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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, DC 20549**

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**Amendment No. 2**

**FORM S-1  
REGISTRATION STATEMENT  
UNDER  
THE SECURITIES ACT OF 1933**

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**METABOLIX, INC.**

(Exact Name of Registrant as Specified in its Charter)

**Delaware**  
(State or Other Jurisdiction  
of Incorporation or Organization)

**8731**  
(Primary Standard Industrial  
Classification Code Number)

**04-3158289**  
(I.R.S. Employer  
Identification No.)

**21 Erie Street  
Cambridge, MA 02139  
(617) 492-0505**  
(Address, including zip code, and telephone number,  
including area code, of Registrant's principal executive office)

**James J. Barber  
Chief Executive Officer  
Metabolix, Inc.  
21 Erie Street  
Cambridge, MA 02139  
(617) 492-0505**  
(Name, address, including zip code, and telephone number,  
including area code, of agent for service)

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**Approximate date of commencement of proposed sale to the public:** As soon as practicable after this registration statement becomes effective.

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.

**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, as amended, or until the registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), shall determine.**



The information in this prospectus is not complete and may be changed. We may not sell these securities until the Securities and Exchange Commission declares our registration statement effective. This prospectus is not an offer to sell these securities and is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

## Shares

# METABOLIX, INC.



## Common Stock

### \$ per share

- Metabolix, Inc. is offering \_\_\_\_\_ shares.
- We anticipate that the initial public offering price will be between \$ \_\_\_\_\_ and \$ \_\_\_\_\_ per share.
- This is our initial public offering and no public market currently exists for our shares.
- Proposed trading symbol: NASDAQ Global Market — MBLX

Archer Daniels Midland Company, our collaborative partner and an existing stockholder, has agreed to purchase \$7.5 million of our shares of common stock in a private placement concurrent with this offering at a price per share equal to the price to the public above. The sale of such shares of common stock will not be registered in this offering. See "Certain Relationships and Related Party Transactions."

**This investment involves risk. See "Risk Factors" beginning on page 8.**

	Per Share	Total
Initial public offering price	\$	\$
Underwriting discount	\$	\$
Proceeds, before expenses, to Metabolix, Inc.	\$	\$

The underwriters have a 30-day option to purchase up to \_\_\_\_\_ additional shares of common stock from us to cover over-allotments, if any.

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.

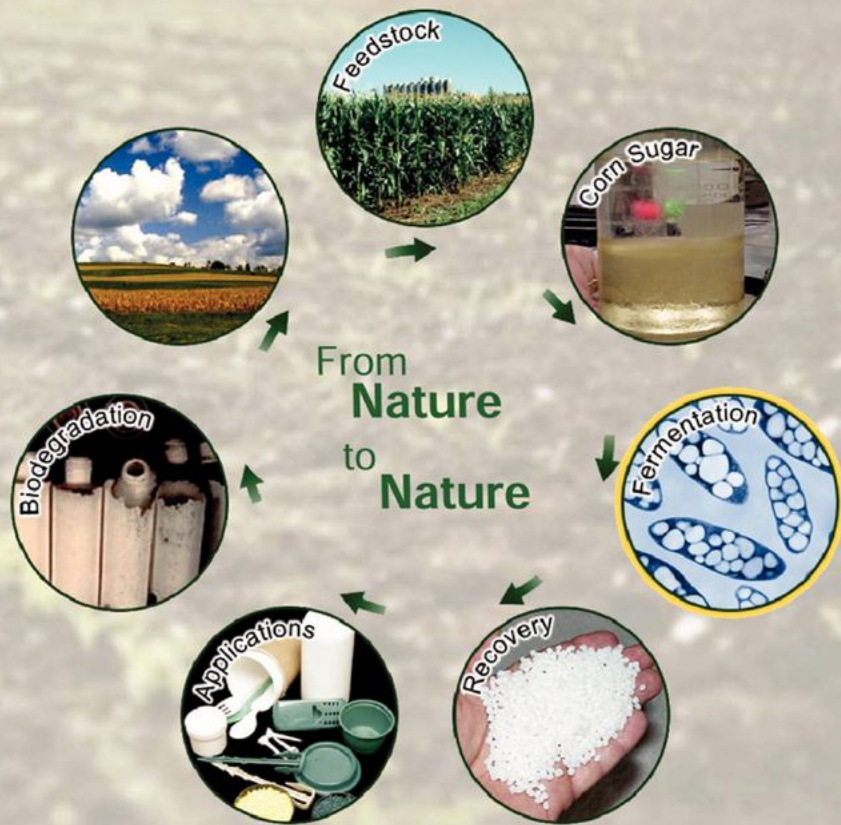
## Piper Jaffray

Jefferies & Company

Thomas Weisel Partners LLC

Ardour Capital Investments, LLC

The date of this prospectus is \_\_\_\_\_, 2006.



Metabolix *PHA Natural Plastic* starts with renewable resources from nature like corn sugar. This becomes the feed for the microbes which produce the polymer, and is then made into pellets which produce products with the same performance features as traditional plastic. Metabolix *PHA Natural Plastic* will then biodegrade harmlessly back to nature at the end of its life.

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This prospectus is not an offer to sell, nor is it seeking an offer to buy, these securities in any state where the offer or sale is not permitted. The information in this prospectus is complete and accurate as of the date on the front cover, but the information may have changed since that date.

## PROSPECTUS SUMMARY

*The items in the following summary are described in more detail later in this prospectus. This summary provides an overview of selected information and does not contain all of the information you should consider before investing in our common stock. Therefore, you should also read the more detailed information set out in this prospectus, including the financial statements and the related notes appearing elsewhere in this prospectus. References in this prospectus to "we," "us" and "our" refer to Metabolix, Inc.*

### **Metabolix, Inc.**

We are a biotechnology company that develops and plans to commercialize environmentally sustainable, economically attractive alternatives to petrochemical-based plastics, fuels and chemicals. Our strategy is to develop technology platforms that integrate advanced biotechnology with current industrial practice and to commercialize these platforms with industry leading strategic partners. From our founding in 1992, we have been engaged solely in research and development activities and have not had significant sales of *PHA Natural Plastics*. We are currently producing and selling pre-commercial quantities of *PHA Natural Plastics* at a pilot plant for market development.

Our first platform, which we will be commercializing through a strategic alliance with Archer Daniels Midland Company, or ADM, is a proprietary, large-scale fermentation system for producing a versatile family of naturally occurring polymers known as polyhydroxyalkanoates, which we call *PHA Natural Plastics*. Through the alliance with ADM, we intend to sell these polymers as environmentally friendly, but functionally equivalent alternatives to petrochemical-based plastics in a wide range of commercial applications, including disposable goods, packaging, agricultural products, consumer goods and electronics. Also, as part of the strategic alliance with ADM, we have announced plans to build a 50,000 ton annual capacity commercial scale plant, or Commercial Manufacturing Facility, that will produce biodegradable *PHA Natural Plastics* out of corn sugar, an abundant agriculturally-produced renewable resource. We are currently producing pre-commercial quantities of *PHA Natural Plastics* jointly with ADM at a pilot plant having a capacity of 8 tons per month.

Our second technology platform, which is in an early stage, is a system using switchgrass to co-produce both *PHA Natural Plastics* and biomass feedstock for the production of ethanol. We believe that using switchgrass to co-produce these products can offer superior economic value and productivity as compared to single product systems that produce them individually. We have already achieved significant milestones in this program and can produce small amounts of *PHA Natural Plastics* in switchgrass. Our goals for this program are to have commercially viable switchgrass varieties in pilot field trials within four years and to establish strategic alliances with attractive partners to commercially exploit this platform. Since our switchgrass program is still in the research and development stage, we have not yet determined a commercialization strategy for this program, which would include a business plan for procuring commercial quantities of switchgrass.

The markets for petrochemical-based plastics, fuels and chemicals are among the largest in the global economy. While these markets encompass a diverse array of products, they are all derived from fossil fuels, particularly petroleum and natural gas. The prolonged broad use of these petrochemical-based products has created several economic, social and environmental issues, including plastic waste management and pollution, rising fossil fuel prices, energy security and climate change. These issues have resulted in rising levels of interest in product alternatives that are renewable, sustainable and not dependent on fossil fuels.

We believe that the widespread use of renewable agricultural feedstocks as manufacturing inputs can address many of the issues associated with petrochemical-based products. Our goal is to become the leader in discovering, developing and commercializing economically attractive, environmentally sustainable alternatives for petrochemical-based plastics, fuels and chemicals. To achieve this goal, we are building a portfolio of programs that we believe will provide not only an attractive slate of commercial opportunities but also will generate leading and competitive intellectual property positions in the field.

## Business Strategy

Key elements of our strategy include:

- **Establishing Production of PHA Natural Plastics.** We have put into operation an 8 ton per month capacity pilot manufacturing facility to produce *PHA Natural Plastics* to seed the market, and as part of our strategic alliance, ADM and Metabolix have announced plans to build a 50,000 ton annual capacity Commercial Manufacturing Facility to produce *PHA Natural Plastics*. We anticipate that commercial production will commence in 2008.
- **Market Positioning and Sales.** We are building a marketing and sales team to educate and develop our prospective customer base. This team will focus on positioning *PHA Natural Plastics* as premium priced, specialty materials that are environmentally attractive alternatives to petrochemical-based plastics. We intend to build a brand around *PHA Natural Plastics* consistent with this positioning and will seek to co-brand *PHA Natural Plastics* with our customers.
- **Continuing Fermentation Research and Process Development.** We have identified opportunities to improve our production strains and our fermentation and recovery processes. We believe that significant reductions in the cost to manufacture *PHA Natural Plastics* can occur as we successfully exploit these opportunities.
- **Biology and Genetic Engineering.** For our fermentation system, we have modified bacteria by inserting specific genes into the bacteria to biologically convert sugar into *PHA Natural Plastics* all within the bacteria itself. In our switchgrass program, we are modifying certain plants, such as switchgrass, to produce and aggregate *PHA Natural Plastics* within the leaves and stems which we can harvest. Continued developments in genetic engineering and transferring to new plants or production processes are important for our success.
- **Developing Applications for PHA Natural Plastics.** We have developed formulations of our polymer suitable for various applications, including injection molding, casting film and sheet, molded film and paper coating. These grades will be refined further to tailor them for specific customer performance requirements, and additional grades will be developed for other applications.
- **Advancing Switchgrass Research and Other Plant Strains.** Our switchgrass platform is currently in the research phase. In order to achieve a commercially attractive system, we intend to further improve our plant strains to achieve high levels of *PHA Natural Plastics* content by weight. We also intend to research introducing traits to increase crop yields in terms of tons per acre, and enhance processability for the production of ethanol.

- **Partnering our Switchgrass Program.** We will seek to leverage our technology and establish strategic partnerships with one or more industry leading companies that can provide access to resources and infrastructure valuable for commercializing this platform.
- **Building Governmental Awareness of Our Approach.** We intend to continue to build our governmental affairs initiatives. We believe that higher awareness of our solution may result in opportunities to obtain additional funding or legislative support that can facilitate and accelerate the adoption of our products.
- **Extending Our Technology to Sustainable Production of Large Volume Chemicals and Intermediates.** Our technical capabilities can be applied to produce a number of important commercial chemicals and chemical intermediates through biological conversion of sustainable feedstocks such as sugars.
- **Furthering our Leading and Competitive Intellectual Property Position.** We have built an intellectual property portfolio around our platform technologies and a variety of inventions relevant to the commercialization of *PHA Natural Plastics*. We are extending this intellectual property portfolio within our core business as well as to other commercial opportunities in the area of bio-based plastics, fuels and chemicals.

#### **ADM Agreement to Purchase Shares**

ADM has agreed to purchase \$7.5 million of our shares of common stock in a private placement concurrent with this offering at a price per share equal to the price to the public in this offering.

#### **Risks Associated with Our Business**

Our business is subject to numerous risks and uncertainties, as more fully described under "Risk Factors" beginning on page 8, which you should carefully consider prior to deciding whether to invest in our common stock. For example:

- From our founding in 1992, we have been engaged solely in research and development activities and have not had significant sales of *PHA Natural Plastics*.
- We may not be able to manufacture *PHA Natural Plastics* at commercial scale in a timely or economical manner. ADM has yet to begin construction of the commercial manufacturing facility.
- We may not be successful in the development of our products, including *PHA Natural Plastics* in switchgrass.
- We have limited sales and marketing experience and capabilities which may make the commercialization of our products difficult.
- We may not achieve market acceptance of our products.
- We rely heavily on ADM and will rely heavily on future collaborative partners. ADM has the ability to terminate the Commercial Alliance Agreement with 30 days notice in the case of changed circumstances and 90 days notice in the case of a breach by us. If ADM or any of our future collaborative partners terminate our agreements with them, then, in order to



continue commercializing that program, we will need to find another collaborative partner or continue commercializing on our own.

- Our success will be influenced by the price of petroleum, the primary ingredient in conventional petrochemical-based plastics, relative to the price of corn sugar, the primary ingredient in our products.
- With respect to our major research and development programs, we are unable to estimate the costs incurred to date, the anticipated completion dates and the period in which material net cash inflows from significant projects are expected to commence.
- We have had net losses of approximately \$54 million since being founded in 1992 and our future profitability is uncertain.
- We will have broad discretion to use the proceeds of this offering.

### **Corporate Information**

We were incorporated in Massachusetts in June 1992 under the name of Metabolix, Inc. In September 1998, we reincorporated in Delaware.

Our principal executive offices are located at 21 Erie Street, Cambridge, Massachusetts 02139, and our telephone number is (617) 492-0505. Our worldwide web address is [www.metabolix.com](http://www.metabolix.com). The information on our web site is not incorporated by reference into this prospectus and should not be considered to be part of this prospectus.

*Metabolix*, *Biopol* and *Where Nature Performs* are our registered trademarks. This prospectus also includes other registered and unregistered trademarks of ours. All other trademarks, tradenames and service marks appearing in this prospectus are the property of their respective owners.

## THE OFFERING

Common stock offered by us	shares
Common stock to be outstanding after this offering	shares
Offering price	\$ per share
Use of proceeds	We intend to use the proceeds from this offering to make investments in equipment for pilot manufacturing and commercial formulation and to fund our working capital needs, including for pre-commercial manufacturing and marketing activities with ADM, for switchgrass biorefinery program research and development, for hiring of additional personnel, for other research and development and for general corporate purposes. See "Use of Proceeds."
Proposed NASDAQ Global Market symbol	"MBLX"

The number of shares of common stock that will be outstanding after this offering is based on 12,054,809 shares outstanding as of June 30, 2006, and assumes the issuance of \_\_\_\_\_ shares to ADM (the "ADM Shares") in a concurrent private placement and excludes:

- 2,285,167 shares of common stock issuable upon exercise of options outstanding as of June 30, 2006;
- 1,777,292 shares of common stock issuable upon exercise of warrants outstanding as of June 30, 2006; and
- 2,845,562 shares of common stock reserved as of June 30, 2006 for future issuance under our stock-based compensation plans.

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

- a 0.8173-for-1 reverse stock split of our common stock which will be effective immediately prior to the effectiveness of the registration statement relating to this offering;
- the conversion of all outstanding shares of our preferred stock into 9,992,043 shares of common stock immediately prior to the closing of this offering;
- the issuance in a private placement of \_\_\_\_\_ shares to ADM at an assumed initial public offering price of \$ \_\_\_\_\_ per share (an increase (decrease) in the assumed initial public offering price of \$ \_\_\_\_\_ would (decrease) increase the number of shares sold to ADM as ADM has agreed to purchase \$7.5 million in stock at the initial public offering price);
- the filing of our amended and restated certificate of incorporation immediately prior to the closing of this offering; and
- no exercise of the underwriters' over-allotment option.

## SUMMARY FINANCIAL DATA

The following tables present summary historical and pro forma as adjusted financial data. We derived the summary statements of operations data for the years ended December 31, 2003, 2004 and 2005 and the summary balance sheet data as of December 31, 2003, 2004 and 2005 from our audited financial statements and related notes included elsewhere in this prospectus. You should read this data together with our financial statements and related notes, "Selected Financial Data," and "Management's Discussion and Analysis of Financial Condition and Results of Operations" included elsewhere in this prospectus.

The selected condensed consolidated statement of operations data for the six months ended June 30, 2005 and 2006 and the selected condensed consolidated balance sheet data as of June 30, 2006 have been derived from our unaudited condensed consolidated financial statements included elsewhere in this prospectus. Our unaudited condensed consolidated financial statements have been prepared on the same basis as the audited consolidated financial statements and notes thereto, which include, in the opinion of our management, all adjustments (consisting of normal recurring adjustments), necessary for a fair statement of the information for the unaudited interim period. Our historical results for any prior or interim period are not necessarily indicative of results to be expected for a full fiscal year or for any future period.

	Year ended December 31,			Six months ended June 30,	
	2003	2004	2005	2005	2006
	(unaudited)				
	(in thousands except share and per share data)				
<b>Statements of Operations Data:</b>					
Total revenue	\$ 2,383	\$ 3,678	\$ 2,781	\$ 1,509	\$ 3,810
Operating expenses:					
Research and development expenses, including cost of revenue	6,204	5,427	5,980	2,824	4,641
General and administrative expenses	2,692	3,252	3,825	2,078	3,397
Total operating expenses	8,896	8,679	9,805	4,902	8,038
Loss from operations	(6,513)	(5,001)	(7,024)	(3,393)	(4,228)
Interest income and (expense), net	(128)	(54)	99	32	340
Loss on investment in related party	—	—	(700) <sup>(1)</sup>	—	—
Net loss	\$ (6,641)	\$ (5,055)	\$ (7,625)	\$ (3,361)	\$ (3,888)
Net loss per share Basic and Diluted	\$ (3.33)	\$ (1.68)	\$ (2.56)	\$ (1.13)	\$ (1.30)
Number of shares used in per share calculations Basic and Diluted	1,991,106	3,009,137	2,975,116	2,973,441	2,987,860
Pro forma net loss per share Basic and Diluted (unaudited) <sup>(2)</sup>			\$ (0.73)	\$	(0.31)
Pro forma number of shares used in per share calculation Basic and Diluted (unaudited) <sup>(2)</sup>			10,391,929		12,729,420

(1) At December 31, 2005, we determined that the fair value of our preferred stock investment in Tepha, Inc. was impaired and recorded an asset impairment charge as to our entire investment in Tepha, Inc.

footnotes continued on following page



## RISK FACTORS

*Investing in our common stock involves a high degree of risk. You should carefully consider the following risks and other information in this prospectus, including our financial statements and related notes appearing elsewhere in this prospectus, before you decide to invest in shares of our common stock. If any of the events described below actually occurs, our business, financial condition and operating results could be harmed. In such an event, the market price of our common stock would likely decline and you could lose part or all of your investment in our common stock.*

### **Risks Related to Our Business**

#### **We may not be able to successfully manufacture *PHA Natural Plastics* at commercial scale in a timely or economical manner.**

We are currently producing *PHA Natural Plastics* using our fermentation platform in relatively small quantities, at pilot scale, for use in marketing activities. The current and anticipated methods for manufacturing *PHA Natural Plastics*, both by fermentation and in crops, and the anticipated methods for producing fuels, are highly complex processes in which a variety of difficulties may arise. We may not be able to resolve any such difficulties in a timely or cost effective fashion, if at all. We are currently developing methods for producing *PHA Natural Plastics* in plants, namely switchgrass, though we are only operating at research scale. We cannot predict the cost of producing *PHA Natural Plastics* at commercial scale by fermentation or in switchgrass given the stage of development of this program. We cannot assure you that we will be able to successfully manufacture *PHA Natural Plastics* at a commercial scale in a timely or economical manner using either of our technology platforms.

*PHA Natural Plastics* can be produced in a large number of different formulations. Each formulation results in a material that has different performance attributes, such as flexibility, hardness or clarity. As such, different formulations will have utility in different commercial applications. Formulation development is a time-consuming and expensive activity. The development of new formulations requires significant and lengthy product development efforts, including planning, designing, developing and testing at the technological, product and manufacturing-process levels. These activities require us to make significant investments. Although there are many potential applications for *PHA Natural Plastics*, our resource constraints require us to focus on specific formulations and to forgo other opportunities. We expect that one or more of the potential formulations we choose to develop will not be technologically feasible or will not achieve commercial acceptance, and we cannot predict which, if any, of our formulations we will successfully develop or commercialize.

Since ADM has yet to begin construction of the Commercial Manufacturing Facility, manufacturing costs at such facility are unknown and may ultimately be higher than we expect. While we believe that manufacturing costs will be reduced over time as we gain manufacturing know-how, we cannot be sure that we can manufacture *PHA Natural Plastics* in an economical manner. If we, in connection with our alliance with ADM, fail to commence production in a timely manner or to develop manufacturing capacity and experience, fail to continue to contract for manufacturing on acceptable terms, or fail to manufacture *PHA Natural Plastics* economically on a commercial scale or in commercial volumes, our commercialization of *PHA Natural Plastics* and our business, financial condition and results of operations will be materially adversely affected.

**We may not be successful in the development of our products, including *PHA Natural Plastics* in switchgrass.**

In addition to our development and scale-up work to produce *PHA Natural Plastics* through fermentation, we are also at an early stage of development of technology and a process to produce *PHA Natural Plastics* in crops. We are currently focused on the genetic and process engineering required in connection with such programs. Because we will be funding much, or perhaps all, of the development of such programs, there is a risk that we may not be able to continue to fund such programs to completion or to provide the support necessary to distribute, market and sell resulting products, if any, on a worldwide basis. These development programs will consume substantial resources.

To date our efforts to produce *PHA Natural Plastics* in crops has focused primarily on the genetic engineering required to cause the crops to aggregate *PHA Natural Plastics* in the plant mass during the life cycle of the plant. We have not yet achieved a high enough concentration of *PHA Natural Plastic* in commercial crops to make the current technology and process economically feasible at a commercial scale. If we are able to complete the genetic engineering work that leads to such aggregation at acceptable levels, we will also need to perform additional process engineering so that *PHA Natural Plastics* can be recovered from the harvested crops, processed and formulated as required to constitute a marketable product. Such engineering work may not be successful and we may not have the financial resources to fund such work.

In connection with these efforts, we are acquiring know-how and developing technology internally that will be useful in efforts to engineer the crops so that upon completion of the harvest and recovery of *PHA Natural Plastics*, the residual material, or biomass, can be readily converted into fuel through, for example, burning the biomass with coal or other conventional fuels or by converting the biomass into a liquid fuel such as ethanol. These development efforts are at a very early stage. The technological challenges associated with these programs are extraordinary and we may not be able to overcome these challenges. We will be required to invest a significant amount over a long period of time to complete such development work, if it can be completed at all.

**If ADM does not successfully build the Commercial Manufacturing Facility on time and on budget, our revenues and the distribution of profits, if any, to us will be delayed.**

The cost of planning, designing, constructing and operating the Commercial Manufacturing Facility being developed to serve the alliance with ADM Polymer Corp., a wholly-owned subsidiary of ADM, and the cost of ancillary facilities and services related to the production of *PHA Natural Plastics* by the Joint Sales Company, will be very significant. Although the final costs of construction have not been determined, we estimate that our portion of these expenses will be between \$25 and \$35 million. ADM will be advancing a disproportionate share of the financial capital needed for such activities and as such, all profits, after payment of all royalties, reimbursements and fees, from the Joint Sales Company will first be distributed to ADM until ADM's disproportionate investment in the Joint Sales Company has been returned. If there are difficulties, delays or other unforeseen issues with such activities, the cost of such activities will almost certainly increase and the revenue from sales, if any, of *PHA Natural Plastics* and the distribution of profits, if any, to us will be delayed.

**We may not be able to develop manufacturing capacity sufficient to meet demand in an economical manner or at all.**

If demand for *PHA Natural Plastics* increases beyond the scope of the Commercial Manufacturing Facility being built to serve the Joint Sales Company, we may incur significant expenses in the

expansion and/or construction of manufacturing facilities and increases in personnel in order to increase manufacturing capacity. To finance the expansion of a commercial-scale manufacturing facility is complex and expensive. We cannot assure you that we will have the necessary funds to finance the development of the Commercial Manufacturing Facility or that ADM will pay its share of the joint venture, or that we will be able to develop this manufacturing infrastructure in a timely or economical manner, or at all. Our collaborative partners could experience financial or other setbacks unrelated to our collaboration that could, nevertheless, adversely affect us.

**We may not achieve market acceptance of our products.**

We do not currently have customers for any of our products. Market acceptance of our products will depend on numerous factors, many of which are outside of our control, including among others:

- public acceptance of such products;
- ability to produce products that offer functionality comparable or superior to existing or new polymer products;
- our ability to produce products fit for their intended purpose, *e.g.*, the ability of *PHA Natural Plastics* to resist biodegradation for a certain period of time in particular environments;
- the willingness and speed at which potential customers qualify *PHA Natural Plastics* for use in their products;
- pricing of our products compared to competitive products;
- the strategic reaction of companies that market competitive products;
- our reliance on third parties who support or control distribution channels; and
- general market conditions.

Our customer prospects are currently evaluating and performing tests on our plastics prior to making any purchase decisions. We may not be able to successfully demonstrate that our plastics have properties comparable or superior to those of environmentally sustainable competitors or similar to conventional petrochemical-based plastics. There can be no assurance that products based on our technologies will be perceived as being comparable or superior to existing products or new products being developed by competing companies or that such products will otherwise be accepted by consumers. The market for our products may not be willing to support premium prices to purchase environmentally sustainable plastics. If there is not broad market acceptance of our products, we may not generate significant revenues.

**We have limited marketing and sales experience and capabilities, which may make the commercialization of our products difficult.**

We currently have limited marketing and sales experience and capabilities and virtually no distribution experience or capabilities. We have recently hired a Vice President, Sales and Marketing and a Vice President, Chief Brand Officer to add to those capabilities. We cannot assure you that we will be able to identify or hire additional individuals or that such individuals will perform to the level required. We will, in some instances, rely significantly on sales, marketing and distribution arrangements with our

collaborative partners and other third parties. For example, we will rely on ADM Polymer to participate in and execute important aspects of the distribution of *PHA Natural Plastics* manufactured by ADM and we will use the ADM client base for marketing purposes. Our future revenues will be materially dependent upon the success of the efforts of these third parties and our ability to augment our own resources by identifying and hiring new employees. If we are unable to develop or obtain access to sales and marketing expertise, sales of our products, if any, may be adversely affected.

**We rely heavily on ADM and will rely heavily on future collaborative partners.**

An important component of our current business plan is to enter into strategic partnerships with large corporations:

- to provide capital, equipment and facilities,
- to provide expertise in performing certain manufacturing and logistical activities,
- to provide funding for research and development programs, product development programs and commercialization activities,
- to provide access to raw materials, and
- to support or provide sales and marketing services.

The strategic alliance with ADM is an example of our implementation of this strategy. These arrangements with collaborative partners are, and will continue to be, critical to our success in manufacturing our products and selling such products profitably. ADM Polymer, a subsidiary of ADM, and, we anticipate, our other future collaborative partners, will be permitted by contract to terminate their agreements with us for no reason and on limited notice. ADM has the ability to terminate the Commercial Alliance Agreement with 30 days notice if, based upon a change in circumstances beyond the reasonable control of ADM and ADM Polymer, the projected financial return from the commercial alliance is deemed by ADM Polymer to be either too uncertain or inadequate. ADM also has the ability to terminate the Commercial Alliance Agreement with 90 days notice in the case of a breach by us. We cannot guarantee that any of these relationships will be entered into, or if entered into, will continue. Failure to make or maintain these arrangements or a delay or failure in a collaborative partner's performance under any such arrangements would materially adversely affect our business and financial condition.

We cannot control our collaborative partners' performance or the resources they devote to our programs. We may not always agree with our partners nor will we have control of our partners' activities on behalf of any alliance. The performance of our programs may be adversely affected and programs may be delayed or terminated or we may have to use funds, personnel, equipment, facilities and other resources that we have not budgeted to undertake certain activities on our own as a result of these disagreements. Performance issues, program delay or termination or unbudgeted use of our resources may materially adversely affect our business and financial condition.

Disputes may arise between us and a collaborative partner and may involve the issue of which of us owns the technology and other intellectual property that is developed during a collaboration or other issues arising out of the collaborative agreements. Such a dispute could delay the program on which we are working or could prevent us from obtaining the right to commercially exploit such developments. It could also result in expensive arbitration or litigation, which may not be resolved in our favor.



Our collaborative partners could merge with or be acquired by another company or experience financial or other setbacks unrelated to our collaboration that could, nevertheless, adversely affect us. For example, our collaboration with BP was recently terminated after the division with which we were collaborating was sold to a third party buyer who was not interested in continuing the collaboration.

**Our success will be influenced by the price of petroleum, the primary ingredient in conventional petrochemical-based plastics, relative to corn sugar, the primary ingredient in our products.**

Our success will be influenced by the cost of *PHA Natural Plastics* relative to petrochemical-based plastics. The cost of petrochemical-based plastic is in part based on the price of petroleum. Our products are primarily manufactured using corn sugar, an agricultural feedstock. ADM currently supplies all required agricultural feedstock as part of our strategic alliance. Over the past 32 years, the prices of petroleum and corn have diverged dramatically with the increase in petroleum price being approximately eight times whereas the price of corn has remained relatively flat over the same period. If the price of corn or corn sugar were to dramatically increase while the price of petroleum decreased, we may not be able to produce *PHA Natural Plastics* on a cost effective basis relative to petrochemical-based plastics. While we expect to be able to command a premium price for our environmentally sustainable products, a material decrease in the cost of conventional petrochemical-based plastics may require a reduction in the prices of our products for them to remain attractive in the marketplace. In such instance, if corn prices remain stable or increase, we may be required to price our products at a level that causes us to operate at a loss.

**Our future profitability is uncertain, and we have a limited operating history on which you can base your evaluation of our business.**

We have had net operating losses since being founded in 1992. At June 30, 2006, our accumulated deficit was approximately \$54 million. Since 1992, we have been engaged solely in research and development activities. As a part of our strategic alliance, ADM Polymer has yet to begin construction of the commercial scale Commercial Manufacturing Facility for *PHA Natural Plastics*. We currently expect the Commercial Manufacturing Facility to become operational in 2008, and until such time, our revenues from sales of *PHA Natural Plastics* will be limited. Because we have a limited history at commercial operations and we operate in a rapidly evolving industry, we cannot be certain that we will generate sufficient revenue to operate our business and become profitable.

