As filed with the Securities and Exchange Commission on March 31, 2010

Registration No. 333-164044

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

AMENDMENT NO. 6
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 MARCH 31, 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 11.

	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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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 2008, 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 11 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.

	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, 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.

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, 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. 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 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.

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	270,312
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).

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.

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.

	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	$ (1.12)
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. 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 anticipate total costs of the plans to be 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 2008, 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)	803,216
	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)	1,418,920
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 on the date of adoption. 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 after the offering, we have assumed the issuance of 25,239,658 shares of common stock to holders of our preferred stock upon the closing of this offering as a cumulative dividend, pursuant to the terms of our certificate of incorporation.

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). 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.

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. 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. 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. 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.

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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

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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.

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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.

Codexis, Inc.

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 this offering.

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 the 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 the registration statement of which this prospectus forms a part.

On March 30, 2010, our board of directors approved the 2010 Equity Incentive Award Plan which will become effective upon the completion of this offering. 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	10,500
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	835,120
Total	4,500,000

* To be provided by amendment.

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, 2007.
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-8 of the original filing of this Form S-1).

* To be filed by amendment.
† 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. 6 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 31st day of March, 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. 6 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)	March 31, 2010
/S/ ROBERT J. LAWSON Robert J. Lawson	Senior Vice President and Chief Financial Officer (Principal Financial and Accounting Officer)	March 31, 2010
* Thomas R. Baruch	Chairman of the Board of Directors	March 31, 2010
* Alexander A. Karsner	Director	March 31, 2010
* Bernard J. Kelley	Director	March 31, 2010
* Bruce Pasternack	Director	March 31, 2010
* Chris Streng	Director	March 31, 2010
* James R. Sulat	Director	March 31, 2010
* Dennis P. Wolf	Director	March 31, 2010
* Mun Yew Wong	Director	March 31, 2010
*By: /S/ ALAN SHAW Alan Shaw Attorney-in-fact		March 31, 2010

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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-8 of the original filing of this Form S-1).

* To be filed by amendment.
† Certain portions have been omitted pursuant to a confidential treatment request. Omitted information has been filed separately with the SEC.
# Previously filed.

Exhibit 1.1

__ Shares

CODEXIS, INC.

Common Stock, par value $0.0001 per share

FORM OF UNDERWRITING AGREEMENT

_____, 2010

CREDIT SUISSE SECURITIES (USA) LLC
PIPER JAFFRAY & CO.
RBC CAPITAL MARKETS CORPORATION
PACIFIC CREST SECURITIES LLC,
As Representatives of the Several Underwriters,
c/o Credit Suisse Securities (USA) LLC,
Eleven Madison Avenue,
New York, N.Y. 10010-3629

Dear Sirs:

1. *Introductory*. Codexis, Inc., a Delaware corporation ("**Company**") agrees with the several Underwriters named in Schedule A hereto ("**Underwriters**") to issue and sell to the Underwriters __ shares of the Company's common stock, par value $0.0001 per share ("**Securities**") (such __ shares of Securities being hereinafter referred to as the "**Firm Securities**"). The Company also agrees to sell to the Underwriters, at the option of the Underwriters, an aggregate of not more than __ additional shares of its Securities ("**Optional Securities**"), as set forth below. The Firm Securities and the Optional Securities are herein collectively called the "**Offered Securities**."

2. *Representations and Warranties of the Company.* The Company represents and warrants to, and agrees with, the several Underwriters that:

(i) *Filing and Effectiveness of Registration Statement; Certain Defined Terms.* The Company has filed with the Commission (as defined below) a registration statement on Form S-1 (No. 333-_____) covering the registration of the Offered Securities under the Act (as defined below), including a related preliminary prospectus or prospectuses. At any particular time, this initial registration statement, in the form then on file with the Commission, including all information contained in the registration statement (if any) pursuant to Rule 462(b) and then deemed to be a part of the initial registration statement, and all 430A Information (as defined below) and all 430C Information (as defined below), that in any case has not then been superseded or modified, shall be referred to as the "**Initial Registration Statement**." The Company may also have filed, or may file with the Commission, a Rule 462(b) registration statement covering the registration of Offered Securities. At any particular time, this Rule 462(b) registration statement, in the form then on file with the Commission, including the contents of the Initial Registration Statement incorporated by reference therein and including all 430A Information and all 430C Information that in any case has not then been superseded or modified, shall be referred to as the "**Additional Registration Statement**."

As of the time of execution and delivery of this Agreement, the Initial Registration Statement has been declared effective under the Act and is not proposed to be amended. Any Additional Registration Statement has or will become effective upon filing with the Commission pursuant to Rule 462(b) and is not proposed to be amended. The Offered Securities all have been or will be duly registered under the Act pursuant to the Initial Registration Statement and, if applicable, the Additional Registration Statement.

For purposes of this Agreement:

"**430A Information**," with respect to any registration statement, means information included in a prospectus and retroactively deemed to be a part of such registration statement pursuant to Rule 430A(b).

"**430C Information**," with respect to any registration statement, means information included in a prospectus then deemed to be a part of such registration statement pursuant to Rule 430C.

"**Act**" means the Securities Act of 1933, as amended.

"**Applicable Time**" means __ : __ [A/P].M. (New York time) on the date of this Agreement.

"**Closing Date**" has the meaning defined in Section 3 hereof.

"**Commission**" means the Securities and Exchange Commission.

"**Effective Time**" with respect to the Initial Registration Statement or, if filed prior to the execution and delivery of this Agreement, the Additional Registration Statement means the date and time as of which such Registration Statement was declared effective by the Commission or has become effective upon filing pursuant to Rule 462(c). If an Additional Registration Statement has not been filed prior to the execution and delivery of this Agreement but the Company has advised the Representatives that it proposes to file one, "**Effective Time**" with respect to such Additional Registration Statement means the date and time as of which such Registration Statement is filed and becomes effective pursuant to Rule 462(b).

"**Exchange Act**" means the Securities Exchange Act of 1934, as amended.

"**Final Prospectus**" means the Statutory Prospectus that discloses the public offering price, other 430A Information and other final terms of the Offered Securities and otherwise satisfies Section 10(a) of the Act.

"**General Use Issuer Free Writing Prospectus**" means any Issuer Free Writing Prospectus that is intended for general distribution to prospective investors, as evidenced by its being so specified in Schedule C to this Agreement.

"**Issuer Free Writing Prospectus**" means any "issuer free writing prospectus," as defined in Rule 433, relating to the Offered Securities in the form filed or required to be filed with the Commission or, if not required to be filed, in the form retained in the Company's records pursuant to Rule 433(g).

"**Limited Use Issuer Free Writing Prospectus**" means any Issuer Free Writing Prospectus that is not a General Use Issuer Free Writing Prospectus.

The Initial Registration Statement and the Additional Registration Statement are referred to collectively as the "**Registration Statements**" and individually as a "**Registration Statement**". A "**Registration Statement**" with reference to a particular time means the Initial Registration Statement and any Additional Registration Statement as of such time. A "**Registration Statement**" without reference to a time means such Registration Statement as of its Effective Time. For purposes of the foregoing definitions, 430A Information with respect to a Registration Statement shall be considered to be included in such Registration Statement as of the time specified in Rule 430A.

"**Rules and Regulations**" means the rules and regulations of the Commission.

"**Securities Laws**" means, collectively, the Sarbanes-Oxley Act of 2002, as amended ("**Sarbanes-Oxley**"), the Act, the Exchange Act, the Rules and Regulations, the auditing principles, rules, standards and practices applicable to auditors of "issuers" (as defined in Sarbanes-Oxley) promulgated or approved by the Public Company Accounting Oversight Board and, as applicable, the rules of The NASDAQ Stock Market ("**Exchange Rules**").

"**Statutory Prospectus**" with reference to a particular time means the prospectus included in a Registration Statement immediately prior to that time, including any 430A Information or 430C Information with respect to such Registration Statement. For purposes of the foregoing definition, 430A Information shall be considered to be included in the Statutory Prospectus as of the actual time that form of prospectus is filed with the Commission pursuant to Rule 424(b) or Rule 462(c) and not retroactively.

Unless otherwise specified, a reference to a "Rule" is to the indicated rule under the Act.

(ii) *Compliance with Securities Act Requirements*. (A) At their respective Effective Times, on the date of this Agreement and on each Closing Date, each of the Initial Registration Statement and the Additional Registration Statement (if any) conformed and will conform in all material respects to the applicable requirements of the Act and the Rules and Regulations and did not and will not include any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein not misleading, (B) on its date, at the time of filing of the Final Prospectus pursuant to Rule 424(b) or (if no such filing is required) at the Effective Time of the Additional Registration Statement in which the Final Prospectus is included, and on each Closing Date, the Final Prospectus will conform in all respects to the requirements of the Act and the Rules and Regulations and will not include any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein not misleading. The preceding sentence does not apply to statements in or omissions from any such document made in reliance upon and in conformity with written information furnished to the Company by any Underwriter through the Representatives specifically for use therein, it being understood and agreed that the only such information furnished by any Underwriter consists of the information described as such in Section 8(b) hereof.

(iii) *Ineligible Issuer Status.* (A) At the time of the initial filing of the Initial Registration Statement and (B) at the date of this Agreement, the Company was not and is not an "ineligible issuer," as defined in Rule 405, including (1) the Company or any of its subsidiaries in the preceding three years not having been convicted of a felony or misdemeanor or having been made the subject of a judicial or administrative decree or order as described in Rule 405 and (2) the Company in the preceding three years not having been the subject of a bankruptcy petition or insolvency or similar proceeding, not having had a registration statement be the subject of a proceeding under Section 8 of the Act and not being the subject of a proceeding under Section 8A of the Act in connection with the offering of the Offered Securities, all as described in Rule 405.

(iv) *General Disclosure Package*. As of the Applicable Time, neither (A) the General Use Issuer Free Writing Prospectus(es) issued at or prior to the Applicable Time and, the preliminary prospectus, dated _____, 2010 (which is the most recent Statutory Prospectus distributed to investors generally) and the other information, if any, stated in Schedule B to this Agreement to be included in the General Disclosure Package, all considered together (collectively, the "**General Disclosure Package**"), nor (B) any individual Limited Use Issuer Free Writing Prospectus, when considered together with the General Disclosure Package, included any untrue statement of a material fact or omitted to state any material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading. The preceding sentence does not apply to statements in or omissions from any Statutory Prospectus or any Issuer Free Writing Prospectus made in reliance upon and in conformity with written information furnished to the Company by any Underwriter through the Representatives specifically for use therein, it being understood and agreed that the only such information furnished by any Underwriter consists of the information described as such in Section 8(b) hereof.

(v) *Issuer Free Writing Prospectuses*. Each Issuer Free Writing Prospectus, as of its issue date and at all subsequent times through the completion of the public offer and sale of the Offered Securities or until any earlier date that the Company notified or notifies Credit Suisse Securities (USA) LLC (the "**Lead Representative**") as described in the next sentence, did not, does not and will not include any information that conflicted, conflicts or will conflict with the information then contained in the Registration Statement. If at any time following issuance of an Issuer Free Writing Prospectus there occurred or occurs an event or development as a result of which such Issuer Free Writing Prospectus conflicted or would conflict with the information then contained in the Registration Statement or as a result of which such Issuer Free Writing

Prospectus, if republished immediately following such event or development, would include an untrue statement of a material fact or omitted or would omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading, (A) the Company has promptly notified or will promptly notify the Lead Representative and (B) the Company has promptly amended or will promptly amend or supplement such Issuer Free Writing Prospectus to eliminate or correct such conflict, untrue statement or omission. The first sentence of this paragraph (v) does not apply to statements in or omissions from any Issuer Free Writing Prospectus made in reliance upon and in conformity with written information furnished to the Company by any Underwriter through the Representatives specifically for use therein, it being understood and agreed that the only such information furnished by any Underwriter consists of the information described as such in Section 8(b) hereof.

(vi) *Good Standing of the Company.* The Company has been duly incorporated and is validly existing and in good standing under the laws of the State of Delaware, with corporate power and authority to own its properties and conduct its business as described in the General Disclosure Package; and the Company is duly qualified to do business as a foreign corporation in good standing in all other jurisdictions in which its ownership or lease of property or the conduct of its business requires such qualification, except where the failure to be so qualified or in good standing would not, individually or in the aggregate, result in a material adverse effect on the condition (financial or otherwise), results of operations, business, properties or prospects of the Company and its subsidiaries taken as a whole ("**Material Adverse Effect**").

(vii) *Subsidiaries.* Each subsidiary of the Company has been duly incorporated and is validly existing and in good standing under the laws of the jurisdiction of its incorporation, with corporate power and authority to own its properties and conduct its business as described in the General Disclosure Package; each subsidiary of the Company is duly qualified to do business as a foreign corporation in good standing in all other jurisdictions in which its ownership or lease of property or the conduct of its business requires such qualification, except where the failure to be so qualified or in good standing would not, individually or in the aggregate, result in a Material Adverse Effect; all of the issued and outstanding capital stock of each subsidiary of the Company has been duly authorized and validly issued and is fully paid and nonassessable; and the capital stock of each subsidiary owned by the Company, directly or through subsidiaries, is owned free from liens, encumbrances and defects. No subsidiary of the Company is currently prohibited, directly or indirectly, from paying any dividends to the Company, from making any other distribution on such subsidiary's capital stock, from repaying to the Company any loans or advances to such subsidiary from the Company or from transferring any of such subsidiary's property or assets to the Company or any other subsidiary.

(viii) *Offered Securities*. The Offered Securities and all other outstanding shares of capital stock of the Company have been duly authorized; the authorized equity capitalization of the Company is as set forth in the General Disclosure Package; all outstanding shares of capital stock of the Company are, and, when the Offered Securities have been delivered and paid for in accordance with this Agreement on each Closing Date, such Offered Securities will have been, validly issued, fully paid and nonassessable, will conform to the information in the General Disclosure Package and to the description of such Offered Securities contained in the Final Prospectus; the stockholders of the Company have no preemptive rights with respect to the Securities that have not been waived; and none of the outstanding shares of capital stock of the Company have been issued in violation of any preemptive or similar rights of any security holder.

(ix) *No Finder's Fee.* There are no contracts, agreements or understandings between the Company and any person that would give rise to a valid claim against the Company or any Underwriter for a brokerage commission, finder's fee or other like payment in connection with this offering.

(x) *Registration Rights.* There are no contracts, agreements or understandings between the Company and any person granting such person the right to require the Company to file a registration statement under the Act with respect to any securities of the Company owned or to be owned by such person or to require the Company to include such securities in the securities registered pursuant to a Registration Statement or in any securities being registered pursuant to any other registration statement filed by the Company under the Act (collectively, "**Registration Rights**") that have not been waived in connection with the offering contemplated by this Agreement, and any person to whom the Company has granted Registration Rights has agreed not

to exercise such rights until after the expiration of the Lock-Up Period referred to in Section 5 hereof.

(xi) *Listing.* The Offered Securities have been approved for listing on The NASDAQ Global Market, subject to notice of issuance.

(xii) *Absence of Further Requirements.* No consent, approval, authorization, or order of, or filing or registration with, any person (including any governmental agency or body or any court) is required for the consummation of the transactions contemplated by this Agreement in connection with the issuance and sale of the Offered Securities, except such as have been obtained or made and such as may be required under state securities laws.

(xiii) *Title to Property.* The Company and its subsidiaries have good and marketable title to all real properties and all other properties and assets owned by them, in each case free from liens, charge, encumbrances and defects (other than liens granted on Company assets pursuant to that certain Loan and Security Agreement by and among the Company, General Electric Capital Corporation and Oxford Finance Corporation dated as of September 28, 2007) that would materially affect the value thereof or materially interfere with the use made or to be made thereof by them and the Company and its subsidiaries hold any leased real or personal property under valid and enforceable leases with no terms or provisions that would materially interfere with the use made or to be made thereof by them.

(xiv) *Right to Products.* Except as disclosed in the General Disclosure Package, the Company has not granted material rights to develop, manufacture, produce, assemble, distribute, license, market or sell its products to any other person and is not bound by any agreement that materially affects the Company's exclusive right to develop, manufacture, produce, assemble, distribute, license, market or sell its products.

(xv) *Absence of Defaults and Conflicts Resulting from the Transaction.* The execution, delivery and performance of this Agreement, and the issuance and sale of the Offered Securities will not result in a breach or violation of any of the terms and provisions of, or constitute a default or a Debt Repayment Triggering Event (as defined below) under, or result in the imposition of any lien, charge or encumbrance upon any property or assets of the Company or any of its subsidiaries pursuant to: (A) the charter or by-laws of the Company or any of its subsidiaries, (B) any statute, rule, regulation or order of any governmental agency or body or any court, domestic or foreign, having jurisdiction over the Company or any of its subsidiaries or any of their properties, or (C) any agreement or instrument to which the Company or any of its subsidiaries is a party or by which the Company or any of its subsidiaries is bound or to which any of the properties of the Company or any of its subsidiaries is subject, except with respect to (B) and (C) above, such representation is made only for such breaches, violations, defaults, liens, charges or encumbrances that would not, individually or in the aggregate, result in a Material Adverse Effect, materially and adversely affect the performance by the Company of its obligations under this Agreement or the consummation of the transactions contemplated by this Agreement or impair the validity or enforceability of this Agreement. A "**Debt Repayment Triggering Event**" means any event or condition that gives, or with the giving of notice or lapse of time would give, the holder of any note, debenture, or other evidence of indebtedness (or any person acting on such holder's behalf) the right to require the repurchase, redemption or repayment of all or a portion of such indebtedness by the Company or any of its subsidiaries.

(xvi) *Absence of Existing Defaults and Conflicts.* Neither the Company nor any of its subsidiaries is (A) in violation of its respective charter or by-laws or (B) in default (or with the giving of notice or lapse of time would be in default) under any existing obligation, agreement, covenant or condition contained in any indenture, loan agreement, mortgage, lease or other agreement or instrument to which any of them is a party or by which any of them is bound or to which any of the properties of any of them is subject, except, for the purposes of clause (B), such defaults that would not, individually or in the aggregate, result in a Material Adverse Effect.

(xvii) *Authorization of Agreement.* The Company has all requisite power and authority to execute, deliver and perform its obligations under this Agreement. This Agreement has been duly authorized, executed and delivered by the Company.

(xviii) *Possession of Licenses and Permits; Compliance with Contracts.* The Company and its subsidiaries possess, and are in compliance in all material respects with the terms of, all adequate certificates, authorizations, approvals, franchises, licenses and permits ("**Licenses**") necessary or material to the conduct of the business now conducted and have not received any notice of proceedings relating to the revocation or modification of any Licenses that, if determined adversely to the Company or any of its subsidiaries, would individually or in the aggregate have a Material Adverse Effect; and except as disclosed in the General Disclosure Package, the development, manufacture, sale and use of the Company's products and services are not subject to regulation by any federal, state, local or foreign agencies or bodies. The Company and its subsidiaries are in compliance in all material respects with the terms of all agreements, licenses and contracts referenced in the General Disclosure Package or pursuant to which the Company or any of its subsidiaries is bound or is a party, and, to the best of the Company's knowledge, all counterparties to such agreements, licenses and contracts are in compliance in all material respects with such agreements, licenses and contracts. The General Disclosure Package discloses all material restrictions on the business, operations or products of the Company and its subsidiaries under such Agreements.

(xix) *Absence of Labor Dispute.* No labor dispute with the employees of the Company or any of its subsidiaries exists or, to the knowledge of the Company, is imminent that could, individually or in the aggregate, have a Material Adverse Effect.

(xx) *Possession of Intellectual Property.* The Company and its subsidiaries own, possess, have the right to use or otherwise can acquire on reasonable terms the trademarks, trade names, patent rights, copyrights, domain names, trade secrets, inventions, technology, know-how and other intellectual property and similar rights, including registrations and applications for registration thereof (collectively, "**Intellectual Property Rights**") necessary or material to the conduct of the business as currently conducted or proposed in the General Disclosure Package to be conducted by them, except where the failure to own, possess, have the right to use or otherwise acquire such Intellectual Property Rights would not, individually or in the aggregate, have a Material Adverse Effect, and the expected expiration of any such Intellectual Property Rights would not, individually or in the aggregate, have a Material Adverse Effect. (A) Except as disclosed in the General Disclosure Package, there are no rights of third parties to any of the Intellectual Property Rights owned by the Company or its subsidiaries; (B) there is no material infringement, misappropriation, breach, default or other violation, or the occurrence of any event that with notice or the passage of time would constitute any of the foregoing, by the Company or any of its subsidiaries of any of the Intellectual Property Rights under which the Company or any of its subsidiaries operates; nor is the Company aware of infringement of its Intellectual Property Rights by any third party; (C) there is no pending or threatened action, suit, proceeding or claim by others challenging the Company's or any subsidiary's rights in or to, or the violation of any of the terms of, any of their Intellectual Property Rights, and the Company is unaware of any facts which would form a reasonable basis for any such claim; (D) there is no pending or threatened action, suit, proceeding or claim by others challenging the validity, enforceability or scope of any of the Company's Intellectual Property Rights, and the Company is unaware of any facts which would form a reasonable basis for any such claim; (E) there is no pending or threatened action, suit, proceeding or claim by others that the Company or any subsidiary infringes, misappropriates or otherwise violates or conflicts with any Intellectual Property Rights or other proprietary rights of others and the Company is unaware of any facts which would form a reasonable basis for any such claim; (F) none of the Intellectual Property Rights used by the Company or its subsidiaries in their businesses has been obtained or is being used by the Company or its subsidiaries in violation of any contractual obligation binding on the Company or any of its subsidiaries or in violation of the rights of any persons; and (G) the Company and its subsidiaries are not aware of any prior art that may render any patent application owned by the Company or its subsidiaries unpatentable which was required to have been disclosed and has not been disclosed to the United States Patent and Trademark Office; except in each case covered by clauses (B) – (E) and (G) such as would not, if determined adversely to the Company or any of its subsidiaries, individually or in the aggregate, have a Material Adverse Effect.

(xxi) *Environmental Laws.* (A)(1) Neither the Company nor any of its subsidiaries is in violation of, or has any liability under, any federal, state, local or non-U.S. statute, law, rule, regulation, ordinance, code, other requirement or rule of law (including common law), or decision or order of any domestic or foreign governmental agency, governmental body or court, relating to pollution, to the use, handling,

transportation, treatment, storage, discharge, disposal or release of Hazardous Substances, to the protection or restoration of the environment or natural resources (including biota), to health and safety including as such relates to exposure to Hazardous Substances, and to natural resource damages (collectively, "**Environmental Laws**"), (2) neither the Company nor any of its subsidiaries owns, occupies, operates or uses any real property contaminated with Hazardous Substances, (3) neither the Company nor any of its subsidiaries is conducting or funding any investigation, remediation, remedial action or monitoring of actual or suspected Hazardous Substances in the environment, (4) neither the Company nor any of its subsidiaries is liable or allegedly liable for any release or threatened release of Hazardous Substances, including at any off-site treatment, storage or disposal site, (5) neither the Company nor any of its subsidiaries is subject to any claim by any governmental agency or governmental body or person relating to Environmental Laws or Hazardous Substances, and (6) the Company and its subsidiaries have received and are in compliance with all, and have no liability under any, permits, licenses, authorizations, identification numbers or other approvals required under applicable Environmental Laws to conduct their respective businesses, except in each case covered by clauses (1) – (6) such as would not individually or in the aggregate have a Material Adverse Effect; (B) to the knowledge of the Company there are no facts or circumstances that would reasonably be expected to result in a violation of, liability under, or claim pursuant to any Environmental Law that would reasonably be expected to have a Material Adverse Effect; (C) to the knowledge of the Company there are no requirements proposed for adoption or implementation under any Environmental Law that would reasonably be expected to have a Material Adverse Effect; and (D) in the ordinary course of its business, the Company periodically evaluates the effect, including associated costs and liabilities, of Environmental Laws on the business, properties, results of operations and financial condition of it and its subsidiaries, and, on the basis of such evaluation, the Company has reasonably concluded that such Environmental Laws will not, individually or in the aggregate, have a Material Adverse Effect. For purposes of this subsection "**Hazardous Substances**" means (A) petroleum and petroleum products, by-products or breakdown products, radioactive materials, asbestos-containing materials, polychlorinated biphenyls and mold, and (B) any other chemical, material or substance defined or regulated as toxic or hazardous or as a pollutant, contaminant or waste under Environmental Laws.

(xxii) *Accurate Disclosure.* The statements in the General Disclosure Package and the Final Prospectus under the headings ["Prospectus Summary," "Risk Factors," "Management's Discussion and Analysis of Financial Condition and Results of Operations," "Business," "Certain Relationships and Related Party Transactions," Description of Capital Stock," "Shares Available for Future Sale" and "Certain Material United States Federal Income Tax Consequences to Non-U.S. Holders,"] insofar as such statements summarize legal matters, agreements, documents or proceedings discussed therein, are accurate, complete and fair summaries of such legal matters, agreements, documents or proceedings and present the information required to be shown.

(xxiii) *Absence of Manipulation.* The Company has not taken, directly or indirectly, any action that is designed to or that has constituted or that would reasonably be expected to cause or result in the stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Offered Securities.

(xxiv) *Statistical and Market-Related Data.* Any third-party statistical and market-related data included in a Registration Statement, a Statutory Prospectus or the General Disclosure Package are based on or derived from sources that the Company believes to be reliable and accurate.

(xxv) *Independent Public Accountants.* Ernst & Young LLP, who have certified certain financial statements of the Company and its subsidiaries, are independent public accountants as required by the Securities Laws. Except as preapproved in accordance with the requirements set forth in Section 10A of the Exchange Act, Ernst & Young LLP, have not been engaged by the Company to perform any "prohibited activities" (as defined in such Section 10A).

(xxvi) *Internal Controls and Compliance with the Sarbanes-Oxley Act.* Except as set forth in the General Disclosure Package, the Company, its subsidiaries and the Company's Board of Directors (the "**Board**") are in compliance in all material respects with Sarbanes-Oxley and the Exchange Rules, as such securities laws and Exchange Rules are applicable to the Company immediately following the date of this

Agreement. Except as disclosed in the General Disclosure Package, the Company maintains a system of internal controls, including, but not limited to, disclosure controls and procedures (as such term is defined in Rule 13a-15(e) under the Exchange Act), internal controls over accounting matters and financial reporting, an internal audit function and legal and regulatory compliance controls (collectively, "**Internal Controls**") that comply with applicable law and are sufficient to provide reasonable assurances that (A) transactions are executed in accordance with management's general or specific authorizations, (B) transactions are recorded as necessary to permit preparation of financial statements in conformity with U.S. General Accepted Accounting Principles and to maintain accountability for assets, (C) access to assets is permitted only in accordance with management's general or specific authorization, and (D) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect thereto. The Internal Controls are, or upon consummation of the offering of the Offered Securities will be, overseen by the Audit Committee (the "**Audit Committee**") of the Board in accordance with Exchange Rules applicable to the Company. Except as set forth in the General Disclosure Package, there has been no significant deficiency, material weakness, change in Internal Controls or fraud involving management or other employees who have a significant role in Internal Controls (each, an "**Internal Control Event**"). The Company has not publicly disclosed or reported to the Audit Committee or the Board, and within the next 135 days the Company does not reasonably expect to publicly disclose or report to the Audit Committee or the Board, an Internal Control Event (other than as set forth in the General Disclosure Package), any violation of, or failure to comply with, the Securities Laws, or any matter which, if determined adversely, would have a Material Adverse Effect.

(xxvii) *Absence of Accounting Issues.* A member of the Audit Committee has confirmed to the Chief Financial Officer that, except as set forth in the General Disclosure Package, the Audit Committee is not reviewing or investigating, and neither the Company's independent auditors nor its internal auditors have recommended that the Audit Committee review or investigate, (A) adding to, deleting, changing the application of, or changing the Company's disclosure with respect to, any of the Company's material accounting policies; (B) any matter which could result in a restatement of the Company's financial statements for any annual or interim period during the current or prior three fiscal years; or (C) any Internal Control Event.

(xxviii) *Audit Committee.* Except as disclosed in the General Disclosure Package, the Company's Board has validly appointed an Audit Committee whose composition satisfies the requirements of Rule 5605(c)(2) of The NASDAQ Stock Market. The Board and/or the Audit Committee has adopted a charter that satisfies the requirements of Rule 5605(c)(1) of The NASDAQ Stock Market. The audit committee has reviewed the adequacy of its charter within the past 12 months.

(xxix) *Litigation.* Except as disclosed in the General Disclosure Package, there are no pending actions, suits or proceedings (including any inquiries or investigations by any court or governmental agency or body, domestic or foreign) against or affecting the Company, any of its subsidiaries or any of their respective properties that, if determined adversely to the Company or any of its subsidiaries, would individually or in the aggregate have a Material Adverse Effect, or would materially and adversely affect the ability of the Company to perform its obligations under this Agreement, or which are otherwise material in the context of the sale of the Offered Securities; and no such actions, suits or proceedings (including any inquiries or investigations by any court or governmental agency or body, domestic or foreign) are, to the Company's knowledge, threatened or contemplated. Except as disclosed in the General Disclosure Package, there is no action, suit, proceeding or investigation by the Company currently pending or that the Company intends to initiate that, if determined adversely to the Company or any of its subsidiaries, would individually or in the aggregate have a Material Adverse Effect, or would materially and adversely affect the ability of the Company to perform its obligations under this Agreement, or which are otherwise material in the context of the sale of the Offered Securities.

(xxx) *Financial Statements.* The financial statements included in each Registration Statement and the General Disclosure Package present fairly the financial position of the Company and its consolidated subsidiaries as of the dates shown and their results of operations and cash flows for the periods shown, and such financial statements have been prepared in conformity with the generally accepted accounting principles in the United States applied on a consistent basis; the schedules included in each Registration Statement present fairly in all material respects the information required to be stated therein; and the assumptions used in preparing the pro forma financial statements included in each Registration Statement and the General

Disclosure Package provide a reasonable basis for presenting the significant effects directly attributable to the transactions or events described therein, the related pro forma adjustments give appropriate effect to those assumptions, and the pro forma columns therein reflect the proper application of those adjustments to the corresponding historical financial statement amounts. No other financial statements or schedules of the Company or any other entity are required to be included in the Registration Statement or the General Disclosure Package pursuant to any requirement of the Act or any Rules and Regulations thereunder, including Rules 3-05 and Article 11 of Regulation S-X.

(xxxi) *Off-Balance Sheet Arrangements*. There are no off-balance sheet arrangements (as defined in Regulation S-K Item 303(a)(4)(ii)) that may have a material current or future effect on the Company's financial condition, changes in financial condition, results of operations, liquidity, capital expenditures or capital resources.

(xxxii) *No Material Adverse Change in Business.* Since the end of the period covered by the latest audited financial statements included in the General Disclosure Package (A) there has been no change, nor any development or event involving a prospective change, in the condition (financial or otherwise), results of operations, business, properties or prospects of the Company and its subsidiaries, taken as a whole, that is material and adverse, (B) there has been no dividend or distribution of any kind declared, paid or made by the Company on any class of its capital stock and (C) there has been no material adverse change in the capital stock, short-term indebtedness, long-term indebtedness, net current assets or net assets of the Company and its subsidiaries.

(xxxiii) *Investment Company Act.* The Company is not and, after giving effect to the offering and sale of the Offered Securities and the application of the proceeds thereof as described in the General Disclosure Package, will not be an "investment company" as defined in the Investment Company Act of 1940, as amended (the "**Investment Company Act**").

(xxxiv) *Ratings.* No "nationally recognized statistical rating organization" as such term is defined for purposes of Rule 436(g)(2) has informed the Company that it has or is considering imposing any condition (financial or otherwise) on the Company's retaining any rating assigned to the Company or any of its subsidiaries or to any securities of the Company.

(xxxv) *Payment of Taxes.* The Company and its subsidiaries have filed all federal, state, local and non-U.S. tax returns that are required to be filed or have requested extensions thereof (except in any case in which the failure so to file would not have a Material Adverse Effect); and, except as set forth in the General Disclosure Package, the Company and its subsidiaries have paid all taxes (including any assessments, fines or penalties) required to be paid by them, except for any such taxes, assessments, fines or penalties currently being contested in good faith or as would not, individually or in the aggregate, have a Material Adverse Effect.

(xxxvi) *Foreign Corrupt Practices Act and Money Laundering Laws.* None of the Company, its subsidiaries, its affiliates or any of their respective officers, directors, supervisors, managers, agents, or employees, has violated, and its participation in the offering will not violate: (A) anti-bribery laws, including but not limited to, any applicable law, rule, or regulation of any locality, including but not limited to any law, rule, or regulation promulgated to implement the OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions, signed December 17, 1997, including the U.S. Foreign Corrupt Practices Act of 1977 or any other law, rule or regulation of similar purpose and scope, (B) anti-money laundering laws, including but not limited to, applicable federal, state, international, foreign or other laws, regulations or government guidance regarding anti-money laundering, including, without limitation, Title 18 U.S. Code Sections 1956 and 1957, the Patriot Act, the Bank Secrecy Act, and international anti-money laundering principals or procedures by an intergovernmental group or organization, such as the Financial Action Task Force on Money Laundering, of which the United States is a member and with which designation the United States representative to the group or organization continues to concur, all as amended, and any Executive order, directive, or regulation pursuant to the authority of any of the foregoing, or any orders or licenses issued thereunder or (C) laws and regulations imposing U.S. economic sanctions measures, including, but not limited to, the International Emergency

Economic Powers Act, the Trading with the Enemy Act, the United Nations Participation Act, and the Syria Accountability and Lebanese Sovereignty Act, all as amended, and any Executive Order, directive, or regulation pursuant to the authority of any of the foregoing, including the regulations of the U.S. Treasury Department set forth under 31 CFR, Subtitle B, Chapter V, as amended, or any orders or licenses issued thereunder.

(xxxvii) *OFAC*. Neither the Company nor, to the knowledge of the Company, any director, officer, agent, employee, affiliate or person acting on behalf of the Company is currently subject to any U.S. sanctions administered by the Office of Foreign Assets Control of the U.S. Treasury Department ("**OFAC**"); and the Company will not directly or indirectly use the proceeds of the offering, or lend, contribute or otherwise make available such proceeds to any subsidiary, joint venture partner or other person or entity, for the purpose of financing the activities of any person currently subject to any U.S. sanctions administered by OFAC.

