 "Third Party" means any party other than Codexis, IE, Shell US, Shell Canada or any of their respective Affiliates.

1.69 "Third Party Agreements" means the agreements set forth in Schedule 1.69, and which may be updated from time to time. A Party shall additionally schedule any further agreement that limits the rights to, or otherwise imposes obligations on the utilization of, any Technology that a Party desires to disclose as Introduced Program Technology under Section 2.3(a)(iv), 2.3(b)(iv) or 2.3(c)(i), as applicable.

1.70 "[*]" means the species that are listed for **[*]** and its genetically identical equivalent **[*]** on the official website of **[*]**, as of the Effective Date, set forth in Schedule 1.70.

ARTICLE 2

PROGRAM ACTIVITIES

2.1 Purpose. The Parties shall conduct the Program during the Research Term. The objective of the Program is to (a) coordinate the activities of Codexis and Shell under the Codexis-Shell US Research Agreement and the activities of IE and Shell under the IE-Shell Canada **[*]** Agreement, and (b) optimize the benefits to each of Codexis and Shell under the Codexis-Shell US Agreements and the benefits to each of IE and Shell under the IE-Shell Canada Agreements, all in connection with development of biocatalytic processes for use in the conversion of Biomass to fuels, fuel additives and Lubricants.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

2.2 Oversight Committee.

(a) Function. The Parties shall establish an oversight committee (the "**Oversight Committee**") having the following duties:

(i) set priorities for the Parties' performance under the Program;

(ii) review and approve the Research Plans as proposed by the Parties under this Agreement;

(iii) review and evaluate progress under the Research Plans;

(iv) approve modifications to the Research Plans, as appropriate;

(v) review annual objectives for activities to be carried out under each Research Plan by the Parties;

(vi) coordinate, monitor and approve the exchange of Information that relates to the Program, including without limitation the disclosure of Background Technology as further set forth in Section 2.3(d),

(vii) coordinate, monitor and approve the publication of research results obtained from the Program; provided, however, that publication of research results by any Party will be consistent with each Party's confidentiality obligations under the Shell Agreements; provided, further, that notwithstanding anything to the contrary herein or in the Shell Agreements, each Party shall have the right to disclose research results to the extent necessary for filing any patent application in accordance with each Party's rights under Article 6;

(viii) review non-confidential summaries of Background Technology that either Codexis or IE, as the case may be, proposes to disclose to the other Party under the Program and, considering the potential benefits to the Program and the risk of contamination to the other Parties, recommend whether such Party's Background Technology should be disclosed to the other Party under the Program;

(ix) review and approve, for purposes of activities under the terms of this Agreement, the use of Codexis Introduced Program Technology and Codexis Solely Invented Research Technology, and IE Introduced Program Technology and IE Solely Invented Research Technology, such use to be approved by the Party that Controls the Technology;

(x) establish a patent committee consisting of persons knowledgeable in patent law and in the technology areas within the Program (the **"Patent Committee"**) such Patent Committee to (1) meet (for example, by telephone or in

person) at least monthly (unless otherwise agreed by the Parties) for the purposes of discussing and coordinating the filing of patent applications and other related intellectual property matters regarding any invention made during the Research Term in order to maximize the benefit to the Parties and (2) provide recommendations to the Oversight Committee regarding the filing of such applications and other intellectual property matters;

(xi) if applicable, submit disputes or disagreements that it does not resolve within the time provided in Section 2.2(e) to senior executive officers of each Party as designated by each Party, as further described in Section 2.2(e); and

(xii) perform such other functions as appropriate to further the purposes of this Agreement as determined by the Parties, including without limitation, for example, the appointment of subcommittees with unique skills, as appropriate, and the periodic evaluation of performance against goals.

(b) Membership. Codexis, IE and Shell, each shall appoint one (1) person to the Oversight Committee, and shall provide written notice to the other Parties of the names and contact information of such person within fifteen (15) days after the Effective Date. A Party may appoint a temporary or permanent substitute for its member at any time, such substitution to be effective immediately upon providing written notice to the other Parties.

(c) Meetings. The Oversight Committee shall meet, in person, at least once during each four (4) months. During each Calendar Year, the Oversight Committee will meet once in Ottawa, Ontario, Canada, once in Redwood City, California, USA, and once in Houston, Texas, USA, unless mutually agreed otherwise. In addition, unless otherwise agreed by the Parties, the Oversight Committee will meet, telephonically, once per month. Representatives of the Parties, in addition to members of the Oversight Committee, may attend such meetings at the invitation of any Party.

(d) Minutes. The Oversight Committee shall keep accurate written minutes of its deliberations that record all proposed decisions and all actions recommended or taken. Drafts of the minutes shall be delivered to all Oversight Committee members within ten (10) business days after each such meeting. The Party hosting the meeting shall appoint a chairperson for such meeting, and shall be responsible for the preparation and circulation of the draft minutes. Draft minutes shall be edited within ten (10) business days after receipt of such draft minutes by each of the Parties and shall be issued in final form only after each Party has provided its respective approval and agreement. A final copy of the minutes of each meeting, after review and modification of any draft version by each of the Parties, shall be issued no later than thirty (30) business days after such meeting.

(e) Decisions. All decisions of the Oversight Committee shall be by unanimous vote or unanimous written consent. If a disagreement among members of the Oversight Committee remains unresolved for more than thirty (30) business days after the

Oversight Committee first addresses such matter (or such longer period as the Parties may mutually agree), such disagreement shall be submitted to senior executive officers of each Party as designated by each Party in a written notice to the other Parties. These senior executive officers shall meet as soon as practicable and attempt in good faith to resolve the disagreement. Notwithstanding anything to the contrary, the decision of senior executive officers, whether to agree on a course of action or disagree and take no action, will be the final resolution of any disagreement among members of the Oversight Committee regarding a matter within the scope of the duties set forth in Section 2.2(a) above, and no disagreement among such senior executive officers regarding such a matter may be referred to the dispute resolution procedure set forth in Section 11.9.

(f) Expenses. Each Party shall bear any and all costs and expenses of its respective members related to their participation on the Oversight Committee.

2.3 Contributions and Information Sharing.

(a) Codexis.

(i) Codexis Introduced Program Technology. Codexis, in its sole discretion, shall have the right to choose what Technology Controlled by Codexis shall be disclosed for use in the Program and thereby become Codexis Introduced Program Technology; provided that, prior to disclosing for use in the Program any Technology that is developed under the Codexis-Shell US Research Agreement as Codexis Introduced Program Technology, Codexis shall consult with Shell US.

(ii) Codexis Background Technology. Subject to Section 2.3(d) below, Codexis, in its sole discretion, shall have the right to choose what Technology Controlled by Codexis, which is outside the scope of Biocatalyst Technology, shall be disclosed for use in the Program and thereby become Codexis Background Technology. Notwithstanding anything to the contrary, Codexis Background Technology shall not include Codexis Shuffling Technology.

(iii) Use of Codexis Introduced Program and Background Technology. IE and Shell shall not use any Codexis Introduced Program Technology and/or any Codexis Background Technology except as permitted by the terms of this Agreement and, in the case of Shell, by the terms of the Codexis-Shell US Research Agreement and the Codexis-Shell US License Agreement.

(iv) Third Party Agreements. On or before the Effective Date, Codexis shall provide IE and Shell with redacted versions of the Codexis Third Party Agreements set forth on Schedule 1.69. During the Term, Codexis shall promptly provide IE and Shell with redacted versions of any Codexis Third Party Agreements that are added to Schedule 1.69.

(b) Iogen Energy.

(i) IE Introduced Program Technology. IE, in its sole discretion, shall have the right to choose what Technology Controlled by IE shall be disclosed for use in the Program and thereby become IE Introduced Program Technology. Notwithstanding the foregoing, in the event that Shell desires any Shell Biofuels Technology to be disclosed for use in the Program, Shell shall provide written notice thereof to IE and, upon receipt of such notice, IE shall disclose such Shell Biofuels Technology for use in the Program as IE Introduced Program Technology.

(ii) IE Background Technology. Subject to Section 2.3(d) below, IE, in its sole discretion, shall have the right to choose what Technology Controlled by IE, which is outside the scope of Biocatalyst Technology, shall be disclosed for use in the Program and thereby become IE Background Technology.

(iii) Use of IE Introduced Program and Background Technology. Codexis and Shell shall not use any IE Introduced Program Technology and/or any IE Background Technology except as permitted by the terms of this Agreement and, in the case of Shell, by the terms of the IE-Shell Canada **[*]** Agreement and the IE-Shell Canada **[*]** Agreement.

(iv) Third Party Agreements. On or before the Effective Date, IE shall provide Codexis and Shell with redacted versions of the IE Third Party Agreements set forth on Schedule 1.69. During the Term, IE shall promptly provide Codexis and Shell with redacted versions of any IE Third Party Agreements that are added to Schedule 1.69.

(c) Shell.

(i) Third Party Agreements. On or before the Effective Date, Shell shall provide and Codexis and IE with redacted versions of the Shell Third Party Agreements set forth on Schedule 1.69. During the Term, Shell shall promptly provide Codexis and IE with redacted versions of any Shell Third Party Agreements that are added to Schedule 1.69.

(d) Disclosure of Background Technology.

(i) Notwithstanding anything to the contrary, each Party, in its sole discretion, shall have the right to choose what portion, if any, of its Background Technology is to be disclosed for use in the Program; provided, however, that, prior to disclosing any Background Technology, the disclosing Party will provide a non-confidential written summary of such Background Technology to the Oversight Committee. The Oversight Committee will determine whether any of the other Parties objects to such disclosure and if, for any reason, any of the other Parties objects to such disclosure, such objected to Background Technology will not be disclosed to the other Parties.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

(ii) The Parties acknowledge that, notwithstanding the procedure set forth in Section 2.3(d)(i), inadvertent and accidental disclosures of Background Technology may occur. In any such event, the Parties receiving Background Technology that such receiving Parties know or learn was inadvertently and accidentally disclosed will commit not to use such Background Technology in any program, including without limitation the Program, or for any commercial or research purpose; provided, however, that such receiving Parties will not be precluded from using any Technology developed independently from such Background Technology. For purposes of this Section 2.3(d)(ii), the phrase "developed independently" means development by employees, consultants or independent contractors of a receiving Party without use of or access to Background Technology of another Party, consistent with the laws of the State of New York, as applied to contracts entered into, and to be performed wholly within, the State of New York, USA. In the event that a disclosing Party believes that another Party has misappropriated Background Technology that such disclosing Party has informed the receiving Party in writing was inadvertently and accidentally disclosed, and elects to seek a remedy for such alleged misappropriation, such disclosing Party will bear the burden of proof to demonstrate that misappropriation actually occurred. In the event that a Party is unable to demonstrate that misappropriation of its Background Technology actually occurred, such Party, within ten (10) days after a finding in favor of the other Party, will reimburse such other Party for **[*]** of the out-of-pocket costs and expenses in defense of the allegation of misappropriation, including without limitation **[*]**.

(e) Sharing of Information. Each Party shall share and disclose all material Information generated during the Research Term in the performance of the Program, including without limitation Research Technology and improvements and inventions relating to Codexis Introduced Program Technology or IE Introduced Program Technology.

2.4 Reports and Materials.

(a) Reports.

(i) During the Research Term, each Party shall provide to the Oversight Committee:

(1) summary written reports within thirty (30) days after the end of each calendar quarter after the Effective Date, describing such Party's work and progress, if any, under each Research Plan during the just-ended calendar quarter;

(2) annual executive summaries within thirty (30) days after the end of each Calendar Year during the Research Term for each Research Plan for which work was performed during the just-ended Calendar Year;

(3) a comprehensive written report within thirty (30) days after completion of all work under each Research Plan, describing in detail the work

accomplished under such Research Plan and discussing and evaluating the results of such work; and

(4) a comprehensive written report within ninety (90) days after the end of the Research Term, describing in detail the work accomplished under the Program during the Research Term and discussing and evaluating the results of such work.

(ii) Any report delivered to a Party hereunder shall be owned by the delivering Party; provided, however, that all such reports shall be deemed to be Confidential Information of the Parties for purposes of Article 7.

(b) Materials. During the Research Term, each Party shall furnish samples of biochemical, biological or synthetic chemical materials to any of the other Parties that are part of Introduced Program Technology or Research Technology and that are necessary for the other Party to carry out its responsibilities under a Research Plan and, at the time of furnishing any sample, the Party providing such sample shall provide notice thereof to Shell. The transfer of any such materials from a Party to any of the other Parties shall be under the terms set forth on Schedule 2.4(b).

2.5 Laboratory Facility and Personnel. Each Party shall be responsible, at its own cost and expense, for providing suitable laboratory facilities, equipment and personnel for the work to be done by such Party in carrying out the Research Plans. It is understood and agreed that the work to be conducted by a Party under this Agreement may be carried out by its Affiliates and/or independent contractors, as such Party may determine or, in the case of IE, **[*]**, as IE may determine; provided that all such work shall be conducted, and the rights and obligations of the Parties with respect to such work, shall be governed by the terms and conditions set forth in this Agreement.

2.6 Efforts. Each Party shall use commercially reasonable efforts during the Research Term to perform that part of the Program for which such Party is responsible, pursuant to the terms and conditions of this Agreement, and to complete such tasks in compliance with the applicable Research Plan. Notwithstanding the foregoing, nothing in this Agreement shall prevent Codexis or IE from carrying out any research, development or other activity independent of the Program, and such independent activity shall be outside the scope of this Agreement.

2.7 Acknowledgement and Waiver. Shell US acknowledges that work to be conducted by Codexis under this Agreement will be in the Fuels Field. Shell US hereby (a) waives, solely with respect to this Agreement, the requirement under the Codexis-Shell US Research Agreement and the Codexis-Shell US License Agreement, including in particular Sections 3.2 and 9.3 of the Codexis-Shell US Research Agreement, that Codexis act exclusively with Shell US, and conduct research, discovery and development activities, in the Fuels Field only with Shell US and Affiliates of Shell US, and (b) agrees that Codexis will not be in breach of its obligations to Shell US under either the Codexis-Shell US Research Agreement or the Codexis-Shell US License Agreement by reason of

(i) entering into this Agreement and/or (ii) conducting work under the terms of this Agreement, including, without limitation, the grant of rights to IE under Section 4.1.

ARTICLE 3

OWNERSHIP OF TECHNOLOGY

3.1 Codexis Background and Codexis Introduced Program Technology. Subject to the rights expressly granted to IE under the terms and conditions of this Agreement, and subject to the rights expressly granted to Shell US under the terms and conditions of the Codexis-Shell US License Agreement and the Codexis-Shell US Research Agreement, Codexis owns or otherwise controls, and shall own or otherwise control, all right, title and interest in, to and under any and all Codexis Background Technology and Codexis Introduced Program Technology.

3.2 IE Background and IE Introduced Program Technology. Subject to the rights expressly granted to Codexis under the terms and conditions of this Agreement, and subject to the rights expressly granted to Shell Canada under the terms and conditions of the IE-Shell Canada **[*]** Agreement and the IE-Shell Canada **[*]** Agreement, IE owns or otherwise controls, and shall own or otherwise control, all right, title and interest in, to and under any and all IE Background Technology and IE Introduced Program Technology.

3.3 Codexis Research Technology.

(a) Codexis solely owns all Research Technology invented by Codexis, or by Codexis and Shell jointly, in either case, whether by an employee(s) or a consultant(s), as determined under U.S. patent law (**"Codexis Solely Invented Research Technology")**.

(b) Codexis solely owns Research Technology invented by Codexis and IE jointly, either with or without Shell, whether by an employee(s) or a consultant(s) to such Party(ies), as determined under U.S. patent law, in the following categories (**"Codexis Jointly Invented Research Technology"**):

(i) process Technology for the **[*]** other than **[*]**;

(ii) genes and enzymes useful in the **[*]**, including without limitation Technology regarding the (1) use of such genes and enzymes and (2) production of such genes and enzymes **[*]**, other than (A) genes and enzymes that originate from**[*]** and (B) Technology regarding the use of any such gene or enzyme where such Technology does not include a **[*]** (other than genes or enzymes that originate from**[*]** and/or **[*]**);

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

(iii) gene expression and gene expression systems that **[*]**; provided, however, that if such Technology is applicable to both expression systems that **[*]**, ownership of such Technology shall be governed by **[*]**;

(iv) methods of developing novel **[*]**; and

(v) genes, enzymes, pathways and Microbes related to **[*]**, including without limitation **[*]**, methods of use, pathway engineering of such **[*]**, engineered genes useful in such **[*]** and pathways and methods of making and culturing such **[*]**, excluding **[*]**.

(c) Codexis Solely Invented Research Technology and Codexis Jointly Invented Research Technology are collectively referred to as **"Codexis Research Technology."**

3.4 IE Research Technology.

(a) IE solely owns all Research Technology invented by IE, or by IE and Shell jointly, in either case, whether by an employee(s) or a consultant(s), as determined under U.S. patent law (**"IE Solely Invented Research Technology")**.

(b) IE solely owns all Research Technology invented by Codexis and IE jointly, either with or without Shell, whether by an employee(s) or a consultant(s) to such Party(ies), as determined under U.S. patent law, in the following categories (**"IE Jointly Invented Research Technology"**):

(i) [*] processes or Technology to **[*]** and the **[*]** by such process or Technology;

(ii) process Technology for the **[*]** that are **[*]**;

(iii) process Technology for the production and recovery of **[*]**, including any and all processes relating to **[*]**;

(iv) process Technology for the **[*]** to the extent such Technology is not covered in any other **[*]** and **[*]**;

(v) genes and enzymes that (1) originate from **[*]** and (2) are useful in the **[*]**, including without limitation Technology regarding the (A) use of such genes and enzymes and (B) production of such genes and enzymes in **[*]**;

(vi) Technology regarding the use of any gene or enzyme useful in the **[*]** of Biomass where such Technology does not include a **[*]** (other than use of genes or enzymes that originate from **[*]** and/or **[*]**);

(vii) gene expression and gene expression systems but only to the extent that such Technology is limited to expression systems that **[*]**;

(viii) [*]; and

(ix) genes, enzymes, pathways and Microbes related to **[*]** solely to the extent that such Technology is applicable only to **[*]**, including without limitation **[*]**, methods of use, pathway engineering of such **[*]**, engineered genes useful in such **[*]** and pathways and methods of making and culturing such **[*]**.

(c) IE Solely Invented Research Technology and IE Jointly Invented Research Technology are collectively referred to as **"IE Research Technology."**

3.5 Shell Research Technology. Shell solely owns all Research Technology invented solely by Shell, whether by an employee(s) or a consultant(s), as determined under U.S. patent law.

3.6 Jointly Owned Research Technology. All Research Technology not falling within the scope of Section 3.3, Section 3.4 or Section 3.5 shall be:

(a) jointly owned by Codexis and IE ("**Jointly Owned Research Technology**");

(b) deemed Confidential Information hereunder, with no obligation on any Party or Parties to summarize or designate any Jointly Owned Research Technology as confidential, notwithstanding Section 1.27 to the contrary; and

(c) utilized by the Parties only as set forth in Article 4 of this Agreement; provided, however, that nothing herein shall restrict a Party from any use incident to preparation or filing of a patent application as permitted under the terms of Article 6.

3.7 Assignments. As may be reasonably requested, each of the Parties shall sell, assign, deliver, convey, transfer and set over, and hereby sells, assigns, delivers, conveys, transfers and sets over, to another Party or to other Parties such of its right, title and interest in and to any Research Technology as may be necessary to conform the legal title in the same with the ownership set forth in Section 3.3, 3.4 or 3.6.

3.8 No Implied License. No grant of an ownership interest to a Party pursuant to this Article 3 with respect to Research Technology shall be construed as granting that owning Party any additional license under any other Technology controlled by another Party, even if necessary, or desirable, to practice such Research Technology. For the avoidance of doubt, the grant of ownership to Codexis with respect to Codexis Research Technology under Section 3.3 shall not be construed as granting any license or right under any Patent Right or Technology Controlled by IE, and the grant of ownership to IE of IE Research Technology under Section 3.4 shall not be construed as granting any license or right under any Patent Right or Technology Controlled by Codexis.

ARTICLE 4

LICENSES; COORDINATION OF AGREEMENTS

4.1 To Iogen Energy.

(a) Research Activities License. Subject to the terms and conditions of this Agreement, and subject to the terms and conditions of the Codexis Third Party Agreements, Codexis hereby grants to IE a non-exclusive royalty- and payment-free license under (i) Codexis Introduced Program Technology, (ii) Codexis Background Technology, (iii) Codexis Research Technology, and (iv) Jointly Owned Research Technology, in each case, only to conduct research activities under the Program during the Research Term. For purposes of clarification, no right or interest is granted by Codexis to IE under or with respect to Codexis Shuffling Technology.

(b) IE Rights and Obligations in Fuels Field. Each of Codexis, IE, Shell US and Shell Canada hereby acknowledges and agrees that IE's rights and obligations with respect to the utilization, in the Fuels Field, of any and all Codexis Introduced Program Technology, Codexis Research Technology, Jointly Owned Research Technology and IE Jointly Invented Research Technology, will be governed by the terms and conditions of this Agreement, and the terms and conditions of the IE-Shell Canada **[*]** Agreement as specified in this Section 4.1(b) below, subject to the terms and conditions of the Codexis Third Party Agreements and the limitations of the Codexis-Shell US Research Agreement and the Codexis-Shell US License Agreement, in all instances, as Codexis disclosed to IE as of the Effective Date; provided, however, that to the extent that there is a specific conflict between a provision of this Agreement and a provision of the Codexis-Shell US Research Agreement or the Codexis-Shell US License Agreement, then the provisions of this Agreement shall prevail.

(i) Codexis Introduced Program Technology and Codexis Research Technology. IE's rights to utilize any and all Codexis Introduced Program Technology in the Fuels Field, and to utilize any and all Codexis Research Technology in the Fuels Field, will be governed by the IE-Shell Canada **[*]** Agreement, as follows:

(1) The Codexis Introduced Program Technology and the Codexis Research Technology will be deemed to be Shell Biofuel Technology; and

(2) The license (including the right to sublicense) granted by Shell Canada to IE under the IE-Shell Canada**[*]** Agreement will apply to such Shell Biofuel Technology, but will be limited to the Fuels Field.

(ii) Jointly Owned Research Technology and IE Jointly Invented Research Technology. IE's rights to utilize any and all Jointly Owned Research Technology in the Fuels Field, and to utilize any and all IE Jointly Invented Research Technology in the Fuels Field, will be governed by the IE-Shell Canada **[*]** Agreement, as follows:

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

(1) The Jointly Owned Research Technology and the IE Jointly Invented Research Technology will be deemed to be Shell Biofuel Technology; and

(2) The license (including the right to sublicense) granted by Shell Canada to IE under the IE-Shell Canada**[*]** Agreement will apply to such Shell Biofuel Technology, but will be limited to the Fuels Field.

(iii) IE Solely Invented Research Technology. IE will have the right to freely utilize any and all IE Solely Invented Research Technology, in the Fuels Field, without any payment or royalty obligation to any of the other Parties to this Agreement.

(iv) Commercial Improvements. IE's rights to utilize any and all Commercial Improvements to any and all Biocatalysts that are derived from Research Technology disclosed to Shell and IE pursuant to Section 4.5 in the Fuels Field will be governed by the IE-Shell Canada [*] Agreement as follows:

(1) such Commercial Improvements will be deemed Shell Biofuel Technology; and

(2) the license (including the right to sublicense) granted by Shell Canada to IE under the IE-Shell Canada**[*]** Agreement will apply to such Shell Biofuel Technology, but will be limited to the Fuels Field.

(c) IE Rights Outside Fuels Field.

(i) Codexis Research Technology and Codexis Introduced Program Technology. Subject to the terms and conditions of this Agreement, and subject to the terms and conditions of the Codexis Third Party Agreements, Codexis hereby grants to IE and its Affiliates a non-exclusive, royalty- and payment-free license, with the right to grant sublicense rights, under Codexis Research Technology and Codexis Introduced Program Technology, excluding, in each case, any and all Patent Rights within such Technologies, for use outside the Fuels Field solely to the extent that such Codexis Research Technology and such Codexis Introduced Program Technology is necessary to produce and/or to utilize any Biocatalyst developed in the Program and owned or otherwise controlled by IE, other than any Biocatalyst that originated as a Biocatalyst contained within Codexis Introduced Program Technology and/or Codexis Research Technology.

(ii) Jointly Owned Research Technology and IE Research Technology. Subject to the terms and conditions of the Codexis Third Party Agreements, IE will have the right to utilize any and all Jointly Owned Research Technology and IE Research Technology outside the Fuels Field without any payment or royalty obligation to any of the other Parties to this Agreement.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

(d) Shell Research Technology. Shell Research Technology shall be deemed Shell Biofuel Technology governed by the IE-Shell Canada **[*]** Agreement.

4.2 To Codexis.

(a) Research Activities License to Codexis. Subject to the terms and conditions of this Agreement, and subject to the terms and conditions of the IE Third Party Agreements, IE hereby grants to Codexis and its Affiliates a non-exclusive royalty- and payment-free license under (i) IE Introduced Program Technology, (ii) IE Background Technology, (iii) IE Research Technology, and (iv) Jointly Owned Research Technology, in each case, only to conduct research activities under the Program during the Research Term.

(b) Codexis Rights and Obligations in Fuels Field. Each of Codexis, IE, Shell US and Shell Canada hereby acknowledges and agrees that Codexis' rights and obligations with respect to the utilization of any and all IE Jointly Invented Research Technology in the Fuels Field, will be governed by the provisions of this Section 4.2(b).

(i) Subject to the terms and conditions of this Agreement and subject to the terms and conditions of the IE Third Party Agreements, IE hereby grants to Codexis a license limited to the right to grant sublicense rights solely to Shell US and its Affiliates under IE Jointly Invented Research Technology to manufacture, have manufactured, use, sell, offer for sale and import products within the Fuels Field, on a worldwide basis; such limited license neither granting to Codexis, nor permitting Codexis to reserve for Codexis, any right or license to manufacture, have manufactured, use, sell, offer for sale or import any product under any IE Jointly Invented Research Technology, within the Fuels Field, or to otherwise utilize or practice any IE Jointly Invented Research Technology within the Fuels Field. Codexis and Shell US each acknowledge and agree that the sublicense rights received by Shell under this Section 4.2(b)(i) that are the subject of the limited license granted by IE to Codexis pursuant to this Section 4.2(b)(i) under IE Jointly Invented Research Technology shall be deemed to be Program Patent Rights and Program Licensed Technology (as defined in the Codexis-Shell US License Agreement), as applicable.

(ii) Notwithstanding anything in this Agreement to the contrary, IE covenants and agrees not to grant any right or license to Shell, or to an Affiliate of Shell, under IE Jointly Invented Research Technology in the Fuels Field. Insofar as the foregoing covenant not to grant any right or license to Shell, or to an Affiliate of Shell, may be inconsistent with the license(s) granted by IE to Shell Canada under the terms of the IE-Shell Canada **[*]** Agreement, Shell Canada and IE agree that the provisions of this Section 4.2(b)(ii) shall control.

(iii) Notwithstanding anything in this Agreement to the contrary, in the event that Shell, or an Affiliate of Shell, **[*]**, the limited license granted by IE to Codexis pursuant to Section 4.2(b)(i) will, as of the effective date of such acquisition, be converted automatically, without the requirement of any action by IE,

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

Shell or Codexis, to an exclusive license, subject to terms and conditions of the IE Third Party Agreements, the Codexis-Shell US License Agreement and this Agreement. Insofar as the foregoing may be inconsistent with the license(s) granted by IE to Shell Canada under the terms of the IE-Shell Canada **[*]** Agreement, Shell Canada and IE each acknowledge and agree that the provisions of this Section 4.2(b)(iii) shall control.

(iv) Notwithstanding anything to the contrary in the Codexis-Shell US License Agreement, in the event that Shell or an Affiliate of Shell asserts that no payment is due to Codexis under the terms of the Codexis-Shell US License Agreement, or that the payment due to Codexis is less than the amount calculated under the terms of the Codexis-Shell US License Agreement based on an argument that Codexis does not own or otherwise control IE Jointly Invented Research Technology (exclusive of any other argument, assertion or contention, including but not limited to any argument, assertion or contention made in regard to any dispute concerning whether Technology constitutes IE Jointly Invented Research Technology), Codexis shall have the right, but not the obligation, to terminate the Codexis-Shell US License Agreement.

(v) In the event that IE or an Affiliate of IE asserts that no payment is due to Codexis, or that the payment due to Codexis is less than the amount calculated under the terms of the Codexis-Shell US License Agreement, based on an express argument that Codexis does not own IE Jointly Invented Research Technology (exclusive of any other argument, assertion or contention, including but not limited to any argument, assertion or contention made in regard to any dispute concerning whether Technology constitutes IE Jointly Invented Research Technology), IE agrees to assign, and hereby assigns, to Codexis all Patent Rights in IE Jointly Invented Research Technology, with Codexis's and IE's rights to utilize such Patent Rights being subject to the terms and conditions of the IE Third Party Agreements, the Codexis-Shell US License Agreement and this Agreement.

The Parties agree that the terms of Section 4.2(b)(i)-(v) above (A) are intended to ensure that Codexis receives economic benefits from Shell US in respect of IE Jointly Invented Research Technology under the Codexis-Shell US License Agreement, and (B) notwithstanding anything in this Agreement to the contrary, shall not negatively affect the economic benefits to be received by IE from Shell Canada under the terms of the IE-Shell Canada **[*]** Agreement in respect of IE Jointly Invented Research Technology that is the subject of the limited rights granted by IE to Codexis, as set forth in this Section 4.2(b).

(c) Codexis Rights Outside Fuels Field.

(i) IE Research Technology and IE Introduced Program Technology. Subject to the terms and conditions of this Agreement, and subject to the terms and conditions of the IE Third Party Agreements, IE hereby grants to Codexis and its Affiliates a non-exclusive, royalty- and payment-free license, with the right to grant sublicense rights, under IE Research Technology and IE Introduced Program Technology, excluding, in each case, any and all Patent Rights within such Technologies,

for use outside the Fuels Field solely to the extent that such IE Research Technology and such IE Introduced Program Technology is necessary to (A) produce and/or to utilize any Biocatalyst developed in the Program by use of Codexis Shuffling Technology or (B) develop, produce and/or utilize any Biocatalyst that is the subject of a Commercial Improvement that is disclosed to Shell and IE pursuant to Section 4.5.

(ii) IE Jointly Invented Research Technology. Subject to the terms and conditions of this Agreement, and subject to the terms and conditions of the IE Third Party Agreements, IE hereby grants to Codexis and its Affiliates a non-exclusive, royalty- and payment-free license, with the right to grant sublicense rights, under IE Jointly Invented Research Technology with respect to Blends developed in the Program for use outside the Fuels Field.

(iii) Jointly Owned Research Technology and Codexis Research Technology. Subject to the terms and conditions of the IE Third Party Agreements, Codexis will have the right to utilize any and all Jointly Owned Research Technology and Codexis Research Technology outside the Fuels Field without any payment or royalty obligation to any of the other Parties to this Agreement.

4.3 To Shell.

(a) Research Activities License.

(i) Subject to the terms and conditions of this Agreement, and subject to the terms and conditions of the Codexis Third Party Agreements, Codexis hereby grants to Shell and its Affiliates a non-exclusive royalty- and payment-free license under (i) Codexis Introduced Program Technology, (ii) Codexis Background Technology, (iii) Codexis Research Technology, and (iv) Jointly Owned Research Technology, in each case, only to conduct research activities under the Program during the Research Term. For purposes of clarification, no right or interest is granted by Codexis to Shell or any of its Affiliates under or with respect to Codexis Shuffling Technology.

(ii) Subject to the terms and conditions of this Agreement, and subject to the terms and conditions of the IE Third Party Agreements, IE hereby grants to Shell and its Affiliates a non-exclusive license under (i) IE Introduced Program Technology, (ii) IE Background Technology, (iii) IE Research Technology, and (iv) Jointly Owned Research Technology, in each case, only to conduct research activities under the Program during the Research Term.

(b) Shell Rights to Research Technology Controlled by Codexis. Any and all Codexis Research Technology and any and all of Codexis' interest in Jointly Owned Research Technology shall be deemed licensed to Shell US as Program Patent Rights and Program Licensed Technology under the Codexis-Shell US License Agreement.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

(c) Shell Rights to Research Technology Controlled by IE. Any and all IE Research Technology shall be deemed licensed to Shell Canada as IE Foreground Technology under the IE-Shell Canada **[*]** Agreement.

4.4 Restrictions Related to [*].

(a) Codexis shall identify in writing any material as a **[*]**, and any **[*]** as a **[*]**, prior to disclosing such **[*]** for use in the Program. In the event that Codexis determines, after disclosure of any **[*]** or any **[*]** without identifying such **[*]** or such **[*]** as a **[*]** or a **[*]**, that a disclosed **[*]** or a disclosed **[*]** should have been identified as a **[*]** or as a **[*]**, as applicable, Codexis shall provide written notice thereof to IE and Shell and such **[*]** or **[*]**, as the case may be, shall thereafter be deemed to be **[*]** or **[*]**, as applicable; provided that any use of any such **[*]** or any such **[*]** that does not comply with terms and conditions of Sections 4.4(b) – (h) prior to the date of the notice described in this sentence shall not be a breach of this Agreement.

(b) Each of IE and Shell and their respective Affiliates shall not (i) make any derivative or any modification of any **[*]**, or any **[*]**, or any **[*]** (including without limitation any **[*]**) incorporated in any **[*]**, in each case, that is transferred by Codexis, directly or indirectly, to IE or to Shell, or (ii) reverse engineer any **[*]**, or any **[*]**, or any **[*]** incorporated in any **[*]**, in each case, that is transferred by Codexis, directly or indirectly, to IE or to Shell. In addition, IE and Shell each acknowledges and agrees that, with respect to any **[*]**, any **[*]**, and any **[*]** (including without limitation any **[*]**) incorporated into any **[*]**, in each case, that is transferred by Codexis, directly or indirectly, to IE or to Shell, the terms of this Agreement are subordinate to the terms of the Codexis-**[*]** Agreement disclosed to IE and Shell.

(c) Each and every sublicense agreement entered into by IE, Shell or any of their respective Affiliates that includes (i) any grant of rights relating to any **[*]**, any **[*]**, or any **[*]** (including without limitation any **[*]**) incorporated into any **[*]**, in each case, that is transferred by Codexis, directly or indirectly, to IE or to Shell, or (ii) the transfer of any **[*]**, any **[*]**, or any **[*]** (including without limitation any **[*]**) incorporated into any **[*]**, in each case, that is transferred by Codexis, directly or indirectly, to IE or to Shell, shall (A) include an express prohibition preventing the (1) making of any derivative or modification of such **[*]**, or such **[*]** or such **[*]** incorporated in a **[*]**, or (2) reverse engineering of such **[*]**, or such **[*]** or such **[*]**, incorporated in a **[*]**, and (B) be subordinate to the terms of the Codexis-**[*]** Agreement disclosed to IE and Shell.

(d) For purposes of this Section 4.4, "reverse engineering" means the identification, modification, derivatization or other manipulation of genetic material, including for example any gene, portion of any gene, promoter, regulator, inducer, metabolic pathway, metabolomics, trancriptomics, secretion signal, vector, plasmid, protein, compound, or other material.

(e) Notwithstanding anything to the contrary, IE and Shell each hereby covenants and agrees, and shall cause its Affiliates (as defined in Section 1.1) and Third

Party (as defined in Section 1.68) sublicensees (each, a **"Covenanting Party")** to covenant and agree in a written agreement, not to commence, aid, prosecute or cause to be commenced or prosecuted any legal action or other proceeding against **[*]** or any of its Affiliates (as defined in Schedule 4.4(e)), or any of its or their successors and assigns, licensees, sublicensees, distributors or customers, wherein any Covenanting Party alleges infringement (direct or contributory) or inducement of infringement of any Patent (as defined in Schedule 4.4(e)) claiming any Improvement (as defined in Schedule 4.4(e)) that was made by, or under the authority of, Codexis or any Covenanting Party during the Term (as defined in Schedule 4.4(e)). Codexis covenants and agrees that it will provide written notice to IE and to Shell of the expiration or termination of the Codexis-**[*]** Agreement promptly after the effective date of such expiration or termination. The assertion of any such Patent by a Covenanting Party against any Affiliate (as defined in Schedule 4.4(e)) of **[*]** or any licensee, sublicensee, distributor or customer of **[*]** or any of its Affiliates (as defined in Schedule 4.4(e)) (each of the foregoing, a**"[*] Party"**) that has not been identified to IE or to Shell, as applicable, by Codexis in writing shall not be deemed to breach the covenant set forth in this Section 4.4(e); provided that the applicable Covenanting Party ceases such assertion, and any and all legal proceedings relating thereto, within fifteen (15) days after written notice from Codexis identifying such Third Party (as defined in Section 1.68) as a **[*]** Party. Codexis agrees to provide to IE and Shell the identities of any **[*]** Parties known to Codexis.

(f) IE and Shell each (i) acknowledges and agrees, and shall cause each of their respective Affiliates (as defined in Section 1.1) and Third Party (as defined in Section 1.68) licensees and sublicensees to acknowledge and agree, that **[*]** is and shall be a third party beneficiary of the covenants set forth in this Section 4.4, and (ii) agrees, and shall cause each of their respective Affiliates (as defined in Section 1.1) and Third Party (as defined in Section 1.68) licensees and sublicensees to agree, (A) not to assign, sell or otherwise transfer any Patent (as defined in Schedule 4.4(e)) covered by the covenants and agreements set forth in this Section 4.4 to a Third Party (as defined in Section 1.68) unless such Third Party agrees to be bound by the covenants and agreements set forth in this Section 4.4, and (B) that any such sale, assignment or transfer in contravention of the requirement set forth in this Section 4.4(f) shall be deemed void and ineffective.

(g) In the event that **[*]** requests that a copy of this Agreement, or any sublicense agreement entered into by IE or its Affiliates, be provided to an independent law firm pursuant to Section **[*]** of the Codexis-**[*]** Agreement, Codexis shall promptly notify IE in writing. Codexis agrees not to use any law firm for this purpose that is objected to by IE that IE identifies in writing within two (2) business days of receipt of such notification from Codexis, provided that in such notice, IE provides a reasonable basis for each such objection.

(h) In the event that Codexis receives notice from **[*]** that **[*]** believes that IE or any Affiliate or sublicensee of IE has used or is using any**[*]** or any **[*]**, in a manner that is inconsistent with the terms of the Codexis-**[*]** Agreement, Codexis shall

promptly notify IE. Thereafter, Codexis and IE shall mutually cooperate to resolve **[*]** concerns.

4.5 Grant Back. Subject to the terms and conditions of this Agreement, the Codexis Third Party Agreements and the Codexis-Shell US License Agreement, Codexis shall disclose to Shell and IE in writing any material improvement that qualifies as a Commercial Improvement to any and all Biocatalysts that are derived from Research Technology. Codexis shall make such disclosures at Oversight Committee meetings and, in the event that the Oversight Committee is disbanded or ceases to meet as described in Section 2.2(c), at least semi-annually. Codexis and Shell hereby agree that any Commercial Improvement to any such Biocatalysts shall be deemed to be Program Patent Rights and Program Licensed Technology for purposes of the Codexis-Shell US License Agreement; provided that, if any such Commercial Improvement was developed after the term of the Codexis-Shell US Research Agreement, Shell US's license rights with respect to such Commercial Improvement shall be non-exclusive. Any Biocatalyst subject to the license grant in this Section 4.5 will be deemed to be a Codexis Biocatalyst; provided that the time period set forth in Section 4.8(c)(A) for such Codexis Biocatalyst shall be the **[*]** year anniversary of the date of disclosure of such Codexis Biocatalyst pursuant to this Section 4.5.

4.6 Codexis as Permitted Third Party. IE shall approve Codexis as a Permitted Third Party (under Section 2.2(d) of the IE-Shell Canada **[*]** Agreement) to manufacture Biocatalysts developed using IE Background Technology, IE Introduced Program Technology or IE Research Technology (other than Biocatalysts that are derived from Biocatalysts that originated as IE Introduced Program Technology).

4.7 Right of First Negotiation – Biocatalyst Manufacturing.

(a) Codexis Right of First Negotiation. In the event that any Out-Sourcing Party seeks to out-source the manufacture of any particular Biocatalyst introduced into the Program by Codexis or developed during the Research Term using Codexis Shuffling Technology (other than a Biocatalyst that is derived from a Biocatalyst that originated as IE Introduced Program Technology), for use in a facility where Shell or an Affiliate of Shell, individually or collectively, is not **[*]** in such facility or **[*]**, the Out-Sourcing Party, for a **[*]** year period following the expiration or termination of the Research Term, shall provide written notice to Codexis and Codexis shall have a right of first negotiation for the manufacture of such particular Biocatalyst, under the terms and conditions of a separate Biocatalyst supply agreement which will be negotiated. For purposes of this Section 4.7(a), **"Out-Sourcing Party"** shall mean IE or any Affiliate of IE (other than Shell or any Affiliate of Shell), or any Third Party that has been granted license rights, directly or indirectly, from IE or any Affiliate of IE (other than Shell or an Affiliate of Shell). The date of Codexis' receipt of such written notice from the Out-Sourcing Party will be the start of a ninety (90) day period during which, upon Codexis' election, the terms and conditions of such supply agreement will be negotiated regarding the Biocatalyst identified in such written notice. If mutually acceptable terms and

conditions have not been agreed prior to the end of such ninety (90) day period, the Out-Sourcing Party will be free to negotiate with Third Parties for the manufacture of such particular Biocatalyst, but may not enter into any agreement for such manufacture under terms and conditions that are less favorable to the Out-Sourcing Party than the terms and conditions last offered to Codexis; provided, however, that, for the avoidance of doubt, such terms and conditions will include all business considerations as taken from the Out-Sourcing Party's perspective.

(b) No Change to Existing Rights. For purposes of clarification, except as expressly set forth in this Section 4.7, nothing in this Agreement is intended to modify Codexis' rights under Section 2.4 of the Codexis-Shell US License Agreement. In particular, without limiting the generality of the foregoing, in the event that IE or its Affiliates or its licensees, as applicable, desires to outsource the manufacture of a Biocatalyst developed through the use of Codexis Shuffling Technology (other than Biocatalysts that are derived from Biocatalysts that originated as IE Introduced Program Technology) in any facility other than a facility described in Section 4.7(a), Codexis' rights under Section 2.4 of the Codexis-Shell US License Agreement shall apply with respect to such outsourcing.

(c) Exception. In the event that Shell, or an Affiliate of Shell, [*] either (i) the power to [*], or (ii) the [*], Codexis' right of first negotiation under Section 4.7(a) will be governed solely by the provisions of Section 2.4 of the Codexis-Shell US License Agreement. Notwithstanding anything to the contrary in the preceding sentence, for so long as Iogen Corporation is a licensee of IE and not [*], the rights of Iogen Corporation and its licensees, other than Shell and Affiliates of Shell, will continue to be governed by the provisions of Section 4.7(a).

4.8 Derivatives of Codexis Program Technology.

(a) IE covenants and agrees that it and its Affiliates, and its and its Affiliates' licensees (other than Shell and its Affiliates), shall not modify or otherwise create, by use of any recombinant or other directed mutagenesis technology, any derivative of any Biocatalyst that originates from (i) Codexis Introduced Program Technology, (ii) Research Technology developed by use of Codexis Shuffling Technology (other than Biocatalysts that originated from IE), or (iii) IE Introduced Program Technology and/or IE Background Technology incorporated into any **[*]** or combined with any **[*]** (a Biocatalyst originating from any of (i), (ii) and (iii) is referred to as a**"Codexis Biocatalyst"**). For purposes of clarification, the rights of Shell and its Affiliates with respect to modification or creation of any derivative of a Codexis Biocatalyst are governed by Section 9.4 of the Codexis-Shell US Research Agreement and Section 7.3 of the Codexis-Shell US License Agreement. Notwithstanding the first sentence of this Section 4.8(a), in the event that (A) IE or any Affiliate of IE requests (whether such request comes directly from IE or an Affiliate of IE, or from Shell on behalf of IE or an Affiliate of IE) that Codexis modify or otherwise create a derivative of any Codexis Biocatalyst in accordance with the provisions of Section 9.4 of the Codexis-Shell US

Research Agreement and Section 7.3 of the Codexis-Shell US License Agreement, and (B) Codexis is unwilling or unable to perform such modification or otherwise create such a derivative under terms that are (1) consistent with or below the full time equivalent (FTE) rates Codexis has most recently agreed to charge Shell for comparable work, including without limitation any calendar- and/or inflation-based escalators, and (2) commercially reasonable with respect to the market-based, good faith expectations of IE or any Affiliate of IE regarding resource commitment requirements, including for example FTE person hours and equipment time required, then Codexis shall so notify Shell US, IE or the Affiliate of IE, as applicable, in writing and IE or the Affiliate of IE, as the case may be, may modify or otherwise create the derivative of such Codexis Biocatalyst requested by Shell US, IE or the Affiliate of IE, as applicable; provided, however, that IE or the Affiliate of IE, as the case may be, must modify or otherwise create such derivative using its own, internal resources, and may not engage or otherwise use a Third Party or an independent contractor to modify or otherwise create such derivative; provided further that such modification or creation of derivatives of Codexis Biocatalysts is not inconsistent with the rights, obligations and restrictions set forth in the Codexis Third Party Agreements; provided further that, in the event that Shell or an Affiliate of Shell **[*]**, then the rights of IE and any Affiliate of IE, as the case may be, to modify or create any derivative of any Codexis Biocatalyst will be governed solely by the provisions of Section 9.4 of the Codexis-Shell US Research Agreement and Section 7.3 of the Codexis-Shell US License Agreement as applied to IE and any Affiliate of IE, *mutatis mutandis*. For purposes of clarification, notwithstanding the above, IE, any Affiliate of IE, and any sublicensee of IE or an Affiliate of IE (other than Shell and its Affiliates) may make derivatives from any Biocatalyst that originated solely from an IE Biocatalyst, including without limitation Biocatalysts jointly developed by IE and Codexis; provided that such Biocatalyst is not incorporated into any **[*]** or combined with any **[*]**.

(b) In the event that IE modifies or otherwise creates any derivative of any Codexis Biocatalyst in accordance with the terms of Section 4.8(a), IE agrees to grant, and hereby grants to Codexis, subject to the terms and conditions of the IE Third Party Agreements, a license limited to the right to grant sublicense rights solely to Shell US and its Affiliates under intellectual property Controlled by IE directed to such modified or otherwise created Codexis Biocatalyst to manufacture, have manufactured, use, sell, offer for sale and import products within the Fuels Field, on a worldwide basis; such limited license neither granting to Codexis, nor permitting Codexis to reserve for Codexis, any right or license to manufacture, have manufactured, use, sell, offer for sale or import any product under such intellectual property, within the Fuels Field, or to otherwise utilize or practice any such intellectual property within the Fuels Field. Codexis and Shell US each acknowledge and agree that the sublicense rights received by Shell under this Section 4.8(b) that are the subject of the limited license granted by IE to Codexis pursuant to this Section 4.8(b) shall be deemed to be Program Patent Rights and Program Licensed Technology (as defined in the Codexis-Shell US License Agreement), as applicable. In addition, IE agrees that the following terms shall apply to the intellectual property that is the subject of the license granted in this Section 4.8(b): (i) IE covenants and agrees not to grant any right or license to Shell, or to an Affiliate of Shell, under such intellectual

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property in the Fuels Field, (ii) IE covenants and agrees that, in the event Shell or an Affiliate of Shell **[*]** either (A) the power to **[*]**, or (B) the **[*]**, IE shall not, itself, utilize such intellectual property to make, use or sell Biocatalysts for any commercial purpose; provided that **[*]** shall have no impact on the rights of IE with respect to the granting of rights to Third Parties to manufacture, have manufactured, use, sell, offer for sale and import any such Biocatalyst in the Fuels Field in effect immediately prior to **[*]**, and (iii) in the event that IE, or an Affiliate of IE, asserts that no payment is due to Codexis, or that the payment due to Codexis is less than the amount calculated under the terms of the Codexis-Shell US License Agreement based on an express argument that Codexis does not own such intellectual property (exclusive of any other argument, assertion or contention, including but not limited to any argument, assertion or contention made in regard to any dispute concerning whether such intellectual property is properly subject to this section), IE shall assign such intellectual property to Codexis.

(c) Notwithstanding the terms of Section 4.8(a), provided that Shell or an Affiliate of Shell has not**[*]** either (i) the power to **[*]**, or (ii) the **[*]**, then IE shall have a right, after the later of (A) the **[*]** year anniversary of the expiration or termination of the Codexis-Shell US Research Agreement and (B) the **[*]** year anniversary of the Effective Date, to modify or otherwise create derivatives of Codexis Biocatalysts; provided, however, that such modification or creation of derivatives of Codexis Biocatalysts is not inconsistent with the rights, obligations and restrictions set forth in the Codexis Third Party Agreements.

(d) Notwithstanding anything in this Agreement to the contrary, the limitations on IE regarding the modification or creation of any derivative of any Biocatalyst, as set forth in this Section 4.8, shall not reduce IE's right to modify or create any such derivative to less than the rights enjoyed by an unlicensed Third Party to modify or create any such derivative under Canadian law; provided, however that IE will not use any Codexis Introduced Program Technology, Codexis Background Technology or Research Technology developed by use of Codexis Shuffling Technology that is Codexis Confidential Information; provided further that IE will not use any materials provided by Codexis, directly or indirectly, to IE or any Affiliate of IE; provided further that to the extent that the practice of such derivative or modification requires the use of any Codexis Introduced Program Technology, Codexis Background Technology or Research Technology developed by use of Codexis Shuffling Technology that is the subject of a license grant to IE, IE will not use any such modification or derivative for any commercial purpose without the prior written consent of Codexis.

4.9 No Other Rights. Except as expressly provided in this Agreement, no right, title or interest is granted by any Party to any other Party, by implication or otherwise. Further, all licenses and other rights provided herein are subject and subordinate to any and all prior Third Party Agreements containing terms either overlapping or in conflict therewith.