Our product revenue will be dependent on the successful completion of the scale-up and commercialization of *PHA Natural Plastics* through our strategic alliance with ADM, through other partnerships or joint ventures, if any, with third parties and separately for our own account. In addition, if we are unable to develop, commercialize and further advance technologies relating to the production of *PHA Natural Plastics* in crops and other products, or if sales of such *PHA Natural Plastics* or products are not significant, we could have significant losses in the future due to ongoing expenses to perform research and product development and our inability to obtain additional research and development funding in connection with such products.

In addition, the amount we spend will impact our ability to become profitable and this will depend, in part, on:

- the progress of our research and development programs for the production of *PHA Natural Plastics* in crops and other products;
- the cost of building, operating and maintaining manufacturing and research facilities;

- the number of products that we attempt to develop;
- the time and expense required to prosecute, enforce and/or challenge patent and other intellectual property rights;
- how competing technological and market developments affect our proposed products; and
- the cost of obtaining licenses required to use technology owned by others for proprietary products and otherwise.

We may not achieve any or all of these goals and, thus, we cannot provide assurances that we will ever be profitable or achieve significant revenues. If we fail to achieve profitability or significant revenues, the market price of our common stock will likely decrease.

**We may need to secure additional funding and may be unable to raise additional capital on favorable terms or at all.**

We have consumed substantial amounts of capital since our inception in 1992 for our research and development activities. For the year ended December 31, 2005 we used \$6.3 million in cash, cash equivalents and investment securities to fund our operating and investing activities. Although we believe our existing cash resources of \$16.6 million as of August 31, 2006 plus the proceeds of this offering and the sale of the ADM Shares and anticipated payments from the strategic alliance with ADM of \$1.57 million per calendar quarter will be sufficient to fund our anticipated cash requirements for at least the next 24 months, we may require significant additional financing in the future to fund our operations. We cannot assure you that additional financing will be available on terms acceptable to us, or at all. Until we can generate significant continuing revenues, we expect to satisfy our future cash needs through strategic collaborations, private or public sales of our securities, debt financings, governmental research grants, or by licensing all or a portion of our programs or technology. If funds are not available, we may be required to delay, reduce the scope of, or eliminate one or more of our research or development programs or our commercialization efforts. Further, additional funding may significantly dilute existing stockholders.

**If we lose key personnel or are unable to attract and retain necessary talent, we may be unable to develop or commercialize our products under development.**

We are highly dependent on James Barber, our President and Chief Executive Officer, Oliver Peoples, our Chief Scientific Officer and Johan van Walsem, our VP of Manufacturing, Development and Operations. Dr. Barber possesses unique talent and experience relating to our business and the markets in which we operate. Dr. Peoples and Mr. van Walsem possess unique information related to our research and manufacturing operations. Dr. Peoples was one of our founders and has led and directed all of our scientific research and development programs. Dr. Peoples has such particular knowledge in the research, development and intellectual property aspects in connection with the production of *PHA Natural Plastics*, that in the case of the loss of his services we would be unable to readily find a suitable replacement with comparable knowledge and experience necessary to further our research and development programs. Mr. van Walsem directs our manufacturing operation and has been instrumental in developing manufacturing know-how sufficient to operate our pilot scale manufacturing plant. Mr. van Walsem has also been directing the design of the commercial scale Commercial Manufacturing Facility with ADM. The loss of Mr. van Walsem's services to us would be difficult to readily replace and may adversely impact the achievement of our objectives.

Our success depends largely upon the continued service of our management and scientific staff and our ability to attract, retain and motivate highly skilled technical, scientific, management, regulatory compliance and marketing and sales personnel. Because of the unique talents and experience of many of our scientific, engineering and technical staff, competition for our personnel is intense. The loss of key personnel or our inability to hire and retain personnel who have required expertise and skills could materially adversely affect our research and development efforts and our business.

**Confidentiality agreements with employees and others may not adequately prevent disclosure of our trade secrets and other proprietary information and may not adequately protect our intellectual property, which could limit our ability to compete.**

Because we operate in the highly technical field of biotechnology discovery and development, we rely in part on trade secret protection in order to protect our proprietary technology and processes. However, trade secrets are difficult to protect. We enter into confidentiality and intellectual property assignment agreements with our employees, consultants, outside scientific collaborators, and other advisors. These agreements generally require that the other party keep confidential and not disclose to third parties all confidential information developed by the party or made known to the party by us during the course of the party's relationship with us. These agreements also generally provide that inventions conceived by the party in the course of rendering services to us will be our exclusive property. However, these agreements may not be honored and may not effectively assign intellectual property rights to us. Enforcing a claim that a party illegally obtained and is using our trade secrets is difficult, expensive and time consuming and the outcome is unpredictable. In addition, courts outside the United States may be less willing to protect trade secrets. The failure to obtain or maintain trade secret protection could adversely affect our competitive position.

**Patent protection for our products is important and uncertain.**

Our commercial success will depend in part on our obtaining and maintaining patent, trade secret and trademark protection of our technologies in the United States and other jurisdictions, as well as successfully enforcing this intellectual property and defending this intellectual property against third-party challenges. We will only be able to protect our technologies from unauthorized use by third parties by keeping them as trade secrets or to the extent that valid and enforceable intellectual property protections, such as patents, cover them. In particular, we place considerable emphasis on obtaining patent protection for significant new technologies, products and processes in the United States and in foreign jurisdictions where we plan to use such technologies. Legal means may afford only limited protection and may not adequately protect our rights or permit us to gain or keep our competitive advantage. Foreign jurisdictions may not afford the same protections as U.S. law, and we cannot ensure that foreign patent applications will have the same scope of the U.S. patents.

Our patent position involves complex legal and factual questions. Accordingly, we cannot predict the breadth of claims that may be allowed or enforced in our patents or in third-party patents. For example:

- we or our licensors might not have been the first to make the inventions covered by each of our pending patent applications and issued patents;
- we or our licensors might not have been the first to file patent applications for these inventions;
- others may independently develop similar or alternative technologies not encompassed by our patents;

- our issued patents and issued patents of our licensors may not provide us with any competitive advantages, or may be challenged and invalidated by third parties; and
- we may not develop additional proprietary technologies that are patentable.

Patents may not be issued for any pending or future pending patent applications owned by or licensed to us, and claims allowed under any issued patent or future issued patent owned or licensed by us may not be valid or sufficiently broad to protect our technologies. Moreover, we may be unable to protect certain of our intellectual property in the United States or in foreign countries. Any issued patents owned by or licensed to us now or in the future may be challenged, invalidated, or circumvented, and the rights under such patents may not provide us with competitive advantages. For example, P&G filed a nullity action in the Federal Patent Court in Munich, Germany, against the German equivalent of one of our patents covering the method of use of producing biopolymers. In addition, competitors may design around our technology or develop competing technologies. We could incur substantial costs to bring suits in which we may assert our patent rights against others or defend ourselves in suits brought against us. An unfavorable outcome of any such litigation could have a material adverse effect on our business and results of operations.

We also rely on trade secrets to protect our technology, especially where we believe patent protection is not appropriate or obtainable. However, trade secrets are difficult to protect. We vigorously pursue confidentiality agreements and contractual provisions with our collaborators, potential customers, employees, and consultants to protect our trade secrets and proprietary know-how. These agreements may be breached and we may not have adequate remedies for such breach. While we use reasonable efforts to protect our trade secrets, our employees, consultants, contractors or scientific and other advisors, our potential customers, or our strategic partners may unintentionally or willfully disclose our proprietary information to competitors. If we were to enforce a claim that a third party had illegally obtained and was using our trade secrets, our enforcement efforts would be expensive and time consuming, and the outcome would be unpredictable. In addition, courts outside the United States are sometimes unwilling to protect trade secrets. Moreover, if our competitors independently develop equivalent knowledge, methods and know-how, it will be more difficult for us to enforce our rights and our business could be harmed.

If we are not able to defend the patent or trade secret protection position of our technologies, then we will not be able to exclude competitors from developing or marketing competing technologies, and we may not generate enough revenues from product sales to justify the cost of development of our technologies and to achieve or maintain profitability.

We also rely on trademarks to establish a market identity for our products. We currently have five registered trademarks in the United States and three pending trademark applications filed with the U.S. Patent and Trademark Office and we expect to file additional applications as new trademarks are selected for our products. To maintain the value of our trademarks, we might have to file lawsuits against third parties to prevent them from using trademarks confusingly similar to or dilutive of our registered or unregistered trademarks. Also, we might not obtain registrations for our pending or future trademark applications, and might have to defend our registered trademark and pending trademark applications from challenge by third parties. Enforcing or defending our registered and unregistered trademarks might result in significant litigation costs and damages, including the inability to continue using certain trademarks. In the event that we are unable to continue using certain trademarks, we may be forced to rebrand our products, which could result in the loss of brand recognition, and could require us to devote resources to advertise and market brands.

**A substantial portion of the technology used in our business is owned by or subject to retained rights of third parties.**

We often enter into research and development agreements with academic institutions that retain rights to the developed intellectual property. The academic institutions generally retain ownership rights over the technology for use in non-commercial academic and research fields, including in some cases the right to license the technology to third parties for use in those fields. It is difficult to monitor and enforce such noncommercial academic and research uses, and we cannot predict whether the third party licensees would comply with the use restrictions of these licenses. We could incur substantial expenses to enforce our rights against such licensees. In addition, even though the rights that academic institutions obtain are generally limited to the noncommercial academic and research fields, they may obtain rights to commercially exploit developed intellectual property in limited instances. Furthermore, under research and development agreements with academic institutions, our rights to intellectual property developed thereunder is not always certain, but instead may be in the form of an option to obtain license rights to such intellectual property. If we fail to timely exercise our option rights and/or we are unable to negotiate a license agreement, the academic institution may offer a license to the developed intellectual property to third parties for commercial purposes. Any such commercial exploitation could adversely affect our competitive position and have a material adverse effect on our business.

A substantial portion of our core technology is protected by patents that are owned by Massachusetts Institute of Technology, or MIT, and exclusively licensed to us for the life of the patents. The MIT license covers 11 issued U.S. patents, one U.S. application and numerous foreign counterparts. We cannot be certain that our right to use these patents will continue. MIT has the right to terminate this exclusive license for our nonpayment of royalties or our material breach which remains uncured. Although no material licenses are due to expire in the near future, the expiration of patents licensed from third parties or the termination of those licenses could have a material adverse effect on our business.

Some of our patents may cover inventions that were conceived or first reduced to practice under, or in connection with, U.S. government contracts or other federal funding agreements. With respect to inventions conceived or first reduced to practice under such federal funding agreements, the U.S. government may retain a nonexclusive, non-transferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States the invention throughout the world. In addition, if we fail to comply with our reporting obligations or to adequately exploit the developed intellectual property under these federal funding agreements, the U.S. government may obtain additional rights to the developed intellectual property, including the right to take title to any patents filed by us or to permit others to commercially exploit the intellectual property itself. Furthermore, our ability to exclusively license or assign the intellectual property developed under these federal funding agreements to third parties may be limited or subject to the U.S. government's approval or oversight. These limitations could have a significant impact on the commercial value of the developed intellectual property.

**Third parties may claim that we infringe their intellectual property, and we could suffer significant litigation or licensing expense as a result.**

Various U.S. and foreign issued patents and pending patent applications, which are owned by third parties, exist in areas relevant to *PHA Natural Plastics* and fuels, their compositions, formulations and uses, and processes for their production. Such third parties may claim that we infringe their patents. Because patent applications are maintained in secrecy for a period of time after they are filed, there may be currently pending applications, unknown to us, which may later result in issued patents that

our technologies may infringe. For example, we are aware of competitors with patents relating to *PHA Natural Plastic*. Such competitors may allege that we infringe these patents. There could also be existing patents of which we are not aware that our technologies may inadvertently infringe. If third parties assert claims against us alleging that we infringe their patents or other intellectual property rights, we could incur substantial costs and diversion of management resources in defending these claims, and the defense of these claims could have a material adverse effect on our business. In addition, if third parties assert claims against us and we are unsuccessful in defending against these claims, these third parties may be awarded substantial damages, as well as injunctive or other equitable relief against us, which could effectively block our ability to make, use, sell, distribute, or market our products and services in the United States or abroad. We cannot currently predict whether a third party will assert a claim against us, or pursue infringement litigation against us; nor can we predict the ultimate outcome of any such potential claims or litigation.

In the event that a claim relating to intellectual property is asserted against us, or third parties not affiliated with us hold pending or issued patents that relate to our products or technology, we may seek licenses to such intellectual property or challenge those patents. However, we may be unable to obtain these licenses on acceptable terms, if at all, and our challenge of the patents may be unsuccessful. Our failure to obtain the necessary licenses or other rights could prevent the sale, manufacture, or distribution of some of our products and, therefore, could have a material adverse effect on our business.

**If we are unable to manage our growth effectively, our business could be adversely affected.**

While historically we have focused the majority of our efforts on research and development of processes to produce *PHA Natural Plastics* using our fermentation platform, we plan to grow by allocating additional resources to developing marketing and sales expertise and resources, entering into additional collaborations with strategic partners, adding personnel with specific technological experience, and developing and commercializing additional products, such as *PHA Natural Plastics* using our switchgrass technology platform, and biological production of other chemicals and chemical intermediates from renewable resources. Our ability to grow in this manner will require that we manage a diverse range of relationships and projects, expand our personnel resources and perhaps broaden our geographic presence. Our inability to do any of these could prevent us from successfully implementing our growth strategy, and our business could be adversely affected.

We believe that sustained growth at a higher rate will place a strain on our management, as well as on our other human resources. To manage this growth, we must continue to attract and retain qualified management, professional, scientific and technical and operating personnel. If we are unable to do so, we may be unable to staff and manage projects adequately, which may slow the development process, result in the commercialization of fewer products or compromise the quality of our work.

**We may not be successful in identifying market needs for new technologies and developing new products to meet those needs.**

The success of our business model depends on our ability to correctly identify market opportunities for biologically produced plastics, fuels and chemicals. We intend to identify new market needs, but we may not always have success in doing so, in part because customers may perceive risks in adopting new materials, like *PHA Natural Plastics*, for use with existing products and because the markets for new materials and other products are not well-developed.

The materials and manufacturing technologies we research and develop are new and are steadily changing and advancing. The products that are derived from these technologies may not be applicable or compatible with the demands in existing markets. Our existing products and technologies may become uncompetitive or obsolete if our competitors adapt more quickly than we do to new technologies and changes in customers' requirements. Furthermore, we may not be able to identify new opportunities as they arise for our products since future applications of any given product may not be readily determinable, and we cannot reasonably estimate the size of any markets that may develop. If we are not able to successfully develop new products, we may be unable to increase our product revenues.

**Our products are made using genetically modified products which may be, or may be perceived as being, harmful to human health or the environment.**

*PHA Natural Plastics* are new materials produced from genetically-engineered microbes and in the future may be produced in genetically-engineered crops. Some countries have adopted regulations prohibiting or limiting the production of genetically-engineered crops. Regulations or prohibitions on the production of genetically-engineered crops could harm our business and impair our ability to produce *PHA Natural Plastics* in that manner.

The subject of genetic engineering of crops and other species has received negative publicity and has aroused public debate. Government authorities could, for social or other purposes, prohibit or regulate the development and use of genetically-engineered organisms. Social concerns could adversely affect acceptance of our potential products. Governmental regulation or negative publicity could reduce or eliminate market demand for our products which could have a material adverse effect on our results of operations and financial condition.

**We face and will face substantial competition in several different markets that may adversely affect our results of operations.**

The plastics, fuels and chemicals that we have developed or plan to develop will compete with other technologically innovative products as well as conventional petrochemical-based plastics, materials and fuels. We face and will face substantial competition from a variety of companies in the biodegradable, renewable resource based plastic segment, within which there are three distinct technologies: PHA, PLA and starch based biodegradables. While some of our competitors' existing products that are produced from renewable feedstocks do not have the range of properties that *PHA Natural Plastics* offer, such products are, nonetheless, suitable for use in a range of products at a price which may be lower than our premium priced product offerings. Other companies active in the PHA plastic segment include Kaneka. Our other competitors include, but are not limited to, key players in PLA and starch based biodegradables, Cargill, Mitsui Chemical, Toyota, Novamont and Stanelco, as well as all of the producers of petrochemical-based plastics.

Many of our competitors have longer operating histories, greater name recognition, larger customer bases and significantly greater financial, sales and marketing, manufacturing, distribution, technical and other resources than we do. These competitors may be able to adapt more quickly to new or emerging technologies and changes in customer requirements. In addition, current and potential competitors have established or may establish financial or strategic relationships among themselves or with existing or potential customers or other third parties. Accordingly, new competitors or alliances among competitors could emerge and rapidly acquire significant market share. We cannot assure you that we will be able to compete successfully against current or new competitors.

**We are subject to significant foreign and domestic government regulations, including environmental and health and safety regulations, and failure to comply with these regulations could harm our business.**

Our current and planned activities involve the use of a broad range of materials that are, or may be, considered hazardous under applicable laws and regulations. Accordingly, we are subject to a number of foreign, federal, state, and local laws and regulations relating to health and safety, protection of the environment, and the storage, use, disposal of, and exposure to, hazardous materials and wastes. We could incur costs, fines and civil and criminal penalties, personal injury and third party property damage claims, or could be required to incur substantial investigation or remediation costs if we were to violate or become liable under environmental, health and safety laws. Moreover, a failure to comply with environmental laws could result in fines and the revocation of environmental permits, which

could prevent us, or our strategic partners, from conducting business. Liability under environmental laws can be joint and several and without regard to fault. There can be no assurance that violations of environmental health and safety laws will not occur in the future as a result of the inability to obtain permits, human error, equipment failure or other causes. Environmental laws could become more stringent over time, imposing greater compliance costs and increasing risks and penalties associated with violations, which could harm our business. Accordingly, violations of present and future environmental laws could restrict our ability to expand facilities, pursue certain technologies, and could require us to acquire costly equipment, or to incur potentially significant costs to comply with environmental regulations.

Compliance with foreign, federal, state and local environmental laws and regulations represents a small part of our present budget. If we fail to comply with any such laws or regulations, however, a government entity may levy a fine on us or require us to take costly measures to ensure compliance. Any such fine or expenditure may adversely affect our business activities, financial condition or results of operations. We cannot predict the extent to which future legislation and regulation could cause us to incur additional operating expenses, capital expenditures, or restrictions and delays in the development of our products and properties.

**Our government grants may subject us to government audits, which could materially harm our business and results of operations.**

We may be subject to audits by the U.S. federal government 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. If any of our costs are found to be allocated improperly, the costs may not be reimbursed and any costs already reimbursed for such contract may have to be refunded. Accordingly, an audit could result in a material adjustment to our revenue and results of operations. Moreover, if an audit uncovers improper or illegal activities, we may be subject to civil and criminal penalties and administrative sanctions.

**We face risks associated with our international business.**

We expect to establish, and to expand over time, international commercial operations and activities. Such international business operations are subject to a variety of risks associated with conducting business internationally, including:

- changes in or interpretations of foreign regulations that may adversely affect our ability to sell our products, perform services or repatriate profits to the United States;
- the imposition of tariffs;
- economic or political instability in foreign countries;
- imposition of limitations on or increase of withholding and other taxes on remittances and other payments by foreign subsidiaries or joint ventures;
- conducting business in places where business practices and customs are unfamiliar and unknown;
- the imposition of restrictive trade policies;
- the imposition of inconsistent laws or regulations;



- imposition of limitations on genetically-engineered crops and organisms and the production or sale of products therefrom in foreign countries;
- the imposition or increase of investment requirements and other restrictions or requirements by foreign governments;
- uncertainties relating to foreign laws and legal proceedings;
- having to comply with a variety of U.S. laws, including the Foreign Corrupt Practices Act;
- having to comply with U.S. export control regulations and policies that restrict our ability to communicate with non-U.S. employees and supply foreign affiliates and customers; and
- having to comply with licensing requirements.

We do not know the impact that these regulatory, geopolitical and other factors may have on our international business in the future.

**If we are unable to develop, implement and maintain appropriate internal controls we will not be able to comply with applicable regulatory requirements imposed on reporting companies.**

Beginning with our annual report for the year ending December 31, 2007, Section 404 of the Sarbanes-Oxley Act of 2002 requires us to include an internal control report with our annual report on Form 10-K. That report must include management's assessment of the effectiveness of our internal control over financial reporting as of the end of the fiscal year. Additionally, under the current rules, our independent registered public accounting firm will be required to issue a report on management's assessment of our internal control over financial reporting and a report on their evaluation of the operating effectiveness of our internal control over financial reporting.

Our business operations are relatively small and, as a result, we have operated with very limited staffing of key accounting and administrative functions. Such limited staffing made it difficult for us to segregate certain accounting functions. As our business matures from solely research and development into commercial operations and we become a registered public company, we will need additional accounting and finance staffing to support our expanding business operations and to comply with the additional reporting and regulatory requirements of being a public company. We plan on hiring additional personnel in our accounting and finance function in order to have sufficient staffing levels. Our development, implementation and maintenance of appropriate internal controls will depend materially on our successful hiring and retention of key senior accounting personnel with appropriate technical accounting expertise.

We continue to informally evaluate our existing internal control over financial reporting against the standards adopted by the Public Company Accounting Oversight Board, or PCAOB. In addition, we have not yet begun a formal evaluation, documentation and analysis of our internal controls. During the course of our ongoing informal evaluation of the internal controls, or once we begin the formal evaluation, documentation and testing of our internal controls, we may identify areas requiring improvement, and may have to design enhanced processes and controls to address issues identified through this review. Remedying any deficiencies, significant deficiencies or material weaknesses that we or our independent registered public accounting firm may identify may require us to incur significant costs and expend significant time and management resources. While we believe that we will be able to successfully implement internal controls, we cannot assure you that any of the measures we implement to remedy any such deficiencies will effectively mitigate or remedy such deficiencies or weaknesses. Investors could lose confidence in our financial reports, and our stock price may be adversely affected, if our internal control over financial reporting is found not to be effective by management or by an

independent registered public accounting firm or if we make disclosure of existing or potential significant deficiencies or material weaknesses in those controls.

**Changes in, or interpretations of, accounting rules and regulations, such as revenue recognition and expensing of stock options, could result in unfavorable accounting treatment or require us to change our compensation policies.**

Accounting methods and policies, including policies governing revenue recognition, expenses, and accounting for stock options are subject to further review, interpretation and guidance from relevant accounting authorities, including the SEC. Changes to, or interpretations of, accounting methods or policies in the future may require us to reclassify, restate or otherwise change or revise our financial statements, including those contained in this prospectus.

Prior to January 1, 2006, we were not required to record stock-based compensation charges if the employee's stock option exercise price equaled or exceeded the fair market value of our common stock at the date of grant. As permitted by SFAS No. 123, we accounted for share-based payments to employees through December 31, 2005 using APB Opinion No. 25's intrinsic value method and, as such, generally recognized no compensation cost for employee stock options. Accordingly, the adoption of SFAS No. 123R's fair value method will have a material adverse impact on our results of operations, although it will have no impact on our overall financial position. The effect of adopting SFAS No. 123R on the six-months ended June 30, 2006 was an increase in net loss by \$89,000 and the total compensation cost related to these options not yet recognized in the financial statements is approximately \$729,000 to be expensed over the next 3.74 years. The actual impact of SFAS No. 123R in future periods will depend on levels of share-based payments granted in the future and the assumptions for the variables which impact the computation.

We rely heavily on stock options to motivate existing employees and to attract new employees. Since we are now required to expense stock options, we may then choose to reduce our reliance on stock options as employee compensation. If we reduce our use of stock options, it may be more difficult for us to attract and retain qualified employees. If we do not reduce our reliance on stock options, our reported losses will increase.

**Our pilot manufacturing recovery operations are currently conducted at a single location which makes us susceptible to disasters.**

Our pilot manufacturing recovery operations are currently conducted at a single location in Fort Mill, South Carolina. As part of the strategic alliance with ADM, ADM intends to construct a Commercial Manufacturing Facility at a single location in Clinton, Iowa, where we will initially conduct all of our commercial manufacturing operations. Our headquarters and research and development operations are located at a single facility in Cambridge, Massachusetts. We take precautions to safeguard our facilities, including insurance, health and safety protocols, and off-site storage of critical research results and of computer data. However, a natural disaster, such as a fire, flood or earthquake, could cause substantial delays in our operations, damage or destroy our manufacturing equipment, inventory or development projects, and cause us to incur additional expenses. The insurance we maintain against fires, floods, earthquakes and other natural disasters may not be adequate to cover our losses in any particular case.

## Risks Related to This Offering

**There is no existing market for our common stock, and we do not know if one will develop to provide you with adequate liquidity. If the stock price fluctuates after this offering, you could lose a significant part of your investment.**

Prior to this offering, there has been no public market for our common stock. An active public trading market may not develop after completion of this offering or, if developed, may not be sustained. The initial public offering price for our common stock will be determined by negotiations between us and the underwriters and may not be indicative of prices that will prevail in the open market following this offering. The public trading price for our common stock after this offering will be affected by a number of factors, including:

- reported progress of our business and technology development, including construction of the commercial plant relative to investor expectations;
- changes in earnings estimates, investors' perceptions, recommendations by securities analysts or our failure to achieve analysts' earning estimates;
- quarterly variations in our or our competitors' results of operations;
- general market conditions and other factors unrelated to our operating performance or the operating performance of our competitors;
- future sales of our common stock;
- announcements by us, or our competitors, of acquisitions, new products, significant contracts, commercial relationships or capital commitments;
- commencement of, or involvement in, litigation;
- any major change in our board of directors or management;
- changes in governmental regulations or in the status of our regulatory approvals;
- announcements related to patents issued to us or our competitors and to litigation involving our intellectual property;
- a lack of, limited or negative industry or security analyst coverage;
- developments in our industry and general economic conditions; and
- the other factors described elsewhere in these "Risk Factors."

As a result of these factors, you may not be able to resell your shares at, or above, the initial offering price. In addition, the stock prices of many technology companies have experienced wide fluctuations that have often been unrelated to the operating performance of those companies. These factors may materially and adversely affect the market price of our common stock.

**New investors in our common stock will experience immediate and substantial dilution.**

Our initial public offering price is substantially higher than the book value per share of our common stock. If you purchase common stock in this offering, you will incur immediate dilution of \$ \_\_\_\_\_ in net tangible book value per share of common stock, based on an assumed initial public offering price

of \$ \_\_\_\_\_ per share, the mid-point of the range on the front cover of this prospectus and assuming the underwriters do not exercise their overallotment option. In addition, the number of shares available for issuance under our stock plans may increase annually without further stockholder approval. Investors will incur additional dilution upon the exercise of stock options and warrants. See "Dilution."

**If a substantial number of shares become available for sale and are sold in a short period of time, the market price of our common stock could decline.**

If our existing stockholders sell a large number of shares of our common stock or the public market perceives that these sales may occur, the market price of our common stock could decline. Upon the closing of this offering and the sale of the ADM Shares, assuming no outstanding options or warrants are exercised prior to the closing of this offering, we will have approximately \_\_\_\_\_ shares of common stock outstanding. The \_\_\_\_\_ shares to be sold under this prospectus will be freely tradable without restriction or further registration under the federal securities laws, unless purchased by our affiliates. Taking into consideration the effect of the 180-day lock-up agreements that have been entered into by certain of our stockholders, we estimate that the remaining \_\_\_\_\_ shares of our common stock outstanding upon the closing of this offering will be available for sale pursuant to Rule 144, Rule 144(k) and Rule 701, as follows:

**Number of Shares**

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\_\_\_\_\_ shares will be immediately eligible for sale in the public market without restriction pursuant to Rule 144(k);

\_\_\_\_\_ additional shares will be eligible for sale in the public market under Rule 144 or Rule 701 beginning 90 days after the date of this prospectus, subject to volume, manner of sale, and other limitations under those rules;

\_\_\_\_\_ additional shares will become eligible for sale, subject to the provisions of Rule 144, Rule 144(k) or Rule 701, beginning 180 days after the date of this prospectus, upon the expiration of agreements not to sell such shares entered into between the underwriters and such stockholders; and

\_\_\_\_\_ additional shares will be eligible for sale from time to time thereafter upon expiration of their respective one-year holding periods, but could be sold earlier if the holders exercise any available registration rights.

Existing stockholders holding an aggregate of \_\_\_\_\_ shares of common stock (including shares of our common stock issuable upon conversion of our preferred stock or purchasable pursuant to warrants to purchase our common stock and the issuance of the ADM Shares in the concurrent private placement), based on shares outstanding as of June 30, 2006, have rights with respect to the registration of these shares of common stock with the SEC. See "Description of Capital Stock — Registration Rights." If we register these shares of common stock, these holders will be able to sell immediately those shares in the public market.

Piper Jaffray, on behalf of the underwriters, may in its sole discretion, at any time without notice, agree to release all or any portion of the shares subject to the lock-up agreements, which would result in more shares being available for sale in the public market at earlier dates. Sales of common stock by existing stockholders in the public market, the availability of these shares for sale, our issuance of securities or the perception that any of these events might occur could materially and adversely affect the market price of our common stock.

**Our management will have broad discretion over the use of the proceeds to us from this offering and might not apply the proceeds of this offering in ways that increase the value of your investment.**

Our management will have broad discretion to use the net proceeds from this offering, and you will have to rely on the judgment of our management regarding the application of these proceeds. Our management might not apply the net proceeds of this offering in ways that increase the value of your investment. We expect to use the net proceeds from this offering to make investments in equipment and operations for formulating *PHA Natural Plastics* to their final form for commercial sale and to finance our working capital needs, including:

- to develop pilot plant manufacturing, marketing and sales and other pre-commercial activities related to our alliance with ADM,
- the hiring of additional personnel for expansion of our switchgrass research and development program,
- for conduct of research and development for new opportunities in, for example, the biological production of key chemicals and chemical intermediates for renewable resources, and
- for general corporate purposes.

We have not allocated these net proceeds for any specific purposes. Our management might not be able to yield a significant return, if any, on any investment of these net proceeds.

**Our directors and management will collectively control approximately      % of our outstanding common stock.**

Immediately after this offering, our directors and executive officers and their affiliates will collectively control approximately      % of our outstanding common stock or approximately      % if the underwriters exercise their over-allotment option in full. As a result, these stockholders, if they act together, will be able to influence our management and affairs and all matters requiring stockholder approval, including the election of directors and approval of significant corporate transactions. You and other stockholders will have minimal influence over these actions. This concentration of ownership may have the effect of delaying or preventing a change in control of our company and might adversely affect the market price of our common stock.