(xxxviii) *Insurance*. The Company and its subsidiaries are insured by insurers with appropriately rated claims paying abilities against such losses and risks and in such amounts as are prudent and customary for the businesses in which they are engaged; all policies of insurance and fidelity or surety bonds insuring the Company or any of its subsidiaries or their respective businesses, assets, employees, officers and directors are in full force and effect; the Company and its subsidiaries are in compliance with the terms of such policies and instruments in all material respects; and there are no claims by the Company or any of its subsidiaries under any such policy or instrument as to which any insurance company is denying liability or defending under a reservation of rights clause; neither the Company nor any such subsidiary has been refused any material insurance coverage sought or applied for; neither the Company nor any such subsidiary has any reason to believe that it will not be able to renew its existing insurance coverage as and when such coverage expires or to obtain similar coverage from similar insurers as may be necessary to continue its business at a cost that would not have a Material Adverse Effect, except as set forth in or contemplated in the General Disclosure Package; and the Company will obtain directors' and officer's insurance in such amounts as is customary for an initial public offering.

(xxxix) *Employee Benefit Plans*. (A) The Company has not incurred, nor is it not reasonably expected to incur, any material liability related to a "prohibited transaction" as defined under Section 406 of ERISA or Section 4975 of the United States Internal Revenue Code of 1986, as amended, including the regulations and published interpretations thereunder (the "**Code**"), and not exempt under ERISA Section 408 and the regulations and published interpretations thereunder with respect to any Employee Benefit Plan. At no time has the Company or any ERISA Affiliate maintained, sponsored, participated in, contributed to or has or had any liability or obligation in respect of any Employee Benefit Plan subject to Part 3 of Subtitle B of Title I of ERISA, Title IV of ERISA, or Section 412 of the Code or any "multiemployer plan" as defined in Section 3(37) of ERISA or any multiple employer plan for which the Company or any ERISA Affiliate has incurred or could incur a liability under Section 4063 or 4064 of ERISA. No Employee Benefit Plan provides or promises, or at any time provided or promised, retiree health, life insurance, or other retiree welfare benefits except as may be required by the Consolidated Omnibus Budget Reconciliation Act of 1985, as amended, or similar state or foreign law. Each Employee Benefit Plan is and has been operated in material compliance with its terms and all applicable laws, including but not limited to ERISA and the Code and no event has occurred (including a "reportable event" as such term is defined in Section 4043 of ERISA) and no condition exists that would subject the Company or any ERISA Affiliate to any material tax, fine, lien, penalty or liability imposed by ERISA, the Code or other applicable law. Each Employee Benefit Plan intended to be qualified under Code Section 401(a) has obtained a favorable determination or opinion letter from the U.S. Internal Revenue Service upon which it can rely or has applied (or has time remaining in which to apply) to the U.S. Internal Revenue Service for such a determination or opinion letter prior to the expiration of the requisite period under applicable regulations or pronouncements in which to apply for such determination letter and to make any amendments necessary to obtain a favorable determination or opinion, and any such determination or opinion letter remains in effect and has not been revoked; nothing has occurred since the date of any such determination or opinion letter that is reasonably likely to adversely affect such qualification. (B) With respect to each Foreign Benefit Plan, such Foreign Benefit Plan (1) if intended to qualify for special tax treatment, meets all material requirements for such treatment, and (2) if required by applicable law to be funded is funded to the level required by law

(including, without limitation, through the purchase of appropriate insurance coverage), and with respect to all other Foreign Benefit Plans for which applicable accounting standards require the establishment of reserves, adequate reserves as determined under such accounting standards have been established on the accounting statements of the applicable Company or subsidiary. (C) The Company does not have any obligations under any collective bargaining agreement with any union and no organization efforts are underway or, to the knowledge of the Company, threatened with respect to Company employees. As used in this Agreement, "**Employee Benefit Plan**" means any "employee benefit plan" within the meaning of Section 3(3) of ERISA, including, without limitation, all stock purchase, stock option, stock-based severance, employment, change-in-control, medical, disability, fringe benefit, bonus, incentive, deferred compensation, employee loan and all other employee benefit plans, agreements, programs, policies or other arrangements, whether or not subject to ERISA, under which (1) any current or former employee, director or independent contractor of the Company or its subsidiaries has any present or future right to benefits and which are contributed to, sponsored by or maintained by the Company or any of its respective subsidiaries or (2) the Company or any of its subsidiaries has had or has any present or future obligation or liability; "**ERISA**" means the Employee Retirement Income Security Act of 1974, as amended, including the regulations and published interpretations thereunder; "**ERISA Affiliate**" means any member of the company's controlled group as defined in Code Section 414(b), (c), (m) or (o); and "**Foreign Benefit Plan**" means any Employee Benefit Plan established, maintained or contributed to outside of the United States of America or which covers any employee working or residing outside of the United States.

(xxxx) *Stock Option Awards*. All stock option and other equity or equity-linked awards granted by the Company have been appropriately authorized by the Board or a duly authorized committee thereof, including approval of the exercise or purchase price or the methodology for determining the exercise or purchase price and the substantive terms of the stock option, equity or equity-linked awards, as the case may be; no stock options granted to employees in the United States are subject to Section 409A of the Code; no stock option, equity or equity-linked awards granted by the Company have been retroactively granted, or the exercise or purchase price of any stock option, equity or equity-linked award determined retroactively; there is no action, suit, proceeding, formal inquiry or formal investigation before or brought by any court or governmental agency or body, domestic or foreign, now pending, or, to the knowledge of the Company, threatened, against or affecting the Company in connection with any stock option, equity or equity-linked awards granted by the Company.

(xxxxi) *Material Contracts.* There is no franchise, lease, contract, agreement or other document required by the Act or by the Rules and Regulations to be described in the General Disclosure Package or to be filed as an exhibit to the Registration Statement which is not described or filed therein as required. Other than as described in the General Disclosure Package, no such franchise, lease, contract, agreement or other document has been suspended or terminated for convenience or default by the Company or any of the other parties thereto, and the Company has not received notice of any such pending or threatened suspension or termination, except for such pending or threatened suspensions or terminations that would not reasonably be expected to, individually or in the aggregate, have a Material Adverse Effect.

(xxxxii) *FINRA Affiliations*. There are no affiliations with the Financial Industry Regulatory Authority, Inc. (the "**FINRA**") among the Company's officers, directors or, to the knowledge of the Company, any five percent or greater stockholder of the Company or any beneficial owner of the Company's unregistered equity securities that were acquired during the 180-day period immediately preceding the initial filing date of the Registration Statement, except as disclosed in writing to the Underwriters.

(xxxxiii) *Related Party Transactions*. There are no outstanding loans, advances (except normal advances for business expenses in the ordinary course of business) or guarantees of indebtedness by the Company to or for the benefit of any of the officers or directors of the Company or any of their respective family members. The Company has not, directly or indirectly, including through its subsidiaries, extended or maintained credit, arranged for the extension of credit, or renewed an extension of credit, in the form of a personal loan to or for any director or executive officer of the Company, other than any extensions of credit that ceased to be outstanding prior to the initial filing of the Registration Statement. No transaction has occurred between or among the Company and any of its officers or directors, stockholders, customers,

suppliers or any affiliate or affiliates of the foregoing that is required to be described in or filed as an exhibit to the Registration Statement, the General Disclosure Package or the Final Prospectus and is not so described or filed.

(xxxxiv) *Recent Sale of Securities.* Except as described in the Registration Statement and the General Disclosure Package, the Company has not sold, issued or distributed any shares of Common Stock during the six-month period preceding the date hereof, including any sales pursuant to Rule 144A under, or Regulation D or S of, the Act, other than shares issued pursuant to employee benefit plans, qualified stock option plans or other employee compensation plans or pursuant to outstanding options, rights or warrants.

3. *Purchase, Sale and Delivery of Offered Securities.* On the basis of the representations, warranties and agreements and subject to the terms and conditions set forth herein, the Company agrees to sell to each Underwriter, and each Underwriter agrees, severally and not jointly, to purchase from the Company, at a purchase price of $____ per share, the number of Firm Securities set forth opposite the name of such Underwriter in Schedule A hereto.

The Company will deliver the Firm Securities to or as instructed by the Representatives for the accounts of the several Underwriters in a form reasonably acceptable to the Representatives, against payment of the purchase price by the Underwriters in Federal (same day) funds by wire transfer to an account at a bank acceptable to the Lead Representative drawn to the order of the Company, at the office of Latham & Watkins LLP, 140 Scott Drive, Menlo Park, CA 94025, at __ : __ A.M. (New York time), on _____, 2010, or at such other time not later than seven full business days thereafter as the Lead Representative and the Company determine, such time being herein referred to as the "**First Closing Date**." For purposes of Rule 15c6-1 under the Exchange Act, the First Closing Date (if later than the otherwise applicable settlement date) shall be the settlement date for payment of funds and delivery of securities for all the Offered Securities sold pursuant to the offering. The Firm Securities so to be delivered or evidence of their issuance will be made available for checking at the above office of Latham & Watkins LLP at least 24 hours prior to the First Closing Date.

In addition, upon written notice from the Lead Representative given to the Company from time to time not more than 30 days subsequent to the date of the Final Prospectus, the Underwriters may purchase all or less than all of the Optional Securities at the purchase price per Security to be paid for the Firm Securities. The Company agrees to sell to the Underwriters the number of shares of Optional Securities specified in such notice. Such Optional Securities shall be purchased for the account of each Underwriter in the same proportion as the number of Firm Securities set forth opposite such Underwriter's name bears to the total number of shares of Firm Securities (subject to adjustment by the Lead Representative to eliminate fractions). No Optional Securities shall be sold or delivered unless the Firm Securities previously have been, or simultaneously are, sold and delivered. The right to purchase the Optional Securities or any portion thereof may be exercised from time to time and to the extent not previously exercised may be surrendered and terminated at any time upon notice by the Lead Representative to the Company.

Each time for the delivery of and payment for the Optional Securities, being herein referred to as an "**Optional Closing Date**", which may be the First Closing Date (the First Closing Date and each Optional Closing Date, if any, being sometimes referred to as a "**Closing Date**"), shall be determined by the Lead Representative but shall be not later than five full business days after written notice of election to purchase Optional Securities is given. The Company will deliver the Optional Securities being purchased on each Optional Closing Date to or as instructed by the Representatives for the accounts of the several Underwriters, in a form reasonably acceptable to the Representatives against payment of the purchase price therefore in Federal (same day) funds by wire transfer to an account at a bank acceptable to the Lead Representative drawn to the order of the Company, at the above office of Latham & Watkins LLP. The Optional Securities being purchased on each Optional Closing Date or evidence of their issuance will be made available for checking at the above office of Latham & Watkins LLP at a reasonable time in advance of such Optional Closing Date.

4. *Offering by Underwriters.* It is understood that the several Underwriters propose to offer the Offered Securities for sale to the public as set forth in the Final Prospectus.

5. *Certain Agreements of the Company.* The Company agrees with the several Underwriters that:

(i) *Additional Filings.* Unless filed pursuant to Rule 462(c) as part of the Additional Registration

Statement in accordance with the last sentence of this Section 5(a), the Company will file the Final Prospectus, in a form approved by the Lead Representative, with the Commission pursuant to and in accordance with subparagraph (1) (or, if applicable and if consented to by the Lead Representative, subparagraph (4)) of Rule 424(b) not later than the earlier of (A) the second business day following the execution and delivery of this Agreement or (B) the fifteenth business day after the Effective Time of the Initial Registration Statement. The Company will advise the Lead Representative promptly of any such filing pursuant to Rule 424(b) and provide satisfactory evidence to the Lead Representative of such timely filing. If an Additional Registration Statement is necessary to register a portion of the Offered Securities under the Act but the Effective Time thereof has not occurred as of the execution and delivery of this Agreement, the Company will file the Additional Registration Statement or, if filed, will file a post-effective amendment thereto with the Commission pursuant to and in accordance with Rule 462(b) on or prior to 10:00 P.M. (New York time) on the date of this Agreement or, if earlier, on or prior to the time the Final Prospectus is finalized and distributed to any Underwriter, or will make such filing at such later date as shall have been consented to by the Lead Representative.

(ii) *Filing of Amendments: Response to Commission Requests.* The Company will promptly advise the Representatives of any proposal to amend or supplement at any time the Initial Registration Statement, any Additional Registration Statement or any Statutory Prospectus and will not effect such amendment or supplement without the Lead Representative's consent; and the Company will also advise the Representatives promptly of (i) the effectiveness of any Additional Registration Statement (if its Effective Time is subsequent to the execution and delivery of this Agreement), (ii) any amendment or supplement to a Registration Statement or any Statutory Prospectus, (iii) any request by the Commission or its staff for any amendment to any Registration Statement, for any supplement to any Statutory Prospectus or for any additional information, (iv) the institution by the Commission of any stop order proceedings in respect of a Registration Statement or the threatening of any proceeding for that purpose, (v) the receipt by the Company of any notification with respect to the suspension of the qualification of the Offered Securities in any jurisdiction or the institution or threatening of any proceedings or examinations for such purpose, and (vi) the receipt by the Company of any notification from the Commission objecting to the use of the form of the Registration Statement or any post-effective amendment thereto. The Company will use its best efforts to prevent the issuance of any such stop order or the suspension of any such qualification and, if issued, to obtain as soon as possible the withdrawal thereof.

(iii) *Continued Compliance with Securities Laws.* If, at any time when a prospectus relating to the Offered Securities is (or but for the exemption in Rule 172 would be) required to be delivered under the Act by any Underwriter or dealer, any event occurs as a result of which the Final Prospectus as then amended or supplemented would include an untrue statement of a material fact or omit to state any material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading, or if it is necessary at any time to amend the Registration Statement or supplement the Final Prospectus to comply with the Act, the Company will promptly notify the Lead Representative of such event and will promptly prepare and file with the Commission and furnish, at its own expense, to the Underwriters and the dealers and any other dealers upon request of the Lead Representative, an amendment or supplement which will correct such statement or omission or an amendment which will effect such compliance. Neither the Lead Representative's consent to, nor the Underwriters' delivery of, any such amendment or supplement shall constitute a waiver of any of the conditions set forth in Section 7 hereof.

(iv) *Rule 158.* As soon as practicable, but not later than the Availability Date (as defined below), the Company will make generally available to its security holders an earnings statement covering a period of at least 12 months beginning after the Effective Time of the Initial Registration Statement (or, if later, the Effective Time of the Additional Registration Statement) which will satisfy the provisions of Section 11(a) of the Act and Rule 158 under the Act. For the purpose of the preceding sentence, "**Availability Date**" means the day after the end of the fourth fiscal quarter following the fiscal quarter that includes such Effective Time on which the Company is required to file its Form 10-Q for such fiscal quarter except that, if such fourth fiscal quarter is the last quarter of the Company's fiscal year, "Availability Date" means the day after the end of such fourth fiscal quarter on which the Company is required to file its Form 10-K.

(v) *Furnishing of Prospectuses.* The Company will furnish to the Representatives copies of each

Registration Statement (six (6) of which will be signed and will include all exhibits), each related Statutory Prospectus, and, so long as a prospectus relating to the Offered Securities is (or but for the exemption in Rule 172 would be) required to be delivered under the Act, the Final Prospectus and all amendments and supplements to such documents, in each case in such quantities as the Representatives request. The Final Prospectus shall be so furnished on or prior to 3:00 P.M. (New York time), on the business day following the execution and delivery of this Agreement. All other such documents shall be so furnished as soon as available. The Company will pay the expenses of printing and distributing to the Underwriters all such documents.

(vi) *Blue Sky Qualifications.* The Company will arrange for the qualification of the Offered Securities for sale under the laws of such jurisdictions as the Representatives designate and will continue such qualifications in effect so long as required for the distribution.

(vii) *Reporting Requirements.* During the period of five (5) years hereafter, the Company will furnish to the Representatives and, upon request, to each of the other Underwriters, as soon as practicable after the end of each fiscal year, a copy of its annual report to stockholders for such year; and the Company will furnish to the Representatives (i) as soon as available, a copy of each report and any definitive proxy statement of the Company filed with the Commission under the Exchange Act or mailed to stockholders, and (ii) from time to time, such other information concerning the Company as the Lead Representative may reasonably request. However, so long as the Company is subject to the reporting requirements of either Section 13 or Section 15(d) of the Exchange Act and is timely filing reports with the Commission on its Electronic Data Gathering, Analysis and Retrieval system ("**EDGAR**"), it is not required to furnish any such reports, statements or other information available on EDGAR to the Underwriters.

(viii) *Payment of Expenses.* The Company agrees with the several Underwriters that the Company will pay all expenses incident to the performance of the obligations of the Company under this Agreement, including but not limited to any filing fees and other expenses (including fees and disbursements of counsel to the Underwriters) incurred in connection with qualification of the Offered Securities for sale under the laws of such jurisdictions as the Representatives designate and the preparation and printing of memoranda relating thereto, costs and expenses related to the review by the FINRA of the Offered Securities (including filing fees and the fees and expenses of counsel for the Underwriters relating to such review), costs and expenses relating to investor presentations or any "road show" in connection with the offering and sale of the Offered Securities including, without limitation, any travel expenses of the Company's officers and employees and any other expenses of the Company including the chartering of airplanes (provided, however, that the Company shall pay 50% of the costs and expenses of any aircraft chartered in connection with the road show, and the several Underwriters shall pay 50% of the costs and expenses of such chartered aircraft), fees and expenses incident to listing the Offered Securities on The NASDAQ Global Market and other national and foreign exchanges, fees and expenses in connection with the registration of the Offered Securities under the Exchange Act, and expenses incurred in distributing preliminary prospectuses and the Final Prospectus (including any amendments and supplements thereto) to the Underwriters and for expenses incurred for preparing, printing and distributing any Issuer Free Writing Prospectuses to investors or prospective investors.

(ix) *Use of Proceeds.* The Company will use the net proceeds received by it in connection with this offering in the manner described in the "Use of Proceeds" section of the General Disclosure Package and the Company does not intend to use any of the proceeds from the sale of the Offered Securities hereunder to repay any outstanding debt owed to any affiliate of any Underwriter.

(x) *Absence of Manipulation.* The Company will not take, directly or indirectly, any action designed to or that would constitute or that might reasonably be expected to cause or result in, stabilization or manipulation of the price of any securities of the Company to facilitate the sale or resale of the Offered Securities.

(xi) *Restriction on Sale of Securities by Company.* For the period specified below (the "**Lock-Up Period**"), the Company will not, directly or indirectly, take any of the following actions with respect to its Securities or any securities convertible into or exchangeable or exercisable for any of its Securities ("**Lock-Up Securities**"): (i) offer, sell, issue, contract to sell, pledge or otherwise dispose of Lock-Up Securities,

(ii) offer, sell, issue, contract to sell, contract to purchase or grant any option, right or warrant to purchase Lock-Up Securities, (iii) enter into any swap, hedge or any other agreement that transfers, in whole or in part, the economic consequences of ownership of Lock-Up Securities, (iv) establish or increase a put equivalent position or liquidate or decrease a call equivalent position in Lock-Up Securities within the meaning of Section 16 of the Exchange Act or (v) file with the Commission a registration statement under the Act relating to Lock-Up Securities (except for a registration statement on Form S-8 to register shares issuable upon exercise of options granted pursuant to the terms of a plan in effect on the date of this Agreement), or publicly disclose the intention to take any such action, without the prior written consent of the Lead Representative, except issuances of Lock-Up Securities pursuant to the conversion or exchange of convertible or exchangeable securities or the exercise of warrants or options, in each case outstanding on the date hereof, grants of employee stock options pursuant to the terms of a plan in effect on the date hereof and issuances of Lock-Up Securities pursuant to the exercise of such options and the issuance of up to 5% of the total Securities outstanding on the date hereof in connection with the *bona fide* acquisition of one or more entities or all or substantially all of the assets of one or more entities provided that each transferee agrees to be bound in writing at or prior to such issuance by the terms of a lock-up letter on the same terms as the lock-up letters executed by the security holders of the Company in connection with this Agreement for the duration of the Lock-Up Period. The initial Lock-Up Period will commence on the date hereof and continue for one hundred and eighty (180) days after the date hereof or such earlier date that the Lead Representative consents to in writing; provided, however, that if (1) during the last 17 days of the initial Lock-Up Period, the Company releases earnings results or material news or a material event relating to the Company occurs or (2) prior to the expiration of the initial Lock-Up Period, the Company announces that it will release earnings results during the 16-day period beginning on the last day of the initial Lock-Up Period, then in each case the Lock-Up Period will be extended until the expiration of the 18-day period beginning on the date of release of the earnings results or the occurrence of the materials news or material event, as applicable, unless the Lead Representative waives, in writing, such extension. The Company will provide the Lead Representative with notice of any announcement described in clause (2) of the preceding sentence that gives rise to an extension of the Lock-Up Period.

6. *Free Writing Prospectuses*. The Company represents and agrees that, unless it obtains the prior consent of the Lead Representative (such consent not to be unreasonably withheld), and each Underwriter represents and agrees that, unless it obtains the prior consent of the Company and the Lead Representative (such consent not to be unreasonably withheld), it has not made and will not make any offer relating to the Offered Securities that would constitute an Issuer Free Writing Prospectus, or that would otherwise constitute a "free writing prospectus," as defined in Rule 405, required to be filed with the Commission. Any such free writing prospectus consented to by the Company and the Lead Representative is hereinafter referred to as a "**Permitted Free Writing Prospectus**." The Company represents that it has treated and agrees that it will treat each Permitted Free Writing Prospectus as an "issuer free writing prospectus," as defined in Rule 433, and has complied and will comply with the requirements of Rules 164 and 433 applicable to any Permitted Free Writing Prospectus, including timely Commission filing where required, legending and record keeping. The Company represents that is has satisfied and agrees that it will satisfy the applicable conditions in Rule 433 to avoid a requirement to file with the Commission any electronic road show.

7. *Conditions of the Obligations of the Underwriters.* The obligations of the several Underwriters to purchase and pay for the Firm Securities on the First Closing Date and the Optional Securities to be purchased on each Optional Closing Date will be subject to the accuracy of the representations and warranties of the Company herein (as though made on such Closing Date), to the accuracy of the statements of Company officers made pursuant to the provisions hereof, to the performance by the Company of its obligations hereunder and to the following additional conditions precedent:

(a) *Accountants' Comfort Letter.* The Representatives shall have received letters, dated, respectively, the date hereof and such Closing Date, of Ernst & Young LLP confirming that they are a registered public accounting firm and independent public accountants within the meaning of the Securities Laws and substantially in the form of Schedule C hereto (except that, in any letter dated a Closing Date, the specified date referred to in Schedule C hereto shall be a date no more than three days prior to such Closing Date).

(b) *Effectiveness of Registration Statement.* If the Effective Time of the Additional Registration

Statement (if any) is not prior to the execution and delivery of this Agreement, such Effective Time shall have occurred not later than 10:00 P.M. (New York time), on the date of this Agreement or, if earlier, the time the Final Prospectus is finalized and distributed to any Underwriter, or shall have occurred at such later time as shall have been consented to by the Lead Representative. The Final Prospectus shall have been filed with the Commission in accordance with the Rules and Regulations and Section 5(a) hereof. Prior to such Closing Date, no stop order suspending the effectiveness of a Registration Statement shall have been issued and no proceedings for that purpose shall have been instituted or, to the knowledge of the Company or the Representatives, shall be contemplated by the Commission.

(c) *No Material Adverse Change.* Subsequent to the execution and delivery of this Agreement, there shall not have occurred (i) any change, or any development or event involving a prospective change, in the condition (financial or otherwise), results of operations, business, properties or prospects of the Company and its subsidiaries taken as a whole which, in the judgment of the Representatives, is material and adverse and makes it impractical or inadvisable to market the Offered Securities; (ii) any downgrading in the rating of any debt securities or preferred stock of the Company by any "nationally recognized statistical rating organization" (as defined for purposes of Rule 436(g)), or any public announcement that any such organization has under surveillance or review its rating of any debt securities or preferred stock of the Company (other than an announcement with positive implications of a possible upgrading, and no implication of a possible downgrading, of such rating); (iii) any change in U.S. or international financial, political or economic conditions or currency exchange rates or exchange controls the effect of which is such as to make it, in the judgment of the Representatives, impractical to market or to enforce contracts for the sale of the Offered Securities, whether in the primary market or in respect of dealings in the secondary market; (iv) any suspension or material limitation of trading in securities generally on The NASDAQ Global Market or The New York Stock Exchange, or any setting of minimum or maximum prices for trading on such exchange; (v) or any suspension of trading of any securities of the Company on any exchange or in the over-the-counter market; (vi) any banking moratorium declared by any U.S. federal or New York authorities; (vii) any major disruption of settlements of securities, payment or clearance services in the United States or any other country where such securities are listed; or (viii) any attack on, outbreak or escalation of hostilities or act of terrorism involving the United States, any declaration of war by Congress or any other national or international calamity or emergency if, in the judgment of the Representatives, the effect of any such attack, outbreak, escalation, act, declaration, calamity or emergency is such as to make it impractical or inadvisable to market the Offered Securities or to enforce contracts for the sale of the Offered Securities.

(d) *Opinion of Counsel for the Company.* The Representatives shall have received an opinion, dated such Closing Date, of Latham & Watkins LLP, counsel for the Company, in substantially the form attached hereto as Exhibit A.

(e) *Opinion of Patent Counsel for the Company.* The Representatives shall have received an opinion, dated such Closing Date, of (i) Dechert LLP, patent counsel for the Company, in substantially the form attached hereto as Exhibit B, and (ii) Finnegan, Henderson, Farabow, Garrett & Dunner, LLP, patent counsel for the Company, in substantially the form attached hereto as Exhibit C.

(f) *Opinion of Counsel for Underwriters.* The Representatives shall have received from Wilson Sonsini Goodrich & Rosati, Professional Corporation, counsel for the Underwriters, such opinion or opinions, dated such Closing Date, with respect to such matters as the Representatives may reasonably require, and the Company shall have furnished to such counsel such documents as they request for the purpose of enabling them to pass upon such matters.

(g) *Officer's Certificate.* The Representatives shall have received a certificate, dated such Closing Date, of an executive officer of the Company and a principal financial or accounting officer of the Company in which such officers shall state that: the representations and warranties of the Company in this Agreement are true and correct; the Company has complied with all agreements and satisfied all conditions on its part to be performed or satisfied hereunder at or prior to such Closing Date; no stop order suspending the effectiveness of any Registration Statement has been issued and no proceedings for that purpose have been instituted or, to the best of their knowledge and after reasonable investigation, are contemplated by the Commission; the Additional Registration Statement (if any) satisfying the applicable requirements of

subparagraphs (1) and (3) of Rule 462(b) was timely filed pursuant to Rule 462(b), including payment of the applicable filing fee in accordance with Rule 111(a) or (b) of Regulation S-T of the Commission; and, subsequent to the date of the most recent financial statements in the General Disclosure Package, there has been no material adverse change, nor any development or event involving a prospective material adverse change, in the condition (financial or otherwise), results of operations, business, properties or prospects of the Company and its subsidiaries, taken as a whole, except as set forth in the General Disclosure Package or as described in such certificate.

(h) *Lock-Up Agreements.* On or prior to the date hereof, the Representatives shall have received lockup letters from each of the executive officers and directors, and each of the security holders of the Company holding __% of the outstanding capital stock of the Company, on a fully diluted basis.

(i) *Listing*. The Offered Securities have been approved for listing on The NASDAQ Global Market.

The Company will furnish the Representatives and their counsel with such conformed copies of such opinions, certificates, letters and documents as the Representatives or their counsel reasonably request. The Lead Representative may in its sole discretion waive on behalf of the Underwriters compliance with any conditions to the obligations of the Underwriters hereunder, whether in respect of an Optional Closing Date or otherwise.

8. *Indemnification and Contribution.* (a) *Indemnification of Underwriters by Company.* The Company will indemnify and hold harmless each Underwriter, its partners, members, directors, officers, employees, agents, affiliates and each person, if any, who controls such Underwriter within the meaning of Section 15 of the Act or Section 20 of the Exchange Act (each an "**Indemnified Party**"), against any and all losses, claims, damages or liabilities, joint or several, to which such Indemnified Party may become subject, under the Act, the Exchange Act, other Federal or state statutory law or regulation or otherwise, insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon any untrue statement or alleged untrue statement of any material fact contained in any part of any Registration Statement at any time, any Statutory Prospectus as of any time, the Final Prospectus or any Issuer Free Writing Prospectus, or arise out of or are based upon the omission or alleged omission of a material fact required to be stated therein or necessary to make the statements therein not misleading, and will reimburse each Indemnified Party for any legal or other expenses reasonably incurred by such Indemnified Party in connection with investigating or defending against any loss, claim, damage, liability, action, litigation, investigation or proceeding whatsoever (whether or not such Indemnified Party is a party thereto), whether threatened or commenced, and in connection with the enforcement of this provision with respect to any of the above as such expenses are incurred; provided, however, that the Company will not be liable in any such case to the extent that any such loss, claim, damage or liability arises out of or is based upon an untrue statement or alleged untrue statement in or omission or alleged omission from any of such documents in reliance upon and in conformity with written information furnished to the Company by any Underwriter through the Representatives specifically for use therein, it being understood and agreed that the only such information furnished by any Underwriter consists of the information described as such in subsection (b) below.

(b) *Indemnification of Company.* Each Underwriter will severally and not jointly indemnify and hold harmless the Company, each of its directors and each of its officers who signs a Registration Statement and each person, if any, who controls the Company within the meaning of Section 15 of the Act or Section 20 of the Exchange Act (each, an "**Underwriter Indemnified Party**") against any losses, claims, damages or liabilities to which such Underwriter Indemnified Party may become subject, under the Act, the Exchange Act, or other Federal or state statutory law or regulation or otherwise, insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon any untrue statement or alleged untrue statement of any material fact contained in any Registration Statement at any time, any Statutory Prospectus at any time, the Final Prospectus or any Issuer Free Writing Prospectus or arise out of or are based upon the omission or the alleged omission of a material fact required to be stated therein or necessary to make the statements therein not misleading, in each case to the extent, but only to the extent, that such untrue statement or alleged untrue statement or omission or alleged omission was made in reliance upon and in conformity with written information furnished to the Company by such Underwriter through the Representatives specifically for use therein, and will reimburse any legal or other expenses reasonably incurred by such Underwriter Indemnified Party in connection with investigating or defending against any such loss, claim, damage, liability, action, litigation, investigation or proceeding whatsoever (whether or not such Underwriter Indemnified Party is a party thereto), whether threatened or commenced, based upon any such untrue statement or omission, or any such

alleged untrue statement or omission as such expenses are incurred, it being understood and agreed that the only such information furnished by any Underwriter consists of the following information under the heading "Underwriting" in the Final Prospectus furnished on behalf of each Underwriter: the concession and reallowance figures appearing in the _____ paragraph thereunder, and the information relating to stabilizing transactions, syndicate covering transactions and penalty bids contained in the____ paragraph thereunder.

(c) *Actions against Parties; Notification.* Promptly after receipt by an indemnified party under this Section 8 of notice of the commencement of any action, such indemnified party will, if a claim in respect thereof is to be made against an indemnifying party under subsection (a) or (b) above, notify the indemnifying party of the commencement thereof; but the failure to notify the indemnifying party shall not relieve it from any liability that it may have under subsection (a) or (b) above except to the extent that it has been materially prejudiced (through the forfeiture of substantive rights or defenses) by such failure; and provided further that the failure to notify the indemnifying party shall not relieve it from any liability that it may have to an indemnified party otherwise than under subsection (a) or (b) above. In case any such action is brought against any indemnified party and it notifies an indemnifying party of the commencement thereof, the indemnifying party will be entitled to participate therein and, to the extent that it may wish, jointly with any other indemnifying party similarly notified, to assume the defense thereof, with counsel satisfactory to such indemnified party (who shall not, except with the consent of the indemnified party, be counsel to the indemnifying party), and after notice from the indemnifying party to such indemnified party of its election so to assume the defense thereof, the indemnifying party will not be liable to such indemnified party under this Section 8 for any legal or other expenses subsequently incurred by such indemnified party in connection with the defense thereof other than reasonable costs of investigation. No indemnifying party shall, without the prior written consent of the indemnified party, effect any settlement of any pending or threatened action in respect of which any indemnified party is or could have been a party and indemnity could have been sought hereunder by such indemnified party unless such settlement (i) includes an unconditional release of such indemnified party from all liability on any claims that are the subject matter of such action and (ii) does not include a statement as to, or an admission of, fault, culpability or a failure to act by or on behalf of an indemnified party.

(d) *Contribution.* If the indemnification provided for in this Section 8 is unavailable or insufficient to hold harmless an indemnified party under subsection (a) or (b) above, then each indemnifying party shall contribute to the amount paid or payable by such indemnified party as a result of the losses, claims, damages or liabilities referred to in subsection (a) or (b) above (i) in such proportion as is appropriate to reflect the relative benefits received by the Company on the one hand and the Underwriters on the other from the offering of the Securities or (ii) if the allocation provided by clause (i) above is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause (i) above but also the relative fault of the Company on the one hand and the Underwriters on the other in connection with the statements or omissions which resulted in such losses, claims, damages or liabilities as well as any other relevant equitable considerations. The relative benefits received by the Company on the one hand and the Underwriters on the other shall be deemed to be in the same proportion as the total net proceeds from the offering (before deducting expenses) received by the Company bear to the total underwriting discounts and commissions received by the Underwriters. The relative fault shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission or alleged omission to state a material fact relates to information supplied by the Company or the Underwriters and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such untrue statement or omission. The amount paid by an indemnified party as a result of the losses, claims, damages or liabilities referred to in the first sentence of this subsection (d) shall be deemed to include any legal or other expenses reasonably incurred by such indemnified party in connection with investigating or defending any action or claim which is the subject of this subsection (d). Notwithstanding the provisions of this subsection (d), no Underwriter shall be required to contribute any amount in excess of the amount by which the total price at which the Securities underwritten by it and distributed to the public were offered to the public exceeds the amount of any damages which such Underwriter has otherwise been required to pay by reason of such untrue or alleged untrue statement or omission or alleged omission. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. The Underwriters' obligations in this subsection (d) to contribute are several in proportion to their respective underwriting obligations and not joint. The Company and the Underwriters agree that it would not be just and equitable if contribution pursuant to this Section 8(d) were determined by pro rata allocation (even if the Underwriters were treated as one entity for such purpose) or by any other method of allocation which does not take account of the equitable considerations referred to in this Section 8(d).