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ARTICLE 5

PAYMENTS

5.1 Royalties – Fuels Field. The Parties acknowledge and agree that the Program to be conducted under the terms of this Agreement is for the purpose of coordinating the activities of, and to optimize the benefits to each of, Codexis, IE and Shell under the Shell Agreements. For purposes of clarification, the economic benefit to be received as a consequence of conducting the Program is as follows:

(a) By Codexis From Shell. Shell shall make payments to Codexis pursuant to and in accordance with the terms of the Codexis-Shell US License Agreement for exercise by Shell, Affiliates of Shell and licensees of Shell, including without limitation IE, Affiliates of IE and sublicensees of IE, of license rights with respect to Codexis Introduced Program Technology, Codexis Research Technology, Jointly Owned Research Technology and IE Jointly Invented Research Technology under the IE-Shell Canada **[*]** Agreement.

(b) By IE From Shell. Shell shall make payments to IE pursuant to and in accordance with the terms of the IE-Shell Canada**[*]** Agreement for Shell Canada's exercise of license rights with respect to IE Solely Invented Research Technology, IE Jointly Invented Research Technology and Jointly Owned Research Technology under that agreement.

(c) By Codexis From IE.

(i) In the event that IE, or its Affiliates or sublicensees, uses IE Jointly Invented Research Technology, but does not use any Codexis Introduced Program Technology or any Codexis Research Technology, in the Fuels Field, IE shall pay to Codexis any and all payments due to Codexis pursuant to Schedule 5.1(c).

(ii) In the event that the Codexis-Shell US License Agreement terminates, and Codexis grants to IE a non-exclusive license under Codexis Introduced Program Technology and Codexis Research Technology, as further described in Section 10.6(a), and IE, or its Affiliates or sublicensees, uses such Codexis Introduced Program Technology, and/or such Codexis Research Technology, in the Fuels Field, IE shall pay to Codexis any and all payments due to Codexis pursuant to Schedule 5.1(c).

(iii) Notwithstanding anything in this Agreement to the contrary, apart from royalties owed under Codexis Third Party Agreements, no more than one royalty payment shall be due Codexis, either directly under this Agreement, or indirectly through the Codexis-Shell US License Agreement, the IE-Shell Canada **[*]** Agreement, this Agreement and the license grant set forth in Section 10.6(a) of this Agreement, based on the sale or transfer, by IE, its Affiliates and sublicensees, of any product under any Technology licensed directly or indirectly under the Codexis-Shell US

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License Agreement, the IE-Shell Canada **[*]** Agreement, this Agreement and the license grant set forth in Section 10.6(a) of this Agreement

5.2 Payments Due Under Third Party Agreements In the event that any Third Party is due any payment under any Third Party Agreement as a result of the exercise of rights granted to a Party under the terms and conditions of this Agreement, such Party shall be responsible for any and all such payments in accordance with the terms and conditions of such applicable Third Party Agreement.

5.3 Mode of Payment. All payments made pursuant to Schedule 5.1(c) and/or for use of any Technology licensed to Codexis under the Codexis-**[*]** Agreement are due within thirty (30) days after the end of each calendar quarter. Such payments shall be made by direct wire transfer of United States Dollars in immediately available funds in the requisite amount to such bank account as the other Party may from time to time designate by written notice. Payments will be free and clear of any taxes (and net of any withholding and other taxes imposed on the payee), fees or charges, to the extent applicable. IE's payment obligations under the Codexis-**[*]** Agreement shall be limited to those payment obligations disclosed to IE in the redacted Codexis-**[*]** Agreement.

5.4 Reporting and Audit Requirements. IE shall comply with the reporting requirements and audit rights imposed upon Codexis in the Codex-**[*]** Agreement with respect to **[*]** and **[*]**, and upon Shell in the Codexis-Shell US License Agreement, as applicable. Upon notice, IE and Codexis each shall comply with the reporting requirements and audit rights imposed in other Third Party Agreements as may be applicable.

ARTICLE 6

PATENT PROSECUTION AND MAINTENANCE

6.1 Notification; Coordination of Patent Filings. In addition to the responsibilities set forth in Section 2.2(a)(x), the Patent Committee will have responsibility for reviewing inventorship for inventions within the Research Technology, as determined under U.S. patent law, in accordance with the terms of this Article 6. Prior to or upon filing any patent application with respect to any invention within the Research Technology, each Party shall provide written notice to each of the other Parties. Such notice shall include, without limitation, a description of the invention in detail reasonably adequate to characterize such invention and the inventors of such invention. In addition, within thirty (30) days after the end of each calendar quarter, each Party shall provide the other Parties with a report detailing patent applications filed and patent applications that it plans to file in the upcoming calendar quarter, in each case with respect to any Research Technology, in order to permit the Patent Committee to coordinate the filing of patent applications and other related intellectual property matters regarding any invention made during the Research Term in order to maximize the benefit to the Parties.

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6.2 Filing, Prosecution and Maintenance of Codexis Research Technology.

(a) With respect to any Codexis Research Technology, Codexis shall have the right, but not an obligation, to:

(i) prepare, file and prosecute patent applications covering such Technology;

(ii) respond to oppositions, nullity actions, re-examinations, revocation actions and similar proceedings filed against Patent Rights for such Technology; and

(iii) maintain in force any such Patent Rights, including by filing all necessary papers and paying any required fees.

(b) Without prejudice to the rights of IE or Shell under law, it is understood and agreed that Codexis shall have the right, but not the obligation, to initiate and prosecute oppositions, nullity actions, re-examinations, revocation actions and similar proceedings against Patent Rights owned by Third Parties that may limit the ability of the Parties to exploit any Codexis Research Technology.

6.3 Filing, Prosecution and Maintenance of IE Research Technology.

(a) With respect to any IE Research Technology, IE shall have the right, but not an obligation, to:

(i) prepare, file and prosecute patent applications covering such Technology;

(ii) respond to oppositions, nullity actions, re-examinations, revocation actions and similar proceedings filed against Patent Rights for such Technology; and

(iii) maintain in force any such Patent Rights, including by filing all necessary papers and paying any required fees.

(b) Without prejudice to the rights of Codexis or Shell under law, it is understood and agreed that IE shall have the right, but not the obligation, to initiate and prosecute oppositions, nullity actions, re-examinations, revocation actions and similar proceedings against Patent Rights owned by Third Parties that may limit the ability of the Parties to exploit any IE Research Technology.

6.4 Filing, Prosecution and Maintenance of Jointly Owned Research Technology.

(a) With respect to any Jointly Owned Research Technology, IE and Codexis shall, upon the request of either, determine, after consideration of recommendations of the Patent Committee and the Oversight Committee, whether Codexis or IE shall undertake the matters described in this Section 6.4 and, thereafter, such designated Party shall discuss with the other Party and, after such discussion, consider the comments and suggestions of such other Party and undertake the following matters:

(i) prepare, file and prosecute patent applications covering such Jointly Owned Research Technology;

(ii) respond to oppositions, nullity actions, re-examinations, revocation actions and similar proceedings filed against Patent Rights for such Jointly Owned Research Technology; and

(iii) maintain in force any such Patent Rights, including by filing all necessary papers and paying any required fees.

(b) The Party designated by the Parties to undertake work under this Section 6.4 shall use reasonable commercial efforts to conduct the prosecution and, after issuance, to maintain Patent Rights for such Jointly Owned Research Technology, in a reasonable and diligent manner.

(c) Without prejudice to the rights of IE or Codexis under law, it is understood and agreed that Codexis, IE or Shell shall individually have the right, but not the obligation, to initiate and prosecute oppositions, nullity actions, re-examinations, revocation actions and similar proceedings against Patent Rights owned by Third Parties that may limit the ability of the Parties to exploit any Jointly Owned Research Technology. In the event that any Party elects to exercise its rights under this Section 6.4(c), such Party shall provide written notice to the other Parties and shall keep the other Parties advised of the status of the matter not less than semi-annually or as otherwise mutually agreed.

(d) Without prejudice to the rights of IE or Codexis under law, it is understood and agreed that in the event that the Party designated by Codexis and IE to undertake the matters described in this Section 6.4, as set forth in Section 6.4(a), decides not to further prosecute or maintain any Patent Right covering Jointly Owned Research Technology, such designated Party will first notify the other Party and give such other Party the option of prosecuting and maintaining such Patent Right covering Jointly Owned Research Technology. In such a case, the initially designated Party shall make reasonable commercial efforts to provide such notice not less than sixty (60) days in advance of any pending administrative date and the other Party shall exercise such option within thirty (30) days after receipt of notice.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

6.5 Assistance.

(a) Each of Codexis and Shell shall cooperate fully with, and take all necessary actions reasonably requested by IE in connection with the preparation, prosecution and maintenance of any Patent Right within the IE Research Technology.

(b) Each of IE and Shell shall cooperate fully with, and take all necessary actions reasonably requested by Codexis in connection with the preparation, prosecution and maintenance of any Patent Right within the Codexis Research Technology.

(c) Each of IE, Codexis and Shell shall cooperate fully with, and take all necessary actions reasonably requested by Codexis or IE, as the case may be, in connection with the preparation, prosecution and maintenance of any Patent Right within the scope of Section 6.4.

6.6 Reimbursement of Costs for Filing, Prosecuting and Maintaining Patent Rights.

(a) As between Codexis and IE, Codexis shall pay any and all costs and expenses in connection with the preparation, filing, prosecution and maintenance of Patent Rights within the Codexis Research Technology.

(b) As between Codexis and IE, IE shall pay any and all costs and expenses in connection with the preparation, filing, prosecution and maintenance of Patent Rights within the IE Research Technology.

(c) As between Codexis and IE, Codexis and IE shall jointly and equally pay any and all reasonable costs and expenses in connection with the preparation, filing, prosecution and maintenance of Patent Rights within the Jointly Owned Research Technology.

6.7 Enforcement of Licensed Patents.

(a) In the event that Codexis reasonably believes that any Patent Right within the IE Research Technology is being infringed by a Third Party, Codexis shall promptly notify IE and provide IE with evidence thereof. As between the Parties, IE shall have the sole right to enforce the Patent Rights within the IE Research Technology with respect to such infringement, or to defend any declaratory judgment action with respect thereto, at IE's cost and expense.

(b) In the event that IE reasonably believes that any Patent Right within the Codexis Research Technology is being infringed by a Third Party, IE shall promptly notify Codexis and provide Codexis with evidence thereof. As between the Parties, Codexis shall have the sole right to enforce the Patent Rights within the Codexis Research Technology with respect to such infringement, or to defend any declaratory judgment action with respect thereto, at Codexis' cost and expense.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

(c) In the event that IE or Codexis reasonably believes that any Patent Right within the Jointly Owned Research Technology is being infringed by a Third Party, then the knowledgeable Party shall promptly notify the other and provide evidence thereof. The Parties shall discuss and mutually agree upon any actions to be taken to remedy such infringement, or to defend any declaratory judgment action with respect thereto.

6.8 Cooperation. Each Party agrees to cooperate with the other Parties as reasonably requested by such other Parties, at such other Parties' expense, in connection with the activities undertaken pursuant to this Article 6.

6.9 Coordination with Shell Agreements. The Parties acknowledge and agree that nothing in this Article 6 is intended to modify any of the rights and obligations of any Party under any of the Shell Agreements.

ARTICLE 7

CONFIDENTIALITY

7.1 Confidentiality Obligations. The Parties agree that, during the Term and for ten (10) years thereafter, all Confidential Information disclosed by one Party to the other Party(ies) hereunder shall be received and maintained by the receiving Party and its Affiliates in strict confidence, shall not be used for any purpose other than the purposes expressly permitted by this Agreement, and shall not be disclosed to any Third Party. The obligations of confidentiality and non-use set forth in the first sentence of this Section 7.1 will not apply to any information to the extent that it can be established by the receiving Party that such information:

(a) was already known to the receiving Party or its Affiliates at the time of disclosure without restriction as to confidentiality or use, as evidenced by records of the receiving Party and its Affiliates;

(b) was generally available to the public or was otherwise part of the public domain at the time of its disclosure to the receiving Party or its Affiliates;

(c) became generally available to the public or otherwise becomes part of the public domain after its disclosure and other than through any fault of the receiving Party or its Affiliates in breach of this Agreement;

(d) was subsequently lawfully disclosed to the receiving Party or its Affiliates by a Third Party without restriction as to confidentiality or use, and other than in contravention of a confidentiality obligation of such Third Party, whether based on contract or a fiduciary or other similar obligation, to the disclosing Party or its Affiliates; or

(e) is independently developed by employees, consultants and/or independent contractors of the receiving Party or its Affiliates without reliance upon or

access to Confidential Information of the disclosing Party or its Affiliates, as evidenced by records of the receiving Party and its Affiliates.

Each Party represents and warrants that it has or will obtain written agreements from each of its employees, consultants and independent contractors who perform work on the Program or otherwise have a need to know the other Party's Confidential Information, which agreements will obligate such persons to obligations of confidentiality and non-use no less restrictive than those assumed by the Parties herein, and to assign to such Party all inventions made by such persons during the course of performing any tasks associated with the Program. Further, each Party represents and warrants that those of its employees which perform work on the Program or otherwise have a need to know the other Party's Confidential Information are bound by obligations of confidentiality and non-use to the employer Party. Each Party may disclose Confidential Information of the other Party(ies) to such Party's Affiliates, provided that any such Affiliate agrees prior to such disclosure to be bound by obligations of confidentiality and non-use no less restrictive than those assumed by such disclosing Party herein.

Notwithstanding the foregoing, a Party may disclose the terms of this Agreement and information relating to the Program in confidence solely on a need-to-know basis to potential or actual collaborators, partners, or licensees (including without limitation potential sublicensees), who prior to disclosure must agree to be bound by obligations of confidentiality and non-use no less restrictive than the obligations set forth in this Article 7; and/or in confidence to potential or actual investment bankers, advisors (including without limitation financial advisors and accountants), investors, lenders, acquirers, merger partners, or other potential financial or strategic partners, and their attorneys and agents, on a need to know basis; provided, however, that the receiving Party shall remain responsible for any failure by any Third Party who receives Confidential Information pursuant to this Section 7.1 to treat such Confidential Information as required under this Article 7.

Notwithstanding this Article 7, the receiving Party may disclose any Confidential Information of the disclosing Party that the receiving Party is required to disclose under applicable laws or regulations or an order by a court or other regulatory body having competent jurisdiction; provided, however, that except where impracticable, the receiving Party shall give the disclosing Party reasonable advance notice of such disclosure requirement (which shall include a copy of any applicable subpoena or order) and shall afford the disclosing Party a reasonable opportunity to oppose, limit or secure confidential treatment for such required disclosure. In the event of any such required disclosure, the receiving Party shall disclose only that portion of the Confidential Information of the disclosing Party that the receiving Party is legally required to disclose and, in the event a protective order is obtained by the disclosing Party, nothing in this Article 7 shall be construed to authorize the receiving Party to use or disclose any disclosing Party Confidential Information to parties other than such court or regulatory body or beyond the scope of the protective order.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

7.2 Harmonization with Licenses. The obligations of confidentiality and non-use set forth in this Article 7 shall not be construed as limiting the right of any Party to exercise any license granted it under this Agreement or the Shell Agreements.

7.3 Publicity. Except to the extent required by law or regulation, no Party shall make any public announcements concerning this Agreement or the terms hereof without the prior written consent of the other Parties, and the Parties shall agree on the content and timing of any such public announcement. This Agreement does not give any Party the right to use the trademarks of any other Party.

ARTICLE 8

REPRESENTATIONS AND WARRANTIES

8.1 Representations by Codexis. Codexis represents and warrants that, as of the Effective Date: (a) it is duly organized and validly existing under the laws of the jurisdiction of its incorporation and has full corporate power and authority to enter into this Agreement; (b) it is in good standing with all relevant governmental authorities; (c) it has taken all corporate actions necessary to authorize the execution and delivery of this Agreement and the performance of its obligations under this Agreement; (d) the performance of its obligations under this Agreement, including without limitation, the grant of any rights under the terms of this Agreement, does not conflict with, and will not constitute a default under, any of its charter documents, any agreement, commitment or arrangement with any Third Party, or any court order; and (e) it has provided redacted versions of each of the Codexis Third Party Agreements, and none of the information redacted from any of the Codexis Third Party Agreements is necessary for IE or Shell to comply with obligations under the terms and conditions of (i) this Agreement or (ii) the sublicense requirements under any Codexis Third Party Agreement for which Codexis may grant rights to IE or Shell under this Agreement. In addition, Codexis represents, warrants and covenants that (A) it will provide a redacted version of each of Codexis Third Party Agreements added to Schedule 1.69 after the Effective Date, and none of the information redacted from any of such Codexis Third Party Agreements will be necessary for IE or Shell to comply with obligations under the terms and conditions of (1) this Agreement or (2) the sublicense requirements under any such Codexis Third Party Agreement for which Codexis may grant rights to IE or Shell under this Agreement; (B) as of the date that Codexis discloses any Codexis Introduced Program Technology or Codexis Background Technology for use in the Program, it has the right to make the grants set forth in this Agreement with respect to such Technology; and (C) as of the date that Codexis discloses any Codexis Introduced Program Technology or Codexis Background Technology for use in the Program, it is not aware of, and has not been served with, any suit or action pending in any court against Codexis, alleging patent infringement based on the use of such Codexis Introduced Program Technology or Codexis Background Technology, as the case may be, by Codexis or any Affiliate or licensee of Codexis, and Codexis has not received any communications or notice alleging any such patent infringement.

8.2 Representations by IE. IE represents and warrants that, as of the Effective Date: (a) it is duly organized and validly existing under the laws of the jurisdiction of its incorporation and has full corporate power and authority to enter into this Agreement; (b) it is in good standing with all relevant governmental authorities; (c) it has taken all corporate actions necessary to authorize the execution and delivery of this Agreement and the performance of its obligations under this Agreement; (d) the performance of its obligations under this Agreement, including without limitation, the grant of any rights under the terms of this Agreement, does not conflict with, and will not constitute a default under, any of its charter documents, any agreement, commitment or arrangement with any Third Party, or any court order; (e) it has provided redacted versions of each of the IE Third Party Agreements, and none of the information redacted from any of the IE Third Party Agreements is necessary for Codexis or Shell to comply with obligations under the terms and conditions of (i) this Agreement or (ii) the sublicense requirements under any IE Third Party Agreement for which IE may grant rights to Codexis or Shell under this Agreement. In addition, IE represents, warrants and covenants that (A) each employee of Iogen Bio-Products Corporation is under an obligation to (1) assign to Iogen Bio-Products Corporation, or to IE, the entire right, title and interest in, to and under any and all intellectual property generated pursuant to the terms of this Agreement, and (2) maintain, not use and not disclose Confidential Information of Codexis and/or Shell in accordance with terms and conditions no less restrictive than as set forth in Article 7; (B) Iogen Bio-Products Corporation is under an obligation to assign to IE its entire right, title and interest in, to and under any and all intellectual property generated pursuant to the terms of this Agreement, (C) it will provide a redacted version of each of IE Third Party Agreements added to Schedule 1.69 after the Effective Date, and none of the information redacted from any of such IE Third Party Agreements will be necessary for Codexis or Shell to comply with obligations under the terms and conditions of (1) this Agreement or (2) the sublicense requirements under any such IE Third Party Agreement for which IE may grant rights to Codexis or Shell under this Agreement; (D) as of the date that IE discloses any IE Introduced Program Technology or IE Background Technology for use in the Program, it has the right to make the grants set forth in this Agreement with respect to such Technology; and (E) as of the date that IE discloses any IE Introduced Program Technology or IE Background Technology for use in the Program, it is not aware of, and has not been served with, any suit or action pending in any court against IE, alleging patent infringement based on the use of such IE Introduced Program Technology or IE Background Technology, as the case may be, by IE or any Affiliate or licensee of IE, and IE has not received any communications or notice alleging any such patent infringement.

8.3 Representations by Shell. Shell represents and warrants that, as of the Effective Date: (a) it is duly organized and validly existing under the laws of the jurisdiction of its incorporation and has full corporate power and authority to enter into this Agreement; (b) it is in good standing with all relevant governmental authorities; (c) it has taken all corporate actions necessary to authorize the execution and delivery of this Agreement and the performance of its obligations under this Agreement; (d) the performance of its obligations under this Agreement, including without limitation, the

grant of any rights under the terms of this Agreement, does not conflict with, and will not constitute a default under, any of its charter documents, any agreement, commitment or arrangement with any Third Party, or any court order; and (e) it has provided complete, but redacted, versions of each of the Shell Third Party Agreements, and none of the information redacted from any of the Shell Third Party Agreements is necessary for Codexis or IE to comply with obligations under the terms and conditions of (i) this Agreement or (ii) the sublicense requirements under any Shell Third Party Agreement for which Shell may grant rights to Codexis or IE under this Agreement. In addition, Shell represents, warrants and covenants that it will provide a complete, but redacted, version of each of Shell Third Party Agreements added to Schedule 1.69 after the Effective Date, and none of the information redacted from any of such Shell Third Party Agreements will be necessary for Codexis or IE to comply with obligations under the terms and conditions of (A) this Agreement or (B) the sublicense requirements under any such Shell Third Party Agreement for which Shell may grant rights to Codexis or IE under this Agreement.

8.4 Disclaimer of Warranties. EXCEPT AS SPECIFICALLY SET FORTH IN SECTION 8.1, 8.2 AND 8.3, NONE OF THE PARTIES MAKES ANY REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR USE, NON-INFRINGEMENT, AND ANY OTHER STATUTORY WARRANTY.

ARTICLE 9

INDEMNIFICATION

9.1 Employees and Property. Each Party (each, the "**Indemnitor**") shall indemnify, defend and hold the other Parties and their Affiliates and their respective agents, employees, consultants, officers and directors (the "**Indemnitees**") harmless from and against any and all liability, damage, loss, cost or expense (including without limitation reasonable attorneys' fees) (collectively "**Losses**"), arising from any claims or suits arising from (a) bodily injuries, including without limitation fatal injury or disease, to the Indemnitor's employees, and (b) damage to tangible, real or personal property of Indemnitor and/or Indemnitor's employees arising from or in connection with the performance of this Agreement; except, in any such case, for Losses to the extent, and only to the extent, reasonably attributable to the applicable Indemnitee having committed an act or acts of gross negligence, recklessness or willful misconduct.

9.2 Third Parties.

(a) Indemnification by Codexis. Codexis shall indemnify, defend and hold the IE Indemnitees and the Shell Indemnitees harmless from and against any and all Losses arising out of any Third Party claims or suits arising from:

(i) breach by Codexis of any of its representations, warranties or covenants under this Agreement; or

(ii) Codexis' failure to perform its obligations under this Agreement; or

(iii) any action or non-action by any IE Indemnitees alleged to be inconsistent with any Third Party Agreement listed under the "Codexis" heading on Schedule 1.69, where such action or non-action is not inconsistent with the terms of this Agreement; or

(iv) the negligence or willful misconduct of Codexis or its Affiliates, and its or their directors, officers, agents, employees, sublicensees or consultants.

None of the foregoing indemnification obligations of Codexis shall apply to any Loss to the extent, and only to the extent, such Loss is reasonably attributable to a breach by IE, or by Shell, as applicable, of its representations, warranties or covenants set forth in this Agreement or the IE Indemnitees, or the Shell Indemnitees, as applicable, having committed an act or acts of gross negligence, recklessness or willful misconduct.

(b) Indemnification by IE. IE shall indemnify, defend and hold the Codexis Indemnitees and the Shell Indemnitees harmless from and against any and all Losses arising out of any Third Party claims or suits arising from:

(i) breach by IE of any of its representations, warranties or covenants under this Agreement; or

(ii) IE's failure to perform its obligations under this Agreement; or

(iii) any action or non-action by any Codexis Indemnitees alleged to be inconsistent with any Third Party Agreement listed under the "IE" heading on Schedule 1.69, where such action or non-action is not inconsistent with the terms of this Agreement; or

(iv) the negligence or willful misconduct of IE or its Affiliates, and its or their directors, officers, agents, employees, sublicensees or consultants.

None of the foregoing indemnification obligations of IE shall apply to any Loss to the extent, and only to the extent, such Loss is reasonably attributable to a breach by Codexis, or by Shell, as applicable, of its representations, warranties or covenants set forth in this Agreement or the Codexis Indemnitees, or the Shell Indemnitees, as applicable, having committed an act or acts of gross negligence, recklessness or willful misconduct.

(c) Indemnification by Shell. Shell shall indemnify, defend and hold the Codexis Indemnitees and the IE Indemnitees harmless from and against any and all Losses arising out of any Third Party claims or suits arising from:

(i) breach by Shell of any of its representations, warranties or covenants under this Agreement; or

(ii) Shell's failure to perform its obligations under this Agreement; or

(iii) the negligence or willful misconduct of Shell or its Affiliates, and its or their directors, officers, agents, employees, sublicensees or consultants.

None of the foregoing indemnification obligations of Shell shall apply to any Loss to the extent, and only to the extent, such Loss is reasonably attributable to a breach by Codexis, or by IE, as applicable, of its representations, warranties or covenants set forth in this Agreement or the Codexis Indemnitees, or the IE Indemnitees, as applicable, having committed an act or acts of gross negligence, recklessness or willful misconduct.

9.3 IE-Shell Intellectual Property Indemnifications.

(a) IE Indemnification of Shell. In addition to the foregoing indemnities, IE shall indemnify, defend and hold the Shell Indemnitees harmless from and against any and all Losses arising out of any Third Party claims or suits arising, during the Term, from infringement of intellectual property rights owned or otherwise controlled by such Third Party by the practice of the IE Introduced Program Technology or the IE Solely Invented Research Technology in the Fuels Field pursuant to the terms of this Agreement; provided that IE's indemnification obligations pursuant to this Section 9.3(a) shall not extend to:

(i) any intellectual property provided to IE or any Affiliate of IE by or on behalf of Codexis or any Affiliate of Codexis, or to improvements made by IE or any Affiliate of IE to such intellectual property; or

(ii) any intellectual property provided to IE or any Affiliate of IE by or on behalf of Shell or any Affiliate of Shell, or to improvements made by IE or any Affiliate of IE to such intellectual property; or

(iii) any infringement arising specifically from the combination by Shell, Codexis and/or any Indemnitees of either or both, of any item of IE Introduced Program Technology or IE Solely Invented Research Technology, with any other Technology, including without limitation other item or items of IE Introduced Program Technology, other IE Solely Invented Research Technology and/or publicly-known Technology;

provided, further, that IE's indemnification obligations pursuant to this Section 9.3(a) shall be limited for any particular Loss to **[*]** where, for purposes of clarity, such **[*]** shall not include attorneys' fees; provided, further, that IE's indemnification obligations pursuant to this Section 9.3(a) shall be limited for all Losses to **[*]** where, for purposes of clarity, such **[*]** shall not include attorneys' fees. IE and Shell shall cooperate, including by making such disclosures as are mutually considered appropriate, with respect to the intellectual property rights of Third Parties relative to the indemnification set forth in this Section 9.3(a).

None of the foregoing indemnification obligations of IE shall apply to any Loss to the extent, and only to the extent, such Loss is reasonably attributable to a breach by Shell of its representations, warranties or covenants set forth in this Agreement, or the Shell Indemnitees having committed an act or acts of gross negligence, recklessness or willful misconduct.

(b) Shell Indemnification of IE. In addition to the foregoing indemnities, Shell shall indemnify, defend and hold the IE Indemnitees harmless from and against any and all Losses arising out of any Third Party claims or suits arising, during the Term, from infringement of intellectual property rights owned or otherwise controlled by such Third Party by the practice of any Shell Biofuel Technology that Shell directs IE to introduce into the Program in accordance with the last sentence of Section 2.3(b)(i) or the Shell Research Technology, in the Fuels Field, pursuant to the terms of this Agreement; provided that Shell's indemnification obligations pursuant to this Section 9.3(b) shall not extend to:

(i) any intellectual property provided to Shell or any Affiliate of Shell by or on behalf of Codexis or any Affiliate of Codexis, or to improvements made by Shell or any Affiliate of IE to such intellectual property; or

(ii) any intellectual property provided to Shell or any Affiliate of Shell by or on behalf of IE or any Affiliate of IE, or to improvements made by Shell or any Affiliate of Shell to such intellectual property; or

(iii) any infringement arising specifically from the combination by Shell or any Indemnitees of Shell, of any item of any Shell Biofuel Technology that Shell directs IE to introduce into the Program in accordance with the last sentence of Section 2.3(b)(i) or the Shell Research Technology, with any other Technology, including without limitation other item or items of Shell Biofuel Technology that Shell directs IE to introduce into the Program in accordance with the last sentence of Section 2.3(b)(i) or the Shell Research Technology and/or publicly-known Technology;

provided, further, that Shell's indemnification obligations pursuant to this Section 9.3(b) shall be limited for any particular Loss to **[*]** where, for purposes of clarity, such **[*]** shall not include attorneys' fees; provided, further, that Shell's indemnification obligations pursuant to this Section 9.3(b) shall be limited for all Losses to **[*]** where, for purposes of clarity, such **[*]** shall not include attorneys' fees. Shell and IE shall cooperate, including

by making such disclosures as are mutually considered appropriate, with respect to the intellectual property rights of Third Parties relative to the indemnification set forth in this Section 9.3(b).

None of the foregoing indemnification obligations of Shell shall apply to any Loss to the extent, and only to the extent, such Loss is reasonably attributable to a breach by IE of its representations, warranties or covenants set forth in this Agreement, or the IE Indemnitees having committed an act or acts of gross negligence, recklessness or willful misconduct.

9.4 Environmental. Notwithstanding any other indemnification obligation in this Agreement, and in addition to any rights that Codexis, IE or Shell may have under relevant federal, state, or local statutory and common laws, Codexis shall fully indemnify, defend and hold IE and its Affiliates and Shell and its Affiliates, IE shall fully indemnify, defend and hold Codexis and its Affiliates and Shell and its Affiliates, and Shell shall fully indemnify, defend and hold Codexis and its Affiliates and IE and its Affiliates, harmless from and against any and all Losses incurred as a result of Environmental Matters relating to the activities under this Agreement; provided, however, that this indemnification shall not apply to the extent any such Losses result from the acts or omissions of personnel of the indemnified Party or its Affiliates which occur at any site of the indemnified Party or the site of any supplier of the indemnified Party. For purposes of this Section 9.4, "**Environment Matters**" shall mean:

(a) the operation by the indemnifying Party, its Affiliates, sublicensees or subcontractors of any site or facility in a manner that is not in compliance with and in violation of any Environmental Law;

(b) any release of Hazardous Materials into the environment by the indemnifying Party, its Affiliates, sublicensees or subcontractors; or any Hazardous Materials that have been Disposed of at a site of the indemnifying Party or any site of any supplier (other than a Party as supplier) of the indemnifying Party or other site or facility operated by the indemnifying Party, its Affiliates or its subcontractors, as the term Disposed is defined in applicable Environmental Laws;

(c) any failure to obtain or maintain all permits and provide all notices required by Environmental Laws for the lawful operation of any site of the indemnifying Party or any site of any supplier of the indemnifying Party or other facilities or sites operated by the indemnifying Party, its Affiliates, sublicensees or subcontractors; and

(d) any other actual or alleged act or omission relating to the handling or disposal of Hazardous Materials at any site of the indemnifying Party or any site of any supplier (other than a Party as supplier) of the indemnifying Party or the handling or disposal of Hazardous Materials by the indemnifying Party, its Affiliates, sublicensees or subcontractors at any other facility or site.

For purposes of this Section 9.4, "**Environmental Law**" shall mean any treaty, law, ordinance, regulation or order of any jurisdiction, relating to environmental matters, including without limitation, but not limited to, matters governing air pollution; water pollution; the use, handling, reporting, release, storage, transport, or disposal of Hazardous Materials as defined herein above; exposure to or discharge of Hazardous Materials; occupational safety and health; and public health.

For purposes of this Section 9.4, "**Hazardous Materials**" includes, but is not limited to, air contaminant, water pollutant, hazardous material, hazardous waste, hazardous substance, toxic and hazardous substance, medical waste, infectious waste, "chemicals known to the State of California to cause cancer or reproductive toxicity", asbestos and PCB's, as such substances are defined under any applicable federal, state or local statute, regulation, rule or ordinance.

Notwithstanding anything in this Section 9.4 to the contrary, the indemnification obligation of IE to Shell and its Affiliates shall not apply to any site or facility operated by IE, or its Affiliates, licensees or subcontractors, on behalf of Shell and its Affiliates, including without limitation the **[*]** facility proposed for **[*]** and the facility **[*]** facility; indemnities as to such facilities will be addressed in other agreements.

9.5 Notification of Claim; Conditions to Indemnification Obligations. The provisions below shall govern a Party's right to receive indemnification under this Article 9.

(a) The Party seeking indemnification shall promptly provide written notice (each such written notice, a "**Claim Notice**") to the Indemnitor as soon as such Party becomes aware of a claim or suit for which indemnification may be sought pursuant hereto (provided that the failure to give a Claim Notice promptly shall not prejudice the rights of the Indemnitees except to the extent that the failure to give such prompt notice materially adversely affects the ability of the Indemnitor to defend the claim or suit).

(b) If the Indemnitor confirms in writing to the indemnified Party its intention to defend such claim or suit within fifteen (15) business days after receipt of the Claim Notice, such Party, and such Party's Indemnitees, shall permit the Indemnitor to control the defense of such claim or suit, including without limitation the right to select defense counsel; provided that any assumption of the defense of a Third Party claim or suit by the Indemnitor shall not be construed as an acknowledgment that the Indemnitor is liable to indemnify the Party seeking indemnification or any of its Indemnitees in respect of the Third Party claim or suit, nor shall it constitute a waiver by the Indemnitor of any defenses it may assert against the Party seeking indemnification, or any Indemnitee's claim for indemnification. Upon receipt by the indemnified Party of its intention to defend, the Indemnitor shall not be liable to the indemnified Party or to any of its Indemnitees for any legal expenses subsequently incurred by such indemnified Party or any of its Indemnitees in connection with the analysis, defense or settlement of the Third Party claim or suit, except subsequent to termination of its right to defend as provided in Section 9.5(c)(ii), or with the prior written consent of the Indemnitor. In no

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event, however, may the Indemnitor compromise or settle any claim or suit in a manner which admits fault or negligence on the part of any Indemnitee, or that otherwise materially affects such Indemnitee's rights under this Agreement, or requires any payment by an Indemnitee, without the prior written consent of such Indemnitee.

(c) If the Indemnitor fails to (i) provide to the indemnified Party its confirmation in writing of its intention to defend such claim or suit within the fifteen (15) business day period set forth in Section 9.5(b); or (ii) diligently and reasonably defend such suit or claim at any time, its right to defend the claim or suit shall terminate immediately in the case of (i) and otherwise upon twenty (20) days' written notice to the Indemnitor and the indemnified Party may (A) assume the defense of such claim or suit at the sole expense of the Indemnitor and (B) settle or compromise such claim or suit without the consent of the Indemnitor.

(d) The indemnified Party, and such Party's Indemnitees, shall reasonably cooperate with the Indemnitor, at the Indemnitor's cost and expense, in the defense of such claim or suit, and shall furnish such records, information and testimony, provide such witnesses and attend such conferences, discovery proceedings, hearings, trials and appeals as may be reasonably requested in connection therewith. Such cooperation shall include access during normal business hours by the indemnifying Party to, and reasonable retention by the indemnified Party of, records and information that are reasonably relevant to such Third Party claim or suit and, as reasonably requested by the indemnifying Party, making the indemnified Party and its employees and agents available on a mutually convenient basis to provide additional information and explanation of any records or information provided.

(e) An indemnified Party, acting on behalf of itself and all other Indemnitees, shall have the right, but not the duty, at its sole cost and expense, to participate in, but not control, the defense of any claim or suit hereunder with attorneys of its own selection without relieving the Indemnitor of any of its obligations hereunder.

(f) In the event that it is determined by an arbitrator pursuant to an arbitration conducted in accordance with Schedule 11.9, that the Indemnitor is not obligated to indemnify, defend or hold harmless the indemnified Party or any of its Indemnitees from and against the Third Party claim or suit, the indemnified Party shall reimburse the Indemnitor for any and all costs and expenses (including lawyers' fees and costs) incurred by the Indemnitor in its defense of the Third Party claim or suit with respect to such indemnified Party. Notwithstanding the foregoing, each of the Parties agrees not to bring any such arbitration proceeding until there has been either (i) a final, non-appealable decision reached by a court with valid jurisdiction or (ii) a binding settlement, in each case, with respect to Losses arising out of any such Third Party claims or suits.

9.6 Other Indemnification Obligations. Notwithstanding anything to the contrary, the provisions of this Article 9 are not intended, and shall not be deemed, to modify the terms and conditions regarding the indemnification obligations, if any, of any

Party set forth in the Shell Agreements; provided, however, that notwithstanding anything to the contrary in this Agreement, the Codexis-Shell US Research Agreement or the Codexis-Shell US License Agreement, for purposes of Section 10.2(b)(iv) of the Codexis-Shell US Research Agreement and Section 8.1(c) and Section 8.2(e) of the Codexis-Shell US License Agreement, IE will always be deemed to be an Affiliate (as such term is defined in the Codexis-Shell US Research Agreement and the Codexis-Shell US License Agreement, as applicable) of Shell (as such term is defined in the Codexis-Shell US Research Agreement and the Codexis-Shell US License Agreement, as applicable); provided further that, notwithstanding anything to the contrary in this Agreement, the Codexis-Shell US Research Agreement or the Codexis-Shell US License Agreement, Codexis Jointly Invented Research Technology and IE Jointly Invented Research Technology shall not be deemed to be Program Patent Rights or Program Licensed Technology for purposes of Section 8.1(c) of the Codexis-Shell US License Agreement; provided further that, notwithstanding anything to the contrary in this Agreement, the Codexis-Shell US Research Agreement or the Codexis-Shell US License Agreement, Codexis Jointly Invented Research Technology and IE Jointly Invented Research Technology shall not be deemed to be intellectual property for purposes of Section 8.2(e) of the Codexis-Shell US License Agreement.

ARTICLE 10

TERM AND TERMINATION

10.1 Term.

(a) The research term of this Agreement (the "**Research Term**") will commence on the Effective Date and, unless earlier terminated in accordance with Section 10.2, shall continue in effect until the earlier of the expiration or termination of (a) this Agreement, (b) the Codexis-Shell US Research Agreement or (c) the IE-Shell Canada **[*]** Agreement, or successor or replacement thereof.

(b) The term of this Agreement (the "**Term**") will commence on the Effective Date and, unless earlier terminated in accordance with Section 10.4, shall continue in effect until the earlier of the expiration or termination of (a) the Codexis-Shell US License Agreement or (b) the IE-Shell Canada **[*]** Agreement, or successor or replacement thereof.

10.2 Termination of Research Term At Will. Shell, in its sole discretion, may terminate the Research Term at any time upon thirty (30) days prior written notice to Codexis and IE.

10.3 Termination due to Challenge of Patent. In the event that IE challenges in any country the validity of any issued patent that is within the Patent Rights licensed to Codexis under the Codexis-**[*]** Agreement, the licenses granted by Shell to IE under the IE-Shell Canada **[*]** Agreement or the IE-Shell Canada **[*]** Agreement with respect to use of any technology originating from or derived from any **[*]** and/or any **[*]**, may at

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

Codexis' option, be terminated as to the country of such issued patent, such termination to be effective upon written notice by Codexis to IE and Shell.

10.4 Termination Upon Material Breach. Material failure by a Party to comply with any of its obligations contained herein shall entitle a Party not in default and injured by such material failure to give to a Party in default written notice (a "**Default Notice**") specifying the nature of the default in reasonable detail, requiring such defaulting Party to make good or otherwise cure such default, and stating such non-defaulting Party's intention to terminate this Agreement if such default is not cured. If such default is not cured within sixty (60) days after the date the Default Notice was sent, then such non-defaulting Party shall be entitled, without prejudice to any other rights conferred on it by this Agreement, and in addition to any other remedies available to it by law or in equity, to terminate this Agreement by written notice of termination to the defaulting Party; provided, however, that if the Party receiving such Default Notice (the "**Disputing Party**") has a reasonable basis for disputing that it is in default and such Disputing Party provides written notice thereof to the Party that provided the Default Notice before the expiration of such sixty (60) day cure period, then the Disputing Party shall have the right, prior to the expiration of such sixty (60) day period, to submit such dispute for resolution in accordance with the provisions of Section 11.9; provided further that in the event that as a result of such resolution, the Disputing Party is found to be in default and such default is not cured within forty-five (45) days after the date of such resolution, then the Party that provided the Default Notice shall be entitled, without prejudice to any other rights conferred on it by this Agreement, and in addition to any other remedies available to it by law or in equity, to terminate this Agreement by written notice of termination to the Disputing Party. A copy of any and all written notices given by any Party to any other Party pursuant to this Section 10.4 shall also be given to the third Party to this Agreement.

10.5 Consequences of Expiration or Termination of this Agreement.

(a) Upon termination of this Agreement by a Party pursuant to Section 10.4 (the terminating Party, the "**Non-Breaching Party**"): (i) all licenses and other rights granted by the Party in breach (the "**Breaching Party**") to the Non-Breaching Party shall remain in full force and effect in accordance with their respective terms, subject to the terms and conditions of this Agreement; (ii) all licenses and other rights granted by the Non-Breaching Party to the Breaching Party shall terminate and be of no further force or effect, except as otherwise expressly set forth in this Section 10.5; and (iii) all other licenses and other rights granted by and among the Parties shall remain in full force and effect in accordance with their respective terms, subject to the terms and conditions of this Agreement.

(b) Upon termination of this Agreement pursuant to Section 10.4, sublicenses granted by the Breaching Party to an Affiliate or to a Third Party, as applicable, pursuant to a license granted by the Non-Breaching Party to the Breaching Party under this Agreement will survive, subject to the restrictions contained in this

Agreement, but shall be assigned to the Non-Breaching Party; provided that (i) such Affiliate or Third Party sublicensee is not the cause of the breach under Section 10.4, and (ii) such Affiliate or Third Party sublicensee is not in breach of, and continues to fully perform all obligations under, the applicable sublicense agreement(s).

(c) Upon expiration or termination of this Agreement, unless otherwise agreed to in writing by the applicable Parties, each Party will promptly return all records and materials in its possession or control containing or comprising the other Party's Confidential Information and to which such Party does not expressly retain rights hereunder and that are not required to fulfill its obligations hereunder that continue after such expiration or termination of this Agreement. Notwithstanding anything to the contrary, each Party shall have the right to maintain one (1) copy of such records in its legal department files for archive purposes; provided that such copy is kept pursuant to the surviving confidentiality obligations of this Agreement.

(d) The following articles and sections of this Agreement shall survive its termination or expiration: Articles 1, 3, 4, 5, 6, 7, 9, and 11, and Sections 2.3(d)(ii), 2.7, 8.4 and 10.5. In addition, Section 10.6 shall survive in the event of the (i) expiration of this Agreement, or (ii) termination of this Agreement, other than a termination (A) due to the termination of the IE-Shell Canada **[*]** Agreement where IE, its Affiliates and sublicensees retain no license rights with respect to any Codexis Introduced Program Technology or Codexis Research Technology, or (B) pursuant to Section 10.4 where IE is the Breaching Party. Termination of this Agreement will have no effect on the rights and licenses granted under the Codexis-Shell US License Agreement and the IE-Shell Canada **[*]** Agreement.

(e) Termination of this Agreement for any reason shall be without prejudice to (i) the rights and obligations of the Parties set forth in any article or section of this Agreement which provides, by the terms therein, for performance by any of the other Parties subsequent to termination; (ii) the right of each of the Parties to receive all payments accrued under Article 5 prior to the effective date of termination (subject to Section 10.5(a), as applicable), or (iii) any other remedies which a Party may otherwise have.

10.6 Consequences of Termination of the Codexis-Shell US License Agreement.

(a) Rights of IE.

(i) In the event that the Codexis-Shell US License Agreement terminates for any reason other than as a consequence of any action by IE or its Affiliates, Codexis, effective as of the effective date of such termination, will grant, and hereby grants, to IE a non-exclusive, worldwide, royalty-bearing license under the Codexis Research Technology and Codexis Introduced Program Technology in the Fuels Field, under all terms and conditions set forth in the Codexis-Shell US License Agreement, excluding Sections 2.4 and 7.3, and Articles 3 (except Section 3.5), 4 and 6

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of the Codexis-Shell US License Agreement, *mutatis mutandis*, and consistent with IE's rights and obligations under this Agreement, for use in the manufacture, use, sale, offer for sale, and import of **[*]**, derivatives of **[*]**, and any **[*]** that are subject to a specific **[*]** adopted in the **[*]**, as of the date of such termination, in each case that are derived from Biomass ("**Permitted Products**"). The right to be granted by Codexis to IE under this Section 10.6(a) will include a right to grant sublicense rights; provided that IE shall have no right to grant any sublicense under the rights granted by Codexis to IE under this Section 10.6(a) to Shell or any Affiliate of Shell; provided further that IE shall have no right to utilize, for itself or any of its successors, for any commercial purpose, the rights granted to IE by Codexis under this Section 10.6(a) in the event that Shell **[*]** but, for greater clarity, **[*]** shall have no impact on the rights of IE with respect to the granting of rights to Third Parties under the Codexis Introduced Program Technology and the Codexis Research Technology in the Fuels Field in effect immediately prior to **[*]**; provided, further, that any such sublicense grant of Codexis Research Technology and Codexis Introduced Program Technology (i) is only a portion of a grant of a technology package that includes IE Biofuel Process Technology necessary for the manufacture, use, sale, offer for sale, and import of one or more Permitted Products, and (ii) would terminate, automatically and without a requirement of further action by IE, if the sublicensee independently exercises the rights granted under such sublicense with respect to Codexis Research Technology or Codexis Introduced Program Technology and not together or in concert with IE Biofuel Process Technology. For purposes of clarification, any sublicense granted by IE under the rights granted by Codexis to IE under this Section 10.6(a) shall include a prohibition against the use of Codexis Research Technology and Codexis Introduced Program Technology unless such Codexis Research Technology and Codexis Introduced Program Technology is used solely for use in direct connection with specific facilities that use IE Biofuel Process Technology for the manufacture, use, sale, offer for sale, and import of one or more Permitted Products; provided, however, IE may grant a sublicense under the rights granted by Codexis to IE under this Section 10.6(a), subject to the provisions of Section 4.7 hereunder and Section 2.4 of the Codexis-Shell US License Agreement as applied to IE and its Affiliates, *mutatis mutandis*, for the supply of Biocatalysts manufactured by the sublicensee to specific facilities that use IE Biofuel Process Technology for the manufacture, use, sale, offer for sale, and import of one or more Permitted Products, but not for sale of Biocatalysts to Third Parties not using such Biocatalysts together with IE Biofuel Process Technology.

(ii) In the event that, after the date of the termination of the Codexis-Shell US License Agreement as described in Section 10.6(a)(i), Shell or any of its Affiliates retains or acquires rights with respect to any license rights under any of the Codexis Research Technology and/or the Codexis Introduced Program Technology in the Fuels Field, except for rights and obligations under Articles 5, 8 and 10 and Sections 2.3, 3.5, 6.2, 7.3 and 7.4 of the Codexis-Shell US License Agreement, for the production of any product other than a Permitted Product, as of the date of the grant of such license, IE shall have a non-exclusive license right under such Codexis Research Technology and/or such Codexis Introduced Program Technology to produce such product(s) on terms and conditions of the license right granted to Shell or its Affiliates.

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(iii) Notwithstanding anything to the contrary in this Section 10.6(a), in the event that the Codexis-Shell US License Agreement terminates in connection with, or subsequent to, the **[*]** by Shell, or an Affiliate of Shell, directly or indirectly, of the **[*]**, such termination shall have no impact on the rights of IE under the Codexis Introduced Program Technology and/or the Codexis Research Technology in the Fuels Field in effect immediately prior to such termination.

(iv) Without prejudice to the rights of Codexis or IE under law, termination of the Codexis-Shell US License Agreement shall have no effect on (a) the sublicenses previously granted by or through IE under Introduced Program Technology and Research Technology with respect to (i) any specific operational facility and the products produced at such facility as of the date of such termination, and/or (ii) any specific facility that is under construction and/or that has been permitted for construction or operation by the relevant governmental agency(ies) with respect to the products identified in such permit as of the date of such termination, but excluding in each of (i) and (ii), the production of Biocatalysts for any use other than use in direct connection with such specific facility(ies), and (b) the obligation for IE to make payments to Codexis on behalf of such facilities in accordance with the terms of this Agreement.

(b) Rights of Codexis. In the event that the Codexis-Shell US License Agreement terminates and Shell's rights after such termination are not modified, altered or different than as set forth in Section 9.4(a) of the Codexis-Shell US License Agreement, IE, effective as of the effective date of such termination, will grant, and hereby grants, to Codexis a non-exclusive license, subject to the terms and conditions of the IE Third Party Agreements, together with a right to grant sublicense rights, under (i) IE Research Technology and IE Introduced Program Technology, excluding, in each case, any and all Patent Rights within such Technologies, for use in the Fuels Field under terms set forth in the IE-Shell Canada **[*]** Agreement as applied to Codexis, *mutatis mutandis*, and (ii) IE Jointly Invented Research Technology for use in the Fuels Field, such license to be royalty- and payment-free. In addition, the Parties agree that Codexis may continue to utilize any and all rights granted by IE to Codexis under Patent Rights covering inventions jointly developed by IE and Codexis and, under the terms of this Agreement, owned by IE for any and all purposes expressly granted to Codexis under the terms of this Agreement.

ARTICLE 11

GENERAL PROVISIONS

11.1 Relationship of the Parties. The Parties shall perform their obligations under this Agreement as independent contractors and nothing contained in this Agreement shall be construed to make Codexis or IE partners, joint venturers, principals, representatives or employees of the other. Codexis and IE agree that this Agreement shall not constitute a partnership for tax purposes. In the event, however, that this Agreement was so construed, then Codexis and IE agree to be excluded from the

provisions of Subchapter K of the United States Internal Revenue Code of 1986, as amended.

11.2 Assignments. Except as expressly provided herein, neither this Agreement nor any interest hereunder may be assigned, nor any other obligation delegated, by a Party without the prior written consent of the other Party; provided, however, that each Party shall have the right to assign this Agreement without consent to an Affiliate of such Party or to any successor in interest to such Party by way of merger, consolidation or other business reorganization or the sale of all or substantially all of its assets. In the case of any permitted assignment to an Affiliate, the assignee shall assume all of the liabilities and obligations of the assigning Party under this Agreement and shall deliver an instrument in writing to each of the other Parties confirming its agreement to do so. Notwithstanding any such assignment and assumption of this Agreement, the assigning Party shall remain liable, and responsible for, the payment and performance of all such past, present and future liabilities and obligations. This Agreement shall be binding upon successors and permitted assigns of the Parties. Any assignment not in accordance with this Section 11.2 will be null and void.