**Our financial results may vary significantly from period to period which may reduce our stock price.**

Our financial results may fluctuate as a result of a number of factors, many of which are outside of our control, which may cause the market price of our common stock to fall. For these reasons, comparing our operating results on a period-to-period basis may not be meaningful, and you should not rely on our past results as an indication of our future performance. Our financial results may be negatively affected by any of the risk factors listed in this "Risk Factors" section and, in particular, the following risks:

- failure to estimate or control contract costs;
- adverse judgments or settlements in legal disputes;
- expenses related to acquisitions, mergers or joint ventures;
- other one-time financial charges;

- fluctuations due to revenue recognition under strategic alliance agreements. See "Management's Discussion and Analysis of Financial Condition and Results of Operations";
- failure to produce commercialized products or to find customers for these products; and
- that some of our programs are supported by government funding, which is inherently unpredictable.

**Provisions in our certificate of incorporation and by-laws and Delaware law might discourage, delay or prevent a change of control of our company or changes in our management and, therefore, depress the trading price of our common stock.**

Provisions of our certificate of incorporation and by-laws and Delaware law may discourage, delay or prevent a merger, acquisition or other change in control that stockholders may consider favorable, including transactions in which you might otherwise receive a premium for your shares of our common stock. These provisions may also prevent or frustrate attempts by our stockholders to replace or remove our management. These provisions include:

- limitations on the removal of directors;
- a classified board of directors so that not all members of our board are elected at one time;
- advance notice requirements for stockholder proposals and nominations;
- the inability of stockholders to act by written consent or to call special meetings;
- the ability of our board of directors to make, alter or repeal our by-laws;
- a supermajority stockholder vote requirement for amending certain provisions of our amended and restated certificate of incorporation and bylaws; and
- the ability of our board of directors to designate the terms of and issue new series of preferred stock without stockholder approval.

The affirmative vote of the holders of at least 75% of our shares of capital stock entitled to vote is necessary to amend or repeal the above provisions of our certificate of incorporation. In addition, absent approval of our board of directors, our by-laws may only be amended or repealed by the affirmative vote of the holders of at least 75% of our shares of capital stock entitled to vote.

In addition, Section 203 of the Delaware General Corporation Law prohibits a publicly-held Delaware corporation from engaging in a business combination with an interested stockholder, generally a person which together with its affiliates owns, or within the last three years has owned, 15% of our voting stock, for a period of three years after the date of the transaction in which the person became an interested stockholder, unless the business combination is approved in a prescribed manner.

The existence of the foregoing provisions and anti-takeover measures could limit the price that investors might be willing to pay in the future for shares of our common stock. They could also deter potential acquirers of our company, thereby reducing the likelihood that you could receive a premium for your common stock in an acquisition.

**We do not currently intend to pay dividends on our common stock and, consequently, your ability to achieve a return on your investment will depend on appreciation in the price of our common stock.**

We have never declared or paid any cash dividends on our common stock and do not currently intend to do so for the foreseeable future. We currently intend to invest our future earnings, if any, to fund our growth. Therefore, you are not likely to receive any dividends on your common stock for the foreseeable future.

## SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains forward-looking statements. All statements other than statements of historical facts contained in this prospectus, including statements regarding our future results of operations and financial position, business strategy and plans prospects, projected revenue or costs and objectives of management for future research, development or operations, are forward-looking statements. These statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements, although not all forward-looking statements contain these identifying terms. We have identified below some important factors that could cause our forward-looking statements to differ materially from actual results, performance or financial conditions:

- our ability to become profitable;
- the ability of our products to achieve market acceptance;
- our ability to successfully manufacture *PHA Natural Plastics* at commercial scale in a timely or economical manner;
- our reliance on ADM and on future collaborative partners;
- our inability to effectively protect our intellectual property and not infringe on the intellectual property of others;
- our inability to raise sufficient capital when necessary or at satisfactory valuations;
- our ability to successfully develop platforms and products other than our fermentation system for producing *PHA Natural Plastics*;
- the loss of key personnel; and
- other factors discussed elsewhere in this prospectus.

In some cases, you can identify forward-looking statements by terms such as "may," "will," "should," "expects," "plans," "anticipates," "could," "intends," "target," "projects," "contemplates," "believes," "estimates," "predicts," "potential" or "continue" or the negative of these terms or other similar words, although not all forward-looking statements contain these identifying terms. These statements are only predictions. We have based these forward-looking statements largely on our current expectations and projections about future events and trends that we believe may affect our business, financial condition and results of operations. We discuss many of the risks in greater detail under the heading "Risk Factors." Also, these forward-looking statements represent our estimates and assumptions only as of the date of this prospectus. Except as required by law, we assume no obligation to update any forward-looking statements after the date of this prospectus.

This prospectus also contains estimates and other statistical data made by independent parties and by us relating to market size and growth, commodity prices and other industry data. This data involves a number of assumptions and limitations, and you are cautioned not to give undue weight to such estimates. In addition, projections, assumptions and estimates of our future performance and the future performance of the industries in which we operate are necessarily subject to a high degree of uncertainty and risk due to a variety of factors, including those described in "Risk Factors," "Management's Discussion and Analysis of Financial Condition and Results of Operations" and elsewhere in this prospectus. These and other factors could cause results to differ materially from those expressed in the estimates made by the independent parties and by us.

## USE OF PROCEEDS

We estimate that the net proceeds to us of the sale of the common stock that we are offering, including the sale of the ADM Shares, will be approximately \$            or approximately \$            if the underwriters exercise their over-allotment option in full, assuming an initial public offering price of \$            per share, which is the midpoint of the range listed on the cover page of this prospectus, and after deducting estimated underwriting discounts and commissions and estimated offering expenses that we must pay. A \$1.00 increase (decrease) in the assumed initial public offering price of \$            would increase (decrease) the net proceeds to us from this offering by \$            million, assuming the number of shares offered by us, as set forth on the cover of this prospectus, remains the same and after deducting the underwriting discounts and commissions and estimated offering expenses payable by us. An increase or decrease in the assumed initial public offering price of \$            will not change the proceeds we receive from the sale of ADM Shares.

We intend to use the net proceeds of this offering as follows:

- approximately \$10 to \$15 million will be used to acquire plant and equipment for pilot manufacturing operations and for formulation operations related to the Commercial Manufacturing Facility;
- approximately \$15 to \$20 million will be used to conduct pilot manufacturing, sales and marketing activities related to developing the market for *PHA Natural Plastics* prior to operations commencing at the Commercial Manufacturing Facility;
- approximately \$35 million will be used for continued research and development related to: the ADM alliance, expansion of our switchgrass biomass biorefinery program and the initiation of new programs to extend our platform technology (for example to the production of certain key chemicals and chemical intermediates); and
- the balance of the funds will be used for administrative expenses related to the expansion of our commercial and research and development activities noted above and costs related to being a publicly traded company as well as for working capital and other general corporate purposes.

We may also use a portion of the net proceeds to us to expand our current business through strategic alliances with, or acquisitions of, other businesses, products, intellectual properties or technologies. We currently have no agreements or commitments for any specific acquisitions at this time.

This expected use of the net proceeds of this offering represents our current intentions based upon our present plans and business condition. The amounts and timing of our actual expenditures will depend upon numerous factors, including cash flows from operations and the anticipated growth of our business. We will retain broad discretion in the allocation and use of our net proceeds. See "Risk Factors — Risks Related to This Offering — Our management will have broad discretion over the use of proceeds to us from this offering and might not apply the proceeds of this offering in ways that increase the value of your investment."

Pending any use, as described above, we plan to invest the net proceeds in investment-grade, short-term, interest-bearing securities.

## DIVIDEND POLICY

We have never declared or paid any cash dividends on our capital stock and do not expect to pay any cash dividends for the foreseeable future. We intend to use future earnings, if any, in the operation and expansion of our business. Any future determination relating to our dividend policy will be made at the discretion of our board of directors, based on our financial condition, results of operations, contractual restrictions, capital requirements, business properties, restrictions imposed by applicable law and other factors our board of directors may deem relevant.



## CAPITALIZATION

The following table sets forth our capitalization as of June 30, 2006, as follows:

- on an actual basis; and
- on a pro forma as adjusted basis to give effect to the conversion of all of our convertible preferred stock into shares of our common stock, and to reflect receipt by us of net proceeds of \$                    from the sale of shares of common stock that we are offering at an assumed initial public offering price of \$            per share, which is the midpoint of the range listed on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us, and to reflect the receipt by us of \$7.5 million from the sale of            ADM Shares at an assumed initial public offering price of \$            per share.

You should read the following table in conjunction with our financial statements and related notes and the sections entitled "Selected Financial Data" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" appearing elsewhere in this prospectus.

	As of June 30, 2006	
	Actual	Pro forma as adjusted
	(In thousands, except share and per share amounts)	
Cash and cash equivalents <sup>(1)</sup>	\$ 15,225	\$
Short term investment	647	
Preferred stock	61,442	
Stockholders' equity (deficit):		
Common stock, \$.01 par value; 26,500,000 shares authorized, 2,073,390 shares issued, and 2,062,766 shares outstanding, actual; 100,000,000 shares authorized,            shares issued and            outstanding, pro forma as adjusted;	21	
Treasury stock (at cost), 10,624 shares	(35)	
Additional paid-in capital <sup>(1)</sup>	4,361	
Deferred compensation	(43)	
Accumulated deficit	(54,063)	
	(49,759)	
Total stockholders' equity (deficit) <sup>(1)</sup>	(49,759)	
Total capitalization <sup>(1)</sup>	\$ 11,683	\$

(1) A \$1.00 increase (decrease) in the assumed initial public offering price of \$            would increase (decrease) each of cash and cash equivalents, common stock, additional paid-in capital, total stockholders' equity (deficit) and total capitalization by \$            million, assuming the number of shares offered by us, as set forth on the cover of this prospectus, remains the same and after deducting the underwriting discounts and commissions and estimated offering expenses payable by us.

## DILUTION

Our net tangible book value as of June 30, 2006, was \$11.7 million, or \$0.97 per share of common stock. Net tangible book value per share represents the amount of our total tangible assets less our total liabilities, divided by the number of shares of common stock outstanding as of June 30, 2006 after giving effect to the assumed conversion of all of our convertible preferred stock.

After giving effect to the sale by us of \_\_\_\_\_ shares of common stock in this offering at an assumed initial public offering price of \$ \_\_\_\_\_ per share, which is the midpoint of the range listed on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us, and after giving effect to the receipt by us of \$7.5 million from the sale by us of the \_\_\_\_\_ ADM Shares at an assumed initial public offering price of \$ \_\_\_\_\_, our adjusted net tangible book value as of June 30, 2006 would have been approximately \$ \_\_\_\_\_ million, or approximately \$ \_\_\_\_\_ per share. This amount represents an immediate increase in net tangible book value of \$ \_\_\_\_\_ per share to our existing stockholders and an immediate dilution in net tangible book value of approximately \$ \_\_\_\_\_ per share to new investors purchasing shares of common stock in this offering at the assumed initial public offering price. Assuming the underwriters exercise their over-allotment option, our adjusted net tangible book value as of June 30, 2006 would have been approximately \$ \_\_\_\_\_ million, or approximately \$ \_\_\_\_\_ per share. This amount represents an immediate increase in net tangible book value of \$ \_\_\_\_\_ per share to our existing stockholders and an immediate dilution in net tangible book value of approximately \$ \_\_\_\_\_ per share to new investors purchasing shares of common stock in this offering at the assumed initial public offering price. We determine dilution by subtracting the adjusted net tangible book value per share after this offering from the amount of cash that a new investor paid for a share of common stock. The following table illustrates this dilution on a per share basis:

Assumed initial public offering price per share		\$
Historical net tangible book value (deficit) per share as of June 30, 2006	\$	(24.12)
Increase per share attributable to pro forma conversion of preferred stock		25.09
		0.97
Pro forma net tangible book value per share before this offering		0.97
Increase per share attributable to this offering	\$	
		_____
Pro forma net tangible book value per share after this offering		_____
		_____
Dilution per share to new investors		\$
		_____

The following table summarizes, as of June 30, 2006, the differences between the number of shares purchased from us, the total consideration paid to us in cash and the average price per share that existing stockholders and new investors paid. The following table also reflects the consideration to be paid to us in connection with the exercise of outstanding options and warrants held by officers, directors and affiliates. The following table does not reflect any non-cash consideration paid to us, or deemed to be paid to us, by our existing stockholders. The calculation below is based on an assumed initial public offering price of \$ \_\_\_\_\_ per share, which is the midpoint of the range listed on the cover page of this prospectus, before deducting estimated underwriting discounts and commissions and estimated offering expenses that we must pay:

	Shares Purchased		Total Consideration		Average Price Per Share
	Number	Percent	Amount	Percent	
Existing stockholders	12,054,809	%	\$ 65,824,000	%	\$ 5.46
Shares underlying options and warrants held by officers, directors, and affiliates	1,960,253		9,286,438		4.74
New investors					
Total		100%	\$	100%	\$

A \$1.00 increase (decrease) in the assumed initial public offering price of \$ would result in no change to our pro forma net tangible book value per share after this offering, would increase (decrease) the pro forma as adjusted net tangible book value per share after this offering by \$ per share and would increase (decrease) the dilution in pro forma net tangible book value to new investors by \$ per share, assuming the number of shares offered by us, as set forth on the cover of this prospectus, remains the same and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. These numbers assume the issuance of shares to ADM at an assumed initial public offering price of \$. An increase or decrease in the assumed initial public offering price of \$ would decrease or increase the number of shares sold to ADM as ADM has agreed to purchase \$7.5 million in stock at the initial public offering price.

As of June 30, 2006, we had outstanding options to purchase a total of 2,285,167 shares of common stock at a weighted average exercise price of \$2.69 per share, and outstanding warrants to purchase a total of 1,777,292 shares of common stock at a weighted average exercise price of \$6.22 per share. To the extent any of these options or warrants are exercised, there will be further dilution to new investors.

## SELECTED FINANCIAL DATA

The selected condensed consolidated statement of operations data for the years ended December 31, 2003, 2004 and 2005 and balance sheet data as of December 31, 2004 and 2005 have been derived from our consolidated financial statements and related notes, which are included elsewhere in this prospectus, and have been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as indicated in their report. The selected condensed consolidated statement of operations data for the years ended December 31, 2001 and 2002 and the balance sheet data as of December 31, 2001, 2002 and 2003 have been derived from our audited financial statements that do not appear in this prospectus. The selected financial data set forth below should be read in conjunction with our financial statements, the related notes and "Management's Discussion and Analysis of Financial Condition and Results of Operations" included elsewhere in this prospectus. The historical results are not necessarily indicative of the results to be expected for any future period.

The selected condensed consolidated statement of operations data for the six months ended June 30, 2006 and 2005 and the selected condensed consolidated balance sheet data as of June 30, 2006 have been derived from our unaudited condensed consolidated financial statements included elsewhere in this prospectus. Our unaudited condensed consolidated financial statements have been prepared on the same basis as the audited consolidated financial statements and notes thereto, which include, in the opinion of our management, all adjustments (consisting of normal recurring adjustments), necessary for a fair statement of the information for the unaudited interim period. Our historical results for any prior or interim period are not necessarily indicative of results to be expected for a full fiscal year or for any future period.

	Year ended December 31,					Six months ended June 30,	
	2001	2002	2003	2004	2005	2005	2006
(in thousands, except share and per share data)							
<b>Statement of Operations Data:</b>							
Total revenue	\$ 441	\$ 1,989	\$ 2,383	\$ 3,678	\$ 2,781	\$ 1,509	\$ 3,810
<b>Operating expenses:</b>							
Research and development expenses, including cost of revenue	6,309 <sup>(1)</sup>	4,409	6,204	5,427	5,980	2,824	4,641
General and administrative expenses	3,024	2,644	2,692	3,252	3,825	2,078	3,397
Total operating expenses	9,333	7,053	8,896	8,679	9,805	4,902	8,038
Loss from operations	(8,892)	(5,064)	(6,513)	(5,001)	(7,024)	(3,393)	(4,228)
Interest income and (expense), net	(44)	(124)	(128)	(54)	99	32	340
Loss on investment in related party	—	—	—	—	(700) <sup>(2)</sup>	—	—
Net loss	\$ (8,936)	\$ (5,188)	\$ (6,641)	\$ (5,055)	\$ (7,625)	\$ (3,361)	\$ (3,888)
Net loss per share Basic and Diluted	\$ (5.02)	\$ (2.91)	\$ (3.33)	\$ (1.68)	\$ (2.56)	\$ (1.13)	\$ (1.30)
Number of shares used in per share calculations Basic and Diluted	1,781,351	1,781,876	1,991,106	3,009,137	2,975,116	2,973,441	2,987,860
Pro forma net loss per share Basic and Diluted (unaudited) <sup>(3)</sup>					\$ (0.73)		\$ (0.31)
Pro forma number of shares used in per share calculation Basic and Diluted (unaudited) <sup>(3)</sup>					10,391,929		12,729,420

(1) Research and development expenses include the cost associated with acquired technology of \$3,000.

(2) At December 31, 2005, we determined that the fair value of our preferred stock investment in Tephra, Inc. was impaired and recorded an asset impairment charge to our entire investment in Tephra, Inc.

(3) We have computed the pro forma basic and diluted net loss per common share and the shares used to compute pro forma basic and diluted net loss per common share included in the statement of operations data as we describe in Note 2 to our consolidated financial statements.

The summary consolidated balance sheet data as of June 30, 2006 is presented:

- on an actual basis; and
- on a pro forma as adjusted basis to reflect:
- the conversion of all of our outstanding preferred stock into shares of our common stock;
- the receipt by us of net proceeds of \$                      million from the sale of the                      shares of common stock offered by us in this offering at an assumed public offering price of \$                      per share, less underwriting discounts and commissions and estimated offering expenses payable by us; and
- the receipt by us of proceeds of \$7.5 million from the sale of the                      ADM Shares in a concurrent private placement at an assumed price of \$                      per share.

As of December 31,					As of	Pro forma
2001	2002	2003	2004	2005	June 30, 2006	as adjusted
					(unaudited)	
(in thousands)						

**Balance Sheet Information:**

Cash and short-term investments <sup>(1)</sup>	\$ 298	\$ 868	\$ 1,495	\$ 4,455	\$ 3,174	\$ 15,872
Total assets <sup>(1)</sup>	1,202	2,561	3,331	7,510	7,325	22,044
Long-term obligations	1,455	857	266	1,440	1,280	1,199
Long-term deferred revenue	—	—	—	3,000	5,621	6,258
Total liabilities	3,972	3,588	4,546	7,246	9,874	10,361
Redeemable convertible preferred stock	22,490	27,764	32,640	39,235	44,009	61,442
Accumulated deficit	(25,666)	(30,855)	(37,495)	(42,549)	(50,175)	(54,063)
Total stockholders' equity (deficit) <sup>(1)</sup>	(25,259)	(28,791)	(33,855)	(38,971)	(46,558)	(49,759)

(1) A \$1.00 increase (decrease) in the assumed public offering price of \$                      would increase (decrease) each of cash and short-term investments, total assets, and total stockholders' equity (deficit) by \$                      million, assuming the number of shares offered by us, as set forth on the cover of this prospectus, remains the same after deducting the underwriting discounts and commissions and estimated offering expenses payable by us.

## 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 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 reflect our plans, estimates and beliefs. Our actual results may differ materially from those discussed in the forward-looking statements. Factors that could cause or contribute to these differences include those discussed below and elsewhere in this prospectus, particularly in "Risk Factors."*

### Overview

We are a biotechnology company that develops and plans to commercialize environmentally sustainable, economically attractive alternatives to petrochemical-based plastics, fuels and chemicals. Our strategy is to develop technology platforms that integrate advanced biotechnology with current industrial practice and commercialize these platforms with industry leading strategic partners. Our first platform, which we will be commercializing through a strategic alliance with Archer Daniels Midland Company, or ADM, is a proprietary, large-scale microbial fermentation system for producing a versatile family of naturally occurring polymers known as polyhydroxyalkanoates, which we call *PHA Natural Plastics*. Our microbial fermentation system combines our proprietary engineered bacteria with corn sugar and other materials in a fermenter. The bacteria digests the corn sugar and produces *PHA Natural Plastics* inside of the bacteria. We separate the *PHA Natural Plastics* from the remainder of the bacteria and formulate the polymer into its final form for commercial sale. Through the alliance with ADM, we intend to sell these polymers as environmentally friendly, but functionally equivalent alternatives to petrochemical-based plastics in a wide range of commercial applications, including disposable goods, packaging, agricultural products, consumer goods and electronics. As part of the strategic alliance with ADM, we have announced plans to build a 50,000 ton annual capacity commercial scale plant, or the Commercial Manufacturing Facility, that will produce biodegradable *PHA Natural Plastics* out of corn sugar, an abundant agriculturally-produced renewable resource. We are currently producing pre-commercial quantities of *PHA Natural Plastics* jointly with ADM at a pilot plant having a capacity of 8 tons per month.

Our second technology platform, which is in an early stage, is a biomass biorefinery system using switchgrass to co-produce both *PHA Natural Plastics* and biomass feedstock for the production of ethanol or other biofuels. For this system, we are engineering switchgrass to produce *PHA Natural Plastics* in the leaf and stem of the plant. We intend to extract the polymer from switchgrass and use the remaining plant material as a biomass feedstock for the production of energy products including electricity and ethanol or other biofuels. Switchgrass is a commercially and ecologically attractive, non-food energy crop that is indigenous to North America and is generally considered to be a leading candidate for cellulose-derived production of ethanol and other biofuels. We believe that using switchgrass to co-produce these products can offer superior economic value and productivity as compared to single product systems that produce them individually. We have been working on our biomass biorefinery platform using switchgrass with support from the U.S. Department of Energy and the U.S. Department of Agriculture for several years, and we believe we are a scientific leader in this field. Our goals for this program are to have commercially viable switchgrass varieties in pilot field trials within four years and to establish strategic alliances with attractive partners to commercially exploit this platform.

To date, we have generated revenues primarily from government grants and to a lesser extent from license fees, royalty payments, and research and development revenue. We have funded our operations

primarily through the sale of equity securities, government grants and, more recently, from upfront and milestone payments from our collaborative partners.

In 2004, we entered into the Technology Alliance and Option Agreement with ADM Polymer Corporation, or ADM Polymer, a subsidiary of ADM. The goal of the Technology Alliance and Option Agreement was to demonstrate the capabilities of our fermentation and recovery technologies at commercial scale and to prepare a master plan and budget for the construction of a commercial facility with a 50,000 ton per year capacity. Upon achievement of such goals, ADM Polymer had the option to enter into a commercial alliance, by execution of the Commercial Alliance Agreement, for further research, development, manufacture, use and sale of *PHA Natural Plastics*. In November of 2004, we received a \$3.0 million upfront payment from ADM, and in May 2006, we received \$2.0 million in milestone payments associated with the achievement of certain goals. On July 12, 2006, ADM Polymer exercised its option under our Technology Alliance and Option Agreement and entered into a Commercial Alliance Agreement with us. Upon entering into the Commercial Alliance Agreement, the Technology Alliance and Option Agreement terminated pursuant to its terms. We anticipate our funding from commercial partners under collaborative arrangements to rise as the Commercial Alliance Agreement calls for up to 12 quarterly payments of \$1.575 million during the construction period of the Commercial Manufacturing Facility. The first two such payments totaling \$3.15 million were received in July 2006.

Since our inception in 1992, we have focused on the research of our platform technologies, the acquisition of patents to enhance these platforms, product development and pilot manufacturing of *PHA Natural Plastics*. Commercialization of *PHA Natural Plastics* will require significant additional expenditures, including research and development, pilot manufacturing, product development and sales and marketing organization development, and we expect these expenditures to increase in future years.

As of June 30, 2006, we had 43 full-time employees, of whom 31 are scientists specializing in *PHA Natural Plastics* production in microbial fermentation and plant technologies as well as extraction and manufacturing of *PHA Natural Plastics* from these technologies. We expect that we will add a significant number of employees throughout the remainder of 2006 and during 2007 to support our research, development, sales and marketing and to build the infrastructure necessary to operate as a public company.

We have incurred significant losses since our inception. As of June 30, 2006, our deficit accumulated from inception to date was \$54 million and total stockholders' deficit was \$49.8 million. We recognized net losses of \$7.6 million, \$5.1 million and \$6.6 million in 2005, 2004 and 2003, respectively and \$3.9 million and \$3.4 million in the first six months of 2006 and 2005, respectively. We expect our net losses to increase in the next two years as we continue our pilot manufacturing development, expand our research and development and add the necessary infrastructure to support operating as a public company.

### **Collaborative Arrangements**

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. By their nature, 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. Consequently, we expect to defer recognizing most, if not all, of the payments we receive from partners as revenue until future years.

We entered into our alliance with ADM in November 2004 and a joint development arrangement with BP in February 2005. As of June 30, 2006, all payments received from ADM had been recorded as deferred revenue on our balance sheet. We expect that future payments from ADM, through at least the construction phase of the Commercial Alliance Agreement, including quarterly operating payments, and other payments will be classified as deferred revenue as well. The deferred revenue associated with the BP arrangement was recognized in full during the first quarter of 2006 when the alliance was terminated. We anticipate recognizing revenue for the payments received from ADM after the obligations under the multiple element arrangements are delivered.

We received the following payments from these arrangements to offset operating cash needs during 2004 and 2005 and first six months of 2006:

- upfront payment of \$3.0 million from ADM in November 2004;
- milestone payment of \$2.0 million from ADM in May 2006;
- cost sharing payments from ADM for pilot manufacturing plant construction and operations of \$620,000 during 2005 and an additional \$587,000 during the first six months ended June 30, 2006; and
- upfront payment of \$1.0 million and three subsequent quarterly payments of \$500,000 each, totaling \$2.5 million in payments from BP during 2005 and 2006.

### United States Government Contracts and Grants

As of June 30, 2006, gross proceeds of \$3.13 million remained to be received under our various government contracts and grants, which include amounts for reimbursement to our subcontractors, as well as reimbursement for our employees' time and benefits and other expenses related to performance under the various contracts.

The status of our United States government contracts and grants is as follows:

Program Title	Funding Agency	Total government funds (in \$M)	Total received through June 30, 2006 (in \$M)	Remaining amount to be received as of June 30, 2006 (in \$M)	Contract/Grant Expiration
Biomass Biorefinery for the Production of Polymers and Fuel	Department of Energy <sup>(1)</sup>	\$ 7.48	\$ 5.51	\$ 1.83	Apr. 2007
Industrial Genome Engineering	Department of Commerce	\$ 1.64	\$ 1.64	—	Jul. 2005
Advanced Biorefinery Feedstocks	Department of Agriculture	\$ 2.00	\$ 1.79	\$ 0.21	Oct. 2006
PHA Bioplastic Packaging Materials	SERDP <sup>(2)</sup>	\$ 1.01	—	\$ 1.01	Aug. 2008
Blow Molded Bioproducts from Natural Plastics	Department of Agriculture	\$ 0.08	—	\$ 0.08	Dec. 2006
<b>Total</b>		<b>\$ 12.21</b>	<b>\$ 8.94</b>	<b>\$ 3.13</b>	

(1) Funding of these government contracts and grants beyond the United States government's current fiscal year is subject to annual congressional appropriations.

(2) Strategic Environmental Research and Development Program



## Revenues

Revenues for the years ended December 31, 2005, 2004 and 2003 were primarily derived from government grants and totaled \$2.8 million, \$3.7 million and \$2.4 million, respectively. Revenues totaled \$3.8 million and \$1.5 million for the first six months ended June 30, 2006 and 2005, respectively. The six month 2006 amounts include \$2.5 million of revenue associated with the termination of the BP joint development agreement. We expect the revenues from government grants to fluctuate due to availability of funding from the government, and the revenue from collaborative arrangements will be recognized as future obligations under the agreements are completed. We expect research and development revenue to decline for the remainder of 2006 as we are not anticipating any other revenue from collaborative agreements to be recognized.

## Research and Development Expenses

Our operating expenses to date have substantially been for research and development activities. Research and development expenses consist of costs associated with research activities, as well as costs associated with our product development efforts, including pilot manufacturing costs. All research and development costs, including those funded by third parties, are expensed as incurred. Research and development expenses include:

- consultant and employee related expenses, which include salary and benefits;
- external research and development expenses incurred under agreements with third party organizations and universities; and
- facilities, depreciation and other allocated expenses, which include direct and allocated expenses for rent and maintenance of facilities, depreciation of leasehold improvements and equipment and laboratory and other supplies.

Research and development expenses for 2005, 2004 and 2003 were \$6.0 million, \$5.4 million and \$6.2 million, respectively, and \$4.6 million and \$2.8 million in the first six months of 2006 and 2005, respectively. These expenses are related to developing our platform technologies and *PHA Natural Plastics* pilot manufacturing production. We expect that our expenses will increase significantly during 2006 as we continue pilot manufacturing production and expand our research and development programs.

We have not reported our internal historical research and development costs or our personnel and personnel-related costs on a project-by-project basis. Our programs share a substantial amount of our common fixed costs such as facilities, depreciation, utilities and maintenance. Accordingly, we do not track our research and development costs by individual research and development program.

We expect to incur increasing research and development expenses in future periods as we continue our pilot manufacturing and product development trials for our product derived from microbial fermentation. The potential for commercial success of our *PHA Natural Plastics* may be impacted by numerous factors, including partnership continuance with ADM, product properties, manufacturing capability and commercial viability.

In addition, we expect research and development expenditures to grow as we advance our switchgrass program and explore other commercial opportunities our technology platform can be applied to. We cannot predict what it will cost to complete our research and development projects or when they will be completed and commercialized. The timing and cost of any project is dependent upon achieving

technical objectives, which are inherently uncertain. In addition, our business strategy contemplates entering into collaborative arrangements with third parties for one or more of our programs. In the event that third parties assume responsibility for certain research or development activities, the estimated completion dates of those activities will be under the control of the third party rather than with us. We cannot forecast with any certainty which programs if any, will be subject to future collaborative arrangements, in whole or in part, and how such arrangements would affect our research and development plans or capital requirements.

As a result of the uncertainties discussed above, we are unable to determine the duration and completion costs of our research and development projects or when and to what extent we will receive cash inflows from the commercialization and sale of products. Our inability to complete our research and development projects in a timely manner or our failure to enter into collaborative agreements, when appropriate, could significantly increase our capital requirements and could adversely impact our liquidity. These uncertainties could force us to seek additional, external sources of financing from time to time in order to continue with our strategy. Our inability to raise additional capital, or to do so on terms reasonably acceptable to us, would jeopardize the future success of our business.