9. *Default of Underwriters*. If any Underwriter or Underwriters default in their obligations to purchase Offered Securities hereunder on either the First or any Optional Closing Date and the aggregate number of shares of Offered Securities that such defaulting Underwriter or Underwriters agreed but failed to purchase does not exceed 10% of the total number of shares of Offered Securities that the Underwriters are obligated to purchase on such Closing Date, the Lead Representative may make arrangements satisfactory to the Company for the purchase of such Offered Securities by other persons, including any of the Underwriters, but if no such arrangements are made by such Closing Date, the non-defaulting Underwriters shall be obligated severally, in proportion to their respective commitments hereunder, to purchase the Offered Securities that such defaulting Underwriters agreed but failed to purchase on such Closing Date. If any Underwriter or Underwriters so default and the aggregate number of shares of Offered Securities with respect to which such default or defaults occur exceeds 10% of the total number of shares of Offered Securities that the Underwriters are obligated to purchase on such Closing Date and arrangements satisfactory to the Lead Representative, the Company for the purchase of such Offered Securities by other persons are not made within 36 hours after such default, this Agreement will terminate without liability on the part of any non-defaulting Underwriter or the Company, except as provided in Section 10 (provided that if such default occurs with respect to Optional Securities after the First Closing Date, this Agreement will not terminate as to the Firm Securities or any Optional Securities purchased prior to such termination). As used in this Agreement, the term "Underwriter" includes any person substituted for an Underwriter under this Section 9. Nothing herein will relieve a defaulting Underwriter from liability for its default.

10. *Survival of Certain Representations and Obligations.* The respective indemnities, agreements, representations, warranties and other statements of the Company or its officers and of the several Underwriters set forth in or made pursuant to this Agreement will remain in full force and effect, regardless of any investigation, or statement as to the results thereof, made by or on behalf of any Underwriter, the Company or any of their respective representatives, officers or directors or any controlling person, and will survive delivery of and payment for the Offered Securities. If the purchase of the Offered Securities by the Underwriters is not consummated for any reason other than solely because of the termination of this Agreement pursuant to Section 9 hereof, the Company will reimburse the Underwriters for all out-of-pocket expenses (including fees and disbursements of counsel) reasonably incurred by them in connection with the offering of the Offered Securities, and the respective obligations of the Company and the Underwriters pursuant to Section 8 hereof shall remain in effect. In addition, if any Offered Securities have been purchased hereunder, the representations and warranties in Section 2 and all obligations under Section 5 shall also remain in effect.

11. *Notices*. All communications hereunder will be in writing and, if sent to the Underwriters, will be mailed, delivered or telegraphed and confirmed to the Representatives, c/o Credit Suisse Securities (USA) LLC, Eleven Madison Avenue, New York, NY 10010-3629, Attention: LCD-IBD, or, if sent to the Company, will be mailed, delivered or telegraphed and confirmed to it at 200 Penobscot Drive, Redwood City, CA 94063, Attention: Chief Financial Officer (Facsimile No. (650) 421-8137); provided, however, that any notice to an Underwriter pursuant to Section 8 will be mailed, delivered or telegraphed and confirmed to such Underwriter.

12. *Successors*. This Agreement shall be binding upon, and inure solely to the benefit of, the Underwriters, the Company and, to the extent provided in Section 7 hereof, the officers and directors of the Company and each person who controls the Company or any Underwriter, and their respective heirs, executors, administrators, successors and assigns, and no other person shall acquire or have any right under or by virtue of this Agreement. No purchaser of any of the Securities from any Underwriter shall be deemed a successor or assign by reason merely of such purchase.

13. *Representation*. The Representatives will act for the several Underwriters in connection with the transactions contemplated by this Agreement, and any action under this Agreement taken by the Representatives jointly or by the Lead Representative will be binding upon all the Underwriters.

14. *Counterparts*. This Agreement may be executed in any number of counterparts, each of which shall be deemed to be an original, but all such counterparts shall together constitute one and the same Agreement.

15. *Absence of Fiduciary Relationship.* The Company acknowledges and agrees that:

(a) *No Other Relationship.* The Representatives have been retained solely to act as underwriters in connection with the sale of the Offered Securities and that no fiduciary, advisory or agency relationship between the Company, on the one hand, and the Representatives, on the other, has been created in respect of any of the transactions contemplated by this Agreement or the Final Prospectus, irrespective of whether the Representatives have advised or is advising the Company on other matters;

(b) *Arms' Length Negotiations.* The price of the Offered Securities set forth in this Agreement was established by the Company following discussions and arms-length negotiations with the Representatives and the Company is capable of evaluating and understanding and understand and accept the terms, risks and conditions of the transactions contemplated by this Agreement;

(c) *Absence of Obligation to Disclose.* The Company has been advised that the Representatives and its affiliates are engaged in a broad range of transactions which may involve interests that differ from those of the Company and that the Representatives have no obligation to disclose such interests and transactions to the Company by virtue of any fiduciary, advisory or agency relationship; and

(d) *Waiver.* The Company waives, to the fullest extent permitted by law, any claims it may have against the Representatives for breach of fiduciary duty or alleged breach of fiduciary duty and agree that the Representatives shall have no liability (whether direct or indirect) to the Company in respect of such a fiduciary duty claim or to any person asserting a fiduciary duty claim on behalf of or in right of the Company, including stockholders, employees or creditors of the Company.

16. *Prior Agreements.* This Agreement supersedes all prior agreements and understandings (whether written or oral) between the Company and the Underwriters, or any of them, with respect to the subject matter hereof.

17. *Applicable Law*. This Agreement shall be governed by, and construed in accordance with, the laws of the State of New York.

The Company hereby submits to the non-exclusive jurisdiction of the Federal and state courts in the Borough of Manhattan in The City of New York in any suit or proceeding arising out of or relating to this Agreement or the transactions contemplated hereby. The Company irrevocably and unconditionally waives any objection to the laying of venue of any suit or proceeding arising out of or relating to this Agreement or the transactions contemplated hereby in Federal and state courts in the Borough of Manhattan in the City of New York and irrevocably and unconditionally waives and agrees not to plead or claim in any such court that any such suit or proceeding in any such court has been brought in an inconvenient forum.

[Reminder of the page intentionally left blank.]

If the foregoing is in accordance with the Representatives' understanding of our agreement, kindly sign and return to the Company one of the counterparts hereof, whereupon it will become a binding agreement among the Company and the several Underwriters in accordance with its terms.

Very truly yours,

CODEXIS, INC.

By: _____
Name:
Title:

The foregoing Underwriting Agreement is hereby confirmed and accepted as of the date first above written.

CREDIT SUISSE SECURITIES (USA) LLC
PIPER JAFFRAY & CO.
RBC CAPITAL MARKETS CORPORATION
PACIFIC CREST SECURITIES LLC,
Acting on behalf of themselves and as the Representatives of the several Underwriters.

By CREDIT SUISSE SECURITIES (USA) LLC

By: _____
Name:
Title:

SCHEDULE A

Underwriter	Number of Firm Securities to be Purchased
Credit Suisse Securities (USA) LLC	
Piper Jaffray & Co	
RBC Capital Markets Corporation	
Pacific Crest Securities LLC	
Total	

Exhibit 3.2

NINTH AMENDED AND RESTATED

CERTIFICATE OF INCORPORATION

OF

CODEXIS, INC.

Alan Shaw, Ph.D. and Douglas Sheehy, hereby certify 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: They are the President and Chief Executive Officer and the Secretary, respectively, of Codexis, Inc., a Delaware corporation.

THREE: This Ninth Amended and Restated Certificate of Incorporation has been duly adopted in accordance with the provisions of Sections 242, 245 and 228 of the Delaware General Corporation Law, and prompt written notice will be duly given pursuant to Section 228 of the Delaware General Corporation Law.

FOUR: This Ninth Amended and Restated Certificate of Incorporation amends and restates the Eighth Amended and Restated Certificate of Incorporation of this corporation to read as follows:

ARTICLE I

The name of the corporation is Codexis, Inc. (the "Corporation").

ARTICLE II

The address of the Corporation's registered office in the State of Delaware is 2711 Centerville Road, Suite 400, City of Wilmington, County of New Castle, 19808. The name of its registered agent at such address is Corporation Service Company.

ARTICLE III

The purpose of the Corporation is to engage in any lawful act or activity for which a corporation may be organized under the Delaware General Corporation Law.

ARTICLE IV

A. This Corporation is authorized to issue two classes of stock to be designated, respectively, "Common Stock" and "Preferred Stock." The total number of shares that the Corporation is authorized to issue is one hundred five million (105,000,000) shares, one hundred million (100,000,000) shares of which shall be Common Stock and five million (5,000,000) shares of which shall be Preferred Stock. The Common Stock shall have a par value of one-hundredth of one cent ($0.0001) per share and the Preferred Stock shall have a par value of one-hundredth of one cent ($0.0001) per share.

B. The Preferred Stock may be issued from time to time in one or more series. The Board of Directors of the Corporation (the "Board of Directors") is hereby authorized, by filing a certificate (a "Certificate of Designation") pursuant to the Delaware General Corporation Law, to fix or alter from time to time the designation, powers, preferences and rights of the shares of each such series and the qualifications, limitations or restrictions of any wholly unissued series of Preferred Stock, and to establish from time to time the number of shares constituting any such series or any of them; and to increase or decrease the number of shares of any series subsequent to the issuance of shares of that series, but not below the number of shares of such series then outstanding. In case the number of shares of any series shall be decreased in accordance with the foregoing sentence, the shares constituting such decrease shall resume the status that they had prior to the adoption of the resolution originally fixing the number of shares of such series.

ARTICLE V

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. (1) The management of the business and the conduct of the affairs of the Corporation shall be vested in the Board of Directors. The number of directors which shall constitute the whole Board of Directors shall be fixed exclusively by one or more resolutions adopted from time to time by the Board of Directors.

(2) The directors shall be divided into three classes, designated as Class I, Class II and Class III, as nearly equal in number as possible. Directors shall be assigned to each class in accordance with a resolution or resolutions adopted by the Board of Directors. At the first annual meeting of stockholders following the effectiveness of this Ninth Amended and Restated Certificate of Incorporation (the "Qualifying Record Date"), the term of office of the Class I directors shall expire and Class I directors shall be elected for a full term of three years. At the second annual meeting of stockholders, following the Qualifying Record Date, the term of office of the Class II directors shall expire and Class II directors shall be elected for a full term of three years. At the third annual meeting of stockholders following the Qualifying Record Date, the term of office of the Class III directors shall expire and Class III directors shall be elected for a full term of three years. At each succeeding annual meeting of stockholders, directors shall be elected for a full term of three years to succeed the directors of the class whose terms expire at such annual meeting.

Notwithstanding the foregoing provisions of this Article V(A), each director shall serve until his successor is duly elected and qualified or until his death, resignation or removal. No decrease in the number of directors constituting the Board of Directors shall shorten the term of any incumbent director.

(3) The Board of Directors or any individual director may be removed from office at any time (i) with cause by the affirmative vote of the holders of a majority of the voting power of all the then outstanding shares of voting stock of the Corporation, entitled to vote at an election of directors (the "Voting Stock") or (ii) without cause by the affirmative vote of the holders of at least sixty-six and two-thirds percent (66-2/3 %) of the voting power of all the then-outstanding shares of the Voting Stock.

(4) Any vacancies on the Board of Directors resulting from death, resignation, disqualification, removal or other causes and any newly created directorships resulting from any increase in the number of directors shall, unless the Board of Directors determines by resolution that any such vacancies or newly created directorships shall be filled by the stockholders, except as otherwise provided by law, be filled only by the affirmative vote of a majority of the directors then in office, even though less than a quorum of the Board of Directors, and not by the stockholders. Any director elected in accordance with the preceding sentence shall hold office for the remainder of the full term of the director for which the vacancy was created or occurred and until such director's successor shall have been elected and qualified.

B. (1) Subject to Article IX of the Bylaws, in furtherance and not in limitation of the powers conferred by statute, the Board of Directors is expressly authorized to make, alter or repeal Bylaws of the Corporation. Notwithstanding the foregoing, the Bylaws of the Corporation may be rescinded, altered, amended or repealed in any respect by the affirmative vote of the holders of at least sixty-six and two-thirds percent (66-2/3 %) of the voting power of all the then-outstanding shares of the Voting Stock.

(2) The directors of the Corporation need not be elected by written ballot unless the Bylaws so provide.

(3) No action shall be taken by the stockholders of the Corporation except at an annual or special meeting of stockholders called in accordance with the Bylaws, and no action shall be taken by the stockholders by written consent.

(4) Special meetings of the stockholders of the Corporation may be called, for any purpose or purposes, by the Board of Directors, chairperson of the Board of Directors, chief executive officer or president (in the absence of a chief executive officer), but such special meetings may not be called by any other person or persons.

(5) Advance notice of stockholder nominations for the election of directors and of business to be brought by stockholders before any meeting of the stockholders of the Corporation shall be given in the manner provided in the Bylaws of the Corporation.

ARTICLE VI

A. To the maximum extent permitted by the Delaware General Corporation Law, as the same exists or as may hereafter be amended, a director of the Corporation shall not be personally liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a director. If the Delaware General Corporation Law is amended after approval by the stockholders of this Article VI to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of a director of the Corporation shall be eliminated or limited to the fullest extent permitted by the Delaware General Corporation Law as so amended.

B. The Corporation may indemnify to the fullest extent permitted by law any person made or threatened to be made a party to an action or proceeding, whether criminal, civil, administrative or investigative, by reason of the fact that he, his testator or intestate is or was a director, officer, employee or agent of the Corporation or any predecessor of the Corporation, or serves or served at any other enterprise as a director, officer, employee or agent at the request of the Corporation or any predecessor to the Corporation.

C. Neither any amendment nor repeal of this Article VI, nor the adoption of any provision of the Corporation's certificate of incorporation inconsistent with this Article VI, shall eliminate or reduce the effect of this Article VI in respect of any matter occurring, or any action or proceeding accruing or arising or that, but for this Article VI, would accrue or arise, prior to such amendment, repeal or adoption of an inconsistent provision.

ARTICLE VII

Notwithstanding any other provisions of this Ninth Amended and Restated Certificate of Incorporation or any provision of law which might otherwise permit a lesser vote or no vote, but in addition to any affirmative vote of the holders of any particular class or series of the Voting Stock required by law, this Ninth Amended and Restated Certificate of Incorporation or any Certificate of Designation, the affirmative vote of the holders of at least sixty-six and two-thirds percent (66-2/3%) of the voting power of all of the then-outstanding shares of the Voting Stock, voting together as a single class, shall be required to alter, amend or repeal Articles V, VI, and VII.

ARTICLE VIII

This Ninth Amended and Restated Certificate of Incorporation shall be effective as of [_____].

* * * *

IN WITNESS WHEREOF, the undersigned have executed this Ninth Amended and Restated Certificate of Incorporation on this [_____].

By: _____
Alan Shaw, Ph.D.
President and Chief Executive Officer

By: _____
Douglas Sheehy
Secretary

[Signature Page to Ninth Amended and Restated Certificate of Incorporation]

Exhibit 3.4

FORM OF AMENDED AND RESTATED BYLAWS OF

CODEXIS, INC.

(a Delaware corporation)

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(continued)

AMENDED AND RESTATED
BYLAWS OF CODEXIS, INC.

ARTICLE I - CORPORATE OFFICES

1.1 REGISTERED OFFICE.

The registered office of Codexis, Inc. (the "Corporation") shall be fixed in the Corporation's certificate of incorporation, as the same may be amended from time to time.

1.2 OTHER OFFICES.

The Corporation's board of directors (the "Board") may at any time establish other offices at any place or places where the Corporation is qualified to do business.

ARTICLE II - MEETINGS OF STOCKHOLDERS

2.1 PLACE OF MEETINGS.

Meetings of stockholders shall be held at any place, within or outside the State of Delaware, designated by the Board. The Board may, in its sole discretion, determine that a meeting of stockholders shall not be held at any place, but may instead be held solely by means of remote communication as authorized by Section 211(a)(2) of the Delaware General Corporation Law (the "DGCL"). In the absence of any such designation or determination, stockholders' meetings shall be held at the Corporation's principal executive office.

2.2 ANNUAL MEETING.

The annual meeting of stockholders shall be held each year. The Board shall designate the date and time of the annual meeting. At the annual meeting, directors shall be elected and other proper business properly brought before the meeting in accordance with Section 2.4 of this Article II may be transacted.

2.3 SPECIAL MEETING.

A special meeting of the stockholders may be called at any time by the Board, chairperson of the Board, chief executive officer or president (in the absence of a chief executive officer), but such special meetings may not be called by any other person or persons.

No business may be transacted at such special meeting other than the business specified in such notice to stockholders. Nothing contained in this paragraph of this Section 2.3 shall be construed as limiting, fixing, or affecting the time when a meeting of stockholders called by action of the Board may be held.

2.4 ADVANCE NOTICE PROCEDURES FOR BUSINESS BROUGHT BEFORE A MEETING.

(i) At an annual meeting of the stockholders, only such business shall be conducted as shall have been properly brought before the meeting. To be properly brought before an annual meeting, business must be (a) brought before the meeting by the Corporation and specified in the notice of meeting given by or at the direction of the Board, (b) brought before the meeting by or at the direction of the Board, or (c) otherwise properly brought before the meeting by a stockholder who (A) was a stockholder of record of the Corporation (and, with respect to any beneficial owner, if different, on whose behalf such business is proposed, only if such beneficial owner was the beneficial owner of shares of the Corporation) both at the time of giving the notice provided for in this Section 2.4 and at the time of the meeting, (B) is entitled to vote at the meeting, and (C) has complied with all of the notice procedures set forth in this Section 2.4 as to such business. Except for proposals made in accordance with Rule 14a-8 under the Securities Exchange Act of 1934, as amended (including such rules and regulations promulgated thereunder, the "Exchange Act"), and included in the notice of meeting given by or at the direction of the Board, the foregoing clause (c) shall be the exclusive means for a stockholder to propose business to be brought before an annual meeting of the stockholders. Stockholders shall not be permitted to propose business to be brought before a special meeting of the stockholders, and the only matters that may be brought before a special meeting are the matters specified in the notice of meeting given by or at the direction of the person calling the meeting pursuant to Article II, Section 2.3 of these Bylaws. Stockholders seeking to nominate persons for election to the Board must comply with the notice procedures set forth in Article II, Section 2.5 of these Bylaws, and this Section 2.4 shall not be applicable to nominations except as expressly provided in Article II, Section 2.5 of these Bylaws.

(ii) Without qualification, for business to be properly brought before an annual meeting by a stockholder, the stockholder must (a) provide Timely Notice (as defined below) thereof in writing and in proper form to the Secretary of the Corporation and (b) provide any updates or supplements to such notice at the times and in the forms required by this Section 2.4. To be timely, a stockholder's notice must be delivered to or mailed and received at the principal executive offices of the Corporation not less than ninety (90) days nor more than one hundred twenty (120) days prior to the first anniversary of the preceding year's annual meeting; *provided, however*, that in the event that the date of the annual meeting is more than thirty (30) days before or more than sixty (60) days after such anniversary date, notice by the stockholder to be timely must be so delivered, or mailed and received, not earlier than the one hundred twentieth (120) day prior to such annual meeting and not later than the ninetieth (90th) day prior to such annual meeting or, if later, the tenth (10th) day following the day on which public disclosure of the date of such annual meeting was first made (such notice within such time periods, "Timely Notice"). In no event shall any adjournment or postponement of an annual meeting or the announcement thereof commence a new time period for the giving of Timely Notice as described above.

(iii) To be in proper form for purposes of this Section 2.4, a stockholder's notice to the Secretary pursuant to this Section 2.4 shall be required to set forth:

(a) As to each Proposing Person (as defined below), (A) the name and address of such Proposing Person (including, if applicable, the name and address that appear on the Corporation's books and records) and (B) the class or series and number of shares of the Corporation that are, directly or indirectly, owned of record or beneficially owned (within the meaning of Rule 13d-3 under the Exchange Act) by such Proposing Person, except that such Proposing Person shall in all events be deemed to beneficially own any shares of any class or series of the Corporation as to which such Proposing Person has a right to acquire beneficial ownership at any time in the future (the disclosures to be made pursuant to the foregoing clauses (A) and (B) are referred to as "Stockholder Information");

(b) As to each Proposing Person, (A) any derivative, swap or other transaction or series of transactions engaged in, directly or indirectly, by such Proposing Person, the purpose or effect of which is to give such Proposing Person economic risk similar to ownership of shares of any class or series of the Corporation, including due to the fact that the value of such derivative, swap or other transactions are determined by reference to the price, value or volatility of any shares of any class or series of the Corporation, or which derivative, swap or other transactions provide, directly or indirectly, the opportunity to profit from any increase in the price or value of shares of any class or series of the Corporation ("Synthetic Equity Interests"), which Synthetic Equity Interests shall be disclosed without regard to whether (x) the derivative, swap or other transactions convey any voting rights in such shares to such Proposing Person, (y) the derivative, swap or other transactions are required to be, or are capable of being, settled through delivery of such shares or (z) such Proposing Person may have entered into other transactions that hedge or mitigate the economic effect of such derivative, swap or other transactions, (B) any proxy (other than a revocable proxy or consent given in response to a solicitation made pursuant to, and in accordance with, Section 14(a) of the Exchange Act by way of a solicitation statement filed on Schedule 14A), agreement, arrangement, understanding or relationship pursuant to which such Proposing Person has or shares a right to vote any shares of any class or series of the Corporation, (C) any agreement, arrangement, understanding or relationship, including any repurchase or similar so-called "stock borrowing" agreement or arrangement, engaged in, directly or indirectly, by such Proposing Person, the purpose or effect of which is to mitigate loss to, reduce the economic risk (of ownership or otherwise) of shares of any class or series of the Corporation by, manage the risk of share price changes for, or increase or decrease the voting power of, such Proposing Person with respect to the shares of any class or series of the Corporation, or which provides, directly or indirectly, the opportunity to profit from any decrease in the price or value of the shares of any class or series of the Corporation ("Short Interests"), (D) any rights to dividends on the shares of any class or series of the Corporation owned beneficially by such Proposing Person that are separated or separable from the underlying shares of the Corporation, (E) any performance related fees (other than an asset based fee) that such Proposing Person is entitled to based on any increase or decrease in the price or value of shares of any class or series of the Corporation, or any Synthetic Equity Interests or Short Interests, if any, (F)(x) if such Proposing Person is not a natural person, the identity of the natural person or persons associated with such Proposing Person responsible for the formulation of and decision to propose the business to be brought before the meeting (such person or persons, the "Responsible Person"), the manner in which such Responsible Person was selected, any fiduciary duties owed by such Responsible Person to the equity holders or other beneficiaries of such Proposing Person, the qualifications and background of such Responsible Person and any material interests or relationships of such Responsible Person that are not shared generally by any other record or beneficial holder of the shares of any class or series of the Corporation and that reasonably could have influenced the decision of such Proposing Person to propose such business to be brought before the meeting, and (y) if such Proposing Person is a natural person, the qualifications and background of such natural person and any material interests or relationships of such natural person that are not shared generally by any other record or beneficial holder of the shares of any class or series of the Corporation and that reasonably could have influenced the decision of such Proposing Person to propose such business to be brought before the meeting, (G) any significant equity interests or any Synthetic Equity Interests or Short Interests in any principal competitor of the Corporation held by such Proposing Persons, (H) any direct or indirect interest of such Proposing Person in any contract with the Corporation, any affiliate of the Corporation or any principal competitor of the Corporation (including, in any such case, any employment agreement, collective bargaining agreement or consulting agreement), (I) any pending or threatened litigation in which such Proposing Person is a party or material participant involving the Corporation or any of its officers or directors, or any affiliate of the Corporation, (J) any material transaction occurring during the prior twelve months between such Proposing Person, on the one hand, and the Corporation, any affiliate of the Corporation or any principal competitor of the Corporation, on the other hand, (K) a summary of any material discussions regarding the business proposed to be brought before the meeting (x) between or among any of the Proposing Persons or (y) between or among any Proposing Person and any other record or beneficial holder of the shares of any class or series of the Corporation (including their names) and (L) any other information relating to such Proposing Person that would be required to be disclosed in a proxy statement or other filing required to be made in connection with solicitations of proxies or consents by such Proposing Person in support of the business proposed to be brought before the meeting pursuant to Section 14(a) of the Exchange Act (the disclosures to be made pursuant to the foregoing clauses (A) through (L) are referred to as "Disclosable Interests"); provided, however, that Disclosable Interests shall not include any such disclosures with respect to the ordinary course business activities of any broker, dealer, commercial bank, trust company or other nominee who is a Proposing Person solely as a result of being the stockholder directed to prepare and submit the notice required by these bylaws on behalf of a beneficial owner; and

(c) As to each item of business that the stockholder proposes to bring before the annual meeting, (A) a reasonably brief description of the business desired to be brought before the annual meeting, the reasons for conducting such business at the annual meeting and any material interest in such business of each Proposing Person, (B) the text of the proposal or business (including the text of any resolutions proposed for consideration and in the event that such business includes a proposal to amend the bylaws of the Corporation, the language of the proposed amendment) and (C) a reasonably detailed description of all agreements, arrangements and understandings between or among any of the Proposing Persons or between or among any Proposing Person and any other person or entity (including their names) in connection with the proposal of such business by such stockholder.

(iv) For purposes of this Section 2.4, the term "Proposing Person" shall mean (i) the stockholder providing the notice of business proposed to be brought before an annual meeting, (ii) the beneficial owner or beneficial owners, if different, on whose behalf the notice of the business proposed to be brought before the annual meeting is made, (iii) any affiliate or associate (each within the meaning of Rule 12b-2 under the Exchange Act for the purposes of these bylaws) of such stockholder or beneficial owner and (iv) any other person with whom such stockholder or beneficial owner (or any of their respective affiliates or associates) is Acting in Concert (as defined below).

(v) A person shall be deemed to be "Acting in Concert" with another person for purposes of these bylaws if such person knowingly acts (whether or not pursuant to an express agreement, arrangement or understanding) in concert with, or towards a common goal relating to the management, governance or control of the Corporation in parallel with, such other person where (A) each person is conscious of the other person's conduct or intent and this awareness is an element in their decision-making processes and (B) at least one additional factor suggests that such persons intend to act in concert or in parallel, which such additional factors may include, without limitation, exchanging information (whether publicly or privately), attending meetings, conducting discussions, or making or soliciting invitations to act in concert or in parallel; *provided*, that a person shall not be deemed to be Acting in Concert with any other person solely as a result of the solicitation or receipt of revocable proxies or consents from such other person in response to a solicitation made pursuant to, and in accordance with, the Section 14(a) of the Exchange Act by way of a proxy or consent solicitation statement filed on Schedule 14A. A person Acting in Concert with another person shall be deemed to be Acting in Concert with any third party who is also Acting in Concert with such other person.

(vi) A stockholder providing notice of business proposed to be brought before an annual meeting shall further update and supplement such notice, if necessary, so that the information provided or required to be provided in such notice pursuant to this Section 2.4 shall be true and correct as of the record date for the meeting and as of the date that is ten (10) business days prior to the meeting or any adjournment or postponement thereof, and such update and supplement shall be delivered to, or mailed and received by, the Secretary at the principal executive offices of the Corporation not later than five (5) business days after the record date for the meeting (in the case of the update and supplement required to be made as of the record date), and not later than eight (8) business days prior to the date for the meeting or, if practicable, any adjournment or postponement thereof (and, if not practicable, on the first practicable date prior to the date to which the meeting has been adjourned or postponed) (in the case of the update and supplement required to be made as of ten (10) business days prior to the meeting or any adjournment or postponement thereof).

(vii) Notwithstanding anything in these bylaws to the contrary, no business shall be conducted at an annual meeting except in accordance with this Section 2.4. The presiding officer of an annual meeting shall, if the facts warrant, determine that the business was not properly brought before the meeting in accordance with this Section 2.4, and if he or she should so determine, he or she shall so declare to the meeting and any such business not properly brought before the meeting shall not be transacted.

(viii) This Section 2.4 is expressly intended to apply to any business proposed to be brought before an annual meeting of stockholders, regardless of whether or not such proposal made pursuant to Rule 14a-8 under the Exchange Act. In addition to the requirements of this Section 2.4 with respect to any business proposed to be brought before an annual meeting, each Proposing Person shall comply with all applicable requirements of the Exchange Act with respect to any such business. Nothing in this Section 2.4 shall be deemed to affect the rights of stockholders to request inclusion of proposals in the Corporation's proxy statement pursuant to Rule 14a-8 under the Exchange Act.

(ix) For purposes of these bylaws, "public disclosure" shall mean disclosure in a press release reported by a national news service or in a document publicly filed by the Corporation with the Securities and Exchange Commission pursuant to Sections 13, 14 or 15(d) of the Exchange Act.

2.5 ADVANCE NOTICE PROCEDURES FOR NOMINATIONS OF DIRECTORS.

(i) Nominations of any person for election to the Board at an annual meeting or at a special meeting (but only if the election of directors is a matter specified in the notice of meeting given by or at the direction of the person calling such special meeting) may be made at such meeting only (a) by or at the direction of the Board, including by any committee or persons appointed by the Board, or (b) by a stockholder who (A) was a stockholder of record of the Corporation (and, with respect to any beneficial owner, if different, on whose behalf such nomination is proposed to be made, only if such beneficial owner was the beneficial owner of shares of the Corporation) both at the time of giving the notice provided for in this Section 2.5 and at the time of the meeting, (B) is entitled to vote at the meeting and (C) has complied with this Section 2.5 as to such nomination. The foregoing clause (b) shall be the exclusive means for a stockholder to make any nomination of a person or persons for election to the Board to be considered by the stockholders at an annual meeting or special meeting.

(ii) Without qualification, for a stockholder to make any nomination of a person or persons for election to the Board at an annual meeting, the stockholder must (a) provide Timely Notice (as defined in Section 2.4(ii) of these bylaws) thereof in writing and in proper form to the Secretary of the Corporation and (b) provide any updates or supplements to such notice at the times and in the forms required by this Section 2.5. Without qualification, if the election of directors is a matter specified in the notice of meeting given by or at the direction of the person calling such special meeting, then for a stockholder to make any nomination of a person or persons for election to the Board at a special meeting, the stockholder must (a) provide timely notice thereof in writing and in proper form to the Secretary of the Corporation at the principal executive offices of the Corporation and (b) provide any updates or supplements to such notice at the times and in the forms required by this Section 2.5. To be timely, a stockholder's notice for nominations to be made at a special meeting must be delivered to, or mailed and received at, the principal executive offices of the Corporation not earlier than the one hundred twentieth (120th) day prior to such special meeting and not later than the ninetieth (90th) day prior to such special meeting or, if later, the tenth (10th) day following the day on which public disclosure (as defined in Section 2.4(ix) of these bylaws) of the date of such special meeting was first made. In no event shall any adjournment or postponement of an annual meeting or special meeting or the announcement thereof commence a new time period for the giving of a stockholder's notice as described above.

(iii) To be in proper form for purposes of this Section 2.5, a stockholder's notice to the Secretary shall set forth:

(a) As to each Nominating Person (as defined below), the Stockholder Information (as defined in Section 2.4(iii)(a) of these bylaws) except that for purposes of this Section 2.5, the term "Nominating Person" shall be substituted for the term "Proposing Person" in all places it appears in Section 2.4(iii)(a);

(b) As to each Nominating Person, any Disclosable Interests (as defined in Section 2.4(iii)(b), except that for purposes of this Section 2.5 the term "Nominating Person" shall be substituted for the term "Proposing Person" in all places it appears in Section 2.4(iii)(b) and the disclosure in clause (L) of Section 2.4(iii)(b) shall be made with respect to the election of directors at the meeting);

(c) As to each person whom a Nominating Person proposes to nominate for election as a director, (A) all information with respect to such proposed nominee that would be required to be set forth in a stockholder's notice pursuant to this Section 2.5 if such proposed nominee were a Nominating Person, (B) all information relating to such proposed nominee that is required to be disclosed in a proxy statement or other filings required to be made in connection with solicitations of proxies for election of directors in a contested election pursuant to Section 14(a) under the Exchange Act (including such proposed nominee's written consent to being named in the proxy statement as a nominee and to serving as a director if elected), (C) a description of all direct and indirect compensation and other material monetary agreements, arrangements and understandings during the past three (3) years, and any other material relationships, between or among any Nominating Person, on the one hand, and each proposed nominee, his or her respective affiliates and associates and any other persons with whom such proposed nominee (or any of his or her respective affiliates and associates) is Acting in Concert (as defined in Section 2.4(v) of these bylaws), on the other hand, including, without limitation, all information that would be required to be disclosed pursuant to Item 404 under Regulation S-K if such Nominating Person were the "registrant" for purposes of such rule and the proposed nominee were a director or executive officer of such registrant (the disclosures to be made pursuant to the foregoing clauses (A) through (C) are referred to as "Nominee Information"), and (D) a completed and signed questionnaire, representation and agreement as provided in Section 2.5(vii); and

(d) The Corporation may require any proposed nominee to furnish such other information (A) as may reasonably be required by the Corporation to determine the eligibility of such proposed nominee to serve as an independent director of the Corporation in accordance with the Corporation's Corporate Governance Guidelines or (B) that could be material to a reasonable stockholder's understanding of the independence or lack of independence of such proposed nominee.

(iv) For purposes of this Section 2.5, the term "Nominating Person" shall mean (i) the stockholder providing the notice of the nomination proposed to be made at the meeting, (ii) the beneficial owner or beneficial owners, if different, on whose behalf the notice of the nomination proposed to be made at the meeting is made, (iii) any affiliate or associate of such stockholder or beneficial owner and (iv) any other person with whom such stockholder or such beneficial owner (or any of their respective affiliates or associates) is Acting in Concert.