11.3 Further Actions. Each Party agrees to execute, acknowledge and deliver such further instruments and to do all such other acts as may be necessary or appropriate in order to carry out the express provisions of this Agreement.

11.4 International Trade Compliance. Each Party agrees to conduct its operations under the terms of this Agreement in compliance with all applicable import, export, reexport and foreign trade control statutes, laws, regulations, enactments, directives and ordinances of any governmental authority with jurisdiction over such operations then in effect ("**International Trade Laws**") in connection with the performance of its obligations under this Agreement. Each Party shall be responsible for obtaining any necessary authorizations required by International Trade Laws applicable to any Party's import, export, reexport or other foreign trade activity in connection with the performance of its obligations under this Agreement. The transfer of any material from a Party to any of the other Parties shall be conducted in accordance with the terms set forth on Schedule 2.4(b). Each Party will cause these terms to be imposed upon any Affiliate and Third Party from which Information, Technology, materials or services are procured for this Agreement, including any supplier or subcontractor. This Agreement does not constitute, and shall not be construed to constitute, an agreement by any Party to take or refrain from taking any action, which would constitute non-compliance with any International Trade Laws applicable to its operations under the terms of this Agreement.

11.5 Force Majeure. None of the Parties shall be liable to the other for failure or delay in the performance of any of its obligations under this Agreement for the time and to the extent such failure or delay is caused by earthquake, riot, civil commotion, war, terrorist acts, strike, flood, or governmental acts or restriction that is beyond the control of the respective Party. The Party affected by such force majeure will provide the other Parties with full particulars thereof as soon as it becomes aware of the same

(including without limitation its best estimate of the likely extent and duration of the interference with its activities), and will use commercially reasonable efforts to overcome the difficulties created thereby and to resume performance of its obligations as soon as practicable. If the performance of any obligation under this Agreement is delayed owing to a force majeure for any continuous period of more than ninety (90) days, any of the Parties may terminate this Agreement by giving to the other Parties not less than ten (10) business days notice in writing. In the event of any force majeure event that delays the performance of a Party under this Agreement, the Term shall automatically be extended for the period of time that such performance is delayed. Notwithstanding anything to the contrary, the payment of money shall not be subject to this Section 11.5.

11.6 Captions. The captions to this Agreement are for convenience only, and are to be of no force or effect in construing or interpreting any of the provisions of this Agreement.

11.7 Rules of Construction. Each of the Parties acknowledge and agree that each of the Parties has had legal counsel review and participate in settling the terms of this Agreement and that any rule of construction to the effect that any ambiguity is to be resolved against the drafting Party shall not be applicable to the interpretation of this Agreement.

11.8 Governing Law. This Agreement will be governed by and interpreted in accordance with the laws of the State of New York, applicable to contracts entered into and to be performed wholly within the State of New York, excluding conflict of laws principles.

11.9 Dispute Resolution; Jurisdiction and Venue. Any controversy or claim ("**Dispute**"), whether based on contract, tort, statute or other legal or equitable theory (including without limitation but not limited to any claim of fraud, misrepresentation or fraudulent inducement or any question of validity or effect of this Agreement including without limitation this clause) arising out of or related to this Agreement (including without limitation but not limited to any amendments, annexations, and extensions) or the breach thereof shall be settled by consultation between the Parties initiated by written notice of the Dispute to the other Parties. In the event such consultation does not settle the Dispute within thirty (30) days after written notice of such Dispute, subject to such extension or extensions as the Parties to the Dispute may stipulate in writing, then the Dispute shall be settled by binding arbitration in accordance with Schedule 11.9 hereof.

11.10 Notices and Deliveries. Any notice, request, delivery, approval or consent required or permitted to be given under this Agreement will be in writing and will be deemed to have been sufficiently given on the date of receipt if delivered in person, transmitted by telecopier (receipt verified) or by express courier service (signature required) or five (5) days after it was sent by registered letter, return receipt requested (or its equivalent), provided that no postal strike or other disruption is then in effect or comes into effect within two (2) days after such mailing, to the Party to which it

is directed at its address or facsimile number shown below or such other address or facsimile number as such Party will have last given by notice to the other Parties.

If to Codexis, addressed to:

Codexis, Inc.
200 Penobscot Drive
Redwood City, CA 94063
Attention: Chief Executive Officer
Telephone: **[*]**
Fax: **[*]**

with a copy to:

Codexis, Inc.
200 Penobscot Drive
Redwood City, CA 94063
Attention: General Counsel
Telephone: **[*]**
Fax: **[*]**

If to IE, addressed to:

Iogen Energy Corporation
310 Hunt Club Road East
Ottawa, Ontario K1V 1C1
Canada
Attention: Chief Executive Officer
Telephone: **[*]**
Fax: **[*]**

If to Shell US, addressed to:

Shell Oil Products (US)
910 Louisiana Street
Houston, TX 77002
Attention: Sr. Business and JV Manager (Americas)
Telephone: **[*]**
Fax: **[*]**

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

with a copy to:

Shell Oil Company
Associate General Counsel, Intellectual Property Services
910 Louisiana Street
Houston, TX 77002
Fax: **[*]**

If to Shell Canada, addressed to:

Shell Chemicals Canada Limited
400 - 4th Avenue S.W.
P.O. Box 4280, Station 'C'
Calgary, Alberta T2T 5Z5
Canada
Attention: **[*]**
Telephone: **[*]**
Fax: **[*]**

with a copy to:

Shell Oil Company
910 Louisiana Street
Houston, TX 77002
Attention: **[*]**
Telephone: **[*]**
Fax: **[*]**

11.11 No Consequential Damages. EXCEPT PURSUANT TO ARTICLE 9 AS TO DAMAGES CLAIMED BY A THIRD PARTY, IN NO EVENT WILL A PARTY OR ANY OF ITS RESPECTIVE AFFILIATES BE LIABLE TO THE OTHER PARTY OR ANY OF ITS AFFILIATES FOR SPECIAL, INDIRECT, CONSEQUENTIAL OR PUNITIVE DAMAGES, WHETHER IN CONTRACT, WARRANTY, TORT, NEGLIGENCE, STRICT LIABILITY OR OTHERWISE, INCLUDING BUT NOT LIMITED TO, LOSS OF PROFITS OR REVENUE, OR CLAIMS OF CUSTOMERS OF ANY OF THEM OR OTHER THIRD PARTIES FOR SUCH DAMAGES.

11.12 Entire Agreement. This Agreement is the sole agreement with respect to the subject matter hereof and supersede all other prior and contemporaneous agreements and understandings between the Parties with respect to same. For purposes of clarification, each of the Parties acknowledge and agree that the subject matter of this Agreement is separate from, and will not supersede, the subject matter of the Shell Agreements. In addition, to the extent that there is any conflict or inconsistency between

the terms and conditions of this Agreement and the terms and conditions of any of the Shell Agreements, the terms of this Agreement shall govern.

11.13 Waiver. A waiver by a Party of any of the terms and conditions of this Agreement in any instance will not be deemed or construed to be a waiver of such term or condition for the future, or of any subsequent breach hereof. All rights, remedies, undertakings, obligations and agreements contained in this Agreement will be cumulative and none of them will be in limitation of any other remedy, right, undertaking, obligation or agreement of any of the Parties.

11.14 Severability. When possible, each provision of this Agreement will be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Agreement is held to be prohibited by or invalid under applicable law, such provision will be ineffective but only to the extent of such prohibition or invalidity, without invalidating the remainder of such provision or of this Agreement. The Parties will make a good faith effort to replace the invalid or unenforceable provision with a valid one which in its economic effect is most consistent with the invalid or unenforceable provision.

11.15 Counterparts. This Agreement may be executed simultaneously in counterparts, any one of which need not contain the signature of more than one Party but both such counterparts taken together will constitute one and the same agreement.

11.16 Compliance with Laws. Each Party shall comply with all applicable statutes, laws, regulations, enactments, directives and ordinances and all injunctions, decisions, directives, judgments and orders of any governmental authority in effect at any time in connection with the performance of its obligations under this Agreement.

11.17 Amendment. No amendment of any provision of this Agreement shall be binding on a Party to this Agreement unless consented to in writing and signed by such Party. Signatures and writings in an electronic form do not constitute or create a writing signed by a Party.

[Signature page follows]

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their respective duly authorized officers as of the Effective Date, each copy of which will for all purposes be deemed to be an original.

CODEXIS, INC.

By: /s/ Alan Shaw
Name: Alan Shaw
Title: President

IOGEN ENERGY CORP.

By: /s/ Brian Foody
Name: Brian Foody
Title: President & CEO

EQUILON ENTERPRISES LLC
DBA SHELL OIL PRODUCTS US

By: /s/ T.N. Smith
Name: T.N. Smith
Title: President

SHELL CHEMICALS CANADA LIMITED

By: /s/ Derric W. Ostapyk
Name: Derric W. Ostapyk
Title: President

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

SCHEDULE 1.62

SHELL BIOFUEL TECHNOLOGY TERMS

Notwithstanding anything to the contrary in this Agreement, the capitalized terms defined in this Schedule 1.62 shall apply to the corresponding capitalized terms in Section 1.62 of this Agreement only.

"**Affiliate**" means, in relation to any person, any other person that directly or indirectly controls, that is directly or indirectly controlled by, or that is under the direct or indirect common control of, such person (including, with respect to Shell only, any person that is directly or indirectly controlled by Royal Dutch Shell plc); provided, however, that (i) where one person controls another person, any other person controlled by the first such person shall be deemed to be an Affiliate (as defined in this Schedule 1.62) of the second person and (ii) any corporation in respect of which any person owns beneficially, directly or indirectly, more than fifty percent (50%) of such corporation's voting securities, shall be deemed to be an Affiliate (as defined in this Schedule 1.62) of such person.

"**Development Program**" means the **[*]** development program undertaken by IE, comprising the elements described in Section 2.2 of the IE-Shell Canada**[*]** Agreement as approved, and amended from time to time in accordance with the terms and conditions of the IE-Shell Canada **[*]** Agreement.

"**Enzyme Technology**" means all Intellectual Property (as defined in this Schedule 1.62) pertaining or relating to processes, compositions or relevant research, development and operating know-how for the identification, evolution and production of **[*]** enzymes, including but not limited to all **[*]**, whether naturally occurring or genetically enhanced, primarily for use in processes relating to **[*]** Technology (as defined in this Schedule 1.62), including evolved enzymes,**[*]** operating protocols, computer models, samples, assay procedures, experimental reports, analytical procedures and know-how relating to the operation of fermenters.

"**[*] Technology**" means all Intellectual Property (as defined in this Schedule 1.62) pertaining or relating to processes or processing steps for the conversion of feedstocks comprising primarily **[*]** to **[*]**, including feedstock handling, feedstock preparation, feedstock pretreatment, enzymatic hydrolysis, acid hydrolysis, production of lignin by-products, **[*]** to produce **[*]** and any other **[*]** component, **[*]** to produce **[*]** and any other **[*]** component, **[*]** of **[*]** and **[*]** to produce **[*]** and any other **[*]** component and separation steps required in the manufacturing of **[*]**, but excluding Enzyme Technology (as defined in this Schedule 1.62).

"**IE Background Technology**" means IE Technology (as defined in this Schedule 1.62) as of June 1, 2008.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

"**IE Foreground Technology**" means IE Technology (as defined in this Schedule 1.62) developed during the term of the IE-Shell Canada**[*]** Agreement.

"**IE Grant-back Technology**" means the Intellectual Property (as defined in this Schedule 1.62) licensed to IE pursuant to Section 5.1 of the IE-Shell Canada**[*]** Agreement and pursuant to licenses IE concludes with Third Parties (as defined in this Schedule 1.62).

"**IE Technology**" means the **[*]** Technology (as defined in this Schedule 1.62) and the Enzyme Technology (as defined in this Schedule 1.62) developed by IE and/or its Affiliates(as defined in this Schedule 1.62), or to which IE and/or its Affiliates (as defined in this Schedule 1.62) have sub-licensable rights; including IE Background Technology (as defined in this Schedule 1.62), IE Foreground Technology (as defined in this Schedule 1.62), and IE Grant-back Technology (as defined in this Schedule 1.62).

"**Intellectual Property**" means industrial and intellectual property, including all:

(a) trade secrets, confidential information and know-how, including all unpatented inventions, formulae, processes, technology, technical information, inventor's notes, unpublished studies and data, research designs, research results and notes, prototypes, drawings, design and construction specifications, production, operating and quality control manuals;

(b) copyrights, including all copyrights in software;

(c) industrial designs, design patents and other designs;

(d) microbial strains and genetic material; and

(e) patents;

and all registrations, applications for registration, reissues, extensions, renewals, divisions, continuations, continuations-in-part, proprietary information, documentation, licenses, registered user agreements and other agreements relating to the foregoing.

"**Third Party**" means any person other than IE, Shell Canada and **[*]**, and their Affiliates (as defined in this Schedule 1.62).

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

SCHEDULE 1.69

THIRD PARTY AGREEMENTS

Codexis:

[*]:

License Agreement, effective as of **[*]**, by and between Codexis, Inc., and **[*]** and **[*]**

Maxygen:

License Agreement effective as of March 28, 2002, by and between Maxygen, Inc. and Codexis, Inc., as amended.

IE:

[*]:

License Agreement, effective as of **[*]**, by and between **[*]** and Iogen Energy Corporation, as amended.

[*]:

License Agreement, effective as of **[*]**, by and between Iogen Energy Corporation and **[*]**.

[*]:

License Agreement, effective as of **[*]**, by and between Iogen Energy Corporation and **[*]**.

[*]:

Agreement, effective as of **[*]**, by and between **[*]** and Iogen Corporation.

Agreement, effective as of **[*]**, by and between **[*]**, and Iogen Energy Corporation and Iogen Energy Canada Corporation.

Shell:

None as of the Effective Date

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

SCHEDULE 1.70

SPECIES OF [*]

- **Section 1 [*]:**
- **[*]**
- **Section 2 [*]:**
- **[*]**
- **Section 4 [*]:**
- **[*]**
- **Section 5 [*]:**
- **[*]**

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

- **Section 6 [*]:**
- **[*]**

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SCHEDULE 2.4(b)

TERMS OF MATERIALS TRANSFER

- any and all material will be used under suitable containment conditions solely for studies in furtherance of the Program, and for not other purpose;
- materials will not be transferred or provided to any Third Party without the prior written approval of the Party that originally provided such material;
- the Party providing material shall provide the Party receiving such material with the applicable import and export classification relevant to the material. Should the provision of material involve a cross-border transfer, the Party providing the material will act as the exporter of record, as defined by International Trade Laws, and the Party receiving such material will act as the importer of record, as defined by International Trade Laws.
- the Party that originally provided material shall retain all right, title and interest in and to such material and uses thereof, including but not limited to all right, title and interest in patents and other intellectual property rights relating to such material and, unless otherwise expressly provided under the terms of this Agreement or in writing by the Party that originally provided such material, no right or interest in or to material is granted or implied;
- in the event that any invention is conceived and/or reduced to practice by a Party receiving material, the Party receiving such material will provide a written disclosure to the Party that originally provided such material describing such invention in detail reasonably adequate to characterize such invention;
- ownership of any invention conceived and/or reduced to practice by a Party receiving material will be as set forth in Article 3 of this Agreement and, if not set forth in Article 3, will be owned by the Party that originally provided such material;
- the Party receiving material shall indemnify and hold harmless the Party originally providing such material, its employees or agents from and against all loss or expense by reason of any liability imposed by law upon such providing Party;
- THE PARTY PROVIDING MATERIAL PROVIDES NO WARRANTIES FOR THE MATERIALS, EXPRESS OR IMPLIED, EITHER IN FACT OR BY OPERATION OF LAW, STATUTORY OR OTHERWISE, AND SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON INFRINGEMENT

SCHEDULE 4.4(e)

CODEXIS-[*] AGREEMENT DEFINITIONS

Notwithstanding anything to the contrary in this Agreement, the capitalized terms defined in this Schedule 4.4(e) shall apply to the corresponding capitalized terms in Sections 4.4(e) and 4.4(f) of this Agreement only, unless otherwise noted in such sections.

"Affiliate" means with respect to any Person, any other Person that is controlled by, controls, or is under common control with such first Person, as the case may be. For purposes of this paragraph only, the term "control" means (a) direct or indirect ownership of fifty percent (50%) or more of the voting interest in the entity in question, or fifty percent (50%) or more interest in the income of the entity in question; provided, however, that if local Law requires a minimum percentage of local ownership of greater than fifty percent (50%), control will be established by direct or indirect beneficial ownership of one hundred percent (100%) of the maximum ownership percentage that may, under such local Law, be owned by foreign interests, or (b) possession, directly or indirectly, of the power to direct or cause the direction of management or policies of the entity in question (whether through ownership of securities or other ownership interests, by contract or otherwise).

"Law" means, individually and collectively, any and all laws, ordinances, orders, rules, rulings, directives and regulations of any kind whatsoever of any governmental, court or regulatory authority within the applicable jurisdiction.

"Person" means any individual, corporation, partnership, association, joint-stock company, trust, unincorporated organization or government or political subdivision thereof.

"Improvement" means any invention comprising the composition of matter of, process of making, or methods of using (a) any **[*]** or **[*]** provided, directly or indirectly, by Codexis to IE or Shell or other **[*]** covered by a Valid Claim, (b) any gene, portion of any gene, protein, promoter, signal peptide, terminator, or integration site obtained from the **[*]** or **[*]** described in subsection (a) above, (c) any progeny, derivative, or modification of (a) or (b), or (d) any mixture of proteins in specified ratios produced using the **[*]** or **[*]** described in subsection (a), or a derivative or modification thereof. For purposes of clarification, notwithstanding anything to the contrary, "Improvement" does not include any invention that is (i) an enhancement, modification, or improvement of, or to, any **[*]**, including without limitation any such **[*]** contained within the **[*]** or **[*]** described in subsection (a) above and/or covered by a Valid Claim except where the invention improves the **[*]** generally (which shall be included within Improvements), or (ii) Shuffling Technology.

"Shuffling Technology" means any and all techniques, methodologies, processes, materials and/or instrumentation, including without limitation any and all Patents,

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know-how, confidential information and materials relating thereto, that, in each case, relates to the characterization, development and optimization of genes and proteins for commercial uses through the recombination and/or rearrangement and/or mutation of genetic material for the creation of genetic diversity, and generally applicable screening techniques, methodologies, or processes of using the resulting genetic material to identify potential usefulness.

"Patent" means all: (a) United States and foreign patents, re-examinations, reissues, renewals, extensions and term restorations, inventors' certificates and counterparts thereof; and (b) pending applications for United States and foreign patents, including, without limitation, provisional applications, continuations, continued prosecution, divisional and substitute applications, and counterparts thereof.

"Valid Claim" means (a) any claim of an issued and unexpired patent within the Licensed Patents which has not been held unenforceable or invalid by a court or other governmental agency of competent jurisdiction in a decision that is not appealed or is unappealable, and which patent has not been disclaimed or admitted to be invalid or unenforceable through reissue or otherwise, or (b) a pending claim in a pending patent application within the Licensed Patents that has not been abandoned, finally rejected, or expired without the possibility of appeal or refiling.

"Licensed Patents" means (a) the Patents (as defined above) listed on Exhibit C of the Codexis-**[*]** License (a copy of which has been provided to IE and Shell as of the date hereof) and (b) any and all other Patents (as defined above) Controlled by **[*]** as of the **[*]** related to the **[*]**, the **[*]** and/or any **[*]** (and the genes encoding the same) that are necessary or useful **[*]**.

"Controlled" means, with respect to all or any portion of any gene, the gene itself, protein, compound, material, information or intellectual property right, that **[*]** owns or has a license to any portion of any such gene, the gene itself, protein, compound, material, information or intellectual property right and has the ability to grant to Codexis access, a license or a sublicense (as applicable) to any portion of any such gene, the gene itself, protein, compound, material, information or intellectual property right as provided for in the Codexis-**[*]** Agreement without violating the terms of any agreement or other arrangements with any Third Party.

"Third Party" means any Person other than **[*]**, Codexis, or any Affiliate of either **[*]** or Codexis.

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"Term" shall mean the term of the Codexis-**[*]** Agreement (Codexis will provide notice to IE on the earlier of the expiration or termination of the**[*]** Agreement in accordance with Section 4.4(e)).

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SCHEDULE 5.1(c)

PAYMENTS

ARTICLE I

DEFINITIONS

Capitalized terms in this Schedule 5.1(c) shall have the meanings set forth in Article 1 of this Agreement, with the following additions applicable to this Schedule 5.1(c):

Section 1.01 "First Royalty Sale" means a first transfer by IE or an IE Affiliate or a sublicensee of a Royalty-Bearing Product to (a) IE or an IE Affiliate (where IE or such IE Affiliate is the end-user of such Royalty-Bearing Product); or (b) a Third Party; or (c) Shell or a Shell Affiliate; in each case, in exchange for cash, or cash equivalent to which value can be assigned after production of the first (i) **[*]** of Royalty-Bearing Product in the Intermediates Field, and (ii)**[*]** of Royalty-Bearing Product in the Liquid Fuels Field, and (iii) **[*]** of Royalty-Bearing Product in the Lubricants Field, in each of (i), (ii) and (iii), by IE, an IE Affiliate, Shell, a Shell Affiliate and/or any of their respective sublicensees.

Section 1.02 "Index" means the **[*]**. In the event that such index becomes unavailable, the Parties will agree on an index to be used in substitution of such unavailable index within sixty (60) days after the date that such index is no longer available.

Section 1.03 "Intermediates Field" means that portion of the Fuels Field limited to the conversion of Biomass into fermentable sugars, such sugars to be converted into liquid fuel and/or liquid fuel additives and/or Lubricants. For purposes of clarification, the Intermediates Field shall not include the Liquid Fuels Field or the Lubricants Field.

Section 1.04 "Intermediates Royalty" has the meaning set forth in Section 2.01(a) of this Schedule 5.1(c).

Section 1.05 "Liquid Fuels Field" means that portion of the Fuels Field limited to the conversion of fermentable sugars derived from Biomass into liquid fuel and/or liquid fuel additives. For purposes of clarification, the Liquid Fuels Field shall not include the Lubricants Field.

Section 1.06 "Liquid Fuels Royalty" has the meaning set forth in Section 2.01(b) of this Schedule 5.1(c).

Section 1.07 "Lubricants Field" means that portion of the Fuels Field limited to the conversion of fermentable sugars derived from Biomass into Lubricants. For purposes of clarification, the Lubricants Field shall not include the Liquid Fuels Field.

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Section 1.08 "Lubricants Royalty" has the meaning set forth in Section 2.01(c) of this Schedule 5.1(c).

Section 1.09 "Monthly Index Average" means the sum of the monthly values for the Index in the relevant period divided by the number of months in such period.

Section 1.10 "Royalty Adjustment Date" means the date of First Royalty Sale of the first Royalty-Bearing Product in the Fuels Field or each anniversary of such date, as the context requires.

Section 1.11 "Royalty-Bearing Product" means any product, the manufacture, use, offer for sale, sale or importation of which (a) uses IE Jointly Invented Research Technology, but does not use any Codexis Introduced Program Technology or any Codexis Research Technology, in the Fuels Field; or (b) uses Codexis Introduced Program Technology, and/or Codexis Research Technology, in the Fuels Field.

ARTICLE II

PAYMENT TERMS

Section 2.01 Consideration.

(a) Intermediates Royalty. IE shall pay to Codexis **[*]** per U.S. gallon of Royalty-Bearing Product, where such Royalty-Bearing Product is sold or transferred in exchange for cash or cash equivalent or other consideration to which value can be assigned for use in the Intermediates Field, by either IE or an IE Affiliate or an IE sublicensee to (i) IE or an IE Affiliate (where IE or such IE Affiliate is the end-user of such Royalty-Bearing Product); or (ii) a Third Party; or (iii) Shell or a Shell Affiliate; in each case, after the First Royalty Sale (in all cases, the "Intermediates Royalty"); provided that the Intermediates Royalty shall be adjusted on each Royalty Adjustment Date according to changes in the Index as set forth below:

(i) The initial adjustment shall be made on the date of First Royalty Sale of the first Royalty-Bearing Product in the Fuels Field by multiplying the initial Intermediates Royalty by (A/B), where A = the Monthly Index Average during the most recent twelve (12) month period for which final, corrected data are available preceding the date of First Royalty Sale of such first Royalty-Bearing Product in the Fuels Field, and B = the Monthly Index Average between November 1, 2007 and the most recent date for which final, corrected data are available prior to the date of First Royalty Sale of such Royalty-Bearing Product.

(ii) After the year following the date of First Royalty Sale of the first Royalty-Bearing Product in the Fuels Field, the Intermediates Royalty shall be adjusted annually on each Royalty Adjustment Date by multiplying the then-current Intermediates Royalty by (X/Y), where X = the Monthly Index Average during the most recent twelve (12) month period preceding such Royalty Adjustment Date for which final, corrected data are available, and Y = the Monthly Index Average for the twelve

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(12) month period beginning sixteen (16) months prior to such Royalty Adjustment Date and ending twenty-seven (27) months prior to such Royalty Adjustment Date.

The adjustments to the Intermediates Royalty shall be rounded to the nearest **[*]**. The Intermediates Royalty obtained after each adjustment shall be the Intermediates Royalty due from the applicable Royalty Adjustment Date until the subsequent Royalty Adjustment Date.

By way of example, if the Monthly Index Average during the twelve (12) month period preceding the date of First Royalty Sale of the first Royalty-Bearing Product in the Fuels Field for which final, corrected data are available equals two hundred twenty (220) and the Monthly Index Average between November 1, 2007 and the most recent date for which final, corrected data are available prior to the date of First Royalty Sale of such Royalty-Bearing Product equals two hundred (200), then the Intermediates Royalty shall be adjusted by an amount equal to two hundred twenty divided by two hundred (220/200), or one point one (1.1), such that the Intermediates Royalty for the subsequent twelve (12) month period shall equal **[*]** per U.S. gallon of Royalty-Bearing Product in the Intermediates Field times one point one (1.1), or **[*]** per U.S. gallon of Royalty-Bearing Product in the Intermediates Field.

By way of further example, if the Monthly Index Average during the most recent twelve (12) month period preceding the subsequent Royalty Adjustment Date for which final, corrected data are available equals two hundred nine (209), and the Monthly Index Average for the twelve (12) month period beginning sixteen (16) months prior to such Royalty Adjustment Date and ending twenty-seven (27) months prior to such Royalty Adjustment Date equals two hundred twenty (220), then on such Royalty Adjustment Date the Intermediates Royalty shall be adjusted by an amount equal to two hundred nine divided by two hundred twenty (209/220), or zero point nine five (0.95), such that, if the Intermediates Royalty on such Royalty Adjustment Date is equal to **[*]** per U.S. gallon, the Intermediates Royalty for the subsequent twelve (12) month period shall equal **[*]** per U.S. gallon of Royalty-Bearing Product in the Intermediates Field times zero point nine five (0.95), or **[*]** per U.S. gallon of Royalty-Bearing Product in the Intermediates Field.

(b) Liquid Fuels Royalty. Subject to the last sentence of this paragraph, IE shall pay to Codexis **[*]** per U.S. gallon of Royalty-Bearing Product, where such Royalty-Bearing Product is sold or transferred in exchange for cash or cash equivalent or other consideration to which value can be assigned for use in the Liquid Fuels Field, by either IE or an IE Affiliate or a sublicensee to (i) IE or an IE Affiliate (where IE or such IE Affiliate is the end-user of such Royalty-Bearing Product); or (ii) a Third Party; or (iii) Shell or a Shell Affiliate; in each case, after the First Royalty Sale (in all cases, the "Liquid Fuels Royalty"). Notwithstanding the foregoing, IE and Codexis acknowledge and agree that as of the Effective Date, (A) there is insufficient data available to definitively determine the appropriate royalty rate for the manufacture, use, offer for sale, sale or importation of Royalty-Bearing Product(s) in the Liquid Fuels Field and (B) Codexis and Shell US have therefore agreed to engage in good faith negotiations regarding such royalty on or before **[*]**. In the event that Codexis and Shell US agree on a different rate for such royalty, Codexis and Shell US shall provide written notice

thereof to IE and such different royalty rate shall be deemed to be the Liquid Fuels Royalty for purposes of this Section 2.01(b) of this Schedule 5.1(c); provided, however, that, if Codexis and Shell US are unable to agree upon the Liquid Fuels Royalty after such negotiations, the royalty rate shall equal **[*]** per U.S. gallon of Royalty-Bearing Product; provided, further, that the Liquid Fuels Royalty shall be adjusted on each Royalty Adjustment Date according to changes in the Index as set forth below.

(i) The initial adjustment shall be made on the date of First Royalty Sale of the first Royalty-Bearing Product in the Fuels Field by multiplying the initial Liquid Fuels Royalty by (A/B), where A = the Monthly Index Average during the most recent twelve (12) month period for which final, corrected data are available preceding the date of First Royalty Sale of such first Royalty-Bearing Product in the Fuels Field, and B = the Monthly Index Average between November 1, 2007 and the most recent date for which final data are available prior to the date of First Royalty Sale of such Royalty-Bearing Product.

(ii) After the year following the date of First Royalty Sale of the first Royalty-Bearing Product in the Fuels Field, the Liquid Fuels Royalty shall be adjusted annually on each Royalty Adjustment Date by multiplying the then-current Liquid Fuels Royalty by (X/Y), where X = the Monthly Index Average during the most recent twelve (12) month period preceding such Royalty Adjustment Date for which final, corrected data are available, and Y = the Monthly Index Average for the twelve (12) month period beginning sixteen (16) months prior to such Royalty Adjustment Date and ending twenty-seven (27) months prior to such Royalty Adjustment Date.

The adjustments to the Liquid Fuels Royalty shall be rounded to the nearest**[*]**. The Liquid Fuels Royalty obtained after each adjustment shall be the Liquid Fuels Royalty due from the applicable Royalty Adjustment Date until the subsequent Royalty Adjustment Date.

By way of example, if the Monthly Index Average during the twelve (12) month period preceding the date of First Royalty Sale of the first Royalty-Bearing Product in the Fuels Field for which final, corrected data are available equals two hundred twenty (220) and the Monthly Index Average between November 1, 2007 and the most recent date for which final, corrected data are available prior to the date of First Royalty Sale of such Royalty-Bearing Product equals two hundred (200), then the Liquid Fuels Royalty shall be adjusted by an amount equal to two hundred twenty divided by two hundred (220/200), or one point one (1.1), such that the Liquid Fuels Royalty for the subsequent twelve (12) month period shall equal **[*]** per U.S. gallon of Royalty-Bearing Product in the Liquid Fuels Field times one point one (1.1), or**[*]** per U.S. gallon of Royalty-Bearing Product in the Liquid Fuels Field.

By way of further example, if the Monthly Index Average during the most recent twelve (12) month period preceding the subsequent Royalty Adjustment Date for which final, corrected data are available equals two hundred nine (209), and the Monthly Index Average for the twelve (12) month period beginning sixteen (16) months prior to such Royalty Adjustment Date and ending twenty-seven (27) months prior to such Royalty Adjustment Date equals two hundred twenty (220), then on such Royalty Adjustment

Date the Liquid Fuels Royalty shall be adjusted by an amount equal to two hundred nine divided by two hundred twenty (209/220), or zero point nine five (0.95), such that, if the Liquid Fuels Royalty on such Royalty Adjustment Date is equal to **[*]** per U.S. gallon, the Liquid Fuels Royalty for the subsequent twelve (12) month period shall equal **[*]** per U.S. gallon of Royalty-Bearing Product in the Liquid Fuels Field times zero point nine five (0.95), or **[*]** per U.S. gallon of Royalty-Bearing Product in the Liquid Fuels Field.

(c) Lubricants Royalty. IE and Codexis acknowledge and agree that (i) as of the Effective Date, there is insufficient data available to definitively determine the appropriate royalty rate for the manufacture, use, offer for sale, sale or importation of Royalty-Bearing Product(s) in the Lubricants Field and (ii) Codexis and Shell US have therefore agreed to engage in good faith negotiations regarding such royalty. Upon agreement of such royalty rate between Codexis and Shell US (including without limitation any periodic adjustments in such royalty rate, if applicable), Codexis and Shell US shall provide written notice thereof to IE and such royalty rate shall be deemed to be the royalty that IE shall pay to Codexis for each Royalty-Bearing Product in the Lubricants Fields, where such Royalty-Bearing Product is sold or transferred in exchange for cash or cash equivalent or other consideration to which value can be assigned for use in the Lubricants Field, by either IE or an IE Affiliate or an IE sublicensee to (A) IE or an IE Affiliate (where IE or such IE Affiliate is the end-user of such Royalty-Bearing Product); or (B) a Third Party; or (C) Shell or a Shell Affiliate; in each case, after the First Royalty Sale (in all cases, the **"Lubricants Royalty"**).

(d) Notice of First Royalty Sale. IE shall notify Codexis promptly, in writing, of the date of the First Royalty Sale for each Royalty-Bearing Product and, in the case where such First Royalty Sale is made by a sublicensee of IE or an IE Affiliate, the identity of such sublicensee.

(e) Late Payment Interest. Any payment due and payable to Codexis under the terms and conditions of this Schedule 5.1(c) made by IE after the date such payment is due to be paid shall bear interest as of the day after the date such payment was due to be paid and shall continue to accrue such interest until payment of the amount due is made. The interest rate to be applied to any payment not paid when due shall be equal to the lesser of either (i) two percent (2%) above the prime rate as reported by Citibank, New York, New York, or, if Citibank, New York, ceases to report a prime rate, a mutually acceptable commercial bank, on the date such payment was due to be paid, or (ii) the maximum rate permitted by applicable law on such date, and shall apply until the date that payment is issued by IE to Codexis.

Section 2.02 Payment Term. Unless otherwise terminated as provided herein, IE's payment obligations to Codexis pursuant to this Schedule 5.1(c) shall continue:

(a) In the Intermediates Field until the later of (i) twenty (20) years after the First Royalty Sale of a Royalty-Bearing Product in the Intermediates Field or (ii) the expiration of the last to expire patent included in the Codexis Introduced Program Technology, the Codexis Research Technology and the IE Jointly Invented Research Technology;

(b) In the Liquid Fuels Field until the later of (i) twenty (20) years after the First Royalty Sale of a Royalty-Bearing Product in the Liquid Fuels Field or (ii) the expiration of the last to expire patent included in the Codexis Introduced Program Technology, the Codexis Research Technology and the IE Jointly Invented Research Technology; and

(c) In the Lubricants Field until the later of (i) twenty (20) years after the First Royalty Sale of a Royalty-Bearing Product in the Lubricants Field or (ii) the expiration of the last to expire patent included in the Codexis Introduced Program Technology, the Codexis Research Technology and the IE Jointly Invented Research Technology;

provided, however, termination of the payment term or expiration of the last to expire patent in any Codexis Introduced Program Technology, Codexis Research Technology or IE Jointly Invented Research Technology shall have no effect on any license granted in this Agreement.

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SCHEDULE 11.9

ARBITRATION RULES

1. Initiation of Arbitration. Upon notice by any Party to this Agreement to the others (a "**Notice to Arbitrate**"), any Dispute under this Agreement shall be resolved by arbitration to be held in accordance with the then current Comprehensive Arbitration Rules and Procedures (**"Rules"**) of JAMS (**"Arbitration Authority"**) and this provision. The arbitration shall be held in Denver, Colorado and, unless otherwise agreed by the Parties, all proceedings, hearings and steps in the arbitration shall take place in Denver, Colorado. The language to be used in the arbitration proceedings shall be English.

2. Composition and Selection of Arbitral Tribunal. The arbitral tribunal (the "**Arbitral Tribunal**") shall be composed of one (1) arbitrator, to be selected as follows. Within five (5) business days following delivery of a Notice to Arbitrate, each Party involved in the dispute shall submit to the Arbitration Authority a one-page summary of the dispute. Promptly thereafter, the Arbitration Authority shall prepare a list of ten (10) prospective arbitrators (the "**Arbitration List**"), each of whom shall be independent of the Parties (including any Party that is not involved in the dispute) and shall have appropriate expertise relating to the subject matter of the dispute. The Parties agree that an arbitrator does not have to be based in Denver to be eligible for inclusion on the Arbitration List. Each Party involved in the arbitration shall be entitled to strike the names of two persons from the Arbitration List by identifying such names to the Arbitration Authority within ten (10) business days following such Party's receipt of the Arbitration List. Promptly after the Parties have exercised (or declined to exercise) their rights to strike names from the Arbitration List, the Arbitration Authority shall appoint the sole arbitrator from the arbitrators who have not been stricken by any of the Parties to the dispute.

3. Confidentiality of Proceedings. The arbitration proceedings shall be deemed the Confidential Information of all Parties involved in the arbitration and shall be treated by each Party in accordance with Article 7 of the Agreement. Subject to the requirements and limitations of Article 7 of the Agreement, any Confidential Information provided by a Party during the arbitration or by any witness presented by such Party shall be treated as the Confidential Information of the disclosing Party and no Party shall disclose or use such Confidential Information beyond the scope of the arbitration proceeding.

4. Powers of Arbitral Tribunal. By submitting to arbitration under these Rules, the Parties shall be taken to have conferred on the Arbitral Tribunal the subject matter jurisdiction and powers set out in this Schedule 11.8. The Arbitral Tribunal will exercise subject matter jurisdiction and the powers as provided in the Rules and this Schedule 11.8. Without limiting the powers of the Arbitral Tribunal, the Parties agree that the Arbitral Tribunal may:

(a) proceed in the arbitration even if a Party to the arbitration fails or refuses to comply with the Rules or with the Arbitral Tribunal's orders or directions, or to attend any meeting or hearing, but only after giving that Party written notice that the Arbitral Tribunal intends to do so;

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(b) receive and take into account such written and oral evidence, including without limitation, written interrogatories, tendered by the Parties to the arbitration as the Arbitral Tribunal determines is relevant, whether or not strictly admissible in law;

(c) order the Parties to the arbitration and their Affiliates to produce to the Arbitral Tribunal, and to each other for inspection, and to supply copies of, any documents or classes of documents in the possession or control of such Party or any of their Affiliates which the Arbitral Tribunal determines to be relevant (taking into account such submissions of the Parties as the Arbitral Tribunal may determine to hear); and

(d) order the Parties to the arbitration and their Affiliates to preserve evidence in any manner the Arbitral Tribunal may determine to be necessary, including by way of the preservation or storage of any property, documents or things under the control of the Parties.

5. Awards. The arbitrator(s) shall determine the claim of the Parties and render a final award in accordance with the substantive law of the State of New York, excluding the conflicts provisions of such law. The Arbitral Tribunal shall render an opinion within fifteen (15) business days after the final hearing before the Arbitral Tribunal, and within six (6) months from the appointment of the Arbitral Tribunal, whichever occurs last; provided, however, that this six-month deadline may be extended by agreement of the Parties to the arbitration or upon an express finding by the Arbitral Tribunal that it would be impracticable to meet this deadline. Any and all awards of the Arbitral Tribunal shall be made in writing in accordance with the Rules and shall be final and binding on the Parties. The Arbitral Tribunal shall set forth the reasons for the award in writing. Each of the Parties expressly excludes all and any rights of appeal from all and any awards. Any award may be entered or enforced in any court of competent jurisdiction against a Party named in the award. All and any awards may include an award of costs (including, without limitation, the fees of counsel and any other professional advisors retained by the Parties in connection with the dispute), which shall be fixed by the Arbitral Tribunal. The terms of this Schedule 11.8 shall not limit any obligations of a Party to defend, indemnify or hold harmless another Party against court proceedings or other claims, losses damages or expenses. Notwithstanding anything herein to the contrary, a Party may seek a temporary restraining order or a preliminary injunction from any court of competent jurisdiction in order to prevent immediate and irreparable injury, loss, or damage on a provisional basis, pending the decision of the arbitrator on the ultimate merits of any dispute.

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EXHIBIT 10.6

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LICENSE AGREEMENT

This LICENSE AGREEMENT (the "**Agreement**") is made as of November 14, 2008 (the "**Effective Date**") by and between **Codexis, Inc.**, a Delaware corporation, having a place of business at 200 Penobscot Drive, Redwood City, California 94063, United States of America, ("**Codexis**") and **Dyadic International (USA), Inc.**, a corporation organized under the laws of Florida, having its principal office at 140 Intracoastal Pointe Drive, Suite 404, Jupiter, Florida 33477-5094, United States of America, and **Dyadic International, Inc.**, a Delaware corporation, having a place of business at 140 Intracoastal Pointe Drive, Suite 404, Jupiter, Florida 33477-5094, United States of America, (Dyadic International (USA), Inc. and Dyadic International, Inc., collectively, hereinafter "**Dyadic**"). Codexis and Dyadic are each referred to herein by name or, individually, as a "**Party**" or, collectively, as "**Parties**."

BACKGROUND

WHEREAS, Dyadic owns or has rights under certain patent rights and know-how relating to the generation and use of its proprietary*Chrysosporium lucknowense* ("**C1**") technology for the expression of certain genes and secretion of certain corresponding enzymes and, in addition, Dyadic owns or has rights under certain related Dyadic Materials (as defined herein);

WHEREAS, Codexis desires to obtain a non-exclusive license under such patent rights and know-how of Dyadic and, in addition, to obtain access to the Dyadic Materials, all on the terms and conditions herein;

WHEREAS, Dyadic desires to grant such license to Codexis, and Dyadic desires to provide access to the Dyadic Materials to Codexis, all on the terms and conditions herein; and

WHEREAS, Codexis agrees to provide consideration to Dyadic in exchange for the grant of such license in the form of certain payments and, in addition, in a demonstration of the value of C1 technology in the development and commercialization of one or more certain products, as further described herein.

NOW, THEREFORE, in consideration of the mutual covenants and agreements provided herein below and other consideration, the receipt and sufficiency of which is hereby acknowledged, Dyadic and Codexis hereby agree as follows:

ARTICLE 1
DEFINITIONS

As used in this Agreement, capitalized terms shall have the meanings indicated in this Article 1 or as specified elsewhere in this Agreement:

1.1 "**Affiliate**" means, with respect to any Person, any other Person that is controlled by, controls, or is under common control with such first Person, as the case may be. For purposes of this Section 1.1, the term "control" means (a) direct or indirect ownership of fifty percent (50%) or more of the voting interest in the entity in question, or fifty percent (50%) or more interest in the income of the entity in question; provided, however, that if local Law requires a minimum percentage of local ownership of greater than fifty percent (50%), control will be established by direct or indirect beneficial ownership of one hundred percent (100%) of the maximum ownership percentage that may, under such local Law, be owned by foreign interests, or (b) possession, directly or indirectly, of the power to direct or cause the direction of management or policies of the entity in question (whether through ownership of securities or other ownership interests, by contract or otherwise).

1.2 "**Broad Codexis Product**" means any Licensed Product that is (a) a protein that is not included within the Dyadic Materials and that is produced by a Broad Production Strain; (b) a combination of any protein not included within the Dyadic Material that materially enhances the performance or value of the Licensed Product with any protein(s) included in the Dyadic Materials for use in Category A and/or Category F; (c) a combination of proteins included within the Dyadic Materials that is produced in a ratio that is different than the ratio produced by the Dyadic Materials; or (d) any protein(s) that is produced by a strain other than a Production Strain that incorporates any component of the Dyadic Materials or any derivative or modification thereof.

1.3 "**Broad Production Strain(s)**" means any strain generated by Codexis utilizing the Dyadic Material, or any derivative or modification thereof, and/or the Licensed IP that produces a Licensed Product for use in Category A and/or Category F.

1.4 "**C1 Strains**" means, individually and collectively, the Dyadic strains identified on Exhibit D, together with any progeny (but not any derivatives or modifications) of such strains.

1.5 "**Category**" means any of the categories A, B, C, D, E and/or F as set forth on Exhibit A.

1.6 "**Codexis Exclusive Partner**" has the meaning set forth in Section 2.1(c)(1).

1.7 "**Codexis Product**" means any Narrow Codexis Product and/or any Broad Codexis Product.

1.8 "**Confidential Information**" means any information of a confidential and proprietary nature, including but not limited to know-how, information, invention disclosures, patent applications, proprietary materials and/or technologies, economic information, business or research strategies, purchase orders (and any information included therein), trade secrets, and material embodiments thereof, disclosed by a Party to the other Party and characterized to the receiving Party as confidential. For clarity, any reports delivered by Codexis to Dyadic under this Agreement, including without limitation pursuant to Section 4.1, shall be deemed to be the Confidential

Information of Codexis. The Dyadic Materials shall be considered Confidential Information of Dyadic.

1.9 "**Contract Activities**" means any activities directed to [*].

1.10 "**Control**" or "**Controlled**" means, with respect to all or any portion of any gene, the gene itself, protein, compound, material, information or intellectual property right, that the Party owns or has a license to any portion of any such gene, the gene itself, protein, compound, material, information or intellectual property right and has the ability to grant to the other Party access, a license or a sublicense (as applicable) to any portion of any such gene, the gene itself, protein, compound, material, information or intellectual property right as provided for herein without violating the terms of any agreement or other arrangements with any Third Party.

1.11 "**Dollar**" or "**$**" means the lawful currency of the United States.

1.12 "**Dyadic Material**" means, individually and collectively, (a) the C1 Strains, and (b) the promoters, fusion proteins, signal peptides, selectable markers, vectors, genetic constructs, genes, expression products, DNA and other materials set forth on Exhibit D, together with any progeny (but not any derivatives or modifications) thereof.

1.13 "**Escrow Agreement**" means that certain Escrow Agreement between Codexis and Dyadic, substantially in the form attached hereto as Exhibit K, pursuant to which the license issuance fee paid by Codexis to Dyadic pursuant to Section 3.1(c) will be held and, after satisfaction of the certain conditions set forth on Schedule 1.13, released to Dyadic, as further described therein.

1.14 "**Field**" means any and all Categories.

1.15 "**First Commercial Sale**" means, with respect to each Category, the milestone event set forth on Exhibit B for such Category.

1.16 "**Improvement**" means any invention comprising the composition of matter of, process of making, or methods of using (a) the [*] or other [*] covered by a Valid Claim, (b) any gene, portion of any gene, protein, promoter, signal peptide, terminator, or integration site obtained from the [*] or the other [*] described in subsection (a) of this Section 1.16, (c) any progeny, derivative, or modification of (a) or (b), or (d) any mixture of proteins in specified ratios produced using the [*], or a derivative or modification thereof. For purposes of clarification, notwithstanding anything to the contrary, "Improvement" does not include any invention that is (i) an enhancement, modification, or improvement of, or to, any expression product (or the gene that encodes for such expression product), including without limitation any such [*] contained within the [*] and/or covered by a Valid Claim except where the invention improves the [*] generally (which shall be included within Improvements), or (ii) Shuffling Technology.

1.17 "**Law**" means, individually and collectively, any and all laws, ordinances, orders, rules, rulings, directives and regulations of any kind whatsoever of any governmental, court or regulatory authority within the applicable jurisdiction.

1.18 "**Licensed IP**" means the (a) Licensed Patents; and (b) Licensed Know-how.

1.19 "**Licensed Know-how**" means, to the extent necessary or reasonably useful for the (a) research, development, manufacture, use or sale of Licensed Products, or (b) research, development or use of a Production Strain, any and all technical information, information regarding genetic mutations, regulatory information, clinical information, know-how, processes, procedures, methods, formulae, protocols, techniques, software and data, which are not claimed in, covered by or otherwise disclosed in the Licensed Patents, that (i) Dyadic Controls as of the Effective Date, and (ii) is directly related to the Licensed Patents, the Dyadic Materials or a Production Strain.

1.20 "**Licensed Patents**" means (a) the Patents listed on Exhibit C, and (b) any and all other Patents Controlled by Dyadic as of the Effective Date related to the C1 expression system, the C1 high-throughput screening system and/or any C1-derived enzymes (and the genes encoding the same) that are necessary or useful [*].

1.21 "**Licensed Product**" means any product (a) with respect to which Codexis and/or its Affiliates has (i) conducted research and/or development activities and (ii) a material commercialization interest at the time of the first commercial sale or use of such product, and (b) (i) the manufacture, use, sale, offer for sale, or import of which would, but for the rights granted to Codexis pursuant to Section 2.1(a), infringe a Valid Claim; or (ii) that arose from, or whose manufacture involves, the use of any of the Dyadic Materials or any derivative or modification of any the Dyadic Materials.

1.22 "**MTEP**" means metric ton of enzyme protein.

1.23 "**Narrow Codexis Product**" means any Licensed Product, excluding any Broad Codexis Product, that is produced by a Narrow Production Strain and is (a) a protein that is not included within the Dyadic Materials; or (b) a combination of any protein not included within the Dyadic Material that materially enhances the performance or value of the Licensed Product with any protein(s) included in the Dyadic Materials.

1.24 "**Narrow Production Strain(s)**" means any strain generated by Codexis utilizing the Dyadic Material, or any derivative or modification thereof, and/or the Licensed IP that produces a Licensed Product for use in Category B, C, D or E.

1.25 "**Patents**" means all: (a) United States and foreign patents, re-examinations, reissues, renewals, extensions and term restorations, inventors' certificates and counterparts thereof; and (b) pending applications for United States and foreign patents, including, without limitation, provisional applications, continuations, continued prosecution, divisional and substitute applications, and counterparts thereof.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

1.26 "**Person**" means any individual, corporation, partnership, association, joint-stock company, trust, unincorporated organization or government or political subdivision thereof.

1.27 "**Production Strain**" means any Narrow Production Strain and/or any Broad Production Strain.

1.28 "**Shuffling Technology**" means any and all techniques, methodologies, processes, materials and/or instrumentation, including without limitation any and all Patents, know-how, confidential information and materials relating thereto, that, in each case, relates to the characterization, development and optimization of genes and proteins for commercial uses through the recombination and/or rearrangement and/or mutation of genetic material for the creation of genetic diversity, and generally applicable screening techniques, methodologies, or processes of using the resulting genetic material to identify potential usefulness.

1.29 "**Territory**" means worldwide.