### **General and Administrative Expenses**

General and administrative expenses consist principally of salaries and related costs for personnel in executive, finance, accounting, marketing and sales, business development, information technology, legal and human resources functions. Other general and administrative expenses include patent related costs, facility costs not otherwise included in research and development expenses and professional fees for legal, consulting and accounting services.

General and administrative expenses were \$3.8 million, \$3.3 million and \$2.7 million in 2005, 2004 and 2003, respectively, and \$3.4 million and \$2.1 million in the first six months of 2006 and 2005, respectively. These expenses include patent protection fees for our extensive patent portfolio. We expect that our general and administrative expenses will increase as we expand our legal and accounting staff and marketing and sales staff, add infrastructure and incur additional costs related to operating as a public company, including directors' and officers' insurance, investor relations programs, increased director fees, increased professional fees and non-cash stock-based compensation expense.

### **Critical Accounting Estimates and Judgments**

Our consolidated financial statements are prepared in accordance with accounting principles generally accepted in the United States of America. The preparation of these consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenue, costs and expenses, and related disclosures. We evaluate our estimates and assumptions on an ongoing basis. Our actual results may differ from these estimates.

We believe that of our significant accounting policies, which are described in the notes to our consolidated financial statements, the following accounting policies involve a greater degree of judgment and complexity. Accordingly, we believe that the following accounting policies are the most critical to aid in fully understanding and evaluating our consolidated financial condition and results of operations.

### **Revenue Recognition**

We recognize revenue under government research grants when the related expense is incurred and we have obtained governmental approval to use the grant funds for agreed upon budgeted expenses.

For revenue received under our arrangements with ADM and BP, we recognize revenue in accordance with the Staff Accounting Bulletin ("SAB") 104, *Revenue Recognition*, and Emerging Issues Task Force ("EITF") Issue No. 00-21, *Revenue Arrangements with Multiple Deliverables*.

Our arrangement with ADM contains multiple elements including obligations for us to provide future formulation services, sales and marketing services and certain research and development activities, amongst others. We have determined that these elements cannot be separated and accounted for individually as separate units of accounting. Therefore payments received from ADM have been classified as deferred revenue at the respective balance sheet dates and will be recognized in future periods after the commencement of product commercialization and as the final deliverables under the arrangements are being completed. More specifically, we believe revenue will commence approximately at the time of the first commercial sale of *PHA Natural Plastics* and amounts will be recognized proportionately over the period that the final services are provided, over the remaining term of the Commercial Alliance Agreement. As of June 30, 2006, payments received from ADM totaling \$6.2 million have been recorded as deferred revenue, including non-refundable up-front payments totaling \$3.0 million, \$2.0 million in milestone payments and approximately \$1.2 million in reimbursements related to pilot manufacturing construction and operating costs.

Under our joint development arrangement with BP, we received \$2.0 million in 2005. Due to these amounts being applicable for determining BP's equity participation in a potential future joint venture between the parties, these amounts were recorded as deferred revenue at December 31, 2005. We recognized the revenue for this amount, plus an additional \$0.5 million which became due in the first quarter of 2006, upon the termination notice from BP in January 2006, as we have been released from any future obligations under this agreement.

Fees to license the use of the Company's proprietary and licensed technologies are recognized only after both the license period has commenced and the technology has been delivered to the customer. Royalty revenue is recognized when it becomes determinable and collectibility is reasonably assured, otherwise the Company recognizes revenue upon receipt of payment.

### **Stock-Based Compensation**

Effective January 1, 2006, the Company adopted *Statement of Financial Accounting Standards ("SFAS") No. 123-revised, Share-Based Payment ("SFAS 123R")*, which revises SFAS No. 123, *Accounting for Stock Based Compensation ("SFAS 123")* and supersedes Accounting Principles Board ("APB") Opinion No. 25, *Accounting for Stock Issued to Employees ("APB 25")*. SFAS 123R requires that all stock-based compensation be recognized as an expense in the consolidated financial statements and that such expense be measured at the fair value of the award.

We adopted SFAS 123R using the prospective method of application, which requires us to recognize compensation expense on a prospective basis; therefore, prior period consolidated financial statements have not been restated. Compensation expense recognized includes the expense of stock options granted on and subsequent to January 1, 2006. Stock options granted by us prior to that time are specifically excluded from SFAS 123R and will continue to be accounted for in accordance with APB 25. These options were valued using the minimum value method.

Determining the appropriate fair value model and calculating the fair value of stock-based payment awards require the use of highly subjective assumptions, including the expected life of the stock-based payment awards and stock price volatility. In 2006, we began using the Black-Scholes option-pricing model to value our option grants and determine the related compensation expense. The assumptions used in calculating the fair value of stock-based payment awards represent management's best

estimates, but the estimates involve inherent uncertainties and the application of management judgment. As a result, if factors change and we use different assumptions, our stock-based compensation expense could be materially different in the future. Prior to the adoption of SFAS 123R, we had adopted SFAS 123, but in accordance with SFAS No. 123, we had elected not to apply fair value-based accounting for our awards under the employee stock incentive plan through December 31, 2005. Instead, we have measured compensation expense for our stock plans using the intrinsic value method prescribed by APB 25, and related interpretations and provided pro forma disclosures as permitted under SFAS No. 148, *Accounting for Stock-Based Compensation — Transition and Disclosure an amendment of SFAS 123*.

In 2006, the Black-Scholes option pricing model employs the following key assumptions for option grants.

	<u>June 30, 2006</u>
Expected dividend yield	—
Risk-free interest rate	4.89%
Expected option term (in years)	6.1
Volatility	75%

For the period ended June 30, 2006, expected volatility is based on review of the volatility of peer companies adjusted for newly public company increased expected volatility. Management believes that the historical volatility of the Company's stock price does not best represent the expected volatility of the stock price.

The risk-free interest rate used for each grant is equal to the U.S. Treasury yield curve in effect at the time of grant for instruments with a similar expected life.

For the period ended June 30, 2006, the expected term of the options granted was determined using the "simplified" method for "plain vanilla" options as permitted by Staff Accounting Bulletin No. 107.

The stock price volatility and expected terms utilized in the calculation involve management's best estimates at that time, both of which impact the fair value of the option calculated under the Black-Scholes methodology and, ultimately, the expense that will be recognized over the life of the option. SFAS 123R also requires that the Company recognize compensation expense for only the portion of options that are expected to vest. Therefore, the Company has estimated expected forfeitures of stock options with the adoption of SFAS 123R. In developing a forfeiture rate estimate, the Company considered its historical experience, its growing employee based and the limited liquidity of its common stock. If the actual number of forfeitures differs from those estimated by management, additional adjustments to compensation expense may be required in future periods.

The effect of adopting SFAS 123R on the six months ended June 30, 2006 was an increase in net loss by \$89,000. We expect to record increased and material compensation expenses related to the adoption of SFAS 123R in later quarters of 2006 and future years as we continue to issue stock options to expand and retain our staffing in research and development and general and administrative functions.

In addition, for the six months ended June 30, 2006, we recorded \$259,000 of additional stock based compensation including \$164,000 associated with nonemployees and \$95,000 associated with a 2005 grant to an employee accounted for under a variable method.

We have historically granted stock options at exercise prices equivalent to the fair value of our common stock as estimated by our board of directors, with input from management, as of the date of grant. Because there has been no public market for our common stock, our board of directors determined the fair value of our common stock by considering a number of objective and subjective factors, including our operating and financial performance and corporate milestones, the prices at which we sold shares of convertible preferred stock, the superior rights and preferences of securities senior to our common stock at the time of each grant and the risk and non-liquid nature of our common stock. We have not historically obtained contemporaneous valuations by an unrelated valuation specialist because, at the time of the issuances of stock options, we believed our estimates of the fair value of our common stock to be reasonable based on the foregoing factors.

In anticipation of a potential public offering, we re-assessed the valuation of our common stock at December 31, 2005. There was an immaterial difference between the original estimated fair value and the re-assessed valuation of the common stock related to the grants made during December 2005. Therefore we have not made any retrospective adjustments to our accounting for stock options.

In 2006, determining the fair value of our stock requires making complex and subjective judgments. Our approach to valuation of the enterprise is based on a discounted future cash flow approach that uses our estimates of revenue, driven by assumed market growth rates, and estimated costs as well as appropriate discount rates. These estimates are consistent with the plans and estimates that we use to manage the business. There is inherent uncertainty in making these estimates. The enterprise value was then allocated to preferred and common shares using the option-pricing method which involves making estimates of the anticipated timing of a potential liquidity event such as a sale of our company or an initial public offering, and estimates of the volatility of our equity securities. The anticipated timing is based on the plans of our board and management. Estimating the volatility of the share price of a privately held company is complex because there is no readily available market for the shares. We estimated the volatility of our stock based on available information on volatility of stocks of publicly traded companies in the industry. Had we used different estimates of volatility, the allocations between preferred and common shares would have been different.

## **Results of Operations**

### ***Comparison of the Six Months Ended June 30, 2006 and 2005***

#### ***Revenue***

Our revenue for the six months ended June 30, 2006 and 2005 was \$3.8 million and \$1.5 million, respectively. We recognized revenue from research and development services of \$2.5 million and \$31,000 during the first six months of 2006 and 2005, respectively. The increase was due to the recognition of \$2.5 million in revenue from our joint development arrangement with BP in the first six months of 2006 upon the termination of the arrangement by BP in January 2006, as we have been released from any future performance obligations. We also recognized revenue for government grants of \$1.1 million and \$1.3 million during the first six months of 2006 and 2005, respectively. In the first six months of 2006, we recognized revenue of \$190,000 from license fees and royalty income as compared to \$134,000 in the same period for 2005.

#### ***Research and Development Expenses***

Research and development expenses increased to approximately \$4.6 million in the first six months of 2006 from \$2.8 million in the same period in 2005. The increase was due primarily to increased spending on pilot material production of *PHA Natural Plastics*, increased staffing and other personnel

related costs to support our collaborative arrangements. We expect that research and development expenses for pilot manufacturing and testing of *PHA Natural Plastics* will continue to increase in later periods of 2006 as we prepare to develop, test and refine products to meet the product specification requirements of our customers. We expect that our staffing and personnel related costs will also increase to support the research programs for our microbial and plant programs. We did not incur any material expenses during the first six months of 2006 due to the adoption of SFAS 123R on January 1, 2006, however we expect to record increased compensation expenses in future quarters of 2006 and future years.

#### ***General and Administrative Expenses***

General and administrative expenses increased to \$3.4 million in the first six months of 2006 from \$2.1 million in the first six months of 2005. This increase was primarily due to increased staffing in sales and marketing expenses and also staffing necessary to manage and support our preparation for going public. Our general and administrative expenses also increased due to stock based compensation charges of \$331,000 primarily due to a 2005 variable option grant and options granted to nonemployees and expenses associated with the adoption of SFAS 123R. Expenses during the first six months of 2006 due to the adoption of SFAS 123R on January 1, 2006 totaled \$89,000 and we expect to record increased compensation expenses in future quarters of 2006 and future years.

We expect that our general and administrative expenses will increase as we expand our legal and accounting staff and marketing and sales staff, add infrastructure and incur additional costs related to operating as a public company, including directors' and officers' insurance, investor relations programs, increased director fees, increased professional fees and non-cash stock-based compensation expense.

#### ***Comparison of the Years Ended December 31, 2005 and 2004***

##### ***Revenue***

Our revenue for 2005 and 2004 was \$2.8 million and \$3.7 million, respectively. We recognized revenue from government grants of \$2.4 million during 2005 as compared to \$3.2 million during 2004. The decrease of \$0.8 million of government grant revenue was due to the expiration of a government grant in 2005. We expect that our grant revenue will fluctuate year to year depending on available funding from government agencies. We recorded approximately \$2.6 million of payments from collaborative arrangements as deferred revenue. In 2005, we recognized revenue of \$242,000 from license fees and related royalty payments as compared to \$392,000 during 2004. The decrease was substantially due to a change in our assessment regarding the collectibility of certain license fees and royalty payments due from a related party which are now recognized on a cash basis. We also recognized \$106,000 and \$97,000 of research and development revenue during 2005 and 2004 respectively.

##### ***Research and Development Expenses***

Research and development expenses increased to \$6.0 million in 2005 from approximately \$5.4 million in 2004. The increase was due primarily to increased rent for expanded facilities and related operating expenses, as well as increased staffing and other personnel related costs to support our collaborative arrangements in 2005. We expect that research and development expenses for pilot manufacturing and testing of *PHA Natural Plastics* will continue to increase in 2006 as we prepare to test and refine product to meet the product specification requirements of our customers. We expect that our staffing and personnel related costs will also increase to support the research programs for our microbial and plant programs.

### **General and Administrative Expenses**

General and administrative expenses increased to \$3.8 million in 2005 from \$3.3 million in 2004. This increase was primarily due to increased patent costs for protecting our extensive and increasing patent portfolio, as well as some increased staffing necessary to manage and support our growth. We also expect to record additional compensation expenses related to the adoption of SFAS 123R in 2006 and future years.

We expect that our general and administrative expenses will increase as we expand our legal and accounting staff and marketing and sales staff, add infrastructure and incur additional costs related to operating as a public company, including directors' and officers' insurance, investor relations programs, increased director fees, increased professional fees and non-cash stock-based compensation expense.

### **Loss on investment in related party**

During 2005 we recorded an asset impairment charge of \$700,000 for an investment in Tepha, Inc., a related party. We do not expect to incur any additional such charges during 2006 as there is no remaining net book value. See Footnote 8 to our financial statements included in this prospectus.

### **Comparison of the Years Ended December 31, 2004 and 2003**

#### **Revenue**

Our revenue for 2004 and 2003 was \$3.7 million and \$2.4 million, respectively. We recognized revenue from government grants of \$3.2 million during 2004 as compared to \$2.1 million during 2003. The increase of approximately \$1.1 million of government grant revenue was due to the start of a new government grant in 2004 and the full year in operation of another multi-year grant received during 2003. We expect that our grant revenue will fluctuate year to year depending on available funding from government agencies. We recorded approximately \$3.0 million of payments in 2004 from collaborative arrangements as deferred revenue and we recognized \$234,000 of previously deferred government revenue. In 2004, we recognized revenue of \$392,000 from license fees and related royalty payments as compared to \$113,000 during 2003. The primary reason for this increase in royalties received was due to a licensing agreement with a related party. We also recognized \$97,000 and \$120,000 of research and development revenue during 2004 and 2003, respectively.

#### **Research and Development Expenses**

Research and development expenses decreased to \$5.4 million in 2004 from \$6.2 million in 2003. The higher expenses during 2003 were due primarily to increased contract spending of \$0.5 million to test larger scale proof-of-concept production of *PHA Natural Plastics*.

#### **General and Administrative Expenses**

General and administrative expenses increased to \$3.3 million in 2004 from \$2.7 million in 2003. This increase was primarily due to increased professional fees incurred to negotiate and enter into agreements relating to our alliance with ADM concluded during 2004 and our joint development arrangement with BP in early 2005. We also incurred increased consultant costs to manage and support our growth.

## Income Taxes

Since inception, we have incurred operating losses and, accordingly, have not recorded a provision for income taxes for any of the periods presented. As of December 31, 2005, we had net operating loss carryforwards for federal and state income tax purposes of \$26.0 million and \$16.8 million, respectively. As of December 31, 2005, we also had federal and state research and development tax credit carryforwards of \$1.1 million and \$0.9 million, respectively. If not utilized, the federal and state net operating loss carryforwards will begin expiring in 2008 and 2006, respectively and tax credit carryforwards will expire beginning in 2012. The annual limitation may result in the expiration of our net operating loss and tax credit carryforwards before they can be used and therefore we have fully reserved the associated tax asset. Utilization of net operating loss and credit carryforwards may be subject to a substantial annual limitation due to limitations provided by the Internal Revenue Code of 1986, as amended, that are applicable if we experience an "ownership change" that may occur, for example, as a result of this offering aggregated with certain other sales of our stock before or after this offering.

## Liquidity and Capital Resources

Since inception, we have financed our operations primarily through private placements of equity securities, receiving aggregate net proceeds from such sales totaling \$61.4 million, revenues primarily from government grants and our joint development arrangement with BP totaling \$15.7 million and payments arising from our strategic alliance with ADM of \$6.2 million as of June 30, 2006. As of June 30, 2006, we had \$15.9 million in cash, cash equivalents and short-term investments. Our cash and investment balances are held in money market accounts and short-term instruments. Cash in excess of immediate requirements is invested in short-term instruments with regard to liquidity and capital preservation.

Net cash used in operating activities was \$3.4 million and \$2.7 million during the first six months in 2006 and 2005, respectively and \$4.4 million, \$1.0 million and \$5.1 million in 2005, 2004 and 2003 respectively. The net cash used in each of these periods primarily reflects net loss for these periods, offset in part by depreciation, non-cash stock-based compensation for non-employees and non-cash changes in operating assets and liabilities. During 2004 the landlord for our new research facilities provided lease incentives to offset our leasehold improvement costs of approximately \$1.5 million and we also received \$3.0 million in payments under the alliance agreement with ADM. During 2005 we received \$2.0 million and \$620,000 in payments from the joint development arrangement with BP and alliance agreement with ADM, respectively. During the first six months of 2006, we received a \$500,000 final payment from the joint development arrangement with BP, and \$2.0 million in milestone payments and \$587,000 in reimbursements related to pilot manufacturing construction and operation costs from ADM in conjunction with our alliance agreement.

Net cash used in investing activities was \$267,000 and \$51,000 during the first six months in 2006 and 2005, respectively, and \$1.9 million, \$3.1 million and \$35,000 in 2005, 2004 and 2003, respectively. Investing activities consist primarily of purchases and sales of marketable securities and capital purchases. During 2005, we rolled over the certificate of deposit along with an additional amount of interest earned amounting to \$36,000 and during 2004, we purchased a \$1.3 million certificate of deposit. During the first six months in 2006 we purchased additional certificates of deposits for \$16.2 million and a certificate of deposit for \$1.2 million matured. Purchases of property and equipment were \$958,000 and \$54,000 during the first six months in 2006 and 2005, respectively, and \$1.9 million, \$1.3 million and \$35,000 in 2005, 2004 and 2003, respectively. The majority of the purchase of property and equipment in 2004 related to our moving to a different location, mostly funded by the landlord through lease incentives. The primary increase in the purchase of property and



equipment during 2005 was due to the construction costs of approximately \$1.2 million for our pilot manufacturing facility for the pilot production of *PHA Natural Plastics*, co-funded through our alliance with ADM, and approximately \$560,000 during 2005 and an additional \$350,000 during the first six months of 2006 for the construction of a greenhouse to support our switchgrass program. We expect to make significant investments in the purchase of property and equipment to support our pilot manufacturing, formulating *PHA Natural Plastics* to their final form for commercial sale and other efforts. We estimate that we will use approximately \$10 to \$20 million of the proceeds of this offering to fund these investments.

Net cash provided by financing activities was \$17.1 million and \$4.5 million during the first six months in 2006 and 2005, respectively, and \$5.0 million in 2005 and \$5.8 million in each of 2003 and 2004. Financing activities consist primarily of proceeds from the sale of our preferred stock and promissory notes. We received net proceeds from the issuance of preferred stock of \$17.4 million and \$44.8 million during the first six months in 2006 and 2005, respectively, and \$4.8 million, \$6.5 million and \$6.3 million in 2005, 2004 and 2003, respectively. Payments on a convertible promissory note and capital lease obligations were each of \$417,000, \$721,000 and \$521,000 during 2005, 2004 and 2003, respectively.

#### ***Operating Capital and Capital Expenditure Requirements***

We anticipate commercializing our first product through our alliance with ADM during 2008. However, we anticipate that we will continue to incur net losses for the next several years as we incur expenses to commercialize our *PHA Natural Plastics*, and expand our marketing, sales, manufacturing and corporate infrastructure.

We believe that our cash, cash equivalents and short-term marketable securities balances, and the interest we earn on these balances, as well as cash expected from our ADM alliance plus the proceeds of this offering, will be sufficient to meet our anticipated cash requirements with respect to the initial commercial launch of our *PHA Natural Plastics* for at least the next 24 months. If our available cash, cash equivalents and short-term marketable securities are insufficient to satisfy our liquidity requirements, or if we develop additional products, we may seek to sell additional equity or debt securities or obtain a credit facility. The sale of additional equity and debt securities may result in additional dilution to our stockholders. If we raise additional funds through the issuance of debt securities or preferred stock, these securities could have rights senior to those of our common stock and could contain covenants that would restrict our operations. We may require additional capital beyond our currently forecasted amounts. Any such required additional capital may not be available on reasonable terms, if at all. If we are unable to obtain additional financing, we may be required to reduce the scope of, delay or eliminate some or all of our planned research, development and commercialization activities, which could harm our business.

Because of the numerous risks and uncertainties associated with plant construction and commercialization of *PHA Natural Plastics*, we are unable to estimate the exact amounts of our capital and working capital requirements. We estimate our capital expenditures through completion of construction of the commercial manufacturing facility in 2008 to be in the range of \$10 to \$20 million to purchase property and equipment to support our pilot manufacturing and formulating *PHA Natural Plastics* to their final form for commercial sale and for research and development. Our future funding requirements will depend on many factors, including, but not limited to:

- continued funding and support payments from our key alliance agreement with ADM;

- the expenditures related to continued pilot production of *PHA Natural Plastics* during this period;
- costs related to the building of our formulation facility pursuant to the ADM alliance;
- successful commercialization commencement in 2008;
- our ability to scale our manufacturing operations to meet demand for *PHA Natural Plastics*;
- the revenue generated by sales of our *PHA Natural Plastics*;
- the expenses we incur in manufacturing, developing, marketing and selling our products;
- the costs and timing of additional regulatory approvals;
- the costs of filing, prosecuting, defending and enforcing any patent claims and other intellectual property rights;
- the rate of progress and cost of our product development activities;
- the requirements for the development and commercialization of *PHA Natural Plastics* produced in switchgrass and, perhaps, other crop platforms;
- the success of our research and development efforts;
- the emergence of competing or complementary technological developments;
- the terms and timing of any collaborative, licensing and other arrangements that we may establish; and
- the acquisition of businesses, products and technologies, although we currently have no commitments or agreements relating to any of these types of transactions.

#### **Off-Balance Sheet Arrangement**

As of June 30, 2006, we had no off-balance sheet arrangements as defined in Item 303(a)(4) of the Securities and Exchange Commission's Regulation S-K.

## Contractual Obligations

Our future contractual obligations primarily for future rental payment obligations on the current office and lab space, including financing costs, at December 31, 2005 were as follows:

Contractual Obligations	Payment due by period				
	Total	Less than 1 year	2-3 years	4-5 years	More than 5 years
Operating lease obligations	\$ 8,385	\$ 988	\$ 1,976	\$ 1,977	\$ 3,444
Capital lease obligations	\$ 63	\$ 63	\$ 0	\$ 0	\$ 0
Purchase obligations	\$ 250	\$ 25	\$ 50	\$ 50	\$ 125
Total	\$ 8,698	\$ 1,076	\$ 2,026	\$ 2,027	\$ 3,569

## Related Party Transactions

We have recorded license and royalty revenue from a related party and have an option grant to a related party. We also have various transactions with our alliance partner ADM, a related party. Additionally, the Company recorded an impairment charge on a related party investment. For a full description, see Note 8 to our notes to consolidated financial statements and the "Certain Relationships and Related Party Transactions."

## Recent Accounting Pronouncements

In December 2004, the Financial Accounting Standards Board ("FASB") issued SFAS No. 123R, which replaces SFAS No. 123 and supersedes APB No. 25. SFAS No. 123R will require all share-based payments to employees, including grants of employee stock options, to be recognized in the statement of operations based on their fair values. The Company implemented SFAS No. 123R in the reporting period beginning January 1, 2006, which resulted in an immaterial effect on its stock compensation expense for the period ended March 31, 2006. The Company expects stock compensation expense to materially increase in future periods as a result of the adoption of this standard and future possible stock grant activity.

In April 2005, the FASB issued FASB Interpretation No. 47, *Accounting for Conditional Asset Retirement Obligations — an interpretation of FASB Statement No. 143* ("FIN No. 47"). FIN No. 47 expands on the accounting guidance of Statement of Financial Accounting Standards No. 143, *Accounting for Asset Retirement Obligations* ("SFAS No. 143"), providing clarification of the term, conditional asset retirement obligation, and guidelines for the timing of recording the obligation. The interpretation is effective for fiscal years ending after December 15, 2005. The Company adopted FIN No. 47 and has recorded a long-term liability for its asset retirement obligations of \$66,218, and an associated non-current asset of \$64,615, at December 31, 2005 which represents the contractual obligations associated with the potential removal of a leasehold addition constructed during 2005.

In May 2005, the FASB issued Statement of Financial Accounting Standards No. 154, *Accounting Changes and Error Corrections*, a replacement of APB Opinion No. 20, *Accounting Changes*, and FASB issued Statement of Financial Accounting Standards No. 3, *Reporting Accounting Changes in Interim Financial Statements* ("SFAS 154"). SFAS No. 154 requires retrospective application to prior period financial statements of changes in accounting principle, unless it is impracticable to determine either the period-specific effects or the cumulative effect of the change. This statement requires that retrospective application of a change in accounting principle be limited to the direct effects of a

change. SFAS 154 is effective for accounting changes and corrections of errors made in fiscal years beginning after December 15, 2005.

In July, 2006 the FASB issued Financial Accounting Standards Interpretation No. (FIN) 48, *Accounting for Uncertainty in Income Taxes*. FIN 48 clarifies the accounting for uncertainty in income taxes recognized in an enterprise's financial statements in accordance with SFAS No. 109. FIN 48 prescribes a recognition threshold and measurement attributable for the financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. FIN 48 also provides guidance on derecognition, classification, interest and penalties, accounting in interim periods, disclosures and transitions. FIN 48 is effective for fiscal years beginning after December 15, 2006. The adoption of this statement is not expected to have a material impact on our consolidated financial position or results of operations.

#### **Quantitative and Qualitative Disclosures about Market Risk**

We had unrestricted cash, cash equivalents, short-term investments and restricted cash totaling \$16.4 million at June 30, 2006. The unrestricted cash and cash equivalents are held for working capital purposes. We do not enter into investments for trading or speculative purposes. Some of the securities in which we invest, however, may be subject to market risk. This means that a change in prevailing interest rates may cause the principal amount of the investment to fluctuate. To minimize this risk in the future, we intend to maintain our portfolio of cash equivalents and short-term investments in a variety of securities, including commercial paper, money market funds, debt securities and certificates of deposit. Due to the short-term nature of these investments, we believe that we do not have any material exposure to changes in the fair value of our investment portfolio as a result of changes in interest rates. As of June 30, 2006 all of our investments were held in money market accounts and short-term instruments.

**Overview**

We are a biotechnology company that develops and plans to commercialize environmentally sustainable, economically attractive alternatives to petrochemical-based plastics, fuels and chemicals. Our strategy is to develop technology platforms that integrate advanced biotechnology with current industrial practice and to commercialize these platforms with industry leading strategic partners. Our first platform, which we will be commercializing through a strategic alliance with Archer Daniels Midland Company, or ADM, is a proprietary, large-scale microbial fermentation system for producing a versatile family of naturally occurring polymers known as polyhydroxyalkanoates, which we call *PHA Natural Plastics*. Our microbial fermentation system combines our proprietary engineered bacteria with corn sugar and other materials in a fermenter. The bacteria digests the corn sugar and produces *PHA Natural Plastics* inside of the bacteria. We separate the *PHA Natural Plastics* from the remainder of the bacteria and formulate the polymer into its final form for commercial sale. Through the alliance with ADM, we intend to sell these polymers as environmentally friendly, but functionally equivalent alternatives to petrochemical-based plastics in a wide range of commercial applications, including disposable goods, packaging, agricultural products, consumer goods and electronics. Also, as part of the strategic alliance with ADM, we have announced plans to build a 50,000 ton (100 million pounds) annual capacity commercial scale plant, or the Commercial Manufacturing Facility, that will produce biodegradable *PHA Natural Plastics* out of corn sugar, an abundant agriculturally-produced renewable resource. We are currently producing pre-commercial quantities of *PHA Natural Plastics* jointly with ADM at a pilot plant having a capacity of 8 tons per month. For a more detailed description of our relationship with ADM, see "Business—Fermentation Alliance with Archer Daniels Midland Company."

Our second technology platform, which is in an early stage, is a biomass biorefinery system using switchgrass to co-produce both *PHA Natural Plastics* and biomass feedstock for the production of ethanol or other biofuels. For this system, we are engineering switchgrass to produce *PHA Natural Plastics* in the leaf and stem of the plant. We intend to extract the polymer from switchgrass and use the remaining plant material as a biomass feedstock for the production of energy products including electricity and ethanol or other biofuels. Switchgrass is a commercially and ecologically attractive, non-food energy crop that is indigenous to North America and is generally considered to be a leading candidate for cellulose-derived production of ethanol and other biofuels. We believe that using switchgrass to co-produce these products can offer superior economic value and productivity as compared to single product systems that produce them individually. We have been working on our biomass biorefinery platform using switchgrass with support from the U.S. Department of Energy and the U.S. Department of Agriculture for several years, and we believe we are a scientific leader in this field. Our goals for this program are to have commercially viable switchgrass varieties in pilot field trials within four years and to establish strategic alliances with attractive partners to commercially exploit this platform.

As demonstrated by our first two technology platforms, we take an integrated systems approach to our technology development. We are focused on developing entire production systems from gene to end product as opposed to developing specific technologies (for example, gene sequencing, shuffling or directed evolution) or singular aspects of a product's production (for example, providing a key enzyme, catalyst or ingredient). We believe this systems approach optimizes manufacturing productivity and, when commercialized, will enable us to capture more economic value from any platform that we pursue. We have core capabilities in microbial genetics, fermentation process engineering, chemical engineering, polymer science, plant genetics and botanical science, and we have assembled these capabilities in a way that has allowed us to integrate biotechnology with chemical engineering and

industrial practice. We believe that our approach can be applied to other products and chemicals to help establish and grow an environmentally sustainable chemical industry.

We intend to explore the opportunities to apply our core capabilities in microbial engineering and plant transformation to develop biological routes to other chemicals and chemical intermediates and to research switchgrass varieties with improved traits for higher yields and greater ease of conversion to fuels such as ethanol.