(v) A stockholder providing notice of any nomination proposed to be made at a meeting shall further update and supplement such notice, if necessary, so that the information provided or required to be provided in such notice pursuant to this Section 2.5 shall be true and correct as of the record date for the meeting and as of the date that is ten (10) business days prior to the meeting or any adjournment or postponement thereof, and such update and supplement shall be delivered to, or mailed and received by, the Secretary at the principal executive offices of the Corporation not later than five (5) business days after the record date for the meeting (in the case of the update and supplement required to be made as of the record date), and not later than eight (8) business days prior to the date for the meeting or, if practicable, any adjournment or postponement thereof (and, if not practicable, on the first practicable date prior to the date to which the meeting has been adjourned or postponed) (in the case of the update and supplement required to be made as of ten (10) business days prior to the meeting or any adjournment or postponement thereof).

(vi) Notwithstanding anything in these bylaws to the contrary, no person shall be eligible for election as a director of the Corporation unless nominated in accordance with this Section 2.5. The presiding officer at the meeting shall, if the facts warrant, determine that a nomination was not properly made in accordance with this Section 2.5, and if he or she should so determine, he or she shall so declare such determination to the meeting and the defective nomination shall be disregarded.

(vii) To be eligible to be a nominee for election as a director of the Corporation, the proposed nominee must deliver (in accordance with the time periods prescribed for delivery of notice under this Section 2.5) to the Secretary at the principal executive offices of the Corporation a written questionnaire with respect to the background and qualification of such proposed nominee (which questionnaire shall be provided by the Secretary upon written request) and a written representation and agreement (in form provided by the Secretary upon written request) that such proposed nominee (A) is not and will not become a party to (x) any agreement, arrangement or understanding with, and has not given any commitment or assurance to, any person or entity as to how such proposed nominee, if elected as a director of the Corporation, will act or vote on any issue or question (a "Voting Commitment") that has not been disclosed to the Corporation or (y) any Voting Commitment that could limit or interfere with such proposed nominee's ability to comply, if elected as a director of the Corporation, with such proposed nominee's fiduciary duties under applicable law, (B) is not, and will not become a party to, any agreement, arrangement or understanding with any person or entity other than the Corporation with respect to any direct or indirect compensation, reimbursement or indemnification in connection with service or action as a director that has not been disclosed to the Corporation and (C) in such proposed nominee's individual capacity and on behalf of the stockholder (or the beneficial owner, if different) on whose behalf the nomination is made, would be in compliance, if elected as a director of the Corporation, and will comply with applicable publicly disclosed corporate governance, conflict of interest, confidentiality and stock ownership and trading policies and guidelines of the Corporation.

(viii) In addition to the requirements of this Section 2.5 with respect to any nomination proposed to be made at a meeting, each Proposing Person shall comply with all applicable requirements of the Exchange Act with respect to any such nominations.

2.6 NOTICE OF STOCKHOLDERS' MEETINGS.

Unless otherwise provided by law, the certificate of incorporation or these bylaws, the notice of any meeting of stockholders shall be sent or otherwise given in accordance with either Section 2.7 or Section 8.1 of these bylaws not less than ten (10) nor more than sixty (60) days before the date of the meeting to each stockholder entitled to vote at such meeting. The notice shall specify the place, if any, date and hour of the meeting, the means of remote communication, if any, by which stockholders and proxy holders may be deemed to be present in person and vote at such meeting, and, in the case of a special meeting, the purpose or purposes for which the meeting is called.

2.7 MANNER OF GIVING NOTICE; AFFIDAVIT OF NOTICE.

Notice of any meeting of stockholders shall be deemed given:

(i) if mailed, when deposited in the United States mail, postage prepaid, directed to the stockholder at his or her address as it appears on the Corporation's records; or

(ii) if electronically transmitted as provided in Section 8.1 of these bylaws.

An affidavit of the secretary or an assistant secretary of the Corporation or of the transfer agent or any other agent of the Corporation that the notice has been given by mail or by a form of electronic transmission, as applicable, shall, in the absence of fraud, be prima facie evidence of the facts stated therein.

2.8 QUORUM.

Unless otherwise provided by law, the certificate of incorporation or these bylaws, the holders of a majority in voting power of the stock issued and outstanding and entitled to vote, present in person or represented by proxy, shall constitute a quorum for the transaction of business at all meetings of the stockholders. If, however, such quorum is not present or represented at any meeting of the stockholders, then either (i) the chairperson of the meeting or (ii) a majority in voting power of the stockholders entitled to vote at the meeting, present in person or represented by proxy, shall have power to adjourn the meeting from time to time in the manner provided in Section 2.9 of these bylaws until a quorum is present or represented. At such adjourned meeting at which a quorum is present or represented, any business may be transacted that might have been transacted at the meeting as originally noticed.

2.9 ADJOURNED MEETING; NOTICE.

When a meeting is adjourned to another time or place, unless these bylaws otherwise require, notice need not be given of the adjourned meeting if the time, place, if any, thereof, and the means of remote communications, if any, by which stockholders and proxy holders may be deemed to be present in person and vote at such adjourned meeting are announced at the meeting at which the adjournment is taken. At the adjourned meeting, the Corporation may transact any business which might have been transacted at the original meeting. If the adjournment is for more than thirty (30) days, or if after the adjournment a new record date is fixed for the adjourned meeting, a notice of the adjourned meeting shall be given to each stockholder of record entitled to vote at the meeting.

2.10 CONDUCT OF BUSINESS.

The chairperson of any meeting of stockholders shall determine the order of business and the procedure at the meeting, including such regulation of the manner of voting and the conduct of business.

2.11 VOTING.

The stockholders entitled to vote at any meeting of stockholders shall be determined in accordance with the provisions of Section 2.13 of these bylaws, subject to Section 217 (relating to voting rights of fiduciaries, pledgors and joint owners of stock) and Section 218 (relating to voting trusts and other voting agreements) of the DGCL.

Except as may be otherwise provided in the certificate of incorporation or these bylaws, each stockholder shall be entitled to one (1) vote for each share of capital stock held by such stockholder.

At all meetings of stockholders for the election of directors at which a quorum is present a plurality of the votes cast shall be sufficient to elect a director. All other elections and questions presented to the stockholders at a meeting at which a quorum is present shall, unless otherwise provided by the certificate of incorporation, these bylaws, the rules or regulations of any stock exchange applicable to the Corporation, or applicable law or pursuant to any regulation applicable to the Corporation or its securities, be decided by the affirmative vote of the holders of a majority in voting power of the shares of stock of the Corporation which are present in person or by proxy and entitled to vote thereon.

2.12 STOCKHOLDER ACTION BY WRITTEN CONSENT WITHOUT A MEETING.

Subject to the rights of the holders of the shares of any series of Preferred Stock or any other class of stock or series thereof having a preference over the Common Stock as to dividends or upon liquidation, any action required or permitted to be taken by the stockholders of the Corporation must be effected at a duly called annual or special meeting of stockholders of the Corporation and may not be effected by any consent in writing by such stockholders.

2.13 RECORD DATE FOR STOCKHOLDER NOTICE; VOTING; GIVING CONSENTS.

In order that the Corporation may determine the stockholders entitled to notice of or to vote at any meeting of stockholders or any adjournment thereof, or entitled to receive payment of any dividend or other distribution or allotment of any rights, or entitled to exercise any rights in respect of any change, conversion or exchange of stock or for the purpose of any other lawful action, the Board may fix, in advance, a record date, which record date shall not precede the date on which the resolution fixing the record date is adopted and which shall not be more than sixty (60) nor less than ten (10) days before the date of such meeting, nor more than sixty (60) days prior to any other such action.

If the Board does not so fix a record date:

(i) The record date for determining stockholders entitled to notice of or to vote at a meeting of stockholders shall be at the close of business on the day next preceding the day on which notice is given, or, if notice is waived, at the close of business on the day next preceding the day on which the meeting is held.

(ii) The record date for determining stockholders for any other purpose shall be at the close of business on the day on which the Board adopts the resolution relating thereto.

A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjournment of the meeting;*provided, however*, that the Board may fix a new record date for the adjourned meeting.

2.14 PROXIES.

Each stockholder entitled to vote at a meeting of stockholders may authorize another person or persons to act for such stockholder by proxy authorized by an instrument in writing or by a transmission permitted by law filed in accordance with the procedure established for the meeting, but no such proxy shall be voted or acted upon after three (3) years from its date, unless the proxy provides for a longer period. The revocability of a proxy that states on its face that it is irrevocable shall be governed by the provisions of Section 212 of the DGCL. A proxy may be in the form of a telegram, cablegram or other means of electronic transmission which sets forth or is submitted with information from which it can be determined that the telegram, cablegram or other means of electronic transmission was authorized by the stockholder.

2.15 LIST OF STOCKHOLDERS ENTITLED TO VOTE.

The officer who has charge of the stock ledger of the Corporation shall prepare and make, at least ten (10) days before every meeting of stockholders, a complete list of the stockholders entitled to vote at the meeting, arranged in alphabetical order, and showing the address of each stockholder and the number of shares registered in the name of each stockholder. The Corporation shall not be required to include electronic mail addresses or other electronic contact information on such list. Such list shall be open to the examination of any stockholder, for any purpose germane to the meeting for a period of at least ten (10) days prior to the meeting: (i) on a reasonably accessible electronic network, provided that the information required to gain access to such list is provided with the notice of the meeting, or (ii) during ordinary business hours, at the Corporation's principal executive office. In the event that the Corporation determines to make the list available on an electronic network, the Corporation may take reasonable steps to ensure that such information is available only to stockholders of the Corporation. If the meeting is to be held at a place, then the list shall be produced and kept at the time and place of the meeting during the whole time thereof, and may be inspected by any stockholder who is present. If the meeting is to be held solely by means of remote communication, then the list shall also be open to the examination of any stockholder during the whole time of the meeting on a reasonably accessible electronic network, and the information required to access such list shall be provided with the notice of the meeting. Such list shall presumptively determine the identity of the stockholders entitled to vote at the meeting and the number of shares held by each of them.

2.16 INSPECTORS OF ELECTION.

Before any meeting of stockholders, the Board shall appoint an inspector or inspectors of election to act at the meeting or its adjournment and make a written report thereof. The number of inspectors shall be either one (1) or three (3). If any person appointed as inspector fails to appear or fails or refuses to act, then the chairperson of the meeting may, and upon the request of any stockholder or a stockholder's proxy shall, appoint a person to fill that vacancy.

Such inspectors shall:

(i) determine the number of shares outstanding and the voting power of each, the number of shares represented at the meeting, the existence of a quorum, and the authenticity, validity, and effect of proxies;

(ii) receive votes or ballots;

(iii) hear and determine all challenges and questions in any way arising in connection with the right to vote;

(iv) count and tabulate all votes;

(v) determine when the polls shall close;

(vi) determine the result; and

(vii) do any other acts that may be proper to conduct the election or vote with fairness to all stockholders.

The inspectors of election shall perform their duties impartially, in good faith, to the best of their ability and as expeditiously as is practical. If there are three (3) inspectors of election, the decision, act or certificate of a majority is effective in all respects as the decision, act or certificate of all. Any report or certificate made by the inspectors of election is prima facie evidence of the facts stated therein.

ARTICLE III - DIRECTORS

3.1 POWERS

Subject to the provisions of the DGCL and any limitations in the certificate of incorporation or these bylaws relating to action required to be approved by the stockholders or by the outstanding shares, the business and affairs of the Corporation shall be managed and all corporate powers shall be exercised by or under the direction of the Board.

3.2 NUMBER OF DIRECTORS.

The authorized number of directors shall be determined from time to time by resolution of the Board, provided the Board shall consist of at least one (1) member. No reduction of the authorized number of directors shall have the effect of removing any director before that director's term of office expires.

3.3 ELECTION, QUALIFICATION AND TERM OF OFFICE OF DIRECTORS.

Except as provided in Section 3.4 of these bylaws, each director, including a director elected to fill a vacancy, shall hold office until the expiration of the term for which elected and until such director's successor is elected and qualified or until such director's earlier death, resignation or removal. Directors need not be stockholders unless so required by the certificate of incorporation or these bylaws. The certificate of incorporation or these bylaws may prescribe other qualifications for directors.

If so provided in the certificate of incorporation, the directors of the Corporation shall be divided into three (3) classes.

3.4 RESIGNATION AND VACANCIES.

Any director may resign at any time upon notice given in writing or by electronic transmission to the Corporation. When one or more directors so resigns and the resignation is effective at a future date, a majority of the directors then in office, including those who have so resigned, shall have power to fill such vacancy or vacancies, the vote thereon to take effect when such resignation or resignations shall become effective, and each director so chosen shall hold office as provided in this section in the filling of other vacancies.

Unless otherwise provided in the certificate of incorporation or these bylaws, vacancies and newly created directorships resulting from any increase in the authorized number of directors elected by all of the stockholders having the right to vote as a single class may be filled by a majority of the directors then in office, although less than a quorum, or by a sole remaining director and each director so chosen shall hold office until the next annual meeting and until his or her successor is duly elected and qualified. If the directors are divided into classes, a person so elected by the directors then in office to fill a vacancy or newly created directorship shall hold office until the next election of the class for which such director shall have been chosen and until his or her successor shall have been duly elected and qualified.

If at any time, by reason of death or resignation or other cause, the Corporation should have no directors in office, then any officer or any stockholder or an executor, administrator, trustee or guardian of a stockholder, or other fiduciary entrusted with like responsibility for the person or estate of a stockholder, may call a special meeting of stockholders in accordance with the provisions of the certificate of incorporation or these bylaws, or may apply to the Court of Chancery for a decree summarily ordering an election as provided in Section 211 of the DGCL.

If, at the time of filling any vacancy or any newly created directorship, the directors then in office constitute less than a majority of the whole Board (as constituted immediately prior to any such increase), then the Court of Chancery may, upon application of any stockholder or stockholders holding at least ten percent (10%) of the total number of the shares at the time outstanding having the right to vote for such directors, summarily order an election to be held to fill any such vacancies or newly created directorships, or to replace the directors chosen by the directors then in office as aforesaid, which election shall be governed by the provisions of Section 211 of the DGCL as far as applicable.

3.5 PLACE OF MEETINGS; MEETINGS BY TELEPHONE.

The Board may hold meetings, both regular and special, either within or outside the State of Delaware.

Unless otherwise restricted by the certificate of incorporation or these bylaws, members of the Board, or any committee designated by the Board, may participate in a meeting of the Board, or any committee, by means of conference telephone or other communications equipment by means of which all persons participating in the meeting can hear each other, and such participation in a meeting pursuant to this bylaw shall constitute presence in person at the meeting.

3.6 REGULAR MEETINGS.

Regular meetings of the Board may be held without notice at such time and at such place as shall from time to time be determined by the Board.

3.7 SPECIAL MEETINGS; NOTICE.

Special meetings of the Board for any purpose or purposes may be called at any time by the chairperson of the Board, the chief executive officer, the president, the secretary or a majority of the authorized number of directors.

Notice of the time and place of special meetings shall be:

(i) delivered personally by hand, by courier or by telephone;

(ii) sent by United States first-class mail, postage prepaid;

(iii) sent by facsimile; or

(iv) sent by electronic mail,

directed to each director at that director's address, telephone number, facsimile number or electronic mail address, as the case may be, as shown on the Corporation's records.

If the notice is (i) delivered personally by hand, by courier or by telephone, (ii) sent by facsimile or (iii) sent by electronic mail, it shall be delivered or sent at least twenty-four (24) hours before the time of the holding of the meeting. If the notice is sent by United States mail, it shall be deposited in the United States mail at least four (4) days before the time of the holding of the meeting. Any oral notice may be communicated to the director. The notice need not specify the place of the meeting (if the meeting is to be held at the Corporation's principal executive office) nor the purpose of the meeting.

3.8 QUORUM.

At all meetings of the Board, a majority of the authorized number of directors shall constitute a quorum for the transaction of business. The vote of a majority of the directors present at any meeting at which a quorum is present shall be the act of the Board, except as may be otherwise specifically provided by statute, the certificate of incorporation or these bylaws. If a quorum is not present at any meeting of the Board, then the directors present thereat may adjourn the meeting from time to time, without notice other than announcement at the meeting, until a quorum is present.

A meeting at which a quorum is initially present may continue to transact business notwithstanding the withdrawal of directors, if any action taken is approved by at least a majority of the required quorum for that meeting.

3.9 BOARD ACTION BY WRITTEN CONSENT WITHOUT A MEETING.

Unless otherwise restricted by the certificate of incorporation or these bylaws, any action required or permitted to be taken at any meeting of the Board, or of any committee thereof, may be taken without a meeting if all members of the Board or committee, as the case may be, consent thereto in writing or by electronic transmission and the writing or writings or electronic transmission or transmissions are filed with the minutes of proceedings of the Board or committee. Such filing shall be in paper form if the minutes are maintained in paper form and shall be in electronic form if the minutes are maintained in electronic form.

3.10 FEES AND COMPENSATION OF DIRECTORS.

Unless otherwise restricted by the certificate of incorporation or these bylaws, the Board shall have the authority to fix the compensation of directors.

3.11 REMOVAL OF DIRECTORS.

Except as otherwise provided by the DGCL, the Board of Directors or any individual director may be removed from office at any time (i) with cause by the affirmative vote of the holders of a majority of the voting power of all the then outstanding shares of voting stock of the Corporation entitled to vote at an election of directors (the "Voting Stock") or (ii) without cause by the affirmative vote of the holders of at least sixty six and two thirds percent (66-2/3%) of the voting power of all the then outstanding shares of the Voting Stock.

No reduction of the authorized number of directors shall have the effect of removing any director prior to the expiration of such director's term of office.

ARTICLE IV - COMMITTEES

4.1 COMMITTEES OF DIRECTORS.

The Board may designate one (1) or more committees, each committee to consist of one (1) or more of the directors of the Corporation. The Board may designate one (1) or more directors as alternate members of any committee, who may replace any absent or disqualified member at any meeting of the committee. In the absence or disqualification of a member of a committee, the member or members thereof present at any meeting and not disqualified from voting, whether or not such member or members constitute a quorum, may unanimously appoint another member of the Board to act at the meeting in the place of any such absent or disqualified member. Any such committee, to the extent provided in the resolution of the Board or in these bylaws, shall have and may exercise all the powers and authority of the Board in the management of the business and affairs of the Corporation, and may authorize the seal of the Corporation to be affixed to all papers that may require it; but no such committee shall have the power or authority to (i) approve or adopt, or recommend to the stockholders, any action or matter expressly required by the DGCL to be submitted to stockholders for approval, or (ii) adopt, amend or repeal any bylaw of the Corporation.

4.2 COMMITTEE MINUTES.

Each committee shall keep regular minutes of its meetings and report the same to the Board when required.

4.3 MEETINGS AND ACTION OF COMMITTEES.

Meetings and actions of committees shall be governed by, and held and taken in accordance with, the provisions of:

(i) Section 3.5 (place of meetings and meetings by telephone);

(ii) Section 3.6 (regular meetings);

(iii) Section 3.7 (special meetings and notice);

(iv) Section 3.8 (quorum);

(v) Section 7.12 (waiver of notice); and

(vi) Section 3.9 (action without a meeting),

with such changes in the context of those bylaws as are necessary to substitute the committee and its members for the Board and its members*However*:

(i) the time of regular meetings of committees may be determined either by resolution of the Board or by resolution of the committee;

(ii) special meetings of committees may also be called by resolution of the Board; and

(iii) notice of special meetings of committees shall also be given to all alternate members, who shall have the right to attend all meetings of the committee. The Board may adopt rules for the government of any committee not inconsistent with the provisions of these bylaws.

ARTICLE V - OFFICERS

5.1 OFFICERS.

The officers of the Corporation shall be a president and a secretary. The Corporation may also have, at the discretion of the Board, a chairperson of the Board, a vice chairperson of the Board, a chief executive officer, a chief financial officer or treasurer, one (1) or more vice presidents, one (1) or more assistant vice presidents, one (1) or more assistant treasurers, one (1) or more assistant secretaries, and any such other officers as may be appointed in accordance with the provisions of these bylaws. Any number of offices may be held by the same person.

5.2 APPOINTMENT OF OFFICERS.

The Board shall appoint the officers of the Corporation, except such officers as may be appointed in accordance with the provisions of Section 5.3 of these bylaws, subject to the rights, if any, of an officer under any contract of employment.

5.3 SUBORDINATE OFFICERS.

The Board may appoint, or empower the chief executive officer or, in the absence of a chief executive officer, the president, to appoint, such other officers and agents as the business of the Corporation may require. Each of such officers and agents shall hold office for such period, have such authority, and perform such duties as are provided in these bylaws or as the Board may from time to time determine.

5.4 REMOVAL AND RESIGNATION OF OFFICERS.

Subject to the rights, if any, of an officer under any contract of employment, any officer may be removed, either with or without cause, by an affirmative vote of the majority of the Board at any regular or special meeting of the Board or, except in the case of an officer chosen by the Board, by any officer upon whom such power of removal may be conferred by the Board.

Any officer may resign at any time by giving written notice to the Corporation. Any resignation shall take effect at the date of the receipt of that notice or at any later time specified in that notice. Unless otherwise specified in the notice of resignation, the acceptance of the resignation shall not be necessary to make it effective. Any resignation is without prejudice to the rights, if any, of the Corporation under any contract to which the officer is a party.

5.5 VACANCIES IN OFFICES.

Any vacancy occurring in any office of the Corporation shall be filled by the Board or as provided in Section 5.2.

5.6 REPRESENTATION OF SHARES OF OTHER CORPORATIONS.

The chairperson of the Board, the president, any vice president, the treasurer, the secretary or assistant secretary of this Corporation, or any other person authorized by the Board or the president or a vice president, is authorized to vote, represent and exercise on behalf of this Corporation all rights incident to any and all shares of any other corporation or corporations standing in the name of this Corporation. The authority granted herein may be exercised either by such person directly or by any other person authorized to do so by proxy or power of attorney duly executed by such person having the authority.

5.7 AUTHORITY AND DUTIES OF OFFICERS.

All officers of the Corporation shall respectively have such authority and perform such duties in the management of the business of the Corporation as may be designated from time to time by the Board or the stockholders and, to the extent not so provided, as generally pertain to their respective offices, subject to the control of the Board.

ARTICLE VI - RECORDS AND REPORTS

6.1 MAINTENANCE AND INSPECTION OF RECORDS.

The Corporation shall, either at its principal executive office or at such place or places as designated by the Board, keep a record of its stockholders listing their names and addresses and the number and class of shares held by each stockholder, a copy of these bylaws as amended to date, accounting books and other records.

Any stockholder of record, in person or by attorney or other agent, shall, upon written demand under oath stating the purpose thereof, have the right during the usual hours for business to inspect for any proper purpose the Corporation's stock ledger, a list of its stockholders, and its other books and records and to make copies or extracts therefrom. A proper purpose shall mean a purpose reasonably related to such person's interest as a stockholder. In every instance where an attorney or other agent is the person who seeks the right to inspection, the demand under oath shall be accompanied by a power of attorney or such other writing that authorizes the attorney or other agent so to act on behalf of the stockholder. The demand under oath shall be directed to the Corporation at its registered office in Delaware or at its principal executive office.

6.2 INSPECTION BY DIRECTORS.

Any director shall have the right to examine the Corporation's stock ledger, a list of its stockholders, and its other books and records for a purpose reasonably related to his or her position as a director. The Court of Chancery is hereby vested with the exclusive jurisdiction to determine whether a director is entitled to the inspection sought. The Court may summarily order the Corporation to permit the director to inspect any and all books and records, the stock ledger, and the stock list and to make copies or extracts therefrom. The Court may, in its discretion, prescribe any limitations or conditions with reference to the inspection, or award such other and further relief as the Court may deem just and proper.

ARTICLE VII - GENERAL MATTERS

7.1 EXECUTION OF CORPORATE CONTRACTS AND INSTRUMENTS.

The Board, except as otherwise provided in these bylaws, may authorize any officer or officers, or agent or agents, to enter into any contract or execute any instrument in the name of and on behalf of the Corporation; such authority may be general or confined to specific instances. Unless so authorized or ratified by the Board or within the agency power of an officer, no officer, agent or employee shall have any power or authority to bind the Corporation by any contract or engagement or to pledge its credit or to render it liable for any purpose or for any amount.

7.2 STOCK CERTIFICATES; PARTLY PAID SHARES.

The shares of the Corporation shall be represented by certificates, provided that the Board may provide by resolution or resolutions that some or all of any or all classes or series of its stock shall be uncertificated shares. Any such resolution shall not apply to shares represented by a certificate until such certificate is surrendered to the Corporation. Notwithstanding the adoption of such a resolution by the Board, every holder of stock represented by certificates shall be entitled to have a certificate signed by, or in the name of the Corporation by the chairperson or vice-chairperson of the Board, or the president or vice-president, and by the treasurer or an assistant treasurer, or the secretary or an assistant secretary of the Corporation representing the number of shares registered in certificate form. Any or all of the signatures on the certificate may be a facsimile. In case any officer, transfer agent or registrar who has signed or whose facsimile signature has been placed upon a certificate has ceased to be such officer, transfer agent or registrar before such certificate is issued, it may be issued by the Corporation with the same effect as if he were such officer, transfer agent or registrar at the date of issue.

The Corporation may issue the whole or any part of its shares as partly paid and subject to call for the remainder of the consideration to be paid therefor. Upon the face or back of each stock certificate issued to represent any such partly paid shares, upon the books and records of the Corporation in the case of uncertificated partly paid shares, the total amount of the consideration to be paid therefor and the amount paid thereon shall be stated. Upon the declaration of any dividend on fully paid shares, the Corporation shall declare a dividend upon partly paid shares of the same class, but only upon the basis of the percentage of the consideration actually paid thereon.

7.3 SPECIAL DESIGNATION ON CERTIFICATES.

If the Corporation is authorized to issue more than one class of stock or more than one series of any class, then the powers, the designations, the preferences and the relative, participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights shall be set forth in full or summarized on the face or back of the certificate that the Corporation shall issue to represent such class or series of stock; *provided, however*, that, except as otherwise provided in Section 202 of the DGCL, in lieu of the foregoing requirements, there may be set forth on the face or back of the certificate that the Corporation shall issue to represent such class or series of stock a statement that the Corporation will furnish without charge to each stockholder who so requests the powers, the designations, the preferences and the relative, participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights.

7.4 LOST CERTIFICATES.

Except as provided in this Section 7.4, no new certificates for shares shall be issued to replace a previously issued certificate unless the latter is surrendered to the Corporation and cancelled at the same time. The Corporation may issue a new certificate of stock or uncertificated shares in the place of any certificate theretofore issued by it, alleged to have been lost, stolen or destroyed, and the Corporation may require the owner of the lost, stolen or destroyed certificate, or such owner's legal representative, to give the Corporation a bond sufficient to indemnify it against any claim that may be made against it on account of the alleged loss, theft or destruction of any such certificate or the issuance of such new certificate or uncertificated shares.

7.5 CONSTRUCTION; DEFINITIONS.

Unless the context requires otherwise, the general provisions, rules of construction and definitions in the DGCL shall govern the construction of these bylaws. Without limiting the generality of this provision, the singular number includes the plural, the plural number includes the singular, and the term "person" includes both a corporation and a natural person.

7.6 DIVIDENDS.

The Board, subject to any restrictions contained in either (i) the DGCL or (ii) the certificate of incorporation, may declare and pay dividends upon the shares of its capital stock. Dividends may be paid in cash, in property or in shares of the Corporation's capital stock.

The Board may set apart out of any of the funds of the Corporation available for dividends a reserve or reserves for any proper purpose and may abolish any such reserve. Such purposes shall include but not be limited to equalizing dividends, repairing or maintaining any property of the Corporation, and meeting contingencies.

7.7 FISCAL YEAR.

The fiscal year of the Corporation shall be fixed by resolution of the Board and may be changed by the Board.

7.8 SEAL.

The Corporation may adopt a corporate seal, which shall be adopted and which may be altered by the Board. The Corporation may use the corporate seal by causing it or a facsimile thereof to be impressed or affixed or in any other manner reproduced.

7.9 TRANSFER OF STOCK.

Shares of the Corporation shall be transferable in the manner prescribed by law and in these bylaws. Shares of stock of the Corporation shall be transferred on the books of the Corporation only by the holder of record thereof or by such holder's attorney duly authorized in writing, upon surrender to the Corporation of the certificate or certificates representing such shares endorsed by the appropriate person or persons (or by delivery of duly executed instructions with respect to uncertificated shares), with such evidence of the authenticity of such endorsement or execution, transfer, authorization and other matters as the Corporation may reasonably require, and accompanied by all necessary stock transfer stamps. No transfer of stock shall be valid as against the Corporation for any purpose until it shall have been entered in the stock records of the Corporation by an entry showing the names of the persons from and to whom it was transferred.

7.10 STOCK TRANSFER AGREEMENTS.

The Corporation shall have power to enter into and perform any agreement with any number of stockholders of any one or more classes of stock of the Corporation to restrict the transfer of shares of stock of the Corporation of any one or more classes owned by such stockholders in any manner not prohibited by the DGCL.

7.11 REGISTERED STOCKHOLDERS.

The Corporation:

(i) shall be entitled to recognize the exclusive right of a person registered on its books as the owner of shares to receive dividends and to vote as such owner;

(ii) shall be entitled to hold liable for calls and assessments the person registered on its books as the owner of shares; and

(iii) shall not be bound to recognize any equitable or other claim to or interest in such share or shares on the part of another person, whether or not it shall have express or other notice thereof, except as otherwise provided by the laws of Delaware.

7.12 WAIVER OF NOTICE.

Whenever notice is required to be given under any provision of the DGCL, the certificate of incorporation or these bylaws, a written waiver, signed by the person entitled to notice, or a waiver by electronic transmission by the person entitled to notice, whether before or after the time of the event for which notice is to be given, shall be deemed equivalent to notice. Attendance of a person at a meeting shall constitute a waiver of notice of such meeting, except when the person attends a meeting for the express purpose of objecting at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened. Neither the business to be transacted at, nor the purpose of, any regular or special meeting of the stockholders need be specified in any written waiver of notice or any waiver by electronic transmission unless so required by the certificate of incorporation or these bylaws.

ARTICLE VIII - NOTICE BY ELECTRONIC TRANSMISSION

8.1 NOTICE BY ELECTRONIC TRANSMISSION.

Without limiting the manner by which notice otherwise may be given effectively to stockholders pursuant to the DGCL, the certificate of incorporation or these bylaws, any notice to stockholders given by the Corporation under any provision of the DGCL, the certificate of incorporation or these bylaws shall be effective if given by a form of electronic transmission consented to by the stockholder to whom the notice is given. Any such consent shall be revocable by the stockholder by written notice to the Corporation. Any such consent shall be deemed revoked if:

(i) the Corporation is unable to deliver by electronic transmission two (2) consecutive notices given by the Corporation in accordance with such consent; and

(ii) such inability becomes known to the secretary or an assistant secretary of the Corporation or to the transfer agent, or other person responsible for the giving of notice.

However, the inadvertent failure to treat such inability as a revocation shall not invalidate any meeting or other action.

Any notice given pursuant to the preceding paragraph shall be deemed given:

(i) if by facsimile telecommunication, when directed to a number at which the stockholder has consented to receive notice;

(ii) if by electronic mail, when directed to an electronic mail address at which the stockholder has consented to receive notice;

(iii) if by a posting on an electronic network together with separate notice to the stockholder of such specific posting, upon the later of (A) such posting and (B) the giving of such separate notice; and

(iv) if by any other form of electronic transmission, when directed to the stockholder.

An affidavit of the secretary or an assistant secretary or of the transfer agent or other agent of the Corporation that the notice has been given by a form of electronic transmission shall, in the absence of fraud, be prima facie evidence of the facts stated therein.

8.2 DEFINITION OF ELECTRONIC TRANSMISSION.

An "electronic transmission" means any form of communication, not directly involving the physical transmission of paper, that creates a record that may be retained, retrieved and reviewed by a recipient thereof, and that may be directly reproduced in paper form by such a recipient through an automated process.

ARTICLE IX - INDEMNIFICATION

9.1 INDEMNIFICATION OF DIRECTORS AND OFFICERS.

The Corporation shall indemnify and hold harmless, to the fullest extent permitted by the DGCL as it presently exists or may hereafter be amended, any director or officer of the Corporation who was or is made or is threatened to be made a party or is otherwise involved in any action, suit or proceeding, whether civil, criminal, administrative or investigative (a "Proceeding") by reason of the fact that he or she, or a person for 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, enterprise or non-profit entity, including service with respect to employee benefit plans, against all liability and loss suffered and expenses (including attorneys' fees) reasonably incurred by such person in connection with any such Proceeding. Notwithstanding the preceding sentence, except as otherwise provided in Section 9.4, the Corporation shall be required to indemnify a person in connection with a Proceeding initiated by such person only if the Proceeding was authorized in the specific case by the Board.

9.2 INDEMNIFICATION OF OTHERS.

The Corporation shall have the power to indemnify and hold harmless, to the extent permitted by applicable law as it presently exists or may hereafter be amended, any employee or agent of the Corporation who was or is made or is threatened to be made a party or is otherwise involved in any Proceeding by reason of the fact that he or she, or a person for whom he or she is the legal representative, is or was an employee or agent 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, enterprise or non-profit entity, including service with respect to employee benefit plans, against all liability and loss suffered and expenses reasonably incurred by such person in connection with any such Proceeding.

9.3 PREPAYMENT OF EXPENSES.

The Corporation shall to the fullest extent not prohibited by applicable law pay the expenses (including attorneys' fees) incurred by any officer or director of the Corporation, and may pay the expenses incurred by any employee or agent of the Corporation, in defending any Proceeding in advance of its final disposition; *provided, however*, that, to the extent required by law, such payment of expenses in advance of the final disposition of the Proceeding shall be made only upon receipt of an undertaking by the person to repay all amounts advanced if it should be ultimately determined that the person is not entitled to be indemnified under this Article IX or otherwise.