1.30 "**Third Party**" means any Person other than Dyadic, Codexis, or any Affiliate of either Dyadic or Codexis.

1.31 "**Valid Claim**" means (a) any claim of an issued and unexpired patent within the Licensed Patents which has not been held unenforceable or invalid by a court or other governmental agency of competent jurisdiction in a decision that is not appealed or is unappealable, and which patent has not been disclaimed or admitted to be invalid or unenforceable through reissue or otherwise, or (b) a pending claim in a pending patent application within the Licensed Patents that has not been abandoned, finally rejected, or expired without the possibility of appeal or refiling.

ARTICLE 2
LICENSES AND TECHNOLOGY TRANSFER

2.1 Grants to Codexis.

(a) Licensed IP and Dyadic Materials. Subject to the terms and conditions of this Agreement, including without limitation Section 2.5(a), Dyadic hereby grants to Codexis and its Affiliates a non-exclusive, [*] right and license, with the right to grant sublicenses through [*] in accordance with Section 2.1(c), under the Licensed IP, to develop, make, have made, use, sell, offer for sale and import Licensed Products, and to use the Dyadic Materials to develop, make, have made, use, sell, offer for sale and import Licensed Products, for use in the Field in the Territory. Notwithstanding anything to the contrary, the licenses granted pursuant to this Section 2.1(a) do not include a license for Codexis to provide Contract Activities.

(b) Copyrights. Subject to the terms and conditions of this Agreement, Dyadic hereby grants to Codexis and its Affiliates a non-exclusive, fully paid right and license under any and all copyrights in the Dyadic Materials, with the right to grant sublicenses [*] in accordance with Section 2.1(c), to reproduce and distribute copies of instruction manuals and information within the

Dyadic Materials, and to incorporate such copyrighted works within the Dyadic Materials, in whole or in part, into derivative works for distribution, as reasonably necessary to practice the rights and license granted to Codexis under Section 2.1(a). Dyadic will retain all other rights in such copyrighted works within the Dyadic Materials; provided that Codexis will own any copyright in derivative works created by, or on behalf of, Codexis.

(c) Sublicenses. The licenses granted pursuant to Section 2.1(a) and Section 2.1(b) include the right to grant sublicenses through multiple tiers of sublicensees within the scope of such license set forth in this Section 2.1(c) pursuant to a written agreement (each a "**Sublicense Agreement**") as follows:

(1) In Category A, Codexis may grant sublicenses pursuant to this Section 2.1(c) [*] (the "**Codexis Exclusive Partner**") and in accordance with this Section 2.1(c) and Section 2.5;

(2) In Categories B, C, D, and E and, subject to Section 8.3, Category F, Codexis may grant sublicenses pursuant to this Section 2.1(c) to any Third Party, other than [*], solely in accordance with this Section 2.1(c) and Section 2.5; and

(3) With respect to each sublicense granted by Codexis, Codexis shall grant such sublicense only in connection with the assignment or license by Codexis to such Third Party sublicensee of a right, under intellectual property owned or otherwise controlled by Codexis that was not licensed from Dyadic hereunder, to make, have made, use, sell or import (a) any Codexis Product in the case of a sublicense with respect to Category A and/or Category F, or (b) a Narrow Codexis Product in the case of a sublicense with respect to Category B, C, D and/or E. Codexis may not transfer any Dyadic Materials, or any derivative or modification thereof, to any Third Party other than (x) as a Licensed Product and/or a Production Strain in accordance with this Section 2.1(c)(3), and (y) under the terms of a Sublicense Agreement. Notwithstanding the foregoing, Codexis may transfer to its sublicensee(s) [*]. For purposes of this Section 2.1(c)(3), "reverse engineering" means the identification, modification, derivatization or other manipulation of genetic material included in a Production Strain, including for example any gene, portion of any gene, promoter, regulator, inducer, metabolic pathway, metabolomics, trancriptomics, secretion signal, vector, plasmid, protein, compound, or other material in or of such Production Strain. Codexis shall remain obligated to make all payments due to Dyadic under the terms of this Agreement with respect to the activities of its Third Party sublicensees with respect to Licensed Products. Codexis shall remain fully responsible to Dyadic for the performance of its sublicensee(s). Promptly following execution of any Sublicense Agreement hereunder, Codexis shall notify Dyadic in writing of the identity of the sublicensee, such information to be Codexis Confidential Information and subject to the restrictions set forth in Article 6. Upon a written request of Dyadic, Codexis will provide a complete copy of any Sublicense Agreement to an independent law firm, mutually acceptable to both Dyadic and Codexis, to review the terms of such Sublicense Agreement and the terms of this Agreement and, after such review, provide to Dyadic a written statement that the terms of such Sublicense Agreement are or are not consistent with the terms of this Section 2.1(c). Such independent law firm

shall provide no other information to Dyadic regarding such Sublicense Agreement. All information provided to Dyadic by such independent law firm will be Codexis Confidential Information and subject to the restrictions set forth in Article 6.

2.2 Bona Fide Offer. At any time [*] anniversary of the Effective Date, if Dyadic receives a written offer from a Third Party (the "**Offering Party**") for an exclusive license with respect to the Licensed IP and/or the Dyadic Materials for any particular Category or Categories, other than Category A and/or Category F, (the "**Subject Category or Categories**") on financial terms that are more favorable, when taken as a whole, than those set forth herein with respect to such Subject Category or Categories (a **Bona Fide Offer**"), then Dyadic shall provide written notice thereof to Codexis. Codexis shall have the right, but not the obligation, to pay to Dyadic the First Commercial Sale milestone payment set forth in Section 3.3(a) with respect to such Subject Category or Categories and, if Codexis makes such payment within [*] days after the date of delivery to Codexis by Dyadic of such notice, then (a) Dyadic will have no right to terminate the rights and licenses granted by Dyadic to Codexis with respect to such Subject Category or Categories hereunder pursuant to this Section 2.2, (b) Dyadic shall have no further rights to present any additional Bona Fide Offers to Codexis pursuant to this Section 2.2 with respect to such Subject Category or Categories for which Codexis has made such payment, and (c) Codexis shall have no further payment obligations to Dyadic under Section 3.3(a) with respect to such Subject Category or Categories. If Codexis does not make such payment within such [*] day period, Dyadic shall have the right, for a period of [*] days after the expiration of such [*] day period, which may be extended by [*] days upon written notice by Dyadic to Codexis, (the "**Negotiation Period**") to enter into an exclusive license agreement with respect to such Subject Category or Categories on financial terms at least as favorable to Dyadic as those set forth in the Bona Fide Offer. In the event that Dyadic enters into such an agreement during the Negotiation Period, Dyadic shall promptly provide written notice thereof to Codexis and the licenses granted to Codexis hereunder with respect to such Subject Category or Categories, but only with respect to such Subject Category or Categories, shall terminate for all purposes of this Agreement as of the date of Codexis receipt of such written notice. In the event that Dyadic does not provide such written notice to Codexis within [*] business days after the expiration of the Negotiation Period that Dyadic has entered into such an agreement, such written notice to include the name of and contact information for the Offering Party, the licenses granted to Codexis with respect to such Subject Category or Categories shall remain in full force and effect, unless otherwise terminated pursuant to this Agreement.

2.3 Diligence Requirements. Dyadic will have an option to provide written notice to Codexis that the licenses granted to Codexis under Section 2.1(a) and Section 2.1(b) with respect to any particular Category for which Codexis (a) has not achieved First Commercial Sale (other than Category A and/or Category F) and (b) has not made a payment of the First Commercial Sale milestone payment in accordance with Section 2.2, will terminate [*] days after the date of such notice, in accordance with the following:

(a) At any time after [*] years after Codexis is required to make the payment set forth in Section 3.1(c), unless Codexis makes the payment pursuant to

Section 3.2(a) for such Category and, if Codexis makes such payment pursuant to Section 3.2(a), such licenses for such Category will not terminate for all purposes of this Agreement and will continue in full force and effect for a period of [*] years after Dyadic's receipt of such payment (unless otherwise terminated as set forth in this Agreement); and

(b) At any time after [*] years after Dyadic's receipt of the payment pursuant to Section 2.3(a) (i.e. a first payment pursuant to Section 2.3(a)), unless Codexis makes a payment pursuant to Section 3.2(a) (i.e. a second payment pursuant to Section 2.3(a)) for such Category and, if Codexis makes such payment pursuant to Section 3.2(a), such licenses will not terminate for all purposes of this Agreement and will continue in full force and effect for a period of [*] years after Dyadic's receipt of such payment (unless otherwise terminated as set forth in this Agreement), upon which date the licenses shall terminate for all purposes of this Agreement, unless Codexis makes the payment set forth in Section 3.3(a).

If Codexis does not make any payments in accordance with this Section 2.3, the licenses granted to Codexis with respect to such Category or Categories shall terminate (the "**Terminated Category or Categories**") and Dyadic shall be free to grant licenses, whether exclusive or non-exclusive, in Dyadic's sole discretion, with respect to such Terminated Category or Categories.

2.4 Acknowledgement. By entering into this Agreement with Dyadic, Codexis acknowledges that the Licensed IP and the Dyadic Materials have value to Dyadic and, in addition, may have value to Codexis in connection with the development and commercialization of one or more Codexis Products. As a result, Codexis agrees that it will (a) make all payments set forth in Article 3; (b) not transfer any Codexis Product to any Third Party except through a sale or other transaction that would result in the payment of milestones to Dyadic pursuant to Section 3.3; and (c) not grant a right to any Third Party with respect to any Codexis Product other than pursuant to a Sublicense Agreement in accordance with Section 2.1(c).

2.5 Restrictions on Use and Transfer of the Dyadic Materials and Production Strains

(a) The Dyadic Materials, the Production Strains and any derivatives or modifications thereof, shall be used by Codexis and its Affiliates (i) only in accordance with this Agreement, including, with respect to Third Party sublicensees of Codexis, Section 2.1(c), and (ii) in compliance with Law.

(b) Codexis shall not (i) deliver or transfer any C1 Strain to any Third Party, or (ii) deliver or transfer any Production Strain to any Third Party except pursuant to a Sublicense Agreement in accordance with Section 2.1(c).

(c) The Production Strains, the Dyadic Materials and any derivatives or modifications thereof must be used by Codexis and its Affiliates with prudence and appropriate caution [*].

(d) Unless otherwise agreed upon in writing by the Parties, the restrictions set forth in Section 2.1(c)(3) regarding [*].

(e) In the event that Dyadic has a reasonable basis to believe that Codexis, or any Affiliate or sublicensee of Codexis or its Affiliates, is using or has used any of the Dyadic Materials or any Production Strain in a manner that is inconsistent with the terms of this Agreement, Dyadic shall provide written notice to Codexis describing such reasonable basis prior to initiating any legal action or proceeding. As soon as practicable, but in no event later than [*] business days after Codexis' receipt of such written notice, the Parties shall confer, either in person or by telephone, to discuss and attempt to resolve Dyadic's concerns. In the event that Dyadic's concerns are not resolved in such conference, Codexis will initiate an investigation regarding Dyadic's concerns and, in a separate conference, either in person or by telephone, will provide to Dyadic a summary of its findings.

2.6 Materials Delivery; Technology Transfer.

(a) Dyadic, utilizing Dyadic's usual and customary means of shipment of similar materials, shall deliver to Codexis the Dyadic Materials within [*] days after the Effective Date. For purposes of this Agreement, Codexis shall be deemed to have received the Dyadic Materials upon receipt by Codexis and/or its Affiliates of all of the materials set forth on Exhibit D at the facility(ies) designated in writing by Codexis to Dyadic. In the [*] month period after receipt of the Dyadic Materials by Codexis, Dyadic shall provide to Codexis, [*], information and technical assistance reasonably requested by Codexis, including, but not limited to, up to [*] full time equivalents (**"FTEs"**), to facilitate an effective transfer of the Licensed Know-how from Dyadic to Codexis (the "**Initial FTE Requirement**"). For purposes of clarification, the work conducted by Dyadic and/or its Affiliates at its facilities in The Netherlands in training Codexis personnel in the use of, including without limitation in the conduct of validation activities with respect to, the Dyadic Materials shall be included in the Initial FTE Requirement. Information and technical assistance shall be provided by Dyadic to Codexis pursuant to a technology transfer plan to be agreed upon by the Parties with the goal of cost-effectiveness and reasonableness. In addition, upon Codexis' request, after the expiration of such [*] month period, Dyadic shall provide or, upon prior written agreement by Codexis, shall use good faith diligent efforts to arrange for the [*] to provide, Codexis with up to [*] FTEs to support Codexis in each of the [*] years after receipt of the Dyadic Materials by Codexis. Codexis shall reimburse Dyadic for such support in such [*] years at a rate equal to [*] per FTE per year in the [*] year, such rate to increase by [*] on each anniversary, beginning on the [*] anniversary, of the receipt of the Dyadic Materials by Codexis or, if such support is provided to Codexis by [*], Codexis shall [*], as applicable. In addition, if Codexis requests that such support, or the FTE support described above with respect to the first [*] months after receipt of the Dyadic Materials by Codexis, be provided at Codexis' facilities, Codexis shall [*] Dyadic (or [*], as applicable) for [*]. For clarity, the obligations under this Section 2.6(a) relate to information and technical assistance relating solely to the Licensed IP, and it is understood and agreed that Dyadic shall not be required to transfer any information hereunder that is not Licensed IP, or to generate any Licensed Know-how in any format in which it does not already exist.

(b) At any time or from time to time after the delivery of the Dyadic Materials to Codexis pursuant to Section 2.6(a), Dyadic, within [*] days after a written request by Codexis, will [*]; provided, however, that if such request occurs after the payment to Dyadic pursuant to Section 3.1(c), (i) Dyadic's obligations [*] shall be limited to materials for [*] at the time of receipt of such written request, and (ii) Codexis shall reimburse Dyadic for its [*] incurred with the [*] of any such [*].

(c) Dyadic shall retain all right, title and interest in and to the Dyadic Materials, subject to the rights and licenses granted to Codexis herein.

2.7 Covenant [*].

(a) Dyadic Covenant. [*].

(b) Codexis Covenant. [*].

(c) Covenant Agreements. Dyadic and Codexis each agrees to indemnify, defend and hold harmless the Codexis Indemnitees or the Dyadic Indemnitees, as applicable, and the other Party's licensees, sublicensees, distributors and customers from and against any and all liability, damage, loss, cost, or expense (including without limitation reasonable attorneys' fees) arising out of claims or suits brought by or on behalf of any Codexis Party or Dyadic Party, as applicable, alleging [*] set forth in this Section 2.7, in each case in accordance with the indemnification procedures set forth in Section 7.3. Dyadic and Codexis each agrees to (i) identify the other Party (either specifically or by reference to such other Party as a licensee or sublicensee) in writing in each Covenant Agreement [*] in this Section 2.7; and (ii) require, in each Covenant Agreement, that the relevant Codexis Party or Dyadic Party, as applicable, agree (x) not to assign, sell or otherwise transfer any Patent covered by the Covenant Agreement to a Third Party unless such Third Party agrees to be bound by the Covenant Agreement and (y) that any such sale, assignment or transfer in contravention of this requirement shall be deemed void and ineffective.

2.8 No Other Rights. Dyadic and Codexis each acknowledges that the rights and licenses granted under this Article 2 and elsewhere in this Agreement are limited to the scope expressly granted. Accordingly, except for the rights expressly granted under this Agreement, no right, title, or interest of any nature whatsoever is granted whether by implication, estoppel, reliance, or otherwise, by either Party to the other Party. All rights with respect to technology, patents or other intellectual property rights that are not specifically granted herein are reserved to the owner thereof.

ARTICLE 3
LICENSE FEES

3.1 License Issuance Fees. In consideration of the rights and licenses granted by Dyadic hereunder, Codexis shall pay the [*] fees as follows:

(a) [*];

(b) [*];

(c) [*];

Notwithstanding anything to the contrary, if after Codexis or its designee conducts reasonable due diligence and validation activities with respect to the Dyadic Materials, Codexis determines, on or before [*] days after receipt of the Dyadic Materials by Codexis, that the Dyadic Materials do not satisfy the performance criteria set forth on Exhibit E, Codexis shall not be required to pay any payment under Sections 3.1(a), 3.1(b) and 3.1(c) that would have been due after such determination. For purposes of clarification, Dyadic will train Codexis personnel in the use of, including without limitation in the conduct of validation activities with respect to, the Dyadic Materials in its facilities in The Netherlands; provided, however, that the determination of whether the Dyadic Materials received by Codexis from Dyadic do or do not satisfy the performance criteria set forth in Exhibit E will be made by Codexis personnel in Codexis' facilities in accordance with this Section 3.1. In the event that data obtained by Codexis, as of the expiration of the [*] day period beginning on the date of receipt by Codexis of the Dyadic Materials, indicate that the Dyadic Materials do not satisfy the performance criteria set forth on Exhibit E, samples of the Dyadic Materials received by Codexis from Dyadic will be provided to a skilled practitioner for analysis and a final determination as to whether the Dyadic Materials do or do not satisfy such performance criteria; provided however, that prior to providing such Dyadic Materials to such a skilled practitioner, Codexis shall notify Dyadic of Codexis data, and Dyadic, at Dyadic's expense, shall have the right to send a Dyadic representative to Codexis' facility where such performance criteria were tested to repeat the determination of such performance criteria. The Parties agree that [*] will be enlisted as the skilled practitioner to resolve any dispute between the Parties as to whether the Dyadic Materials do or do not satisfy such performance criteria. If it is determined upon mutual agreement of the Parties, or through the good faith efforts of [*], that the Dyadic Materials do not satisfy the performance criteria, this Agreement shall terminate in accordance with Section 10.2(d) and, within [*] days after the effective date of such termination, Dyadic shall reimburse Codexis in full for each payment made by Codexis under Section 3.1(a) and Section 3.1(b), as applicable, [*] as of the date such payment was originally made to Dyadic and, in addition, all fees held in escrow as a consequence of the payment made by Codexis under Section 3.1(c) shall be released to Codexis pursuant to the terms of the Escrow Agreement. The fees and expenses incurred in connection with the verification of the performance of the Dyadic Materials

shall be paid by Dyadic if it is determined that the Dyadic Materials do not satisfy such performance criteria and by Codexis if it is determined that the Dyadic Materials do satisfy such performance criteria. For purposes of clarification, in the event that data obtained by Codexis, on or before the expiration of the [*] day period beginning on the date of receipt by Codexis of the Dyadic Materials, indicate that the Dyadic Materials do not satisfy the performance criteria set forth on Exhibit E, Codexis shall have no obligation to make any payment to Dyadic pursuant to Section 3.1(a), 3.1(b) or 3.1(c) that has not been made by Codexis prior to such determination by Codexis unless and until there has been a final determination in accordance with this Section 3.1 that the Dyadic Materials do satisfy such performance criteria.

(d) On or before the Effective Date, the Parties will enter into the Escrow Agreement. Notwithstanding anything to the contrary, the Escrow Agreement will provide that, in the event that the certain conditions set forth on Schedule 1.13 have not been satisfied within [*] days after the Effective Date, all fees held in escrow as a consequence of the payment made by Codexis under Section 3.1(c) shall be released to Codexis.

3.2 License Maintenance Fees.

(a) In the event that Dyadic provides a written notice to Codexis pursuant to Section 2.3(a), or pursuant to Section 2.3(b), with respect to any particular Category (other than Category A and/or Category F), Codexis shall have a right, but not an obligation, to pay to Dyadic, within ninety (90) days after receipt of such notice, a payment equal to [*] of the applicable total payment for such particular Category set forth in Section 3.3(a). In the event that Codexis makes such a payment, the licenses set forth in Section 2.1(a) and Section 2.1(b) shall not terminate with respect to such particular Category, and shall continue in full force and effect with respect to such particular Category for the period specified in Section 2.3 (unless otherwise terminated as set forth in this Agreement).

(b) [*] of any payment made under Section 3.2(a) with respect to any particular Category shall be creditable against the payment made by Codexis for such particular Category pursuant to Section 3.3(a) and Codexis shall make the balance of any payment due pursuant to Section 3.3(a) when it becomes due, regardless of whether Codexis has made a payment under Section 3.3(a). If Codexis makes a payment for any particular Category pursuant to Section 3.3(a), including without limitation for purposes set forth in Section 2.2, Codexis shall have no obligation to make any payments under Section 3.2(a) thereafter with respect to such particular Category, and the licenses set forth in Section 2.1(a) and Section 2.1(b) with respect to such particular Category shall remain in full force and effect through the Term (unless otherwise terminated as set forth in this Agreement).

3.3 Milestone Payments.

(a) First Commercial Sale.

(i) Within [*] days after the First Commercial Sale of a Licensed Product, on a Category-by-Category basis, Codexis shall pay to Dyadic the [*] milestone payments set forth, on a Category-by-Category basis, on Exhibit F, less [*] of any amounts previously paid by Codexis for the Category that includes such Licensed Product pursuant to Section 3.2(a). For the purposes of clarification, (i) in the event of a First Commercial Sale of a second Licensed Product in any Category, no additional payment shall be due under this Section 3.3(a), and (ii) in the event that Codexis has made a payment to Dyadic for a particular Category for purposes set forth in Section 2.2, no additional payment shall be due to Dyadic upon a First Commercial Sale of a Licensed Product in such Category.

(ii) Notwithstanding anything to the contrary, Codexis shall pay to Dyadic the [*] milestone payment set forth on Exhibit F corresponding to Category F only after the First Commercial Sale of a Licensed Product in Category F by and for the benefit of a Person (including Codexis) other than the Codexis Exclusive Partner (including for Codexis or its Affiliates). Accordingly for purposes of clarification, in the event that there is a First Commercial Sale of a License Product in Category F by or for the benefit of the Codexis Exclusive Partner, Codexis shall have no obligation to pay to Dyadic the [*] milestone payment set forth on Exhibit F corresponding to Category F under this Section 3.3(a).

(b) Facility Fees.

(i) For the first (1st) [*] years after the First Commercial Sale of the first Licensed Product in the Field by or for the benefit of the Codexis Exclusive Partner in Category A or Category F (as applicable), for each commercial scale facility used to manufacture Licensed Products for use in such Category by or for the benefit of the Codexis Exclusive Partner, that starts operations during such [*] year period and utilizes any Licensed Product, Codexis shall pay to Dyadic, within [*] days after the start of such operations at such facility, a [*] fee equal to [*] per (A) [*] of annual end-product capacity in Category A, with respect to facilities used to produce such end-product or (B) annual capacity to produce the amount of [*] for use in Category F that would be sufficient to produce [*] of annual end-product capacity in Category A, with respect to facilities used to produce such [*]; provided that Codexis shall not be required to pay any amount greater than [*] under this Section 3.3(b)(i) with respect to any particular commercial scale facility; provided further that, any and all payments (including such [*] limit) due under this Section 3.3(b)(i) shall be reduced by [*] for each commercial scale facility located in a jurisdiction in which no Valid Claim exists covering the development, manufacture, use, sale, offer for sale, importation or other exploitation of any Licensed Product produced at such facility. Any expansion of such a commercial scale facility within such [*] year period shall be subject to additional fees based on the size of such expansion, subject to the forgoing [*] cap per facility. For purposes of illustration, if a facility having [*] per year end-product capacity in Category A becomes operational during the seven (7) year period after the First Commercial Sale of the first Licensed Product in the Field by or for the benefit of the Codexis Exclusive Partner in Category A in a jurisdiction in which a Valid Claim exists, Codexis will pay to Dyadic a facility fee equal to [*]. If, during such [*] year period such facility's capacity

is expanded to [*] per year of end-product in Category A and a Valid Claim exists in such jurisdiction at the time of such expansion, Codexis will pay to Dyadic an additional [*].

(ii) For the first (1st) [*] years after the First Commercial Sale of the first Licensed Product in the Field by and for the benefit of a Person (including Codexis) other than the Codexis Exclusive Partner in Category F (including by and for Codexis or its Affiliates), for each commercial scale facility used to manufacture Licensed Products for use in Category F by and for the benefit of such a Person, that starts operations during such [*] year period and utilizes any Licensed Product, Codexis shall pay to Dyadic, within [*] days after the start of such operations, a [*] fee equal to (A) [*] if annual biomass processing capacity at such facility is greater than [*] metric tons but less than [*] metric tons, or (B) [*] if annual [*] capacity at such facility is greater than [*] metric tons; provided that any and all payments due under this Section 3.3(b)(ii) shall be reduced by [*] for each commercial scale facility located in a jurisdiction in which no Valid Claim exists covering the development, manufacture, use, sale, offer for sale, importation or other exploitation of any Licensed Product produced at such facility. Any expansion of a commercial scale facility having an annual [*] capacity less than [*] metric tons or [*] metric tons, respectively, within such [*] year period shall be subject to a fee based on the size of such expansion. For purposes of illustration, if a commercial scale facility with an annual biomass processing capacity less than [*] metric tons is expanded to have an annual biomass processing capacity greater than [*] metric tons but less than [*] metric tons during the [*] year period after the First Commercial Sale of the first Licensed Product for use in Category F by and for the benefit of a Person (including Codexis) other than the Codexis Exclusive Partner in a jurisdiction in which a Valid Claim exists at the time such expanded facility becomes operational, Codexis will pay to Dyadic a facility fee equal to [*]. For purposes of further illustration, if a commercial scale facility with an annual [*] capacity equal to [*] metric tons is expanded to have an annual [*] capacity greater than [*] metric tons during the [*] year period after the First Commercial Sale of the first Licensed Product for use in Category F by and for the benefit of a Person (including Codexis) other than the Codexis Exclusive Partner in a jurisdiction in which a Valid Claim exists at the time such expanded facility becomes operational, Codexis will pay to Dyadic an additional [*].

(iii) For purposes of clarification, no commercial scale facility used to manufacture Licensed Products for use in the Field in Categories B, C, D and/or E shall be subject to a facility fee under this Section 3.3(b). For purposes of further clarification, after the expiration of the [*] year period after the First Commercial Sale of the first Licensed Product in the Field, no further payments under this Section 3.3(b) shall be due to Dyadic.

(c) Enzyme Volume Fee. For the first (1st) [*] years after the First Commercial Sale of the first Licensed Product in the Field in each of Categories B, C, D and/or E, as applicable, Codexis shall pay to Dyadic an enzyme volume fee based on the cumulative total quantity of all Licensed Products sold in the Field in Categories B, C, D and/or E, as set forth in Exhibit G. The fees due pursuant to this Section 3.3(c) shall be based on the cumulative volume of Licensed Product(s) sold in Categories B, C, D and/or E; provided that any volume of Licensed Product sold after the applicable [*] year period for any particular Category shall not be included in the

cumulative volume calculation. For purposes of clarification, volumes with respect to Licensed Products in the Field in Category A and Category F are not included in the calculation of enzyme volume under Exhibit G and are not included in calculation of any fees payable under this Section 3.3(c). For purposes of further clarification, after the expiration of the [*] year period after the First Commercial Sale of the first Licensed Product in the Field in a particular Category, no further payments under this Section 3.3(c) shall be due to Dyadic on any Licensed Product in such particular Category.

(d) Category F Products Fee. During the first (1st) [*] years after the First Commercial Sale of the first Licensed Product in the Field in Category F by and for the benefit of a Person (including Codexis) other than the Codexis Exclusive Partner, Codexis shall pay to Dyadic a fee equal to [*] per metric ton of [*] produced. [*].

ARTICLE 4
PAYMENT AND REPORTS

4.1 Facility Fee Reports and Payments. For each calendar quarter after the First Commercial Sale of the first Licensed Product in the Field in Category A and/or Category F, within [*] days after the end of each such calendar quarter, Codexis shall determine and shall deliver to Dyadic a report specifying (a) each facility for which a Facility Fee is due under Section 3.3(b), (b) the end-product or [*] capacity thereof, as applicable, and (c) the amount payable to Dyadic under Section 3.3(b). Any and all payments payable to Dyadic under Section 3.3(b) shall be due and payable within [*] days after the end of the calendar quarter in which the particular commercial scale facility initiated operations for purposes of Section 3.3(b). If no payment is due, Codexis shall so report.

4.2 Enzyme Volume Fee Reports and Payments. For each calendar quarter after the First Commercial Sale of the first Licensed Product in the Field in Categories B, C, D and/or E, within [*] days after the end of each such calendar quarter, Codexis shall determine and shall deliver to Dyadic a report specifying, on a Category-by-Category basis, (a) the MTEP of Licensed Product sold in each of Categories B, C, D and/or E, and (b) the amount payable to Dyadic under Section 3.3(c) in accordance with Exhibit G. Any and all payments payable to Dyadic under Section 3.3(c) shall be due and payable within [*] days after the end of the calendar quarter in which the applicable Licensed Products were sold for purposes of payments under Section 3.3(c). If no payment is due, Codexis shall so report.

4.3 Category F Products Reports and Payments. For each calendar quarter after the First Commercial Sale of the first Licensed Product in the Field in Category F by and for the benefit of a Person (including Codexis) other than the Codexis Exclusive Partner, within [*] days after the end of each such calendar quarter, Codexis shall determine and shall deliver to Dyadic a report specifying, (a) the metric tons of [*] produced and used in the production of products in Category F, and (b) the amount payable to Dyadic under Section 3.3(d). Any and all payments payable to Dyadic under Section 3.3(d) shall be due and payable within [*] days after the end of the calendar

quarter in which the applicable [*] were sold for purposes of production of products in Category F. If no payment is due, Codexis shall so report.

4.4 Payment Method. All payments due under this Agreement to Dyadic shall be made by bank wire transfer in immediately available funds to an account designated by Dyadic, and except as otherwise provided for payments due under Section 3.3, within thirty (30) days after receipt by Codexis of a relevant invoice for such payment. All payments hereunder shall be made in Dollars.

4.5 Withholdings Taxes. Any withholding or other tax that is required by Law to be withheld with respect to payments owed by Codexis pursuant to this Agreement shall be deducted by Codexis from such payment prior to remittance. Codexis shall promptly furnish Dyadic evidence of any such taxes withheld and reasonably assist Dyadic in obtaining applicable credits with respect thereto. Without limiting the foregoing, Codexis agrees, at Dyadic's request, to reasonably cooperate with Dyadic in availing itself of the benefit of any tax treaty to minimize such withholding tax with respect to payments hereunder to the extent permitted under Law.

4.6 Inspection of Records. Codexis shall keep, and shall require its Affiliates and sublicensees to keep, full and accurate books and records setting forth the name and address of each commercial scale facility for which a payment is due under Section 3.3(b) (each, a "**Facility**"), MTEP of Licensed Product sold for Categories B, C, D and/or E for which a payment is due under Section 3.3(c), and metric tons of [*] produced for use in production of products in Category F for which a payment is due under Section 3.3(d). Codexis shall require each of its sublicensees to provide to Codexis full and accurate copies of all books and records setting forth (a) the list of each Facility and/or (b) MTEP of Licensed Product sold by or for the benefit of such sublicensee in Categories B, C, D and/or E and/or (c) the metric tons of [*] produced for use in production of products in Category F by and for the benefit of such sublicensee; provided that the production of such [*] would result in a payment obligation to Dyadic pursuant to Section 3.3(d). Codexis shall permit Dyadic, by independent qualified public accountants engaged by Dyadic and reasonably acceptable to Codexis, to examine Codexis' and its Affiliates' books and records at any reasonable time, solely to determine the accuracy of the Facility Fees and/or the MTEP sold and/or the metric tons of [*] produced, but not later than [*] years following the rendering of any corresponding reports, accountings and payments pursuant to this Article 4. The foregoing right of review may be exercised [*] month period. The independent qualified public accountants engaged by Dyadic shall be under a confidentiality obligation to Codexis to disclose to Dyadic only the amount and accuracy of payments reported and actually paid or otherwise payable under this Agreement. The opinion of such independent accountants regarding such payments shall be binding on the Parties other than in the case of clear error. Dyadic shall bear the cost of any such examination and review; provided that if the inspection and audit shows an underpayment of any payment under Section 3.3(b) or Section 3.3(c) or Section 3.3(d) of more than [*] of the amount due for the applicable period, then Codexis shall promptly reimburse Dyadic for all costs incurred in connection with such examination and review. Codexis shall promptly pay to Dyadic the amount of any underpayment of any payment under Section 3.3(b) and/or Section 3.3(c) and/or Section 3.3(d) revealed by an examination and review with interest on the underpayment at the rate specified in Section 4.7 from the date such

payment was originally due. Any overpayment of any payment under Section 3.3(b) and/or Section 3.3(c) and/or Section 3.3(d) by Codexis revealed by an examination and review shall be fully-creditable against future payments under Article 3. Except as otherwise provided in this Section 4.6 above, all matters reviewed by such independent qualified public accountants shall be deemed Confidential Information of Codexis and subject to the confidentiality obligations of Article 6.

4.7 Late Payment. Any payments or portions thereof due hereunder which are not paid when due shall bear interest equal to the lesser of the rate equal to [*], on the date such payment was due or the maximum rate permitted by Law, calculated on the number of days such payment is delinquent. This Section 4.7 shall in no way limit any other remedies available to either Party.

ARTICLE 5
INTELLECTUAL PROPERTY

5.1 Prosecution of Licensed Patents. Dyadic shall, at Dyadic's sole cost and expense, [*], file for, prosecute, respond to oppositions, nullity actions, re-examinations, revocation actions and similar proceedings (including without limitation conducting or participating in interference and oppositions) filed by Third Parties against, and maintain the patents and patent applications within the Licensed Patents that are owned or otherwise controlled by Dyadic; provided that, in the event that Dyadic decides to cease activities relating to obtaining and maintaining any patent application or patent within the Licensed Patents that is owned or otherwise controlled by Dyadic, Dyadic shall provide written notice thereof to Codexis and, prior to taking action that would result in the abandonment of any such patent application or patent, Dyadic shall engage in good faith discussion with Codexis, such discussion to occur at least [*] days prior to the date when government rights would be lost as a consequence of abandonment of such patent application or patent.

5.2 Enforcement of Licensed Patents. In the event that Codexis reasonably believes that any Licensed Patent is being infringed by a Third Party, Codexis shall promptly notify Dyadic and provide Dyadic with evidence thereof. As between the Parties, Dyadic shall have the sole right to enforce such Licensed Patents with respect to such infringement, or to defend any declaratory judgment action with respect thereto, at Dyadic's expense.

5.3 Cooperation. Codexis agrees to cooperate with Dyadic as reasonably requested by Dyadic, at Dyadic's expense, in connection with the activities undertaken pursuant to this Article 5.

ARTICLE 6
CONFIDENTIALITY

6.1 Confidentiality Obligations. Each Party agrees that, during the term of this Agreement and for [*] years thereafter, all Confidential Information of the other Party shall be maintained in strict confidence, and shall not be used for any purpose other than the purposes expressly permitted by this Agreement, and shall not be disclosed to any Third Party. The foregoing

obligations will not apply to any portion of Confidential Information to the extent that it can be established by competent proof that such portion:

(a) was already known to the recipient as evidenced by its written records, other than under an obligation of confidentiality, at the time of disclosure;

(b) was generally available to the public or was otherwise part of the public domain at the time of its disclosure to the recipient;

(c) became generally available to the public or otherwise becomes part of the public domain after its disclosure and other than through any act or omission of the recipient in breach of this Agreement; or

(d) was subsequently lawfully disclosed to the recipient by a Third Party other than in contravention of a confidentiality obligation of such Third Party to the disclosing party.

6.2 Permitted Usage. Each Party may use and disclose Confidential Information of the other Party as follows: (a) under appropriate confidentiality provisions no less restrictive than those in this Agreement, in connection with the performance of its obligations or exercise of rights granted to or retained by such Party in this Agreement; (b) in connection with the filing for, prosecution, maintenance and enforcement of the Licensed Patents in accordance with this Agreement; (c) in connection with complying with the terms of agreements with Third Parties, prosecuting or defending litigation, complying with applicable governmental regulations, filing for, obtaining and maintaining regulatory approvals, or otherwise required by Law; provided, however, that if a Party is required by Law to make any disclosure of the other Party's Confidential Information it will give reasonable advance notice to the other Party of such disclosure requirement and will use its reasonable efforts to secure confidential treatment of such Confidential Information required to be disclosed; (d) in communication with potential or actual collaborators, partners, or licensees (including without limitation potential sublicensees), who prior to such disclosure have agreed in writing to be bound by obligations of confidentiality and non-use no less restrictive than the obligations set forth in this Article 6; (e) in confidence to potential or actual investment bankers, advisors (including without limitation financial advisors and accountants), investors, lenders, acquirers, merger partners, or other potential financial or strategic partners, and their attorneys and agents) on a need to know basis; provided, however, that the receiving Party shall remain responsible for any failure by any Person who receives Confidential Information pursuant to this Section 6.2 to treat such Confidential Information as required under this Article 6; and/or (f) to the extent mutually agreed to by the Parties in a prior writing.

6.3 Confidential Terms. Each of the Parties agrees not to disclose to any Third Party the terms and conditions of this Agreement without the prior approval of the other Party. Notwithstanding the foregoing, a Party may disclose the terms of this Agreement in confidence to its Affiliates in connection with the performance of this Agreement and solely on a need-to-know basis; to potential or actual collaborators, partners, or licensees (including without limitation potential

sublicensees), who prior to disclosure must agree to be bound by obligations of confidentiality and non-use no less restrictive than the obligations set forth in this Article 6; and/or in confidence to potential or actual investment bankers, advisors (including without limitation financial advisors and accountants), investors, lenders, acquirers, merger partners, or other potential financial or strategic partners, and their attorneys and agents) on a need to know basis; provided, however, that the receiving Party shall remain responsible for any failure by any Person who receives Confidential Information pursuant to this Section 6.3 to treat such Confidential Information as required under this Article 6.

6.4 Exceptions for Applicable Law or Regulation. Notwithstanding anything to the contrary in this Article 6, a Party may disclose any Confidential Information of the other Party or the terms of this Agreement that is required to be disclosed under Law; provided that, except where impracticable, such Party shall give the other Party reasonable advance notice of such disclosure requirement (which shall include a copy of any applicable subpoena or order) and shall afford the other Party a reasonable opportunity to oppose, limit or secure confidential treatment for such required disclosure. In the event of any such required disclosure, a Party shall disclose only that portion of the Confidential Information of the other Party that is required by Law to be disclosed and, in the event a protective order is obtained by the other Party, nothing in this Article 6 shall be construed to authorize the Party that is subject to the disclosure requirement to use or disclose any Confidential Information of the other Party to any Person other than as required by Law or beyond the scope of the protective order. A Party may disclose this Agreement if required to be disclosed by Law to the extent, and only to the extent, such Law require such disclosure and, in such an event, such Party provides the other Party a reasonable opportunity to review and comment on the general text of such disclosure, which comments shall be incorporated by the disclosing Party if reasonable under the circumstances.

6.5 Codexis Confidential Information. Dyadic has requested that (a) all Codexis Confidential Information, including without limitation any and all information provided by Codexis to Dyadic pursuant to Section 2.1(c), Section 4.1, Section 4.2, Section 4.3 and/or Section 4.6, be delivered by Codexis to Dyadic's Chief Executive Officer, outside counsel as indicated in Section 11.6, or, with respect to financial reports and payments as specified in Section 4.1, Section 4.2, Section 4.3 and/or Section 4.6, to Dyadic's internal accounting staff, and to no other employee, representative or agent of Dyadic, and (b) any information delivered by Codexis to any employee, representative or agent of Dyadic, other than (i) as set forth in subsection (a) of this Section 6.5 or (ii) in response to a request for such information by any employee, representative or agent of Dyadic, be deemed to be non-confidential information for purposes of this Article 6 and this Agreement (collectively, the "**Dyadic Request**"). Notwithstanding anything to the contrary, exchange of technical information in connection with the delivery of the Dyadic Material and the technology transfer as contemplated by Section 2.6 shall be deemed to be Confidential Information of the providing Party.

6.6 Public Announcements. Except to the extent required by Law, neither Party shall make any public announcements concerning this Agreement or the terms hereof without the prior

written consent of the other Party; provided that, upon the Effective Date, the Parties will issue a joint press release announcing this Agreement and the relationship of the Parties. Such press release will be in the form attached hereto as Exhibit H. Thereafter, each Party may disclose to Third Parties the information contained in such press release without the need for further approval by the other Party.

ARTICLE 7
INDEMNIFICATION

7.1 Indemnification by Codexis. Codexis shall indemnify, defend and hold Dyadic and its Affiliates, agents, employees, officers, and directors (the "**Dyadic Indemnitees**") harmless from and against any and all liability, damage, loss, cost, or expense (including without limitation reasonable attorneys' fees) arising out of Third Party claims or suits related to: (a) breach by Codexis of any of its representations, warranties, or covenants under this Agreement; (b) the negligence or willful misconduct of Codexis or its Affiliates, and its or their directors, officers, agents, employees, or consultants; and (c) any exploitation by, or under the authority of, Codexis of the licenses granted under Section 2.1 (including by any Affiliate or sublicensee); provided, however, that Codexis' obligations pursuant to this Section 7.1 will not apply to the extent such claims or suits result from (i) any claim or suit by a Third Party that use or exploitation of the Dyadic Materials as delivered to Codexis infringe intellectual property rights of such Third Party except with respect to any such claim or suit that is a consequence of actions by Codexis to modify or derivatize such Dyadic Materials, the combination of such Dyadic Materials with other materials or (ii) the negligence or willful misconduct of any of the Dyadic Indemnitees or breach by Dyadic of its representations, warranties, or covenants set forth in this Agreement, or to the extent that Dyadic has indemnification obligations with respect to such claims or suits under Section 7.2.

7.2 Indemnification by Dyadic. Dyadic shall indemnify, defend, and hold Codexis and its Affiliates, sublicensees, agents, employees, officers, and directors (the "**Codexis Indemnitees**") harmless from and against any and all liability, damage, loss, cost, or expense (including without limitation reasonable attorneys' fees) arising out of Third Party claims or suits related to: (a) breach by Dyadic of any of its representations, warranties, or covenants under this Agreement; and (b) the negligence or willful misconduct of Dyadic or its Affiliates, and its or their directors, officers, agents, employees, or consultants; provided, however, that Dyadic's obligations pursuant to this Section 7.2 will not apply to the extent such claims or suits result from the negligence or willful misconduct of any of the Codexis Indemnitees or breach by Codexis of its representations, warranties, or covenants set forth in this Agreement, or to the extent that Codexis has indemnification obligations with respect to such claims or suits under Section 7.1.

7.3 Procedure. As a condition to a Party's right to receive indemnification under Section 7.1, Section 7.2 or Section 2.7(c), it shall: (a) promptly deliver notice in writing (a "**Claim Notice**") to the other Party as soon as it becomes aware of a claim or suit for which indemnification may be sought pursuant to Section 7.1, Section 7.2 or Section 2.7(c) (provided that the failure to give a Claim Notice promptly shall not prejudice the rights of an indemnified Party except to the extent that

the failure to give prompt notice materially adversely affects the ability of the indemnifying Party to defend the claim or suit); (b) cooperate with the indemnifying Party in the defense of such claim or suit, at the expense of the indemnifying Party; and (c) if the indemnifying Party confirms in writing to the indemnified Party its intention to defend such claim or suit within [*] days after receipt of the Claim Notice, permit the indemnifying Party to control the defense of such claim or suit, including without limitation the right to select defense counsel; provided that, if the indemnifying Party fails to (i) provide such confirmation in writing within such [*] day period or (ii) after providing such confirmation, diligently and reasonably defend such suit or claim at any time, the indemnifying Party's right to defend the claim or suit shall terminate immediately in the case of (i) and otherwise upon [*] days' written notice by the indemnified Party to the indemnifying Party, and the indemnified Party may assume the defense of such claim or suit at the sole expense of the indemnifying Party but may not settle or compromise such claim or suit without the consent of the indemnifying Party, not to be unreasonably withheld or delayed. In no event, however, may the indemnifying Party compromise or settle any claim or suit in a manner which admits fault or negligence on the part of any indemnified Party or that otherwise materially affects such indemnified Party's rights under this Agreement or requires any payment by an indemnified Party without the prior written consent of such indemnified Party. Except as expressly provided above, the indemnifying Party will have no liability under this Article 7 or Article 2 with respect to claims or suits settled or compromised without its prior written consent.

ARTICLE 8
REPRESENTATIONS, WARRANTIES, AND COVENANTS

8.1 General. Each Party represents and warrants to the other that: (a) it is duly organized and validly existing under the Law of the jurisdiction of its incorporation, and has full corporate power and authority to enter into this Agreement and to carry out the provisions hereof; (b) it is qualified to do business and is in good standing in each jurisdiction in which it conducts business; (c) duly authorized to execute and deliver this Agreement and to perform its obligations hereunder, and the person executing this Agreement on its behalf has been duly authorized to do so by all requisite corporate action; (d) this Agreement is legally binding upon it and enforceable in accordance with its terms and the execution, delivery and performance of this Agreement by it does not conflict with any agreement, instrument or understanding, oral or written, to which it is a party or by which it may be bound, nor violate any material Law; and (e) it is not aware of any action, suit or inquiry or investigation instituted by any Person which questions or threatens the validity of this Agreement.

8.2 Dyadic Representations, Warranties and Covenants.

(a) Dyadic represents and warrants that, as of the Effective Date, except as set forth on Schedule 8.2(a), (i) the Patents set forth onExhibit C are a complete list of all Patents that claim or disclose Dyadic's C1 expression system, the C1 high-throughput screening system and/or C1-derived enzymes that are necessary or useful in the [*]; (ii) Dyadic is the owner of each, and no Person has any valid claim of ownership with respect to any, of the Patents listed on Exhibit C and

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

of the Dyadic Materials; (iii) to the knowledge of Dyadic, the Dyadic Materials [*]; (iv) Dyadic has the right and authority to enter into this Agreement and to grant the rights and licenses granted to Codexis herein; (v) Dyadic is in compliance with Law applicable to the transfer of biological materials, including without limitation guidelines and recommendations with respect to biodiversity, and has obtained any and all authorizations, licenses and/or permits required for transfer by Dyadic of the Dyadic Materials to Codexis, except in each as would not be reasonably expected to have a material adverse effect on Codexis' ability to the practice the rights granted to Codexis pursuant to Section 2.1(a) and Section 2.1(b); (vi) the Licensed IP and the Dyadic Materials are free and clear of any and all liens and/or encumbrances; (vii) Dyadic has not granted any right, license or interest in the Licensed IP, or any portion thereof, inconsistent with the rights and licenses granted to Codexis herein; (viii) there are no Third Party actions, claims or demands, and, to Dyadic's knowledge, (A) there are no threatened or pending Third Party actions, claims or demands and (B) there is no reasonable basis to support any Third Party action, claim or demand, relating either to the Licensed IP or the right of Dyadic to grant to Codexis the rights and licenses granted herein; (ix) Dyadic does not own or otherwise control any Patent, other than those set forth on Exhibit C that claim (A) any composition of matter or formulation thereof (including any manufacture, offer for sale, sale, importation or use of such composition or formulation) or (B) any use in the Field, that would, in each of (A) and/or (B), be necessary or reasonably useful in the practice of the rights granted to Codexis pursuant to Section 2.1(a) and Section 2.1(b); (x) the Dyadic Materials delivered to Codexis pursuant to Section 2.6 include the tangible materials that are currently being used for the benefit of Dyadic at Dyadic, [*] and Dyadic's Affiliate in The Netherlands for similar purposes as those contemplated hereunder and, to Dyadic's knowledge, it is not in possession of any other such materials that would be necessary for the practice of the rights granted to Codexis pursuant to Section 2.1(a) and Section 2.1(b), other than any such materials for which Dyadic has contractual obligations as of the Effective Date that would preclude such delivery to Codexis; (xi) Dyadic has not granted a license right to any Third Party to practice the Licensed IP, to use the Dyadic Materials, or to practice or to use any component of the foregoing that would result in any Improvement made by, for the benefit of or under the authority of, such Third Party to be exempt from the covenant granted by Dyadic to Codexis in Section 2.7(a); (xii) to Dyadic's knowledge, the Dyadic Materials are not [*]; (xiii) [*] to be delivered to Codexis as part of the Dyadic Materials [*]; (xiv) the certificate of secretary for Dyadic International (USA), Inc. attached hereto as Exhibit I is true, accurate and correct; (xv) the certificate of secretary for Dyadic International, Inc. attached hereto as Exhibit J is true, accurate and correct; and (xvi) [*] strain provided to Codexis [*]. For clarity, Codexis acknowledges that Dyadic [*] to Dyadic other than the [*] and that [*].

(b) Dyadic covenants that (i) Dyadic will not, during the Term, undertake any obligation, or grant any right, license, interest or lien, that conflicts with its obligations, or the rights and licenses granted to Codexis, under the terms of this Agreement, or impairs the rights granted by Dyadic to Codexis under the terms of this Agreement; (ii) Dyadic will, as soon as practicable, deliver to Codexis [*].

8.3 Codexis Covenants. Codexis covenants that:

(a) Codexis and its Affiliates will not (i) solicit or initiate any inquiry, proposal or offer from, or provide any information specific to the Licensed IP to, or conduct any research using the Licensed IP for the benefit of, any Third Party set forth on Schedule 8.3(a) regarding any sublicense in Category F prior to [*] months after the Effective Date, and (ii) grant a sublicense to any Third Party in Category F, other than Codexis Exclusive Partner, prior to [*] months after the Effective Date; and

(b) if all actions set forth in Schedule 8.2(b) have not been completed by Dyadic within [*] days after receipt of the Dyadic Materials by Codexis, as evidenced by delivery to Codexis of an executed certificate and supporting materials and documentation, as further described in subsection (ii) of Section 8.2(b), Codexis will enter into the Escrow Agreement with Dyadic.

8.4 Disclaimer. EXCEPT AS PROVIDED IN THIS ARTICLE 8, NEITHER PARTY MAKES ANY REPRESENTATION OR WARRANTY (EXPRESS, IMPLIED, STATUTORY OR OTHERWISE) WITH RESPECT TO THE SUBJECT MATTER OF THIS AGREEMENT, INCLUDING WITHOUT LIMITATION WITH RESPECT TO THE DYADIC MATERIALS OR ANY DERIVATIVE OR MODIFICATION OF THE DYADIC MATERIALS, AND EACH PARTY SPECIFICALLY DISCLAIMS ANY AND ALL IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND ALL WARRANTIES AND CONDITIONS OF THE VALIDITY OF THE LICENSED PATENTS OR NONINFRINGEMENT OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS. THIS SECTION 8.4 SHALL NOT BE CONSTRUED TO LIMIT EITHER PARTY'S OBLIGATIONS UNDER ARTICLE 7.