To exploit our first technology platform, we are working with ADM to build the Commercial Manufacturing Facility in Clinton, Iowa, which we expect will commence commercial production of *PHA Natural Plastics* in 2008. The facility will produce *PHA Natural Plastics* which are highly versatile and range in properties from strong, moldable thermoplastics to highly elastic materials and soft, sticky compositions. They can be made as resins or as latex with excellent film-forming characteristics. These properties allow for a wide variety of commercial applications, offering an environmentally-friendly alternative to petroleum-derived synthetic materials which are not biodegradable. Through the strategic alliance with ADM we intend to initially position *PHA Natural Plastics* as premium priced specialty materials catering to customers who want to match the functionality of petrochemical-based plastic, but add the dimension of environmental responsibility to their products and brands.

With ADM we have initiated product and business development activities including pilot production of material at an 8 ton per month scale facility, working with potential customers, and initiation of qualification trials of our material for selected customer applications. We expect that our products will initially be sold to companies that are:

- establishing themselves as leaders of the emerging market trend toward environmentally responsible products and services;
- addressing current or anticipated regulatory pressure to shift to more sustainable industry; or
- selling products where biodegradability is a key functional requirement.

We own over 320 issued patents and 100 patent applications world wide, and have licensed an additional 60 issued patents and 32 patent applications world wide. These patents cover, among other things, the fundamental biotechnology needed to produce *PHA Natural Plastics* as well as compositions, processes and derived products.

## **Market Opportunity**

### ***Emerging Issues Surrounding Petrochemicals***

The markets for petrochemical-based plastics, fuels and chemicals are among the largest in the global economy. While these markets encompass a diverse array of products, they are all derived from fossil fuels, particularly petroleum and natural gas. The prolonged broad use of these petrochemical-based products has created several economic, social and environmental issues, including plastic waste management and pollution, rising fossil fuel prices, energy security and climate change. These issues have resulted in rising levels of interest in product alternatives that are renewable, sustainable and not dependent on fossil fuels.

*Plastic Waste Management and Pollution* — According to the U.S. Environmental Protection Agency, 26.7 million tons of plastic solid waste was deposited into the U.S. municipal solid waste ("MSW") stream in 2003. Plastics are a rapidly growing contributor to U.S. MSW, having increased from less than 1% in 1960 to over 11% in 2003. In spite of intensive efforts to promote collection and recycling, only 1.4 million tons of plastic or 5.2% of plastic solid waste was recycled that year. While the balance is deposited in landfills and waste treatment facilities, many plastic items, particularly single use items such as bottles and caps, cups, lids and straws, and grocery bags become litter in the environment where they can become a significant problem. Plastic waste can create a significant monetary burden on state and local governments. This situation has led California to consider legislation banning the use of such plastic items or imposing significant taxes on them.

Moreover, current disposal methods may have adverse consequences to people's health, safety and the environment. Most wastes are placed in landfills or burned in incinerators. The burning process may produce dioxins and other hazardous substances that are released into the environment. In addition, landfills are filling up and requiring more land sources. Though attempts to slow the growth of landfills have been attempted through recycling legislation, it is still recognized that other solutions will need to be pursued to address the problem.

The threat that petrochemical-based plastics pose to the marine ecosystem has been well documented. Recent studies have noted that the world's oceans show increasing levels of persistent plastic particles of a size ingestible by marine creatures at the bottom of the food chain. Larger plastic items are also accumulating in large quantities in certain parts of the ocean and marine birds and mammals have been found killed by ingesting or getting tangled in plastic debris. Los Angeles County is now under court order to clean up the plastic waste in the Los Angeles River, at an estimated cost of \$2-\$3 billion.

*The Rising Cost of Fossil Fuel* — According to the U.S. Department of Energy's Report on International Energy Outlook dated July 2005, worldwide demand for oil is expected to rise by over 50% from 78 million barrels a day in 2002 to 119 million barrels a day in 2025. World oil prices have increased from an average of \$36 per barrel in 2004 to over \$70 per barrel during parts of 2006. Declining domestic production in the United States, higher demand in the developed world, rising demand in emerging markets, the increasing cost of drilling activities, underinvestment in infrastructure, and the increasing proportion of hydrocarbon reserves in politically unstable regions, are all stimulating an environment of rising and increasingly volatile oil and natural gas prices. The lack of substantial excess supply leaves the existing petrochemical market subject to the significant risk of supply disruptions or dramatically higher oil prices. According to the American Chemistry Council, approximately 9% of the oil and natural gas consumed in the United States is used in the production of plastics. Because fossil fuels are the primary feedstock for the plastics industry, polymer prices have also been experiencing increases in both level and volatility.

*Energy Security* — There is a growing view that developing alternatives to fossil fuel is a matter of national security. While the United States accounts for just 5% of the world's population and 2% of the world's oil reserves, the United States consumes 25% of world oil production. The majority of the U.S. oil needs are imported, with significant supplies coming from unstable parts of the world (the Middle East, Nigeria, Venezuela, and Russia), presenting risks to the economy and national security. Furthermore, oil is a finite resource, and there is growing evidence that the natural peak for production may occur within the next 20 years.

*Climate Change* — There is a growing scientific consensus that global climate change is occurring and that the rise in carbon dioxide emissions over the last 100 years has contributed to this situation. A significant source of CO<sub>2</sub> emissions comes from the use of fossil fuel. The broad acceptance of the

Kyoto protocol is evidence of the wide spread concern for global climate change in the industrialized world. In the United States, companies have started to account for carbon emissions, to prepare for carbon limits and credit trading schemes, and to seek solutions for reducing their carbon emission profile.

### ***The Plastics Market***

The plastics market is a large and global marketplace consisting of a broad range of polymer resins. The market includes several widely used, high volume commodity resins and numerous lower volume, higher performance resins targeting specialized end uses. Over the past forty years the plastics market has posted relatively consistent growth driven by a number of important fundamental factors including:

- Replacement of traditional materials (glass, steel, aluminum, paper) with lower weight, higher performance plastics;
- Increased health and safety requirements necessitating improved consumer packaging;
- Consumer demand for enhanced appearance and aesthetics which can be achieved with plastic materials; and
- Demand for more durable and functional materials in consumer durable and non durable products.

The growth in plastic use has generally been in line with overall economic growth as plastics have entered numerous new markets and product applications based on their functionality and ability to meet numerous user requirements. Plastics that perform well in extreme environment conditions and applications, offering good thermal and electrical insulating properties and corrosion resistance have been developed. By varying formulations and additive packages, plastic products can be produced in many shapes, sizes, colors and densities that satisfy specific application needs. Consequently, plastics are sold into a highly diverse set of markets including: electronics, automotive, furnishings, building and construction, textiles, packaging, and consumer products.

There are many different categories of plastics sold into the market today, but they are generally categorized into two broad groups: commodity polymers and specialty polymers. The most commonly known commodity polymers include polyethylene, polypropylene, polystyrene, PET and polyvinyl chloride. The commodity polymers are high volume resins which tend to be lower value added materials produced in volumes of tens of billions of pounds per year. According to SRI Consulting, in 2004, the total global consumption of commodity grade plastics constituted approximately 90% of the total plastics market on a volume basis and amounted to over 260 billion pounds. Specialty polymers fill niches within the broader plastics market by offering unique and tailored functionalities and characteristics that cannot be addressed by the commodity classes. In 2004 this category of plastic constituted just over ten percent of the total plastic market on a volume basis and amounted to over 35 billion pounds of consumed material. Some of the more widely known specialty polymers include polycarbonate, ABS (Acrylonitrile Butadiene Styrene), nylon and thermoplastic elastomers. Specialty polymer pricing varies widely based on the type of resin and the performance characteristics offered by the material. However, these resins are typically priced at a premium to commodity plastics and, according to Plastics Technology, were selling at values starting above \$0.80 per pound and reaching as high, in some cases, as \$3.60 per pound in June 2006. In contrast, the commodity grade resins were generally priced at less than \$1.00 per pound at that time. Pricing has been volatile due to fluctuations in raw materials costs and supply/demand characteristics.



## **Fuels and Biofuels Markets**

According to the U.S. Department of Energy's Report on International Energy Outlook July 2005, worldwide demand for oil is expected to rise by over 50% from 78 million barrels a day in 2002 to 119 million barrels a day in 2025. The issues surrounding petrochemicals discussed above have given rise to increasing demand for fuels produced from renewable sources. Biofuels such as ethanol and biodiesel are produced from renewable sources such as corn, sugar cane and rapeseed. In 2005, a record 4 billion gallons of ethanol was produced in the United States, an increase of 17% from 2004 and 126% since 2001. Even so, ethanol represented less than 3% of 140 billion gallons of gasoline consumed in the United States in 2005. In August 2005, the United States enacted the Energy Policy Act of 2005, creating a national Renewable Fuels Standard (RFS) to encourage increased usage of ethanol. With the enactment of the nationwide RFS, the United States has made a commitment to renewable fuels, such as ethanol and biodiesel. The Act establishes a baseline for renewable fuel use, beginning with 4 billion gallons per year in 2006 and expanding to 7.5 billion gallons by 2012. The vast majority of the renewable fuel used is expected to be ethanol, necessitating a doubling of the domestic ethanol industry in the next 6 years. In addition to rising gasoline and oil prices, other factors will contribute to increased demand for biofuels. Many states are considering legislation to capitalize on the environmental and energy security benefits of renewable fuels by requiring their use.

While ethanol is typically produced from starch contained in grains such as corn and grain sorghum, it can also be produced from cellulose. Cellulose is the main component of plant cell walls and is the most common organic compound on earth. The production of ethanol from corn is a mature technology that is not likely to see significant reductions in production cost. The ability to produce ethanol from low-cost biomass will be an important factor in making it competitive as a gasoline additive. The Energy Policy Act 2005 provides that beginning in 2013, a minimum of 250 million gallons a year of cellulosic derived ethanol must be included in the RFS. It also creates grant and loan guarantee programs for cellulose ethanol.

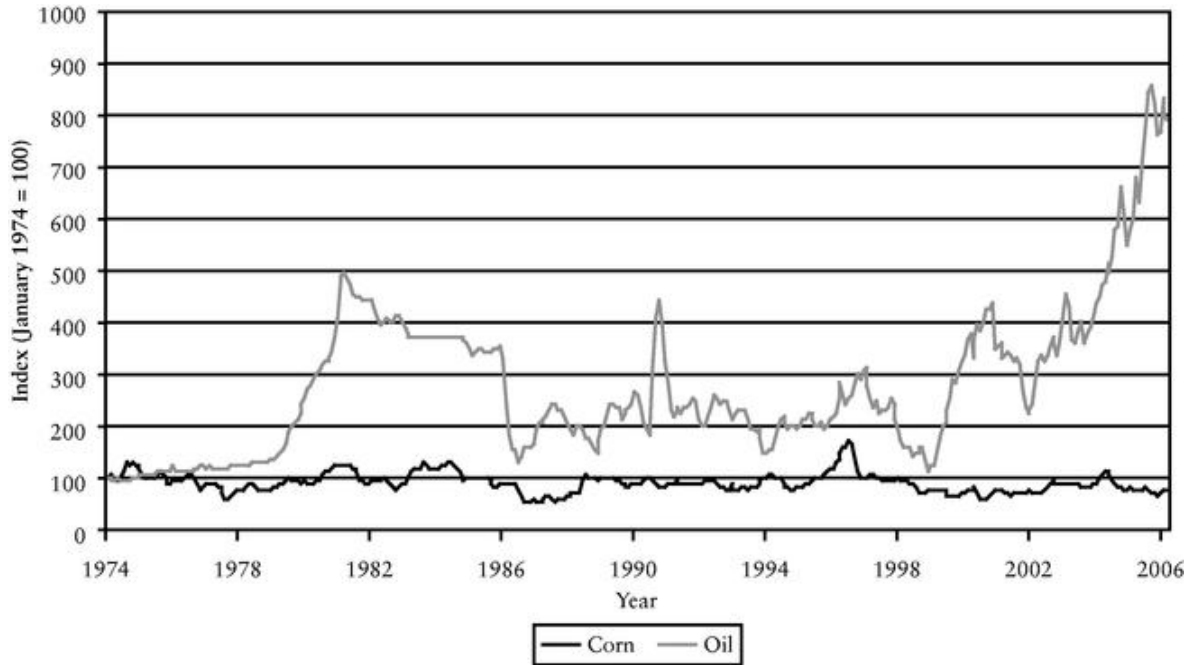
## **The Metabolix Solution**

We have developed and plan to commercialize an economically attractive, environmentally sustainable alternative to petrochemical-based plastics that is both biodegradable and functionally equivalent to traditional petrochemical-based plastics. The use of a renewable agricultural feedstock as a manufacturing input and the biodegradability of *PHA Natural Plastics* can potentially address many of the issues associated with petrochemical-based products. In aerobic conditions, our *PHA Natural Plastics* degrade into water and carbon dioxide.

***A Solution to Plastic Waste and Pollution from Persistent Plastics*** — *PHA Natural Plastics* are biodegradable under a wide variety of conditions and therefore offer new options for addressing the burdens of traditional plastic solid waste on the municipal waste stream and the dangers posed within the marine ecosystem. For example, *PHA Natural Plastics* will decompose in landfills where air, moisture and bacteria are present. They will also rapidly decompose in the biologically intense environment of a waste treatment facility and will degrade when flushed into household septic systems. They are recyclable and can be cleanly incinerated, and can also be degraded in industrial or backyard composting environments. *PHA Natural Plastics* will also biodegrade in aquatic environments, and so offer a solution to the hazard of persistent plastics in wetland, river, coastal, and ocean ecosystems. It is critical to note, however, that *PHA Natural Plastics* are functionally durable and do not spontaneously degrade in cold, hot or wet conditions.

**Leveraging the Stability of Agricultural Commodity Pricing** — Our use of corn sugar as a feedstock to produce *PHA Natural Plastics* reduces the reliance on fossil fuel as the primary input source, thus significantly addressing the effects of the increasing cost of fossil fuel. The prices of agricultural commodities, and corn in particular, have been relatively stable during the past few decades compared to the price of fossil fuel, which has significantly increased over the same period. We believe that polymers based on agricultural feedstocks, such as *PHA Natural Plastics*, may experience a more predictable cost structure and may become competitive to traditional petrochemical-based polymers over time. The chart below shows that over the past 32 years, the price of corn has remained relatively stable while the price of oil has been volatile and has risen by approximately eight times. Furthermore, even if pricing dynamics for corn and corn sugar change from past experience, we believe the volatility of oil prices will provide an incentive to diversify feedstocks.

**Comparison of Oil and Corn Prices (January 1974 to March 2006)**



Sources: Monthly Crude Oil Prices, January 1974 to March 2006; Energy Information Administration  
 Monthly Corn for Grain Prices, January 1974 to March 2006; USDA National Agricultural Statistic Service

**Reducing Dependency on Foreign Energy** — We believe the widespread use of our *PHA Natural Plastics* can help lower the United States' exposure to oil imported from politically unstable countries. In addition, we believe that the *PHA*-producing switchgrass which we intend to develop offers the United States an additional opportunity in biofuels production, which currently is focused primarily on corn-based ethanol. We estimate that an annual crop of 159 million tons of *PHA*-producing switchgrass could produce fuel equivalent to one million barrels of oil per day, approximately 5% of current U.S. oil consumption, as well as 15 million tons of polymer per year.

**Decreasing Carbon Dioxide Emissions** — We believe that the widespread use of our *PHA Natural Plastics* can not only decrease the use of fossil fuel but also can reduce the emission of carbon dioxide into the atmosphere. While the production of *PHA Natural Plastics* produces carbon dioxide, both the agricultural production of corn feedstock for microbial fermentation and the direct production of *PHA Natural Plastics* in plants such as switchgrass have the added benefit of removing carbon dioxide from the environment through photosynthesis. While fermentation processes do require electricity which

may be generated by carbon dioxide emitting sources, the increasing availability of clean power (such as biomass, wind or solar power) is an attractive alternative to employ as the business develops.

### **History of PHA Natural Plastics and Formation of Metabolix**

Polymers are found in nature in a wide range of organisms including bacteria, plants and in some animals. Polyhydroxyalkanoates, or PHAs, which we call *PHA Natural Plastics*, also naturally occur within certain organisms, including bacteria. PHA was first isolated from *Bacillus megaterium* by Maurice Lemoigne at the Institute Pasteur in 1925. Lemoigne determined that these bacteria use PHA as a store of energy and consume it for food in times of famine. It is this characteristic that gives PHA its biodegradability in the environment.

Though PHA polymers are found in nature, their production in wild-type bacterial strains is inefficient and costly for commercial purposes. In 1981, Imperial Chemical Industries, or ICI, developed a controlled fermentation process using a wild-type bacterial strain to produce a PHA copolymer that they introduced under the trade name Biopol. While a handful of applications were developed for Biopol, the cost to produce the polymer was prohibitively high using the naturally occurring bacterial strains that were available at the time. Commercialization was not possible, but the Biopol assets remained largely intact and were eventually sold to Monsanto, Inc.

By the late 1980s, tools for genetic engineering had advanced substantially. Bacteria were already being genetically designed to produce various products, such as protein drugs. At the Massachusetts Institute of Technology, Dr. Oliver Peoples, our Chief Scientific Officer, working in the lab of Dr. Anthony Sinskey, a member of our Board of Directors, identified the key genes required for the biosynthesis of *PHA Natural Plastics* and invented and patented the first transgenic systems for their production. The use of genetically engineered production organisms, instead of wild-type strains, broadly expanded the number of compositions that could be made and enabled the tight level of control and high efficiency and productivity that are required for cost-effective industrial manufacturing.

We were formed in 1992 to exploit these discoveries. In order to fully capture the opportunity, we also acquired Monsanto's patent estate which relates to *PHA Natural Plastics*, which included the Biopol assets, in 2001. We have since fully developed an integrated manufacturing process including both transgenic strains and a proprietary recovery process that have been demonstrated to work in commercial equipment.

### **Business Strategy**

Our goal is to be the leader in discovering, developing and commercializing economically attractive, environmentally sustainable alternatives to petrochemical-based plastics, fuels and chemicals. To achieve this goal, we are building a portfolio of programs that we believe will provide not only an attractive slate of commercial opportunities but also will generate leading and competitive intellectual property positions in the field. Key elements of our strategy include:

**Establishing Production of PHA Natural Plastics** — We have put into operation an 8 ton per month capacity pilot manufacturing facility to produce *PHA Natural Plastics* to seed the market, and as part of our strategic alliance, ADM and Metabolix have announced plans to build a 50,000 ton annual capacity Commercial Manufacturing Facility to produce *PHA Natural Plastics*. The ADM site in Clinton, Iowa is being designed, engineered and is expected to be built to accommodate significant expansion beyond its initial capacity. We anticipate that commercial production will commence in 2008.

**Market Positioning and Sales** — We are building a marketing and sales team to educate and develop our prospective customer base. This team will focus on positioning *PHA Natural Plastics* as premium priced, specialty materials that are environmentally attractive alternatives to petrochemical-based plastics. We intend to build a brand around *PHA Natural Plastics* consistent with this positioning and will seek to co-brand *PHA Natural Plastics* with our customers. The focus of this effort will be to build a pipeline of approximately 100 customer prospects across a range of applications, and presently we have ongoing relationships with over 30 customer prospects for approximately 50 different applications. Our goal is to dedicate a substantial amount of our commercial production capacity to these customers before the Commercial Manufacturing Facility commences operations.

**Continuing Microbial Research and Process Development** — We have identified opportunities to improve our production strains and our fermentation and recovery processes. We believe that significant reductions in the cost to manufacture *PHA Natural Plastics* can occur as we successfully exploit these opportunities. We also believe that as we acquire more experience with manufacturing our products at commercial scale, we will identify further improvements we can make.

**Developing Applications for PHA Natural Plastics** — We have developed formulations of our polymer suitable for injection molding, casting film and sheet, thermoforming and paper coating. These grades will be refined further to tailor them for specific customer performance requirements and additional grades will be developed for other applications. In addition, we will develop new formulations and processing protocols to extend the applications into which we can sell our products. Specific areas of work will include: foam, blown film, blow molded bottles, stretch wrap and fiber.

**Advancing Switchgrass Research and Other Plant Strains** — We believe that we are pioneering the technical process of introducing traits into switchgrass for the production of *PHA Natural Plastics* directly in the plant. Our switchgrass platform is currently in the research phase. In order to achieve a commercially attractive system, we intend to further improve our plant strains to achieve high levels of *PHA Natural Plastics* content by weight. We also intend to research introducing traits to increase crop yields in terms of tons per acre, and enhance biomass processability for the production of ethanol.

We intend to explore additional crop varieties that offer attractive commercial opportunities. These may include rapeseed, which is suitable for northern climates and can co-produce *PHA Natural Plastics* along with bio-diesel feedstock, and sugar cane, which is suitable for tropical climates and can co-produce *PHA Natural Plastics* along with ethanol feedstock.

**Partnering our Switchgrass Program** — As we have done with ADM for our microbial fermentation platform, we will seek to leverage our technology and establish strategic partnerships with one or more industry leading companies that can provide access to resources and infrastructure valuable for commercializing this platform. At the same time, we will seek an arrangement that allows us to retain an attractive share of the economic value of the project. In order to fund continued development, we intend to actively pursue grants from the government for our switchgrass program.

**Building Governmental Awareness of Our Approach** — Policy makers are seeking opportunities to reduce dependence on imported fossil fuel, decrease carbon dioxide emission and address landfill and pollution issues. We intend to continue to build our governmental affairs initiatives. We believe that higher awareness of our solution may result in opportunities to obtain additional funding or legislative support that can facilitate and accelerate the adoption of our products.

**Extending Our Technology to Sustainable Production of Large Volume Chemicals and Intermediates** — Our technical capabilities can be applied to produce a number of important

commercial chemicals and chemical intermediates through biological conversion of sustainable feedstocks such as sugars.

**Furthering our Leading and Competitive Intellectual Property Position** — We have built a patent estate around our platform technologies and a variety of inventions relevant to the commercialization of *PHA Natural Plastics*. We are extending this patent estate within our core business as well as to other commercial opportunities in the area of bio-based plastics, fuels and chemicals. Some of the areas in which we may seek to establish leading and competitive intellectual property include:

- intermediates and chemicals produced by microbial fermentation;
- fermentation products for nutraceutical applications;
- alternate plant varieties to co-produce *PHA Natural Plastics* and fuels (ethanol and biodiesel); and
- switchgrass strains that optimize crop yields and processing traits for conversion to fuels.

#### **Fermentation Alliance with Archer Daniels Midland Company**

On November 3, 2004, we entered into a strategic alliance with ADM Polymer Corporation, a wholly-owned subsidiary of ADM, one of the largest agricultural processors in the world. The strategic alliance has three phases, which are described below and include: (i) a Technology Alliance Phase, (ii) a Commercial Alliance Phase and (iii) a Joint Venture Phase.

**Technology Alliance Phase** — The purpose of this phase, which has been achieved, was to determine whether our process for fermenting and recovering *PHA Natural Plastics* could achieve certain performance benchmarks in commercial scale equipment and to prepare a master plan and preliminary budget for the construction of the Commercial Manufacturing Facility. In November of 2004, we received a \$3.0 million upfront payment from ADM, and in May 2006, we received \$2.0 million in milestone payments associated with the achievement of Technology Alliance goals.

**Commercial Alliance Phase** — The purpose of this phase is to build the Commercial Manufacturing Facility, to market and sell *PHA Natural Plastics* through a separate legal entity owned equally by each of Metabolix and ADM Polymer, which we refer to as the Joint Sales Company, to make arrangements for the financing of the operation and to allocate distributions of cash flow. We anticipate that the Joint Sales Company will offer *PHA Natural Plastics* for sale in pellet form (for further processing and re-sale as finished goods or components by customers) and in other forms as may be determined by the Joint Sales Company (see "Product Applications").

On July 12, 2006, ADM exercised its option to enter into the Commercial Alliance. The Commercial Alliance Phase will last until the expiration of all patents relating to *PHA Natural Plastics* produced through fermentation (including patents licensed by us to the Joint Sales Company and patents claiming inventions made during the strategic alliance with ADM Polymer), unless we and ADM convert the strategic alliance into a joint venture (as described below) or unless either party terminates the strategic alliance. During the Commercial Alliance Phase, ADM will take responsibility for and will finance construction of the Commercial Manufacturing Facility, which it will own and contract on a dedicated basis to the Joint Sales Company. In addition, ADM will finance the working capital requirements of the Joint Sales Company. We are responsible for formulation operations and investing in formulation equipment, and we will take responsibility for continuing research and development. In addition, we will lead the sales and marketing efforts on behalf of the Joint Sales Company until completion of the

construction of the Commercial Manufacturing Facility. At that time, the Joint Sales Company will assume control of such activities. The Joint Sales Company will make up to twelve quarterly payments of \$1.575 million to us to support these activities during the construction of the Commercial Manufacturing Facility. The first two such payments totaling \$3.15 million were received in July 2006. Subsequent quarterly payments will become due and payable on the first business day of each successive calendar quarter during the construction of the Commercial Manufacturing Facility. In the event construction is completed and sale of commercial product commences prior to the Joint Sales Company making all twelve such payments, the quarterly payments will cease, and the Joint Sales Company will pay us a lump sum equal to the number of remaining unpaid payments multiplied by \$250,000.

Upon the commencement of commercial sales, the Joint Sales Company will pay royalties to us for all *PHA Natural Plastic* sold by the Joint Sales Company. The Joint Sales Company will also pay manufacturing fees to ADM for production of *PHA Natural Plastics* and will pay formulation fees to us for certain formulation services. The Joint Sales Company will compensate ADM and us for services that we each may provide to the Joint Sales Company under separate service agreements. For example, we anticipate that we may provide research, development, marketing and sales services to the Joint Sales Company under such a service agreement.

ADM will construct, finance, own and operate the Commercial Manufacturing Facility through a manufacturing agreement with the Joint Sales Company. Even though the Joint Sales Company is a separate legal entity owned equally by each of Metabolix and ADM Polymer, ADM Polymer will disproportionately fund the activities of the Joint Sales Company subject to certain limitations. In order to rebalance the respective investments made by the parties, a preferential distribution of cash flow will be used, whereby all profits, after payment of all royalties, reimbursements and fees, from the Joint Sales Company will be distributed to ADM until ADM's disproportionate investment in the Joint Sales Company, and the costs of constructing the Commercial Manufacturing Facility, have been returned to ADM. Once ADM has recouped such amounts, the profits of the Joint Sales Company shall be distributed in equal amounts to the parties.

Our agreements with ADM limit ADM's and our right to work with other parties, or alone, in developing or commercializing *PHA Natural Plastics* through fermentation. These agreements do not, however, limit our right to develop, manufacture or sell *PHA Natural Plastics* produced through plants such as switchgrass (rather than through fermentation) outside of the Joint Sales Company.

These agreements also include detailed provisions setting out the rights and obligations of the parties in the event of a termination of the Commercial Alliance. These provisions include the right of the parties to terminate the Commercial Alliance upon a material default of a material obligation by the other party after a notice and cure period has expired. The parties are also permitted, under limited circumstances, to terminate the Commercial Alliance if a change in circumstances that is not reasonably within the control of a party makes the anticipated financial return from the project inadequate or too uncertain. Finally, the parties have specific obligations to fulfill in the event of termination or if they file for bankruptcy protection. The obligations on termination are generally structured to permit the non-breaching party (in the event the strategic alliance is terminated due to a breach of the agreements) to continue to develop the business established by the Joint Sales Company. For example, on such a termination due to a breach by us, ADM would be permitted to continue to produce and sell *PHA Natural Plastics* (generally in limited quantities and subject to a royalty to us) and we would be required to perform formulation services for ADM for a period of time following the termination. Similarly, on a termination due to a breach by ADM, we would be permitted to continue to produce and sell *PHA Natural Plastics* and ADM would be required to perform fermentation services for us for a period of time following the termination.

**Joint Venture Phase** — When market demand exceeds the capacity of the Commercial Manufacturing Facility and the initial license granted by us, ADM has the option to form a new entity owned equally by each of Metabolix and ADM Polymer with us to build additional capacity and expand the commercial operation beyond the limits of the initial production capacity. Under certain circumstances, if ADM does not exercise its option, then Metabolix would have an opportunity to manufacture and sell *PHA Natural Plastics* outside of the Commercial Alliance.

### **License Agreement with Massachusetts Institute of Technology**

On July 15, 1993 we entered into an exclusive license agreement with Massachusetts Institute of Technology. The license covered intellectual property rights claiming inventions relating to our core genetic engineering technology as described in several patent applications and invention disclosures. The MIT license has been amended three times to add or subtract specific patent applications to the rights licensed to us. The MIT license was amended a fourth time to clarify certain rights relating to the right to grant sublicenses.

The MIT license is a world wide exclusive license. The license does not expire until the expiration of the last patent within the licensed patent rights. Under the license, we are permitted to perform all services and manufacture and sell all products that are claimed by the patents licensed to us under the agreement. The license is subject to termination by either party upon an uncured material breach by the other party. On termination of the MIT license, all obligations of the parties on the date of termination remain in effect and all other rights and licenses under the agreement terminate. Under the agreement, we have an obligation to use diligent efforts to develop and market products that are subject to the license. Under the license, we paid a license issue fee to MIT and we are obligated to pay an annual license fee to MIT if annual royalties are less than a specified amount. Under the license we are required to pay a royalty to MIT based on net sales of products or services covered by a patent that is subject to the license and to share proceeds received from third parties in connection with the grant of a sublicense of rights granted under the license. We believe that the economic terms of the MIT agreement are substantially consistent with the economic terms for early-stage university license deals.

The MIT license contains other terms that are customary for university licenses, including without limitation, provisions relating to reporting requirements, patent prosecution, and indemnification.

### **Metabolix *PHA Natural Plastics* Target Markets**

We believe *PHA Natural Plastics* from fermentation is the first of several attractive opportunities we will pursue to meet the world's plastic, fuel and chemical needs through the biological conversion of renewable and sustainable agricultural feedstocks. We believe *PHA Natural Plastics* possess comparable functional properties to petrochemical polymers serving applications that cover as much as half of the global polymer market. Our strategy is to enter this market with premium priced products that address specialized segments that can be served competitively by *PHA Natural Plastics'* distinctive properties.

### **Market Segments**

We initially intend to target three market segments: branded products, regulated markets and products requiring biodegradability as a key functional property.