9.4 DETERMINATION; CLAIM.

If a claim for indemnification (following the final disposition of such Proceeding) or advancement of expenses under this Article IX is not paid in full within sixty (60) days after a written claim therefor has been received by the Corporation the claimant may file suit to recover the unpaid amount of such claim and, if successful in whole or in part, shall be entitled to be paid the expense of prosecuting such claim to the fullest extent permitted by law. In any such action the Corporation shall have the burden of proving that the claimant was not entitled to the requested indemnification or payment of expenses under applicable law.

9.5 NON-EXCLUSIVITY OF RIGHTS.

The rights conferred on any person by this Article IX shall not be exclusive of any other rights which such person may have or hereafter acquire under any statute, provision of the certificate of incorporation, these bylaws, agreement, vote of stockholders or disinterested directors or otherwise.

9.6 INSURANCE.

The Corporation may purchase and maintain insurance on behalf of any person who is or was a director, officer, employee or agent of the Corporation, or is or was serving at the request of the Corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust enterprise or non-profit entity against any liability asserted against him or her and incurred by him or her in any such capacity, or arising out of his or her status as such, whether or not the Corporation would have the power to indemnify him or her against such liability under the provisions of the DGCL.

9.7 OTHER INDEMNIFICATION.

The Corporation's obligation, if any, to indemnify or advance expenses to any person who was or is serving at its request as a director, officer, employee or agent of another corporation, partnership, joint venture, trust, enterprise or non-profit entity shall be reduced by any amount such person may collect as indemnification or advancement of expenses from such other corporation, partnership, joint venture, trust, enterprise or non-profit enterprise.

9.8 CONTINUATION OF INDEMNIFICATION.

The rights to indemnification and to prepayment of expenses provided by, or granted pursuant to, this Article IX shall continue notwithstanding that the person has ceased to be a director or officer of the Corporation and shall inure to the benefit of the estate, heirs, executors, administrators, legatees and distributees of such person.

9.9 AMENDMENT OR REPEAL.

The provisions of this Article IX shall constitute a contract between the Corporation, on the one hand, and, on the other hand, each individual who serves or has served as a director or officer of the Corporation (whether before or after the adoption of these bylaws), in consideration of such person's performance of such services, and pursuant to this Article IX the Corporation intends to be legally bound to each such current or former director or officer of the Corporation. With respect to current and former directors and officers of the Corporation, the rights conferred under this Article IX are present contractual rights and such rights are fully vested, and shall be deemed to have vested fully, immediately upon adoption of theses bylaws. With respect to any directors or officers of the Corporation who commence service following adoption of these bylaws, the rights conferred under this provision shall be present contractual rights and such rights shall fully vest, and be deemed to have vested fully, immediately upon such director or officer commencing service as a director or officer of the Corporation. Any repeal or modification of the foregoing provisions of this Article IX shall not adversely affect any right or protection (i) hereunder of any person in respect of any act or omission occurring prior to the time of such repeal or modification or (ii) under any agreement providing for indemnification or advancement of expenses to an officer or director of the Corporation in effect prior to the time of such repeal or modification.

ARTICLE X - AMENDMENTS

These bylaws may be adopted, amended or repealed by the stockholders entitled to vote. However, the Corporation may, in its certificate of incorporation, confer the power to adopt, amend or repeal these bylaws upon the directors. The fact that such power has been so conferred upon the directors shall not divest the stockholders of the power, nor limit their power to adopt, amend or repeal these bylaws.

CODEXIS, INC.

CERTIFICATE OF AMENDMENT AND RESTATEMENT OF BYLAWS

The undersigned hereby certifies that he or she is the duly elected, qualified, and acting Secretary of Codexis, Inc., a Delaware corporation, and that the foregoing bylaws, comprising 23 pages, were amended and restated on _____, 2010 by the Corporation's board of directors.

IN WITNESS WHEREOF, the undersigned has hereunto set his or her hand this__day of _____, 2010.

_____

Secretary

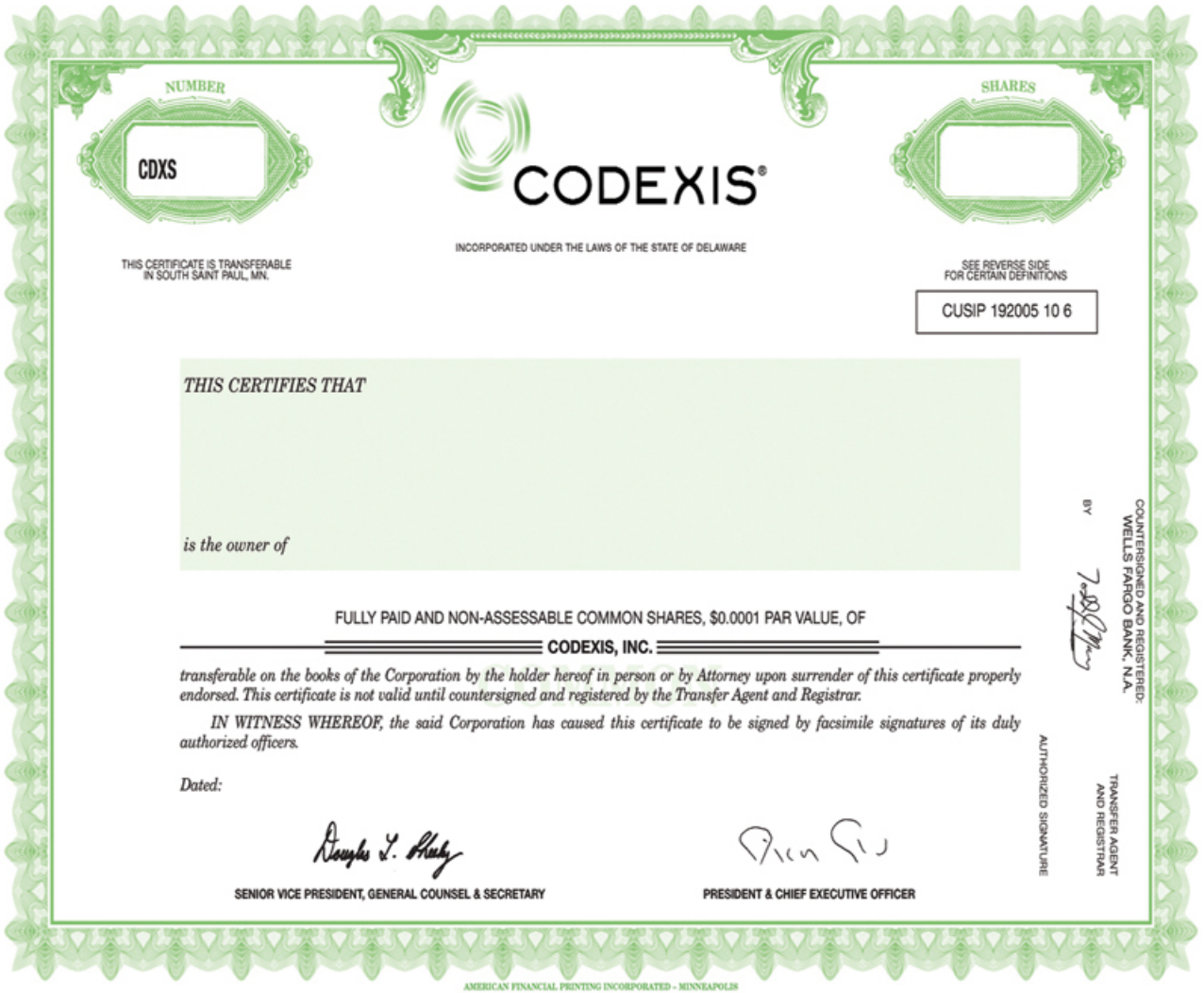
NUMBER
CDXS
SHARES
CODEXIS®
INCORPORATED UNDER THE LAWS OF THE STATE OF DELAWARE
THIS CERTIFICATE IS TRANSFERABLE IN SOUTH SAINT PAUL, MN.
SEE REVERSE SIDE FOR CERTAIN DEFINITIONS
CUSIP 192005 10 6
THIS CERTIFIES THAT
is the owner of
FULLY PAID AND NON-ASSESSABLE COMMON SHARES, $0.0001 PAR VALUE, OF
CODEXIS, INC.
transferable on the books of the Corporation by the holder hereof in person or by Attorney upon surrender of this certificate properly endorsed. This certificate is not valid until countersigned and registered by the Transfer Agent and Registrar.
IN WITNESS WHEREOF, the said Corporation has caused this certificate to be signed by facsimile signatures of its duly authorized officers.
Dated:
SENIOR VICE PRESIDENT, GENERAL COUNSEL & SECRETARY
PRESIDENT & CHIEF EXECUTIVE OFFICER
COUNTERSIGNED AND REGISTERED:
WELLS FARGO BANK, N.A.
BY
AUTHORIZED SIGNATURE
TRANSFER AGENT AND REGISTRAR
AMERICAN FINANCIAL PRINTING INCORPORATED - MINNEAPOLIS

Exhibit 4.1

The following abbreviations, when used in the inscription on the face of this certificate, shall be construed as though they were written out in full according to applicable laws or regulations:

TEN COM – as tenants in common

TEN ENT – as tenants by entireties

JT TEN – as joint tenants with right of survivorship and not as tenants in common

UTMA – _____ Custodian _____
(Cust) (Minor)
under Uniform Transfers to Minors Act _____
(State)

Additional abbreviations may also be used though not in above list.

For value received ____ *hereby sell, assign, and transfer unto*

PLEASE INSERT SOCIAL SECURITY OR OTHER IDENTIFYING NUMBER OF ASSIGNEE

_____

(PLEASE PRINT OR TYPEWRITE NAME AND ADDRESS INCLUDING ZIP CODE OF ASSIGNEE)

_____

_____

_____ *Shares of the capital stock represented by the within Certificate, and do hereby irrevocably constitute and appoint* _____

_____ *Attorney to transfer the said stock on the books of the within-named Corporation with full power of substitution in the premises.*

Dated _____

X _____

X _____

NOTICE: THE SIGNATURE TO THIS ASSIGNMENT MUST CORRESPOND WITH THE NAME AS WRITTEN UPON THE FACE OF THE CERTIFICATE IN EVERY PARTICULAR WITHOUT ALTERATION OR ENLARGEMENT OR ANY CHANGE WHATEVER.

SIGNATURE GUARANTEED

ALL GUARANTEES MUST BE MADE BY A FINANCIAL INSTITUTION (SUCH AS A BANK OR BROKER) WHICH IS A PARTICIPANT IN THE SECURITIES TRANSFER AGENTS MEDALLION PROGRAM ("STAMP"), THE NEW YORK STOCK EXCHANGE, INC. MEDALLION SIGNATURE PROGRAM ("MSP"), OR THE STOCK EXCHANGES MEDALLION PROGRAM ("SEMP") AND MUST NOT BE DATED. GUARANTEES BY A NOTARY PUBLIC ARE NOT ACCEPTABLE.

Exhibit 5.1

LATHAM & WATKINS LLP

140 Scott Drive
Menlo Park, California 94025
Tel: +1.650.328.4600 Fax: +1.650.463.2600
www.lw.com

FIRM / AFFILIATE OFFICES

Abu Dhabi	Moscow
Barcelona	Munich
Beijing	New Jersey
Brussels	New York
Chicago	Orange County
Doha	Paris
Dubai	Rome
Frankfurt	San Diego
Hamburg	San Francisco
Hong Kong	Shanghai
Houston	Silicon Valley
London	Singapore
Los Angeles	Tokyo
Madrid	Washington, D.C.
Milan	

March 31, 2010

Codexis, Inc.
200 Penobscot Drive
Redwood City, CA 94063

Re: Form S-1 Registration Statement File No. 333-164044
Initial Public Offering of up to 6,900,000 Shares of Common Stock
of Codexis, Inc.

Ladies and Gentlemen:

We have acted as special counsel to Codexis, Inc., a Delaware corporation (the "***Company***"), in connection with the proposed issuance of up to 6,900,000 shares of common stock, $0.0001 par value per share (the "***Shares***"). The Shares are included in a registration statement on Form S–1 under the Securities Act of 1933, as amended (the "***Act***"), filed with the Securities and Exchange Commission (the "***Commission***") on December 28, 2009 (Registration No. 333-164044) (as amended, the "***Registration Statement***"). This opinion is being furnished in connection with the requirements of Item 601(b)(5) of Regulation S-K under the Act, and no opinion is expressed herein as to any matter pertaining to the contents of the Registration Statement or related prospectus (the "***Prospectus***"), other than as expressly stated herein with respect to the issue of the Shares.

As such counsel, we have examined such matters of fact and questions of law as we have considered appropriate for purposes of this letter. With your consent, we have relied upon certificates and other assurances of officers of the Company and others as to factual matters without having independently verified such factual matters. We are opining herein as to the General Corporation Law of the State of Delaware (the "***DGCL***"), and we express no opinion with respect to any other laws.

Subject to the foregoing and the other matters set forth herein, it is our opinion that, as of the date hereof, when the Shares shall have been duly registered on the books of the transfer agent and registrar therefor in the name or on behalf of the purchasers and have been issued by the Company against payment therefor (not less than par value) in the circumstances contemplated by the form of underwriting agreement most recently filed as an exhibit to the Registration Statement, the issue and sale of the Shares will have been duly authorized by all necessary corporate action of the Company, and the Shares will be validly issued, fully paid and nonassessable. In rendering the foregoing opinion, we have assumed that the Company will comply with all applicable notice requirements regarding uncertificated shares provided in the DGCL.

This opinion is for your benefit in connection with the Registration Statement and may be relied upon by you and by persons entitled to rely upon it pursuant to the applicable provisions of the Act. We consent to your filing this opinion as an exhibit to the Registration Statement and to the reference to our firm in the Prospectus under the heading "Legal Matters." In giving such consent, we do not thereby admit that we are in the category of persons whose consent is required under Section 7 of the Act or the rules and regulations of the Commission thereunder.

Very truly yours,

/s/ Latham & Watkins LLP

CODEXIS, INC.
2010 EQUITY INCENTIVE AWARD PLAN

ARTICLE 1.

PURPOSE

The purpose of the Codexis, Inc. 2010 Equity Incentive Award Plan (the "Plan") is to promote the success and enhance the value of Codexis, Inc. (the "Company") by linking the personal interests of the members of the Board, Employees, and Consultants to those of Company stockholders and by providing such individuals with an incentive for outstanding performance to generate superior returns to Company stockholders. The Plan is further intended to provide flexibility to the Company in its ability to motivate, attract, and retain the services of members of the Board, Employees, and Consultants upon whose judgment, interest, and special effort the successful conduct of the Company's operation is largely dependent.

ARTICLE 2.

DEFINITIONS AND CONSTRUCTION

Wherever the following terms are used in the Plan they shall have the meanings specified below, unless the context clearly indicates otherwise. The singular pronoun shall include the plural where the context so indicates.

2.1 "Administrator" shall mean the entity that conducts the general administration of the Plan as provided in Article 13. With reference to the duties of the Committee under the Plan which have been delegated to one or more persons pursuant to Section 13.6, or as to which the Board has assumed, the term "Administrator" shall refer to such person(s) unless the Committee or the Board has revoked such delegation or the Board has terminated the assumption of such duties.

2.2 "Award" shall mean an Option, a Restricted Stock award, a Restricted Stock Unit award, a Performance Award, a Dividend Equivalents award, a Deferred Stock award, a Stock Payment award or a Stock Appreciation Right, which may be awarded or granted under the Plan (collectively, "Awards").

2.3 "Award Agreement" shall mean any written notice, agreement, terms and conditions, contract or other instrument or document evidencing an Award, including through electronic medium, which shall contain such terms and conditions with respect to an Award as the Administrator shall determine consistent with the Plan.

2.4 "Board" shall mean the Board of Directors of the Company.

2.5 "Change in Control" shall mean and includes each of the following:

(a) A transaction or series of transactions (other than an offering of Common Stock to the general public through a registration statement filed with the Securities and Exchange Commission) whereby any "person" or related "group" of "persons" (as such terms are used in Sections 13(d) and 14(d)(2) of the Exchange Act) (other than the Company, any of its parents or subsidiaries, an employee benefit plan maintained by the Company or any of its subsidiaries or a "person" that, prior to such transaction, directly or indirectly controls, is controlled by, or is under common control with, the Company) directly or indirectly acquires beneficial ownership (within the meaning of Rule 13d-3 under the Exchange Act) of securities of the Company possessing more than 50% of the total combined voting power of the Company's securities outstanding immediately after such acquisition; or

(b) During any period of two consecutive years, individuals who, at the beginning of such period, constitute the Board together with any new director(s) (other than a director designated by a person who shall have entered into an agreement with the Company to effect a transaction described in Section 2.5(a or Section 2.5(c)) whose election by the Board or nomination for election by the Company's stockholders 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 the two-year period or whose election or nomination for election was previously so approved, cease for any reason to constitute a majority thereof; or

(c) The consummation by the Company (whether directly involving the Company or indirectly involving the Company through one or more intermediaries) of (x) a merger, consolidation, reorganization, or business combination or (y) a sale or other disposition of all or substantially all of the Company's assets in any single transaction or series of related transactions or (z) the acquisition of assets or stock of another entity, in each case other than a transaction:

(i) Which results in the Company's voting securities outstanding immediately before the transaction continuing to represent (either by remaining outstanding or by being converted into voting securities of the Company or the person that, as a result of the transaction, controls, directly or indirectly, the Company or owns, directly or indirectly, all or substantially all of the Company's assets or otherwise succeeds to the business of the Company (the Company or such person, the "Successor Entity")) directly or indirectly, at least a majority of the combined voting power of the Successor Entity's outstanding voting securities immediately after the transaction, and

(ii) After which no person or group beneficially owns voting securities representing 50% or more of the combined voting power of the Successor Entity; *provided, however,* that no person or group shall be treated for purposes of this Section 2.5(c)(ii) as beneficially owning 50% or more of combined voting power of the Successor Entity solely as a result of the voting power held in the Company prior to the consummation of the transaction; or

(d) The Company's stockholders approve a liquidation or dissolution of the Company.

In addition, if a Change in Control constitutes a payment event with respect to any Award which provides for the deferral of compensation and is subject to Section 409A of the Code, the transaction or event described in subsection (a), (b), (c) or (d) with respect to such Award must also constitute a "change in control event," as defined in Treasury Regulation §1.409A-3(i)(5) to the extent required by Section 409A.

The Committee shall have full and final authority, which shall be exercised in its discretion, to determine conclusively whether a Change in Control of the Company has occurred pursuant to the above definition, and the date of the occurrence of such Change in Control and any incidental matters relating thereto.

2.6 "Code" shall mean the Internal Revenue Code of 1986, as amended from time to time.

2.7 "Committee" shall mean the Compensation Committee of the Board, or another committee or subcommittee of the Board, appointed as provided in Section 13.1.

2.8 "Common Stock" shall mean the common stock of the Company, par value $0.001 per share.

2.9 "Company" shall mean Codexis, Inc., a Delaware corporation.

2.10 "Consultant" shall mean any consultant or adviser engaged to provide services to the Company or any Subsidiary that qualifies as a consultant under the applicable rules of the Securities and Exchange Commission for registration of shares on a Form S-8 Registration Statement.

2.11 "Covered Employee" shall mean any Employee who is, or could be, a "covered employee" within the meaning of Section 162(m) of the Code.

2.12 "Deferred Stock" shall mean a right to receive Common Stock awarded under Section 9.4.

2.13 "Director" shall mean a member of the Board, as constituted from time to time.

2.14 "Dividend Equivalent" shall mean a right to receive the equivalent value (in cash or Common Stock) of dividends paid on Common Stock, awarded under Section 9.2.

2.15 "DRO" shall mean a domestic relations order as defined by the Code or Title I of the Employee Retirement Income Security Act of 1974, as amended from time to time, or the rules thereunder.

2.16 "Effective Date" shall mean the date the Plan is approved by the Board, subject to approval of the Plan by the Company's stockholders.

2.17 "Eligible Individual" shall mean any person who is an Employee, a Consultant or a Non-Employee Director, as determined by the Committee.

2.18 "Employee" shall mean any officer or other employee (as determined in accordance with Section 3401(c) of the Code and the Treasury Regulations thereunder) of the Company or of any Subsidiary.

2.19 "Equity Restructuring" shall mean a nonreciprocal transaction between the Company and its stockholders, such as a stock dividend, stock split, spin-off, rights offering or recapitalization through a large, nonrecurring cash dividend, that affects the number or kind of shares of Common Stock (or other securities of the Company) or the share price of Common Stock (or other securities) and causes a change in the per share value of the Common Stock underlying outstanding Awards.

2.20 "Exchange Act" shall mean the Securities Exchange Act of 1934, as amended from time to time.

2.21 "Fair Market Value" shall mean, as of any given date, the value of a share of Common Stock determined as follows:

(a) If the Common Stock is listed on any established stock exchange (such as the New York Stock Exchange, the NASDAQ Global Market and the NASDAQ Global Select Market) or national market system, its Fair Market Value shall be the closing sales price for a share of Common Stock as quoted on such exchange or system for such date or, if there is no closing sales price for a share of Common Stock on the date in question, the closing sales price for a share of Common Stock on the last preceding date for which such quotation exists, as reported in *The Wall Street Journal* or such other source as the Administrator deems reliable;

(b) If the Common Stock is not listed on an established stock exchange or national market system, but the Common Stock is regularly quoted by a recognized securities dealer, its Fair Market Value shall be the mean of the high bid and low asked prices for such date or, if there are no high bid and low asked prices for a share of Common Stock on such date, the high bid and low asked prices for a share of Common Stock on the last preceding date for which such information exists, as reported in *The Wall Street Journal* or such other source as the Administrator deems reliable; or

(c) If the Common Stock is neither listed on an established stock exchange or a national market system nor regularly quoted by a recognized securities dealer, its Fair Market Value shall be established by the Administrator in good faith.

2.22 "Greater Than 10% Stockholder" shall mean an individual then owning (within the meaning of Section 424(d) of the Code) more than 10% of the total combined voting power of all classes of stock of the Company or any subsidiary corporation (as defined in Section 424(f) of the Code) or parent corporation thereof (as defined in Section 424(e) of the Code).

2.23 "Holder" shall mean a person who has been granted an Award.

2.24 "Incentive Stock Option" shall mean an Option that is intended to qualify as an incentive stock option and conforms to the applicable provisions of Section 422 of the Code.

2.25 "Non-Employee Director" shall mean a Director of the Company who is not an Employee.

2.26 "Non-Qualified Stock Option" shall mean an Option that is not an Incentive Stock Option.

2.27 "Option" shall mean a right to purchase shares of Common Stock at a specified exercise price, granted under Article 6. An Option shall be either a Non-Qualified Stock Option or an Incentive Stock Option; provided, however, that Options granted to Non-Employee Directors and Consultants shall be Non-Qualified Stock Options.

2.28 "Performance Award" shall mean a cash bonus award, stock bonus award, performance award or incentive award that is paid in cash, Common Stock or a combination of both, awarded under Section 9.1.

2.29 "Performance-Based Compensation" shall mean any compensation that is intended to qualify as "performance-based compensation" as described in Section 162(m)(4)(C) of the Code.

2.30 "Performance Criteria" shall mean the criteria (and adjustments) that the Committee selects for an Award for purposes of establishing the Performance Goal or Performance Goals for a Performance Period, determined as follows:

(a) The Performance Criteria that shall be used to establish Performance Goals are limited to the following: (i) net earnings (either before or after one or more of the following: (A) interest, (B) taxes, (C) depreciation and (D) amortization), (ii) gross or net sales or revenue, (iii) net income (either before or after taxes), (iv) operating earnings or profit, (v) cash flow (including, but not limited to, operating cash flow and free cash flow), (vi) return on assets, (vii) return on capital, (viii) return on stockholders' equity, (ix) return on sales, (x) gross or net profit or operating margin, (xi) costs, (xii) funds from operations, (xiii) expenses, (xiv) working capital, (xv) earnings per share, (xvi) price per share of Common Stock, (xvii) regulatory body approval for commercialization of a product, (xviii) implementation or completion of critical projects and (xix) market share, any of which may be measured either in absolute terms for the Company or any operating unit of the Company or as compared to any incremental increase or decrease or as compared to results of a peer group or to market performance indicators or indices.

(b) The Administrator may, in its sole discretion, provide that one or more objectively determinable adjustments shall be made to one or more of the Performance Goals. Such adjustments may include one or more of the following: (i) items related to a change in accounting principle; (ii) items relating to financing activities; (iii) expenses for restructuring or productivity initiatives; (iv) other non-operating items; (v) items related to acquisitions; (vi) items attributable to the business operations of any entity acquired by the Company during the Performance Period; (vii) items related to the disposal of a business or segment of a business; (viii) items related to discontinued operations that do not qualify as a segment of a business under United States generally accepted accounting principles ("GAAP"); (ix) items attributable to any stock dividend, stock split, combination or exchange of shares occurring during the Performance Period; or (x) any other items of significant income or expense which are determined to be appropriate adjustments; (xi) items relating to unusual or extraordinary corporate transactions, events or developments, (xii) items related to amortization of acquired intangible assets; (xiii) items that are outside the scope of the Company's core, on-going business activities; or (xiv) items relating to any other unusual or nonrecurring events or changes in applicable laws, accounting principles or business conditions. For all Awards intended to qualify as Performance-Based Compensation, such determinations shall be made within the time prescribed by, and otherwise in compliance with, Section 162(m) of the Code.

2.31 "Performance Goals" shall mean, for a Performance Period, one or more goals established in writing by the Administrator for the Performance Period based upon one or more Performance Criteria. Depending on the Performance Criteria used to establish such Performance Goals, the Performance Goals may be expressed in terms of overall Company performance or the performance of a division, business unit, or an individual.

2.32 "Performance Period" shall mean one or more periods of time, which may be of varying and overlapping durations, as the Administrator may select, over which the attainment of one or more Performance Goals will be measured for the purpose of determining a Holder's right to, and the payment of, a Performance Award.

2.33 "Plan" shall mean this Codexis, Inc. 2010 Equity Incentive Award Plan, as it may be amended or restated from time to time.

2.34 "Prior Plan" shall mean the Codexis, Inc. 2002 Stock Plan, as such plan may be amended from time to time.

2.35 "Public Trading Date" shall mean the first date upon which Common Stock is listed (or approved for listing) upon notice of issuance on any securities exchange or designated (or approved for designation) upon notice of issuance as a national market security on an interdealer quotation system.

2.36 "Restricted Stock" shall mean Common Stock awarded under Article 8 that is subject to certain restrictions and may be subject to risk of forfeiture or repurchase.

2.37 "Restricted Stock Units" shall mean the right to receive Common Stock awarded under Section 9.5.

2.38 "Securities Act" shall mean the Securities Act of 1933, as amended.

2.39 "Stock Appreciation Right" shall mean a stock appreciation right granted under Article 10.

2.40 "Stock Payment" shall mean (a) a payment in the form of shares of Common Stock, or (b) an option or other right to purchase shares of Common Stock, as part of a bonus, deferred compensation or other arrangement, awarded under Section 9.3.

2.41 "Subsidiary" means any entity (other than the Company), whether domestic or foreign, in an unbroken chain of entities beginning with the Company if each of the entities other than the last entity in the unbroken chain beneficially owns, at the time of the determination, securities or interests representing more than fifty percent (50%) of the total combined voting power of all classes of securities or interests in one of the other entities in such chain.

2.42 "Substitute Award" shall mean an Award granted under the Plan upon the assumption of, or in substitution for, outstanding equity awards previously granted by a company or other entity in connection with a corporate transaction, such as a merger, combination, consolidation or acquisition of property or stock; provided, however, that in no event shall the term "Substitute Award" be construed to refer to an award made in connection with the cancellation and repricing of an Option or Stock Appreciation Right.

2.43 "Termination of Service" shall mean:

(a) As to a Consultant, the time when the engagement of a Holder as a Consultant to the Company or a Subsidiary is terminated for any reason, with or without cause, including, without limitation, by resignation, discharge, death or retirement, but excluding terminations where the Consultant simultaneously commences or remains in employment or service with the Company or any Subsidiary.

(b) As to a Non-Employee Director, the time when a Holder who is a Non-Employee Director ceases to be a Director for any reason, including, without limitation, a termination by resignation, failure to be elected, death or retirement, but excluding terminations where the Holder simultaneously commences or remains in employment or service with the Company or any Subsidiary.

(c) As to an Employee, the time when the employee-employer relationship between a Holder and the Company or any Subsidiary is terminated for any reason, including, without limitation, a termination by resignation, discharge, death, disability or retirement; but excluding terminations where the Holder simultaneously commences or remains in employment or service with the Company or any Subsidiary.

The Administrator, in its sole discretion, shall determine the effect of all matters and questions relating to a Termination of Service, including, without limitation, the question of whether a Termination of Service resulted from a discharge for cause and all questions of whether particular leaves of absence constitute a Termination of Service; provided, however, that, with respect to Incentive Stock Options, unless the Administrator otherwise provides in the terms of the Award Agreement or otherwise, a leave of absence, change in status from an employee to an independent contractor or other change in the employee-employer relationship shall constitute a Termination of Service only if, and to the extent that, such leave of absence, change in status or other change interrupts employment for the purposes of Section 422(a)(2) of the Code and the then applicable regulations and revenue rulings under said Section. For purposes of the Plan, a Holder's employee-employer relationship or consultancy relations shall be deemed to be terminated in the event that the Subsidiary employing or contracting with such Holder ceases to remain a Subsidiary following any merger, sale of stock or other corporate transaction or event (including, without limitation, a spin-off).

ARTICLE 3.

SHARES SUBJECT TO THE PLAN

3.1 Number of Shares.

(a) Subject to Section 14.2 and Section 3.1(b) the aggregate number of shares of Stock which may be issued or transferred pursuant to Awards under the Plan is the sum of (i) 1,100,000 shares, (ii) any shares of Stock which as of the Effective Date are available for issuance under the Prior Plan, or are subject to awards under the Prior Plan which are forfeited or lapse unexercised and which following the Effective Date are not issued under the Prior Plan; and (iii) an annual increase on the first day of each year beginning in 2011 and ending in 2020, equal to the least of (A) 3,000,000 shares and (B) four percent (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 the Board; *provided, however*, no more than 40,434,717 shares of Stock may be issued upon the exercise of Incentive Stock Options.

(b) 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 to the Holder, then any shares of Common Stock subject to the Award shall again be available for the grant of an Award pursuant to the Plan. Any shares of Common Stock tendered or withheld to satisfy the grant or exercise price or tax withholding obligation pursuant to any Award shall again be available for the grant of an Award pursuant to the Plan. Any shares of Common Stock repurchased by the Company prior to vesting so that such shares are returned to the Company will again be available for Awards. To the extent permitted by applicable law or any exchange rule, shares of Common Stock issued in assumption of, or in substitution for, any outstanding awards of any entity acquired in any form of combination by the Company or any Subsidiary shall not be counted against shares of Common Stock available for grant pursuant to the Plan. The payment of Dividend Equivalents in cash in conjunction with any outstanding Awards shall not be counted against the shares available for issuance under the Plan. Notwithstanding the provisions of this Section 3.1(b), no shares of Common Stock may again be optioned, granted or awarded if such action would cause an Incentive Stock Option to fail to qualify as an incentive stock option under Section 422 of the Code.

3.2 Stock Distributed. Any Common Stock distributed pursuant to an Award may consist, in whole or in part, of authorized and unissued Common Stock, treasury Common Stock or Common Stock purchased on the open market.

ARTICLE 4.

GRANTING OF AWARDS

4.1 Participation. The Administrator may, from time to time, select from among all Eligible Individuals, those to whom an Award shall be granted and shall determine the nature and amount of each Award, which shall not be inconsistent with the requirements of the Plan. Except as provided in Article 12 regarding the automatic grant of options to Non-Employee Directors, no Eligible Individual shall have any right to be granted an Award pursuant to the Plan.

4.2 Award Agreement. Each Award shall be evidenced by an Award Agreement. Award Agreements evidencing Awards intended to qualify as Performance-Based Compensation shall contain such terms and conditions as may be necessary to meet the applicable provisions of Section 162(m) of the Code. Award Agreements evidencing Incentive Stock Options shall contain such terms and conditions as may be necessary to meet the applicable provisions of Section 422 of the Code.

4.3 Limitations Applicable to Section 16 Persons. Notwithstanding any other provision of the Plan, the Plan, and any Award granted or awarded to any individual who is then subject to Section 16 of the Exchange Act, shall be subject to any additional limitations set forth in any applicable exemptive rule under Section 16 of the Exchange Act (including Rule 16b-3 of the Exchange Act and any amendments thereto) that are requirements for the application of such exemptive rule. To the extent permitted by applicable law, the Plan and Awards granted or awarded hereunder shall be deemed amended to the extent necessary to conform to such applicable exemptive rule.

4.4 At-Will Employment. Nothing in the Plan or in any Award Agreement hereunder shall confer upon any Holder any right to continue in the employ of, or as a Director or Consultant for, the Company or any Subsidiary, or shall interfere with or restrict in any way the rights of the Company and any Subsidiary, which rights are hereby expressly reserved, to discharge any Holder at any time for any reason whatsoever, with or without cause, except to the extent expressly provided otherwise in a written agreement between the Holder and the Company or any Subsidiary.

4.5 Foreign Holders. Notwithstanding any provision of the Plan to the contrary, in order to comply with the laws in other countries in which the Company and its Subsidiaries operate or have Employees, Non-Employee Directors or Consultants, or in order to comply with the requirements of any foreign stock exchange, the Administrator, in its sole discretion, shall have the power and authority to: (a) determine which Subsidiaries shall be covered by the Plan; (b) determine which Eligible Individuals outside the United States are eligible to participate in the Plan; (c) modify the terms and conditions of any Award granted to Eligible Individuals outside the United States to comply with applicable foreign laws or listing requirements of any such foreign stock exchange; (d) establish subplans and modify exercise procedures and other terms and procedures, to the extent such actions may be necessary or advisable (any such subplans and/or modifications shall be attached to the Plan as appendices); provided, however, that no such subplans and/or modifications shall increase the share limitations contained in Sections 3.1; and (e) take any action, before or after an Award is made, that it deems advisable to obtain approval or comply with any necessary local governmental regulatory exemptions or approvals or listing requirements of any such foreign stock exchange. Notwithstanding the foregoing, the Administrator may not take any actions hereunder, and no Awards shall be granted, that would violate the Exchange Act, the Securities Act or any other securities law or governing statute or any other applicable law.