ARTICLE 9
LIMITATION OF LIABILITY

9.1 EXCEPT FOR ANY LIABILITY THAT IS THE CONSEQUENCE OF WILLFUL MISCONDUCT OF A PARTY, OR A BREACH OF ARTICLE 6, IN NO EVENT SHALL EITHER PARTY BE LIABLE TO THE OTHER PARTY FOR ANY SPECIAL, CONSEQUENTIAL, EXEMPLARY OR INCIDENTAL DAMAGES (INCLUDING LOST OR ANTICIPATED REVENUES OR PROFITS RELATING TO THE SAME), HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY ARISING OUT OF THIS AGREEMENT, WHETHER SUCH CLAIM IS BASED ON CONTRACT, TORT (INCLUDING NEGLIGENCE) OR OTHERWISE, AND WHETHER OR NOT SUCH PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGE. THESE LIMITATIONS SHALL APPLY NOTWITHSTANDING ANY FAILURE OF ESSENTIAL PURPOSE OF ANY LIMITED REMEDY PROVIDED HEREIN. THIS ARTICLE 9 SHALL NOT BE CONSTRUED TO LIMIT EITHER PARTY'S OBLIGATIONS UNDER ARTICLE 7.

ARTICLE 10
TERM AND TERMINATION

10.1 Term. Unless terminated earlier pursuant to Section 10.2, the term of this Agreement shall commence on the Effective Date and continue in full force and effect for as long as Codexis has an obligation to pay Dyadic any of the amounts set forth under Article 3 (the "**Term**").

10.2 Termination.

(a) For Convenience. Any provision herein notwithstanding, Codexis shall have the right to terminate this Agreement at will at any time after making the payments set forth in Section 3.1, by giving Dyadic [*] days' written notice referencing this Section 10.2(a).

(b) For Material Breach. If either Party shall at any time breach any material term, condition or agreement herein, and shall fail to have initiated and actively pursued remedy of any such default or breach within [*] days after receipt of written notice thereof, or [*] days with respect to any breach of a payment obligation, by the other Party, that other Party may, at its option, terminate this Agreement and revoke any rights and licenses herein. Any termination of the Agreement under this Section 10.2(b) shall not, however, prejudice the right of the Party who terminates this Agreement to recover any milestone payment or other sums due at the time of such cancellation, and it being understood that if within [*] days, or [*] days with respect to any breach of a payment obligation, after receipt of any such notice the breaching Party shall have initiated and actively pursued remedy of its default, then the rights and licenses herein granted shall remain in force as if no breach or default had occurred on the part of the breaching Party, unless such breach or default is not in fact remedied within [*] days, or [*] days with respect to any breach of a payment obligation, of such notice.

(c) Termination due to Challenge of Patent. To the extent permitted by Law, the licenses granted by Dyadic to Codexis under this Agreement may, at Dyadic's option, be terminated as to any country by Dyadic in the event that Codexis challenges the validity of a Dyadic Patent in such country.

(d) Termination due to Failure to meet Performance Criteria. This Agreement shall terminate automatically, without any requirement of further action by either Party, upon confirmation, in accordance with Section 3.1, that the Dyadic Materials did not meet the performance criteria. In the event of termination of this Agreement in accordance with this Section 10.2(d), Dyadic shall reimburse Codexis in full for each payment made by Codexis under Section 3.1(a) and Section 3.1(b), as applicable, plus interest at the rate specified in Section 4.7 as of the date such payment was originally made to Dyadic and, in addition, all fees held in escrow as a consequence of the payment made by Codexis under Section 3.1(c) shall be released to Codexis pursuant to the terms of the Escrow Agreement.

10.3 Effect of Termination/Expiration.

(a) Rights and Obligations Upon Expiration. Upon expiration (but not earlier termination) of this Agreement, all rights and licenses granted by either Party to the other Party hereunder that were in effect immediately prior to the effective date of such expiration shall become irrevocable, perpetual and fully-paid.

(b) Rights and Obligations Upon Termination. As of the effective date of a termination (but not expiration) of this Agreement for any reason: (i) Section 2.1 shall terminate and all rights in the Licensed IP shall revert to Dyadic, except as provided in Section 10.3(c); (ii) Dyadic shall have the right to retain all amounts correctly paid hereunder; provided that, in the event of termination of this Agreement pursuant to Section 10.2(d), nothing in this Section 10.3(a) shall limit Dyadic's obligation to reimburse Codexis in full for each of the payments made by Codexis under Section 3.1 plus interest at the rate specified in Section 4.7 as of the date such payments were originally made to Dyadic; (iii) each Party shall return to the other Party any materials (including, without limitation, the Dyadic Materials), and any and all improvements, derivatives or modifications thereof provided to it by such Party pursuant to this Agreement, except as provided in Section 10.3(c); and (iv) each Party shall return to the other Party and cease using all Confidential Information of the other, except as provided in Section 10.3(c); provided that counsel of each Party may retain one (1) copy of such Confidential Information for ensuring compliance with Article 6.

(c) Termination by Codexis for Material Breach; Retained Licensed Products. As of the effective date of a termination by Codexis pursuant to Section 10.2(b) for a material breach by Dyadic, all terms and conditions of this Agreement including the rights and licenses granted by Dyadic to Codexis hereunder that were in effect immediately prior to the effective date of such termination shall survive; provided that any and all payments due by Codexis to Dyadic under Article 3 as of the effective date of such termination shall be reduced by [*]; and provided further that, in the event of such a termination by Codexis due to a breach by Dyadic of its obligations under Section 2.7(a), Codexis shall have no further payment obligations to Dyadic under Article 3.

(d) Covenant [*]**.** The provisions of Section 2.7 shall survive expiration of this Agreement, but shall not survive earlier termination except as expressly provided in this Section 10.3(d). In the event of a termination of this Agreement by Codexis pursuant to Section 10.2(c), the provisions of Section 2.7(a), and Section 2.7(c) (but only as applicable to Section 2.7(a)), shall survive. In the event of a termination of this Agreement (i) by Codexis for convenience pursuant to Section 10.2(a) or (ii) by Dyadic for Codexis' breach pursuant to Section 10.2(b), the provisions of Section 2.7(b), and Section 2.7(c) (but only as applicable to Section 2.7(b)), shall survive.

(e) Accrued Rights. Termination or expiration of this Agreement for any reason will be without prejudice to any rights that will have accrued to the benefit of a Party prior to such termination or expiration. Such termination or expiration will not relieve a Party from accrued payment obligations or from obligations which are expressly indicated to survive termination or expiration of this Agreement.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

(f) Survival. Articles 1, 6 (for the period set forth in Section 6.1), 7, 9 and 11, and Sections 2.8, 4.6, 8.4, and 10.3 (as applicable), shall survive the expiration and any termination of this Agreement. Except as otherwise provided in this Section 10.3, all other provisions of this Agreement shall terminate upon the expiration or termination of this Agreement.

ARTICLE 11
GENERAL PROVISIONS

11.1 Entire Agreement of the Parties; Amendments. This Agreement constitutes and contains the entire understanding and agreement of the Parties respecting the subject matter hereof and cancels and supersedes any and all prior and contemporaneous negotiations, correspondence, understandings, and agreements between the Parties, whether oral or written, regarding such subject matter. No waiver, modification, amendment or alteration of any provision of this Agreement will be valid or effective unless made in writing and signed by each of the Parties; provided that any waiver, modification, amendment or alteration of Section 6.5 or Section 11.6 shall be valid and effective only by the procedure set forth in such Section 6.5 and/or Section 11.6, as applicable.

11.2 Further Actions. Each Party agrees to execute, acknowledge, and deliver such further instruments and to do all such other acts as may be necessary or appropriate in order to carry out the express provisions of this Agreement.

11.3 Assignments. Neither this Agreement nor any interest hereunder may be assigned, nor any other obligation delegated, by a Party without the prior written consent of the other Party; provided, however, that a Party shall have the right to assign this Agreement without consent of the other Party to an Affiliate of the assigning Party or to any successor in interest to the assigning Party by operation of law, merger, consolidation, or other business reorganization or the sale of all or substantially all of its assets relating to the subject matter of this Agreement in a manner such that the assigning Party will remain liable and responsible for the performance and observance of all of its duties and obligations hereunder. This Agreement shall be binding upon successors and permitted assigns of the Parties. Any assignment not in accordance with this Section 11.3 will be null and void.

11.4 Performance by Affiliates. The Parties recognize that each may perform some or all of its obligations under this Agreement through Affiliates or may exercise some or all of its rights under this Agreement through Affiliates, provided, however, that each Party shall remain responsible and be guarantor of the performance by its Affiliates and shall cause its Affiliates to comply with the provisions of this Agreement in connection with such performance. In particular and without limitation, (i) all Affiliates of a Party that receive Confidential Information of the other Party pursuant to this Agreement shall be governed and bound by all obligations set forth in Article 6, and (ii) all Affiliates of Codexis that have access to the Dyadic Materials or any derivative or modification thereof shall be governed and bound by all obligations set forth in Section 2.5 and Article 6. Each Party will prohibit all of its Affiliates from taking any action that such Party is prohibited from taking under this Agreement as if such Affiliates were parties to this Agreement.

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11.5 Relationship of the Parties. The Parties shall perform their obligations under this Agreement as independent contractors and nothing in this Agreement is intended or will be deemed to constitute a partnership, agency or employer-employee relationship between the Parties. Neither Party will have any right, power or authority to assume, create, or incur any expense, liability, or obligation, express or implied, on behalf of the other.

11.6 Notices. Any notice, request, delivery, approval or consent required or permitted to be given under this Agreement will be in writing and will be deemed to have been sufficiently given if delivered in person, transmitted by facsimile (receipt verified) or by express courier service (signature required) or five (5) days after it was sent by registered letter, return receipt requested (or its equivalent); provided that no postal strike or other disruption is then in effect or comes into effect within two (2) days after such mailing, to the Party to which it is directed at its address or facsimile number shown below or such other address or facsimile number as such Party will have last given by notice to the other Party.

If to Codexis:	Codexis, Inc. 200 Penobscot Drive Redwood City, CA 94063 Attention: General Manager, Bioindustrials Fax: [*]
With a copy to:	Codexis, Inc. 200 Penobscot Drive Redwood City, CA 94063 Attention: General Counsel Fax: [*]
If to Dyadic:	Dyadic International (USA), Inc. 140 Intracoastal Pointe Drive, Suite 404 Jupiter, FL 33477-5094 Attention: Mark A. Emalfarb Fax: [*]
With a copy to:	Robert Levin Levin & Ginsburg 180 North LaSalle Street, Suite 3200 Chicago, IL 60601 Fax: [*]

11.7 Compliance with Law. Each Party shall comply with all Law in connection with its activities pursuant to this Agreement.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

11.8 Governing Law; Dispute Resolution. The rights and obligations of the Parties under this Agreement shall be governed, and shall be interpreted, construed, and enforced, in all respects by the Law of the State of New York, as permitted by Section 5-1401 of the New York General Obligations Law (or similar successor provision), without giving effect to any conflict of Law rule that would result in the application of the Law of any jurisdiction other than the internal Law of the State of New York to the rights and duties of the Parties. All actions and proceedings arising out of or relating to this Agreement shall be heard and determined in any New York State or federal court sitting in New York City, New York County, New York, and the Parties hereby irrevocably submit to the jurisdiction of such courts in any such action or proceeding and irrevocably waive any defense of an inconvenient forum to the maintenance of any such action or proceeding.

11.9 Rights in Bankruptcy. The Parties acknowledge and agree that this Agreement constitutes a license of rights to "intellectual property" as that term is defined in Section 101(35A) of Title 11, United States Code (the "**Bankruptcy Code**") and is therefore governed by Section 365(n) of the Bankruptcy Code. The Parties shall retain and may fully exercise all of their respective rights and elections under the Bankruptcy Code. Notwithstanding anything to the contrary, if a Chapter 11 petition is filed by or against Dyadic, Dyadic shall seek approval of the bankruptcy court to assume this Agreement pursuant to 11 U.S.C. § 363.

11.10 Captions. The captions to this Agreement are for convenience only, and are to be of no force or effect in construing or interpreting any of the provisions of this Agreement.

11.11 Waiver. A waiver by a Party of any of the terms and conditions of this Agreement in any instance will not be deemed or construed to be a waiver of such term or condition for the future, or of any subsequent breach hereof. All rights, remedies, undertakings, obligations, and agreements contained in this Agreement will be cumulative and none of them will be in limitation of any other remedy, right, undertaking, obligation, or agreement of either Party.

11.12 Severability. When possible, each provision of this Agreement will be interpreted in such manner as to be effective and valid under Law, but, if any provision of this Agreement is held to be prohibited by or invalid under Law, such provision will be ineffective but only to the extent of such prohibition or invalidity, without invalidating the remainder of such provision or of this Agreement. The Parties will make a good faith effort to replace the invalid or unenforceable provision with a valid one which in its economic effect is most consistent with the invalid or unenforceable provision

11.13 Counterparts. This Agreement may be executed simultaneously in counterparts, any one of which need not contain the signature of more than one Person but all such counterparts taken together will constitute one and the same agreement.

[*Signature Page Follows*]

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

IN WITNESS WHEREOF, the Parties have executed this Agreement in duplicate originals by their duly authorized representatives as of the Effective Date.

CODEXIS, INC.
("Codexis")

By: /s/ Alan Shaw
Name: Alan Shaw
Title: President and CEO

DYADIC INTERNATIONAL (USA), INC.
("Dyadic")

By: /s/ Mark A. Emalfarb
Name: Mark A. Emalfarb
Title: CEO

DYADIC INTERNATIONAL, INC.
("Dyadic")

By: /s/ Mark A. Emalfarb
Name: Mark A. Emalfarb
Title: CEO

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

EXHIBIT A

FIELD

The Field shall consist of the following Categories:

Category A, [*].

Category B, [*].

Category C, [*]

Category D, [*].

Category E, [*].

Category F, [*].

The Field shall not include [*] and (vi) any other use not set forth in Categories A through F. For purposes of this Exhibit A, the term [*] means [*].

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

EXHIBIT B

FIRST COMMERCIAL SALE

The First Commercial Sale, on a Category-by-Category basis, shall be:

Category A [*]**:** The first sale of one thousand kilograms (1,000 kg) or more of formulated enzyme product for use in a commercial or pre-commercial facility.

Category B, [*]**:** The first sale of [*].

Category C, [*]**:** The first sale of [*].

Category D, [*]**:** The first sale of [*].

Category E, [*]**:** The first sale of [*].

Category F, [*]**:** The first sale of [*].

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

EXHIBIT C

LICENSED PATENTS

	Title	Country	Status	Application No.	App. Date	Patent No.	Issue Date
[*]							
1.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
2.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
3.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
4.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
[*]							
5.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
6.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
[*]							
7.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
[*]							

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

	Title	Country	Status	Application No.	App. Date	Patent No.	Issue Date
8.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
9.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
[*]							
10.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
11.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
12.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
13.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
14.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
15.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
16.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
17.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
18.	[*]	[*]	[*]	[*]	[*]	[*]	[*]

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

	Title	Country	Status	Application No.	App. Date	Patent No.	Issue Date
19.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
20.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
21.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
22.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
23.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
24.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
			[*]				
25.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
26.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
27.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
28.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
29.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
30.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
31.	[*]	[*]	[*]	[*]	[*]	[*]	[*]

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

	Title	Country	Status	Application No.	App. Date	Patent No.	Issue Date
32.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
33.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
34.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
35.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
36.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
37.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
38.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
39.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
40.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
41.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
42.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
43.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
44.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
45.	[*]	[*]	[*]	[*]	[*]	[*]	[*]

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

	Title	Country	Status	Application No.	App. Date	Patent No.	Issue Date
46.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
47.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
48.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
49.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
50.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
51.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
52.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
[*]							
53.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
54.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
55.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
56.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
57.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
58.	[*]	[*]	[*]	[*]	[*]	[*]	[*]

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	Title	Country	Status	Application No.	App. Date	Patent No.	Issue Date
59.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
60.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
61.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
62.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
63.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
64.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
65.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
66.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
67.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
68.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
69.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
70.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
71.	[*]	[*]	[*]	[*]	[*]	[*]	[*]

[*]

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

	Title	Country	Status	Application No.	App. Date	Patent No.	Issue Date
72.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
73.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
74.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
75.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
76.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
77.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
78.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
79.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
80.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
81.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
82.	[*]	[*]	[*]	[*]	[*]	[*]	[*]

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

	Title	Country	Status	Application No.	App. Date	Patent No.	Issue Date
83.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
84.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
85.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
86.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
87.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
88.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
89.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
90.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
91.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
92.	[*]	[*]	[*]	[*]	[*]	[*]	[*]

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

	Title	Country	Status	Application No.	App. Date	Patent No.	Issue Date
93.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
94.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
95.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
96.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
97.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
98.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
99.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
100.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
101.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
102.	[*]	[*]	[*]	[*]	[*]	[*]	[*]

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

	Title	Country	Status	Application No.	App. Date	Patent No.	Issue Date
103.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
104.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
105.	[*]	[*]	[*]	[*]	[*]	[*]	[*]
106.	[*]	[*]	[*]	[*]	[*]	[*]	[*]

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

EXHIBIT D

MATERIALS

[*]

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

EXHIBIT E

MATERIALS PERFORMANCE CRITERIA

Milestone 1.

Item	Duration
[*]	[*]
[*]	[*]
[*]	[*]
[*]	[*]
Total	[*]

[*]
Deliverable [*]**:**
[*].

Milestone 2. [*]

Transformation:

Item	Duration
[*]	[*]
[*]	[*]
[*]	[*]
[*]	[*]
[*]	[*]
[*]	[*]
[*]	[*]

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

[*]	[*]
[*]	[*]
[*]	[*]

Deliverable [*]:
[*].

Milestone 3. [*]

Item	Duration
[*]	[*]
[*]	[*]
[*]	[*]

Deliverable [*]**:**

[*]

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

EXHIBIT F

FIRST COMMERCIAL SALE MILESTONE PAYMENTS

Category	Amount
A	[*]
B	[*]
C	[*]
D	[*]
E	[*]
F	[*]

* Payable only after the First Commercial Sale of a Licensed Product in Category F by and for the benefit of a Person (including Codexis) other than the Codexis Exclusive Partner, as described in Section 3.3(a)(ii).

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

EXHIBIT G

ENZYME VOLUME FEE MILESTONE PAYMENTS

For the commercial sales of enzymes for use in the Field in Categories B, C, D and/or E, Codexis shall pay Dyadic an enzyme volume fee milestone pursuant to Section 3.3(c) based on the cumulative volume of all such enzyme(s) in a particular Category that have been sold by Codexis, its Affiliates or its sublicensees during the [*] years after the First Commercial Sale of the first Licensed Product in such particular Category as measured in MTEP, as follows:

	MTEP	$ per MTEP	Full Segment Payment	Cumulative Segment Payment
Segment 1	[*]	[*]	[*]	[*]
Segment 2	[*]	[*]	[*]	[*]
Segment 3	[*]	[*]	[*]	[*]
Segment 4	[*]	[*]	[*]	[*]
Segment 5	[*]	[*]	[*]	[*]
Segment 6	[*]	[*]	[*]	[*]
Segment 7	[*]	[*]	[*]	[*]
Segment 8	[*]	[*]	[*]	[*]

* For illustration purposes, if sales of enzyme were [*] MTEP, the Full Segment 8 Payment would equal [*], and the Cumulative Segment Payment would equal [*] (i.e, [*]).

MTEP will be calculated using [*]

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

EXHIBIT H

FORM OF PRESS RELEASE

See Attached

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

Codexis, Inc.
200 Penobscot Drive
Redwood City, CA 94063
Tel: 650.421-8100
www.codexis.com

Dyadic International, Inc.
140 Intracoastal Pointe Drive, Suite 404
Jupiter, Florida 33477-5094 USA
Phone: 1-561-743-8333
www.dyadic.com

Codexis, Dyadic In Enzyme Production System License Agreement

Redwood City, CA and Jupiter, FL – (Date) – Codexis, Inc. and Dyadic International (USA), Inc. today announced a license agreement covering use of Dyadic's C1 expression system for large-scale production of enzymes in certain fields including biofuels and chemical and pharmaceutical intermediate production. The agreement includes an upfront payment by Codexis of $10 million provided that certain performance criteria are satisfied. Additional financial terms were not disclosed.

"Codexis develops improved biocatalysts which are solving specific industrial challenges for global leaders in pharmaceuticals and bioindustrials. We are developing advanced biofuels from non-food biomass sources, and we have other programs aimed at addressing critical environmental issues," said Alan Shaw, Ph.D., Codexis President and Chief Executive Officer. "The Dyadic production system expands our technology platform, providing improved capability and efficiency in enzyme production across many Codexis programs."

"Dyadic's C1 expression system enables the cost-effective manufacture of industrial enzymes at commercial scale," said Mark Emalfarb, Dyadic Founder and Chief Executive Officer. "We anticipate our C1 System may help overcome limitations of current techniques, and can be an important tool as Codexis develops new fuels and other clean technology products."

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

About Codexis

Codexis Inc. is a clean technology company. Codexis develops biocatalysts used to create powerful, efficient and cleaner chemistry-based manufacturing processes in the life sciences, bioindustrial and chemical marketplaces. Codexis technology is used by global pharmaceutical companies for cost-effective manufacturing of human therapeutics and in the energy industry to enable advanced biofuels. Future commercial applications include carbon management, water treatment and chemical manufacturing. For more information, visit www.codexis.com.

About Dyadic

Dyadic International, Inc. is engaged in the development, manufacture and sale of biological products using a number of proprietary fungal strains to produce enzymes and other biomaterials, principally focused on a system for protein production based on the patented *Chrysosporium lucknowense fungus*, known as C1.

Dyadic is applying its technologies for the production of enzymes for various industrial applications such as pulp and paper, food and feed, and is working on diminishing its reliance of enzyme sales into the textile industry. Dyadic uses, for itself and others, its patented and proprietary technologies to conduct research and development activities for the discovery, development, and manufacture of products and enabling solutions to the bioenergy, industrial enzyme and pharmaceutical industries.

Cautionary Statement for Forward-Looking Statements

Certain statements made in this press release may be considered "forward-looking statements." These forward-looking statements are based upon current expectations and involve a number of assumptions, risks and uncertainties that could cause our actual results, performance or achievements to be materially different from such forward-looking statements. In view of such risks and uncertainties, investors and stockholders should not place undue reliance on our forward-looking statements. Such statements speak only as of the date of this release, and we undertake no obligation to update any forward looking statements made herein.

Contact:

Codexis: Lyn Christenson, lyn.christenson@codexis.com, 650-421-8144, www.codexis.com, or
Justin Jackson, jjackson@burnsmc.com, Burns McClellan, 212-213-0006

Dyadic: Richard Jundzil, rjundzil@dyadic.com, 561-743-8333. www.dyadic.com.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

EXHIBIT I

CERTIFICATE OF SECRETARY

DYADIC INTERNATIONAL (USA), INC.

See Attached

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

CERTIFICATE OF SECRETARY
OF
DYADIC INTERNATIONAL (USA), INC.

The undersigned, Vito Pontrelli, hereby certifies as follows:

A. He is the duly elected, qualified and acting Secretary of Dyadic International (USA), Inc., a Florida corporation (the "Company").

B. Attached hereto as Exhibit A is a true and complete copy of the resolutions of the Company's Board of Directors, adopted at the November 12, 2008 meeting of the Board of Directors, approving the execution of the License Agreement by and between Codexis, Inc. and the Company of even date herewith (the "License Agreement") and the taking of other actions necessary and appropriate for the Company to enter into the License Agreement and to carry out the provisions thereof; such resolutions have not been modified or rescinded since their adoption and remain in full force and effect.

C. Each person that approved the resolutions attached hereto as Exhibit A is a duly elected and qualified member of the Company's Board of Directors.

D. The approval of the stockholders of the Company is not required under the Company's Certificate of Incorporation, Bylaws or any applicable law for the Company to enter into the License Agreement or to carry out the provisions thereof.

IN WITNESS WHEREOF, the undersigned has executed this Secretary's Certificate this 14th day of November, 2008.

By: /s/ Vito Pontrelli
Vito Pontrelli
Secretary

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

EXHIBIT J

CERTIFICATE OF SECRETARY

DYADIC INTERNATIONAL, INC.

See Attached

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

CERTIFICATE OF SECRETARY
OF
DYADIC INTERNATIONAL, INC.

The undersigned, Vito Pontrelli, hereby certifies as follows:

A. He is the duly elected, qualified and acting Secretary of Dyadic International, Inc., a Delaware corporation (the "Company").

B. Attached hereto as Exhibit A is a true and complete copy of the resolutions of the Company's Board of Directors, adopted at the November 12, 2008 meeting of the Board of Directors, approving the execution of the License Agreement by and between Codexis, Inc. and the Company of even date herewith (the "License Agreement") and the taking of other actions necessary and appropriate for the Company to enter into the License Agreement and to carry out the provisions thereof; such resolutions have not been modified or rescinded since their adoption and remain in full force and effect.

C. Each person that approved the resolutions attached hereto as Exhibit A is a duly elected and qualified member of the Company's Board of Directors.

D. The approval of the stockholders of the Company is not required under the Company's Certificate of Incorporation, Bylaws or any applicable law for the Company to enter into the License Agreement or to carry out the provisions thereof.

IN WITNESS WHEREOF, the undersigned has executed this Secretary's Certificate this 14th day of November, 2008.

By: /s/ Vito Pontrelli
Vito Pontrelli
Secretary

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

EXHIBIT K

FORM OF ESCROW AGREEMENT

See attached

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

ESCROW AGREEMENT

This Escrow Agreement (this "**Escrow Agreement")** dated this __ day of _____, 2009 (the "**Effective Date**"), is entered into by and among **Codexis, Inc.**, a Delaware corporation, having a place of business at 200 Penobscot Drive, Redwood City, California 94063, United States of America, ("**Codexis**"), **Dyadic International (USA), Inc.**, a corporation organized under the laws of Florida, having its principal office at 140 Intracoastal Pointe Drive, Suite 404, Jupiter, Florida 33477-5094, United States of America ("**Dyadic**") (Dyadic and Codexis, are each referred to herein by name or collectively, as the '**Parties**," and individually, as a "**Party**"), and Wells Fargo Bank, National Association, as escrow agent ("**Escrow Agent**").

RECITALS

A. Dyadic owns or has rights under certain biological materials, patent rights and know-how relating to the generation and use of its and his proprietary *Chrysosporium lucknowense* ("**C1**") technology for the expression of certain genes and secretion of certain corresponding enzymes.

B. Codexis and Dyadic have entered into a non-exclusive license under such C1 patent rights and know-how of Dyadic and, in addition, Dyadic have agreed to provide Codexis access to the biological materials under the License Agreement by and between the Parties, dated November 14, 2008 (the "**License Agreement**").

C. Dyadic and Codexis have agreed that Codexis shall place into escrow with the Escrow Agent, a portion of the license fees set forth under Section 3.1 of the License Agreement, and the Escrow Agent agrees to strictly hold and distribute such funds in accordance with the terms of this Escrow Agreement.

In consideration of the promises and agreements of the Parties and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties and the Escrow Agent agree as follows:

ARTICLE 1
ESCROW DEPOSIT

Section 1.1. Receipt of Escrow Property. Within [*] days after receipt of the Dyadic Materials

(as defined in the License Agreement), Codexis shall notify the Escrow Agent that they shall deliver to the Escrow Agent the amount of [*] (the "**Escrow Property**") [*].

Section 1.2. Investments.

(a) Subject to the terms and conditions set forth in this Escrow Agreement, the Escrow Agent is authorized and directed to deposit, transfer, hold and invest the Escrow Property and any investment income thereon as set forth in Exhibit A hereto, or as set forth in any subsequent written instruction signed by the Parties. Any investment earnings and income on the Escrow Property shall become part of the Escrow Property, and shall be disbursed in accordance with Section 1.3 and Section 1.5 of this Escrow Agreement.

(b) The Escrow Agent is hereby authorized and directed to sell or redeem any such investments as it deems necessary to make any payments or distributions required under this Escrow Agreement. The Escrow Agent shall have no responsibility or liability for any loss which may result from any investment or sale of investment made pursuant to this Escrow Agreement. The Escrow Agent is hereby authorized, in making or disposing of any investment permitted by this Escrow Agreement, to deal with itself (in its individual capacity) or with any one or more of its affiliates, whether it or any such affiliate is acting as agent of the Escrow Agent or for any third person or dealing as principal for its own account. The Parties acknowledge that the Escrow Agent is not providing investment supervision, recommendations, or advice.

Section 1.3. Disbursements.

(a) If the conditions set forth in Schedule 1.13 of the License Agreement are met, the Parties shall provide a joint instruction to Escrow Agent to release the Escrow Property to Dyadic and Escrow Agent shall promptly, and in any event within [*] business days of receipt of such instruction, disburse such Escrow Property in accordance with such instruction.

(b) If it is determined in accordance with the License Agreement that the Dyadic Materials do not meet the performance criteria set forth in Exhibit E of the License Agreement, the Parties shall provide a joint instruction to Escrow Agent to release the Escrow Property to Codexis and Escrow Agent shall promptly, and in any event within [*] business days of receipt of such instruction, disburse such Escrow Property in accordance with such instruction.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

(c) Notwithstanding anything to the contrary in this Escrow Agreement, the Escrow Property shall be immediately disbursed to Codexis [*] days after the Effective Date if the Escrow Property has not previously been disbursed in accordance with Section 1.3(a) or (b) hereof.

Section 1.4. Income Tax Allocation and Reporting.

(a) The Parties agree that, for tax reporting purposes, all interest and other income from investment of the Escrow Property shall, as of the end of each calendar year and to the extent required by the Internal Revenue Service, be reported as having been earned by [*], whether or not such income was disbursed during a such calendar year.

(b) Prior to closing, the Parties shall provide the Escrow Agent with certified tax identification numbers by furnishing appropriate forms W-9 or W-8 and such other forms and documents that the Escrow Agent may request. The Parties understand that if such tax reporting documentation is not provided and certified to the Escrow Agent, the Escrow Agent may be required by the Internal Revenue Code of 1986, as amended, and the Regulations promulgated there under, to withhold a portion of any interest or other income earned on the investment of the Escrow Property.

(c) To the extent that the Escrow Agent becomes liable for the payment of any taxes in respect of income derived from the investment of the Escrow Property, the Escrow Agent shall satisfy such liability to the extent possible from the Escrow Property. The Parties, jointly and severally, shall indemnify, defend and hold the Escrow Agent harmless from and against any tax, late payment, interest, penalty or other cost or expense that may be assessed against the Escrow Agent on or with respect to the Escrow Property and the investment thereof unless such tax, late payment, interest, penalty or other expense was directly caused by the gross negligence or willful misconduct of the Escrow Agent. The indemnification provided by this Section 1.4(c) is in addition to the indemnification provided in Section 3.1 and shall survive the resignation or removal of the Escrow Agent and the termination of this Escrow Agreement.

Section 1.5. Termination. Upon the disbursement of all of the Escrow Property, including any interest and investment earnings thereon, this Escrow Agreement shall terminate and be of no further force and effect except that the provisions of Sections 1.4(c), 3.1 and 3.2, 4.3, 4.4, 4.5, 4.7, 4.8, 4.9 and Article 5 hereof shall survive termination.

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ARTICLE 2
DUTIES OF THE ESCROW AGENT

Section 2.1. Scope of Responsibility. Notwithstanding any provision to the contrary, the Escrow Agent is obligated only to perform the duties specifically set forth in this Escrow Agreement, which shall be deemed purely ministerial in nature. Under no circumstances will the Escrow Agent be deemed to be a fiduciary to any Party or any other person under this Escrow Agreement. The Escrow Agent will not be responsible or liable for the failure of any Party to perform in accordance with this Escrow Agreement. The Escrow Agent shall neither be responsible for, nor chargeable with, knowledge of the terms and conditions of any other agreement, instrument, or document other than this Escrow Agreement, whether or not an original or a copy of such agreement has been provided to the Escrow Agent; and the Escrow Agent shall have no duty to know or inquire as to the performance or nonperformance of any provision of any such agreement, instrument, or document. References in this Escrow Agreement to any other agreement, instrument, or document are for the convenience of the Parties, and the Escrow Agent has no duties or obligations with respect thereto. This Escrow Agreement sets forth all matters pertinent to the escrow contemplated hereunder, and no additional obligations of the Escrow Agent shall be inferred or implied from the terms of this Escrow Agreement or any other agreement.

Section 2.2. Attorneys and Agents. The Escrow Agent shall be entitled to rely on and shall not be liable for any action taken or omitted to be taken by the Escrow Agent in accordance with the advice of counsel or other professionals retained or consulted by the Escrow Agent. The Escrow Agent shall be reimbursed as set forth in Section 3.1 for any and all compensation (fees, expenses and other costs) paid and/or reimbursed to such counsel and/or professionals. The Escrow Agent may perform any and all of its duties through its agents, representatives, attorneys, custodians, and/or nominees.

Section 2.3. Reliance. The Escrow Agent shall not be liable for any action taken or not taken by it in accordance with the direction or consent of the Parties or their respective agents, representatives, successors, or assigns. The Escrow Agent shall not be liable for acting or refraining from acting upon any notice, request, consent, direction, requisition, certificate, order, affidavit, letter, or other paper or document believed by it to be genuine and correct and to have been signed or sent by the proper person or persons, without further inquiry into the person's or persons' authority. Concurrent with the execution of this Escrow Agreement, the Parties shall deliver to the Escrow Agent authorized signers' forms in the form of Exhibit B-1 and Exhibit B-2 to this Escrow Agreement.

Section 2.4. Right Not Duty Undertaken. The permissive rights of the Escrow Agent to do things enumerated in this Escrow Agreement shall not be construed as duties.

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Section 2.5. No Financial Obligation. No provision of this Escrow Agreement shall require the Escrow Agent to risk or advance its own funds or otherwise incur any financial liability or potential financial liability in the performance of its duties or the exercise of its rights under this Escrow Agreement.

ARTICLE 3
PROVISIONS CONCERNING THE ESCROW AGENT

Section 3.1. Indemnification. The Parties, jointly and severally, shall indemnify, defend and hold harmless the Escrow Agent from and against any and all loss, liability, cost, damage and expense, including, without limitation, attorneys' fees and expenses or other professional fees and expenses which the Escrow Agent may suffer or incur by reason of any action, claim or proceeding brought against the Escrow Agent, arising out of or relating in any way to this Escrow Agreement or any transaction to which this Escrow Agreement relates, unless such loss, liability, cost, damage or expense shall have been finally adjudicated to have been directly caused by the willful misconduct or gross negligence of the Escrow Agent. The provisions of this Section 3.1 shall survive the resignation or removal of the Escrow Agent and the termination of this Escrow Agreement.

Section 3.2. Limitation of Liability. THE ESCROW AGENT SHALL NOT BE LIABLE, DIRECTLY OR INDIRECTLY, FOR ANY (I) DAMAGES, LOSSES OR EXPENSES ARISING OUT OF THE SERVICES PROVIDED HEREUNDER, OTHER THAN DAMAGES, LOSSES OR EXPENSES WHICH HAVE BEEN FINALLY ADJUDICATED TO HAVE DIRECTLY RESULTED FROM THE ESCROW AGENT'S GROSS NEGLIGENCE OR WILLFUL MISCONDUCT, OR (II) SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR LOSSES OF ANY KIND WHATSOEVER (INCLUDING WITHOUT LIMITATION LOST PROFITS), EVEN IF THE ESCROW AGENT HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH LOSSES OR DAMAGES AND REGARDLESS OF THE FORM OF ACTION.

Section 3.3. Resignation or Removal. The Escrow Agent may resign by furnishing written notice of its resignation to the Parties, and the Parties may remove the Escrow Agent by furnishing to the Escrow Agent a joint written notice of its removal along with payment of all fees and expenses to which it is entitled through the date of termination. Such resignation or removal, as the case may be, shall be effective [*] days after the delivery of such written notice or upon the earlier appointment of a successor, and the Escrow Agent's sole responsibility thereafter shall be to safely keep the Escrow Property and to deliver the same to a successor escrow agent as shall be appointed by the Parties, as evidenced by a joint written notice filed with the Escrow Agent or in accordance with a court order. If the Parties have failed to appoint a successor escrow agent prior to the expiration of [*] days following the delivery of such notice of resignation or removal, the Escrow Agent may petition any court of competent jurisdiction for

the appointment of a successor escrow agent or for other appropriate relief, and any such resulting appointment shall be binding upon the Parties.

Section 3.4. Compensation. The Escrow Agent shall be entitled to compensation for its services as stated in the fee schedule attached hereto as Exhibit C. [*]. The fee agreed upon for the services rendered hereunder is intended as full compensation for the Escrow Agent's services as contemplated by this Escrow Agreement; provided, however, that in the event that the conditions for the disbursement of funds under this Escrow Agreement are not fulfilled, or the Escrow Agent renders any service not contemplated in this Escrow Agreement, or there is any assignment of interest in the subject matter of this Escrow Agreement, or any material modification hereof, or if any material controversy arises hereunder, or the Escrow Agent is made a party to any litigation pertaining to this Escrow Agreement or the subject matter hereof, then the Escrow Agent shall be compensated for such extraordinary services and reimbursed for all costs and expenses, including reasonable attorneys' fees and expenses, occasioned by any such delay, controversy, litigation or event. If any amount due to the Escrow Agent hereunder is not paid within [*] days of the date due, the Escrow Agent [*] may [*].

Section 3.5. Disagreements. If any conflict, disagreement or dispute arises between, among, or involving any of the parties hereto concerning the meaning or validity of any provision hereunder or concerning any other matter relating to this Escrow Agreement, or the Escrow Agent is in doubt as to the action to be taken hereunder, the Escrow Agent is authorized to retain the Escrow Property until the Escrow Agent (i) receives a final non-appealable order of a court of competent jurisdiction or a final non-appealable arbitration decision directing delivery of the Escrow Property, (ii) receives a written agreement executed by each of the parties involved in such disagreement or dispute directing delivery of the Escrow Property, in which event the Escrow Agent shall be authorized to disburse the Escrow Property in accordance with such final court order, arbitration decision, or agreement, or (iii) files an interpleader action in any court of competent jurisdiction, and upon the filing thereof, the Escrow Agent shall be relieved of all liability as to the Escrow Property [*]. The Escrow Agent shall be entitled to act on any such agreement, court order, or arbitration decision without further question, inquiry, or consent.

Section 3.6. Merger or Consolidation. Any corporation or association into which the Escrow Agent may be converted or merged, or with which it may be consolidated, or to which it may sell or transfer all or substantially all of its corporate trust business and assets as a whole or substantially as a whole, or any corporation or association resulting from any such conversion, sale, merger, consolidation or transfer to which the Escrow Agent is a party, shall be and become the successor escrow agent under this Escrow Agreement and shall have and succeed to the rights, powers, duties, immunities and privileges as its predecessor, without the execution or filing of any instrument or paper or the performance of any further act.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

Section 3.7. Attachment of Escrow Property; Compliance with Legal Orders. In the event that any Escrow Property shall be attached, garnished or levied upon by any court order, or the delivery thereof shall be stayed or enjoined by an order of a court, or any order, judgment or decree shall be made or entered by any court order affecting the Escrow Property, the Escrow Agent is hereby expressly authorized, in its sole discretion, to respond as it deems appropriate or to comply with all writs, orders or decrees so entered or issued, or which it is advised by legal counsel of its own choosing is binding upon it, whether with or without jurisdiction. In the event that the Escrow Agent obeys or complies with any such writ, order or decree it shall not be liable to any of the Parties or to any other person, firm or corporation, should, by reason of such compliance notwithstanding, such writ, order or decree be subsequently reversed, modified, annulled, set aside or vacated.

ARTICLE 4
MISCELLANEOUS

Section 4.1. Successors and Assigns. This Escrow Agreement shall be binding on and inure to the benefit of the Parties and the Escrow Agent and their respective successors and permitted assigns. No other persons shall have any rights under this Escrow Agreement. No assignment of the interest of any of the Parties shall be binding unless and until written notice of such assignment shall be delivered to the other Party and the Escrow Agent and shall require the prior written consent of the other Party and the Escrow Agent (such consent not to be unreasonably withheld).

Section 4.2. Escheat. The Parties are aware that under applicable state law, property which is presumed abandoned may under certain circumstances escheat to the applicable state. The Escrow Agent shall have no liability to the Parties, their respective heirs, legal representatives, successors and assigns, or any other party, should any or all of the Escrow Property escheat by operation of law.

Section 4.3. Notices. All notices, requests, demands, and other communications required under this Escrow Agreement shall be in writing, in English, and shall be deemed to have been duly given if delivered (i) personally, (ii) by facsimile transmission with written confirmation of receipt, (iii) by overnight delivery with a reputable national overnight delivery service, or (iv) by mail or by certified mail, return receipt requested, and postage prepaid. If any notice is mailed, it shall be deemed given five business days after the date such notice is deposited in the United States mail. Any notice given shall be deemed given upon the actual date of such delivery. If notice is given to a party, it shall be given at the address for such party set forth below. It shall be the responsibility of the Parties to notify the Escrow Agent and the other Party in writing of any name or address changes. In the case of communications delivered to the Escrow Agent, such communications shall be deemed to have been given on the date received by the Escrow Agent.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

If to Codexis:

Codexis, Inc.
200 Penobscot Drive
Redwood City, CA 94063
Attention: General Manager, Bioindustrials
Fax: [*]

With a copy to:

Codexis, Inc.
200 Penobscot Drive
Redwood City, CA 94063
Attention: General Counsel
Fax: [*]

If to Dyadic:

Dyadic International, Inc.
140 Intracoastal Pointe Drive, Suite 404
Jupiter, FL 33477-5094
Attention: Mark A. Emalfarb
Fax: [*]

With a copy to:

Robert Levin
Levin & Ginsburg
180 North LaSalle Street, Suite 3200
Chicago, IL 60601
Fax: [*]

If to the Escrow Agent:

Wells Fargo Bank, National Association

707 Wilshire Blvd, 17th Floor

MAC #E2818-176

Los Angeles, CA 90017

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

Attention: [*], Corporate Trust and Escrow Services

Telephone: [*]

Facsimile: [*]

Section 4.4. Governing Law. This Escrow Agreement shall be governed by and construed in accordance with the laws of the State of New York.

Section 4.5. Entire Agreement. This Escrow Agreement sets forth the entire agreement and understanding of the parties related to the Escrow Property.

Section 4.6. Amendment. This Escrow Agreement may be amended, modified, superseded, rescinded, or canceled only by a written instrument executed by the Parties and the Escrow Agent.

Section 4.7. Waivers. The failure of any party to this Escrow Agreement at any time or times to require performance of any provision under this Escrow Agreement shall in no manner affect the right at a later time to enforce the same performance. A waiver by any party to this Escrow Agreement of any such condition or breach of any term, covenant, representation, or warranty contained in this Escrow Agreement, in any one or more instances, shall neither be construed as a further or continuing waiver of any such condition or breach nor a waiver of any other condition or breach of any other term, covenant, representation, or warranty contained in this Escrow Agreement.

Section 4.8. Headings. Section headings of this Escrow Agreement have been inserted for convenience of reference only and shall in no way restrict or otherwise modify any of the terms or provisions of this Escrow Agreement.

Section 4.9. Counterparts. This Escrow Agreement may be executed in one or more counterparts, each of which when executed shall be deemed to be an original, and such counterparts shall together constitute one and the same instrument.

ARTICLE 5

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

CONFIDENTIALITY

Section 5.1. Escrow Agreement Terms. The existence of and the terms and conditions of this Escrow Agreement shall be held in strict confidence by the Parties and the Escrow Agent, subject only to disclosure in response to a valid court order, or as required under the regulations of a court, other governmental body or as a matter of law.

[The remainder of this page left intentionally blank.]

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

IN WITNESS WHEREOF, this Escrow Agreement has been duly executed as of the date first written above.

Codexis, Inc. ("Codexis")

By: _____
Name: _____
Title: _____

Dyadic International (USA), Inc. ("Dyadic")

By: _____
Name: _____
Title: _____

WELLS FARGO BANK, NATIONAL ASSOCIATION, as Escrow Agent

By: _____
Name: _____
Title: _____

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

EXHIBIT A

Agency and Custody Account Direction

For Cash Balances

Direction to use Wells Fargo Advantage Funds for Cash Balances for the escrow account or accounts (the "Account") established under the Escrow Agreement to which this Exhibit A is attached.

You are hereby directed to invest, as indicated below or as I shall direct further from time to time, all cash in the Account in the following money market portfolio of Wells Fargo Advantage Funds (the "Fund") or another permitted investment of my choice (Check One):

__Wells Fargo Advantage Funds, Government Money Market Fund

__Wells Fargo Advantage Funds, Cash Investment Money Market Fund

__Wells Fargo Advantage Funds, Prime Investment Money Market Fund

__Wells Fargo Advantage Funds, Treasury Plus Money Market Fund

__Wells Fargo Advantage Funds, 100% Treasury Money Market Fund

__Wells Fargo Advantage Funds, National Tax-Free Money Market Fund

I acknowledge that I have received, at my request, and reviewed the Fund's prospectus and have determined that the Fund is an appropriate investment for the Account.

I understand from reading the Fund's prospectus that Wells Fargo Funds Management, LLC ("Wells Fargo Funds Management"), a wholly-owned subsidiary of Wells Fargo & Company, provides investment advisory and other administrative services for the *Wells Fargo Advantage Funds.* Other affiliates of Wells Fargo & Company provide sub-advisory and other services for the Funds. Boston Financial Data Services serves as transfer agent for the Funds. The Funds are distributed by Wells Fargo Funds Distributor, LLC, Member NASD/SIPC, an affiliate of Wells Fargo & Company. I also understand that Wells Fargo & Company will be paid, and its bank affiliates may be paid, fees for services to the Funds and that those fees may include Processing Organization fees as described in the Fund's prospectus.

I understand that you will not exclude amounts invested in the Fund from Account assets subject to fees under the Account agreement between us.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

I understand that investments in the Fund are not obligations of, or endorsed or guaranteed by, Wells Fargo Bank or its affiliates and are not insured by the Federal Deposit Insurance Corporation.

I acknowledge that I have full power to direct investments of the Account.

I understand that I may change this direction at any time and that it shall continue in effect until revoked or modified by me by written notice to you.

I understand that if I choose to communicate this investment direction solely via facsimile, then the investment direction will be understood to be enforceable and binding.

Authorized Representative	Authorized Representative
Codexis, Inc.	Dyadic International (USA), Inc.
Date	Date

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

EXHIBIT B-1
CERTIFICATE AS TO AUTHORIZED SIGNATURES

The specimen signatures shown below are the specimen signatures of the individuals who have been designated as authorized representatives of **Codexis, Inc.** and are authorized to initiate and approve transactions of all types for the escrow account or accounts established under the Escrow Agreement to which this Exhibit B-1 is attached, on behalf of **Codexis, Inc.**

Name / Title	Specimen Signature
Name	Signature
Title	
Name	Signature
Title	

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

EXHIBIT B-2

CERTIFICATE AS TO AUTHORIZED SIGNATURES

The specimen signatures shown below are the specimen signatures of the individuals who have been designated as authorized representatives of **Dyadic International (USA), Inc.** and are authorized to initiate and approve transactions of all types for the escrow account or accounts established under the Escrow Agreement to which this Exhibit B-2 is attached, on behalf of **Dyadic International (USA), Inc.**

Name / Title	**Specimen Signature**
Name	Signature
Title	
Name	Signature
Title	

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

EXHIBIT C

FEES OF ESCROW AGENT

[*] [*]

SCHEDULE OF FEES
to act as ESCROW AGENT for the
Codexis Cash Escrow Account

Escrow Agent Acceptance and Administration Fee: [*]

Fees as they relate to Wells Fargo Bank acting in the capacity of Escrow Agent – includes creation and examination of the Escrow Agreement; acceptance of the Escrow appointment; setting up of Escrow Account(s) and accounting records; and coordination of receipt of funds for deposit to the Escrow Account.

Also includes ordinary administration services by Escrow Agent – includes daily routine account management; investment transactions; cash transaction processing (including wires and check processing); monitoring claim notices pursuant to the agreement; disbursement of the funds in accordance with the agreement; and mailing of trust account statements to all applicable parties.

Tax reporting is included for up to [*] entities. Should additional reporting be necessary, a [*] per reporting charge will be assessed.

This fee is [*].

Should this Escrow Account be in existence for more than [*] months, an Annual Fee of [*] will be assessed.

Wells Fargo's bid is based on the following assumptions:

- Number of Escrow Accounts to be established: [*]
- Number of Deposits to Escrow Account: Not more than [*]
- Number of Withdrawals from Escrow Fund: Not more than [*]
- Term of Escrow: Not more than [*]

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

- **THIS FEE SCHEDULE ASSUMES THAT BALANCES IN THE ESCROW ACCOUNT WILL BE INVESTED IN MONEY MARKET FUNDS "OR DEPOSITORY ACCOUNTS" THAT WELLS FARGO HAS A RELATIONSHIP WITH**
- **ALL FUNDS WILL BE RECEIVED FROM OR DISTRIBUTED TO A DOMESTIC OR AN APPROVED FOREIGN ENTITY**
- **IF THE ACCOUNT(S) DOES NOT OPEN WITHIN**[*] **MONTHS OF THE DATE SHOWN BELOW, THIS PROPOSAL WILL BE DEEMED TO BE NULL AND VOID**

Out-of Pocket Expenses: **[*]**

We only charge for out-of-pocket expenses in response to specific tasks assigned by the client. Therefore, we cannot anticipate what specific out-of-pocket items will be needed or what corresponding expenses will be incurred. Possible expenses would be, but are not limited to, express mail and messenger charges, travel expenses to attend closing or other meetings. There are no charges for indirect out-of- pocket expenses.