**Branded Products** — The market for branded products and services with attributes of environmental responsibility and sustainability is an emerging business opportunity. We intend to brand *PHA Natural*

*Plastics* and we expect that by co-branding with products that use our *PHA Natural Plastics* we and our customers will be able to jointly promote environmental sustainability. Numerous companies have begun to position themselves and their products as more environmentally responsible. Some recent and well publicized examples of this include:

- General Electric's "Ecomagination" initiative;
- Wal-Mart's 21st Century Leadership environmental initiative;
- Toyota's success with hybrid gasoline electric vehicles;
- General Motor's "Flex-Fuel" vehicle initiative;
- Hewlett Packard's decision to cease using plastics flame retarded with halogen-containing compounds; and
- Whole Foods Markets purchase of renewable energy certificates (REC) sufficient to be the first Fortune 500 company to be entirely green-powered.

We believe that producers are positioning products as environmentally responsible or superior to gain a competitive advantage as producers believe consumer preferences are shifting. We believe the use of *PHA Natural Plastics* in branded products either directly or for packaging will facilitate and enhance our customers' efforts to exploit this trend.

**Regulated Markets** — Regulatory action, such as bans, taxes, subsidies, mandates and initiatives, to encourage substitution of renewable and sustainable materials for incumbents is rising. Examples of this can be found in the following jurisdictions:

- Taiwan and India have placed outright bans on plastic bags.
- Ireland has placed a 15 Euro cent tariff on plastic bags.
- Germany has a 1.30 Euro/kg levy on plastic packaging that is non-biodegradable. In addition, Europe requires original equipment manufacturers to take back certain products at the end of life and manage their disposal.
- In the United States, the federal government has been advancing bio-based material purchasing initiatives by government entities.
- In California, legislative action has been emerging to levy taxes on the use of disposable packaging.
- The U.S. government recently announced \$150 million dollars of funding within the 2007 budget to build biomass biorefineries.

In the geographic segments where regulatory changes occur, our *PHA Natural Plastics* can meet requirements for bio-based content or biodegradability that favor *PHA Natural Plastics* over conventional petrochemical-based plastics. In addition, producers are now anticipating regulatory change and are initiating programs to introduce sustainable materials into their products prior to or in an attempt to forestall implementation of such regulation. We believe that as awareness of our practical and affordable alternative grows, the pace of regulatory change may accelerate.



**Products Requiring Biodegradability** — There are a number of applications for which biodegradability will be a key functional property. These markets consist largely of agricultural and construction applications, where the employment of implements and materials that decay naturally after use can increase efficiency, simplify cleanup and reduce disposal cost. While there are biodegradable offerings on the market today, we do not believe that existing products provide both the robust performance in use combined with the degradation in a variety of conditions that *PHA Natural Plastics* offer. For example, some materials break down quite rapidly when exposed to water and would not be durable enough if used in agricultural applications. Other materials will only degrade in hot compost environments. *PHA Natural Plastics*, however, can be engineered to provide months of use in the environment and then be plowed under the soil or left on-site to decompose over time in normal soil conditions where bacteria are present. Potential applications in this segment include:

- Mulch film;
- Erosion control netting;
- Single season irrigation devices;
- Stakes; and
- Plant pots.

## Product Applications

To approach these market segments, we have developed four initial classes of functional formulations: injection molding, casting film and sheet, thermoforming and paper coating. We have begun product and business development activities, including working with potential customers to determine their specific needs, and we have begun the process of qualifying our material for a myriad of customer applications. Presently, we have ongoing relationships with over 30 customer prospects for approximately 50 different applications. We are actively developing additional customer prospects to qualify our products in the following application areas:

Segment	Examples of Application	
<b>Single Use Disposables</b>	<ul style="list-style-type: none"> <li>• Hot cups (paper and plastic)</li> <li>• Lids</li> <li>• Dinnerware</li> </ul>	<ul style="list-style-type: none"> <li>• Single serve coffee packs</li> <li>• Utensils</li> <li>• Golf tees</li> </ul>
<b>Packaging</b>	<ul style="list-style-type: none"> <li>• Caps and closures</li> <li>• Food wrap</li> <li>• Detergent sachets</li> <li>• Food jars and tubs</li> <li>• Beverage cartons</li> </ul>	<ul style="list-style-type: none"> <li>• Cosmetics cases</li> <li>• Stretch wrap</li> <li>• Bags</li> <li>• Foam</li> </ul>
<b>Agriculture &amp; Erosion Control</b>	<ul style="list-style-type: none"> <li>• Degradable stakes</li> <li>• Degradable erosion control netting</li> </ul>	<ul style="list-style-type: none"> <li>• Degradable mulch film</li> <li>• Degradable plant pots</li> </ul>
<b>Consumer Products</b>	<ul style="list-style-type: none"> <li>• Personal hygiene products</li> </ul>	<ul style="list-style-type: none"> <li>• Flushable household products</li> </ul>
<b>Electronics</b>	<ul style="list-style-type: none"> <li>• Cell phone housings</li> </ul>	

To serve these market opportunities, we have developed formulations of *PHA Natural Plastics* that can be processed in conventional petrochemical-based plastics processing equipment for injection molding,

casting film and sheet, thermoforming and paper coating. We have demonstrated our materials in prototyping trials internally and in some cases shared them with our customer prospects. We also have plans to develop additional formulations to address the market segments above. We are presently working on a \$1.0 million contract awarded by the U.S. Department of Defense to develop formulations suitable for packaging foam and stretch pallet wrap. We also have plans to explore formulations for producing blown film, blow molded bottles and fiber.

## **Marketing and Sales**

Initially, we will be leading the marketing and sales effort on behalf of the Joint Sales Company. Sales of *PHA Natural Plastics* will be highly technical in nature. Our expertise in polymer science combined with our familiarity with the properties of the PHA family of polymers will be essential to developing resin grades that meet specific customer requirements. We will also conduct joint marketing and sales efforts with ADM through the Joint Sales Company. ADM is a world leader in agricultural processing and fermentation technology and is one of the world's largest processors of corn, soybeans, wheat and cocoa. ADM is also a leader in the production of ethanol and corn sweeteners. With a strong existing customer base, we expect that ADM will provide sales prospects for the alliance.

It is our goal to have established customer relationships to dedicate a substantial portion of the Commercial Manufacturing Facility's initial output before production starts in 2008. To this end, we are expanding our product development team and commencing efforts in applications development, pilot manufacturing, marketing and sales. At present, we have ongoing efforts with over 30 different customers for 50 different applications. We intend to build a pipeline of approximately 100 customer projects to maximize our production and marketing opportunities to fill the plant to capacity.

We are currently focusing our efforts on applications in the areas of injection molding, casting film and sheet, thermoforming and paper coating. We have developed prototype grades for each of these applications and have delivered small quantities of material to customer prospects for initial testing. If such tests are successful, we would expect some of our customer prospects to evaluate additional volumes of *PHA Natural Plastics* in larger scale product qualification trials and test marketing, which in turn may lead to product adoption and sales.

We intend to brand the *PHA Natural Plastics* and, where possible, to co-brand the materials with products that incorporate them. Prospective buyers of *PHA Natural Plastics* are seeking not only the functional properties they provide but also the progress toward sustainability, renewability and environmental responsibility they confer upon the products made or packaged with them. This will enable our customers to convey environmental responsibility to their end consumers by referencing our brand with their product. We have an ongoing effort to design branding ideas and conduct market research on them.

*PHA Natural Plastics* will initially be positioned as specialty materials that serve both a functional need (which petrochemical polymers may satisfy) and a social need (which petrochemical polymers cannot address). Consequently, we expect the Joint Sales Company to price *PHA Natural Plastics* as specialty products at a premium to the prices of large volume commodity polymers but comparable to a number of specialty polymers. The business model for positioning products with an environmental benefit at higher price points is increasingly prevalent with examples in several different industries ranging from retail food stores to gasoline-electric hybrid automobiles.

Through the strategic alliance with ADM, we intend to sell *PHA Natural Plastics* into markets around the globe. We intend to establish marketing and sales efforts either directly or through regional alliances with local firms in the Far East and Europe. We will also consider selected market

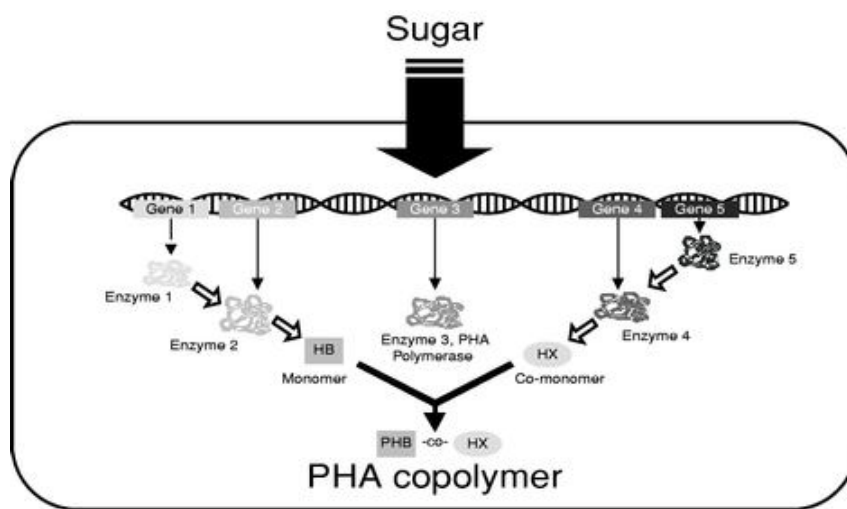
development arrangements in certain discrete segments (fiber, for example) where there may be advantages to working exclusively with a market leader in that segment.

### **Our Technology and Product Development Process**

We believe we have one of the most advanced capabilities to perform metabolic pathway engineering in the world and that we are skilled in our ability to integrate the biotechnology we develop into large scale industrial production processes. We believe that our advanced capabilities will allow us to:

- design and engineer living organisms to perform a series of chemical reactions that convert a feedstock to an end product in a highly efficient and reliable manner;
- incorporate that organism into a reliable, large scale industrial process; and
- tailor our end product from that process to suit our customers' needs.

**Biology and Genetic Engineering** — Today, biotechnology is used extensively for the production of protein-based drugs and enzymes. To produce these materials, a new gene is inserted into the DNA of a host organism, usually *e-coli* bacteria, the workhorse of the pharmaceutical industry. When that gene is expressed (i.e., turned on) the cell will produce the desired protein that is associated with the inserted gene. We have taken this process several steps further. In order to convert sugar to a polymer, the sugar molecule must undergo not one but several chemical alterations to turn it into a monomer, the precursor to plastic. To execute all these reactions, we have encoded not one but several genes into the host DNA to produce each of the enzyme catalysts necessary for each step in the process. These genes come from multiple microbial sources and are selected for optimum performance using proprietary screening technology that we have developed. In addition to producing the monomer from sugar, depending on the kind of polymer desired, another feedstock may also be processed through a series of steps, requiring different genes and enzymes, to produce a different monomer. The two monomers are then joined together, or polymerized, by yet one more genetically produced enzyme. These are complex multi-gene systems, and we integrate them directly into the genome of the organism to enhance its stability under what are rigorous operating conditions. Our process creates a complete biological system where all of the reactions to convert feedstock into polymer take place within the cell, essentially creating a biofactory. So, while most biotechnology products today involve identifying a single gene to produce one protein, we have identified and chromosomally inserted a series of genes to produce several proteins and have done so in such a way that they are expressed in a concerted and harmonious fashion to execute the right reactions at the right times in a reliable way. We are not aware of other efforts in this field that have executed metabolic pathway engineering to this level of sophistication and with the level of success that we have experienced. The illustration below shows a schematic of our multi-gene system to produce *PHA Natural Plastics*.



**Industrial Fermentation Process Engineering** — We also have important capabilities in industrial fermentation process engineering that we incorporate into our technology development process. Simply engineering a bacterial strain to convert sugar to polymer is insufficient because the conditions present in a laboratory bench scale experiment are considerably different than those present in an industrial scale manufacturing operation. Not only are there variable operating conditions (such as temperature, pressure, oxygenation and distribution of nutrients), but also the microbe must grow and uniformly multiply over 400 billion times to fill up a 100,000 gallon industrial reactor. We have tightly integrated our fermentation scale-up research capabilities with our genetic engineering capabilities to create a feedback loop where data from fermentation experiments can readily influence microbial design and where microbial engineering approaches can guide the fermentation group to structure the optimal protocols (recipes) for running fermentations.

**Chemical Process Engineering** — The third element of our technology and product development process involves sophisticated process chemistry and chemical engineering to separate the polymer from the biological cell material once fermentation is complete. We have a dedicated team that has developed a proprietary process for *PHA Natural Plastics* recovery at the industrial scale. We have invented a process that achieves a high level of purity without damaging the polymer and that we believe can be implemented cost effectively at commercial scale. In work recently completed with ADM, we successfully demonstrated our ability to efficiently isolate polymer from the cell debris, clean and dry the polymer and prepare it for processing into pellets, its final form.

**Polymer Science and Product Development** — The final element of our product development involves tailoring the polymer to provide the product properties and meet the processing requirements for specific customer applications. Typically, this work involves establishing which combination and ratio of comonomers is best suited for the target application, modifying and blending individual polymer grades, blending the pure polymer with additives such as nucleating agents, plasticizers, fillers and other materials to optimize performance properties, and finally designing processing protocols to successfully convert the material to its target form. When the composition and blend is right, the material will flow, form, crystallize or otherwise process into its end state with the customer's desired properties at an attractive conversion cost. Our product development team has considerable expertise in polymer science and to date has developed blends suitable for injection molding, casting film and sheet, thermoforming and paper coating. In the future, we have plans to create formulations for blown film, blow molding, foam and fiber.

In sum, we have successfully integrated capabilities in biology, genetics, fermentation process engineering, chemical engineering and polymer science. We believe this integrated set of capabilities will be a source of competitive advantage. These same capabilities are being applied to our switchgrass program where we intend to develop an industrial system to produce not only *PHA Natural Plastics* but also cost advantaged biomass for ethanol production. We believe our capabilities can also be applied successfully to other bio-based plastics, fuels and chemicals projects.

## Research & Development

We have a long standing and ongoing research and development program that is designed to exploit our systems approach to industrial biotechnology. While some biotechnology companies develop platform technologies (genomics, DNA synthesis, shuffling and directed evolution for example) or focus on singular aspects of a product's production (providing a key enzyme, catalyst or ingredient), we are focused on developing entire production systems from gene to end product. We believe that the technical challenges of successfully deploying biotechnology in industrial settings are high and that systems developed in an integrated and comprehensive environment will generate the optimum possible results and provide us with a competitive advantage. Furthermore, we believe fully developed, commercially viable processes will command higher values from potential partners than individual components or technologies.

The primary goals of our research and development program are to:

- drive down the cost of producing *PHA Natural Plastics* by microbial fermentation;
- expand the market applications into which *PHA Natural Plastics* can be sold;
- introduce a switchgrass production system that can dramatically transform the markets for plastics and fuels;
- develop new opportunities to produce plastics, fuels and chemicals in either fermentation or plant based systems; and
- develop and acquire competitive intellectual property and know-how in bio-based plastics, fuels and chemicals that defines us as the leader in the field.

Our research and development efforts are presently focused in three critical areas:

**Microbial Fermentation** — We have ongoing strain development efforts to develop microbes that can produce higher yields of *PHA Natural Plastic* at lower cost than our current strains. We have identified specific projects that we believe will allow us to approach the maximum theoretical productivity of these systems. In addition, we are engaged in strain development work to facilitate production of other members of the PHA polymer family that will allow us to extend the range of market applications we can address. This work will be combined with our ongoing product development effort, which is broadening the range of formulations we can make with our lead polymer composition.

**Polymer Producing Plants** — We are developing a technology to produce *PHA Natural Plastics* directly in plants, specifically targeting switchgrass. This effort builds on our success in creating high productivity microbial biofactories and may enable the production of *PHA Natural Plastics* with economics that are as or more favorable than general purpose commodity plastics such as polyethylene, polypropylene, and polystyrene.

**New Systems and Products** — We plan to further apply our platform technologies to other commercial opportunities in the area of bio-based plastics, fuels and chemicals. We have an ongoing effort to evaluate new program opportunities in the following areas:

- Key chemicals and chemical intermediates based on fermentation or production in plants such as switchgrass;
- Fermentation products for nutraceutical applications;
- Alternate plant varieties for production of *PHA Natural Plastics* and fuels that are suitable for other geographic climate zones; and
- Enhancement of switchgrass strains to improve crop yields and processing traits for conversion to biofuels.

We currently employ 31 personnel conducting research and development for our programs. Among our research staff, 12 hold Ph.D.s and 16 hold masters or bachelors degrees in their respective disciplines. Our staff has expertise in the following areas: microbial genetics, bioinformatics, metabolic engineering, systems biology, plant genetic engineering, fermentation process engineering, chemical engineering, and polymer science and engineering.

We supplement our internal resources by collaborating with outside parties including universities for specific targeted projects and over the last several years have sponsored targeted research projects at these as well as other institutions:

University of Massachusetts at Lowell  
University of Munster

University of Calgary  
Oak Ridge National Laboratories and National Renewable  
Energy Laboratories

### **Switchgrass Biomass Biorefinery Program**

We are developing a breakthrough technology to produce *PHA Natural Plastics* directly in plants. This effort builds on our success in creating high productivity microbial bio-factories and offers the potential to produce *PHA Natural Plastics* at comparable or lower costs than the current cost of producing commodity petrochemical-based plastics such as polyethylene, polypropylene, and polystyrene. We are presently focusing our efforts on switchgrass, a commercially and ecologically attractive, non-food energy crop that is indigenous to North America. We believe we can engineer a system that co-produces *PHA Natural Plastics* along with biomass for conversion to fuels (such as ethanol) or energy. We believe the co-production of *PHA Natural Plastics* with energy in one system will offer superior economic value and productivity to a single product system. We have received significant funding from the United States Government as well as from BP for these efforts. We have also performed work on rapeseed for co-production of *PHA Natural Plastics* along with biodiesel fuel.

Switchgrass is an attractive biomass to energy crop that is generally considered to be a leading candidate for cellulose-derived ethanol production. It is a high density perennial crop that can grow on marginal land and does not require substantial inputs in terms of water or fertilization. It has the capability of sequestering significant amounts of carbon dioxide from the atmosphere in its root systems. It was the dominant plant species over the Great Plains of the United States prior to the introduction of modern agriculture and sometimes referred to as prairie grass. Switchgrass is found from the eastern United States west to Montana and Arizona, Canada and Mexico.

We believe we are a leader in the science and technology related to the transformation of switchgrass. Precise insertion of novel pathways in switchgrass is challenging due to the tendency of plants to eliminate foreign genes and due to the lengthy time required for cross-breeding of plant generations having new genes. We have developed several proprietary approaches to more efficiently introduce complex, multi-gene, multi-step pathways into switchgrass and we expect that these approaches will have value outside of the PHA family of products. For example, we believe we can introduce traits into switchgrass that can improve the yield of switchgrass per acre as well as enhance its processability for conversion to fuel.

We have already achieved several significant milestones in this program and can produce small amounts of *PHA Natural Plastics* in switchgrass. Our research is currently focused on increasing *PHA Natural Plastic* production levels to amounts we believe would be commercially viable and our goal is to reach field trial demonstrations within the next four years.

We believe that our switchgrass biomass biorefinery program offers the potential to improve the economics of producing not only *PHA Natural Plastic* but also fuels, such as ethanol. Polymer production economics can be improved because the manufacture of the material will take place within the plant. With our current process, only the feedstock (i.e. corn sugar) is produced within the plant and considerable costs are incurred converting that feedstock to the polymer. Through direct production in switchgrass, we can eliminate those conversion costs and potentially achieve production economics comparable to those of general agricultural products, which are inexpensive. It is also commonplace within both the agricultural and the energy industries to produce a variety of co-products from raw materials to maximize value. As with a barrel of oil that is converted to both gasoline and plastic, or a bushel of corn that is converted to sweetener and other products, we believe that a variety of switchgrass that is convertible to both fuel and *PHA Natural Plastic* can have more value than one that is not.

While the cost of producing *PHA Natural Plastics* in switchgrass may be considerably lower than the cost of producing these materials by fermentation, we believe the introduction of plant based materials can significantly expand the market for fermentation based materials. The scale and complexity of agriculturally producing *PHA Natural Plastics* will limit the grades of material produced to just a few. Conversely, fermentation based manufacturing allows many grades to be produced with a variety of property sets. Together, low cost plant based material can be blended with fermentation material to achieve an optimal balance between cost and performance.

In 2001, the U.S. Department of Energy awarded us a \$7.5 million, 5-year grant to develop production of *PHA Natural Plastics* directly in crops that can be used to generate energy. In 2003, the U.S. Department of Agriculture awarded us an additional \$2.0 million for this program. This concept, called a "Biomass Biorefinery", is based on the coproduction of energy and higher value *PHA Natural Plastics*. It is analogous to today's energy/petrochemical industry where synthetic plastics are derivative value-adding products to the production of energy from petroleum and natural gas.

## **Competition**

The plastics market is large with many established players. The market has grown around the chemical processing of oil and natural gas, and is concentrated in the conventional, non-biodegradable petrochemical-based segment. Metabolix is focused on the biological processing of agricultural feedstocks and the production of biodegradable, renewable resource-based plastics, fuels and chemicals.

The current plastics market is primarily based on oil and natural gas. Established players in this segment include Dow Chemical, DuPont, BASF, Bayer, General Electric, Mitsubishi Chemical and

Huntsman Chemical, among many others. The price of conventional petrochemical-based plastic is volatile, as it is dependent on petrochemicals as a key manufacturing input. In addition, the non-biodegradability of conventional petrochemical-based plastics makes them persistent in and harmful to the environment and creates significant waste.

A few companies, such as DuPont, have taken steps toward plastics based on renewable resources, and are commercializing plastics that use building blocks derived from renewable resources as components. These products remain primarily fossil carbon based and are not biodegradable. Other producers of petrochemical-based plastics, including BASF, Mitsubishi Chemical, and DuPont, now produce certain petrochemical grades that are biodegraded in industrial compost environments, but are otherwise persistent in the environment and are still subject to the volatility of oil and natural gas prices.

Our most comparable competitors are in the biodegradable, renewable resource based plastic segment, within which there are three distinct technologies: PHA, PLA and starch-based biodegradables. Just as a wide variety of different petrochemical-based plastics now serve the needs of the market, we believe that these three technologies are more complementary than competitive. We believe that of these three technologies, *PHA Natural Plastics* offer the broadest range of properties and processing options, and will address the largest proportion of opportunities as an environmentally attractive yet functionally equivalent alternative to conventional petrochemical-based plastics. Unlike PLA and most starch-based biodegradables, *PHA Natural Plastics* can:

- decompose in the natural environment, including the marine environment,
- decompose in hot composts,
- remain functional in a wide range of temperature settings, and
- not deteriorate in everyday use.

Other companies active in the PHA plastics segment include Kaneka and minor producers in Brazil and China. The key players in PLA and starch based biodegradables are Cargill, Mitsui Chemical, Toyota, Novamont and Stanelco.

Biodegradability	Fossil Carbon Based Plastics	Biomass Renewable Resource Based Plastics
<b>Biodegradable</b>	Synthetic Biodegradable Polyesters:  - -Dow Chemical - -DuPont - -BASF - -Mitsubishi Chemical - -Showa Denko	PHA: - - <b>Metabolix' <i>PHA Natural Plastics</i></b> - -Kaneka's "PHBH" PLA: - -Cargill's NatureWorks™ - -Mitsui Chemical's Lacea™ - -Toyota  Starch-based Biodegradables: - -Novamont's MaterBi™ - -Stanelco's Starpol™
<b>Non-Biodegradable</b>	-Traditional petrochemical-based products	DuPont — Sorona™ (~30% bio-based) Dow Chemical — Soybean Polyurethanes Arkema — Nylon 11



We believe our *PHA Natural Plastics* products compare well against other biodegradable plastics when judged on the following factors:

- *Biodegradability* — *PHA Natural Plastics* will biodegrade due to the action of microbial agents in a wide variety of circumstances, including both cold and hot compost (certain "biodegradable" plastics only degrade in hot compost), soil, anaerobic environments such as found in municipal waste treatment facilities and septic systems, and marine, wetland, and fresh water environments;
- *Property Range* — *PHA Natural Plastics* possess a particularly broad range of functional properties, varying from stiff to flexible to rubbery;
- *Processability* — *PHA Natural Plastics* can be processed in many types of existing polymer conversion equipment;
- *Upper Service Temperature* — Some formulations of *PHA Natural Plastics* will withstand temperatures in excess of 100°C, i.e., the boiling point of water, an important threshold;
- *Resistance to Hydrolysis* — While *PHA Natural Plastics* will biodegrade in marine, wetland, and fresh water environments, they are resistant to reacting with even hot water over durations encountered in most applications

We believe that the principal advantages of our products will be the use of renewable feedstocks and biodegradability combined with their performance when compared to our competitor's products. We believe that we compare favorably with these competitors and have more stable feedstock input costs than conventional petrochemical-based plastics manufacturers.

Our ability to remain competitive will depend to a great extent upon our ongoing performance in the areas of product development and product performance. We cannot assure you that our products will achieve market acceptance or that we will be successful in the face of increasing competition from new products by existing competitors or new competitors entering the markets in which we intend to sell our products.

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### **Intellectual Property**

Our continued success depends in large part on our proprietary technology. We rely on a combination of patent, copyright, trademark and trade secret laws, as well as confidentiality agreements, to establish and protect our proprietary rights.

We own over 320 issued patents and 100 patent applications world wide, and we have licensed from third parties approximately 60 issued patents and over 30 patent applications world wide. All but 5 of these issued patents, and their foreign counterparts, relate to the technology in our current business plan. These patents cover, among other things, the fundamental biotechnology needed to produce *PHA Natural Plastics* as well as compositions, processes and derived products. Of the licensed patents and patent applications, many are owned by Massachusetts Institute of Technology and exclusively licensed to us. Under the MIT licensing agreement, we currently pay annual license fees. During the fiscal year ended December 31, 2005, these fees totaled approximately \$25,000. In addition, under this licensing agreement, we are obligated to pay royalties on future sales of products, if any, covered by the licensed patents.

Our patents are directed to compositions of polymers, genes, vectors, expression systems in plants and bacteria, devices, coatings, films, as well as methods of manufacture and use. The terms of such patents are set to expire at various times between 2009 and 2022.

We will continue to file and prosecute patent applications when and where appropriate to attempt to protect our rights in our proprietary technologies. 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 for our pending patent applications or other inventions we seek to protect. In that regard, we sometimes permit certain intellectual property to lapse or go abandoned under appropriate circumstances and 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 not provide us with any competitive advantages, in which event we may abandon such patent.

Our registered U.S. trademarks include *Metabolix*, *Biopol*, and *Where Nature Performs*. Our marks *Metabolix* and *Where Nature Performs* and certain other trademarks have also been registered in selected foreign countries.

Our means of protecting our proprietary rights may not be adequate and our competitors may independently develop technology that is similar to ours. Legal protections afford only limited protection for our technology. 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 copy aspects of our 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 products less valuable, if the design around is favorably received in the marketplace. In addition, if any of our products or the technology underlying our products 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 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 or invalidity, misappropriation, or other claims. Any such litigation, including The Procter & Gamble Company, or P&G, nullity action filed in Federal Patent Court in Munich, Germany described below in "*Legal Proceedings*", 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 use the technology that is the subject of the claim, or otherwise

restrict or prohibit our use of the technology. Any required licenses may not be available to us on acceptable terms, if at all.

### **Employees**

As of June 30, 2006, we had 42 full-time employees located in Cambridge, Massachusetts and one in Fort Mill, South Carolina, of whom 31 are in research and development, 3 are in marketing, 1 is in government programs and 8 are in operations/general and administration. None of our employees are subject to a collective bargaining agreement. We consider our relationships with our employees to be good.

### **Facilities**

We currently lease approximately 28,000 square feet of office and research and development space at 21 Erie Street, Cambridge, Massachusetts. Our lease for this facility expires in 2014, with an option to renew for two additional five year periods. We do not own any real property. We believe that our leased facilities and additional and alternative space available to us will be adequate to meet our needs for the remainder of the year.

We have entered into an agreement with Nation Ford Chemical, or NFC, to act as a contract manufacturer and to operate an 8 ton per month recovery facility for pilot manufacturing in Fort Mill, South Carolina. We deliver raw materials to NFC for manufacturing and processing of *PHA Natural Plastics*, which is stored and then shipped at our instruction. The agreement terminates October 13, 2006, provided that the agreement will automatically be renewed for successive periods of 180 days, unless we or NFC give written notice of cancellation 30 days prior to the commencement of any such 180 day period. This plant is a model for the larger extraction assets to be employed at the Commercial Manufacturing Facility and the current processes, technology and systems will be replicated at a larger scale at the Commercial Manufacturing Facility.

### **Legal Proceedings**

On March 8, 2005, P&G filed a nullity action in the Federal Patent Court in Munich, Germany, against the German equivalent of one of our patents covering the method of use of producing biopolymers. The patent at issue is licensed exclusively to us by MIT and will expire in July 2010. The nullity action alleges, among other things, extension of subject matter, insufficiency of disclosure, lack of novelty, and lack of inventive step. We are controlling the response to the nullity action with MIT's cooperation. We believe this nullity action is without merit and we intend to vigorously defend this action. However, the litigation process is inherently uncertain and there can be no assurance as to the ultimate outcome of this matter.

From time to time, we may be subject to other legal proceedings and claims arising in the ordinary course of business. We are not currently aware of any such proceedings or claims that we believe will have, individually or in the aggregate, a material adverse effect on our business, financial condition or results of operations.