4.6 Stand-Alone and Tandem Awards . Awards granted pursuant to the Plan may, in the sole discretion of the Administrator, be granted either alone, in addition to, or in tandem with, any other Award granted pursuant to the Plan. Awards granted in addition to or in tandem with other Awards may be granted either at the same time as or at a different time from the grant of such other Awards.

ARTICLE 5.

PROVISIONS APPLICABLE TO AWARDS INTENDED TO QUALIFY AS PERFORMANCE-BASED COMPENSATION.

5.1 Purpose. The Committee, in its sole discretion, may determine whether an Award is to qualify as Performance-Based Compensation. If the Committee, in its sole discretion, decides to grant such an Award to an Eligible Individual that is intended to qualify as Performance-Based Compensation, then the provisions of this Article 5 shall control over any contrary provision contained in the Plan. The Administrator may in its sole discretion grant Awards to other Eligible Individuals that are based on Performance Criteria or Performance Goals but that do not satisfy the requirements of this Article 5 and that are not intended to qualify as Performance-Based Compensation. Unless otherwise specified by the Administrator at the time of grant, the Performance Criteria with respect to an Award intended to be Performance-Based Compensation payable to a Covered Employee shall be determined on the basis of GAAP.

5.2 Applicability. The grant of an Award to an Eligible Individual for a particular Performance Period shall not require the grant of an Award to such Individual in any subsequent Performance Period and the grant of an Award to any one Eligible Individual shall not require the grant of an Award to any other Eligible Individual in such period or in any other period.

5.3 Types of Awards . Notwithstanding anything in the Plan to the contrary, the Committee may grant any Award to an Eligible Individual intended to qualify as Performance-Based Compensation, including, without limitation, Restricted Stock the restrictions with respect to which lapse upon the attainment of specified Performance Goals, and any performance or incentive Awards described in Article 9 that vest or become exercisable or payable upon the attainment of one or more specified Performance Goals.

5.4 Procedures with Respect to Performance-Based Awards. To the extent necessary to comply with the requirements of Section 162(m)(4)(C) of the Code, with respect to any Award granted under Articles 8 or 9 to one or more Eligible Individuals and which is intended to qualify as Performance-Based Compensation, no later than 90 days following the commencement of any Performance Period or any designated fiscal period or period of service (or such earlier time as may be required under Section 162(m) of the Code), the Committee shall, in writing, (a) designate one or more Holders, (b) select the Performance Criteria applicable to the Performance Period, (c) establish the Performance Goals, and amounts of such Awards, as applicable, which may be earned for such Performance Period based on the Performance Criteria, and (d) specify the relationship between Performance Criteria and the Performance Goals and the amounts of such Awards, as applicable, to be earned by each Covered Employee for such Performance Period. Following the completion of each Performance Period, the Committee shall certify in writing whether and the extent to which the applicable Performance Goals have been achieved for such Performance Period. In determining the amount earned under such Awards, the Committee shall have the right to reduce or eliminate (but not to increase) the amount payable at a given level of performance to take into account additional factors that the Committee may deem relevant to the assessment of individual or corporate performance for the Performance Period.

5.5 Payment of Performance-Based Awards. Unless otherwise provided in the applicable Award Agreement and only to the extent otherwise permitted by Section 162(m)(4)(C) of the Code, as to an Award that is intended to qualify as Performance-Based Compensation, the Holder must be employed by the Company or a Subsidiary throughout the Performance Period. Furthermore, a Holder shall be eligible to receive payment pursuant to such Awards for a Performance Period only if and to the extent the Performance Goals for such period are achieved.

5.6 Additional Limitations. Notwithstanding any other provision of the Plan, any Award which is granted to an Eligible Individual and is intended to qualify as Performance-Based Compensation shall be subject to any additional limitations set forth in Section 162(m) of the Code or any regulations or rulings issued thereunder that are requirements for qualification as Performance-Based Compensation, and the Plan and the Award Agreement shall be deemed amended to the extent necessary to conform to such requirements.

ARTICLE 6.

GRANTING OF OPTIONS

6.1 Granting of Options to Eligible Individuals. The Administrator is authorized to grant Options to Eligible Individuals from time to time, in its sole discretion, on such terms and conditions as it may determine which shall not be inconsistent with the Plan.

6.2 Qualification of Incentive Stock Options. No Incentive Stock Option shall be granted to any person who is not an Employee of the Company or any subsidiary corporation of the Company (as defined in Section 424(f) of the Code). No person who qualifies as a Greater Than 10% Stockholder may be granted an Incentive Stock Option unless such Incentive Stock Option conforms to the applicable provisions of Section 422 of the Code. Any Incentive Stock Option granted under the Plan may be modified by the Administrator, with the consent of the Holder, to disqualify such Option from treatment as an "incentive stock option" under Section 422 of the Code. To the extent that the aggregate fair market value of stock with respect to which "incentive stock options" (within the meaning of Section 422 of the Code, but without regard to Section 422(d) of the Code) are exercisable for the first time by a Holder during any calendar year under the Plan, and all other plans of the Company and any Subsidiary or parent corporation thereof (as defined in Section 424(e) of the Code), exceeds $100,000, the Options shall be treated as Non-Qualified Stock Options to the extent required by Section 422 of the Code. The rule set forth in the preceding sentence shall be applied by taking Options and other "incentive stock options" into account in the order in which they were granted and the fair market value of stock shall be determined as of the time the respective options were granted.

6.3 Option Exercise Price. The exercise price per share of Common Stock subject to each Option shall be set by the Administrator, but shall not be less than 100% of the Fair Market Value of a share of Common Stock on the date the Option is granted (or, as to Incentive Stock Options, on the date the Option is modified, extended or renewed for purposes of Section 424(h) of the Code), unless otherwise determined by the Administrator. In addition, in the case of Incentive Stock Options granted to a Greater Than 10% Stockholder, such price shall not be less than 110% of the Fair Market Value of a share of Common Stock on the date the Option is granted (or the date the Option is modified, extended or renewed for purposes of Section 424(h) of the Code).

6.4 Option Term. The term of each Option shall be set by the Administrator in its sole discretion;provided, however, that the term shall not be more than ten (10) years from the date the Option is granted, or five (5) years from the date an Incentive Stock Option is granted to a Greater Than 10% Stockholder. The Administrator shall determine the time period, including the time period following a Termination of Service, during which the Holder has the right to exercise the vested Options, which time period may not extend beyond the term of the Option term. Except as limited by the requirements of Section 409A or Section 422 of the Code and regulations and rulings thereunder, the Administrator may extend the term of any outstanding Option, and may extend the time period during which vested Options may be exercised, in connection with any Termination of Service of the Holder, and may amend any other term or condition of such Option relating to such a Termination of Service.

6.5 Option Vesting.

(a) The Administrator shall determine the period during which a Holder shall vest in an Option and have the right to exercise such Option in whole or in part. Such vesting may be based on service with the Company or any Subsidiary, any of the Performance Criteria, or any other criteria selected by the Administrator. At any time after grant of an Option, the Administrator may, in its sole discretion and subject to whatever terms and conditions it selects, accelerate the period during which an Option vests.

(b) No portion of an Option which is unexercisable at a Holder's Termination of Service shall thereafter become exercisable, except as may be otherwise provided by the Administrator either in the Award Agreement or by action of the Administrator following the grant of the Option.

6.6 Substitute Awards. Notwithstanding the foregoing provisions of this Article 6 to the contrary, in the case of an Option that is a Substitute Award, the price per share of the shares subject to such Option may be less than the Fair Market Value per share on the date of grant, provided, that the excess of: (a) the aggregate Fair Market Value (as of the date such Substitute Award is granted) of the shares subject to the Substitute Award, over (b) the aggregate exercise price thereof does not exceed the excess of: (x) the aggregate fair market value (as of the time immediately preceding the transaction giving rise to the Substitute Award, such fair market value to be determined by the Administrator) of the shares of the predecessor entity that were subject to the grant assumed or substituted for by the Company, over (y) the aggregate exercise price of such shares.

6.7 Substitution of Stock Appreciation Rights. The Administrator may provide in the Award Agreement evidencing the grant of an Option that the Administrator, in its sole discretion, shall have the right to substitute a Stock Appreciation Right for such Option at any time prior to or upon exercise of such Option; provided, that such Stock Appreciation Right shall be exercisable with respect to the same number of shares of Common Stock for which such substituted Option would have been exercisable.

ARTICLE 7.

EXERCISE OF OPTIONS

7.1 Partial Exercise. An exercisable Option may be exercised in whole or in part. However, an Option shall not be exercisable with respect to fractional shares and the Administrator may require that, by the terms of the Option, a partial exercise must be with respect to a minimum number of shares.

7.2 Manner of Exercise. All or a portion of an exercisable Option shall be deemed exercised upon delivery of all of the following to the Secretary of the Company, or such other person or entity designated by the Administrator, or his, her or its office, as applicable:

(a) A written notice complying with the applicable rules established by the Administrator stating that the Option, or a portion thereof, is exercised. The notice shall be signed by the Holder or other person then entitled to exercise the Option or such portion of the Option;

(b) Such representations and documents as the Administrator, in its sole discretion, deems necessary or advisable to effect compliance with all applicable provisions of the Securities Act and any other federal, state or foreign securities laws or regulations. The Administrator may, in its sole discretion, also take whatever additional actions it deems appropriate to effect such compliance including, without limitation, placing legends on share certificates and issuing stop-transfer notices to agents and registrars;

(c) In the event that the Option shall be exercised pursuant to Section 11.3 by any person or persons other than the Holder, appropriate proof of the right of such person or persons to exercise the Option; and

(d) Full payment of the exercise price and applicable withholding taxes to the Secretary of the Company for the shares with respect to which the Option, or portion thereof, is exercised, in a manner permitted by Section 11.1 and 11.2.

7.3 Notification Regarding Disposition. The Holder shall give the Company prompt notice of any disposition of shares of Common Stock acquired by exercise of an Incentive Stock Option which occurs within (a) two years from the date of granting (including the date the Option is modified, extended or renewed for purposes of Section 424(h) of the Code) such Option to such Holder, or (b) one year after the transfer of such shares to such Holder.

ARTICLE 8.

AWARD OF RESTRICTED STOCK

8.1 Award of Restricted Stock.

(a) The Administrator is authorized to grant Restricted Stock to Eligible Individuals, and shall determine the terms and conditions, including the restrictions applicable to each award of Restricted Stock, which terms and conditions shall not be inconsistent with the Plan, and may impose such conditions on the issuance of such Restricted Stock as it deems appropriate.

(b) The Administrator shall establish the purchase price, if any, and form of payment for Restricted Stock; provided, however, that such purchase price shall be no less than the par value of the Common Stock to be purchased, unless otherwise permitted by applicable state law. In all cases, legal consideration shall be required for each issuance of Restricted Stock.

8.2 Rights as Stockholders. Subject to Section 8.4, upon issuance of Restricted Stock, the Holder shall have, unless otherwise provided by the Administrator, all the rights of a stockholder with respect to said shares, subject to the restrictions in his or her Award Agreement, including the right to receive all dividends and other distributions paid or made with respect to the shares; provided, however, that, in the sole discretion of the Administrator, any extraordinary distributions with respect to the Common Stock shall be subject to the restrictions set forth in Section 8.3.

8.3 Restrictions. All shares of Restricted Stock (including any shares received by Holders thereof with respect to shares of Restricted Stock as a result of stock dividends, stock splits or any other form of recapitalization) shall, in the terms of each individual Award Agreement, be subject to such restrictions and vesting requirements as the Administrator shall provide. Such restrictions may include, without limitation, restrictions concerning voting rights and transferability and such restrictions may lapse separately or in combination at such times and pursuant to such circumstances or based on such criteria as selected by the Administrator, including, without limitation, criteria based on the Holder's duration of employment, directorship or consultancy with the Company, the Performance Criteria, Company performance, individual performance or other criteria selected by the Administrator. By action taken after the Restricted Stock is issued, the Administrator may, on such terms and conditions as it may determine to be appropriate, accelerate the vesting of such Restricted Stock by removing any or all of the restrictions imposed by the terms of the Award Agreement. Restricted Stock may not be sold or encumbered until all restrictions are terminated or expire.

8.4 Repurchase or Forfeiture of Restricted Stock. If no price was paid by the Holder for the Restricted Stock, upon a Termination of Service the Holder's rights in unvested Restricted Stock then subject to restrictions shall lapse, and such Restricted Stock shall be surrendered to the Company and cancelled without consideration. If a price was paid by the Holder for the Restricted Stock, upon a Termination of Service the Company shall have the right to repurchase from the Holder the unvested Restricted Stock then subject to restrictions at a cash price per share equal to the price paid by the Holder for such Restricted Stock or such other amount as may be specified in the Award Agreement The Administrator in its sole discretion may provide that in the event of certain events, including a Change in Control, the Holder's death, retirement or disability or any other specified Termination of Service or any other event, the Holder's rights in unvested Restricted Stock shall not lapse, such Restricted Stock shall vest and, if applicable, the Company shall not have a right of repurchase.

8.5 Certificates for Restricted Stock. Restricted Stock granted pursuant to the Plan may be evidenced in such manner as the Administrator shall determine. Certificates or book entries evidencing shares of Restricted Stock must include an appropriate legend referring to the terms, conditions, and restrictions applicable to such Restricted Stock, and the Company may, in it sole discretion, retain physical possession of any stock certificate until such time as all applicable restrictions lapse.

8.6 Section 83(b) Election. If a Holder makes an election under Section 83(b) of the Code to be taxed with respect to the Restricted Stock as of the date of transfer of the Restricted Stock rather than as of the date or dates upon which the Holder would otherwise be taxable under Section 83(a) of the Code, the Holder shall be required to deliver a copy of such election to the Company promptly after filing such election with the Internal Revenue Service.

ARTICLE 9.

AWARD OF PERFORMANCE AWARDS, DIVIDEND EQUIVALENTS, DEFERRED STOCK, STOCK PAYMENTS, RESTRICTED STOCK UNITS

9.1 Performance Awards.

(a) The Administrator is authorized to grant Performance Awards to any Eligible Individual and to determine whether such Performance Awards shall be Performance-Based Compensation. The value of Performance Awards may be linked to any one or more of the Performance Criteria or other specific criteria determined by the Administrator, in each case on a specified date or dates or over any period or periods determined by the Administrator. In making such determinations, the Administrator shall consider (among such other factors as it deems relevant in light of the specific type of Award) the contributions, responsibilities and other compensation of the particular Eligible Individual. Performance Awards may be paid in cash, shares of Common Stock, or both, as determined by the Administrator.

(b) Without limiting Section 9.1(a), the Administrator may grant Performance Awards to any Eligible Individual in the form of a cash bonus payable upon the attainment of objective Performance Goals, or such other criteria, whether or not objective, which are established by the Administrator, in each case on a specified date or dates or over any period or periods determined by the Administrator. Any such bonuses paid to a Holder which are intended to be Performance-Based Compensation shall be based upon objectively determinable bonus formulas established in accordance with the provisions of Article 5.

9.2 Dividend Equivalents.

(a) Dividend Equivalents may be granted by the Administrator based on dividends declared on the Common Stock, to be credited as of dividend payment dates during the period between the date an Award is granted to a Holder and the date such Award vests, is exercised, is distributed or expires, as determined by the Administrator. Such Dividend Equivalents shall be converted to cash or additional shares of Common Stock by such formula and at such time and subject to such limitations as may be determined by the Administrator.

(b) Notwithstanding the foregoing, no Dividend Equivalents shall be payable with respect to Options or Stock Appreciation Rights, unless otherwise determined by the Administrator.

9.3 Stock Payments. The Administrator is authorized to make Stock Payments to any Eligible Individual. The number or value of shares of any Stock Payment shall be determined by the Administrator and may be based upon one or more Performance Criteria or any other specific criteria, including service to the Company or any Subsidiary, determined by the Administrator. Stock Payments may, but are not required to be made in lieu of base salary, bonus, fees or other cash compensation otherwise payable to such Eligible Individual.

9.4 Deferred Stock. The Administrator is authorized to grant Deferred Stock to any Eligible Individual. The number of shares of Deferred Stock shall be determined by the Administrator and may be based on one or more Performance Criteria or other specific criteria, including service to the Company or any Subsidiary, as the Administrator determines, in each case on a specified date or dates or over any period or periods determined by the Administrator. Common Stock underlying a Deferred Stock award will not be issued until the Deferred Stock award has vested, pursuant to a vesting schedule or other conditions or criteria set by the Administrator. Unless otherwise provided by the Administrator, a Holder of Deferred Stock shall have no rights as a Company stockholder with respect to such Deferred Stock until such time as the Award has vested and the Common Stock underlying the Award has been issued to the Holder.

9.5 Restricted Stock Units. The Administrator is authorized to grant Restricted Stock Units to any Eligible Individual. The number and terms and conditions of Restricted Stock Units shall be determined by the Administrator. The Administrator shall specify the date or dates on which the Restricted Stock Units shall become fully vested and nonforfeitable, and may specify such conditions to vesting as it deems appropriate, including conditions based on one or more Performance Criteria or other specific criteria, including service to the Company or any Subsidiary, in each case on a specified date or dates or over any period or periods, as the Administrator determines. The Administrator shall specify, or permit the Holder to elect, the conditions and dates upon which the shares of Common Stock underlying the Restricted Stock Units which shall be issued. On the distribution dates, the Company shall issue to the Holder one unrestricted, fully transferable share of Common Stock for each vested and nonforfeitable Restricted Stock Unit.

9.6 Term. The term of a Performance Award, Dividend Equivalent award, Deferred Stock award, Stock Payment award and/or Restricted Stock Unit award shall be set by the Administrator in its sole discretion.

9.7 Exercise or Purchase Price. The Administrator may establish the exercise or purchase price of a Performance Award, shares of Deferred Stock, shares distributed as a Stock Payment award or shares distributed pursuant to a Restricted Stock Unit award; provided, however, that value of the consideration shall not be less than the par value of a share of Common Stock, unless otherwise permitted by applicable law.

9.8 Exercise upon Termination of Service. A Performance Award, Dividend Equivalent award, Deferred Stock award, Stock Payment award and/or Restricted Stock Unit award is exercisable or distributable only while the Holder is an Employee, Director or Consultant, as applicable. The Administrator, however, in its sole discretion may provide that the Performance Award, Dividend Equivalent award, Deferred Stock award, Stock Payment award and/or Restricted Stock Unit award may be exercised or distributed subsequent to a Termination of Service in certain events, including a Change in Control, the Holder's death, retirement or disability or any other specified Termination of Service.

ARTICLE 10.

AWARD OF STOCK APPRECIATION RIGHTS

10.1 Grant of Stock Appreciation Rights.

(a) The Administrator is authorized to grant Stock Appreciation Rights to Eligible Individuals from time to time, in its sole discretion, on such terms and conditions as it may determine consistent with the Plan.

(b) A Stock Appreciation Right shall entitle the Holder (or other person entitled to exercise the Stock Appreciation Right pursuant to the Plan) to exercise all or a specified portion of the Stock Appreciation Right (to the extent then exercisable pursuant to its terms) and to receive from the Company an amount determined by multiplying the difference obtained by subtracting the exercise price per share of the Stock Appreciation Right from the per share Fair Market Value on the date of exercise of the Stock Appreciation Right by the number of shares of Common Stock with respect to which the Stock Appreciation Right shall have been exercised, subject to any limitations the Administrator may impose. Except as described in (c) below, the exercise price per share of Common Stock subject to each Stock Appreciation Right shall be set by the Administrator, but shall not be less than 100% of the Fair Market Value on the date the Stock Appreciation Right is granted, unless determined otherwise by the Administrator.

(c) Notwithstanding the foregoing provisions of Section 10.1(b) to the contrary, in the case of an Stock Appreciation Right that is a Substitute Award, the price per share of the shares subject to such Stock Appreciation Right may be less than the Fair Market Value per share on the date of grant, provided, that the excess of: (a) the aggregate Fair Market Value (as of the date such Substitute Award is granted) of the shares subject to the Substitute Award, over (b) the aggregate exercise price thereof does not exceed the excess of: (x) the aggregate fair market value (as of the time immediately preceding the transaction giving rise to the Substitute Award, such fair market value to be determined by the Administrator) of the shares of the predecessor entity that were subject to the grant assumed or substituted for by the Company, over (y) the aggregate exercise price of such shares.

10.2 Stock Appreciation Right Vesting.

(a) The Administrator shall determine the period during which a Holder shall vest in a Stock Appreciation Right and have the right to exercise such Stock Appreciation Right in whole or in part. Such vesting may be based on service with the Company or any Subsidiary, or any other criteria selected by the Administrator. At any time after grant of a Stock Appreciation Right, the Administrator may, in its sole discretion and subject to whatever terms and conditions it selects, accelerate the period during which a Stock Appreciation Right vests.

(b) No portion of a Stock Appreciation Right which is unexercisable at Termination of Service shall thereafter become exercisable, except as may be otherwise provided by the Administrator either in the Award Agreement or by action of the Administrator following the grant of the Stock Appreciation Right.

10.3 Manner of Exercise. All or a portion of an exercisable Stock Appreciation Right shall be deemed exercised upon delivery of all of the following to the Secretary of the Company, or such other person or entity designated by the Administrator, or his, her or its office, as applicable:

(a) A written notice complying with the applicable rules established by the Administrator stating that the Stock Appreciation Right, or a portion thereof, is exercised. The notice shall be signed by the Holder or other person then entitled to exercise the Stock Appreciation Right or such portion of the Stock Appreciation Right;

(b) Such representations and documents as the Administrator, in its sole discretion, deems necessary or advisable to effect compliance with all applicable provisions of the Securities Act and any other federal, state or foreign securities laws or regulations. The Administrator may, in its sole discretion, also take whatever additional actions it deems appropriate to effect such compliance; and

(c) In the event that the Stock Appreciation Right shall be exercised pursuant to this Section 10.3 by any person or persons other than the Holder, appropriate proof of the right of such person or persons to exercise the Stock Appreciation Right.

10.4 Payment. Payment of the amount determined under Section 10.1(b) above shall be in cash, shares of Common Stock (based on its Fair Market Value as of the date the Stock Appreciation Right is exercised), or a combination of both, as determined by the Administrator.

ARTICLE 11.

ADDITIONAL TERMS OF AWARDS

11.1 Payment. The Administrator shall determine the methods by which payments by any Holder with respect to any Awards granted under the Plan shall be made, including, without limitation: (a) cash or check, (b) shares of Common Stock (including, in the case of payment of the exercise price of an Award, shares of Common Stock issuable pursuant to the exercise of the Award) or shares of Common Stock held for such period of time as may be required by the Administrator in order to avoid adverse accounting consequences, in each case, having a Fair Market Value on the date of delivery equal to the aggregate payments required, (c) delivery of a notice that the Holder has placed a market sell order with a broker with respect to shares of Common Stock then issuable upon exercise or vesting of an Award, and that the broker has been directed to pay a sufficient portion of the net proceeds of the sale to the Company in satisfaction of the aggregate payments required, *provided,* that payment of such proceeds is then made to the Company upon settlement of such sale, or (d) other form of legal consideration acceptable to the Administrator. The Administrator shall also determine the methods by which shares of Common Stock shall be delivered or deemed to be delivered to Holders. Notwithstanding any other provision of the Plan to the contrary, no Holder who is a Director or an "executive officer" of the Company within the meaning of Section 13(k) of the Exchange Act shall be permitted to make payment with respect to any Awards granted under the Plan, or continue any extension of credit with respect to such payment with a loan from the Company or a loan arranged by the Company in violation of Section 13(k) of the Exchange Act.

11.2 Tax Withholding. The Company or any Subsidiary shall have the authority and the right to deduct or withhold, or require a Holder to remit to the Company, an amount sufficient to satisfy federal, state, local and foreign taxes (including the Holder's FICA or employment tax obligation) required by law to be withheld with respect to any taxable event concerning a Holder arising as a result of the Plan. The Administrator may in its sole discretion and in satisfaction of the foregoing requirement withhold, or allow a Holder to elect to have the Company withhold shares of Common Stock otherwise issuable under an Award (or allow the surrender of shares of Common Stock). Unless determined otherwise by the Administrator, the number of shares of Common Stock which may be so withheld or surrendered shall be limited to the number of shares which have a Fair Market Value on the date of withholding or repurchase no greater than the aggregate amount of such liabilities based on the minimum statutory withholding rates for federal, state, local and foreign income tax and payroll tax purposes that are applicable to such supplemental taxable income. The Administrator shall determine the fair market value of the Common Stock, consistent with applicable provisions of the Code, for tax withholding obligations due in connection with a broker-assisted cashless Option or Stock Appreciation Right exercise involving the sale of shares to pay the Option or Stock Appreciation Right exercise price or any tax withholding obligation.

11.3 Transferability of Awards.

(a) Except as otherwise provided in Section 11.3(b):

(i) No Award under the Plan may be sold, pledged, assigned or transferred in any manner other than by will or the laws of descent and distribution or, subject to the consent of the Administrator, pursuant to a DRO, unless and until such Award has been exercised, or the shares underlying such Award have been issued, and all restrictions applicable to such shares have lapsed;

(ii) No Award or interest or right therein shall be liable for the debts, contracts or engagements of the Holder or his successors in interest or shall be subject to disposition by transfer, alienation, anticipation, pledge, hypothecation, encumbrance, assignment or any other means whether such disposition be voluntary or involuntary or by operation of law by judgment, levy, attachment, garnishment or any other legal or equitable proceedings (including bankruptcy), and any attempted disposition thereof shall be null and void and of no effect, except to the extent that such disposition is permitted by the preceding sentence; and

(iii) During the lifetime of the Holder, only the Holder may exercise an Award (or any portion thereof) granted to him under the Plan, unless it has been disposed of pursuant to a DRO; after the death of the Holder, any exercisable portion of an Award may, prior to the time when such portion becomes unexercisable under the Plan or the applicable Award Agreement, be exercised by his personal representative or by any person empowered to do so under the deceased Holder's will or under the then applicable laws of descent and distribution.

(b) Notwithstanding Section 11.3(a), the Administrator, in its sole discretion, may determine to permit a Holder to transfer an Award other than an Incentive Stock Option to any one or more Permitted Transferees (as defined below), subject to the following terms and conditions: (i) an Award transferred to a Permitted Transferee shall not be assignable or transferable by the Permitted Transferee other than by will or the laws of descent and distribution; (ii) an Award transferred to a Permitted Transferee shall continue to be subject to all the terms and conditions of the Award as applicable to the original Holder (other than the ability to further transfer the Award); and (iii) the Holder and the Permitted Transferee shall execute any and all documents requested by the Administrator, including, without limitation documents to (A) confirm the status of the transferee as a Permitted Transferee, (B) satisfy any requirements for an exemption for the transfer under applicable federal, state and foreign securities laws and (C) evidence the transfer. For purposes of this Section 11.3(b), "Permitted Transferee" shall mean, with respect to a Holder, any "family member" of the Holder, as defined under the instructions to use of the Form S-8 Registration Statement under the Securities Act, or any other transferee specifically approved by the Administrator after taking into account any state, federal, local or foreign tax and securities laws applicable to transferable Awards.

(c) Notwithstanding Section 11.3(a), a Holder may, in the manner determined by the Administrator, designate a beneficiary to exercise the rights of the Holder and to receive any distribution with respect to any Award upon the Holder's death. A beneficiary, legal guardian, legal representative, or other person claiming any rights pursuant to the Plan is subject to all terms and conditions of the Plan and any Award Agreement applicable to the Holder, except to the extent the Plan and Award Agreement otherwise provide, and to any additional restrictions deemed necessary or appropriate by the Administrator. If the Holder is married or a domestic partner in a domestic partnership qualified under applicable law and resides in a community property state, a designation of a person other than the Holder's spouse or domestic partner, as applicable, as his or her beneficiary with respect to more than 50% of the Holder's interest in the Award shall not be effective without the prior written consent of the Holder's spouse or domestic partner. If no beneficiary has been designated or survives the Holder, payment shall be made to the person entitled thereto pursuant to the Holder's will or the laws of descent and distribution. Subject to the foregoing, a beneficiary designation may be changed or revoked by a Holder at any time provided the change or revocation is filed with the Administrator prior to the Holder's death.

11.4 Conditions to Issuance of Shares.

(a) Notwithstanding anything herein to the contrary, the Company shall not be required to issue or deliver any certificates or make any book entries evidencing shares of Common Stock pursuant to the exercise of any Award, unless and until the Board has determined, with advice of counsel, that the issuance of such shares is in compliance with all applicable laws, regulations of governmental authorities and, if applicable, the requirements of any exchange on which the shares of Common Stock are listed or traded, and the shares of Common Stock are covered by an effective registration statement or applicable exemption from registration. In addition to the terms and conditions provided herein, the Board may require that a Holder make such reasonable covenants, agreements, and representations as the Board, in its discretion, deems advisable in order to comply with any such laws, regulations, or requirements.

(b) All Common Stock certificates delivered pursuant to the Plan and all shares issued pursuant to book entry procedures are subject to any stop-transfer orders and other restrictions as the Administrator deems necessary or advisable to comply with federal, state, or foreign securities or other laws, rules and regulations and the rules of any securities exchange or automated quotation system on which the Common Stock is listed, quoted, or traded. The Administrator may place legends on any Common Stock certificate or book entry to reference restrictions applicable to the Common Stock.

(c) The Administrator shall have the right to require any Holder to comply with any timing or other restrictions with respect to the settlement, distribution or exercise of any Award, including a window-period limitation, as may be imposed in the sole discretion of the Administrator.

(d) No fractional shares of Common Stock shall be issued and the Administrator shall determine, in its sole discretion, whether cash shall be given in lieu of fractional shares or whether such fractional shares shall be eliminated by rounding down.

(e) Notwithstanding any other provision of the Plan, unless otherwise determined by the Administrator or required by any applicable law, rule or regulation, the Company shall not deliver to any Holder certificates evidencing shares of Common Stock issued in connection with any Award and instead such shares of Common Stock shall be recorded in the books of the Company (or, as applicable, its transfer agent or stock plan administrator).

11.5 Forfeiture Provisions. Pursuant to its general authority to determine the terms and conditions applicable to Awards under the Plan, the Administrator shall have the right to provide, in the terms of Awards made under the Plan, or to require a Holder to agree by separate written instrument, that: (a)(i) any proceeds, gains or other economic benefit actually or constructively received by the Holder upon any receipt or exercise of the Award, or upon the receipt or resale of any Common Stock underlying the Award, must be paid to the Company, and (ii) the Award shall terminate and any unexercised portion of the Award (whether or not vested) shall be forfeited, if (b)(i) a Termination of Service occurs prior to a specified date, or within a specified time period following receipt or exercise of the Award, or (ii) the Holder at any time, or during a specified time period, engages in any activity in competition with the Company, or which is inimical, contrary or harmful to the interests of the Company, as further defined by the Administrator or (iii) the Holder incurs a Termination of Service for “cause” (as such term is defined in the sole discretion of the Administrator, or as set forth in a written agreement relating to such Award between the Company and the Holder).

11.6 Repricing. Subject to Section 14.2, the Administrator shall have the authority, without the approval of the stockholders of the Company, to amend any outstanding award, in whole or in part, to increase or reduce the price per share or to cancel and replace an Award, in whole or in part, with the grant of an Award having a price per share that is less than, greater than or equal to the price per share of the original Award.

ARTICLE 12.

NON-EMPLOYEE DIRECTOR AWARDS

12.1 Non-Employee Director Awards. The Board may grant Awards to Non-Employee Directors, subject to the limitations of the Plan, pursuant to a written non-discretionary formula established by the Committee, or any successor committee thereto carrying out its responsibilities on the date of grant of any such Award (the "Non-Employee Director Equity Compensation Policy"). The Non-Employee Director Equity Compensation Policy shall set forth the type of Award(s) to be granted to Non-Employee Directors, the number of shares of Common Stock to be subject to Non-Employee Director Awards, the conditions on which such Awards shall be granted, become exercisable and/or payable and expire, and such other terms and conditions as the Committee (or such other successor committee as described above) shall determine in its discretion.

ARTICLE 13.

ADMINISTRATION

13.1 Administrator. The Compensation Committee (or another committee or a subcommittee of the Board assuming the functions of the Committee under the Plan) shall administer the Plan (except as otherwise permitted herein) and shall consist solely of two or more Non-Employee Directors appointed by and holding office at the pleasure of the Board, each of whom is intended to qualify as both a "non-employee director" as defined by Rule 16b-3 of the Exchange Act or any successor rule, an "outside director" for purposes of Section 162(m) of the Code and an "independent director" under the rules of the NASDAQ Stock Market (or other principal securities market on which shares of Common Stock are traded); provided, that any action taken by the Committee shall be valid and effective, whether or not members of the Committee at the time of such action are later determined not to have satisfied the requirements for membership set forth in this Section 13.l or otherwise provided in any charter of the Committee. Except as may otherwise be provided in any charter of the Committee, appointment of Committee members shall be effective upon acceptance of appointment. Committee members may resign at any time by delivering written notice to the Board. Vacancies in the Committee may only be filled by the Board. Notwithstanding the foregoing, (a) the full Board, acting by a majority of its members in office, shall conduct the general administration of the Plan with respect to Awards granted to Non-Employee Directors and (b) the Board or Committee may delegate its authority hereunder to the extent permitted by Section 13.6.

13.2 Duties and Powers of Committee. It shall be the duty of the Committee to conduct the general administration of the Plan in accordance with its provisions. The Committee shall have the power to interpret the Plan and the Award Agreement, and to adopt such rules for the administration, interpretation and application of the Plan as are not inconsistent therewith, to interpret, amend or revoke any such rules and to amend any Award Agreement provided that the rights or obligations of the holder of the Award that is the subject of any such Award Agreement are not affected adversely by such amendment, unless the consent of the Holder is obtained or such amendment is otherwise permitted under Section 14.10. Any such grant or award under the Plan need not be the same with respect to each holder. Any such interpretations and rules with respect to Incentive Stock Options shall be consistent with the provisions of Section 422 of the Code. In its sole discretion, the Board may at any time and from time to time exercise any and all rights and duties of the Committee under the Plan except with respect to matters which under Rule 16b-3 under the Exchange Act or any successor rule, or Section 162(m) of the Code, or any regulations or rules issued thereunder, are required to be determined in the sole discretion of the Committee.