This fee schedule is based upon the assumptions listed above which pertain to the responsibilities and risks involved in Wells Fargo undertaking the role of Escrow Agent. These assumptions are based on information provided to us as of the date of this fee schedule. Our fee schedule is subject to review and acceptance of the final documents. Should any of the assumptions, duties or responsibilities change, we reserve the right to affirm, modify or rescind our fee schedule. **Submitted on: October 27, 2008**

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

SCHEDULE 1.13

ESCROW RELEASE CONDITIONS

Amounts held in escrow, pursuant to the terms of the Escrow Agreement, will be released to Dyadic after delivery to Codexis of evidence in writing of:

[*]

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

SCHEDULE 8.2(a)

SCHEDULE OF EXCEPTIONS

This Schedule of Exceptions is made and given pursuant to Section 8.2(a) of the License Agreement, dated as of November 14, 2008 (the "***Agreement***"), between Dyadic International (USA), Inc., a Florida corporation (the "***Company***"), and Codexis, Inc., a Delaware corporation ("***Codexis***"). All capitalized terms used but not defined herein shall have the meanings as defined in the Agreement, unless otherwise provided. The section numbers below correspond to the section numbers of the representations and warranties in the Agreement; *provided, however*, that any information disclosed herein under any section number shall be deemed to be disclosed and incorporated into any other section number under the Agreement where such disclosure would be appropriate.

- [*]

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

SCHEDULE 8.2(b)

POST-CLOSING ACTIONS

[*]

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

SCHEDULE 8.3(a)

Third Parties

[*]

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

EXHIBIT 10.7B

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

Execution Copy

ENZYME AND PRODUCT SUPPLY AGREEMENT

THIS ENZYME AND PRODUCT SUPPLY AGREEMENT, including the exhibits attached hereto (the "**Agreement**"), effective as of February 16, 2010 (the "**Effective Date**"), is made and entered into by and between **Codexis, Inc.**, a Delaware corporation, having a place of business at 200 Penobscot Drive, Redwood City, California 94063, United States of America ("**Codexis**"), and **Arch Pharmalabs Limited**, a corporation organized and existing under the laws of India having a place of business at H wing, 4th Floor, Tex Centre, Chandivali, Mumbai, 400072, India ("**Arch**"). Codexis and Arch each may be referred to herein individually as a "**Party**," or collectively as the "**Parties**."

WHEREAS, Codexis has proprietary rights in certain enzymes, chemical synthesis and biocatalysis process technology, and possesses certain valuable business and/or technical knowledge, information, and/or expertise, relating to enzymatically catalyzed manufacturing processes;

WHEREAS, Arch has expertise and facilities for the manufacture of bulk pharmaceutical active ingredients and/or intermediates thereof by chemical synthetic routes;

WHEREAS, Codexis, Arch, and Codexis Laboratories India Private Limited entered into a certain Enzyme License and Development Agreement, Enzyme Supply Agreement, Product Supply and Marketing Agreement, and certain other agreements related thereto, each effective as of August 21, 2008 (collectively, the "**2008 Arch Agreements**"); and

WHEREAS, the Parties are simultaneously terminating the 2008 Arch Agreements and entering into this Agreement whereby Codexis desires to grant certain rights to Arch to use proprietary technology of Codexis and supply certain proprietary enzymes to Arch for the purpose of manufacturing, promoting and marketing bulk active pharmaceutical ingredients and/or intermediates thereof for sale by Codexis to Codexis Customers and for sale by Arch to Arch Customers, as more fully set forth in this Agreement.

NOW, THEREFORE, in consideration of the mutual covenants and obligations set forth herein, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

1. DEFINITIONS

As used in this Agreement, the following terms are defined as indicated:

1.1 "2008 Arch Agreements" shall have the meaning set forth in the Recitals.

1.2 "Affiliate" shall mean, in respect of any Party or Third Party, any entity that is controlled by, controls, or is under common control with such Party (or Third Party) on or after the Effective Date, as the case may be, but only for so long as such entity remains an Affiliate under this Section 1.2. For purposes of this Section 1.2, the term "control" means (a) direct or

indirect ownership of more than fifty percent (50%) of the voting interest in the entity in question, or more than fifty percent (50%) interest in the income of the entity in question; provided, however, that, if local law requires a minimum percentage of local ownership of greater than fifty percent (50%), control will be established by direct or indirect beneficial ownership of one hundred percent (100%) of the maximum ownership percentage that may, under such local law, be owned by foreign interests, or (b) possession, directly or indirectly, of the power to direct or cause the direction of management or policies of the entity in question (whether through ownership of securities or other ownership interests, by contract or otherwise).

1.3 "**Active Pharmaceutical Ingredient(s)**" or "**APIs**" shall mean chemicals used in the manufacture of drugs and do not include intermediates used in the manufacture of such chemicals.

1.4 "**Applicable Law**" shall mean all laws, statutes, ordinances, codes, rules, and regulations that have been enacted by a Government Authority and are in force as of the Effective Date or come into force during the Term, in each case to the extent that the same are applicable to the performance by the Parties of their respective obligations under this Agreement.

1.5 "**Arch Bio-Chemical Improvements**" shall have the meaning set forth in Section 11.1.2 .

1.6 "**Arch Chemical Improvements**" shall mean any discovery, contribution, method, finding, or improvement, whether or not patentable, and all related intellectual property that is individually or jointly conceived, invented, reduced to practice, or developed by Arch and/or its Affiliates in connection with this Agreement using solely chemistry steps without involving any bio-chemical conversion and which do not relate to any Codexis IP Rights, Codexis Process, Codexis Enzymes or Codexis Improvements (the "**Arch Chemical Improvements**").

1.7 "**Arch Customers**" shall mean (i) Affiliates of Arch within India, including Vitalife; (ii) Third Party Generic Companies that do not fall within Codexis Customers or Codexis India Customers; and (iii) unless otherwise specified by Codexis, Codexis India.

1.8 "Arch Trademarks" shall mean the trademarks, tradenames, designs and logos set forth onExhibit 1.8.

1.9 "Batch" shall mean, on a Product-by-Product basis, a specific quantity of Product intended to be of uniform character and quality and produced during the same cycle of manufacture, as defined by the master batch record for such Product, and which is manufactured in accordance with the terms of this Agreement.

1.10 "Business Day" shall mean any day that is not a Saturday or a Sunday or a day on which the New York Stock Exchange is closed.

1.11 "Buy-Out Event" shall mean any of the following events: (a) Codexis filing for bankruptcy or insolvency under Applicable Law (in which case the Buy-Out Event shall apply to all Codexis Enzymes (and the corresponding Products) which Codexis was supplying to Arch as

of the date of such filing); (b) Expiration (but not early termination) of the Term of this Agreement (in which case the Buy-Out Event shall apply only to the Codexis Enzyme(s) (and corresponding Product(s)) for which Codexis' obligation to supply to Arch have expired); (c) failure by Codexis to supply Codexis Enzyme pursuant to Section 2.14 (in which case the Buy-Out Event shall apply only to the Codexis Enzyme(s) (and corresponding Products) which Codexis failed to supply pursuant to Section 2.14); and **[*]**.

1.12 "Calendar Quarter" shall mean the respective periods of three (3) consecutive calendar months ending on March 31, June 30, September 30 and December 31; provided, however, that (a) the first Calendar Quarter of the Term shall extend from the Effective Date to the end of the first complete Calendar Quarter thereafter; and (b) the last Calendar Quarter of the Term shall end upon the expiration or termination of this Agreement.

1.13 "cGMP" shall mean the current Good Manufacturing Practices regulations and implementing guidelines and General Biological Products Standards promulgated by the FDA and published at 21 CFR §§ 210, 211 and 610, as such regulations may be amended from time to time, and by the European Commission as set out in Directive 91/356 EEC of the Commission of the European Communities as may be amended from time to time and all relevant foreign equivalents, to the extent such regulations apply to "API intermediates" and/or "API Bulk Drug" as defined in QA7 of the Quality Guidelines of the International Conference on Harmonization.

1.14 "Change" shall have the meaning set forth in Section 3.12.2.

1.15 "Claim" shall have the meaning set forth in Section 13.1 or 13.2, as applicable.

1.16 "Codexis Customers" shall mean (i) Third Party Innovator Companies located throughout the world (other than in India); and (ii) Third Party Generic Companies located in United States, Canada, and Israel, and their respective commonwealths, territories and possessions, and Europe.

1.17 "Codexis Enzyme" shall mean, on a Product-by-Product basis, the respective enzyme(s) set forth onExhibit 1.17 as of the Effective Date or added at any time during the Term pursuant to an amendment of Exhibit 1.17 made in accordance with Section 16.9.

1.18 "Codexis Enzyme-Related Restrictions" shall have the meaning set forth in Section 2.15.

1.19 "Codexis Improvements" shall mean, on a Product-by-Product basis, (i) any modifications, changes, additions, variations, derivatives, alterations or improvements to the respective Codexis Enzyme(s) (other than new or improved Codexis Enzymes covered by Section 2.5) and/or Codexis Process(es), which are individually or jointly developed by Codexis and/or its Affiliates, whether patentable or not, during the Term of this Agreement; and (ii) Arch Bio-Chemical Improvements.

1.20 "**Codexis India**" shall mean Codexis Laboratories India Private Limited.

1.21 "**Codexis India Customers**" shall mean (i) Third Party Innovator Companies in India; and (ii) the following companies in India:**[*]**, as the foregoing list may be updated or modified pursuant to written agreement of the Parties.

1.22 "Codexis IP Rights" shall mean, on a Product-by-Product basis, any technology, Information, expertise, know-how, trade secrets, Patents and/or other intellectual property rights (excluding any trademarks, including without limitation, the Codexis Trademarks) Controlled by Codexis and/or its Affiliates and necessary for or otherwise used in the manufacture of Product.

1.23 "Codexis Process" shall mean, on a Product-by-Product basis, any process and/or method(s) of use of a Codexis Enzyme, including without limitation, any in vitro biochemical conversion of a chemical substrate into the respective Product catalyzed by the respective Codexis Enzyme, or any analog or homolog thereof, developed or supplied by or on behalf of Codexis pursuant to this Agreement. For avoidance of doubt, the Codexis Process shall not include any Arch Chemical Improvements.

1.24 "Codexis Trademarks" shall mean the trademarks, tradenames, designs and logos set forth onExhibit 1.24.

1.25 "Confidential Information" shall mean any Information of a confidential and/or proprietary nature, including without limitation the know-how, information, invention disclosures, patent applications, proprietary materials and/or techniques, economic information, business or research strategies, purchase orders (and any information included therein), trade secrets, and material embodiments thereof, disclosed by a Party to the other Party in written form marked "confidential," or in oral form if summarized in a writing marked "confidential" and delivered to the Receiving Party within thirty (30) days after such oral disclosure. For purposes of this Agreement, any and all Codexis Enzymes and Codexis Processes shall be deemed to be Confidential Information of Codexis.

1.26 "Control" shall mean, with respect to an intellectual property right, possession of the ability, whether arising by ownership or license, to grant a license or sublicense as provided for in this Agreement under such right, or, with respect to an item, possession of the ability, whether arising by ownership or license, to transfer such item as provided for in this Agreement, in each case, without violating the terms of any written agreement with any Third Party.

1.27 "Disclosing Party" shall have the meaning set forth in Section 10.1.

1.28 "Disputes" shall have the meaning set forth in Section 14.1.

1.29 "Drug Master File" or **"DMF**" shall mean Arch's Drug Master File for manufacturing the applicable API as defined and filed with the FDA, and the equivalent filing with the governing health authority of any country in the European Union.

1.30 "Enzyme Purchase Order" shall have the meaning set forth in Section 2.7.

1.31 "Enzyme Rolling Requirement Forecast" shall have the meaning set forth in Section 2.6.

1.32 "Enzyme Specification" shall have the meaning set forth in Section 2.14

1.33 "Europe" shall mean all member States of the European Union and all countries included in the European Economic Area as of the Effective Date, and Switzerland, Turkey, and Croatia and other countries formerly part of Yugoslavia.

1.34 "Execution Audit" shall have the meaning set forth in Section 2.16.

1.35 "FDA" shall mean the U.S. Food and Drug Administration and any successor agency.

1.36 "First Commercial Sale" shall mean, on a Product-by-Product basis, the first sale by a Party of any quantity of a Product used in or intended for use in any drug product approved for marketing in the United States or Europe.

1.37 "Government Authority" shall mean any supranational, national, regional, state or local government, court, governmental agency, authority, board, bureau, instrumentality, regulatory body, or other government entity, including without limitation any of the foregoing that is involved in the granting of approvals, licenses, registrations, or authorizations for commercialization of the Product and/or of drug product containing the Product.

1.38 "Information" shall mean data, results, inventories, information, inventions, know-how, processes, machines, trade secrets, techniques, methods, developments, materials, or compositions of matter or other information of any type or kind.

1.39 "Manufacturing Facility" shall mean any site or plant in which Arch manufactures Product in accordance with the provisions of this Agreement.

1.40 "MSA" shall mean that certain Master Services Agreement, entered into by Codexis and Arch and effective as of August 1, 2006, as amended. For the avoidance of doubt, neither the MSA nor any amendment to the MSA shall fall within the definition of 2008 Arch Agreements.

1.41 "Non-Codexis Process" shall mean, on a Product-by-Product basis, in whole or in part, any chemical and/or manufacturing methods, processes, procedures, and/or techniques (excluding Codexis Process), which are individually or jointly conceived, invented, reduced to practice, or developed by Arch and/or its Affiliates, in connection with this Agreement, whether patentable or not, and any improvements and/or modifications thereto, in each case as necessary for or otherwise used in the manufacture of Product.

1.42 "Non-Exclusive Relationship" shall have the meaning set forth in Section 4.2.

1.43 "**Option**" shall have the meaning set forth in Section 15.5.

1.44 "Patent" shall mean: (a) issued letters patent, including extensions, supplemental protection certificates, registrations, confirmations, reissues, reexaminations or renewals thereof; and (b) pending applications, including any provisional applications, converted provisional

applications, continuing prosecution applications and continuation, divisional, or continuation-in-part applications thereof, for any of the foregoing.

1.45 "Products" shall mean the API and intermediate products set forth on Exhibit 1.45 as of the Effective Date or added at any time during the Term pursuant to an amendment of Exhibit 1.45 made in accordance with Section 16.9.

1.46 "Product Purchase Order" shall have the meaning set forth in Section 3.6.

1.47 "Product Specification" shall have the meaning set forth in Section 3.12.1 .

1.48 "Receiving Party" shall have the meaning set forth in Section 10.1.

1.49 "Term" shall have the meaning set forth in Section 15.1.

1.50 "Third Party" (and with its correlative meaning, "**Third Parties**") shall mean any party other than Codexis, Arch, or an Affiliate of either Codexis or Arch.

1.51 "Third Party Generic Company" shall mean, on a Product-by-Product basis, all Third Party pharmaceutical companies other than Third Party Innovator Companies, and their permitted licensees, successors and assigns (provided such licensees, successors and assigns are not Third Party Innovator Companies).

1.52 "Third Party Innovator Company" shall mean, on a Product-by-Product basis, (i) all Third Party pharmaceutical companies that either have, or have had, a proprietary interest in the composition of matter of the respective Product; and (ii) any Third Party pharmaceutical company which does not have, or have had, a proprietary interest in the composition of matter of the respective Product but which company primarily sells products in which it has or has had a proprietary interest therein as opposed to products in which it has or has had no proprietary interest, in each case, together with their permitted licensees, successors and assigns.

2. ENZYME PURCHASE AND SUPPLY; LICENSE GRANTS

2.1 Codexis Enzymes. Subject to the terms and conditions of this Agreement, including without limitation Section 4.1, on a Product-by- Product basis, Arch (and its Affiliates) shall purchase exclusively from Codexis (or its Affiliates) quantities of applicable Codexis Enzyme sufficient to enable Arch (or its Affiliates) to manufacture the respective Products. Subject to Section 4.1, Codexis (and its Affiliates) shall not supply Codexis Enzymes to any other Third Party for purposes of manufacturing Products and Arch (and its Affiliates) shall not acquire any enzyme for use in the manufacture of Products from any Third Party. Notwithstanding the foregoing,

(i) Codexis (or its Affiliates) may supply **[*]** to one Third Party that may use **[*]** for the purposes of manufacturing and selling **[*]**; provided, Codexis (or its Affiliates, as the case may be) ensures by way of written contract that such Third Party is bound not to sell the **[*]** intermediate, that may be manufactured utilizing the same Codexis Enzyme (**[*]**).

(ii) Codexis (or its Affiliates) may supply **[*]** to one Third Party that may use **[*]** for the manufacture of **[*]**.

2.2 License Grants to Arch.

(a) Codexis IP Rights. Subject to the terms and conditions of this Agreement, Codexis hereby grants to Arch on a Product-by-Product basis, during the Term a non-exclusive, non-sublicensable and non-transferable (subject to Section 16.6) license under the Codexis IP Rights to use the Codexis Enzyme(s) and/or Codexis Process(es) (but not the Codexis Improvements) solely to manufacture Products for sale by Codexis to Codexis Customers and for sale by Arch to Arch Customers.

(b) Codexis Improvements. Subject to the terms and conditions of this Agreement, Codexis hereby grants to Arch on a Product-by-Product basis, during the Term, a non-exclusive, non-sublicensable and non-transferable (subject to Section 16.6) license under the Codexis IP Rights to use the Codexis Improvements Controlled by Codexis which are necessary for the manufacture and sale of Products, solely to manufacture Products for sale by Codexis to Codexis Customers and for sale by Arch to Arch Customers.

2.3 Enzyme Specification. The specification for each Codexis Enzyme (each, an "**Enzyme Specification**") is as set forth in Exhibit 2.14. All Codexis Enzymes supplied by Codexis hereunder shall comply with the applicable Enzyme Specification.

2.4 Supply Obligation of Codexis. Subject to the terms and conditions of this Agreement, during the Term, Codexis shall supply (or have supplied by its designees) Codexis Enzymes to Arch to be used by Arch solely in the manufacture of Products (A) sold by Arch to Arch Customers and (B) sold to Codexis for sale by Codexis to Codexis Customers.

2.5 New or Improved Enzymes. On a Product-by-Product basis, Codexis shall provide Arch with its projected commercial availability date for any improved Codexis Enzyme(s) for existing Product(s) at least six (6) months prior to Codexis' projected ability to manufacture at least one hundred (100) kilograms of each such Codexis Enzyme and upon designation by Codexis, such improved Codexis Enzyme shall be added to Exhibit 1.17 and fall within the definition of Codexis Enzyme.

2.6 Enzyme Rolling Requirement Forecasts. On a Product-by-Product basis, beginning three (3) months prior to the anticipated First Commercial Sale to a Third Party of at least one hundred (100) kilograms of Product until the end of the Term, at least thirty (30) days prior to the beginning of each Calendar Quarter, Arch shall provide Codexis a written forecast of Arch's expected requirements for each of the Codexis Enzyme(s) based on Arch's good faith projected sales of Products, during the following twelve (12) calendar months broken down by calendar months, and which shall include projected order dates, quantities, shipping dates, and quality standards (as applicable) (each, an "**Enzyme Rolling Requirement Forecast**").

2.7 Enzyme Purchase Orders. Each of the Codexis Enzyme(s) shall be ordered by Arch by written purchase order delivered by email (or by any other means agreed by the Parties), in a form to be mutually agreed by the Parties (each, an "**Enzyme Purchase Order**"). No

communications (oral, electronic, written or otherwise) between the Parties in respect of any purchase or supply of Codexis Enzymes shall be binding on the Parties except to the extent such communication is embodied in an Enzyme Purchase Order or other document signed by each Party. At least sixty (60) days prior to the earliest desired date of delivery, Arch shall place binding Enzyme Purchase Orders for each of the Codexis Enzyme(s) reasonably consistent with the Enzyme Rolling Requirement Forecast. Codexis shall have five (5) Business Days to accept or reject each Enzyme Purchase Order and if Codexis does not respond within such five (5) Business Days then the Enzyme Purchase Order is deemed rejected. Notwithstanding the foregoing, any Enzyme Purchase Order placed by Arch specifying in writing that the requested Codexis Enzymes are for a confirmed Product Supply Order placed by Codexis shall be deemed accepted by Codexis upon receipt of the same.

2.8 Codexis Enzyme Supply. Codexis shall ensure that the timing and delivery of supply of Codexis Enzyme is consistent with the Enzyme Rolling Requirement Forecast and the corresponding Product Supply Orders. Codexis, at its sole cost and expense, will validate, manufacture and supply the Codexis Enzymes in accordance with the applicable Enzyme Specification, and will be responsible for all necessary and useful requirements therefor, including without limitation ensuring sufficient manufacturing capacity, employing appropriate equipment, facilities and personnel, implementing cost reduction plans, and complying with all Applicable Laws. The Codexis Enzymes will be manufactured and supplied to Arch under the Codexis Trademarks.

2.9 Conflicts. To the extent that there is any conflict or inconsistency between this Agreement and any Enzyme Rolling Requirement Forecast or Enzyme Purchase Order, the terms of this Agreement shall govern unless otherwise agreed to in writing by the Parties. For clarity, no term or condition added by Arch to an Enzyme Purchase Order shall be binding on Codexis unless such term or condition is specifically agreed to by Codexis in writing signed by a duly authorized officer of Codexis.

2.10 Delivery and Storage of Codexis Enzymes. Subject to Section 2.7, Codexis shall deliver to Arch the amount of each of the Codexis Enzyme(s) specified in each Enzyme Purchase Order no later than the dates specified therein; provided, that Codexis shall not be required to deliver such amount prior to sixty (60) days after receiving such Enzyme Purchase Order. All Codexis Enzymes shall be shipped by Codexis (or its designee) by air or as otherwise directed by Arch, to the location designated in writing by Arch. The Parties shall cooperate in selecting appropriate carriers, and title and risk of loss shall pass to Arch upon delivery by Codexis to such carrier(s). Codexis (or its designee) shall ship each of the Codexis Enzymes under appropriate packaging and storage conditions, including, for example, using envirotainers or similar temperature-control equipment for shipments. Arch agrees to store Codexis Enzymes in a secure location at minus twenty degrees Celsius (-20°C) unless otherwise instructed by Codexis. Arch shall bear any and all costs arising from failure to comply with the terms of the foregoing sentence.

2.11 Inspection of Codexis Enzyme. Codexis Enzymes shall be shipped with a mandatory certificate of analysis as per customary industry practice. Arch shall have ten (10) days to inspect each shipment and provide a written rejection of any shipment of enzyme on the

basis that such enzyme does not comply with the applicable Enzyme Specification. In the event that Codexis receives a written notice of rejection from Arch, subject to Section 2.13, Codexis shall replace such rejected Codexis Enzyme pursuant to Section 2.12. If Arch fails to notify Codexis in writing of a rejection within such ten (10) day period, the shipment of Codexis Enzyme shall be deemed accepted by Arch and Codexis shall have no obligation to accept a return of or to replace such shipment. In any event, Arch shall pay for such Codexis Enzymes as otherwise provided herein and shall be entitled to, at its sole discretion, a credit or refund of the properly rejected shipment at the time they are ultimately rejected.

2.12 Replacement of Defective Codexis Enzyme. In the event that Codexis receives a written notice of rejection from Arch in accordance with Section 2.11, Codexis (or its designee) shall, at the sole cost and expense of Codexis, replace any shipment of such rejected Codexis Enzyme, including without limitation disposal of such rejected Codexis Enzyme, within sixty (60) days after receiving Arch's written notice of rejection. For clarity, the foregoing right shall not limit any other remedy available at law or in equity. Arch shall keep such defective Codexis Enzyme at its premises until receipt of Codexis' instruction for Arch to return or otherwise dispose of such defective Codexis Enzyme. Notwithstanding anything to the contrary, Codexis shall have no obligation to replace any shipment of Codexis Enzyme or part thereof pursuant to this Section 2.12 or issue a refund or credit pursuant to Section 2.11 in the event Codexis can establish that there was no defect or such defect occurred after delivery of such shipment of Codexis Enzyme. Codexis shall in good faith provide details to Arch of test methods that are customarily employed by Codexis to check the purity and quality of Codexis Enzymes supplied to Arch. In the case of a marginal Enzyme Specification failure or non-compliance, the relevant Codexis Enzyme can be offered to Arch for use at a higher loading rate in the production process than dictated by the standard recipe. Under such cases, if there is increased inconvenience to Arch in use of such Codexis Enzyme then a reduced price will be agreed to by the Parties that reflects the increased usage and inconvenience.

2.13 Disputes. If Codexis disputes Arch's right to reject all or part of any shipment of any Codexis Enzyme as set forth in Section 2.11, Codexis shall notify Arch within ten (10) days after receipt of Arch's written notice of such rejection. Such dispute shall be resolved by a Third Party within thirty (30) days of such notice. Such Third Party shall have expertise in the area of biocatalysis, the identity of whom shall be mutually agreed upon by the Parties, and the appointment of whom shall not be unreasonably delayed or conditioned by either Party. The determination of such Third Party with respect to all or part of any shipment of any Codexis Enzyme shall be final and binding upon the Parties. The Third Party's scope of review and decision shall be strictly limited to the reasons given by Arch in rejecting the shipment or part thereof, and such Third Party may not consider any alleged defects or reasons beyond the alleged defects and reasons given by Arch. For the avoidance of doubt, if such Third Party determines that the reasons given by Arch in rejecting the shipment or part thereof were not proper, then no refund or credit shall be due to Arch under Section 2.11, even if such Third Party determines that the shipment was defective on other, independent bases. The fees and expenses of such Third Party shall be paid by the Party against which the determination is made. Notwithstanding anything to the contrary in this Article 2, Codexis shall continue delivering Codexis Enzyme(s) pursuant to the terms of this Agreement and Arch shall pay for Codexis Enzymes, including

without limitation replacement of any defective Codexis Enzyme, pursuant to the terms of this Agreement during the dispute resolution process set forth in this Section 2.13.

2.14 Failure to Supply Enzyme. In the event that Codexis (and its designees) fail to supply at least **[*]** of the amount of any particular Codexis Enzyme that Codexis was obligated to deliver under Section 2.7 ordered pursuant to either (i) the aggregate of all Enzyme Purchase Orders during a period of twelve (12) consecutive months or (ii) three (3) or more Purchase Orders in any period of twelve (12) consecutive months, in accordance with the terms of such Enzyme Purchase Orders, then, notwithstanding anything to the contrary, Arch shall have the right in Arch's sole discretion to undertake any one of the following remedies: (a) take steps necessary to cover any such shortfall in the supply of Product that would have been manufactured using such Codexis Enzyme, including without limitation using a manufacturing process other than the Codexis Process to manufacture the applicable Product; (b) modify any then-outstanding Enzyme Purchase Orders without penalty; (c) terminate this Agreement with respect to such Codexis Enzyme pursuant to Section 15.2; or (d) exercise the right provided in Section 15.5 of this Agreement with respect to the Product that is manufactured using such Codexis Enzyme. Notwithstanding anything in this Agreement to the contrary, the remedies set forth herein shall be the sole and exclusive remedies of Arch with respect to Codexis' failure to supply Codexis Enzyme.

2.15 Audit Rights. During the Term and for a period of three (3) years thereafter, Arch shall permit an independent technical consultant selected by Codexis but agreed to by Arch, such agreement not to be unreasonably withheld or delayed, to have access to Arch's records and books, and to review Arch's manufacturing process for Product using Codexis Enzyme, at the applicable Manufacturing Facility(ies) in order to (a) conduct an independent assessment of the performance of the Codexis Process and (b) to verify that Arch has not (i) used, sold, transferred, or produced any Codexis Enzymes, Codexis Process, Codexis Improvements, or technology relating to the Codexis Process, including without limitation the Codexis IP Rights, in violation of the terms and conditions of this Agreement; or (ii) reverse engineered or created any derivatives of, or made modifications and/or improvements to the Codexis Enzyme or any DNA encoding it (the "**Codexis Enzyme-Related Restrictions**"). Such records and books of accounting shall be kept at Arch's principal place of business. Such audit shall take place no more than once every twelve (12) months during regular business hours, and upon not less than ten (10) days' written notice. Such independent auditor shall be subject to confidentiality obligations, and such auditor shall not disclose Confidential Information of Arch to Codexis except to the extent such Confidential Information is related to the subject matter of such audit. If such examination reveals that Arch has violated any Codexis Enzyme-Related Restriction, Codexis shall have the right, in its sole discretion, to terminate this Agreement pursuant to Section 15.2. The fees and expenses of such assessment shall be paid by Codexis, unless the examination results in a determination that Arch has violated any Codexis Enzyme-Related Restriction, in which case Arch shall pay all reasonable costs and expenses incurred by Codexis in the course of making such determination, including the fees and expenses of such assessment.

2.16 Execution Audit. Within ninety (90) days after execution of this Agreement, Arch shall permit an independent accountant and/or technical consultant selected by Codexis to

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

have access to Arch's records and books, and to review Arch's manufacturing process for Product using Codexis Enzyme, at all Arch facilities, including without limitation the applicable Manufacturing Facility(ies), in order to audit (a) the total physical count of Codexis Enzyme in Arch's possession and en route to each of Arch's facilities, (b) the total Product in Arch's Product finished goods inventory, and (c) the total Product being manufactured on hand (work-in-process) ("**Execution Audit**"). On a Codexis Enzyme-by-Codexis Enzyme and Product-by-Product basis, Arch shall deliver a complete listing of inventory of Codexis Enzyme and Product and the location thereof at least two (2) days prior to the Execution Audit, and shall deliver a preliminary list of inventory within two (2) weeks after the execution of this Agreement. Arch shall use its best efforts to assist the independent accountant and/or technical consultant in the Execution Audit.

3. PRODUCT PURCHASE AND SUPPLY; LICENSE GRANTS

3.1 Manufacture of Products. Subject to the terms and conditions of this Agreement, including without limitation Section 4.1, Arch shall have the exclusive right to manufacture Products using the Codexis Process and Codexis Enzymes. Arch may not use any enzymes other than Codexis Enzymes or any processes other than Codexis Processes in any step of the manufacture of the Products unless a non-enzymatic process is the only process available for the relevant manufacturing step. For the avoidance of doubt and notwithstanding anything in this Agreement to the contrary, (i) subject to Section 4.1, neither Arch nor its Affiliates may purchase any intermediates that fall within the definition of Products from any Third Party and (ii) Arch may purchase the intermediate **[*]** from Third Parties.

(a) Products for Sale to Codexis Customers. Subject to the terms and conditions of this Agreement, including without limitation Section 4.1, on an Product-by- Product basis, Codexis (and its Affiliates) shall purchase Products exclusively from Arch for the sale of such Product by Codexis (and its Affiliates) solely to Codexis Customers for the Term of this Agreement and for the avoidance of doubt, Codexis (and its Affiliates) may not sell or authorize any sale of Products to any Third Party Generic Companies that are not Codexis Customers or Codexis India Customers.

(b) Products for Sale to Arch Customers. Subject to the terms and conditions of this Agreement, on a Product-by- Product basis, Arch may sell Products solely to Arch Customers for the Term of this Agreement and for the avoidance of doubt, Arch (and its Affiliates) may not sell or authorize any sale of Products to any (i) Third Party Innovator Companies, (ii) Third Party Generic Companies that are Codexis Customers or (iii) Codexis India Customers.

3.2 License Grants to Codexis. Arch hereby grants and shall cause its Affiliates to grant Codexis, a non-exclusive, royalty-free, non-sublicensable (except to the extent required to exercise rights under Section 4.1), non-terminable (subject to Sections 15.2 and 15.3), nontransferable (subject to Section 16.6) license under any Non-Codexis Process(es) to use, manufacture and have manufactured (subject to the restrictions set forth in Section 3.1 on Codexis' ability to manufacture and have manufactured Products), sell, offer for sale, import, and/or export Products to be sold by Codexis to Codexis Customers.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

3.3 Supply Obligation of Arch. Subject to the terms of this Agreement, Arch shall supply Products to Codexis to be sold by Codexis to Codexis Customers.

3.4 Product Supply. Arch shall label the Products in accordance with Codexis' written instructions as set forth in Exhibit 3.4. In accordance with Section 3, Codexis shall purchase from Arch, and Arch shall supply to Codexis Products for sale by Codexis to Codexis Customers. The timing and delivery of such supply shall be as set forth in the applicable Product Purchase Order. Arch, at its sole cost and expense, will validate, manufacture and supply Products in accordance with the applicable Product Specification for Product(s) to be sold to a Codexis Customer, and will be responsible for all necessary and useful requirements therefor, including without limitation ensuring sufficient manufacturing capacity; employing appropriate equipment, facilities and personnel; implementing cost reduction plans; and complying with all Applicable Laws. The Products shall be manufactured and supplied under the Codexis Trademarks. For the avoidance of doubt, Products sold and shipped directly to Codexis Customers will be accompanied by a Codexis Commercial Invoice and an Arch Certificate of Analysis, and any other documents as necessary or appropriate as described in the respective customer purchase order.

3.5 Failure to Supply Product. In the event that Arch fails to deliver at least **[*]** of the amount of any particular Product that Arch was obligated to deliver under Section 3.6 ordered pursuant to any particular Product Purchase Order in accordance with the terms of such Product Purchase Order, then, notwithstanding anything to the contrary, Codexis shall have the right to take any and all steps necessary to cover, at the sole cost and expense of Arch, any such shortfall in the supply of such Product and, at Codexis' sole discretion, to modify any then-outstanding Product Purchase Orders without penalty. Notwithstanding and without limiting the foregoing, Arch acknowledges and agrees that: (a) any failure by Arch to deliver at least **[*]** of the amount of any particular Product ordered (i) pursuant to three (3) or more Product Purchase Orders in any period of twelve (12) consecutive months or (ii) pursuant to the aggregate of all Product Purchase Orders in any period of twelve (12) consecutive months, in accordance with the terms of such Product Purchase Orders, shall constitute a material breach of this Agreement by Arch with respect to such Product; (b) Codexis shall have the right, but not the obligation, in its sole discretion, to convert its exclusive purchase obligation (and Arch's exclusive manufacturing right) set forth in Section 2.1 or 4.1, as applicable, with respect to such Product to a non-exclusive arrangement (but, for clarity, in such event, Arch's supply obligation to Codexis pursuant to Sections 2.1 and/or 4.1, as applicable, shall remain exclusive); and (c) Codexis' rights pursuant to this Section 3.5 shall not limit any other rights of Codexis under this Agreement with respect to a failure to supply by Arch which constitutes a material breach pursuant to paragraph (a) above, including without limitation, Codexis' right to terminate this Agreement with respect to such Product pursuant to Section 15.2. The remedies set forth in this Section 3.5 shall be the exclusive remedies of Codexis with respect to Arch's failure to supply Products.

3.6 Product Purchase Orders. Each of the Product(s) shall be ordered by Codexis by written purchase order submitted electronically (or by any other means agreed by the Parties), in a form to be mutually agreed by the Parties (each, a "**Product Purchase Order**"). No communications (oral, electronic, written or otherwise) between the Parties in respect of any

purchase or supply of Products shall be binding on the Parties except to the extent such communication is embodied in a Product Purchase Order or other document signed by each Party. In the event that a Codexis Customer modifies or cancels any order for Product, Codexis shall discuss the matter with Arch and only after Arch's consent in writing (which consent may not be unreasonably withheld or delayed) modify or cancel a Product Purchase Order provided that Arch has not already shipped Product prior to receipt of the cancellation/modification notice. All Product Purchase Orders shall be deemed accepted by Arch, except with respect to Products subject to a Non-Exclusive Relationship, which Purchase Orders shall be accepted by Arch only if (x) Codexis provides a sufficient quantity of Codexis Enzyme to Arch in order to allow Arch to manufacture the requested quantity of Product in the requested timeframe or (y) accepted in writing by Arch within five (5) days of receipt of such Product Purchase Order. Arch shall promptly provide Codexis written notice in the event that Arch will not be able to deliver any quantities specified in the Product Purchase Order.

3.7 Conflicts. On Product-by-Product basis and Purchase Order-by-Purchase Order basis, in the event a Codexis Customer has additional and/or different terms and conditions regarding the supply of Product or requirement of additional sales documentation, Codexis shall forward such terms and conditions to Arch in writing, either in the applicable Purchase Order or otherwise, and such terms and conditions shall be in addition to the terms and conditions in this Agreement solely for such Purchase Order. To the extent that there is any conflict or any inconsistency between this Agreement and any Product Purchase Order, or any other document pertaining to the supply of Products (except as set forth in Section 3.12.3), the terms of this Agreement shall govern. For clarity, no conflicting term or condition added by Codexis to a Product Purchase Order shall be binding on Arch unless such term or condition is specifically agreed to by Arch in writing signed by a duly authorized officer of Arch.

3.8 Delivery of Products. Arch shall deliver to Codexis and/or its designee the amount of each of the Product(s) specified in each Product Purchase Order, together with any other sales documentation or other materials specified in such Purchase Order, no later than the date (or dates) mutually agreed by the Parties therein. All Products shall be (a) delivered to Codexis as inventory supply; or (b) shipped by Arch by air or as otherwise directed by Codexis to the destination designated in writing by Codexis. The Parties shall cooperate in selecting appropriate carriers, and title and risk of loss shall pass to Codexis upon delivery by Arch to such carrier(s). Arch shall notify Codexis in writing within five (5) days after shipping any Product in order to allow Codexis to properly invoice its customers. Arch shall ship each order of Product under appropriate packaging and storage conditions, including, for example, using envirotainers or similar temperature-control equipment for shipments where appropriate. All deliveries will be accompanied by the relevant Certificate of Analysis (CoA), and a detailed delivery note specifying the identity of the material, the quantity and the lot number(s) and any other documents specified in the applicable Product Purchase Order (including, for example, TSE/BSE certificate and Material Safety Data Sheet (MSDS)).

3.9 Inspection of Product. Upon receipt of each shipment of Product, Codexis and/or the Codexis Customer, shall test and inspect such Product for compliance with the Product Specification and other documentation as set forth in Section 3.12 or otherwise provided by Codexis to Arch pursuant to Section 3.7 (as applicable) for such Product corresponding to

such shipment. Codexis and/or the Codexis Customer shall inform Arch of the result of the acceptance inspection including the judgment of acceptance or rejection of all or part of a shipment in writing within ten (10) days (or such other time as may be agreed to by Codexis and a Codexis Customer, as specified in the applicable Product Purchase Order) after the delivery of such shipment of Products. In the event that Arch receives a written notice of rejection from Codexis and/or the Codexis Customer within the timeframes set forth in the following sentence, subject to Section 3.11, Arch shall replace such rejected Product pursuant to Section 3.10. If Codexis and/or the Codexis Customer fails to notify Arch of a rejection within the requisite timeframe, the shipment of Products shall be deemed accepted by Codexis and/or the Codexis Customer. Regardless of any rejection of all or part of a shipment of Product, Codexis shall pay for such Product and if such rejection is determined to be proper by Arch or pursuant to the dispute resolution mechanism set forth in Section 3.11, Codexis shall be entitled to, at its sole discretion, a credit or refund of such properly rejected Product.

3.10 Replacement of Defective Product. In the event that Arch receives a written notice of rejection from Codexis and/or the Codexis Customer, Arch shall, at the sole cost and expense of Arch, replace any shipment of such rejected Product, including without limitation disposal of such Product, within sixty (60) days after receiving Codexis' and/or the Codexis Customer's written notice of rejection. For clarity, the foregoing right shall not limit any other remedy available at law or in equity. Codexis and/or the Codexis Customer shall keep such defective Product at the premises of Codexis and/or the Codexis Customer, as applicable, until receipt of Arch's instruction for Codexis and/or the Codexis Customer to return or otherwise dispose of such defective Product. Notwithstanding anything to the contrary, (i) Arch shall have no obligation to replace any shipment of Product or part thereof pursuant to this Section 3.10 or issue a refund or credit pursuant to Section 3.9 in the event Arch can establish that the Product is not defective or such defect occurred after delivery of Product; and (ii) if the basis for any rejection is a defect due to a change in any regulatory requirement as specified by a Government Authority and which change was not identified by the Government Authority prior to Arch's manufacture of such Product, then the costs associated with replacement of the defective Product (which costs, for the avoidance of doubt, do not include costs to be borne by Arch in updating its manufacturing processes and procedures to become compliant with any new regulatory requirement or any other costs not attributable directly to the replacement) shall be borne equally by the Parties.

3.11 Disputes. If Arch disputes Codexis' and/or the Codexis Customer's right to reject all or part of any shipment of any Product as set forth in Section 3.9, Arch shall notify Codexis within ten (10) days after receipt of Codexis' and/or the Codexis Customer's written notice of such rejection. Such dispute shall be resolved by a Third Party within thirty (30) days of such notice. Such Third Party shall have expertise in the areas of quality control and quality assurance for active pharmaceutical ingredient and intermediate manufacturing, the identity of whom shall be mutually agreed upon by the Parties, and the appointment of whom shall not be unreasonably delayed or conditioned by either Party. The determination of such Third Party with respect to all or part of any shipment of any Product shall be final and binding upon the Parties. The Third Party's scope of review and decision shall be strictly limited to the reasons given by Codexis in rejecting the shipment or part thereof, and such Third Party may not consider any alleged defects or reasons beyond the alleged defects and reasons given by Codexis.

For the avoidance of doubt, if such Third Party determines that the reasons given by Codexis in rejecting the shipment or part thereof were not proper, then no refund or credit shall be due to Codexis under Section 3.10, even if such Third Party determines that the shipment was defective on other, independent bases. The fees and expenses of such Third Party shall be paid by the Party against which the determination is made. Notwithstanding anything to the contrary in this Article 3, Arch shall continue delivering Product(s), including without limitation replacement of any defective Products, pursuant to the terms of this Agreement during the dispute resolution process set forth in this Section 3.11.

3.12 Changes and Quality Control.

3.12.1 Specification. As soon as practicable, but in any event no later than thirty (30) days prior to the First Commercial Sale of each Product, Codexis shall provide Arch with the specification for such Product (each, a "**Product Specification**"), as mutually agreed upon by the Parties. All Product supplied by Arch hereunder shall comply with the applicable Product Specification.

3.12.2 Changes. Arch shall not make any changes or alterations in (i) the Product Specification(s) for any Product or (ii) the process for the manufacture of any Product which change may impact the Product quality (each, a "**Change**") without Codexis' prior written consent.

(a) In the event that Arch requests a Change and Codexis consents to such Change, Arch shall bear the costs associated with implementing such Change, including without limitation any costs incurred in connection with testing such Change by Codexis or any Third Party laboratory designated by Codexis.

(b) In the event that Codexis requests a Change, Codexis shall bear the costs associated with such Change, including without limitation any costs incurred in connection with testing such Change by any Third Party laboratory.

3.12.3 Manufacturing Standards and Procedures. Unless otherwise agreed in writing by Codexis, all Products supplied hereunder and the manufacture thereof shall comply with appropriate quality standards depending on the intended market, including but not limited to cGMP. Arch shall adopt and maintain quality assurance procedures and perform quality control tests designed to ensure that all Products manufactured under this Agreement conform to and are manufactured in accordance with this Agreement, including any other requirements of a Codexis Customer which requirements shall be set forth in the relevant Purchase Order or otherwise set forth in writing by Codexis. Without limiting the foregoing, Arch agrees as follows:

(a) Arch shall be responsible for creating and retaining all records relating to the manufacturing, analysis and distribution, testing and release of materials, production and quality control (including in-process controls) as actual manufacturer, including Product Quality Review, generally in accordance with cGMP and shall provide copies to Codexis upon its reasonable written request.

(b) Arch shall retain reference samples from each Batch of Products for the period of time required by Applicable Law and cGMP regulations. Arch shall retain samples sufficient to conduct at least three re-examinations. Arch shall, upon written request, make reference samples available for inspection, testing, analysis and examination by Codexis and/or any relevant Government Authority, solely for the purposes of determining compliance with Applicable Law or the requirements under this Agreement.

(c) The equipment and facilities used for manufacturing must be qualified by Arch. The results must be documented in writing. The processes for manufacturing of Product must be validated by Arch in accordance with the approved validation protocol. The validation should be performed on the three consecutive Batches which should each be included in formal stability studies. The stability studies should be performed in accordance to the valid ICH guidelines for the Product.

(d) Arch shall ensure that the Products have been manufactured in compliance with all requirements under this Agreement and shall release only Batches, which have been manufactured and analyzed by Arch according to the Product Specifications.

3.12.4 Manufacturing and Storage Location.

(a) Prior to the manufacture of any Product, Arch shall inform Codexis as to which Manufacturing Facility will be used to manufacture such Product. All such Product shall be manufactured at such Manufacturing Facility, and Arch shall not, without Codexis' prior written consent, not to be unreasonably withheld, manufacture such Product at any facility other than such Manufacturing Facility. Notwithstanding the foregoing, in the event that Arch makes a good faith determination that it is more cost-efficient to outsource certain aspects or steps in the manufacturing of Products to Third Parties (the "**Subcontract Manufacturer**"), Arch may, upon Codexis' prior, written consent (not to be unreasonably withheld), use such Subcontract Manufacturers to manufacture Products provided that (i) such subcontracting does not increase manufacturing costs, (ii) Arch shall retain title to Products even when and during such time that Products are manufactured, maintained or held at the site of a Subcontract Manufacturer and (iii) Arch shall remain liable for all action or inaction of any Subcontract Manufacturer and any such action or inaction which would be deemed a breach of this Agreement had such action or inaction been taken by Arch shall be deemed a breach of this Agreement by Arch.

(b) Prior to the delivery of any such Product to Codexis, all such Product shall be stored in accordance with this Agreement, the applicable Specifications or as otherwise instructed in writing by Codexis, and at such Manufacturing Facility. Within five (5) days after Codexis' request, Arch shall provide information relating to such stored Product, including without limitation the date of manufacture and the amount of such stored Product.

3.12.5 Inspections of Manufacturing Facility.

(a) Inspection by Codexis. Representatives of Codexis (i) shall upon Codexis' request be permitted to review Arch's quality assurance/quality control and Environmental, Health and Safety procedures; and (ii) may, during normal business hours and

with reasonable advance notice, conduct a supplier audit of the Manufacturing Facility(ies); provided, that unless there is a material change to the operation of the Manufacturing Facility(ies) (such as introduction of new assets or products), such audit shall not extend beyond two (2) Business Days per facility and, unless deficiencies are discovered during any such audit, shall not be conducted more than once per calendar year at any particular Manufacturing Facility. Arch shall permit representatives of Codexis to inspect the Manufacturing Facility(ies) to verify that the Products are being manufactured and supplied in accordance with the applicable Specification, cGMP, the relevant terms of this Agreement and Applicable Law. Arch shall promptly remedy or cause the remedy of any deficiencies that may be noted in any such inspection.

(b) Inspections by Third Party Customers of Codexis. Representatives of Codexis' Third Party customers for Products may, during normal business hours and with reasonable advance notice, conduct a supplier audit of the applicable Manufacturing Facility(ies); provided, that each such audit shall not extend beyond two (2) Business Days per facility and, unless deficiencies are discovered during any such audit, shall not be conducted more than once by any particular Third Party customer at any particular Manufacturing Facility in a particular calendar year. Arch shall permit such representatives to inspect the applicable Manufacturing Facility to verify that the Products are being manufactured and supplied in accordance with the applicable Product Specification, cGMP, Environmental, Health and Safety standards and Applicable Law. Arch shall promptly remedy or cause the remedy of any deficiencies that may be noted in any such inspection.

(c) Inspection by Government Authority. Arch agrees to provide access for Government Authority representatives to its facilities, including without limitation, the Manufacturing Facility(ies), for inspection at any time. Arch shall notify Codexis of any of the foregoing as soon as possible. Arch shall fully cooperate with any such inspection and, within five (5) days after such inspection, shall provide Codexis with copies of all correspondence to and from any Government Authorities in connection with any such inspection, including without limitation any formal reports; provided, however, that in the event that any such inspection reveals any deficiency, Arch shall provide such copies within twenty-four (24) hours after such inspection.

3.12.6 Recalls. In the event that (a) either Party determines that an event, incident, or circumstance has occurred which may result in the need for a recall or other removal of any Product from the market in any country; (b) any Government Authority threatens or initiates any action to remove any Product from the market; or (c) any Government Authority requires distribution of a "Dear Doctor" letter or its equivalent, regarding use of any Product, each Party, as applicable, shall (i) promptly advise the other Party in writing with respect thereto, and each Party, as applicable, shall provide to the other Party copies of all relevant correspondence, notices, and the like, and (ii) fully cooperate with the other Party regarding any proposed recall, withdrawal, or field correction.

4. NON-EXCLUSIVE RELATIONSHIP.

4.1 Conversion to Non-Exclusive Relationship. On a Product-by-Product basis, the exclusive relationship set forth in Sections 2.1 and 3.1 shall be converted to a Non-Exclusive Relationship in the event of any of the following:

(a) Upon written notice by Codexis to Arch that it is not commercially feasible, in Codexis' sole discretion, for Codexis to continue to supply any of the respective Codexis Enzyme(s) to Arch pursuant to Article 2, and Codexis provides ninety (90) days prior notice to Arch of such decision at any time after the second anniversary of the Effective Date, on a Product-by-Product basis.

(b) Upon written notice by Codexis to Arch if Arch fails to file a Drug Master File for each of **[*]** in the U.S. within eighteen (18) months after the Effective Date, in which case **[*]**, as applicable, shall be subject to a Non-Exclusive Relationship; provided, however that if Arch's failure to file the DMF within the requisite time period is due to a change in a regulatory requirement imposed by a Government Authority, including but not limited to a requirement to specify a new impurity that had not previously been required, then Codexis and Arch shall engage in good faith discussions regarding an extension of the requisite time period set forth in this subsection (b) but any such extension shall only be upon mutual agreement of the Parties; and/or

(c) Upon written notice by either Party to the other Party upon a material, uncured breach by the other Party that is not cured within thirty (30) days' written notice of such breach, in which case any or all Products, as identified by the non-breaching Party, shall be subject to a Non-Exclusive Relationship.

4.2 "**Non-Exclusive Relationship**" shall mean, for the relevant Product, notwithstanding Sections 2.1 and 3.1, (i) Codexis shall have the right to purchase the Product from any Third Party and also the right to sell/license the Codexis Enzymes and Codexis Processes to any Third Party; (ii) Arch shall have a corresponding right to sell the Product to any Third Party and also the right to procure the enzymes (other than Codexis Enzymes) and processes (other than the Codexis Process) needed to manufacture such Product from any Third Party; and (iii) without prejudice to above, with respect to a right granted by one Party to the other Party under this Agreement, such right may be granted to any Third Party in the first Party's sole discretion. For the avoidance of doubt, the establishment of a Non-Exclusive Relationship in respect of any Product shall not affect the rights and obligations in respect of any other Products.