## MANAGEMENT

### Executive Officers and Directors

The following table sets forth information regarding our executive officers and directors, including their ages and positions as of June 30, 2006:

Name	Age	Position
James J. Barber, Ph.D.	53	President and Chief Executive Officer, Director
Oliver P. Peoples, Ph.D.	48	Chief Scientific Officer, Vice President, Research, Director
Johan van Walsem	43	Vice President, Manufacturing, Development and Operations
Thomas G. Auchincloss, Jr.	45	Chief Financial Officer, Vice President, Finance and Corporate Development
Robert Findlen	44	Vice President, Marketing
Brian Igoe	53	Vice President, Chief Brand Officer
Edward M. Muller <sup>(1)</sup>	70	Chairman of the Board, Director
Edward M. Giles <sup>(2)</sup>	70	Director
Jay Kouba, Ph.D. <sup>(1)</sup>	54	Director
Jack W. Lasersohn <sup>(2)(3)</sup>	53	Director
Anthony J. Sinskey, Sc.D. <sup>(1)(2)</sup>	66	Director
Matthew Strobeck, Ph.D.	33	Director
Simon F. Williams, Ph.D. <sup>(3)</sup>	44	Director

(1) Member of the audit committee

(2) Member of the compensation committee

(3) Member of the nominating and corporate governance committee

*James J. Barber, Ph.D.* has served as our chief executive officer and as a director since joining Metabolix in January 2000. Prior to joining Metabolix, from September 1993 to January 2000, Dr. Barber was the global business director for the organometallics and catalysts business of Albemarle Corporation. From March 1992 to September 1993, Dr. Barber served as director, business development with Ethyl Corporation, a chemical manufacturing and supply company, where he was responsible for acquisitions and managed venture capital activities. Dr. Barber received a B.S. in Chemistry from Rensselaer Polytechnic Institute and a Ph.D. in Organic Chemistry from the Massachusetts Institute of Technology.

*Oliver P. Peoples, Ph.D.*, a co-founder of Metabolix, has served as our chief scientific officer and vice president of research since January 2000, and was previously our director of research and vice president. Dr. Peoples has served as a director since June 1992. Prior to founding Metabolix, Dr. Peoples was a research scientist with the Department of Biology at the Massachusetts Institute of Technology where he emerged as a pioneer of the new field of metabolic pathway engineering and its applications in industrial biotechnology. The research carried out by Dr. Peoples at MIT established the fundamental tools and methods for engineering bacteria and plants to produce *PHA Natural Plastics*. Dr. Peoples has published numerous peer-reviewed academic papers and is an inventor of over 90 patents and patent applications worldwide. Dr. Peoples received a Ph.D. in Molecular Biology from the University of Aberdeen, Scotland.

*Johan van Walsem* has served as our vice president of manufacturing, development and operations since October 2003, and was previously our director of manufacturing and development from

September 2001 to October 2003. Prior to joining Metabolix, from December 2000 to September 2001, Mr. van Walsem was senior biochemical engineer with Montec Research, a division of Resodyn Corporation, where he was responsible for all fermentation technology development. Prior to that, Mr. von Walsem worked with AECI Bioproducts in South Africa in technology management and new product development, commercializing the first large scale biotechnology-based amino acid production in Africa. Mr. van Walsem received a master's degree in Chemical Engineering from the University of Pretoria (South Africa) and an M.B.A. from the University of South Africa.

*Thomas G. Auchincloss, Jr.* has served as our chief financial officer and vice president of finance and corporate development since May 2005. From April 2002 to May 2005, Mr. Auchincloss was a consultant to Metabolix, providing business development, financial and strategic consulting services. From 1994 to 2001, Mr. Auchincloss served in a variety of positions at Vertex Pharmaceuticals Incorporated, most recently as vice president, finance and treasurer. Prior to Vertex, Mr. Auchincloss served as an investment banker in the corporate finance department at Bear Stearns & Co. Inc. where he was responsible for executing a variety of transactions including public and private financings, mergers and acquisitions and financial advisory assignments. Mr. Auchincloss received a B.S. in Business Administration from Babson College and an M.B.A. in Finance from the Wharton School.

*Robert Findlen* has served as our vice president of marketing since June 2006. Prior to joining Metabolix, from March 2002 to June 2006, Mr. Findlen worked at GE Plastics, first from June 2003 to June 2006 as product market director, LNP Plastics, and then from March 2002 to May 2003 as vice president and director, LNP Americas Commercial Business. LNP Engineering Plastics was acquired by GE Plastics in March 2002. Prior to the acquisition, Mr. Findlen held a number of positions at LNP Engineering Plastics, most recently, from 1998 to 2003, as vice president of sales and marketing. Mr. Findlen received a B.S. in Plastics Engineering from University of Massachusetts at Lowell.

*Brian Igoe* has served as our vice president and chief brand officer since August 2006. Prior to joining Metabolix, from February 2005 to August 2006, Mr. Igoe was executive vice president and chief marketing officer of Oco, Inc., a managed software company. Prior to that, Mr. Igoe was vice president of Alloy Marketing and Promotions from February 2002 until January 2005, and from January 1993 to January 2002 he served as executive vice president of Target Marketing and Promotions (TMP) which was acquired by Alloy Marketing and Promotions. Prior to TMP, Mr. Igoe was the owner and president of Igoe Marketing and Development, where he worked with clients such as Canada Dry and ASICS Corporation. Prior to founding Igoe Marketing and Development, Mr. Igoe served as director of product development for the Keds Corporation from February 1990 to January 1992 and served as director of advanced technologies at Reebok International Ltd. from February 1984 to January 1990. He also worked in marketing and product development from January 1980 to January 1984 with Nike, Inc. Mr. Igoe received a B.S. in Hotel, Restaurant and Travel Administration and Marketing from the University of Massachusetts at Amherst.

*Edward M. Muller* has served as the chairman of the board of directors since November 1993 and was previously our president and chief executive officer from October 1993 to January 2000. Mr. Muller held a number of positions, including chief executive officer, while at Halcon-SD Group between 1961 and 1985. That company developed a number of key processes for the production of raw materials for the polyester, nylon, polystyrene, and polyurethane industries. Mr. Muller serves on the board of directors of Tephra, Inc. Mr. Muller received a B.Ch.E. from The Cooper Union and a M.B.A. in Finance and Economics from New York University.

*Edward M. Giles* has served as a director since November 1993. Mr. Giles has served as the chairman of The Vertical Group, Inc., an investment fund administration company since January 1989. Mr. Giles

was previously President of F. Eberstadt & Co., Inc., a securities firm. Mr. Giles serves on the board of directors as well as the audit committee of Ventana Medical Systems, Inc. Mr. Giles also serves on the board of directors of Tephra, Inc. Mr. Giles received a B.Ch.E. from Princeton University, and a S.M. in Industrial Management from the Massachusetts Institute of Technology.

*Jay Kouba, Ph.D.*, has served as director since June 2006. Since January 2006, Dr. Kouba has served as the president of Ohio Consulting, a strategic management consulting firm. From January 1999 to December 2005, Dr. Kouba held several positions with BP's Petrochemicals Segment. From August 2004 to December 2005, Dr. Kouba served as senior vice president, strategy, marketing and technology for Innovene BP's olefins and polymers subsidiary, and earlier in 2004, as Vice President, Sales, Marketing and Logistics. Between 1999 and 2003, Dr. Kouba was Vice President, Technology. Dr. Kouba received a B.S. in Chemistry from Stanford University, a Ph.D. in Chemistry from Harvard University and a M.B.A. from University of Chicago.

*Jack W. Lasersohn* has served as a director since December 1999. Since 1989, Mr. Lasersohn has served as a general partner of The Vertical Group, L.P., a private venture capital firm. Mr. Lasersohn was a vice president and then director of the venture capital division of F. Eberstadt & Co., a securities firm, and Mr. Lasersohn serves as a director of Kyphon Inc., as well as several privately-held medical companies. Mr. Lasersohn received a B.S. in Physics from Tufts University, an M.A. from the Fletcher School of Law & Diplomacy at Tufts University and a J.D. from Yale University.

*Anthony J. Sinskey, Sc.D.*, a co-founder of Metabolix, has served as a director since June 1992. From 1968 to present, Dr. Sinskey has been on the faculty of the Massachusetts Institute of Technology. Currently at M.I.T., he is Professor of Microbiology in the Department of Biology and Professor of Health Sciences and Technology in the Harvard-M.I.T. Health Sciences and Technology Program, as well as Co-Director of the Center for Biomedical Innovation. Dr. Sinskey serves on the board of directors of Tephra, Inc. Dr. Sinskey received a Sc.D. from Massachusetts Institute of Technology and a B.S. from the University of Illinois.

*Matthew Strobeck, Ph.D.*, has served as director since September 2006. From May 2003 to the present, Dr. Strobeck has served as a senior investment analyst at Westfield Capital Management, specializing in healthcare and life sciences. Dr. Strobeck previously served as a consultant to the senior economic advisor to the commissioner of the Food and Drug Administration from August 2003 to May 2004. Prior to the Food and Drug Administration, Dr. Strobeck was a fellow in the Department of Biology at the Massachusetts Institute of Technology from December 2001 to June 2002. Dr. Strobeck received his B.S. from St. Lawrence University, a Ph.D. from the University of Cincinnati, a S.M. from Harvard University and a S.M. from the Massachusetts Institute of Technology Sloan School of Management.

*Simon F. Williams, Ph.D.*, a co-founder of Metabolix, has served as a director since June 1992. Dr. Williams is the president, chief executive officer and a director of Tephra, Inc. Between June 1992 and December 2002, Dr. Williams served in various roles within our company, including director of research, vice president, president, and treasurer. From October 1987 to May 1992, Dr. Williams was a lecturer in Organic Chemistry at Manchester University in England and a Visiting Scientist and NATO Postdoctoral Fellow at the Massachusetts Institute of Technology. Dr. Williams received a Ph.D. in Organic Chemistry from Cambridge University, England.

## **Board Composition**

We currently have nine directors, of whom Edward M. Giles and Jack W. Lasersohn were elected as directors under the board composition provisions of a stockholders agreement and our certificate of

incorporation. The board composition provisions of the stockholders agreement and our certificate of incorporation will be terminated upon the closing of this offering. Upon the termination of these provisions, there will be no further contractual obligations regarding the election of our directors. Our directors hold office until their successors have been elected and qualified or until the earlier of their resignation or removal.

Following this offering, the board of directors will be divided into three classes with members of each class of directors serving for staggered three-year terms. The board of directors will consist of three Class I directors (currently Mr. Muller, Dr. Williams and Dr. Strobeck), three Class II directors (currently Mr. Lasersohn, Dr. Kouba and Dr. Peoples) and three Class III directors (currently Mr. Giles, Dr. Sinskey and Dr. Barber), whose initial terms will expire at the annual meetings of stockholders held in 2007, 2008 and 2009, respectively. Our classified board could have the effect of making it more difficult for a third party to acquire control of us.

### **Board Committees**

Our board of directors has established an audit committee, a compensation committee and a nominating and corporate governance committee, each of which operates pursuant to a separate charter adopted by our board of directors. The composition and functioning of all of our committees will comply with all applicable requirements of the Sarbanes-Oxley Act of 2002, the NASDAQ Stock Market and the Securities and Exchange Commission rules and regulations.

*Audit Committee.* Edward M. Muller, Anthony J. Sinskey, Sc.D., and Jay Kouba, Ph.D., currently serve on the audit committee. Mr. Muller is the chairman of our audit committee. The audit committee's responsibilities include:

- appointing, approving the compensation of, and assessing the independence of our independent registered public accounting firm;
- pre-approving auditing and permissible non-audit services, and the terms of such services, to be provided by our independent registered public accounting firm;
- reviewing and discussing with management and the independent registered public accounting firm our annual and quarterly financial statements and related disclosures;
- coordinating the oversight and reviewing the adequacy of our internal control over financial reporting;
- establishing policies and procedures for the receipt and retention of accounting related complaints and concerns; and
- preparing the audit committee report required by Securities and Exchange Commission rules to be included in our annual proxy statement.

*Compensation Committee.* Anthony J. Sinskey, Sc.D., Edward M. Giles and Jack W. Lasersohn currently serve on the compensation committee. Dr. Sinskey is the chairman of our compensation committee. The compensation committee's responsibilities include:

- annually reviewing and approving corporate goals and objectives relevant to compensation of our chief executive officer;

- evaluating the performance of our chief executive officer in light of such corporate goals and objectives and determining the compensation of our chief executive officer;
- reviewing and approving the compensation of our other executive officers;
- overseeing and administering our compensation, welfare, benefit and pension plans and similar plans; and
- reviewing and making recommendations to the board with respect to director compensation.

*Nominating and Corporate Governance Committee.* Jack W. Lasersohn and Simon F. Williams, currently serve on the nominating and corporate governance committee. Mr. Lasersohn is the chairman of our nominating and corporate governance committee. The nominating and corporate governance committee's responsibilities include:

- developing and recommending to the board criteria for board and committee membership;
- establishing procedures for identifying and evaluating director candidates including nominees recommended by stockholders;
- identifying individuals qualified to become board members;
- recommending to the board the persons to be nominated for election as directors and to each of the board's committees;
- developing and recommending to the board a code of business conduct and ethics and a set of corporate governance guidelines;
- serving as the Qualified Legal Compliance Committee in accordance with Section 307 of the Sarbanes-Oxley Act of 2002 and the rules and regulations promulgated thereunder; and
- overseeing the evaluation of the board and management.

### **Compensation of Directors**

Upon completion of the proposed initial public offering, each non-employee member of our board of directors will be entitled to receive an annual retainer of \$30,000. In addition, each non-employee director serving as a member but not chair of our audit committee, compensation committee and nominating and corporate governance committee will be entitled to an annual retainer of \$5,000, and the chairs of the audit committee, compensation committee and nominating and corporate governance committee will be entitled to an additional annual retainer of \$15,000, \$10,000 and \$10,000, respectively.

In June 2006, we granted Dr. Kouba an option to purchase 16,346 shares of our common stock as compensation for his service on our board of directors. This option has an exercise price of \$5.14 per share and is fully vested and exercisable immediately. We have not otherwise paid separate compensation for services rendered as a director.



## Compensation Committee Interlocks and Insider Participation

None of our executive officers serves as a member of the board of directors or compensation committee, or other committee serving an equivalent function, of any other entity that has one or more of its executive officers serving as a member of our board of directors or compensation committee.

### Executive Officers

Each of our executive officers has been elected by our board of directors and serves until his or her successor is duly elected and qualified or until his or her earlier resignation or removal.

### Executive Compensation

#### Compensation Earned

The following summarizes the compensation earned during the year ended December 31, 2005, by our chief executive officer and our three other most highly compensated executive officers who were serving as executive officers on December 31, 2005. We refer to these individuals as our "named executive officers." The compensation in this table does not include certain perquisites and other personal benefits received by the named executive officers that did not exceed the lesser of \$50,000 or 10% of any officer's total compensation reported in this table.

Summary Compensation Table

Name and Principal Position	Annual Compensation		Long-Term Compensation	All Other Compensation(\$)
	Salary	Bonus	Securities Underlying Options (#)	
James J. Barber President and Chief Executive Officer	\$ 235,000	—	324,658	\$ 106,739 <sup>(1)</sup>
Oliver P. Peoples Vice President, Research	\$ 182,400	—	117,691	—
Johan van Walsem Vice President, Manufacturing, Development and Operations	\$ 172,267	\$ 10,000	179,806	—
Thomas G. Auchincloss, Jr. Chief Financial Officer	\$ 155,600 <sup>(2)</sup>	—	179,806	—

(1) Represents \$75,000 of loan principal and \$31,739 of interest on that loan forgiven by us during 2005.

(2) Represents Mr. Auchincloss's salary during the year ended 2005 from commencement of his employment with us on May 1, 2005, plus \$40,000 in fees for consulting services rendered to us from January 1, 2005 to May 1, 2005.

#### Option Grants in Last Fiscal Year

The following table presents all grants of stock options during the year ended December 31, 2005 to each of the named executive officers. We have not granted any stock appreciation rights. The option grants listed below were made under our 1995 Stock Plan or 2005 Stock Plan at exercise prices equal

to the fair market value of our common stock on the date of grant, as determined by our board of directors. The potential realizable value, if applicable, is calculated based on the term of the option at its time of grant, which is ten years. This value is net of exercise prices and before taxes, and is based on an assumed initial public offering price of \$ per share, the mid-point of the initial public offering price range, and the assumption that our common stock appreciates at the annual rate shown, compounded annually, from the date of grant until its expiration date. These numbers are calculated based on the Securities and Exchange Commission requirements and do not reflect our projection or estimate of future stock price growth. Actual gains, if any, on stock option exercises will depend on the future performance of the common stock and the date on which the options are exercised.

The percentage of total options granted to employees in 2005 shown in the table below is based on options to purchase an aggregate of 1,224,083 shares of common stock granted to employees in 2005.

In general, options granted to new employees in 2005 vest in quarterly installments over four years.

Name	Individual Grants				Potential Realizable Value at Assumed Annual Rates of Stock Price Appreciation for Option Term	
	Number of Securities Underlying Options Granted (#)	Percent of Total Options Granted to Employees in Fiscal Year (%)	Exercise or Base Price (\$/Share)	Expiration Date	5% (\$)	10% (\$)
James J. Barber	324,658 <sup>(1)</sup>	26.5	1.84	12/14/15	\$	\$
Oliver P. Peoples	117,691	9.6	1.65	9/20/15		
Johan van Walsem	179,806	14.7	1.65	9/20/15		
Thomas G. Auchincloss, Jr.	179,806	14.7	1.65	9/20/15	\$	\$

(1) Includes 125,863 options that vest, in part, upon the attainment of specified performance and corporate financing milestones.

#### ***Option Exercises in Last Fiscal Year and Fiscal Year-End Option Values***

The following table sets forth certain information concerning the number and value of options exercised by the named executive officers during 2005, if any, and the number and value of any exercised and unexercised options held by the named executive officers at December 31, 2005. There was no public market for our common stock as of December 31, 2005. Accordingly, the value of unexercised in-the-money options, if applicable, represents the total gain that would be realized if all in-the-money options held at December 31, 2005 were exercised, determined by multiplying the number of shares underlying the options by the difference between an assumed initial public offering price of \$ per share, the mid-point of the initial public offering price range, and the per share option exercise price.

Name	Shares Acquired on Exercise (#)	Value Realized(\$)	Number of Securities Underlying Unexercised Options at December 31, 2005		Value of Unexercised In-the-Money Options at December 31, 2005	
			Exercisable	Unexercisable	Exercisable	Unexercisable
James J. Barber	—	—	302,796	247,988		
Oliver P. Peoples	—	—	173,265	112,789		
Johan van Walsem	—	—	78,664	150,179		
Thomas G. Auchincloss, Jr.	—	—	80,707	148,137		

## Employee Benefit Plans

### 1995 Stock Plan

Our 1995 Stock Plan was adopted by our board of directors and approved by our stockholders in June 1995 and amended in February 1998, September 1998, November 1998, November 1999, March 2000 and March 2003. Our 1995 Stock Plan is administered by the compensation committee of our board of directors. The compensation committee has the full authority and discretion to interpret the 1995 Stock Plan and to apply its provisions. Our 1995 Stock Plan permitted us to make grants of incentive and non-qualified stock options. The 1995 Stock Plan also permitted us to award both shares of our common stock and opportunities to make direct purchases of our common stock. Stock options granted under our 1995 Stock Plan have a maximum term of ten years from the date of grant and incentive stock options have an exercise price of no less than the fair market value of our common stock on the date of grant. Awards granted under our 1995 Stock Plan are not transferable other than by will or the laws of descent and distribution. In the event of a change-in-control of the Company, our board of directors and the board of directors of the surviving or acquiring entity shall, as to outstanding awards under the 1995 Stock Plan, make appropriate provision for the continuation, assumption or other disposition of such awards.

Our 1995 Stock Plan was terminated in June 2005 and no further grants or awards have since been, or will be, made thereunder. Grants and awards that are outstanding under our 1995 Stock Plan continue to be governed by the terms of our 1995 Stock Plan and the agreements related to such grants and awards. As of June 30, 2006, there were outstanding options under our 1995 Stock Plan to purchase a total of 746,703 shares of our common stock.

### 2005 Stock Plan

Our 2005 Stock Plan was adopted by our board of directors and approved by our stockholders in June 2005. Our 2005 Stock Plan permits us to make grants of incentive stock options, non-qualified stock options, stock grants and other stock-based awards. We have initially reserved 1,838,925 shares of our common stock for the issuance of awards under the 2005 Stock Plan. This number is subject to adjustment in the event of a stock split, stock dividend or other change in our capitalization. Generally, shares that are forfeited or canceled from awards under the 2005 Stock Plan also will be available for future awards. In addition, awards returned to our 1995 Stock Plan as a result of their expiration, cancellation or termination are automatically made available for issuance under our 2005 Stock Plan. We do not intend to grant additional options under this plan after this offering and the aggregate number of shares to be issued under 2005 Stock Plan will be reduced to \_\_\_\_\_, which represents the total number of shares issuable upon exercise of outstanding options granted under the 2005 Stock Plan.

The 2005 Stock Plan is administered by our compensation committee. The compensation committee has full power and authority to select the participants to whom awards will be granted, to make any combination of awards to participants, to accelerate the exercisability or vesting of any award and to determine the specific terms and conditions of each award, subject to the provisions of our 2005 Stock Plan. All of our employees, directors and consultants are eligible to participate in the 2005 Stock Plan.

The exercise price of stock options awarded under our 2005 Stock Plan may not be less than the fair market value of our common stock on the date of the option grant and the term of each option granted under our 2005 Stock Plan may not exceed ten years from the date of grant. The compensation committee will determine at what time or times each option may be exercised (provided that in no event may it exceed ten years from the date of grant) and, subject to the provisions of our 2005 Stock Plan, the period of time, if any, after retirement, death, disability or other termination of employment during which options may be exercised.

Stock grants may also be awarded under our 2005 Stock Plan. Stock grants are awards of shares of our common stock that may be subject to restrictions or repurchase rights established by the compensation committee. The compensation committee may impose whatever conditions to vesting it determines to be appropriate in connection with such stock grants.

Other stock-based awards may also be granted under our 2005 Stock Plan. Other stock-based awards are awards based on our common stock having terms and conditions as the compensation committee may determine and could include the grant of shares based upon certain conditions, the grant of securities convertible into shares of our common stock, and the grant of stock appreciation rights, phantom stock awards or stock units.

Unless the compensation committee provides otherwise, our 2005 Stock Plan does not generally allow for the transfer of awards and only the recipient of an award may exercise an award during his or her lifetime. In the event of a change-in-control of the Company, our board of directors and the board of directors of the surviving or acquiring entity shall, as to outstanding awards under the 2005 Stock Plan, make appropriate provision for the continuation, assumption or other disposition of such awards.

No awards may be granted under our 2005 Stock Plan after June 1, 2015 and we do not intend to grant any awards under our 2005 Stock Plan after this offering. In addition, our board of directors may amend or discontinue our 2005 Stock Plan at any time and the compensation committee may amend or cancel any outstanding award for the purpose of satisfying changes in law or for any other lawful purpose. Our stockholders may also vote to terminate the 2005 Stock Plan. No amendment may adversely affect the rights under any outstanding award without the holder's consent.

As of June 30, 2006, there were 1,538,464 outstanding options to purchase shares of our common stock under our 2005 Stock Plan and, assuming that no shares are returned to our 1995 Stock Plan and made available for issuance under our 2005 Stock Plan, 558,841 shares of our common stock are available for future issuance or grant under our 2005 Stock Plan.

Our 2006 Stock Option and Incentive Plan, or 2006 Option Plan, was adopted by our board of directors and approved by our stockholders in 2006. The 2006 Option Plan permits us to make grants of incentive stock options, non-qualified stock options, stock appreciation rights, deferred stock awards, restricted stock awards, unrestricted stock awards, cash-based awards and dividend equivalent rights. We have initially reserved \_\_\_\_\_ shares of our common stock for the issuance of awards under the 2006 Option Plan. The 2006 Option Plan provides that the number of shares reserved and available for issuance under the plan will automatically increase each January 1, beginning in 2007, by \_\_\_\_\_ % of the outstanding number of shares of common stock on the immediately preceding December 31; provided that the maximum aggregate number of shares reserved may not exceed \_\_\_\_\_ % of the total number of outstanding shares of stock. This number is subject to adjustment in the event of a stock split, stock dividend or other change in our capitalization. Generally, shares that are forfeited or canceled from awards, held back upon exercise of an award, or otherwise reacquired by the Company under the 2006 Option Plan also will be available for future awards. No awards have been granted under the 2006 Option Plan to date.

The 2006 Option Plan is administered by our compensation committee. The compensation committee has full power and authority to select the participants to whom awards will be granted, to make any combination of awards to participants, to accelerate the exercisability or vesting of any award and to determine the specific terms and conditions of each award, subject to the provisions of the 2006 Option Plan. All full-time and part-time officers, employees, directors and other key persons (including consultants and prospective employees) are eligible to participate in the 2006 Option Plan.

The exercise price of stock options awarded under the 2006 Option Plan may not be less than the fair market value of the common stock on the date of the option grant. The compensation committee will determine at what time or times each option may be exercised (provided that in no event may it exceed ten years from the date of grant) and, subject to the provisions of the 2006 Option Plan, the period of time, if any, after retirement, death, disability or other termination of employment during which options may be exercised.

Stock appreciation rights may be granted under our 2006 Option Plan. Stock appreciation rights allow the recipient to receive the number of shares equal to the appreciation in the fair market value of our common stock between the exercise date and the date of grant. The compensation committee determines the terms of stock appreciation rights, including when such rights become exercisable.

Restricted stock, unrestricted stock, cash-based awards, deferred stock awards and dividend equivalent rights may also be granted under our 2006 Option Plan. Restricted stock awards are shares of our common stock that vest in accordance with terms and conditions established by the compensation committee. The compensation committee may impose whatever conditions to vesting it determines to be appropriate. Shares of restricted stock that do not vest are automatically subject to our right of repurchase or forfeiture. Unrestricted stock awards are awards of shares of stock that are free of any restrictions. The compensation committee may grant unrestricted stock awards in respect of past services or in lieu of other compensation. Cash-based awards are awards that entitle the recipient to receive a cash-denominated payment. The compensation committee shall establish the terms and conditions of cash-based awards, including the conditions upon which any such award will become vested or payable. Cash-based awards may be made in cash or shares of stock in the compensation committee's discretion. Deferred stock awards are units entitling the recipient to receive shares of stock paid out on a deferred basis, and subject to such restrictions and conditions, as the compensation committee shall determine. Dividend equivalent rights are the right to receive credits based on cash dividends that would have been paid on the shares of stock underlying the award and are subject to

the terms and conditions specified by the compensation committee at the time of grant. The 2006 Option Plan also permits the compensation committee to grant awards that are intended to qualify as "performance-based compensation" under Section 162(m) of the Code. These awards are only payable upon the attainment of specified performance goals, as described in the 2006 Option Plan. The maximum performance-based award payable in any performance cycle to any one individual is \_\_\_\_\_ or \_\_\_\_\_ in the event of a performance-based award that is a cash-based award.

Unless the compensation committee provides otherwise, our 2006 Option Plan does not generally allow for the transfer of awards and only the recipient of an award may exercise an award during his or her lifetime. In the event of a change-in-control of Metabolix, our board of directors and the board of directors of the surviving or acquiring entity shall, as to outstanding awards under the 2006 Option Plan, make appropriate provision for the continuation or assumption of such awards.

No awards may be granted under the 2006 Option Plan after \_\_\_\_\_. In addition, our board of directors may amend or discontinue the 2006 Option Plan at any time and the compensation committee may amend or cancel any outstanding award for the purpose of satisfying changes in law or for any other lawful purpose. No such amendment may adversely affect the rights under any outstanding award without the holder's consent. Other than in the event of a necessary adjustment in connection with a change in our stock or a merger or similar transaction, the compensation committee may not "reprice" or otherwise reduce the exercise price of outstanding stock options.

As of June 30, 2006, there were no outstanding options to purchase shares of our common stock under our 2006 Option Plan and, assuming that no shares are returned to our 1995 Stock Plan and 2005 Option Plan and made available for issuance under our 2006 Option Plan, \_\_\_\_\_ shares of our common stock are available for future issuance or grant under our 2006 Option Plan.

#### *401(k) Plan*

We maintain a tax-qualified retirement plan that provides all regular employees with an opportunity to save for retirement on a tax-advantaged basis. Under our 401(k) Plan, participants may elect to defer a portion of their compensation on a pre-tax basis and have it contributed to the plan subject to applicable annual Internal Revenue Code limits. Pre-tax contributions are allocated to each participant's individual account and are then invested in selected investment alternatives according to the participant's directions. Employee elective deferrals are 100% vested at all times. Our 401(k) Plan allows for discretionary matching contributions to be made by us. As a tax-qualified retirement plan, contributions to our 401(k) Plan and earnings on those contributions are not taxable to the employees until distributed from our 401(k) Plan and all contributions are deductible by us when made.

#### **Employment, Severance and Non-Competition Arrangements**

We have employment agreements with Dr. Barber, Dr. Peoples, Mr. van Walsem, Mr. Auchincloss, Mr. Findlen and Mr. Igoe.

Dr. Barber, our president and chief executive officer, entered into an employment agreement with us on December 14, 2005. The agreement entitles Dr. Barber to an annual base salary of \$19,583 per month, subject to adjustment at our discretion. Pursuant to the agreement, Dr. Barber is eligible to receive a discretionary bonus. In addition, we agreed to forgive a \$75,000 loan made to Dr. Barber in 2000 in exchange for Dr. Barber's covenants under the agreement. Pursuant to the terms of the agreement, if we terminate Dr. Barber's employment without "cause" (as defined in the agreement), he will be entitled to continuing pay for a period of twelve months, at the rate equal to his base salary and the cost of COBRA premiums for twelve months. In addition, if the award of a bonus has become

customary, Dr. Barber will be entitled to a payment equal to the average of the bonuses paid to him, if any, in the two years preceding the termination. If we terminate Dr. Barber's employment without cause or if Dr. Barber terminates his employment for "good reason" (as defined in the agreement) within the twenty-four month period immediately following, or the two month period immediately prior to, a "change of control" (as defined in the agreement), in addition to any accrued obligations, and subject to certain conditions: (i) we will continue Dr. Barber's base salary and payment of COBRA premiums for the period of twelve months following the termination, (ii) if the award of a bonus has become customary, Dr. Barber will be entitled to a payment equal to the average of the bonuses paid to him in the two years preceding the termination, and (iii) certain of Dr. Barber's stock options will be accelerated. To the extent the executive would be subject to tax under 4999 of the Code as a result of certain payment in connection with a "transaction" (as defined in the agreement), the number of stock options that would otherwise become exercisable will be reduced or delayed to the extent necessary to maximize the executive's total after-tax payments. Under the agreement, Dr. Barber was granted incentive stock options under our 2005 Stock Plan, with an exercise price of \$1.84 per share, as follows: (i) an option to purchase 198,796 shares of our common stock, 18% of which vested as of the date of grant, the remainder to vest over a 4 year period, subject to the terms of the agreement; (ii) options to purchase 83,909 shares of our common stock, the vesting of such options to be contingent upon the occurrence of certain financing milestones; and (iii) an option to purchase 41,955 shares of our common stock, the vesting of such option to be contingent upon the advancement of our strategic alliance with ADM and certain financing milestones.