13.3 Action by the Committee. Unless otherwise established by the Board or in any charter of the Committee, a majority of the Committee shall constitute a quorum and the acts of a majority of the members present at any meeting at which a quorum is present, and acts approved in writing by all members of the Committee in lieu of a meeting, shall be deemed the acts of the Committee. Each member of the Committee is entitled to, in good faith, rely or act upon any report or other information furnished to that member by any officer or other employee of the Company or any Subsidiary, the Company's independent certified public accountants, or any executive compensation consultant or other professional retained by the Company to assist in the administration of the Plan.

13.4 Authority of Administrator. Subject to any specific designation in the Plan, the Administrator has the exclusive power, authority and sole discretion to:

(a) Designate Eligible Individuals to receive Awards;

(b) Determine the type or types of Awards to be granted to each Holder;

(c) Determine the number of Awards to be granted and the number of shares of Common Stock to which an Award will relate;

(d) Determine the terms and conditions of any Award granted pursuant to the Plan, including, but not limited to, the exercise price, grant price, or purchase price, any reload provision, any restrictions or limitations on the Award, any schedule for vesting, lapse of forfeiture restrictions or restrictions on the exercisability of an Award, and accelerations or waivers thereof, and any provisions related to non-competition and recapture of gain on an Award, based in each case on such considerations as the Administrator in its sole discretion determines;

(e) Determine whether, to what extent, and pursuant to what circumstances an Award may be settled in, or the exercise price of an Award may be paid in cash, Common Stock, other Awards, or other property, or an Award may be canceled, forfeited, or surrendered;

(f) Prescribe the form of each Award Agreement, which need not be identical for each Holder;

(g) Decide all other matters that must be determined in connection with an Award;

(h) Establish, adopt, or revise any rules and regulations as it may deem necessary or advisable to administer the Plan;

(i) Interpret the terms of, and any matter arising pursuant to, the Plan or any Award Agreement; and

(j) Make all other decisions and determinations that may be required pursuant to the Plan or as the Administrator deems necessary or advisable to administer the Plan.

13.5 Decisions Binding. The Administrator's interpretation of the Plan, any Awards granted pursuant to the Plan, any Award Agreement and all decisions and determinations by the Administrator with respect to the Plan are final, binding, and conclusive on all parties.

13.6 Delegation of Authority. To the extent permitted by applicable law, the Board or Committee may from time to time delegate to a committee of one or more members of the Board or one or more officers of the Company the authority to grant or amend Awards; *provided, however*, that in no event shall an officer be delegated the authority to grant awards to, or amend awards held by, the following individuals: (a) individuals who are subject to Section 16 of the Exchange Act, (b) Covered Employees, or (c) officers of the Company (or Directors) to whom authority to grant or amend Awards has been delegated hereunder. Any delegation hereunder shall be subject to the restrictions and limits that the Board or Committee specifies at the time of such delegation, and the Board may at any time rescind the authority so delegated or appoint a new delegatee. At all times, the delegatee appointed under this Section 13.6 shall serve in such capacity at the pleasure of the Board and the Committee.

ARTICLE 14.

MISCELLANEOUS PROVISIONS

14.1 Amendment, Suspension or Termination of the Plan. Except as otherwise provided in this Section 14.1, the Plan may be wholly or partially amended or otherwise modified, suspended or terminated at any time or from time to time by the Board. However, without approval of the Company's stockholders given within twelve (12) months before or after the action by the Administrator, no action of the Administrator may, except as provided in Section 14.2, increase the limits imposed in Section 3.1 on the maximum number of shares which may be issued under the Plan. Except as provided in Section 14.10, no amendment, suspension or termination of the Plan shall, without the consent of the Holder, impair any rights or obligations under any Award theretofore granted or awarded, unless the Award itself otherwise expressly so provides. No Awards may be granted or awarded during any period of suspension or after termination of the Plan, and in no event may any Award be granted under the Plan after the tenth (10^{th}) anniversary of the Effective Date.

14.2 Changes in Common Stock or Assets of the Company, Acquisition or Liquidation of the Company and Other Corporate Events.

(a) In the event of any stock dividend, stock split, combination or exchange of shares, merger, consolidation or other distribution (other than normal cash dividends) of Company assets to stockholders, or any other change affecting the shares of the Company's stock or the share price of the Company's stock other than an Equity Restructuring, the Administrator may make equitable adjustments, if any, to reflect such change with respect to (i) the aggregate number and kind of shares that may be issued under the Plan (including, but not limited to, adjustments of the limitations in Section 3.1 on the maximum number and kind of shares which may be issued under the Plan); (ii) the number and kind of shares of Common Stock (or other securities or property) subject to outstanding Awards; (iii) the terms and conditions of any outstanding Awards (including, without limitation, any applicable performance targets or criteria with respect thereto); and (iv) the grant or exercise price per share for any outstanding Awards under the Plan. Any adjustment affecting an Award intended as Performance-Based Compensation shall be made consistent with the requirements of Section 162(m) of the Code.

(b) In the event of any transaction or event described in Section 14.2(a) or any unusual or nonrecurring transactions or events affecting the Company, any affiliate of the Company, or the financial statements of the Company or any affiliate, or of changes in applicable laws, regulations or accounting principles, the Administrator, in its sole discretion, and on such terms and conditions as it deems appropriate, either by the terms of the Award or by action taken prior to the occurrence of such transaction or event and either automatically or upon the Holder's request, is hereby authorized to take any one or more of the following actions whenever the Administrator determines that such action is appropriate in order to prevent dilution or enlargement of the benefits or potential benefits intended to be made available under the Plan or with respect to any Award under the Plan, to facilitate such transactions or events or to give effect to such changes in laws, regulations or principles.

(i) To provide for either (A) termination of any such Award in exchange for an amount of cash, if any, equal to the amount that would have been attained upon the exercise of such Award or realization of the Holder's rights (and, for the avoidance of doubt, if as of the date of the occurrence of the transaction or event described in this Section 14.2 the Administrator determines in good faith that no amount would have been attained upon the exercise of such Award or realization of the Holder's rights, then such Award may be terminated by the Company without payment) or (B) the replacement of such Award with other rights or property selected by the Administrator in its sole discretion having an aggregate value not exceeding the amount that could have been attained upon the exercise of such Award or realization of the Holder's rights had such Award been currently exercisable or payable or fully vested;

(ii) To provide that such Award be assumed by the successor or survivor corporation, or a parent or subsidiary thereof, or shall be substituted for by similar options, rights or awards covering the stock of the successor or survivor corporation, or a parent or subsidiary thereof, with appropriate adjustments as to the number and kind of shares and prices;

(iii) To make adjustments in the number and type of shares of the Company's stock (or other securities or property) subject to outstanding Awards, and in the number and kind of outstanding Restricted Stock or Deferred Stock and/or in the terms and conditions of (including the grant or exercise price), and the criteria included in, outstanding Awards and Awards which may be granted in the future;

(iv) To provide that such Award shall be exercisable or payable or fully vested with respect to all shares covered thereby, notwithstanding anything to the contrary in the Plan or the applicable Award Agreement; and

(v) To provide that the Award cannot vest, be exercised or become payable after such event.

(c) In connection with the occurrence of any Equity Restructuring, and notwithstanding anything to the contrary in Sections 14.2(a) and 14.2(b):

(i) The number and type of securities subject to each outstanding Award and/or the exercise price or grant price thereof, if applicable, shall be equitably adjusted. The adjustments provided under this Section 14.2(c) shall be nondiscretionary and shall be final and binding on the affected Holder and the Company.

(ii) The Administrator shall make such equitable adjustments, if any, as the Administrator in its discretion may deem appropriate to reflect such Equity Restructuring with respect to the aggregate number and kind of shares that may be issued under the Plan (including, but not limited to, adjustments of the limitations in Section 3.1 on the maximum number and kind of shares which may be issued under the Plan).

(d) Notwithstanding any other provision of the Plan, but subject to Section 14.2(e), in the event of a Change in Control, each outstanding Award shall be assumed or an equivalent Award substituted by the successor corporation or a parent or subsidiary of the successor corporation.

(e) In the event that the successor corporation in a Change in Control refuses to assume or substitute for an Award upon a Change in Control, such Award shall become fully vested and, if applicable, exercisable and all forfeiture restrictions on such Award shall lapse, in each case, as of immediately prior to the consummation of such Change in Control. If an Award is exercisable in lieu of assumption or substitution in the event of a Change in Control, the Administrator shall notify the Holder that the Award shall be fully exercisable for a period of fifteen (15) days from the date of such notice, contingent upon the occurrence of the Change in Control, and the Award shall terminate upon the expiration of such period.

(f) The Administrator may, in its sole discretion, include such further provisions and limitations in any Award, agreement or certificate, as it may deem equitable and in the best interests of the Company that are not inconsistent with the provisions of the Plan.

(g) With respect to Awards which are granted to Covered Employees and are intended to qualify as Performance-Based Compensation, no adjustment or action described in this Section 14.2 or in any other provision of the Plan shall be authorized to the extent that such adjustment or action would cause such Award to fail to so qualify as Performance-Based Compensation, unless the Administrator determines that the Award should not so qualify. No adjustment or action described in this Section 14.2 or in any other provision of the Plan shall be authorized to the extent that such adjustment or action would cause the Plan to violate Section 422(b)(1) of the Code. Furthermore, no such adjustment or action shall be authorized to the extent such adjustment or action would result in short-swing profits liability under Section 16 or violate the exemptive conditions of Rule 16b-3 unless the Administrator determines that the Award is not to comply with such exemptive conditions.

(h) The existence of the Plan, the Award Agreement and the Awards granted hereunder shall not affect or restrict in any way the right or power of the Company or the stockholders of the Company to make or authorize any adjustment, recapitalization, reorganization or other change in the Company's capital structure or its business, any merger or consolidation of the Company, any issue of stock or of options, warrants or rights to purchase stock or of bonds, debentures, preferred or prior preference stocks whose rights are superior to or affect the Common Stock or the rights thereof or which are convertible into or exchangeable for Common Stock, or the dissolution or liquidation of the company, or any sale or transfer of all or any part of its assets or business, or any other corporate act or proceeding, whether of a similar character or otherwise.

(i) No action shall be taken under this Section 14.2 which shall cause an Award to fail to comply with Section 409A of the Code or the Treasury Regulations thereunder, to the extent applicable to such Award.

(j) In the event of any pending stock dividend, stock split, combination or exchange of shares, merger, consolidation or other distribution (other than normal cash dividends) of Company assets to stockholders, or any other change affecting the shares of Common Stock or the share price of the Common Stock including any Equity Restructuring, for reasons of administrative convenience, the Company in its sole discretion may refuse to permit the exercise of any Award during a period of up to thirty (30) days prior to the consummation of any such transaction.

14.3 Approval of Plan by Stockholders. The Plan will be submitted for the approval of the Company's stockholders within twelve (12) months of the date of the Board's initial adoption of the Plan. Awards may be granted or awarded prior to such stockholder approval, provided that such Awards shall not be exercisable, shall not vest and the restrictions thereon shall not lapse and no shares of Common Stock shall be issued pursuant thereto prior to the time when the Plan is approved by the stockholders, and provided further that if such approval has not been obtained at the end of said twelve (12) month period, all Awards previously granted or awarded under the Plan shall thereupon be canceled and become null and void.

14.4 No Stockholders Rights. Except as otherwise provided herein, a Holder shall have none of the rights of a stockholder with respect to shares of Common Stock covered by any Award until the Holder becomes the record owner of such shares of Common Stock.

14.5 Paperless Administration. In the event that the Company establishes, for itself or using the services of a third party, an automated system for the documentation, granting or exercise of Awards, such as a system using an internet website or interactive voice response, then the paperless documentation, granting or exercise of Awards by a Holder may be permitted through the use of such an automated system.

14.6 Effect of Plan upon Other Compensation Plans. The adoption of the Plan shall not affect any other compensation or incentive plans in effect for the Company or any Subsidiary. Nothing in the Plan shall be construed to limit the right of the Company or any Subsidiary: (a) to establish any other forms of incentives or compensation for Employees, Directors or Consultants of the Company or any Subsidiary, or (b) to grant or assume options or other rights or awards otherwise than under the Plan in connection with any proper corporate purpose including without limitation, the grant or assumption of options in connection with the acquisition by purchase, lease, merger, consolidation or otherwise, of the business, stock or assets of any corporation, partnership, limited liability company, firm or association.

14.7 Compliance with Laws. The Plan, the granting and vesting of Awards under the Plan and the issuance and delivery of shares of Common Stock and the payment of money under the Plan or under Awards granted or awarded hereunder are subject to compliance with all applicable federal, state, local and foreign laws, rules and regulations (including but not limited to state, federal and foreign securities law and margin requirements) and to such approvals by any listing, regulatory or governmental authority as may, in the opinion of counsel for the Company, be necessary or advisable in connection therewith. Any securities delivered under the Plan shall be subject to such restrictions, and the person acquiring such securities shall, if requested by the Company, provide such assurances and representations to the Company as the Company may deem necessary or desirable to assure compliance with all applicable legal requirements. To the extent permitted by applicable law, the Plan and Awards granted or awarded hereunder shall be deemed amended to the extent necessary to conform to such laws, rules and regulations.

14.8 Titles and Headings, References to Sections of the Code or Exchange Act. The titles and headings of the Sections in the Plan are for convenience of reference only and, in the event of any conflict, the text of the Plan, rather than such titles or headings, shall control. References to sections of the Code or the Exchange Act shall include any amendment or successor thereto.

14.9 Governing Law. The Plan and any agreements hereunder shall be administered, interpreted and enforced under the internal laws of the State of Delaware without regard to conflicts of laws thereof.

14.10 Section 409A. To the extent that the Administrator determines that any Award granted under the Plan is subject to Section 409A of the Code, the Award Agreement evidencing such Award shall incorporate the terms and conditions required by Section 409A of the Code. To the extent applicable, the Plan and Award Agreements shall be interpreted in accordance with Section 409A of the Code and Department of Treasury regulations and other interpretive guidance issued thereunder, including without limitation any such regulations or other guidance that may be issued after the Effective Date. Notwithstanding any provision of the Plan to the contrary, in the event that following the Effective Date the Administrator determines that any Award may be subject to Section 409A of the Code and related Department of Treasury guidance (including such Department of Treasury guidance as may be issued after the Effective Date), the Administrator may adopt such amendments to the Plan and the applicable Award Agreement or adopt other policies and procedures (including amendments, policies and procedures with retroactive effect), or take any other actions, that the Administrator determines are necessary or appropriate to (a) exempt the Award from Section 409A of the Code and/or preserve the intended tax treatment of the benefits provided with respect to the Award, or (b) comply with the requirements of Section 409A of the Code and related Department of Treasury guidance and thereby avoid the application of any penalty taxes under such Section.

14.11 No Rights to Awards. No Eligible Individual or other person shall have any claim to be granted any Award pursuant to the Plan, and neither the Company nor the Administrator is obligated to treat Eligible Individuals, Holders or any other persons uniformly.

14.12 Unfunded Status of Awards. The Plan is intended to be an "unfunded" plan for incentive compensation. With respect to any payments not yet made to a Holder pursuant to an Award, nothing contained in the Plan or any Award Agreement shall give the Holder any rights that are greater than those of a general creditor of the Company or any Subsidiary.

14.13 Indemnification. To the extent allowable pursuant to applicable law, each member of the Committee or of the Board shall be indemnified and held harmless by the Company from any loss, cost, liability, or expense that may be imposed upon or reasonably incurred by such member in connection with or resulting from any claim, action, suit, or proceeding to which he or she may be a party or in which he or she may be involved by reason of any action or failure to act pursuant to the Plan and against and from any and all amounts paid by him or her in satisfaction of judgment in such action, suit, or proceeding against him or her; *provided* he or she gives the Company an opportunity, at its own expense, to handle and defend the same before he or she undertakes to handle and defend it on his or her own behalf. The foregoing right of indemnification shall not be exclusive of any other rights of indemnification to which such persons may be entitled pursuant to the Company's Certificate of Incorporation or Bylaws, as a matter of law, or otherwise, or any power that the Company may have to indemnify them or hold them harmless.

14.14 Relationship to other Benefits. No payment pursuant to the Plan shall be taken into account in determining any benefits under any pension, retirement, savings, profit sharing, group insurance, welfare or other benefit plan of the Company or any Subsidiary except to the extent otherwise expressly provided in writing in such other plan or an agreement thereunder.

14.15 Expenses. The expenses of administering the Plan shall be borne by the Company and its Subsidiaries.

* * * * *

I hereby certify that the foregoing Plan was duly adopted by the Board of Directors of Codexis, Inc. on _____ __, 2010.

* * * * *

I hereby certify that the foregoing Plan was approved by the stockholders of Codexis, Inc. on _____ __, 2010.

Executed on this ____ day of _____, 2010.

_____

Corporate Secretary

CODEXIS, INC.
2010 EQUITY INCENTIVE AWARD PLAN

STOCK OPTION GRANT NOTICE

Codexis, Inc., a Delaware corporation, (the "Company"), pursuant to its 2010 Equity Incentive Award Plan, as amended from time to time (the "Plan"), hereby grants to the holder listed below ("Participant"), an option to purchase the number of shares of the Company's common stock, par value $0.001 ("Stock"), set forth below (the "Option"). This Option is subject to all of the terms and conditions set forth herein and in the Stock Option Agreement attached hereto as Exhibit A (the "Stock Option Agreement") and the Plan, each of which are incorporated herein by reference. Unless otherwise defined herein, the terms defined in the Plan shall have the same defined meanings in this Grant Notice and the Stock Option Agreement.

Participant:	[_____]
Grant Date:	[_____]
Exercise Price per Share:	$[_____]
Total Exercise Price:	$ [_____]
Total Number of Shares Subject to the Option:	[_____] shares
Expiration Date:	[_____]
Vesting Schedule:	[To be specified in individual agreements]

Type of Option: ☐ Incentive Stock Option ☐ Nonstatutory Stock Option

By clicking the Acceptance button below, Participant agrees to be bound by the terms and conditions of the Plan, the Stock Option Agreement and this Grant Notice. Participant has reviewed the Stock Option Agreement, the Plan and this Grant Notice in their entirety, has had an opportunity to obtain the advice of counsel prior to executing this Grant Notice and fully understands all provisions of this Grant Notice, the Stock Option Agreement and the Plan. Participant hereby agrees to accept as binding, conclusive and final all decisions or interpretations of the Administrator upon any questions arising under the Plan, this Grant Notice or the Stock Option Agreement.

CODEXIS, INC.:

By: _____
Print Name: _____
Title: _____

EXHIBIT A
TO STOCK OPTION GRANT NOTICE

CODEXIS, INC. STOCK OPTION AGREEMENT

Pursuant to the Stock Option Grant Notice (the "Grant Notice") to which this Stock Option Agreement (this "Agreement") is attached, Codexis, Inc., a Delaware corporation (the "Company"), has granted to Participant an Option under the Company's 2010 Equity Incentive Award Plan, as amended from time to time (the "Plan"), to purchase the number of shares of Stock indicated in the Grant Notice.

ARTICLE 1.

GENERAL

1.1 Defined Terms. Wherever the following terms are used in this Agreement they shall have the meanings specified below, unless the context clearly indicates otherwise. Capitalized terms not specifically defined herein shall have the meanings specified in the Plan and the Grant Notice.

1.2 Incorporation of Terms of Plan. The Option is subject to the terms and conditions of the Plan which are incorporated herein by reference. In the event of any inconsistency between the Plan and this Agreement, the terms of the Plan shall control.

ARTICLE 2.

GRANT OF OPTION

2.1 Grant of Option. In consideration of Participant's past and/or continued employment with or service to the Company or a Subsidiary and for other good and valuable consideration, effective as of the Grant Date set forth in the Grant Notice (the "Grant Date"), the Company grants to Participant the Option to purchase any part or all of an aggregate of the number of shares of Stock set forth in the Grant Notice, upon the terms and conditions set forth in the Plan and this Agreement, subject to adjustments as provided in Section 14.2 of the Plan. Unless designated as a Nonstatutory Stock Option in the Grant Notice, the Option shall be an Incentive Stock Option to the maximum extent permitted by law.

2.2 Exercise Price. The exercise price of the shares of Stock subject to the Option shall be as set forth in the Grant Notice, without commission or other charge; *provided*, *however*, that the price per share of the shares of Stock subject to the Option shall not be less than 100% of the Fair Market Value of a share of Stock on the Grant Date. Notwithstanding the foregoing, if this Option is designated as an Incentive Stock Option and Participant owns (within the meaning of Section 424(d) of the Code) more than 10% of the total combined voting power of all classes of stock of the Company or any "subsidiary corporation" of the Company or any "parent corporation" of the Company (each within the meaning of Section 424 of the Code), the price per share of the shares of Stock subject to the Option shall not be less than 110% of the Fair Market Value of a share of Stock on the Grant Date.

2.3 Consideration to the Company. In consideration of the grant of the Option by the Company, Participant agrees to render faithful and efficient services to the Company or any Subsidiary. Nothing in the Plan or this Agreement shall confer upon Participant any right to continue in the employ or service of the Company or any Subsidiary or shall interfere with or restrict in any way the rights of the Company and its Subsidiaries, which rights are hereby expressly reserved, to discharge or terminate the services of Participant at any time for any reason whatsoever, with or without cause, except to the extent expressly provided otherwise in a written agreement between the Company or a Subsidiary and Participant.

ARTICLE 3.

PERIOD OF EXERCISABILITY

3.1 Commencement of Exercisability.

(a) Subject to Sections 3.2, 3.3, 5.10 and 5.16 hereof, the Option shall become vested and exercisable in such amounts and at such times as are set forth in the Grant Notice.

(b) No portion of the Option which has not become vested and exercisable at the date of Participant's Termination of Service shall thereafter become vested and exercisable, except as may be otherwise provided by the Administrator or as set forth in a written agreement between the Company and Participant.

(c) Notwithstanding Sections 3.1(a) hereof and the Grant Notice, but subject to Section 3.1(b) hereof, pursuant to Section 14.2 of the Plan, the Option shall become fully vested and exercisable with respect to all shares of Stock covered thereby in the event of a Change in Control, in connection with which the successor corporation does not assume the Option or substitute an equivalent right for the Option. Should the successor corporation assume the Option or substitute an equivalent right, then no such acceleration shall apply.

3.2 Duration of Exercisability. The installments provided for in the vesting schedule set forth in the Grant Notice are cumulative. Each such installment which becomes vested and exercisable pursuant to the vesting schedule set forth in the Grant Notice shall remain vested and exercisable until it becomes unexercisable under Section 3.3 hereof.

3.3 Expiration of Option. The Option may not be exercised to any extent by anyone after the first to occur of the following events:

(a) The Expiration Date set forth in the Grant Notice, which shall in no event be more than ten (10) years from the Grant Date;

(b) If this Option is designated as an Incentive Stock Option and Participant owned (within the meaning of Section 424(d) of the Code), at the time the Option was granted, more than 10% of the total combined voting power of all classes of stock of the Company or any "subsidiary corporation" of the Company or any "parent corporation" of the Company (each within the meaning of Section 424 of the Code), the expiration of five (5) years from the Grant Date;

(c) The expiration of three (3) months from the date of Participant's Termination of Service, unless such termination occurs by reason of Participant's death or disability; or

(d) The expiration of one (1) year from the date of Participant's Termination of Service by reason of Participant's death or disability.

3.4 Special Tax Consequences. Participant acknowledges that, to the extent that the aggregate Fair Market Value (determined as of the time the Option is granted) of all shares of Stock with respect to which Incentive Stock Options, including the Option (if applicable), are exercisable for the first time by Participant in any calendar year exceeds $100,000, the Option and such other options shall be Nonstatutory Stock Options to the extent necessary to comply with the limitations imposed by Section 422(d) of the Code. Participant further acknowledges that the rule set forth in the preceding sentence shall be applied by taking the Option and other "incentive stock options" into account in the order in which they were granted, as determined under Section 422(d) of the Code and the Treasury Regulations thereunder. Participant also acknowledges that an Incentive Stock Option exercised more than three (3) months after Participant's Termination of Employment, other than by reason of death or disability, will be taxed as a Nonstatutory Stock Option.

3.5 Tax Indemnity.

(a) The Participant agrees to indemnify and keep indemnified the Company, any Subsidiary and his/her employing company, if different, from and against any liability for or obligation to pay any Tax Liability (a "Tax Liability" being any liability for income tax, withholding tax and any other employment related taxes or social security contributions in any jurisdiction) that is attributable to (1) the grant or exercise of, or any benefit derived by the Participant from, the Option, (2) the acquisition by the Participant of the Stock on exercise of the Option, or (3) the disposal of any Stock.

(b) The Option cannot be exercised until the Participant has made such arrangements as the Company may require for the satisfaction of any Tax Liability that may arise in connection with the exercise of the Option and/or the acquisition of the Stock by the Participant. The Company shall not be required to issue, allot or transfer Stock until the Employee has satisfied this obligation.

ARTICLE 4.

EXERCISE OF OPTION

4.1 Person Eligible to Exercise. During the lifetime of Participant, only Participant may exercise the Option or any portion thereof. After the death of Participant, any exercisable portion of the Option may, prior to the time when the Option becomes unexercisable under Section 3.3 hereof, be exercised by Participant's personal representative or by any person empowered to do so under the deceased Participant's will or under the then applicable laws of descent and distribution.

4.2 Partial Exercise. Any exercisable portion of the Option or the entire Option, if then wholly exercisable, may be exercised in whole or in part at any time prior to the time when the Option or portion thereof becomes unexercisable under Section 3.3 hereof.

4.3 Manner of Exercise. The Option, or any exercisable portion thereof, may be exercised solely by delivery to the Secretary of the Company (or any third party administrator or other person or entity designated by the Company), during regular business hours, of all of the following prior to the time when the Option or such portion thereof becomes unexercisable under Section 3.3 hereof:

(a) An exercise notice in a form specified by the Administrator, stating that the Option or portion thereof is thereby exercised, such notice complying with all applicable rules established by the Administrator;

(b) The receipt by the Company of full payment for the shares of Stock with respect to which the Option or portion thereof is exercised, including payment of any applicable withholding tax, which shall be made by deduction from other compensation payable to Participant or in such other form of consideration permitted under Section 4.4 hereof that is acceptable to the Company;

(c) Any other written representations as may be required in the Administrator's reasonable discretion to evidence compliance with the Securities Act or any other applicable law, rule or regulation; and

(d) In the event the Option or portion thereof shall be exercised pursuant to Section 4.1 hereof by any person or persons other than Participant, appropriate proof of the right of such person or persons to exercise the Option.

Notwithstanding any of the foregoing, the Company shall have the right to specify all conditions of the manner of exercise, which conditions may vary by country and which may be subject to change from time to time.

4.4 Method of Payment. Payment of the exercise price shall be by any of the following, or a combination thereof, at the election of Participant:

(a) Cash or check;

(b) With the consent of the Administrator, surrender of shares of Stock (including, without limitation, shares of Stock otherwise issuable upon exercise of the Option) held for such period of time as may be required by the Administrator in order to avoid adverse accounting consequences and having a Fair Market Value on the date of delivery equal to the aggregate exercise price of the Option or exercised portion thereof; or

(c) Other property acceptable to the Administrator (including, without limitation, through the delivery of a notice that Participant has placed a market sell order with a broker with respect to shares of Stock then issuable upon exercise of the Option, and that the broker has been directed to pay a sufficient portion of the net proceeds of the sale to the Company in satisfaction of the Option exercise price; *provided* that payment of such proceeds is then made to the Company at such time as may be required by the Company, but in any event not later than the settlement of such sale).

4.5 Conditions to Issuance of Stock. The shares of Stock deliverable upon the exercise of the Option, or any portion thereof, may be either previously authorized but unissued shares of Stock or issued shares of Stock which have then been reacquired by the Company. Such shares of Stock shall be fully paid and nonassessable. The Company shall not be required to issue or deliver any shares of Stock purchased upon the exercise of the Option or portion thereof prior to fulfillment of all of the following conditions:

(a) The admission of such shares of Stock to listing on all stock exchanges on which such Stock is then listed;

(b) The completion of any registration or other qualification of such shares of Stock under any state or federal law or under rulings or regulations of the Securities and Exchange Commission or of any other governmental regulatory body, which the Administrator shall, in its absolute discretion, deem necessary or advisable;

(c) The obtaining of any approval or other clearance from any state or federal governmental agency which the Administrator shall, in its absolute discretion, determine to be necessary or advisable;

(d) The receipt by the Company of full payment for such shares of Stock, including payment of any applicable withholding tax, which may be in one or more of the forms of consideration permitted under Section 4.4 hereof; and

(e) The lapse of such reasonable period of time following the exercise of the Option as the Administrator may from time to time establish for reasons of administrative convenience.

4.6 Rights as Stockholder. The holder of the Option shall not be, nor have any of the rights or privileges of, a stockholder of the Company, including, without limitation, voting rights and rights to dividends, in respect of any shares of Stock purchasable upon the exercise of any part of the Option unless and until such shares of Stock shall have been issued by the Company and held of record by such holder (as evidenced by the appropriate entry on the books of the Company or of a duly authorized transfer agent of the Company). No adjustment will be made for a dividend or other right for which the record date is prior to the date the shares of Stock are issued, except as provided in Section 14.2 of the Plan.

ARTICLE 5.

OTHER PROVISIONS

5.1 Administration. The Administrator shall have the power to interpret the Plan and this Agreement and to adopt such rules for the administration, interpretation and application of the Plan as are consistent therewith and to interpret, amend or revoke any such rules. All actions taken and all interpretations and determinations made by the Administrator in good faith shall be final and binding upon Participant, the Company and all other interested persons. No member of the Committee or the Board shall be personally liable for any action, determination or interpretation made in good faith with respect to the Plan, this Agreement or the Option.

5.2 Whole Shares. The Option may only be exercised for whole shares of Stock.

5.3 Option Not Transferable. Subject to Section 4.1 hereof, the Option may not be sold, pledged, assigned or transferred in any manner other than by will or the laws of descent and distribution, unless and until the shares of Stock underlying the Option have been issued, and all restrictions applicable to such shares of Stock have lapsed. Neither the Option nor any interest or right therein shall be liable for the debts, contracts or engagements of Participant or his or her successors in interest or shall be subject to disposition by transfer, alienation, anticipation, pledge, encumbrance, assignment or any other means whether such disposition be voluntary or involuntary or by operation of law by judgment, levy, attachment, garnishment or any other legal or equitable proceedings (including bankruptcy), and any attempted disposition thereof shall be null and void and of no effect, except to the extent that such disposition is permitted by the preceding sentence.

5.4 Binding Agreement. Subject to the limitation on the transferability of the Option contained herein, this Agreement will be binding upon and inure to the benefit of the heirs, legatees, legal representatives, successors and assigns of the parties hereto.

5.5 Adjustments Upon Specified Events. The Administrator may accelerate the vesting of the Option in such circumstances as it, in its sole discretion, may determine. In addition, upon the occurrence of certain events relating to the Stock contemplated by Section 14.2 of the Plan (including, without limitation, an extraordinary cash dividend on such Stock), the Administrator shall make such adjustments the Administrator deems appropriate in the number of shares of Stock subject to the Option, the exercise price of the Option and the kind of securities that may be issued upon exercise of the Option. Participant acknowledges that the Option is subject to adjustment, modification and termination in certain events as provided in this Agreement and Section 14.2 of the Plan.

5.6 Notices. Any notice to be given under the terms of this Agreement to the Company shall be addressed to the Company in care of the Secretary of the Company at the Company's principal office, and any notice to be given to Participant shall be addressed to Participant at Participant's last address reflected on the Company's records. By a notice given pursuant to this Section 5.6, either party may hereafter designate a different address for notices to be given to that party. Any notice which is required to be given to Participant shall, if Participant is then deceased, be given to the person entitled to exercise his or her Option pursuant to Section 4.1 hereof by written notice under this Section 5.6. Any notice shall be deemed duly given when sent via email or when sent by certified mail (return receipt requested) and deposited (with postage prepaid) in a post office or branch post office regularly maintained by the United States Postal Service.

5.7 Titles. Titles are provided herein for convenience only and are not to serve as a basis for interpretation or construction of this Agreement.

5.8 Governing Law. The laws of the State of Delaware shall govern the interpretation, validity, administration, enforcement and performance of the terms of this Agreement regardless of the law that might be applied under principles of conflicts of laws.

5.9 Conformity to Securities Laws. Participant acknowledges that the Plan and this Agreement are intended to conform to the extent necessary with all provisions of the Securities Act and the Exchange Act and any and all regulations and rules promulgated by the Securities and Exchange Commission thereunder, and state securities laws and regulations. Notwithstanding anything herein to the contrary, the Plan shall be administered, and the Option is granted and may be exercised, only in such a manner as to conform to such laws, rules and regulations. To the extent permitted by applicable law, the Plan and this Agreement shall be deemed amended to the extent necessary to conform to such laws, rules and regulations.

5.10 Amendments, Suspension and Termination. To the extent permitted by the Plan, this Agreement may be wholly or partially amended or otherwise modified, suspended or terminated at any time or from time to time by the Committee or the Board; *provided* that, except as may otherwise be provided by the Plan, no amendment, modification, suspension or termination of this Agreement shall adversely affect the Option in any material way without the prior written consent of Participant.

5.11 Successors and Assigns. The Company may assign any of its rights under this Agreement to single or multiple assignees, and this Agreement shall inure to the benefit of the successors and assigns of the Company. Subject to the restrictions on transfer herein set forth in Section 5.3 hereof, this Agreement shall be binding upon Participant and his or her heirs, executors, administrators, successors and assigns.