5. PRODUCT DEVELOPMENT

5.1 Arch Development Responsibilities. On a Product-by-Product basis, Arch shall be solely responsible for and shall (i) scale-up and implement the Codexis Process(es), (ii) develop the Non-Codexis Process(es), and (iii) develop and manufacture the Product(s) in accordance with this Agreement. Such development shall include without limitation, chemistry development, scale-up, and obtaining any and all regulatory approvals and licenses required for such development and/or commercialization. Arch shall solely be responsible for all costs

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associated with its development activities under this Section 5.1, including without limitation, developing all required manufacturing and release testing for the Product(s).

5.2 Codexis Development Responsibilities. On a Product-by-Product basis, Codexis and/or its Affiliates shall be responsible for (a) selection of the manufacturing route for each Product in consultation with Arch; and (b) development of Codexis Enzyme(s) and the respective Codexis Process(es) for use in the manufacture of each Product. Notwithstanding the foregoing, Codexis, in its sole discretion, shall identify Codexis Enzyme(s) for use in the manufacture of Product(s). Codexis shall be responsible for all costs associated with its development activities under this Section 5.2, including without limitation, appropriate analytical methods for release testing of Codexis Enzyme(s).

5.3 Development Reports by Arch. On a Product-by-Product basis, as of the Effective Date, Arch shall provide Codexis with a written report, twice per calendar year within ten (10) Business Days after June 30 and December 31 of each such calendar year, on the status of its activities regarding the development of Non-Codexis Process(es) as set forth in Section 5.1 with respect to any Products, including without limitation, any Arch Improvements and any improvements made to the then-current Non-Codexis Process(es), in technical detail, made during the period covered by such report.

5.4 Inventory Transaction Reports; Audits. Arch shall maintain adequate records with respect to inventory of Products and each Codexis Enzyme, which records shall include without limitation information specifying how such Codexis Enzyme is used, stored, transferred, or otherwise disposed. On a Product-by-Product basis and Codexis Enzyme-by-Codexis Enzyme basis, following the first delivery of such Codexis Enzyme to Arch, Arch shall deliver to Codexis on a semi-monthly (or twice per month) basis, on or around the 15th day of each month and within two (2) Business Days after the end of each month, a written report setting forth in sufficient detail the information set forth Exhibit 5.4, and a report regarding the loading, scrap and utilization information of each such Codexis Enzyme, in each case for the period covered by such report. Codexis shall have the right to, at Codexis' expense, visit (or have a representative visit) Arch's Manufacturing Facilities twice per month for purposes of collecting data regarding sales of Products and/or inventory of Codexis Enzymes and/or inventory of Products. Such visits shall be on or around the 15th day each month and the last day of each month. Without limiting the foregoing, if Arch uses at least ten percent (10%) more Codexis Enzyme than planned, Arch shall promptly notify Codexis' Vice President of Operations via email of such additional use and the reasons for such use and, for the avoidance of doubt, such additional use shall also be noted on the applicable report submitted pursuant to this Section 5.4.

5.5 Payables/Receivables. The Parties shall, within three (3) Business Days after the end of each calendar month, agree upon a written report of any payable/receivable amounts in respect of the prior month's activities in respect of Codexis Enzymes, Products or any other work under this Agreement or any other agreements between the Parties (or their Affiliates) entered into contemporaneously with this Agreement.

6. MARKETING OF PRODUCTS

6.1 Diligence by the Parties. Codexis shall use commercially reasonable efforts to market and sell Products to Codexis Customers. Arch shall use commercially reasonable efforts to market and sell Products to Arch Customers.

6.2 Prices and Terms of Sale. Codexis shall decide, in its sole discretion, the selling price of Products to be sold to Codexis Customers. Arch shall decide, in its sole discretion, the selling price of Products to be sold to Arch Customers

6.3 Product Orders. In the event that (i) Arch identifies any companies for any Product that fall within Codexis Customers, Arch shall direct such companies to submit inquires for such Product to Codexis; and (ii) Codexis identifies any potential companies for any Product in that fall within Arch Customers, Codexis shall direct such companies to submit inquiries for such Product to Arch.

6.4 Weekly Sales Reporting by Arch. On a weekly basis, Arch shall deliver to Codexis a written report summarizing Product sales made by Arch during such week. Such report shall be delivered to Codexis electronically (via e-mail, pdf or other electronic means) on a weekly basis and delivered to Codexis or its representative during the visits referenced in Section 5.4 on or around the 15th and end of each month.

7. REGULATORY FILINGS AND COMPLIANCE

7.1 Arch's Regulatory Responsibilities. Arch shall be solely responsible for and shall carry out and complete all regulatory updates and filings necessary to obtain the consent of any Government Authorities (including without limitation the FDA) to the extent required in order to ensure that Arch and/or Codexis' use of any Codexis Enzymes and/or Codexis Processes to manufacture, have manufactured, use, sell, offer for sale, import, export, and/or otherwise distribute Products for use in a drug product to be marketed in India complies with all Applicable Law and such updates and filings shall be in Arch's name and owned exclusively by Arch. Arch shall also be responsible for filing a Drug Master File for each of **[*]** in the U.S. and Europe. In addition, in the event that a Codexis Customer requires such updates and filings, the obligations of Arch under this Section 7.1 shall also apply for the territory in which Product is to be sold to such Codexis Customer, as designated by such Codexis Customer or by Codexis, for and on behalf of such Codexis Customer. Arch shall designate as confidential in any such regulatory filings any Confidential Information of Codexis contained therein, and Arch shall make requests under Applicable Law for confidential treatment covering such Confidential Information. Arch shall, in its sole discretion, determine any matters regarding the regulatory strategy of Product(s) to be sold to Arch Customers.

7.2 Codexis' Regulatory Responsibilities. Codexis will provide to Arch (a) all documentation Controlled by Codexis and/or its Affiliates requested by the relevant Government Authorities necessary for approvals; and (b) all reasonable assistance as requested by Arch, in order to permit Arch and/or its Affiliates to (i) make the filings contemplated in Section 7.1 and (ii) register with and obtain authorizations from such Government Authorities to use each Codexis Enzyme and Codexis Process to manufacture and market Product(s) to Codexis

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

Customers. In particular, Codexis shall provide Arch with all the documents and information required for registrations, at health authorities and for GMO registration, if required under Applicable Law, including without limitation the full description of stability data, toxicological data, certificates of analysis and material safety data sheets, in each case, solely to the extent applicable to the applicable Codexis Enzyme used in each Codexis Process.

7.2.1 Regulatory Reports. Arch shall notify Codexis within a commercially reasonable period of time of any regulatory filing, or license application related to the manufacture, use, sale, import, export and/or other distribution of any Product during the Term.

8. TRADEMARK LICENSE

8.1 Trademark License Grants. Codexis hereby grants to Arch, upon the terms and subject to the conditions and restrictions of this Agreement, including without limitation Section 8.2, a non-exclusive, non-transferable right and license to use the Codexis Trademarks, upon and solely in connection with the distribution of Products to be sold to (x) Codexis Customers and (y) Codexis India. Arch accepts and acknowledges that the Codexis Trademarks are valuable assets of Codexis and agrees to use utmost care in ensuring that its use of the Codexis Trademarks is in strict compliance with the terms and conditions of this Agreement. Arch shall have no right to use Codexis Trademarks in connection with any Products distributed to Arch Customers (other than Codexis India) except as otherwise authorized in writing by Codexis and, for the avoidance of doubt, Products sold to Arch Customers (other than Codexis India) shall bear Arch Trademarks.

8.2 Restrictions on Use.

8.2.1 Arch shall not (a) change or modify the Codexis Trademarks, or create any design variation of the Codexis Trademarks, except to the extent required by law applicable to packaging materials and reasonably satisfactory to Codexis; (b) join any name, mark or logo with the Codexis Trademarks so as to form a composite trade name or trademark; (c) use the Codexis Trademarks in any manner that reflects adversely upon the Codexis Trademarks or Codexis or its Affiliates; (d) register, seek to register, or use any other trademark that is confusingly similar to or dilutes the Codexis Trademarks; (e) challenge the validity or enforceability of any of the Codexis Trademarks or Codexis' right to grant the license to the Codexis Trademarks set forth herein; or (f) use the Codexis Trademarks in any manner inconsistent with the express rights granted to Arch hereunder. All use of the Codexis Trademarks made by Arch hereunder shall faithfully reproduce the design and appearance of the Codexis Trademarks and adhere to any standards provided by Codexis to Arch in writing from time to time.

8.2.2 To the extent allowed by Applicable Law and consistent with Codexis internal trademark policy as to size, location and prominence, all labeling of any Product, including without limitation packaging and package inserts and any promotional materials associated with such Product shall carry, in a conspicuous location, the Codexis Trademarks, subject to Codexis' reasonable approval of the size, position, and location thereof on the Product or its components. Codexis reserves the right to provide Arch with adhesive labels, stickers or markers which reproduce the Codexis Trademarks, and Arch shall use such labels, stickers or

markers in accordance with any standards provided by Codexis to Arch in writing from time to time.

8.3 Quality Control. To control and monitor compliance with the trademark licenses provided in this Article 8, each Party or its duly authorized representative shall have the right, at any time upon reasonable written notice to the other Party, to inspect, test and audit samples of (a) Products and packaging therefor bearing the Codexis Trademarks or the Arch Trademarks, as applicable; (b) all advertising, promotional and marketing materials bearing the Codexis Trademarks or the Arch Trademarks, as applicable; and (c) any other uses of the Codexis Trademarks or the Arch Trademarks, as applicable, by Arch or Codexis and/or its Affiliates, respectively; Arch and Codexis and/or its Affiliates shall promptly remedy any non-compliant uses of the Codexis Trademarks or the Arch Trademarks, respectively; provided, that in the event either Party reasonably determines that any such non-compliant uses poses immediate threat to the validity or enforceability of its trademarks, the other Party shall, upon written notice from such Party, immediately cease and desist all such non-conforming uses. Without limiting any of the foregoing, Arch shall submit samples of Products and packaging therefor, and advertising, promotional and marketing materials bearing the Codexis Trademarks to Codexis no less than once at the end of each calendar year during the Term for testing and review by Codexis.

8.4 No Other Rights.

8.4.1 Except as expressly provided otherwise in this Agreement, including in Article 2, no right, title, or interest is granted by Codexis and/or its Affiliates to Arch and its Affiliates in, to, or under any intellectual property rights Controlled by Codexis and/or its Affiliates, including without limitation, the Codexis IP Rights.

8.4.2 Except as expressly provided otherwise in this Agreement, including in Article 3 or Section 11.1.2 , no right, title, or interest is granted by Arch to Codexis in, to, or under any intellectual property rights Controlled by Arch.

9. PAYMENTS

9.1 Product Sales by Parties.

9.1.1 Codexis shall pay Arch a transfer price in respect of each Product sold to Codexis by Arch as agreed to in writing by the Parties.

9.1.2 Arch shall pay Codexis a license royalty in respect of each Product sold by Arch to an Arch Customer, as agreed to in writing by the Parties.

9.2 Enzyme Supply by Codexis.

9.2.1 On a Codexis Enzyme-by-Codexis Enzyme basis, Arch shall pay to Codexis **[*]** per kilogram of Codexis Enzyme or such other amount as may be agreed to in writing by the Parties.

9.2.2 Arch shall pay Codexis within ninety (90) days of delivery of each shipment of Codexis Enzyme hereunder. All payments made by Arch to Codexis for Codexis Enzymes shall be free of offsets, deductions, or withholdings of any kind for any and all taxes, duties, or other similar fees and/or penalties levied by any Government Authority, which taxes, duties, fees and/or penalties, if any, shall be borne solely by Arch. Notwithstanding, if any order of any income tax authority specifies deduction of tax at source on account of income tax payable by Codexis, the amount computed at the rate specified in the said order shall be withheld and deposited in government account as per Applicable Law.

9.3 Late Payment Interest. Any payment under the terms and conditions of this Agreement made after the date such payment is due and payable shall bear interest as of the day after the date such payment was due and payable and shall continue to accrue such interest until such payment is made at a rate equal to the lesser of either (a) two percent (2%) above the prime rate as reported by Federal Reserve Bank of New York, located in New York, New York, as of the date such payment was due and payable, or (b) the maximum rate permitted by Applicable Law.

10. CONFIDENTIALITY

10.1 In General. In connection with this Agreement each Party (the "**Disclosing Party**") may provide to the other Party (the "**Receiving Party**"), Confidential Information.

10.2 Non-Disclosure and Non-Use. The Receiving Party shall maintain the Confidential Information of the Disclosing Party in confidence, shall not disclose such Confidential Information to any Third Party, and shall not use such Confidential Information for any purpose except as expressly permitted under the terms and conditions of this Agreement. Notwithstanding the previous sentence, the Receiving Party may disclose the Confidential Information of the Disclosing Party solely on a "need to know basis" to its Affiliates and its officers, directors, employees, legal counsel, contractors and agents, and independent legal counsel, each of whom prior to disclosure must be bound by obligations of nondisclosure and non-use no less restrictive than the obligations set forth in this Article 10; provided, however, that, in each of the above situations, the Receiving Party shall remain responsible for any failure by any person or entity who receives Confidential Information pursuant to this Section 10.2 to treat such Confidential Information as required under this Article 10. The Receiving Party shall take the same degree of care that the Receiving Party uses to protect its own confidential and proprietary information of a similar nature and importance, but in no event shall such care be less than reasonable care.

10.3 Exceptions. The obligations of non-disclosure and non-use under Section 10.2 will not apply as to particular Confidential Information of a Disclosing Party to the extent that such Confidential Information: (a) is at the time of receipt, or thereafter becomes, through no fault of the Receiving Party or its Affiliates, published or publicly known or available; (b) is known by the Receiving Party or its Affiliates at the time of receiving such information, as evidenced by competent written records; (c) is hereafter furnished to the Receiving Party or its Affiliates by a Third Party without breach of a duty to the Disclosing Party; or (d) is independently discovered or developed by the Receiving Party or its Affiliates without use of,

application of, access to, or reference to Confidential Information of the Disclosing Party, as evidenced by competent written records.

10.4 Disclosure Required by Law. Disclosure of Confidential Information shall not be precluded if such disclosure (a) is in response to a valid order, or required under the regulations, of a court or other governmental body; or (b) is required by Applicable Law; provided, however, that the Receiving Party first has given reasonable prior notice to the Disclosing Party and at the Disclosing Party's request, the Receiving Party cooperates with the Disclosing Party's efforts, as applicable, to obtain a protective order limiting the extent of such disclosure and requiring that the Confidential Information so disclosed be used only for the purposes for which such order was issued or as required by such Applicable Law.

10.5 Remedies. The Receiving Party agrees that its obligations under this Article 10 are necessary and reasonable to protect the Disclosing Party's business interests and that the unauthorized disclosure or use of Confidential Information of the Disclosing Party will cause irreparable harm and significant injury, the degree of which may be difficult to ascertain. The Receiving Party further acknowledges and agrees that in the event of any actual or threatened breach of this Article 10, the Disclosing Party may have no adequate remedy at law and, accordingly, that the Disclosing Party will have the right to seek an immediate injunction, without an obligation to post a bond or any similar security, enjoining any breach or threatened breach of this Article 10, as well as the right to pursue any and all other rights and remedies available at law or in equity for such breach or threatened breach.

10.6 Agreement Terms. The existence of, and the terms and conditions of, this Agreement shall be Confidential Information of each of the Parties, and subject to the terms of this Article 10; provided, however, that (x) each Party may disclose this Agreement, in confidence, (i) to legal, scientific and financial advisors and (ii) in connection with any proposed legal transaction involving the disclosing Party in the form of mergers, offerings, acquisitions, fundings and investments; and (y) each Party may disclose this Agreement, in its entirety or with portions redacted, as may be required by Applicable Law, including but not limited to filing of this Agreement with the Securities and Exchange Commission (and, for the avoidance of doubt, if any such disclosure or filing is made on a non-confidential basis then the portions disclosed or filed shall no longer be deemed Confidential Information).

10.7 Survival. All obligations of non-disclosure and non-use imposed pursuant to the terms and conditions of this Article 10 shall survive expiration or termination of this Agreement and continue in full force and effect for a period of ten (10) years after the effective date of such expiration or such termination.

11. INTELLECTUAL PROPERTY

11.1 Ownership by Codexis.

11.1.1 As between the Parties, subject only to the licenses set forth in Articles 2 or 8, Codexis shall retain all right, title and interest in, to and under the Codexis IP Rights, Codexis Trademarks, Codexis Process, each and every Codexis Enzyme, and Codexis Improvements.

11.1.2 Arch hereby assigns to Codexis all its right, title, and interest in, to, and under any and all discovery, invention, contribution, method, finding, or improvement, whether or not patentable, and all related intellectual property, including without limitation Patents and know-how, that is conceived, reduced to practice, or otherwise developed by Arch or an Affiliate of Arch, either solely or jointly with Codexis and/or a Third Party, during the Term that relates to the Codexis IP Rights, Codexis Trademarks, Codexis Process, any Codexis Enzyme, and/or the Codexis Improvements (collectively, the "**Arch Bio-Chemical Improvements**"). Arch and its Affiliates agree to cooperate with Codexis, at Codexis' reasonable request and expense, in the preparation of any patent application claiming any subject matter within such inventions and intellectual property rights.

11.1.3 Codexis, at its own expense, shall have the sole right, but not the obligation, to file applications for and to control the prosecution and maintenance of the Codexis IP Rights and Codexis Trademarks, including without limitation any and all intellectual property assigned by Arch to Codexis pursuant to Section 11.1.2 , except as otherwise expressly noted.

11.2 Ownership by Arch.

11.2.1 As between the Parties, subject only to the licenses set forth in Articles 3 or 8, Arch shall retain all right, title and interest in, to and under the Arch Chemical Improvements and Arch Trademarks.

11.2.2 Arch, at its own expense, shall have the sole right, but not the obligation, to file applications for and to control the prosecution and maintenance of the intellectual property rights embodied in the Non-Codexis Process, Arch Chemical Improvements and Arch Trademarks.

11.3 Enforcement.

11.3.1 At any time during the Term, if a Party determines that a Third Party is or may be infringing any Patent, or may have misappropriated any other right, within the Codexis IP Rights, the Party making such determination shall promptly provide written notice to the other Party thereof.

11.3.2 Codexis, at its expense, shall have the right, but not the obligation, to enforce all rights (a) in the Codexis Enzyme(s), Codexis Process(es), and/or Codexis Improvements and any and all intellectual property rights therein, including without limitation the Codexis IP Rights; and (b) with respect to any and all intellectual property assigned by Arch to Codexis pursuant to Section 11.1.2.

11.3.3 In the event that Codexis enforces its rights pursuant to this Section 11.3, Arch and its Affiliates, if applicable, shall cooperate fully with Codexis in such enforcement, including without limitation, by joining as a party plaintiff and executing such documents as Codexis may reasonably request.

11.4 Attorney in Fact. If Codexis cannot obtain the signature of Arch or its Affiliates, as applicable, on any document necessary to exercise its rights under this Article 11, Arch and

each of its Affiliates hereby irrevocably designates and appoints Codexis and each of its duly authorized officers and agents as Arch's agent and attorney-in-fact, to act for, and on behalf of Arch, to execute and file any such document to further exercise Codexis' rights or protections with the same force and effect as if executed and delivered by Arch or its Affiliates. Exercise of the foregoing right shall be at the sole expense of Codexis, and Codexis agrees to hold Arch and each of its Affiliates harmless against any loss, liability, or expense that Arch may have to incur on account of the exercise by Codexis of such right. This Section 11.4 shall not apply with respect to the execution and/or filing of any document in the event of any dispute between the Parties with respect to the ownership provision under Section 11.1.2 . If any document is executed and/or filed by Codexis on behalf of Arch prior to any dispute between the two Parties on any matter contained in Section 11.1, such document shall not bind Arch in any manner. On each occasion of exercise of the right conferred in the first sentence of this Section 11.4, Codexis agrees to provide a written notice to Arch within seven (7) days after such exercise, containing material particulars of the document filed and/or executed.

11.5 Allocation of Recovery. Any recovery awarded by a court of competent jurisdiction or final resort in an unreversed, unappealed, or unappealable decision or judgment from an action by Codexis to enforce any rights within the Codexis IP Rights, including without limitation any and all intellectual property assigned by Arch to Codexis pursuant to Section 11.1.2 , shall be first applied to reimburse Codexis' and Arch's unreimbursed expenses on pro-rata basis in proportion to their expenses, including without limitation reasonable attorney's fees and court costs. Any remaining amount of such damages or other monetary awards shall then be applied between the Parties in such action or proceeding on a pro rata basis based upon the Parties' respective out-of-pocket expenses directly associated with such action or proceeding.

11.6 Termination for Patent Challenge. If Arch or any of its Affiliates challenges in a court of competent jurisdiction or in any interference, re-examination or opposition proceeding, the validity, scope or enforceability of any Patent embodied in the Codexis Enzyme(s), Codexis Process(es), and/or Codexis Improvements, including without limitation the Codexis IP Rights, Codexis shall have the right to terminate this Agreement immediately upon written notice to Arch provided in accordance with Section 16.7. If Applicable Law prevents Codexis from termination of this Agreement pursuant to this Section 11.6, Arch acknowledges and agrees that Arch may retain the licenses granted under this Agreement; provided, however, that the payments agreed upon per Section 9.1.2 shall be tripled.

11.7 Third Party Claims. If, after the Effective Date, Arch becomes aware of any claims made by Third Parties that such Third Party's intellectual property may be infringed by the use, manufacture, having manufactured, marketing, selling, offering to sell, importing, exporting, and/or other distribution of any Products, Arch shall promptly notify Codexis thereof. If, after the Effective Date, Codexis becomes aware of any claims made by Third Parties that such Third Party's intellectual property rights may be infringed by the use, manufacture, having manufactured, marketing, selling, offering to sell, importing, exporting, and/or other distribution of any Codexis Enzymes or Codexis Process, Codexis shall promptly notify Arch thereof. The Parties shall meet and discuss in good faith steps to avoid any such potential infringement, including without limitation whether to obtain rights to practice under such Third Party-

intellectual property, and, if so, which Party shall obtain such rights and the terms of obtaining such rights and the relative sharing of the costs thereof.

12. REPRESENTATIONS, WARRANTIES AND COVENANTS

12.1 Representations and Warranties of Codexis. Codexis hereby represents and warrants to Arch that as of the Effective Date:

12.1.1 Codexis is a corporation organized under the laws of Delaware and is authorized to do business to the extent necessary to fulfill its obligations hereunder;

12.1.2 Codexis has the full right and authority to enter into this Agreement, and no consent or authorization not obtained prior to the Effective Date is necessary to be obtained;

12.1.3 Codexis has obtained all licenses, authorizations, and permissions necessary under Applicable Law for meeting and performing its obligations under this Agreement and all such licenses, authorizations, and permissions are in full force and effect;

12.1.4 Codexis Controls the Codexis IP Rights;

12.1.5 Codexis has not granted any right, license, or interest in, to, or under the Codexis IP Rights that is inconsistent with the rights granted to Arch hereunder;

12.1.6 to the knowledge of Codexis, there is no material impediment that would prevent, preclude, or otherwise inhibit its ability to grant the rights and licenses granted, or to perform its obligations, under this Agreement;

12.1.7 Codexis is not a party to any agreement that would prevent it from granting the rights granted to Arch under this Agreement or performing its obligations under this Agreement, and the execution, delivery, and performance of this Agreement shall not violate, conflict with, or constitute a default under any agreement (including without limitation its corporate charter or other organizational documents) to which it is a party or to which it may be bound, or to its knowledge any Applicable Laws or order of any court or other tribunal; and

12.1.8 Codexis has not entered into any understanding, agreement or amendment to any agreement or granted any right to any Third Party that would conflict with the terms of this Agreement or the rights granted to Arch hereunder.

12.2 Representations and Warranties of Arch. Arch hereby represents and warrants to Codexis that as of the Effective Date:

12.2.1 Arch is a corporation organized under the laws of India and is authorized to do business to the extent necessary to fulfill its obligations hereunder;

12.2.2 Arch has the full right and authority to enter into this Agreement, and no consent or authorization not obtained prior to the Effective Date is necessary to be obtained;

12.2.3 Arch has obtained all licenses, authorizations, and permissions necessary under Applicable Law for meeting and performing its obligations under this Agreement and all such licenses, authorizations, and permissions are in full force and effect;

12.2.4 to the knowledge of Arch, there is no material impediment that would prevent, preclude, or otherwise inhibit its ability to grant the rights and licenses granted, or to perform its obligations, under this Agreement;

12.2.5 Arch is not a party to any agreement that would prevent it from granting the rights granted to Codexis under this Agreement or performing its obligations under this Agreement, and the execution, delivery, and performance of this Agreement shall not violate, conflict with, or constitute a default under any agreement (including without limitation its corporate charter or other organizational documents) to which it is a party or to which it may be bound, or to its knowledge any Applicable Laws or order of any court or other tribunal;

12.2.6 Arch's and its Affiliates' Manufacturing Facilities and all manufacturing facilities utilized by Arch or its Affiliates (a) are registered with the appropriate Government Authorities and (b) in compliance with all applicable Government Authority standards and Applicable Law; and

12.3 Covenants of Codexis. Codexis hereby covenants that:

12.3.1 Codexis shall keep all licenses, authorizations, and permissions necessary under Applicable Law for the meeting and performing of its obligations under this Agreement in full force and effect during the Term;

12.3.2 except as otherwise permitted under this Agreement including without limitation Sections 4.1, 4.2 and 2.2, Codexis shall not (i) buy or source any Product from any Third Party and shall not make any purchase commitments with respect to such Products to any such Third Party, and (ii) on a Product-by-Product basis, sell any Product to any Arch Customer;

12.3.3 Codexis shall at all times strictly comply with all Applicable Laws from time to time in force including, without prejudice to the generality of the foregoing, the provisions of the Foreign Corrupt Practices Act of 1977, as amended, and rules and regulations relating to due and proper performance of its duties and obligations under this Agreement;

12.3.4 each of the Codexis Enzymes shall conform to the applicable Enzyme Specification therefor and be manufactured and supplied in accordance with Applicable Law and be certified to be TSE/BSE free;

12.3.5 Codexis shall be solely responsible for its own taxes; and

12.3.6 Codexis shall not during the Term enter into any understanding, agreement or amendment to any agreement or grant any right to any Third Party that would conflict with the terms of this Agreement or the rights granted to Arch hereunder.

12.4 Covenants of Arch. Arch hereby covenants that:

12.4.1 Arch shall use Codexis Enzyme(s), Codexis Process(es) and/or Codexis Improvements solely for the purpose of manufacture of the applicable Product(s) in India pursuant to this Agreement;

12.4.2 Arch shall not (i) reverse engineer, deconstruct or in any way determine, or attempt to reverse engineer, deconstruct or in any way determine, the structure or composition of any Codexis Enzyme; or (ii) modify or otherwise create any derivative of any such Codexis Enzyme; or (iii) supply and/or license any Codexis Enzyme to any Third Party; or (iv) do indirectly, either through a Third Party or an Affiliate, or permit a Third Party or an Affiliate to do any of the activities contained in (i) or (ii) above that Arch itself agrees not to do, unless Arch exercises its option pursuant to Section 4.1(a);

12.4.3 Arch shall protect and maintain the confidential and proprietary nature of Codexis Enzymes, Codexis Processes, Codexis Improvements and Codexis IP Rights and will take measures and precautions to secure the Codexis IP Rights, Codexis Improvements, Codexis Processes, and each Codexis Enzyme in its exclusive custody and control against any loss, damage, misuse and/or theft;

12.4.4 Arch shall implement the Codexis Process for the manufacture of Product at the Manufacturing Facility;

12.4.5 Arch shall keep all licenses, authorizations, and permissions necessary under Applicable Law for the meeting and performing of its obligations under this Agreement in full force and effect during the Term;

12.4.6 Arch shall at all times strictly comply with all Applicable Laws from time to time in force including, without prejudice to the generality of the foregoing, the provisions of the Drugs & Cosmetic Act 1940, prevailing Drugs Price Control Order, Central Excises Act 1944, The Industries (Development & Regulation) Act, 1951, labour welfare legislation and the rules, regulations and notifications made or issued thereunder, and import and/or export laws, rules and regulations relating to due and proper performance of its duties and obligations under this Agreement;

12.4.7 Each of the Products shall (a) conform to the applicable Product Specification therefor; (b) be free of defects in materials or workmanship under normal use and service and be fit for the purpose for which such Product is intended; (c) not be adulterated or misbranded within the meaning of the U.S. Food, Drug and Cosmetic Act; (d) be certified to be TSE/BSE free; and (e) be manufactured and supplied in accordance with Applicable Law, including, for example, cGMP, if applicable;

12.4.8 Arch shall not, on a Product-by-Product basis, sell any Product to any Codexis Customer and shall not make any acceptance or delivery commitments to any such Codexis Customer;

12.4.9 Arch shall use the Codexis Trademarks in strict compliance with the terms and conditions set forth in Section 8.1;

12.4.10 the packaging for all Product shipped by Arch shall bear the Codexis Trademarks in accordance with Section 8.1;

12.4.11 as long as Arch or its successor is manufacturing any Product, each Manufacturing Facility will be registered with the appropriate Government Authorities and in compliance with all applicable Government Authority standards and Applicable Law;

12.4.12 Arch shall use packaging for each of the Products, including without limitation, cartons, ship cases, and pallets, of industry standard strength in order to maintain the quality of such Product during normal transportation and storage;

12.4.13 Arch shall be solely responsible for its own taxes; and

12.4.14 Arch shall not during the Term enter into any understanding, agreement or amendment to any agreement or grant any right to any Third Party that would conflict with the terms of this Agreement or the rights granted to Codexis hereunder.

12.5 Limitation of Warranties. EXCEPT AS SPECIFICALLY SET FORTH IN THIS ARTICLE 12, NEITHER PARTY MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE OR USE, ANY WARRANTY OF NON-INFRINGEMENT, OR ANY OTHER STATUTORY WARRANTY. EACH PARTY EXPRESSLY DISCLAIMS ANY AND ALL IMPLIED WARRANTIES.

13. INDEMNIFICATION AND INSURANCE

13.1 Arch Indemnification. Arch shall indemnify, defend, and hold Codexis and its directors, officers, employees, agents, and Affiliates, harmless from and against all Third Party claims, demands, damages, liabilities, losses, costs, and expenses, including without limitation attorney's fees (each, a "**Claim**") resulting from or arising out of (a) any breach by Arch of any of Arch's representations, warranties, or covenants under Article 12; (b) the use, storage, handling, transportation, distribution, or any other disposition of any Codexis Enzyme (while under the exclusive custody or control of Arch or any Affiliate of Arch) by Arch or any Affiliate of Arch; or (c) the development, testing, manufacture, use, exportation, storage, handling, transportation, sale, marketing, distribution, or any other disposition of any Product (while under the exclusive custody or control of Arch or any Affiliate of Arch) by Arch or any Affiliate of Arch; provided, however, that Arch's indemnification obligations under this Section 13.1 shall not apply (i) to any such Claim arising out of Codexis' negligence or willful misconduct; (ii) to the extent such Claim is the responsibility of Codexis under Section 13.2; or (iii) to the extent that Arch has complied with all Applicable Laws and its rights and obligations under this Agreement.

13.2 Codexis Indemnification. Codexis shall indemnify, defend, and hold Arch, and its directors, officers, employees, agents, and Affiliates, harmless from and against all Third Party claims, demands, damages, liabilities, losses, costs, and expenses, including without limitation attorney's fees (each, a "**Claim**") resulting from or arising out of (a) any breach by

Codexis of any of Codexis' representations, warranties, or covenants under Article 12; or (b) the development, testing, manufacture, use, sale, offer for sale, importation, exportation, storage, handling, transportation, distribution, or any other disposition of any Codexis Enzyme (while under the exclusive custody or control of Codexis or any Affiliate of Codexis) by Codexis or any Affiliate of Codexis; provided, however, that Codexis' indemnification obligations under this Section 13.2 shall not apply (i) to any such Claim arising out of Arch's negligence or willful misconduct; (ii) to the extent such Claim is the responsibility of Arch under Section 13.1; or (iii) to the extent that Codexis has complied with all Applicable Laws and its rights and obligations under this Agreement.

13.3 Procedure. For purposes of this Article 13, the indemnified Party shall give prompt written notice in accordance with Section 16.7 to the indemnifying Party of any suits, claims, or demands by Third Parties or the indemnified Party that may give rise to any Claim for which indemnification may be required under this Article 13; provided, however, that failure to give such notice shall not relieve the indemnifying Party of its obligation to provide indemnification hereunder except if and to the extent that such failure materially affects the ability of the indemnifying Party to defend the applicable suit, claim, or demand. The indemnifying Party shall be entitled to assume the defense and control of any such suit, claim, or demand of any Third Party at its own cost and expense; provided, however, that the indemnified Party shall have the right to be represented by its own counsel at its own cost in such matters. In the event that the indemnifying Party declines to or fails to timely assume control of any such suit, claim, or demand, the indemnified Party shall be entitled to assume such control, conduct the defense of, and settle such suit, claim, or action, all at the sole cost and expense of the indemnifying Party. Neither the indemnifying Party nor the indemnified Party shall settle or dispose of any such matter in any manner that would adversely affect the rights or interests of the other Party without the prior written consent of the other Party, which shall not be unreasonably withheld or delayed. Each Party shall cooperate with the other Party and its counsel in the course of the defense of any such suit, claim, or demand, such cooperation to include, without limitation, using reasonable efforts to provide or make available documents, information, and witnesses.

13.4 Insurance.

13.4.1 During the Term, each Party shall maintain, at its sole cost and expense, the types of insurance with minimum limits as set forth in the applicable table in Exhibit 13.4.1. Notwithstanding anything to the contrary inExhibit 13.4.1, each Party shall be required to maintain product liability insurance with at least the following limits: (a) any limit mutually agreed to by the Parties, (b) any limit required by a customer that requests to purchase at least Three Million Dollars ($3,000,000) worth of Products collectively from the Parties and their Affiliates in any one (1) year period, or (c) at the point at which Parties and their Affiliates collectively have sold an aggregate amount of at least Thirty Million Dollars ($30,000,000) worth of Products in any one (1) year period, a combined single limit of not less than Ten Million Dollars ($10,000,000) per occurrence and in the aggregate.

13.4.2 Such insurance shall insure against all liability arising out of the manufacture, use, sale, distribution, or marketing of Products. The insurance will contain no

more than an ordinary deductible. Such insurance shall be primary, without regard to any other insurance the insured Party or any other additional insured shall maintain or otherwise have in force. The Parties acknowledge and agree that such insurance shall not be construed to create a limit of either Party's liability with respect to its indemnification obligations under this Section 13.4. In the event that any of the required policies of insurance are written on a claims made basis, then such policies shall be maintained during the entire term of this Agreement and for a period of not less than five (5) years following the termination or expiration of this Agreement.

13.4.3 Each Party shall be named as an additional insured under the other Party's Commercial General Liability, Products Liability (as applicable) and Umbrella insurance policies to the extent permitted under such policies. Such additional insured status shall end upon the termination or expiration of this Agreement unless the insuring Party's policies are written on a claims made basis, in which case such additional insured status shall continue for the period of time that such insuring Party is required to maintain such insurance under the terms of this Agreement.

13.4.4 Each Party will (a) furnish certificates of insurance to the other Party evidencing the required insurance and additional insured status, as applicable, prior to the Effective Date and upon request thereafter and (b) provide the other Party with written notice at least thirty (30) days prior to the cancellation, non-renewal or material change in such insurance that materially adversely affects the rights of the other Party hereunder.

14. DISPUTE RESOLUTION

14.1 Exclusive Dispute Resolution Mechanism. The Parties agree that the procedures set forth in this Article 14 shall be the exclusive mechanism for resolving any disputes, controversies, or claims (collectively, "**Disputes**") between the Parties that may arise from time to time pursuant to this Agreement relating to either Party's rights and/or obligations hereunder that cannot be resolved through good faith negotiation between the Parties.

14.2 Arbitration.

14.2.1 Any and all unresolved Disputes, except as set forth in Section 14.3 or Section 14.4, shall be exclusively and finally resolved by binding arbitration.

14.2.2 Any arbitration concerning a Dispute shall be conducted in London, unless otherwise agreed to by the Parties in writing. Each and any arbitration shall be administered by the London Court of International Arbitration ("**LCIA**"), and shall be conducted in accordance with LCIA Rules (the "**Rules**"), as such Rules may be amended from time to time. All arbitration proceedings will be conducted in the English language.

14.2.3 Within ten (10) days after receipt of an arbitration notice from a Party, the Parties shall attempt in good faith to agree on a single neutral arbitrator with relevant industry experience to conduct the arbitration. If the Parties do not agree on a single neutral arbitrator within ten (10) days after receipt of an arbitration notice, each Party shall select one (1) arbitrator within fifteen (15) days after receipt of an arbitration notice and the two (2) Party-selected arbitrators shall select a third arbitrator with relevant industry experience to constitute a panel of

three (3) arbitrators to conduct the arbitration in accordance with the Rules. In the event that the two (2) Party-selected arbitrators are unable to select the third arbitrator due to lack of mutual consent, the Parties shall request the LCIA to appoint an independent and qualified third arbitrator and an appointment made by LCIA pursuant to such request shall be binding on both the Parties. In the event that only one of the Parties selects an arbitrator within fifteen (15) days after receipt of an arbitration notice, then such arbitrator shall be entitled to act as the sole arbitrator to resolve the Dispute or any and all unresolved issues subject to the arbitration. Each and every arbitrator of the arbitration panel conducting the arbitration must and shall agree to render an opinion within twenty (20) days after the final hearing before the panel.

14.2.4 The decision or award of the arbitrator(s) shall be final, binding, and incontestable and may be used as a basis for judgment thereon in any jurisdiction. To the full extent permissible under Applicable Law, the Parties hereby expressly agree to waive the right to appeal from the decision of the arbitrator(s), there shall be no appeal to any court or other authority (government or private) from the decision of the arbitrator(s), and the Parties shall not dispute nor question the validity of such decision or award before any regulatory or other authority in any jurisdiction where enforcement action is taken by the Party in whose favor the decision or award is rendered, except in the case of fraud. The arbitrator(s) shall, upon the request of either Party, issue a written opinion of the findings of fact and conclusions of law and shall deliver a copy to each of the Parties. Each Party shall bear its own costs and attorney's fees, and the Parties shall equally bear the fees, costs, and expenses of the arbitrator(s) and the arbitration proceedings; provided, however, that the arbitrator(s) may exercise discretion to award costs, including attorney's fees, to the prevailing Party. Without limiting any other remedies that may be available under Applicable Law, the arbitrator(s) shall have no authority to award provisional remedies of any nature whatsoever, or punitive, special, consequential, or any other similar form of damages except as expressly set forth in Section 16.2.

14.3 Preliminary Injunctions. Notwithstanding anything in this Agreement to the contrary, and pursuant to Section 10.5, a Party may seek a temporary restraining order or a preliminary injunction from any court of competent jurisdiction in order to prevent immediate and irreparable injury, loss, or damage on a provisional basis, pending the decision of the arbitrator(s) on the ultimate merits of any Dispute.

14.4 Patent Disputes. Notwithstanding anything in this Agreement to the contrary, any and all issues regarding the scope, construction, validity, and enforceability of one or more Patents shall be determined in a court of competent jurisdiction under the local patent laws of the jurisdictions having issued the Patent or Patents in question.

14.5 Confidentiality. All proceedings and decisions of the arbitrator(s) shall be deemed Confidential Information of each of the Parties, and shall be subject to the terms and conditions of Article 10.

15. TERM, TERMINATION AND BUY-OUT RIGHT

15.1 Term. The term of this Agreement shall commence on the Effective Date and continue in full force and effect on a Product-by-Product basis until the tenth anniversary of the

Effective Date, unless extended by mutual agreement of the Parties and/or unless terminated at an earlier date in accordance with Sections 15.2 or 15.3 (the "**Term**").

15.2 Termination for Cause. If a Party breaches any material term or condition of this Agreement, the other Party may notify the breaching Party in writing of such breach, in accordance with Section 16.7, setting forth the nature of the breach in reasonable detail. If the breaching Party fails to cure such breach (if curable) within thirty (30) days after the receipt of the foregoing notice from the non-breaching Party, the non-breaching Party may terminate this Agreement effective immediately upon delivery of a second written notice to the breaching Party. Any breach by an Affiliate of Arch of any of the terms and conditions of this Agreement shall constitute a breach of this Agreement by Arch. In the event of a non-curable breach, the non-breaching Party shall be entitled, in the non-breaching Party's sole discretion, to immediately terminate on a Product-by-Product basis or this Agreement in its entirety.

15.3 Termination for Insolvency. To the extent permitted under Applicable Law, a Party may terminate this Agreement upon thirty (30) days written notice to the other Party on or after the occurrence of any of the following events: (a) the appointment of a trustee, receiver or custodian for all or substantially all of the property of the other Party, or for any lesser portion of such property, if the result materially and adversely affects the ability of the other Party to fulfill its obligations hereunder, which appointment is not dismissed within sixty (60) days; (b) the determination by a court or tribunal of competent jurisdiction that the other Party is insolvent such that a Party's liabilities exceed the fair market value of its assets; (c) the filing of a petition for relief in bankruptcy by the other Party on its own behalf, or the filing of any such petition against the other Party if the proceeding is not dismissed or withdrawn within sixty (60) days thereafter; (d) an assignment by the other Party for the benefit of creditors; or (e) the dissolution or liquidation of the other Party.

15.4 Effect of Expiration or Termination.

15.4.1 Upon expiration of this Agreement, on a Product-by-Product basis, pursuant to Section 15.1 (but not early termination), the licenses in respect of such Product under Section 2.2 shall terminate unless Arch exercises the right provided in Section 15.5 of this Agreement.

15.4.2 Upon expiration or termination of this Agreement by either Party for any reason, each Party shall promptly return, or destroy and provide written certification of such destruction by a duly authorized officer of such Party, any and all Confidential Information of the other Party in such first Party's possession or control at the time of such expiration or termination, provided however, if Arch is entitled to exercise its right under Section 15.5 and exercised such right, then Arch shall not be required to return or destroy any Confidential Information in Arch's possession at the time of such expiration or termination which Confidential Information is used to practice or exploit any right acquired by the exercise of the Option pursuant to Section 15.5 below.

15.4.3 Expiration or termination of this Agreement for any reason shall not (a) release any Party from any obligation that has accrued prior to the effective date of such expiration or termination (including the obligation to pay amounts accrued and due under this

Agreement prior to the expiration or termination date but which are unpaid or become payable thereafter), (b) preclude any Party from claiming any other damages, compensation, or relief that it may be entitled to upon such expiration or termination, or (c) terminate any right to obtain performance of any obligation provided for in this Agreement that shall survive expiration or termination.

15.5 Right to acquire Product license on the occurrence of any Buy-Out Event On the occurrence of any Buy-Out Event, Arch shall have the right, but not the obligation, to acquire an irrevocable, royalty-free, perpetual and non-exclusive license on a Product-by-Product basis, to Codexis IP Rights, Codexis Process and Codexis Improvements covering the manufacture of such Codexis Enzymes that are used to further manufacture such Product for a one-time lump-sum consideration of **[*]** per Product (the "**Option**"). The Option shall expire in ninety (90) days from the day of occurrence of the Buy-Out Event unless Arch exercises its Option and makes the payment of the said consideration to Codexis within such ninety (90) day period. During such ninety (90) day period, if the Buy-Out Event is other than bankruptcy or insolvency of Codexis or expiration of this Agreement, Codexis shall continue to perform its obligations under the Agreement in respect of the Products not subject to the Buy-Out Event. The payment above shall be Codexis' sole compensation for such Option-exercise by Arch. In the event Arch exercises its Option, Codexis shall render reasonable support to allow Arch to effectively utilize the rights acquired by the Option exercise, including without limitation, introduction of appropriate contacts and technology support; provided, however, such support shall only be provided during (and only during) scale up at Arch or a contract manufacturing organization designated by Arch and in no event for a period longer than eight (8) weeks. Codexis' obligations in respect of such support shall be limited to (i) phone and email support and (ii) onsite support limited to ten (10) man-hours per week provided that Arch cover all out-of-pocket travel and boarding expenses. Any license granted to Arch pursuant to this Section 15.5 shall be subject to the following restrictions: (i) Arch may not manufacture any Codexis Enzymes for Third Parties; (ii) Arch may only manufacture Codexis Enzymes solely for use by Arch to manufacture Products for sale by Arch; (iii) Arch may not sublicense any of the rights granted by Codexis to Arch. Furthermore, any license granted to Arch pursuant to this Section 15.5 shall not affect (i) Codexis' ownership rights in (or Codexis' rights to grant additional licenses to) Codexis IP Rights, Codexis Process and Codexis Improvements or (ii) Codexis' right to manufacture Codexis Enzymes that are subject to the product or (iii) Codexis' right to purchase Products from Third Parties and sell Products to Codexis Customers.

15.6 Survival. In addition to any provisions which by their terms survive termination or expiration of this Agreement, Articles 1, 10 (for the period set forth in Section 10.7), 14 and 16 and Sections 2.9, 2.15 (for the period set forth therein), 3.12.6, 9.3, 11.1, 11.2, 11.3, 11.4, 11.5, 12.5, 13.1, 13.2, 13.3, 13.4 (for the period set forth therein) and 15.6 shall survive expiration or termination of this Agreement, as applicable.

16. MISCELLANEOUS

16.1 Further Assurances. From time to time on and after the Effective Date, each Party shall at the reasonable request of the other Party (a) deliver to the other Party such records, data, or other documents; (b) execute, and deliver or cause to be delivered, all assignments,

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

consents, documents or further instruments of transfer or license; and (c) take or cause to be taken all other actions as such other Party may reasonably deem necessary or desirable in order for such Party to obtain the full benefits of this Agreement and the transactions contemplated hereby; each to the extent as required under the provisions of this Agreement.

16.2 Limitation of Liability. EXCEPT FOR BREACH OF ARTICLE 10, CLAIMS OF A THIRD PARTY THAT ARE SUBJECT TO INDEMNIFICATION UNDER ARTICLE 13, OR WITH RESPECT TO UNAUTHORIZED EXPLOITATION OF CODEXIS' INTELLECTUAL PROPERTY RIGHTS, INCLUDING WITHOUT LIMITATION, BREACH OF 12.4.1 AND 12.4.2, IN NO EVENT SHALL EITHER PARTY BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL, INDIRECT, PUNITIVE, EXEMPLARY, OR SPECIAL DAMAGES OF THE OTHER PARTY ARISING OUT OF OR RELATED TO THIS AGREEMENT, HOWEVER CAUSED, UNDER ANY THEORY OF LIABILITY, WHETHER FORESEEABLE OR NOT.

16.3 Governing Law. This Agreement shall be governed by, and construed and interpreted in accordance with, the internal laws of the State of New York, United States of America, without giving effect to any choice of law rule that would cause the application of the laws of any jurisdiction other than the internal laws of such State to the rights and duties of the Parties.

16.4 Force Majeure. Except for the payment of money, neither Party shall be held responsible for any delay or failure in performance hereunder caused by strikes, embargoes, unexpected government requirements, civil or military authorities, acts of God, flood, earthquake, or by the public enemy or other causes reasonably beyond such Party's control and without such Party's fault or negligence; provided, that the affected Party notifies the unaffected Party as soon as reasonably possible and resumes performance hereunder as soon as reasonably possible following cessation of such force majeure event; provided, further, that no such delay or failure in performance shall continue for more than three (3) months. In the event that a delay or failure in performance by a Party under this Section 16.4 continues longer than three (3) months, the other Party may terminate this Agreement in accordance with the terms and conditions of Section 15.2.

16.5 Independent Contractors. Nothing contained in this Agreement shall be deemed to constitute a partnership, joint venture, association of persons, agency or any other such relationship of similar nature, between the Parties. Nothing in this Agreement shall constitute or be deemed to or is intended to constitute Arch as an agent of Codexis or Codexis as an agent of Arch. Neither Party shall: (a) enter into a contract in the name of or purporting to be made on behalf of the other Party unless to the extent as may be authorized under any agreement entered into between the Parties; (b) by any act, pledge the credit of the other Party or impose or attempt to impose any contractual obligations on the other Party; or (c) either in its own office, factories or depots or on invoices, bill heads or letter papers or any other place or by any other means, oral or written, make any statement to the effect or representation calculated or liable to induce others to believe that it is the agent of the other Party.

16.6 Assignment. This Agreement is binding upon and inures to the benefit of the Parties, and to their permitted successors and assigns. Neither Party may transfer or assign its rights and obligations under this Agreement to a Third Party without the prior written consent of the other Party. Notwithstanding the foregoing, each of the Parties shall have the right to transfer or assign its rights and obligations under this Agreement, without consent, to an Affiliate or a successor to all or substantially all of its business or assets relating to this Agreement whether by operation of law, sale, merger, or otherwise. Any assignment not in conformance with this Section 16.6 shall be null, void, and of no legal effect.

16.7 Notices. Any notice, report, communication, or consent required or permitted by this Agreement shall be in writing and shall be sent (a) by prepaid registered or certified mail, return receipt requested, (b) by overnight express delivery service by a nationally recognized courier, or (c) via confirmed facsimile, followed within five (5) days by a copy delivered in accordance with this Section 16.7, addressed to the other Party at the address shown below or at such other address as such Party gives notice hereunder. Such notice will be deemed to have been given when delivered or, if delivery is not accomplished by some fault of the addressee, when tendered.

If to Arch:	Arch Pharmalabs Limited H wing, 4th Floor Tex Centre Off Saki Vihar Road Chandivali, Mumbai- 400072 India Attn: Company Secretary Facsimile: +912228471234
With a copy to:	Arch Pharmalabs Limited H wing, 4th Floor Tex Centre Off Saki Vihar Road Chandivali, Mumbai- 400072 India Attn: Chairman and Managing Director Facsimile: +912228471234
If to Codexis:	Codexis, Inc. 200 Penobscot Drive Redwood City, California 94063 USA Attn: President, Pharmaceuticals Facsimile: 1-650-421-8134
With a copy to:	Codexis, Inc.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

200 Penobscot Drive
Redwood City, California 94063
USA
Attn: General Counsel
Facsimile: 1-650-421-8108

16.8 Severability. If any provision of this Agreement is found by a court to be void, invalid, or unenforceable, such provision shall be reformed to comply with Applicable Law or stricken if not so conformable, so as not to affect the validity or enforceability of this Agreement; provided that no such reformation or striking shall be effective if the result materially changes the economic benefit of this Agreement to either Party. If any provision of this Agreement becomes or is declared by a court of competent jurisdiction to be void, invalid, or unenforceable, and reformation or striking of such provision would materially change the economic benefit of this Agreement to either Party, the Parties shall modify such provision in accordance with Section 16.9 to obtain a legal, valid, and enforceable provision and provide an economic benefit to the Parties that most nearly effects the Parties' intent on entering into this Agreement.