5.12 Notification of Disposition. If this Option is designated as an Incentive Stock Option, Participant shall give prompt notice to the Company of any disposition or other transfer of any shares of Stock acquired under this Agreement if such disposition or transfer is made (a) within two (2) years from the Grant Date with respect to such shares of Stock or (b) within one (1) year after the transfer of such shares of Stock to Participant. Such notice shall specify the date of such disposition or other transfer and the amount realized, in cash, other property, assumption of indebtedness or other consideration, by Participant in such disposition or other transfer.

5.13 Limitations Applicable to Section 16 Persons. Notwithstanding any other provision of the Plan or this Agreement, if Participant is subject to Section 16 of the Exchange Act, the Plan, the Option and this Agreement shall be subject to any additional limitations set forth in any applicable exemptive rule under Section 16 of the Exchange Act (including any amendment to Rule 16b-3 of the Exchange Act) that are requirements for the application of such exemptive rule. To the extent permitted by applicable law, this Agreement shall be deemed amended to the extent necessary to conform to such applicable exemptive rule.

5.14 Not a Contract of Employment. Nothing in this Agreement or in the Plan shall confer upon the Participant any right to continue to serve as an employee or other service provider of the Company or any of its Subsidiaries.

5.15 Entire Agreement. The Plan, the Grant Notice and this Agreement (including all Exhibits thereto) constitute the entire agreement of the parties and supersede in their entirety all prior undertakings and agreements of the Company and Participant with respect to the subject matter hereof.

5.16 Section 409A. This Option is not intended to constitute "nonqualified deferred compensation" within the meaning of Section 409A of the Code (together with any Department of Treasury regulations and other interpretive guidance issued thereunder, including without limitation any such regulations or other guidance that may be issued after the date hereof, "Section 409A"). However, notwithstanding any other provision of the Plan, the Grant Notice or this Agreement, if at any time the Administrator determines that the Option (or any portion thereof) may be subject to Section 409A, the Administrator shall have the right in its sole discretion (without any obligation to do so or to indemnify Participant or any other person for failure to do so) to adopt such amendments to the Plan, the Grant Notice or this Agreement, or adopt other policies and procedures (including amendments, policies and procedures with retroactive effect), or take any other actions, as the Administrator determines are necessary or appropriate either for the Option to be exempt from the application of Section 409A or to comply with the requirements of Section 409A.

5.17 Limitation on Participant's Rights. Participation in the Plan confers no rights or interests other than as herein provided. This Agreement creates only a contractual obligation on the part of the Company as to amounts payable and shall not be construed as creating a trust. Neither the Plan nor any underlying program, in and of itself, has any assets. Participant shall have only the rights of a general unsecured creditor of the Company with respect to amounts credited and benefits payable, if any, with respect to the Option, and rights no greater than the right to receive the Stock as a general unsecured creditor with respect to options, as and when exercised pursuant to the terms hereof.

Exhibit 10.19

CODEXIS, INC.

FORM OF INDEMNIFICATION AGREEMENT

This Indemnification Agreement ("*Agreement*") is effective as of _____, 2010, by and between Codexis, Inc., a Delaware corporation (the "*Company*"), and _____ ("*Indemnitee*").

A. The Company recognizes the continued difficulty in obtaining liability insurance for its directors, officers, employees, controlling persons, fiduciaries and other agents and affiliates, the significant increases in the cost of such insurance and the general reductions in the coverage of such insurance.

B. The Company further recognizes the substantial increase in corporate litigation in general, subjecting directors, officers, employees, controlling persons, fiduciaries and other agents and affiliates to expensive litigation risks at the same time as the availability and coverage of liability insurance has been severely limited.

C. The current protection available to directors, officers, employees, controlling persons, fiduciaries and other agents and affiliates of the Company may not be adequate under the present circumstances, and directors, officers, employees, controlling persons, fiduciaries and other agents and affiliates of the Company (or persons who may be alleged or deemed to be the same), including the Indemnitee, may not be willing to continue to serve or be associated with the Company in such capacities without additional protection.

D. The Company (a) desires to attract and retain the involvement of highly qualified persons, such as Indemnitee, to serve and be associated with the Company, and (b) accordingly, wishes to provide for the indemnification and advancement of expenses to the Indemnitee to the maximum extent permitted by law.

E. In view of the considerations set forth above, the Company desires that Indemnitee shall be indemnified and advanced expenses by the Company as set forth herein.

In consideration of the mutual promises and covenants contained herein, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

1. Certain Definitions.

(a) "*Change in Control*" shall be deemed to have occurred if, on or after the date of this Agreement, (i) any "person" (as such term is used in Sections 13(d) and 14(d) of the Securities Exchange Act of 1934, as amended), other than a trustee or other fiduciary holding securities under an employee benefit plan of the Company acting in such capacity or a corporation owned directly or indirectly by the stockholders of the Company in substantially the same proportions as their ownership of stock of the Company, becomes the "beneficial owner" (as defined in Rule 13d-3 under said Act), directly or indirectly, of securities of the Company representing more than 50% of the total voting power represented by the Company's then outstanding Voting Securities (as defined below), (ii) during any period of two (2) consecutive years, individuals who at the beginning of such period constitute the Board of Directors of the Company and any new director whose election by the Board of Directors or nomination for election by the Company's stockholders was approved by a vote of at least two thirds (2/3) of the directors then still in office who either were directors at the beginning of the period or whose election or nomination for election was previously so approved, cease for any reason to constitute a majority thereof, or (iii) the stockholders of the Company approve a merger or consolidation of the Company with any other corporation other than a merger or consolidation which would result in the Voting Securities of the Company outstanding immediately prior thereto continuing to represent (either by remaining outstanding or by being converted into Voting Securities of the surviving entity) at least 80% of the total voting power represented by the Voting Securities of the Company or such surviving entity outstanding immediately after such merger or consolidation, or (iv) the stockholders of the Company approve a plan of complete liquidation of the Company or an agreement for the sale or disposition by the Company of (in one transaction or a series of related transactions) all or substantially all of the Company's assets.

(b) "*Claim*" shall mean with respect to a Covered Event (as defined below): any threatened, asserted, pending or completed action, suit, proceeding or alternative dispute resolution mechanism, or any hearing, inquiry or investigation that Indemnitee in good faith believes might lead to the institution of any such action, suit, proceeding or alternative dispute resolution mechanism, whether civil, criminal, administrative, investigative or other.

(c) References to the "*Company*" shall include, in addition to Codexis, Inc., any constituent corporation (including any constituent of a constituent) absorbed in a consolidation or merger to which Codexis, Inc. (or any of its wholly owned subsidiaries) is a party, which, if its separate existence had continued, would have had power and authority to indemnify its directors, officers, employees, agents or fiduciaries, so that if Indemnitee is or was a director, officer, employee, agent or fiduciary of such constituent corporation, or is or was serving at the request of such constituent corporation as a director, officer, employee, agent or fiduciary of another corporation, partnership, joint venture, employee benefit plan, trust or other enterprise, Indemnitee shall stand in the same position under the provisions of this Agreement with respect to the resulting or surviving corporation as Indemnitee would have with respect to such constituent corporation if its separate existence had continued.

(d) "*Covered Event*" shall mean any event or occurrence related to the fact that Indemnitee is or was a director, officer, employee, agent or fiduciary of the Company, or any subsidiary, direct or indirect, of the Company, or is or was serving at the request of the Company as a director, officer, employee, agent or fiduciary of another corporation, partnership, joint venture, trust or other enterprise, or by reason of any action or inaction on the part of Indemnitee while serving in such capacity.

(e) "*Expenses*" shall mean any and all direct and indirect costs, losses, claims, damages, fees, expenses, and liabilities, joint or several (including attorneys' fees and all other costs, expenses and obligations incurred in connection with investigating, defending, being a witness in or participating in (including on appeal), or preparing to defend, to be a witness in or to participate in, any action, suit, proceeding, alternative dispute resolution mechanism, hearing, inquiry or investigation), judgments, fines, penalties and amounts paid in settlement (if such settlement is approved in advance by the Company, which approval shall not be unreasonably withheld) actually and reasonably incurred, of any Claim and any federal, state, local or foreign taxes imposed on the Indemnitee as a result of the actual or deemed receipt of any payments under this Agreement.

(f) "*Expense Advance*" shall mean a payment to Indemnitee pursuant to Section 3 of Expenses in advance of the settlement of or final judgement in any action, suit, proceeding or alternative dispute resolution mechanism, hearing, inquiry or investigation, which constitutes a Claim.

(g) "*Independent Legal Counsel*" shall mean an attorney or firm of attorneys, selected in accordance with the provisions of Section 2(d) hereof, who shall not have otherwise performed services for the Company or Indemnitee within the last three (3) years (other than with respect to matters concerning the rights of Indemnitee under this Agreement, or of other indemnitees under similar indemnity agreements).

(h) References to "*other enterprises*" shall include employee benefit plans; references to "*fines*" shall include any excise taxes assessed on Indemnitee with respect to an employee benefit plan; and references to "*serving at the request of the Company*" shall include any service as a director, officer, employee, agent or fiduciary of the Company which imposes duties on, or involves services by, such director, officer, employee, agent or fiduciary with respect to an employee benefit plan, its participants or its beneficiaries; and if Indemnitee acted in good faith and in a manner Indemnitee reasonably believed to be in the interest of the participants and beneficiaries of an employee benefit plan, Indemnitee shall be deemed to have acted in a manner "*not opposed to the best interests of the Company*" as referred to in this Agreement.

(i) "*Reviewing Party*" shall mean, subject to the provisions of Section 2(d), any person or body appointed by the Board of Directors in accordance with applicable law to review the Company's obligations hereunder and under applicable law, which may include a member or members of the Company's Board of Directors, Independent Legal Counsel or any other person or body not a party to the particular Claim for which Indemnitee is seeking indemnification, exoneration or hold harmless rights.

(j) "*Section*" refers to a section of this Agreement unless otherwise indicated.

(k) "*Voting Securities*" shall mean any securities of the Company that vote generally in the election of directors.

2. Indemnification.

(a) Indemnification of Expenses. Subject to the provisions of Section 2(b) below, the Company shall indemnify, exonerate or hold harmless Indemnitee for Expenses to the fullest extent permitted by law if Indemnitee was or is or becomes a party to or witness or other participant in, or is threatened to be made a party to or witness or other participant in, any Claim (whether by reason of or arising in part out of a Covered Event), including all interest, assessments and other charges incurred in connection with or in respect of such Expenses.

(b) Review of Indemnification Obligations. Notwithstanding the foregoing, in the event any Reviewing Party shall have determined (in a written opinion, in any case in which Independent Legal Counsel is the Reviewing Party) that Indemnitee is not entitled to be indemnified, exonerated or held harmless hereunder under applicable law, (i) the Company shall have no further obligation under Section 2(a) to make any payments to Indemnitee not made prior to such determination by such Reviewing Party and (ii) the Company shall be entitled to be reimbursed by Indemnitee (who hereby agrees to reimburse the Company) for all Expenses theretofore paid in indemnifying, exonerating or holding harmless Indemnitee (within thirty (30) days after such determination); provided, however, that if Indemnitee has commenced or thereafter commences legal proceedings in a court of competent jurisdiction to secure a determination that Indemnitee is entitled to be indemnified, exonerated or held harmless hereunder under applicable law, any determination made by any Reviewing Party that Indemnitee is not entitled to be indemnified hereunder under applicable law shall not be binding and Indemnitee shall not be required to reimburse the Company for any Expenses theretofore paid in indemnifying, exonerating or holding harmless Indemnitee until a final judicial determination is made with respect thereto (as to which all rights of appeal therefrom have been exhausted or lapsed). Indemnitee's obligation to reimburse the Company for any Expenses shall be unsecured and no interest shall be charged thereon.

(c) Indemnitee Rights on Unfavorable Determination; Binding Effect. If any Reviewing Party determines that Indemnitee substantively is not entitled to be indemnified, exonerated or held harmless hereunder in whole or in part under applicable law, Indemnitee shall have the right to commence litigation seeking an initial determination by the court or challenging any such determination by such Reviewing Party or any aspect thereof, including the legal or factual bases therefor, and, subject to the provisions of Section 15, the Company hereby consents to service of process and to appear in any such proceeding. Absent such litigation, any determination by any Reviewing Party shall be conclusive and binding on the Company and Indemnitee.

(d) Selection of Reviewing Party; Change in Control. If there has not been a Change in Control, any Reviewing Party shall be selected by the Board of Directors, and if there has been such a Change in Control (other than a Change in Control which has been approved by a majority of the Company's Board of Directors who were directors immediately prior to such Change in Control), any Reviewing Party with respect to all matters thereafter arising concerning Indemnitee's indemnification, exoneration or hold harmless rights for Expenses under this Agreement or any other agreement or under the Company's Certificate of Incorporation or bylaws as now or hereafter in effect, or under any other applicable law, if desired by Indemnitee, shall be Independent Legal Counsel selected by the Indemnitee and approved by Company (which approval shall not be unreasonably withheld). Such counsel, among other things, shall render its written opinion to the Company and Indemnitee as to whether and to what extent Indemnitee would be entitled to be indemnified, exonerated or held harmless hereunder under applicable law and the Company agrees to abide by such opinion. The Company agrees to pay the reasonable fees of the Independent Legal Counsel referred to above and to fully indemnify,
exonerate and hold harmless such counsel against any and all expenses (including attorneys' fees), claims, liabilities and damages arising out of or relating to this Agreement or its engagement pursuant hereto. Notwithstanding any other provision of this Agreement, the Company shall not be required to pay Expenses of more than one Independent Legal Counsel in connection with all matters concerning a single Indemnitee, and such Independent Legal Counsel shall be the Independent Legal Counsel for any or all other Indemnitees unless (i) the Company otherwise determines or (ii) any Indemnitee shall provide a written statement setting forth in detail a reasonable objection to such Independent Legal Counsel representing other Indemnitees.

(e) Mandatory Payment of Expenses. Notwithstanding any other provision of this Agreement other than Section 10 hereof, to the extent that Indemnitee has been successful on the merits or otherwise, including, without limitation, the dismissal of an action without prejudice, in defense of any Claim, Indemnitee shall be indemnified, exonerated and held harmless against all Expenses incurred by Indemnitee in connection therewith.

(f) Contribution. If the indemnification, exoneration or hold harmless rights provided for in this Agreement is for any reason held by a court of competent jurisdiction to be unavailable to an Indemnitee, then in lieu of indemnifying, exonerating or holding harmless Indemnitee thereunder, the Company shall contribute to the amount paid or payable by Indemnitee as a result of such Expenses (i) in such proportion as is appropriate to reflect the relative benefits received by the Company and Indemnitee, or (ii) if the allocation provided by clause (i) above is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause (i) above but also the relative fault of the Company and Indemnitee in connection with the action or inaction which resulted in such Expenses, as well as any other relevant equitable considerations. In connection with the registration of the Company's securities, the relative benefits received by the Company and Indemnitee shall be deemed to be in the same respective proportions that the net proceeds from the offering (before deducting expenses) received by the Company and Indemnitee, in each case as set forth in the table on the cover page of the applicable prospectus, bear to the aggregate public offering price of the securities so offered. The relative fault of the Company and Indemnitee shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission or alleged omission to state a material fact relates to information supplied by the Company or Indemnitee and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission.

The Company and Indemnitee agree that it would not be just and equitable if contribution pursuant to this Section 2(f) were determined by pro rata or by any other method of allocation which does not take account of the equitable considerations referred to in the immediately preceding paragraph. In connection with the registration of the Company's securities, in no event shall Indemnitee be required to contribute any amount under this Section 2(f) in excess of the net proceeds received by Indemnitee from its sale of securities under such registration statement. No person found guilty of fraudulent misrepresentation (within the meaning of Section 11(1) of the Securities Act) shall be entitled to contribution from any person who was not found guilty of such fraudulent misrepresentation.

3. Expense Advances.

(a) Obligation to Make Expense Advances. The Company shall make Expense Advances to Indemnitee upon receipt of a written undertaking by or on behalf of the Indemnitee to repay such amounts if it shall ultimately be determined that the Indemnitee is not entitled to be indemnified, exonerated or held harmless therefor by the Company.

(b) Form of Undertaking. Any written undertaking by the Indemnitee to repay any Expense Advances hereunder shall be unsecured and no interest shall be charged thereon.

4. Procedures for Indemnification and Expense Advances.

(a) Timing of Payments. All payments of Expenses (including without limitation Expense Advances) by the Company to the Indemnitee pursuant to this Agreement shall be made to the fullest extent permitted by law as soon as practicable after written demand by Indemnitee therefor is presented to the Company, but in no event later than forty-five (45) days after such written demand by Indemnitee is presented to the Company, except in the case of Expense Advances, which shall be made no later than twenty (20) days after such written demand by Indemnitee is presented to the Company.

(b) Notice/Cooperation by Indemnitee. Indemnitee shall, as a condition precedent to Indemnitee's right to be indemnified, exonerated or held harmless or Indemnitee's right to receive Expense Advances under this Agreement, give the Company notice in writing as soon as practicable of any Claim made against Indemnitee for which indemnification, exoneration or hold harmless right will or could be sought under this Agreement. Notice to the Company shall be directed to the President or Chief Executive Officer of the Company at the address shown on the signature page of this Agreement (or such other address as the Company shall designate in writing to Indemnitee). In addition, Indemnitee shall give the Company such information and cooperation as it may reasonably require and as shall be within Indemnitee's power.

(c) No Presumptions; Burden of Proof. For purposes of this Agreement, the termination of any Claim by judgment, order, settlement (whether with or without court approval) or conviction, or upon a plea of *nolo contendere*, or its equivalent, shall not create a presumption that Indemnitee did not meet any particular standard of conduct or have any particular belief or that a court has determined that indemnification, exoneration or hold harmless right is not permitted by this Agreement or applicable law. In addition, neither the failure of any Reviewing Party to have made a determination as to whether Indemnitee has met any particular standard of conduct or had any particular belief, nor an actual determination by any Reviewing Party that Indemnitee has not met such standard of conduct or did not have such belief, prior to the commencement of legal proceedings by Indemnitee to secure a judicial determination that Indemnitee should be indemnified, exonerated or held harmless under this Agreement or applicable law, shall be a defense to Indemnitee's claim or create a presumption that Indemnitee has not met any particular standard of conduct or did not have any particular belief. In connection with any determination by any Reviewing Party or otherwise as to whether the Indemnitee is entitled to be indemnified, exonerated or held harmless hereunder, the burden of proof shall be on the Company to establish that Indemnitee is not so entitled.

(d) Notice to Insurers. If, at the time of the receipt by the Company of a notice of a Claim pursuant to Section 4(b) hereof, the Company has liability insurance in effect which may cover such Claim, the Company shall give prompt notice of the commencement of such Claim to the insurers in accordance with the procedures set forth in the respective policies. The Company shall thereafter take all necessary or desirable action to cause such insurers to pay, on behalf of the Indemnitee, all amounts payable as a result of such Claim in accordance with the terms of such policies.

(e) Selection of Counsel. In the event the Company shall be obligated hereunder to provide indemnification for or make any Expense Advances with respect to the Expenses of any Claim, the Company, if appropriate, shall be entitled to assume the defense of such Claim with counsel approved by Indemnitee (which approval shall not be unreasonably withheld) upon the delivery to Indemnitee of written notice of the Company's election to do so. After delivery of such notice, approval of such counsel by Indemnitee and the retention of such counsel by the Company, the Company will not be liable to Indemnitee under this Agreement for any fees or expenses of separate counsel subsequently employed by or on behalf of Indemnitee with respect to the same Claim; *provided, however*, that (i) Indemnitee shall have the right to employ Indemnitee's separate counsel in any such Claim at Indemnitee's expense and (ii) if (A) the employment of separate counsel by Indemnitee has been previously authorized by the Company, (B) Indemnitee shall have reasonably concluded that there may be a conflict of interest between the Company and Indemnitee in the conduct of any such defense, or (C) the Company shall not continue to retain such counsel to defend such Claim, then the fees and expenses of Indemnitee's separate counsel shall be Expenses for which Indemnitee may receive indemnification, exoneration or hold harmless rights or Expense Advances hereunder. The Company shall have the right to conduct such defense as it sees fit in its sole discretion, including the right to settle any claim, action or proceeding against Indemnitee without the consent of Indemnitee, provided that the terms of such settlement include either: (i) a full release of Indemnitee by the claimant from all liabilities or potential liabilities under such claim; or (ii), in the event such full release is not obtained, the terms of such settlement do not limit any indemnification, exoneration or hold harmless rights Indemnitee may now, or hereafter, be entitled to under this Agreement, the Company's Certificate of Incorporation, bylaws, any agreement, any vote of stockholders or disinterested directors, the General Corporation Law of the State of Delaware (the "DGCL") or otherwise.

5. Additional Indemnification Rights; Nonexclusivity.

(a) Scope. The Company hereby agrees to indemnify, exonerate and hold harmless the Indemnitee to the fullest extent permitted by law, notwithstanding that such indemnification, exoneration or hold harmless right is not specifically authorized by the other provisions of this Agreement, the Company's Certificate of Incorporation, the Company's bylaws or by statute. In the event of any change after the date of this Agreement in any applicable law, statute or rule which expands the right of a Delaware corporation to indemnify, exonerate or hold harmless a member of its board of directors or an officer, employee, agent or fiduciary, it is the intent of the parties hereto that Indemnitee shall enjoy by this Agreement the greater benefits afforded by such change. In the event of any change in any applicable law, statute or rule which narrows the right of a Delaware corporation to indemnify, exonerate or hold harmless a member of its board of directors or an officer, employee, agent or fiduciary, such change, to the extent not otherwise required by such law, statute or rule to be applied to this Agreement, shall have no effect on this Agreement or the parties' rights and obligations hereunder except as set forth in Section 10(a) hereof.

(b) Nonexclusivity. The indemnification, exoneration or hold harmless rights and the payment of Expense Advances provided by this Agreement shall be in addition to any rights to which Indemnitee may be entitled under the Company's Certificate of Incorporation, its bylaws, any other agreement, any vote of stockholders or disinterested directors, the DGCL, or otherwise. The indemnification, exoneration or hold harmless rights and the payment of Expense Advances provided under this Agreement shall continue as to Indemnitee for any action taken or not taken while serving in an indemnified, exonerated or held harmless capacity even though subsequent thereto Indemnitee may have ceased to serve in such capacity.

6. No Duplication of Payments. The Company shall not be liable under this Agreement to make any payment in connection with any Claim made against Indemnitee to the extent Indemnitee has otherwise actually received payment (under any insurance policy, provision of the Company's Certificate of Incorporation, bylaws or otherwise) of the amounts otherwise payable hereunder, except as provided in Section 18 below.

7. Partial Indemnification. If Indemnitee is entitled under any provision of this Agreement to indemnification, exoneration or hold harmless rights by the Company for some or a portion of Expenses incurred in connection with any Claim, but not, however, for the total amount thereof, the Company shall nevertheless indemnify, exonerate or hold harmless Indemnitee for the portion of such Expenses to which Indemnitee is entitled.

8. Mutual Acknowledgment. Both the Company and Indemnitee acknowledge that in certain instances, federal law or applicable public policy may prohibit the Company from indemnifying, exonerating or holding harmless its directors, officers, employees, agents or fiduciaries under this Agreement or otherwise. Indemnitee understands and acknowledges that the Company may be required in the future to undertake with the Securities and Exchange Commission to submit the question of indemnification, exoneration or hold harmless rights to a court in certain circumstances for a determination of the Company's right under public policy to indemnify, exonerate or hold harmless Indemnitee.

9. Liability Insurance. To the extent the Company maintains liability insurance applicable to directors, officers, employees, agents or fiduciaries, Indemnitee shall be covered by such policies in such a manner as to provide Indemnitee the same rights and benefits as are provided to the most favorably insured of the Company's directors, if Indemnitee is a director; or of the Company's officers, if Indemnitee is not a director of the Company but is an officer; or of the Company's key employees, agents or fiduciaries, if Indemnitee is not an officer or director but is a key employee, agent or fiduciary.

10. Exceptions. Notwithstanding any other provision of this Agreement, the Company shall not be obligated pursuant to the terms of this Agreement:

(a) Excluded Action or Omissions. To indemnify, exonerate or hold harmless Indemnitee for Expenses resulting from acts, omissions or transactions for which Indemnitee is prohibited from receiving indemnification, exoneration or hold harmless rights under this Agreement or applicable law; *provided, however*, that notwithstanding any limitation set forth in this Section 10(a) regarding the Company's obligation to provide indemnification, exoneration or hold harmless rights to Indemnitee shall be entitled under Section 3 to receive Expense Advances hereunder with respect to any such Claim unless and until a court having jurisdiction over the Claim shall have made a final judicial determination (as to which all rights of appeal therefrom have been exhausted or lapsed) that Indemnitee has engaged in acts, omissions or transactions for which Indemnitee is prohibited from receiving indemnification under this Agreement or applicable law.

(b) Claims Initiated by Indemnitee. To indemnify, exonerate or hold harmless or make Expense Advances to Indemnitee with respect to Claims initiated or brought voluntarily by Indemnitee and not by way of defense, counterclaim or cross claim, except (i) with respect to actions or proceedings brought to establish or enforce an indemnification, exoneration or hold harmless right under this Agreement or any other agreement or insurance policy or under the Company's Certificate of Incorporation or bylaws now or hereafter in effect relating to Claims for Covered Events, (ii) in specific cases if the Board of Directors has approved the initiation or bringing of such Claim, or (iii) as otherwise required under Section 145 of the DGCL, regardless of whether Indemnitee ultimately is determined to be entitled to such indemnification, exoneration, hold harmless right, Expense Advances or insurance recovery, as the case may be.

(c) Lack of Good Faith. To indemnify, exonerate or hold harmless Indemnitee for any Expenses incurred by the Indemnitee with respect to any action instituted (i) by Indemnitee to enforce or interpret this Agreement, if a court having jurisdiction over such action determines as provided in Section 13 that each of the material assertions made by the Indemnitee as a basis for such action was not made in good faith or was frivolous, or (ii) by or in the name of the Company to enforce or interpret this Agreement, if a court having jurisdiction over such action determines as provided in Section 13 that each of the material defenses asserted by Indemnitee in such action was made in bad faith or was frivolous.

(d) Claims Under Section 16(b). To indemnify, exonerate or hold harmless Indemnitee for expenses and the payment of profits arising from the purchase and sale by Indemnitee of securities in violation of Section 16(b) of the Securities Exchange Act of 1934, as amended, or any similar successor statute; *provided, however*, that notwithstanding any limitation set forth in this Section 10(d) regarding the Company's obligation to provide indemnification or exoneration or hold harmless, Indemnitee shall be entitled under Section 3 to receive Expense Advances hereunder with respect to any such Claim unless and until a court having jurisdiction over the Claim shall have made a final judicial determination (as to which all rights of appeal therefrom have been exhausted or lapsed) that Indemnitee has violated said statute.

11. Counterparts. This Agreement may be executed in counterparts and by facsimile or electronic transmission, each of which shall constitute an original and all of which, together, shall constitute one instrument.

12. Binding Effect; Successors and Assigns. This Agreement shall be binding upon and inure to the benefit of and be enforceable by the parties hereto and their respective successors, assigns, including any direct or indirect successor by purchase, merger, consolidation or otherwise to all or substantially all of the business and/or assets of the Company, spouses, heirs, and personal and legal representatives. The Company shall require and cause any successor (whether direct or indirect by purchase, merger, consolidation or otherwise) to all, substantially all, or a substantial part, of the business and/or assets of the Company, by written agreement in form and substance satisfactory to Indemnitee, expressly to assume and agree to perform this Agreement in the same manner and to the same extent that the Company would be required to perform if no such succession had taken place. This Agreement shall continue in effect regardless of whether Indemnitee continues to serve as a director, officer, employee, agent or fiduciary (as applicable) of the Company or of any other enterprise at the Company's request. The Company and Indemnitee agree that the Fund Indemnitors are express third party beneficiaries of this Agreement.

13. Expenses Incurred in Action Relating to Enforcement or Interpretation. In the event that any action is instituted by Indemnitee under this Agreement or under any liability insurance policies maintained by the Company to enforce or interpret any of the terms hereof or thereof, Indemnitee shall be entitled to be indemnified for all Expenses incurred by Indemnitee with respect to such action (including without limitation attorneys' fees), regardless of whether Indemnitee is ultimately successful in such action, unless as a part of such action a court having jurisdiction over such action makes a final judicial determination (as to which all rights of appeal therefrom have been exhausted or lapsed) that each of the material assertions made by Indemnitee as a basis for such action was not made in good faith or was frivolous; *provided, however,* that until such final judicial determination is made, Indemnitee shall be entitled under Section 3 to receive payment of Expense Advances hereunder with respect to such action. In the event of an action instituted by or in the name of the Company under this Agreement to enforce or interpret any of the terms of this Agreement, Indemnitee shall be entitled to be indemnified, exonerated or held harmless for all Expenses incurred by Indemnitee in defense of such action (including without limitation costs and expenses incurred with respect to Indemnitee's counterclaims and cross-claims made in such action), unless as a part of such action a court having jurisdiction over such action makes a final judicial determination (as to which all rights of appeal therefrom have been exhausted or lapsed) that each of the material defenses asserted by Indemnitee in such action was made in bad faith or was frivolous; *provided, however,* that until such final judicial determination is made, Indemnitee shall be entitled under Section 3 to receive payment of Expense Advances hereunder with respect to such action.

14. Notices. All notices, requests, demands and other communications under this Agreement shall be in writing and shall be deemed duly given (i) if delivered by hand and signed for by the party addressed, on the date of such delivery, or (ii) if mailed by domestic certified or registered mail with postage prepaid, on the third business day after the date postmarked. Addresses for notice to either party are as shown on the signature page of this Agreement or as subsequently modified by written notice.

15. Consent to Jurisdiction. The Company and Indemnitee each hereby irrevocably consent to the jurisdiction of the courts of the State of Delaware for all purposes in connection with any action or proceeding which arises out of or relates to this Agreement and agree that any action instituted under this Agreement shall be commenced, prosecuted and continued only in the Court of Chancery of the State of Delaware in and for Kent County, which shall be the exclusive and only proper forum for adjudicating such a claim.

16. Severability. The provisions of this Agreement shall be severable in the event that any of the provisions hereof (including any provision within a single section, paragraph or sentence) are held by a court of competent jurisdiction to be invalid, void or otherwise unenforceable, and the remaining provisions shall remain enforceable to the fullest extent permitted by law. Furthermore, to the fullest extent possible, the provisions of this Agreement (including without limitation each portion of this Agreement containing any provision held to be invalid, void or otherwise unenforceable, that is not itself invalid, void or unenforceable) shall be construed so as to give effect to the intent manifested by the provision held invalid, illegal or unenforceable.

17. Choice of Law. This Agreement, and all rights, remedies, liabilities, powers and duties of the parties to this Agreement, shall be governed by and construed in accordance with the laws of the State of Delaware without regard to principles of conflicts of laws.

18. Fund Indemnitors; Subrogation.

(a) The Company hereby acknowledges that Indemnitee has certain indemnification, exoneration, hold harmless or Expense advancement rights and/or insurance provided by [NAME OF FUND] and certain of its affiliates (collectively, the "*Fund Indemnitors*"). The Company hereby agrees (i) that it is the indemnitor of first resort (i.e., its obligations to Indemnitee are primary and any obligation of the Fund Indemnitors to advance Expenses or to provide indemnification, exoneration or hold harmless rights for the same Expenses incurred by Indemnitee are secondary), (ii) that it shall be required to advance the full amount of Expenses incurred by Indemnitee and shall be liable for the full amount of all Expenses, to the extent legally permitted and as required by the Certificate of Incorporation or bylaws of the Company (or any agreement between the Company and Indemnitee), without regard to any rights Indemnitee may have against the Fund Indemnitors, and (iii) that it irrevocably waives, relinquishes and releases the Fund Indemnitors from any and all claims against the Fund Indemnitors for contribution, subrogation or any other recovery of any kind in respect thereof. The Company further agrees that no advancement or payment by the Fund Indemnitors on behalf of Indemnitee with respect to any Claim for which Indemnitee has sought indemnification, exoneration or hold harmless rights from the Company shall affect the foregoing and the Fund Indemnitors shall have a right to receive from the Company, contribution and/or be subrogated, to the extent of such advancement or payment to all of the rights of recovery of Indemnitee against the Company.

(b) Except as provided in Section 18(a) above, in the event of payment under this Agreement, the Company shall be subrogated to the extent of such payment to all of the rights of recovery of Indemnitee (other than against Fund Indemnitors) from any insurance policy purchase by the Company, who shall execute all documents required and shall do all acts that may be necessary to secure such rights and to enable the Company effectively to bring suit to enforce such rights. In no event, however, shall the Company or any other person have any right of recovery, through subrogation or otherwise, against (i) Indemnitee, (ii) any Fund Indemnitor, or (iii) any insurance policy purchased or maintained by Indemnitee or any Fund Indemnitor.

19. Amendment and Termination. No amendment, modification, termination or cancellation of this Agreement shall be effective unless it is in writing signed by both the parties hereto. No waiver of any of the provisions of this Agreement shall be deemed to be or shall constitute a waiver of any other provisions hereof (whether or not similar), nor shall such waiver constitute a continuing waiver.

20. Integration and Entire Agreement. This Agreement sets forth the entire understanding between the parties hereto and supersedes and merges all previous written and oral negotiations, commitments, understandings and agreements relating to the subject matter hereof between the parties hereto.

21. No Construction as Employment Agreement. Nothing contained in this Agreement shall be construed as giving Indemnitee any right to employment by the Company or any of its subsidiaries or affiliated entities.

22. Additional Acts. If for the validation of any of the provisions in this Agreement any act, resolution, approval or other procedure is required, the Company undertakes to cause such act, resolution, approval or other procedure to be affected or adopted in a manner that will enable the Company to fulfill its obligations under this Agreement.

(The remainder of this page is intentionally left blank.)

IN WITNESS WHEREOF, the parties hereto have executed this Indemnification Agreement as of the date first above written.

CODEXIS, INC.

By: _____
Name:
Title:
Address:

AGREED TO AND ACCEPTED BY:

INDEMNITEE:

_____

Name: _____

Address: _____
_____
_____

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. 6 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
March 31, 2010