16.9 Modifications; Waivers. This Agreement may not be altered, amended, supplemented, or modified in any way except by a writing signed by each Party. The failure of a Party to enforce any rights or provisions of this Agreement shall not be construed to be a waiver of such rights or provisions, or a waiver by such Party to thereafter enforce such rights or provision or any other rights or provisions hereunder.

16.10 No Third Party Beneficiaries. This Agreement is neither expressly nor impliedly made for the benefit of any party other than those executing it.

16.11 Interpretation.

(a) Captions and Headings. The captions and headings of clauses contained in this Agreement preceding the text of the articles, sections, subsections, and paragraphs hereof are inserted solely for convenience and ease of reference only and shall not constitute any part of this Agreement, or have any effect on its interpretation or construction.

(b) Singular and Plural. All references in this Agreement to the singular shall include the plural where applicable, and all references to gender shall include both genders and the neuter.

(c) Articles, Sections, and Subsections. Unless otherwise specified, references in this Agreement to any article shall include all sections, subsections, and paragraphs in such article; references in this Agreement to any section shall include all subsections and paragraphs in such section; and references in this Agreement to any subsection shall include all paragraphs in such subsection.

(d) Days. All references to days in this Agreement shall mean calendar days, unless otherwise specified.

(e) Ambiguities. The Parties jointly drafted this Agreement. Ambiguities and uncertainties in this Agreement, if any, shall not be interpreted against either Party, irrespective of which Party may be deemed to have caused the ambiguity or uncertainty to exist.

16.12 Counterparts. This Agreement may be executed in counterparts, each of which shall be deemed an original and all of which together shall constitute one instrument.

16.13 Entire Agreement. The Parties acknowledge that this Agreement, including, for clarity, the preamble, recitals, and exhibits attached hereto, together with accepted Product Purchase Orders and accepted Enzyme Purchase Orders, a letter agreement between Codexis and Arch dated December 22, 2009, the MSA and any other agreements entered into by the Parties contemporaneously with this Agreement sets forth the entire agreement and understanding of the Parties as to the subject matter hereof, and supersedes all prior and contemporaneous discussions, agreements, and writings with respect hereto with respect to the subject matter hereof, including without limitation the 2008 Arch Agreements, which are hereby terminated in their entirety. No trade customs, courses of dealing or courses of performance by the Parties shall be relevant to modify any term(s) used in this Agreement.

[*Signature page follows*]

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

IN WITNESS WHEREOF, Arch and Codexis have executed this Agreement by their respective duly authorized representatives as of the Effective Date.

CODEXIS, INC.
("Codexis")

By: /s/ Joseph Sarret
Name: Joseph Sarret
Title: President, Pharma Services & Enzyme Products

ARCH PHARMALABS LIMITED
("Arch")

By: /s/ Ajit Kamath
Name: Ajit Kamath
Title: Chairman & Managing Director.

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Exhibit 1.8

Arch Trademarks

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Exhibit 1.17

Codexis Enzymes

[*]

2

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

Exhibit 1.24

Codexis Trademarks

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Exhibit 1.45

Products

Category I - APIs

- **[*]**

Category II - intermediates

- **[*]**

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Exhibit 2.14

Specifications for **[*]** shall be provided by Codexis within six (6) months after the Effective Date. Specifications for remaining Codexis Enzymes are as set forth below:

PRODUCT SPECIFICATIONS

[*]

Lyophilized Enzyme Powder

TEST DESCRIPTION	SPECIFICATION	TEST METHOD
1. Appearance	**[*]**	QCP-029
2. Specific Activity	**[*]**	QCP-001
3. Moisture	**[*]**	QCP-025

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PRODUCT SPECIFICATIONS

[*]

Lyophilized Enzyme Powder

TEST DESCRIPTION	SPECIFICATION	TEST METHOD
1. Appearance	**[*]**	QCP-029
2. Conversion (24 hours)	**[*]**	QCP-019
3. Moisture	**[*]**	QCP-025

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PRODUCT SPECIFICATIONS

[*]

Lyophilized Enzyme Powder

TEST DESCRIPTION	SPECIFICATION	TEST METHOD
1. Appearance	**[*]**	QCP-029
2. Percent Conversion	**[*]**	QCP-027
3. Moisture	**[*]**	QCP-025

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PRODUCT SPECIFICATIONS

[*]

Lyophilized Enzyme Powder

TEST DESCRIPTION	SPECIFICATION	TEST METHOD
1. Appearance	**[*]**	QCP-029
2. Specific Activity	**[*]**	QCP-021
3. Moisture	**[*]**	QCP-025

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PRODUCT SPECIFICATIONS

[*]

Lyophilized Enzyme Powder

TEST DESCRIPTION	SPECIFICATION	TEST METHOD
1. Appearance	**[*]**	QCP-029
2. Specific Activity	**[*]**	QCP-002
3. Moisture	**[*]**	QCP-025

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PRODUCT SPECIFICATIONS

[*]

Lyophilized Enzyme Powder

TEST DESCRIPTION	SPECIFICATION	TEST METHOD
1. Appearance	**[*]**	QCP-029
2. Specific Activity	**[*]**	QCP-013
3. Moisture	**[*]**	QCP-025

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Exhibit 3.4

Product Labeling

Written Product labeling instructions to be provided directly by Codexis to Arch.

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Exhibit 5.4

Arch's Monthly Reports To Codexis

To facilitate Codexis' various accounting and operational requirements, Arch will provide Codexis with the following monthly information on both a Codexis Enzyme-by-Codexis Enzyme and a Product-by-Product basis. This information will be delivered by Arch to Codexis in a mutually-acceptable electronic format on or around the 15th of the month and within two (2) Business Days after the end of each month:

A. Opening Codexis Enzyme and Product Inventory Balance (Kilograms), by Product

B. Product Manufactured (Kilograms) and Codexis Enzyme Used (Kilograms), by Product

C. Total Codexis Enzyme scrapped, by Product

D. Product Sold to Codexis (Kilograms)

E. Product Sold by Arch to customers other than Codexis (Kilograms)

F. Ending Codexis Enzyme and Product Inventory Balance (Kilograms), by Product

G. Codexis Enzyme Loading and scrap loss at each stage of manufacturing with respect to each Product

H. Site to site transfer information by enzyme, stage intermediate and product.

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Exhibit 13.4.1

Insurance
CODEXIS INSURANCE TYPES AND LIMITS

Type of Insurance	Limits of Liability
Commercial General Liability (including contractual liability but excluding Product Liability) with bodily injury, death and property damage coverage limits as specified	Combined single limit of not less than $1,000,000 per occurrence and $2,000,000 in the aggregate
Product Liability with bodily injury, death and property damage coverage limits as specified	Either (a) any limit mutually agreed to by the Parties, (b) any limit required by a customer that requests to purchase at least $3,000,000 worth of Products collectively from the Parties and their Affiliates in any one (1) year period, or (c) at the point at which Parties and their Affiliates collectively have sold an aggregate amount of at least $30,000,000 worth of Products in any one (1) year period, a combined single limit of not less than $10,000,000 per occurrence and in the aggregate
Umbrella Policy with bodily injury, death and property damage coverage limits as specified (does not include Product Liability)	Combined single limit of not less than $1,000,000 per occurrence and $2,000,000 in the aggregate
Worker's Compensation (work injury)	$1,000,000 per accident

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ARCH INSURANCE TYPES AND LIMITS

Particulars	Amount in INR	Amount in USD $
Fixed Assets - Movable - Office Protection	103846006	2257522
Fixed Assets - Movable & Immovable	5260374888	114355976
Sub-total - Fixed Assets	**5364220894**	**116613498**
Current Assets - Movable - Stock at factories, Warehouses, Goods-in-transit	4045000000	87934783
Current Assets - Fidelity & Money	303000000	6586957
Sub-Total - Current Assets	**4348000000**	**94521740**
Total - Commercial General Liability	**9712220894**	**211135238**
Workmen's Compensation	24000000	521739
Personal Accident	400800000	8713043
Total - Workmen & Employees	**424800000**	**9234782**
Public Liability	1110000000	24130435
Total Umbrella Policy	**1110000000**	**24130435**
Total Coverage	**11247020894**	**244500454**

(Assumption USD $1= INR 46)

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EXHIBIT 10.7C

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Execution Copy

MEMORANDUM OF UNDERSTANDING FOR TRANSFER PRICING AND ROYALTY CALCULATION (CODEXIS INC.)

THIS MEMORANDUM OF UNDERSTANDING (the "MOU"), effective as of February 16, 2010 (the "MOU Effective Date"), is made and entered into by and between Codexis, Inc., a Delaware corporation having a place of business at 200 Penobscot Drive, Redwood City, California 94063, United States of America ("Codexis"), and Arch Pharmalabs Limited, a corporation organized and existing under the laws of India and having a place of business at H wing, 4th Floor, Tex Centre, Chandivali, Mumbai, 400072, India ("Arch"), pursuant and subject to the Enzyme and Product Supply Agreement, by and between Codexis and Arch, effective as of the MOU Effective Date (the "EPSA"). Unless otherwise defined in this MOU, including without limitation Exhibit A attached to this MOU, all capitalized terms used herein shall have the definitions assigned to them in the EPSA.

1. PRICING. Subject to the limitations under the applicable and prevalent Exchange Control Regulations in India:

1.1 Product Transfer Price. In exchange for the supply of a Product to Codexis pursuant to the EPSA, Codexis shall pay Arch a Product Transfer Price in respect of each Product sold by Codexis to a Codexis Customer equal to

(x) **[*]**

(a) **[*]**

(b) **[*]** or

(y) an amount mutually agreed upon by the Parties.

1.2 License Royalty. In exchange for the licenses and rights granted by Codexis to Arch under the EPSA, Arch shall pay to Codexis a License Royalty in respect of each Product sold by Arch to an Arch Customer as follows:

1.2.1 Sales to Codexis India. In respect of sales of Products to Codexis India, which will be further distributing the Products to Codexis India Customers, Arch shall pay to Codexis a License Royalty in respect of each Product sold to Codexis India in the amount of (Rupees (Rs) per kilogram) as follows:

[*]

Notwithstanding the foregoing, the License Royalty in respect of the **[*]** in stock with Arch as of the Effective Date shall be **[*]**.

1.2.2 Sales to Other Arch Customers. In respect of sales of Products by Arch to Arch Customers other than Codexis India, Arch shall pay to Codexis a License Royalty in

respect of each Product sold to an Arch Customer (other than Codexis India) in the amount of (Rupees (Rs) per kilogram) as follows:

[*]

Notwithstanding the foregoing, the License Royalty in respect of the **[*]** in stock with Arch as of the Effective Date shall be **[*]**.

The License Royalties set forth in this Section 1.2 are subject to quarterly review by the Parties (or more frequently as may be requested by either Party) and may be modified upon the written agreement of both Parties.

2. PAYMENTS.

2.1 General Payment Terms. All payments made under this MOU shall be made by check or wire transfer to one or more bank accounts to be designated in writing by the Party entitled to such payment in accordance with the following timeframes:

(a) With respect to payments by Codexis to Arch of Product Transfer Price, Codexis shall pay such amounts within ninety (90) days after delivery of the Product by Arch to Codexis or the Codexis Customer.

(b) With respect to payments by Arch to Codexis of License Royalties, Arch shall pay License Royalties (less tax withheld at source) to Codexis on a quarterly basis, within thirty (30) days after the end of each calendar quarter in respect of all Products sold by Arch during such calendar quarter.

2.2 Currency Exchange. All payments made under this MOU shall be payable, in full, in United States dollars. For purposes of calculating the exchange rate, the Parties shall use the foreign exchange rate for such currency as published on the OANDA website at www.oanda.com (median bid rate), calculated on the first business day of the month in which the relevant payment is delivered.

3. REPORTS.

3.1 Codexis Product Sales Report. Codexis shall use all reasonable efforts to provide, within three (3) Business Days after the end of each calendar quarter, and in no event later than five (5) Business Days after the end of each calendar quarter, Arch with a written report specifying the quantity of Products sold by Codexis during such calendar quarter, the Codexis Customers to whom such Products were sold, the Codexis Net Sales in respect of such Products and sufficient details regarding such sales.

3.2 License Royalty Report. Arch shall use all reasonable efforts to provide, within three (3) Business Days after the end of each calendar quarter, and in no event later than five (5) Business Days after the end of each calendar quarter, Codexis with a written report specifying the quantity of Products sold by Arch during such calendar quarter, the Arch Customers to whom such Products were sold, the Arch Net Sales in respect of such Products and sufficient details regarding such sales.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

3.3 Reports of Manufacturing Cost. The Manufacturing Cost for each Product shall initially be as set forth in Exhibit B. The Parties shall have quarterly meetings to discuss the Manufacturing Costs and make any adjustments, as agreed upon by the Parties, to such Manufacturing Costs. Such quarterly meetings shall take place on or about January 15, April 15, July 15 and October 15 of each year. At least ten (10) days prior to each such quarterly meeting, Arch shall deliver to Codexis a written report setting forth in sufficient detail the Manufacturing Cost incurred by Arch during the previous calendar quarter for each Product, including a detailed description of the cost of each of the items set forth in the definition of Manufacturing Cost set forth in Exhibit A.

4. TAXES AND DUTIES.

4.1 Arch Taxes. Arch shall be solely and exclusively liable for payment of all taxes, duties and levies, and any interest relating thereto, including without limitation Central Excise Duty, if any, on or in connection with the manufacture of the Products by Arch or any Affiliate of Arch under and in accordance with the EPSA and this MOU, and Codexis and/or its designees shall in no event be liable or responsible thereof. Arch shall be responsible for all compliance requirements under the Applicable Law in this respect. License Royalties receivable by Codexis from Arch will be subject to withholding tax and Arch shall withhold such tax at source as mandated by Applicable Law and deposit the same in the appropriate government account. The tax deduction certificate shall be furnished to Codexis within five (5) business days of withholding.

4.2 CENVAT. Arch will claim CENVAT on all the materials/services, wherever applicable and any benefit which may be available to or obtained by Arch pertaining to CENVAT or otherwise shall be taken into account while computing the Product Transfer Price under Section 1.1.

4.3 Other Taxes. Except as expressly set forth in this MOU, each Party shall bear any and all taxes, duties, penalties, surcharges, or any other amounts imposed under Applicable Law or any tax treaty incurred by such Party under this MOU.

5. RECORDS; LATE PAYMENTS; AUDITS

5.1 Records Retention. Commencing on the MOU Effective Date, Arch shall keep, and shall cause its Affiliates to keep, full and accurate books of accounting in accordance with Indian GAAP, and Codexis shall keep, and shall cause its Affiliates to keep, full and accurate books of accounting in accordance with US GAAP, in each case containing all particulars that may be necessary for the purpose of calculating all payments (or Manufacturing Costs) payable (or calculated) under this MOU, for a period of three (3) years after the calendar year in which such sales occurred, in sufficient detail to permit each Party to confirm the accuracy of payments paid (or Manufacturing Costs) under this MOU. Such books of accounting shall be kept at the principal place of business of such Party and/or its Affiliates, as applicable.

5.2 Late Payment Interest. Any payment under the terms and conditions of this Agreement made after the date such payment is due and payable shall bear interest as of the day after the date such payment was due and payable and shall continue to accrue such interest until

such payment is made at a rate equal to the lesser of either (a) two percent (2%) above the prime rate as reported by Federal Reserve Bank of New York, located in New York, New York, as of the date such payment was due and payable, or (b) the maximum rate permitted by Applicable Law.

5.3 Audit Rights.

5.3.1 During the Term and for a period of three (3) years thereafter, at the request and expense of Arch, Codexis shall permit, and shall cause its Affiliates to permit, an independent, certified public accountant of internationally recognized standing appointed by Arch, and reasonably acceptable to Codexis, at reasonable times and upon reasonable notice to examine the records identified in Section 5.1 to the extent necessary to determine the accuracy of Codexis Net Sales reported by Codexis with respect to each of the Products within the three (3) year period immediately preceding such an audit. Results of any such examination shall be made available to both Arch and Codexis. The independent, certified public accountant shall disclose to Arch only the amounts that the independent certified accountant believes to be due and payable under this MOU to Arch, details concerning any discrepancy from the amount paid and the amount due, and shall disclose no other information revealed in such audit. Notwithstanding the previous sentence, such independent, certified public accountant shall be permitted to disclose to Arch any discrepancy concerning any amount paid and the amount due pursuant to the terms of any binding agreement between Arch and Codexis or its Affiliates. If such examination results in a determination that Codexis Net Sales with respect to any Product have been understated, leading to any underpayment by Codexis to Arch, such underpayments shall be made to Arch plus interest in accordance with Section 5.2 within fifteen (15) days after written notice by Arch; provided that, if there are more than three (3) separate understatements in any two (2) year period and if the aggregate of such understatements is (i) related to sales of Products by Codexis of greater than Two Million Dollars (US $2,000,000) and (ii) each understatement is more than five percent (5%) in respect of the total Codexis Net Sales for the period examined, such occurrence of three (3) separate overstatements shall be deemed a Material Breach, and Arch shall have the right, but not the obligation, in its sole discretion, to convert its exclusive purchase obligation set forth in Section 2.1 of the EPSA to a non-exclusive arrangement (but, for clarity, in such event, Codexis' supply obligation to Arch pursuant to Section 2.1 of the EPSA shall remain exclusive) or to terminate this MOU and the EPSA immediately upon notice pursuant to Section 15.2 of the EPSA. The fees and expenses of such accountant shall be paid by Arch, unless the examination results in a determination that Net Sales have been understated by more than five percent (5%) for the period examined, in which case Codexis shall pay all reasonable costs and expenses incurred by Arch in the course of making such determination, including without limitation the fees and expenses of such accountant.

5.3.2 During the Term and for a period of three (3) years thereafter, at the request and expense of Codexis, Arch shall permit, and shall cause its Affiliates to permit, an independent certified public accountant appointed by Codexis, and reasonably acceptable to Arch, at reasonable times and upon reasonable notice to examine the records identified in Section 5.1 to the extent necessary to determine (a) the accuracy of Manufacturing Costs reported by Arch with respect to each of the Products within the three (3) year period immediately preceding such an audit and (b) the accuracy of Arch Net Sales reported by Arch

with respect to each of the Products within the three (3) year period immediately preceding such an audit. If such examination results in a determination that (i) the Manufacturing Costs with respect to any Product have been overstated, leading to any overpayment by Codexis to Arch or (ii) Codexis Net Sales with respect to any Product have been understated, leading to an underpayment by Arch to Codexis of License Royalties, such overpayments shall be refunded (or underpayments paid) to Codexis plus interest in accordance with Section 5.2 within fifteen (15) days after written notice by Codexis; provided that, if there are more than three (3) separate overstatements in any two (2) year period and if the aggregate of such overstatements is related to sales of Products by Codexis and its Affiliates of greater than Two Million Dollars (US $2,000,000), such occurrence of three (3) separate overstatements shall be deemed a Material Breach, and Codexis shall have the right, but not the obligation, in its sole discretion, to convert its exclusive purchase obligation set forth in Section 3.1 of the EPSA to a non-exclusive arrangement (but, for clarity, in such event, Arch's supply obligation to Codexis pursuant to Section 3.1 of the EPSA shall remain exclusive) or to terminate this MOU and the EPSA immediately upon notice pursuant to Section 15.2 of the EPSA. The fees and expenses of such accountant shall be paid by Codexis, unless the examination results in a determination that there has been overpayment and/or underpayment by an aggregate of more than five percent (5%) for the period examined, in which case Arch shall pay all reasonable costs and expenses incurred by Codexis in the course of making such determination, including without limitation the fees and expenses of such accountant.

6. MISCELLANEOUS.

6.1 Modifications. This MOU may not be altered, amended, supplemented, or modified in any way except by a writing signed by each Party.

6.2 Waivers. The failure of a Party to enforce any rights or provisions of this MOU shall not be construed to be a waiver of such rights or provisions, or a waiver by such Party to thereafter enforce such rights or provision or any other rights or provisions hereunder.

6.3 Entire Agreement. This MOU shall be governed by the terms and conditions of the EPSA, and, for purposes of clarification and without limiting the foregoing, (a) this MOU is Confidential Information and is subject to Article 10 of the EPSA, and (b) in the event of any Dispute with respect to this MOU, the terms and conditions of Article 14 of the EPSA shall govern.

6.4 Survival. Terms of this MOU shall survive termination of the EPSA and/or this MOU with respect to records retention and audit rights, and with respect to payments, only to the extent that any amounts payable hereunder remain unpaid.

[*Signature Page Follows*]

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

IN WITNESS WHEREOF, the Parties have executed this MOU by their respective duly authorized representatives as of the MOU Effective Date.

CODEXIS, Inc.
("Codexis")

By: /s/ Joseph Sarret
Name: Joseph Sarret
Title: President, Pharma Services & Enzyme Products

ARCH PHARMALABS LIMITED
("Arch")

By: /s/ Ajit Kamath
Name: Ajit Kamath
Title: Chairman & Managing Director.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

Exhibit A

DEFINED TERMS

"Arch Net Sales" shall mean the gross amounts invoiced by Arch for sales of a Product to an Arch Customer during the Term less the following unreimbursed, noncredited, or nonrefunded deductions with respect thereto, determined in accordance with Indian GAAP and calculated in Indian rupees and to the extent such amounts have not already been deducted from the amount invoiced: (a) amounts actually allowed as volume or quantity discounts; (b) sales, excise, turnover, value added taxes (VAT), and other taxes related to sale of such Product; (c) credits or allowances actually granted for damaged Product, returns or rejections of such Product, price adjustments, and billing errors; (d) commissions allowed or paid to Third Parties, including without limitation distributors, brokers, or agents, other than sales personnel, sales representatives, and sales agents employed by such Party; provided that Arch, its Affiliates and its officers and directors have no financial interest in such Third Parties; provided further that such commissions are no greater than those paid to such Third Parties for similar products; (e) amounts written off by reason of uncollectible debt; and (f) all other expenses, including without limitation storage, transportation, and insurance charges.

"Codexis Net Sales" shall mean the gross amounts invoiced by Codexis for sales of a Product to a Codexis Customer during the Term less the following unreimbursed, noncredited, or nonrefunded deductions with respect thereto, determined in accordance with US GAAP and calculated in Indian rupees and to the extent such amounts have not already been deducted from the amount invoiced: (a) amounts actually allowed as volume or quantity discounts; (b) sales, excise, turnover, value added taxes (VAT), and other taxes related to sale of such Product; (c) credits or allowances actually granted for damaged Product, returns or rejections of such Product, price adjustments, and billing errors; (d) commissions allowed or paid to Third Parties, including without limitation distributors, brokers, or agents, other than sales personnel, sales representatives, and sales agents employed by such Party; provided that Arch, its Affiliates and its officers and directors have no financial interest in such Third Parties; provided further that such commissions are no greater than those paid to such Third Parties for similar products; (e) amounts written off by reason of uncollectible debt; and (f) all other expenses, including without limitation storage, transportation, and insurance charges.

"COGS" shall mean, for any particular Product, an amount equal to the sum of (i) Manufacturing Cost for such Product (which shall be the Manufacturing Cost identified as being in effect at the time that Codexis or Arch, as applicable, contracts with (or otherwise agrees to a selling price) with such Codexis Customer or Arch Customer, as applicable)) and (ii) the Enzyme Cost attributable to manufacture of such Product.

"Enzyme Cost" shall mean **[*]** per kilogram of Codexis Enzyme (or such other amount as may be agreed to in writing by the Parties); provided, however that if Codexis' (or its contract manufacturers' or suppliers') costs in manufacturing the Codexis Enzymes materially increases or decreases, then Codexis shall provide Arch written notification and the Enzyme Cost shall be modified accordingly.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

"Manufacturing Costs" shall mean, with respect to each of the Products (in bulk, vialed or finished form, as the case may be) for successful lots, the sum of the following (A-F):

A. The amounts paid by Arch to a Third Party for (i) providing the chemical and biological substances required for the manufacture of such Product (for purposes of this definition, collectively, the "Raw Materials") and packaging materials for producing such Product, (ii) manufacturing, filling, and/or finishing such Product or any component thereof, (iii) distributing, transporting, storing, and insuring such Product, and (iv) testing such Product, including with respect to the foregoing, all sales and excise taxes and customs duty charges imposed by Government Authority with respect thereto to the extent actually paid by Arch and/or Codexis and not reimbursed, credited, or refunded by a Third Party. For clarity, all duties and taxes that are available as a credit to Arch against its output tax liability, or that are passed through for payment by a Third Party, such as excise duty or VAT, shall be excluded from the determination of Manufacturing Costs;

B. Direct Expenses shall mean those Direct Material Expenses, Direct Labor Expenses, and Direct Service Expenses captured in time sheets and invoices that are specific for such Product.

(i) Direct Material Expenses shall mean the actual cost of Raw Materials, filters, manufacturing supplies, unrecoverable solvent, containers, container components, packaging, labels, and other printed materials actually consumed in the production of such Product.

(ii) Direct Labor Expenses shall mean that portion of salaries and benefits actually paid for the labor hours of personnel directly involved in the manufacturing of such Product, to the extent such labor hours are directly attributable to the manufacture of such Product, and such labor hours have been properly documented by batch record and time sheets.

(iii) Direct Service Expenses shall mean actual out-of-pocket payments to Third Parties for services required in the manufacture of such Product; provided that Arch has obtained Codexis' prior written consent for any such payments;

C. Indirect Expenses shall mean production overhead costs such as a reasonable allocation of expenses associated with line supervisory personnel overseeing the direct manufacturing of such Product in accordance with cGMP requirements. Indirect Expenses can include labor and out-of-pocket costs for quality control, quality assurance, microbiology, document control, calibration/validation, and non-research and development expenses for process development and analytical methods development supporting manufacturing. The above expenses will also include interest expenses apportioned on such fixed assets used to manufacture Products. However, any capital expenditures for facilities and equipment used to manufacture Products will not be included; and

D. Overhead Expenses shall mean manufacturing costs with respect to such Product that cannot be identified in a practical manner with specific units of production and, therefore, cannot be included as Direct Material Expenses or Direct Labor Expenses. Overhead Expenses include:

i. Specific manufacturing overhead allocations, including but not limited to facilities support costs, utilities (including electricity, water, sewer, waste disposal), indirect materials and supplies, consumables (including maintenance and repair materials, tools, spare parts), plant management, engineering and development support, maintenance and repair of the production plant and production equipment, property taxes (excluding income taxes), materials management, inventory storage, information management services, and insurance, but shall exclude underutilized capacity; and

ii. Depreciation and lease costs over the expected life of buildings and equipment specifically attributable to the actual pro rata use of such equipment to manufacture such Product.

E. Delivery costs will be a component of Manufacturing Cost to the extent such delivery costs are not borne by a Third Party.

F. Any costs incurred by the Parties in connection with obtaining and maintaining product liability insurance pursuant to the EPSA.

Notwithstanding anything to the contrary, combined Direct Labor Expenses set forth in Paragraph B(ii), Indirect Expenses set forth in Paragraph C, and Overhead Expenses set forth in Paragraph D shall not, in respect of each Product, amount to greater than the following percentage of total Manufacturing Costs:

Product	Max Overhead
[*]	[*]

Allocated costs, such as management time and factory administrative expenses (such as security, finance functions, house keeping, etc) shall be excluded from Manufacturing Costs.

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All such amounts, costs, and expenses shall be calculated in accordance with Indian GAAP, for example, in a manner consistently applied across other Arch products; provided that in no event shall any expense be double-counted or included in any category of Manufacturing Costs if such expense has already been accounted for, reimbursed, or otherwise credited elsewhere.

For purposes of clarification, the Enzyme Cost shall be excluded from the Manufacturing Costs, and any expenses incurred under Section 3.10 of the EPSA shall be borne solely by Arch and shall not be deemed a component of the Manufacturing Costs.

Notwithstanding anything to the contrary, the Manufacturing Cost of a Product shall not include any costs and expenses of any Raw Materials used in excess of the standard amounts set forth in Exhibit C, and any such additional costs and expenses shall be borne solely by Arch.

"Manufacturing Royalty" shall mean, in respect of each Product sold by Codexis to a Codexis Customer, a percentage of the Codexis Net Sales of such Product, which percentage shall be as mutually agreed upon by Codexis and Arch.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

Exhibit B

Initial Manufacturing Costs

To be agreed upon by the Parties within sixty (60) days after the Effective Date or such other time period as the Parties may agree to in writing.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

Exhibit C
(Raw Material Costs)

To be agreed upon by the Parties within sixty (60) days after the Effective Date or such other time period as the Parties may agree to in writing.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

EXHIBIT 10.7D

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

Execution Copy

MEMORANDUM OF UNDERSTANDING FOR TRANSFER PRICING
(CODEXIS INDIA)

THIS MEMORANDUM OF UNDERSTANDING (the "MOU"), effective as of February 16, 2010 (the "MOU Effective Date"), is made and entered into by and between Codexis Laboratories India Private Limited, a corporation organized and existing under the laws of India and having a place of business at G-01, Prestige Loka, 7/1 Brunton Road, Bangalore – 560 025, India ("Codexis India"), and Arch Pharmalabs Limited, a corporation organized and existing under the laws of India and having a place of business at H wing, 4th Floor, Tex Centre, Chandivali, Mumbai, 400072, India ("Arch"), pursuant and subject to the Product Supply Agreement, by and between Codexis India and Arch, effective as of the MOU Effective Date (the "PSA"). Unless otherwise defined in this MOU, including without limitation Exhibit A attached to this MOU, all capitalized terms used herein shall have the definitions assigned to them in the PSA.

1. PRICING. Subject to the limitations under the applicable and prevalent Exchange Control Regulations in India:

1.1 Product Transfer Price. In exchange for the supply of a Product to Codexis India pursuant to the PSA, Codexis India shall pay Arch a Product Transfer Price in respect of each Product sold by Codexis India to a Codexis India Customer equal to:

(x) **[*]**

(a) **[*]**,

(b) **[*]**

(c) **[*]**; or

(y) an amount mutually agreed upon by the Parties.

1.2 The Fixed License Royalty in respect of each Product is in the amount of (Rupees (Rs) per kilogram) as follows:

[*]

Notwithstanding the foregoing, the Fixed License Royalty in respect of the **[*]** in stock with Arch as of the Effective Date shall be **[*]**. The Fixed License Royalties set forth in this Section 1.1 are subject to quarterly review by the Parties (or more frequent review as may be requested by either Party) and may be modified upon the written agreement of both Parties.

2. PAYMENTS.

2.1 General Payment Terms. All payments made under this MOU shall be made by check or wire transfer to one or more bank accounts to be designated in writing by Arch and payments are to be made within ninety (90) days from the date of invoice (which invoice date may not be prior to shipment date) by Arch to Codexis India or the Codexis India Customer, or such other timeframe as may be agreed to by the Parties. The timing for payments made under this MOU shall be reviewed quarterly by the Parties and may be adjusted upon mutual agreement of the Parties.

2.2 Currency Exchange. All payments made under this MOU shall be payable, in full, in Indian Rupees. For purposes of calculating the exchange rate, as may be applicable, the Parties shall use the foreign exchange rate for such currency as published on the OANDA website at www.oanda.com (median bid rate), calculated on the first business day of the month in which the relevant payment is delivered.

3. REPORTS.

3.1 Reports of Manufacturing Cost. The Manufacturing Cost for each Product shall initially be as set forth in Exhibit B. The Parties shall have quarterly meetings to discuss the Manufacturing Costs and make any adjustments, as agreed upon by the Parties, to such Manufacturing Costs. Such quarterly meetings shall take place on or about January 15, April 15, July 15 and October 15 of each year. At least ten (10) days prior to each such quarterly meeting, Arch shall deliver to Codexis India a written report setting forth in sufficient detail the Manufacturing Cost incurred by Arch during the previous calendar quarter for each Product, including a detailed description of the cost of each of the items set forth in the definition of Manufacturing Cost set forth in Exhibit A.

4. TAXES AND DUTIES.

4.1 Arch Taxes. Arch shall be solely and exclusively liable for payment of all taxes, duties and levies and any interest relating thereto, including without limitation Central Excise Duty, if any, on or in connection with the manufacture of the Products by Arch or any Affiliate of Arch under and in accordance with the PSA and this MOU, and Codexis India and/or its designees shall in no event be liable or responsible thereof. Arch shall be responsible for all compliance requirements under the Applicable Law in this respect.

4.2 CENVAT. Arch will claim CENVAT on all the materials/services, wherever applicable and any benefit which may be available to or obtained by Arch pertaining to CENVAT or otherwise shall be taken into account while computing the Product Transfer Price under Section 1.1.

4.3 Other Taxes. Except as expressly set forth in this MOU, each Party shall bear any and all taxes, duties, penalties, surcharges, or any other amounts imposed under Applicable Law or any tax treaty incurred by such Party under this MOU.

5. RECORDS; LATE PAYMENTS; AUDITS

5.1 Records Retention. Commencing on the MOU Effective Date, Arch shall keep, and shall cause its Affiliates to keep, full and accurate books of accounting in accordance with Indian GAAP, and Codexis India shall keep, and shall cause its Affiliates to keep, full and accurate books of accounting in accordance with US GAAP, in each case containing all particulars that may be necessary for the purpose of calculating all payments (or Manufacturing Costs) payable (or calculated) under this MOU, for a period of three (3) years after the calendar year in which such sales occurred, in sufficient detail to permit each Party to confirm the accuracy of payments paid (or Manufacturing Costs) under this MOU. Such books of accounting shall be kept at the principal place of business of such Party and/or its Affiliates, as applicable.

5.2 Late Payment Interest. Any payment under the terms and conditions of this Agreement made after the date such payment is due and payable shall bear interest as of the day after the date such payment was due and payable and shall continue to accrue such interest until such payment is made at a rate equal to the lesser of either (a) two percent (2%) above the prime rate as reported by Federal Reserve Bank of New York, located in New York, New York, as of the date such payment was due and payable, or (b) the maximum rate permitted by Applicable Law.

5.3 Audit Rights.

5.3.1 During the Term and for a period of three (3) years thereafter, at the request and expense of Arch, Codexis India shall permit, and shall cause its Affiliates to permit, an independent, certified public accountant of internationally recognized standing appointed by Arch, and reasonably acceptable to Codexis India, at reasonable times and upon reasonable notice to examine the records identified in Section 5.1 to the extent necessary to determine the accuracy of Codexis India Net Sales reported by Codexis India with respect to each of the Products within the three (3) year period immediately preceding such an audit. Results of any such examination shall be made available to both Arch and Codexis India. The independent, certified public accountant shall disclose to Arch only the amounts that the independent certified accountant believes to be due and payable under this MOU to Arch, details concerning any discrepancy from the amount paid and the amount due, and shall disclose no other information revealed in such audit. Notwithstanding the previous sentence, such independent, certified public accountant shall be permitted to disclose to Arch any discrepancy concerning any amount paid and the amount due pursuant to the terms of any binding agreement between Arch and Codexis India or its Affiliates. If such examination results in a determination that Codexis India Net Sales with respect to any Product have been understated, leading to any underpayment by Codexis India to Arch, such underpayments shall be made to Arch plus interest in accordance with Section 5.2 within fifteen (15) days after written notice by Arch; provided that, if there are more than three (3) separate understatements in any two (2) year period and if the aggregate of such understatements is (i) related to sales of Products by Codexis India of greater than Two Million Dollars (US $2,000,000) and (ii) each understatement is more than five percent (5%) in respect of the total Codexis India Net Sales for the period examined, such occurrence of three (3) separate overstatements shall be deemed a Material Breach, and Arch shall have the right, but

not the obligation, in its sole discretion, to terminate this MOU and the PSA immediately upon notice pursuant to Section 9.2 of the PSA. The fees and expenses of such accountant shall be paid by Arch, unless the examination results in a determination that Net Sales have been understated by more than five percent (5%) for the period examined, in which case Codexis India shall pay all reasonable costs and expenses incurred by Arch in the course of making such determination, including without limitation the fees and expenses of such accountant.

5.3.2 During the Term and for a period of three (3) years thereafter, at the request and expense of Codexis India, Arch shall permit, and shall cause its Affiliates to permit, an independent certified public accountant appointed by Codexis India, and reasonably acceptable to Arch, at reasonable times and upon reasonable notice to examine the records identified in Section 5.1 to the extent necessary to determine (a) the accuracy of Manufacturing Costs reported by Arch with respect to each of the Products within the three (3) year period immediately preceding such an audit and (b) the accuracy of Arch Net Sales reported by Arch with respect to each of the Products within the three (3) year period immediately preceding such an audit. If such examination results in a determination that the Manufacturing Costs with respect to any Product have been overstated, leading to any overpayment by Codexis India to Arch, such overpayments shall be refunded to Codexis India plus interest in accordance with Section 5.2 within fifteen (15) days after written notice by Codexis India; provided that, if there are more than three (3) separate overstatements in any two (2) year period and if the aggregate of such overstatements is related to sales of Products by Codexis India and its Affiliates of greater than Two Million Dollars (US $2,000,000), such occurrence of three (3) separate overstatements shall be deemed a Material Breach, and Codexis India shall have the right, but not the obligation, in its sole discretion, to terminate this MOU and the PSA immediately upon notice pursuant to Section 9.2 of the PSA. The fees and expenses of such accountant shall be paid by Codexis India, unless the examination results in a determination that there has been overpayment and/or underpayment by an aggregate of more than five percent (5%) for the period examined, in which case Arch shall pay all reasonable costs and expenses incurred by Codexis India in the course of making such determination, including without limitation the fees and expenses of such accountant.

6. MISCELLANEOUS.

6.1 Modifications. This MOU may not be altered, amended, supplemented, or modified in any way except by a writing signed by each Party.

6.2 Waivers. The failure of a Party to enforce any rights or provisions of this MOU shall not be construed to be a waiver of such rights or provisions, or a waiver by such Party to thereafter enforce such rights or provision or any other rights or provisions hereunder.

6.3 Entire Agreement. This MOU shall be governed by the terms and conditions of the PSA, and, for purposes of clarification and without limiting the foregoing, (a) this MOU is Confidential Information and is subject to Article 5 of the PSA, and (b) in the event of any Dispute with respect to this MOU, the terms and conditions of Article 8 of the PSA shall govern.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

6.4 Survival. Terms of this MOU shall survive termination of the PSA and/or this MOU with respect to records retention and audit rights, and with respect to payments, only to the extent that any amounts payable hereunder remain unpaid.

[*Signature Page Follows*]

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

IN WITNESS WHEREOF, the Parties have executed this MOU by their respective duly authorized representatives as of the MOU Effective Date.

CODEXIS LABORATORIES INDIA PRIVATE LIMITED.
("Codexis India")

By: /s/ Alan Shaw
Name: Alan Shaw
Title: Director

ARCH PHARMALABS LIMITED
("Arch")

By: /s/ Ajit Kamath
Name: Ajit Kamath
Title: Chairman & Managing Director.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

Exhibit A

DEFINED TERMS

"Codexis India Net Sales" shall mean the gross amounts invoiced by Codexis India for sales of a Product to a Codexis India Customer during the Term less the following unreimbursed, noncredited, or nonrefunded deductions with respect thereto, determined in accordance with US GAAP and calculated in Indian rupees and to the extent such amounts have not already been deducted from the amount invoiced: (a) amounts actually allowed as volume or quantity discounts; (b) sales, excise, turnover, value added taxes (VAT), and other taxes related to sale of such Product; (c) credits or allowances actually granted for damaged Product, returns or rejections of such Product, price adjustments, and billing errors; (d) commissions allowed or paid to Third Parties, including without limitation distributors, brokers, or agents, other than sales personnel, sales representatives, and sales agents employed by such Party; provided that Arch, its Affiliates and its officers and directors have no financial interest in such Third Parties; provided further that such commissions are no greater than those paid to such Third Parties for similar products; (e) amounts written off by reason of uncollectible debt; and (f) all other expenses, including without limitation storage, transportation, and insurance charges.

"COGS" shall mean, for any particular Product, an amount equal to the sum of (i) Manufacturing Cost for such Product (which shall be the Manufacturing Cost identified as being in effect at the time that Codexis India contracts with (or otherwise agrees to a selling price) with such Codexis India Customer) and (ii) the Enzyme Cost attributable to manufacture of such Product.

"Enzyme Cost" shall mean **[*]** per kilogram of Codexis Enzyme (or such other amount as may be agreed to in writing by the Parties); provided, however that if Codexis, Inc.'s (or its contract manufacturers' or suppliers') costs in manufacturing the Codexis Enzymes materially increases or decreases, then the Enzyme Cost shall be modified accordingly.

"Manufacturing Costs" shall mean, with respect to each of the Products (in bulk, vialed or finished form, as the case may be) for successful lots, the sum of the following (A-F):

A. The amounts paid by Arch to a Third Party for (i) providing the chemical and biological substances required for the manufacture of such Product (for purposes of this definition, collectively, the "Raw Materials") and packaging materials for producing such Product, (ii) manufacturing, filling, and/or finishing such Product or any component thereof, (iii) distributing, transporting, storing, and insuring such Product, and (iv) testing such Product, including with respect to the foregoing, all sales and excise taxes and customs duty charges imposed by Government Authority with respect thereto to the extent actually paid by Arch and/or Codexis India and not reimbursed, credited, or refunded by a Third Party. For clarity, all duties and taxes that are available as a credit to Arch against its output tax liability, or that are passed through for payment by a Third Party, such as excise duty or VAT, shall be excluded from the determination of Manufacturing Costs;

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

B. Direct Expenses shall mean those Direct Material Expenses, Direct Labor Expenses, and Direct Service Expenses captured in time sheets and invoices that are specific for such Product.

(i) Direct Material Expenses shall mean the actual cost of Raw Materials, filters, manufacturing supplies, unrecoverable solvent, containers, container components, packaging, labels, and other printed materials actually consumed in the production of such Product.

(ii) Direct Labor Expenses shall mean that portion of salaries and benefits actually paid for the labor hours of personnel directly involved in the manufacturing of such Product, to the extent such labor hours are directly attributable to the manufacture of such Product, and such labor hours have been properly documented by batch record and time sheets.

(iii) Direct Service Expenses shall mean actual out-of-pocket payments to Third Parties for services required in the manufacture of such Product; provided that Arch has obtained Codexis India's prior written consent for any such payments;

C. Indirect Expenses shall mean production overhead costs such as a reasonable allocation of expenses associated with line supervisory personnel overseeing the direct manufacturing of such Product in accordance with cGMP requirements. Indirect Expenses can include labor and out-of-pocket costs for quality control, quality assurance, microbiology, document control, calibration/validation, and non-research and development expenses for process development and analytical methods development supporting manufacturing. The above expenses will also include interest expenses apportioned on such fixed assets used to manufacture Products. However, any capital expenditures for facilities and equipment used to manufacture Products will not be included; and

D. Overhead Expenses shall mean manufacturing costs with respect to such Product that cannot be identified in a practical manner with specific units of production and, therefore, cannot be included as Direct Material Expenses or Direct Labor Expenses. Overhead Expenses include:

i. Specific manufacturing overhead allocations, including but not limited to facilities support costs, utilities (including electricity, water, sewer, waste disposal), indirect materials and supplies, consumables (including maintenance and repair materials, tools, spare parts), plant management, engineering and development support, maintenance and repair of the production plant and production equipment, property taxes (excluding income taxes), materials management, inventory storage, information management services, and insurance, but shall exclude underutilized capacity; and

ii. Depreciation and lease costs over the expected life of buildings and equipment specifically attributable to the actual pro rata use of such equipment to manufacture such Product.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

E. Delivery costs will be a component of Manufacturing Cost to the extent such delivery costs are not borne by a Third Party.

F. Any costs incurred by the Parties in connection with obtaining and maintaining product liability insurance pursuant to the PSA.

Notwithstanding anything to the contrary, combined Direct Labor Expenses set forth in Paragraph B(ii), Indirect Expenses set forth in Paragraph C, and Overhead Expenses set forth in Paragraph D shall not, in respect of each Product, amount to greater than the following percentage of total Manufacturing Costs:

Product	Max Overhead
[*]	[*]

Allocated costs, such as management time and factory administrative expenses (such as security, finance functions, house keeping, etc) shall be excluded from Manufacturing Costs.

All such amounts, costs, and expenses shall be calculated in accordance with Indian GAAP, for example, in a manner consistently applied across other Arch products; provided that in no event shall any expense be double-counted or included in any category of Manufacturing Costs if such expense has already been accounted for, reimbursed, or otherwise credited elsewhere.

For purposes of clarification, the Enzyme Cost shall be excluded from the Manufacturing Costs, and any expenses incurred under Section 2.8 of the PSA shall be borne solely by Arch and shall not be deemed a component of the Manufacturing Costs.

Notwithstanding anything to the contrary, the Manufacturing Cost of a Product shall not include any costs and expenses of any Raw Materials used in excess of the standard amounts set forth in Exhibit C, and any such additional costs and expenses shall be borne solely by Arch.

"Manufacturing Royalty" shall mean, in respect of each Product sold by Codexis India to a Codexis India Customer, a percentage of the Codexis India Net Sales of such Product, which percentage shall be as mutually agreed upon by Codexis India and Arch.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

Exhibit B

Initial Manufacturing Costs

To be agreed upon by the Parties within sixty (60) days after the Effective Date or such other time period as the Parties may agree to in writing.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

Exhibit C
(Raw Material Costs)

To be agreed upon by the Parties within sixty (60) days after the Effective Date or such other time period as the Parties may agree to in writing.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

EXHIBIT 23.1

Consent of Independent Registered Public Accounting Firm

We consent to the reference to our firm under the caption "Experts" and to the use of our report dated February 26, 2010, except for Note 18, as to which the date is March 31, 2010, in Amendment No. 7 to the Registration Statement (Form S-1 No. 333-164044) and related Prospectus of Codexis, Inc. for the registration of its common stock.

/s/ Ernst & Young LLP

Palo Alto, California
April 5, 2010

LATHAM & WATKINS LLP

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File No. 035842-0054

April 5, 2010

VIA EDGAR AND HAND DELIVERY

United States Securities and Exchange Commission
Division of Corporation Finance
100 F Street, N.E., Mail Stop 4631
Washington, D.C. 20549-6010

Attention: Pamela A. Long, Assistant Director
Hagen Ganem
Dietrich King
Tracey McKoy
Al Pavot

Re: **Codexis, Inc.**
Form S-1 filed December 28, 2009
Form S-1/A filed January 14, 2010
Form S-1/A filed February 1, 2010
Form S-1/A filed February 17, 2010
Form S-1/A filed February 26, 2010
Form S-1/A filed March 26, 2010
Form S-1/A filed March 31, 2010
Form S-1/A filed April 5, 2010
File No. 333-164044

Dear Ms. Long:

On behalf of Codexis, Inc. (the "***Company***"), we are hereby filing Amendment No. 7 ("***Amendment No. 7***") to the Company's above-referenced Registration Statement on Form S-1, which was initially filed with the Securities and Exchange Commission (the "***Commission***") on December 28, 2009 (the "***Initial Form S-1***"), and amended by Amendment No. 1 on January 14, 2010, Amendment No. 2 on February 1, 2010, Amendment No. 3 on February 17, 2010, Amendment No. 4 on February 26, 2010, Amendment No. 5 on March 26, 2010 and Amendment No. 6 on March 31, 2010 (as amended, the "***Registration Statement***"). For your convenience, we have enclosed a courtesy package which includes five copies of Amendment No. 7, three of which have been marked to show changes from Amendment No. 6.

Amendment No. 7 has been revised to reflect the Company's responses to oral comments from the staff of the Commission (the "***Staff***") received by the undersigned and Mr. Gregory Chin on April 2, 2010. For ease of review, we have set forth below each of the numbered comments of your discussion and the Company's responses thereto.

Management's Discussion and Analysis of Financial Condition and Results of Operations

Critical Accounting Policies and Estimates

Stock-based Compensation, page 55

1. **We note that you recognized stock-based compensation expense in 2009. Is this compensation expense being amortized or spread out over a four-year period and, if so, does the Company have an estimate as to how much compensation expense will be recognized in 2010?**

   Response: In response to the Staff's comments, the Company respectfully advises the Staff that it has revised its disclosure in Amendment No. 7 to disclose that, at December 31, 2009, there was $13.7 million of unrecognized stock-based compensation cost, which is expected to be recognized over an average period of 2.8 years.

Part II – Information Not Required in Prospectus, page II-1

Item 16. Exhibits and Financial Statement Schedules, page II-3

2. **The legal opinion provided to you by counsel is limited to the "General Corporation Law of the State of Delaware," and counsel expresses "no opinion with respect to any other laws." Please have counsel confirm for us in writing that the legality opinion concurs with our understanding that the reference and limitation to the Delaware General Corporation Law includes the statutory provisions and also all applicable provisions of the Delaware Constitution and the reported judicial cases interpreting those laws currently in effect. Please file this confirmation as correspondence on the EDGAR system.**

   Response: In response to the Staff's comment, we hereby confirm that the legality opinion concurs with the Staff's understanding that the reference and limitation to the Delaware General Corporation Law in our opinion dated March 31, 2010 provided to the Company and filed as Exhibit 5.1 to the Registration Statement includes the statutory provisions and also all applicable provisions of the Delaware Constitution and the reported judicial cases interpreting those laws currently in effect.

* * *

We hope the foregoing answers are responsive to your comments. Please do not hesitate to contact me by telephone at (650) 463-3067 or by fax at (650) 463-2600 with any questions or comments regarding this correspondence.

Very truly yours,

/s/ Patrick A. Pohlen
Patrick A. Pohlen
of LATHAM & WATKINS LLP

cc: Alan Shaw, Codexis, Inc.
Douglas T. Sheehy, Codexis, Inc.
John A. Fore, Wilson Sonsini Goodrich & Rosati, Professional Corporation
Michael S. Russell, Wilson Sonsini Goodrich & Rosati, Professional Corporation
Gregory Chin, Latham & Watkins LLP