Dr. Peoples, our vice president, research, entered into an employment agreement with us on July 20, 2006. The agreement entitles Dr. Peoples to an annual base salary of \$16,666 per month, subject to upward adjustment at our discretion. Pursuant to the agreement, Dr. Peoples received a \$75,000 bonus in July 2006, and he will receive an additional \$75,000 bonus following completion of this offering. Dr. Peoples will be eligible to receive annual bonuses under a bonus scheme to be established by us no later than December 31, 2006, based on individual and company performance, with an initial target bonus of 50% of base salary. Pursuant to the terms of the agreement, if we terminate Dr. Peoples' employment without "cause" or if Dr. Peoples terminates his employment for "good reason" (each, as defined in the agreement), he will be entitled to a lump-sum cash payment equal to 24 months' base salary and a pro rata portion of the target bonus for the year in which termination occurs, plus payment of COBRA premiums for 24 months. If we terminate Dr. Peoples' employment without cause or if Dr. Peoples terminates his employment for "good reason" within the twenty-four month period immediately following, or the two month period immediately prior to, a "change of control" (as defined in the agreement), in addition to any accrued obligations, and subject to certain conditions, Dr. Peoples will receive: (i) a lump-sum cash payment equal to two times the sum of his then-current base salary plus 50% of his then-current target bonus, (ii) payment of COBRA premiums for 24 months, and (iii) full vesting of his stock options. To the extent Dr. Peoples would be subject to tax under 4999 of the Code as a result of company payments and benefits, the payments and benefits will be reduced to maximize his total after-tax payments.

Mr. van Walsem, our vice president, manufacturing, development and operations, has entered into an employment agreement with us dated May 1, 2006 that provides for a base salary of \$14,733 per month, subject to adjustment from time to time. Mr. Auchincloss, our chief financial officer, has entered into an employment agreement with us dated January 10, 2006 that provides for a base salary of \$14,733 per month, subject to adjustment from time to time. Mr. Findlen, our Vice President, Marketing, has entered into an employment agreement with us dated May 24, 2006 that provides for a base salary of \$16,666 per month, subject to adjustment from time to time. Mr. Brian Igoe, our vice president, chief brand officer, has entered into an employment agreement with us dated August 29, 2006, that provides for a base salary of \$16,666 per month, subject to adjustment from time to time. Pursuant to these agreements, each executive is eligible to receive a discretionary bonus. Additionally,

Mr. Findlen's employment agreement provides for a signing bonus of \$60,000, payable in two installments and Mr. Igoe's employment agreement provides for a signing bonus of \$20,000. If we terminate the executive's employment without "cause" (as defined in the agreement), in addition to any accrued obligations, and contingent on the executive's provision of a timely and complete release of claims against us, for the period of twelve months following the termination he will be entitled to continuation of his base salary and payment of COBRA premiums. In addition, if the award of a bonus has become customary, the executive will be entitled to a payment equal to the average of the bonuses paid to him in the two years preceding the termination. If we terminate the executive's employment without cause or if the executive terminates his employment for "good reason" (as defined in the agreement) within the twenty-four month period immediately following, or the two month period immediately prior to, a "change of control" (as defined in the agreement), in addition to any accrued obligations and subject to certain conditions: (i) for a period of twelve months following the termination, we will continue the executive's base salary and payment of COBRA premiums, (ii) if the award of a bonus has become customary, the executive will be entitled to a payment equal to the average of the bonuses paid to him in the two years preceding the termination, and (iii) all of the executive's stock options will be accelerated, subject to certain conditions. To the extent the executive would be subject to tax under Section 4999 of the Code as a result of certain payment in connection with a "transaction" (as defined in the agreement), the number of stock options that would otherwise become exercisable will be reduced or delayed to the extent necessary to maximize the executive's total after-tax payments.

Each of our executive officers has signed an employee noncompetition, nondisclosure and inventions agreement. These agreements include a provision prohibiting the executive, during his employment by us and for a period of two years thereafter, from engaging in certain business activities. Dr. Barber and Mr. van Walsem are restricted from business activities in the field of methods of production, application and use of PHAs, their derivatives and other related technology developed by us. Mr. Auchincloss, Dr. Peoples, Mr. Findlen and Mr. Igoe are restricted from business activities which are directly or indirectly in competition with the products or services being developed, manufactured, marketed, distributed, planned, sold or otherwise provided by us or which are in any way directly or indirectly detrimental to our business.

### **Limitation of Liability and Indemnification**

As permitted by the Delaware General Corporation Law, we have adopted provisions in our certificate of incorporation and by-laws to be in effect at the closing of this offering that limit or eliminate the personal liability of our directors. Consequently, a director will not be personally liable to us or our stockholders for monetary damages or breach of fiduciary duty as a director, except for liability for:

- any breach of the director's duty of loyalty to us or our stockholders;
- any act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;
- any unlawful payments related to dividends or unlawful stock repurchases, redemptions or other distributions; or
- any transaction from which the director derived an improper personal benefit.

These limitations of liability do not alter director liability under the federal securities laws and do not affect the availability of equitable remedies such as an injunction or rescission.



In addition, our by-laws provide that:

- we will indemnify our directors, officers and, in the discretion of our board of directors, certain employees to the fullest extent permitted by the Delaware General Corporation Law; and
- we will advance expenses, including attorneys' fees, to our directors and, in the discretion of our board of directors, to our officers and certain employees, in connection with legal proceedings, subject to limited exceptions.

Contemporaneous with the completion of this offering, we intend to enter into indemnification agreements with each of our executive officers and directors. These agreements provide that we will indemnify each of our directors to the fullest extent permitted by law and advance expenses to each indemnitee in connection with any proceeding in which indemnification is available.

We intend to obtain, contemporaneously with the offering, director and officer liability insurance that covers certain liabilities of our directors and officers arising out of claims based on acts or omissions in their capacities as directors or officers, including liabilities under the Securities Act of 1933, as amended. Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers, or persons controlling the registrant pursuant to the foregoing provisions, we have been informed that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

These provisions may discourage stockholders from bringing a lawsuit against our directors for breach of their fiduciary duty. These provisions may also have the effect of reducing the likelihood of derivative litigation against directors and officers, even though such an action, if successful, might otherwise benefit us and our stockholders. Furthermore, a stockholder's investment may be adversely affected to the extent we pay the costs of settlement and damage awards against directors and officers pursuant to these indemnification provisions. We believe that these provisions, the indemnification agreements and the insurance are necessary to attract and retain talented and experienced directors and officers.

At present, there is no pending litigation or proceeding involving any of our directors or officers where indemnification will be required or permitted. We are not aware of any threatened litigation or proceeding that might result in a claim for such indemnification.

## CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

Other than compensation agreements and other arrangements which are described as required in "Management" and the transactions described below, since January 1, 2002, there has not been, and there is not currently proposed, any transaction or series of similar transactions to which we were or will be a party in which the amount involved exceeded or will exceed \$60,000 and in which any director, executive officer, holder of five percent or more of any class of our capital stock or any member of their immediate family had or will have a direct or indirect material interest.

All of the transactions set forth below were approved by a majority of the board of directors, including a majority of the independent and disinterested members of the board of directors. We believe that we have executed all of the transactions set forth below on terms no less favorable to us than we could have obtained from unaffiliated third parties. It is our intention to ensure that all future transactions between us and our officers, directors and principal stockholders and their affiliates, are approved by a majority of the board of directors, including a majority of the independent and disinterested members of the board of directors, and are on terms no less favorable to us than those that we could obtain from unaffiliated third parties.

### Private Placements of Securities

In April 2002 and May 2002, we issued and sold 637,461 shares of Series I convertible preferred stock at price of \$10.80 per share. In connection with the issuance of Series I preferred stock during 2002, we issued warrants to purchase 520,990 shares of common stock at an exercise price of \$13.21 per share. Also in April 2002 and May 2002, we exchanged 529,780 shares of Series H convertible preferred stock for 529,780 shares of Series I convertible preferred stock. Concurrently, we issued warrants to purchase 432,983 shares of common stock at an exercise price of \$13.21 per share in connection with the exchange.

In June 2003, we issued 270,704 shares of Series I preferred stock at \$10.80 per share. In conjunction with the issuance of the Series I preferred stock during 2003, we issued warrants to purchase 221,238 shares of common stock at an exercise price of \$13.21 per share.

In November 2003, we issued 324,074 shares of Series J convertible preferred stock at \$10.80 per share. In conjunction with the issuance of Series J preferred stock, shareholders of 1,208,880 shares of Series I preferred stock exercised their right to exchange the shares of Series I preferred stock for 1,208,880 shares of Series J preferred stock. Shareholders of 192,147 shares of Series I preferred stock who elected not to participate in the Series J preferred stock offering had their 192,147 shares of Series I preferred stock converted into 192,147 shares of Series I-1 convertible preferred stock. In connection with the issuance of Series J preferred stock, we issued warrants to purchase 264,865 shares of common stock at an exercise price of \$0.12 per share. Concurrently, we issued warrants to purchase 988,004 shares of common stock at an exercise price of \$0.10 per share in connection with the exchange of Series I preferred stock for Series J preferred stock. In addition, we cancelled warrants to purchase 348,386 shares of common stock at an exercise price of \$13.21 per share. In January 2004, we issued an additional 57,370 shares of Series J preferred stock at \$10.80 per share. In conjunction with the issuance of Series J preferred stock in 2004, the remaining shareholders of 36,918 shares of Series I preferred stock exercised their right to exchange the shares of Series I preferred stock for 36,918 shares of Series J preferred stock. In connection with the issuance of the Series J preferred stock during 2004, we issued warrants to purchase 46,881 shares of common stock at an exercise price of \$0.12 per share. Concurrently, we issued warrants to purchase 30,173 shares of common stock at an exercise price of \$0.12 per share in connection with the exchange of Series I preferred stock for Series J preferred stock.

In April through August 2004, we issued 1,100,766 shares of Series 04 convertible preferred stock at \$5.40 per share. In conjunction with the issuance of Series 04 preferred stock, shareholders of 1,625,242 shares of Series J preferred stock exercised their right to exchange the shares of Series J preferred stock for 3,250,484 shares of Series 04 preferred stock. A holder of 2,000 shares of Series J preferred stock who elected not to participate in the Series 04 preferred stock offering had his 2,000 shares of Series J preferred stock converted into 2,000 shares of Series J-1 convertible preferred stock. In conjunction with the issuance of Series 04 preferred stock in 2004 and the exchange of the shares of Series J preferred stock, 155,041 warrants to purchase common stock were cancelled.

From March through May 2005, we issued 893,652 shares of Series 04 convertible preferred stock at \$5.40 per share.

In January 2006, we issued 2,920,000 shares of Series 05 convertible preferred stock at \$6.00 per share.

The following table summarizes, on a common stock equivalent basis, the participation by our five percent stockholders, officers and directors.

<b>Purchaser<sup>(1)</sup></b>	<b>Total Common Stock Equivalents</b>	<b>Aggregate Consideration Paid</b>	<b>Investment Participation</b>
State Farm Automobile Insurance Co.	629,469	\$ 5,970,207	Series I, J, 04 and 05
The Vertical Group, L.P. <sup>(2)</sup>	390,128	\$ 3,775,269	Series I, J, 04 and 05
Archer Daniels Midland Company	681,083	\$ 4,999,998	Series 05
Thomas G. Auchincloss, Jr.	10,630	\$ 90,460	Series I, J, 04 and 05
Edward M. Muller	38,667	\$ 510,959	Series I
Edward M. Giles <sup>(3)</sup>	217,393	\$ 2,100,257	Series I, J, 04 and 05
Jack W. Lasersohn <sup>(2)</sup>	390,128	\$ 3,775,269	Series I, J, 04 and 05
Anthony J. Sinskey	39,467	\$ 336,559	Series I, J, 04 and 05
Matthew Strobeck <sup>(4)</sup>	544,865	\$ 4,000,002	Series 05

(1) See "Principal Stockholders" for more detail on shares held by these purchasers.

(2) Represents the combined holdings of Vertical Fund I, L.P. and Vertical Fund II, L.P., the sole general partner of each of which is The Vertical Group, L.P. Mr. Lasersohn, who is one of our directors, is a general partner of Vertical Group, L.P. Mr. Lasersohn shares voting and investment power over shares held by Vertical Fund I, L.P. and Vertical Fund II, L.P.

(3) Mr. Giles, who is one of our directors, is limited partner of Vertical Fund I, L.P. Mr. Giles is the Chairman of the Board of The Vertical Group, Inc. Mr. Giles does not, directly or indirectly, have any voting or dispositive power over shares held by Vertical Fund I, L.P. or Vertical Fund II, L.P.

(4) Represents the combined holdings of Guggenheim Portfolio Company XIX, LLC, Westfield Life Sciences Fund II L.P., Westfield Life Sciences Fund L.P. and Westfield Microcap Fund L.P. Mr. Strobeck, who is one of our directors, is a senior investment analyst at Westfield Capital Management Company, LLC. Mr. Strobeck shares voting and investment power over shares held by Guggenheim Portfolio Company XIX, LLC, Westfield Life Sciences Fund II L.P., Westfield Life Sciences Fund L.P., and Westfield Microcap Fund L.P.

#### **Transactions with Archer Daniels Midland Company**

ADM has agreed to purchase \$7.5 million of our shares of common stock in a private placement concurrent with this offering at a price per share equal to the initial public offering price. The sale of such shares to ADM will not be registered in this offering. ADM will have piggyback registration rights and one demand registration right with respect to such shares upon the expiration of the lock-up agreement.

On July 12, 2006, we and ADM Polymer, a wholly-owned subsidiary of ADM, entered into the Commercial Alliance Agreement and related agreements. We were also a party to a Technology Alliance and Option Agreement with ADM as part of our strategic alliance which terminated upon execution of the Commercial Alliance Agreement.

### **Transactions with our Executive Officers and Directors**

We have employment agreements with Dr. Barber, Dr. Peoples, Mr. van Walsem, Mr. Auchincloss, Mr. Findlen and Mr. Igoe, which provide for certain salary, bonus, stock option and severance compensation. For more information regarding these agreements, see "Management — Employment, Severance and Non-Competition Agreements."

Prior to completion of this offering, we intend to enter into indemnification agreements with each of our executive officers and directors, providing for indemnification against expenses and liabilities reasonably incurred in connection with their service for us on our behalf. For more information regarding these agreements, see "Management — Limitation of Liability and Indemnification."

In September 2005, we retained Dr. ChoKyun Rha, the spouse of our director, Dr. Sinskey, to serve as an advisor for the purpose of building and managing business relationships in Asia. In consideration for Dr. Rha's services, on September 20, 2005, we granted Dr. Rha a nonqualified stock option to purchase 16,346 shares of our common stock, with an exercise price of \$1.65 per share, vesting over a period of four years.

In 1999, we entered into a sublicense agreement with Tepha, Inc. ("Tepha"), to sublicense certain technology to Tepha. Our director, Dr. Williams, is the president and chief executive officer and a director of Tepha. In addition, our directors Messrs. Muller and Giles and Dr. Sinskey serve on the board of directors of Tepha. The agreement with Tepha contains provisions for sublicense maintenance fees to be paid to us upon Tepha achieving certain financing milestones and for product related milestone payments. Under the agreement, we will also receive royalties on net sales of licensed products or sublicensing revenues received by Tepha, subject to a minimum payment each year.

In December 2002, we amended this agreement to provide that \$800,000 of Tepha's payment obligation pursuant to the agreement became payable in both cash and equity. In October 2002, Tepha paid us \$100,000 in cash, and the balance of the payment obligation was satisfied through the issuance of 648,149 shares of Tepha's Series A redeemable convertible preferred stock. We licensed or sublicensed additional technology to Tepha in 2003, 2004 and 2005. We recognized license and royalty revenues of \$112,800, \$316,880, \$242,100 and \$189,800 from Tepha for the years ended December 31, 2003, 2004, 2005 and for the six months ended June 30, 2006 respectively. We believe that the terms of the agreements with Tepha are no less favorable to us than license agreements that might be entered into with an independent third party.

In June 2000, in connection with his relocation to Massachusetts, we made a \$75,000 loan to James J. Barber, our chief executive officer. The loan was evidenced by a promissory note bearing interest at the rate of 6.62% per annum. In December 2005 the loan principal of \$75,000 and the outstanding interest balance of \$106,739 were forgiven in full.

### **Stock Option Awards**

For information regarding stock options and stock awards granted to our named executive officers and directors, see "Management — Compensation of Director" and "Management — Executive Compensation."

## PRINCIPAL STOCKHOLDERS

The following table sets forth the beneficial ownership information of our common stock at June 30, 2006, and as adjusted to reflect the sale of the shares of common stock in this offering and the sale of the ADM Shares, for:

- each person known to us to be the beneficial owner of more than 5% of our common stock and another significant stockholder;
- each named executive officer;
- each of our directors; and
- all of our executive officers and directors as a group.

Unless otherwise noted below, the address of the persons and entities listed on the table is c/o Metabolix, Inc., 21 Erie Street, Cambridge, MA 02139. 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 table below have sole voting and investment power with respect to all shares of common stock reflected as beneficially owned, subject to applicable community property laws. We have based our calculation of the percentage of beneficial ownership on 12,054,809 shares of common stock outstanding on June 30, 2006, assuming the conversion of all of the outstanding convertible preferred stock, and \_\_\_\_\_ shares of common stock outstanding upon completion of this offering, which includes the sale of the ADM Shares.

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 June 30, 2006. We did not deem these shares outstanding, however, for the purpose of computing the percentage ownership of any other person. Beneficial ownership representing less than 1% is denoted with an asterisk (\*).

Beneficial Owner	Shares Beneficially Owned Prior to this offering		Shares Beneficially Owned After this offering	
	Number	Percent	Number	Percent
<b>5% Stockholders:</b>				
The Vertical Group, L.P. <sup>(1)</sup> 25 DeForest Ave Summit, NJ 07901	1,699,983	13.94%		%
State Farm Mutual <sup>(2)</sup> Automobile Insurance Co. One State Farm Plaza Bloomington, IL 61701	2,355,617	18.64%		%
Archer Daniels Midland Company <sup>(3)</sup> 4666 Faries Parkway Decatur, IL 62526	681,083	5.65%		%
Westfield Capital One Financial Center Boston, MA 02111	544,865	4.52%		%
<b>Directors and Named Executive Officers:</b>				
James J. Barber <sup>(4)</sup>	336,476	2.72%		%
Oliver P. Peoples <sup>(5)</sup>	596,628	4.87%		%
Johan van Walsem <sup>(6)</sup>	101,140	*		
Thomas G. Auchincloss, Jr. <sup>(7)</sup>	101,139	*		
Robert Findlen	—	*		
Edward M. Muller <sup>(8)</sup>	1,256,596	10.30%		%
Edward M. Giles <sup>(1)(9)</sup>	1,047,139	8.54%		%
Jay Kouba <sup>(10)</sup>	16,346	*		
Jack W. Lasersohn <sup>(1)</sup>	1,699,983	13.94%		%
Anthony J. Sinskey <sup>(11)</sup>	491,196	4.07%		%
Simon F. Williams <sup>(12)</sup>	408,650	3.39%		%
All directors and executive officers as a group (11 persons)	6,055,293	45.59%		%

\* less than 1%.

(1) Consists of 893,382 shares held by The Vertical Fund I, L.P. and 95,427 shares issuable to Vertical Fund I, L.P. upon exercise of warrants. Also consists of 666,542 shares held by Vertical Fund II, L.P. and 44,632 shares issuable to Vertical Fund II, L.P. upon exercise of warrants. Mr. Lasersohn is a General Partner of The Vertical Group, L.P., the sole general partner of each of Vertical

Fund I, L.P. and Vertical Fund II, L.P., and may be deemed to share voting and investment power with respect to all shares held by those entities. Mr. Lasersohn disclaims beneficial ownership of such shares except to the extent of his pecuniary interest, if any. Mr. Giles is a limited partner of The Vertical Group, L.P., the sole general partner of each of Vertical Fund I, L.P. and Vertical Fund II, L.P., and the Chairman of the Board of The Vertical Group, Inc. Mr. Giles does not have any direct or indirect voting and investment power with respect to the shares held by Vertical Fund I, L.P. and Vertical Fund II, L.P. Mr. Giles disclaims beneficial ownership of such shares except to the extent of his pecuniary interest, if any.

(2) Includes 585,833 shares issuable to State Farm Mutual Automobile Insurance Co. upon exercise of warrants.

*footnotes continued on following page*

- (3) ADM has agreed to purchase \$7.5 million of our shares of common stock in a private placement concurrent with this offering at a price per share equal to the price to the public. The sale of such shares of common stock will not be registered in this offering.
- (4) Includes 323,134 shares issuable to Dr. Barber upon exercise of stock options.
- (5) Includes 187,978 shares issuable to Dr. Peoples upon exercise of stock options. Also includes 16,346 shares held by the George Stormont Trust for the benefit of certain family members. Dr. Peoples disclaims beneficial ownership of such shares except to the extent of his pecuniary interest, if any.
- (6) Represents shares issuable to Mr. van Walsem upon exercise of stock options.
- (7) Includes 1,021 shares issuable to Mr. Auchincloss upon exercise of warrants. Also includes 84,795 shares issuable to Mr. Auchincloss upon exercise of stock options. Also includes 1,634 shares held on behalf of his minor children. Mr. Auchincloss disclaims beneficial ownership of such shares except to the extent of his pecuniary interest, if any.
- (8) Includes 145,468 shares issuable to Mr. Muller upon exercise of warrants. Also includes 45,628 shares held by certain trusts for the benefit of family members and 4,764 shares issuable upon exercise of warrants held by such trusts. Mr. Muller disclaims beneficial ownership of such shares except to the extent of his pecuniary interest, if any.
- (9) Includes 211,777 shares issuable to Mr. Giles upon exercise of warrants. Also includes 342,260 shares held by certain entities over which Mr. Giles may be deemed to share voting and investment power with respect to such shares. Mr. Giles disclaims beneficial ownership of such shares except to the extent of his pecuniary interest, if any.
- (10) Represents shares issuable to Mr. Kouba upon exercise of stock options.
- (11) Includes 8,442 shares issuable to Dr. Sinskey upon exercise of warrants. Also includes 3,065 shares issuable to Chokyun Rha, Dr. Sinskey's spouse, upon exercise of options, of which Dr. Sinskey disclaims beneficial ownership except to the extent of his pecuniary interest, if any.
- (12) Includes 81,730 shares held by the Williams Children's Trust for the benefit of certain family members. Dr. Williams disclaims beneficial ownership of such shares except to the extent of his pecuniary interest, if any.

## DESCRIPTION OF CAPITAL STOCK

### General

Upon completion of this offering, our authorized capital stock will consist of 100,000,000 shares of common stock, par value \$0.01 per share, and 5,000,000 shares of undesignated preferred stock, par value \$0.01 per share. The following description of our capital stock is intended as a summary only. We refer in this section to our second amended and restated certificate of incorporation as our certificate of incorporation, and we refer to our amended and restated by-laws as our by-laws.

### Common Stock

As of June 30, 2006, there were 12,054,809 shares of our common stock outstanding and held of record by approximately 121 stockholders, assuming conversion of all outstanding shares of preferred stock.

Holders of our common stock are entitled to one vote for each share of common stock held of record for the election of directors and on all matters submitted to a vote of stockholders. Holders of our common stock are entitled to receive dividends ratably, if any, as may be declared by our board of directors out of legally available funds, subject to any preferential dividend rights of any preferred stock then outstanding. Upon our dissolution, liquidation or winding up, holders of our common stock are entitled to share ratably in our net assets legally available after the payment of all our debts and other liabilities, subject to the preferential rights of any preferred stock then outstanding. Holders of our common stock have no preemptive, subscription, redemption or conversion rights. The rights, preferences and privileges of holders of common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of preferred stock that we may designate and issue in the future. Except as described below in "Provisions of our Certificate of Incorporation and By-Laws and Delaware Anti-Takeover Law," a majority vote of common stockholders is generally required to take action under our certificate of incorporation and by-laws.

### Preferred Stock

Upon completion of this offering, our board of directors will be authorized, without action by the stockholders, to designate and issue up to an aggregate of 5,000,000 shares of preferred stock in one or more series. The board of directors can fix the rights, preferences and privileges of the shares of each series and any of its qualifications, limitations or restrictions. Our board of directors may authorize the issuance of preferred stock with voting or conversion rights that could adversely affect the voting power or other rights of the holders of common stock. The issuance of preferred stock, while providing flexibility in connection with possible future financings and acquisitions and other corporate purposes could, under certain circumstances, have the effect of delaying, deferring or preventing a change in control of our company and might harm the market price of our common stock.

Our board of directors will make any determination to issue such shares based on its judgment as to our company's best interests and the best interests of our stockholders. We have no current plans to issue any shares of preferred stock.



## **Warrants**

As of June 30, 2006, warrants to purchase a total of 1,777,278 shares of our common stock were outstanding with exercise prices of \$0.12 per share, \$3.30 per share and \$13.21 per share. These warrants expire on various dates through May 21, 2014.

## **Registration Rights**

We entered into a stockholders' agreement, dated as of January 19, 2006, with the holders of shares of our common stock issuable upon conversion of the shares of preferred stock and other stockholders, including certain members of our management. Under this agreement, holders of shares having registration rights can demand that we file a registration statement or request that their shares be covered by a registration statement that we are otherwise filing. All of these registration rights are subject to conditions and limitations, including the right of the underwriters of an offering to limit the number of shares included in such registration and our right to postpone a requested registration for a period of no more than 180 days if we determine that this offering would be materially detrimental to us.

*Demand Registration Rights.* The holders of approximately \_\_\_\_\_ shares of common stock, after this offering, assuming the issuance of the ADM Shares, subject to exceptions, are entitled to certain demand registration rights, upon the request of holders of a certain percentage of such shares, pursuant to which they may require us to file a registration statement under the Securities Act at our expense with respect to their shares of common stock. We are required to use our best efforts to effect any such registration. In addition, we have granted ADM one demand registration right with respect to the ADM Shares.

*Piggyback Registration Rights.* If we propose to register any of our securities under the Securities Act for our own account or the account of any other holder, the holders of approximately \_\_\_\_\_ shares of common stock, after this offering, assuming the issuance of the ADM Shares, are entitled to notice of such registration and are entitled to include shares of their common stock therein. In addition, we have granted ADM piggyback registration rights with respect to the ADM Shares.

We will pay all registration expenses, other than underwriting discounts and commissions, related to any demand or piggyback registration. The stockholders' agreement contains customary cross- indemnification provisions, pursuant to which we are obligated to indemnify the selling stockholders in the event of material misstatements or omissions in the registration statement attributable to us, and they are obligated to indemnify us for material misstatements or omissions attributable to them.

## **Provisions of our Certificate of Incorporation and By-Laws and Delaware Anti-Takeover Law**

Our certificate of incorporation and by-laws will, upon completion of this offering, include a number of provisions that may have the effect of encouraging persons considering unsolicited tender offers or other unilateral takeover proposals to negotiate with our board of directors rather than pursue non-negotiated takeover attempts. These provisions include the items described below.

*Board Composition and Filling Vacancies.* In accordance with our certificate of incorporation, our board is divided into three classes serving staggered three-year terms, with one class being elected each year. Our certificate of incorporation also provides that directors may be removed only for cause and then only by the affirmative vote of the holders of 75% or more of the shares then entitled to vote at an election of directors. Furthermore, any vacancy on our board of directors, however occurring,

including a vacancy resulting from an increase in the size of our board, may only be filled by the affirmative vote of a majority of our directors then in office even if less than a quorum.

*No Written Consent of Stockholders.* Our certificate of incorporation provides that all stockholder actions are required to be taken by a vote of the stockholders at an annual or special meeting, and that stockholders may not take any action by written consent in lieu of a meeting.

*Meetings of Stockholders.* Our by-laws provide that only a majority of the members of our board of directors then in office may call special meetings of stockholders and only those matters set forth in the notice of the special meeting may be considered or acted upon at a special meeting of stockholders. Our by-laws limit the business that may be conducted at an annual meeting of stockholders to those matters properly brought before the meeting.

*Advance Notice Requirements.* Our by-laws establish advance notice procedures with regard to stockholder proposals relating to the nomination of candidates for election as directors or new business to be brought before meetings of our stockholders. These procedures provide that notice of stockholder proposals must be timely given in writing to our corporate secretary prior to the meeting at which the action is to be taken. Generally, to be timely, notice must be received at our principal executive offices not less than 90 days nor more than 120 days prior to the first anniversary date of the annual meeting for the preceding year. The notice must contain certain information specified in the by-laws.

*Amendment to By-Laws and Certificate of Incorporation.* As required by the Delaware General Corporation Law, any amendment of our certificate of incorporation must first be approved by a majority of our board of directors and, if required by law or our certificate of incorporation, thereafter be approved by a majority of the outstanding shares entitled to vote on the amendment, and a majority of the outstanding shares of each class entitled to vote thereon as a class, except that the amendment of the provisions relating to stockholder action, directors, limitation of liability and the amendment of our by-laws and certificate of incorporation must be approved by not less than 75% of the outstanding shares entitled to vote on the amendment, and not less than 75% of the outstanding shares of each class entitled to vote thereon as a class. Our by-laws may be amended by the affirmative vote of a majority of the directors then in office, subject to any limitations set forth in the by-laws; and may also be amended by the affirmative vote of at least 75% of the outstanding shares entitled to vote on the amendment, or, if the board of directors recommends that the stockholders approve the amendment, by the affirmative vote of the majority of the outstanding shares entitled to vote on the amendment, in each case voting together as a single class.

*Blank Check Preferred Stock.* Our certificate of incorporation provides for 5,000,000 authorized shares of preferred stock. The existence of authorized but unissued shares of preferred stock may enable our board of directors to render more difficult or to discourage an attempt to obtain control of us by means of a merger, tender offer, proxy contest or otherwise. For example, if in the due exercise of its fiduciary obligations, our board of directors were to determine that a takeover proposal is not in the best interests of us or our stockholders, our board of directors could cause shares of preferred stock to be issued without stockholder approval in one or more private offerings or other transactions that might dilute the voting or other rights of the proposed acquirer or insurgent stockholder or stockholder group. In this regard, our certificate of incorporation grants our board of directors broad power to establish the rights and preferences of authorized and unissued shares of preferred stock. The issuance of shares of preferred stock could decrease the amount of earnings and assets available for distribution to holders of shares of common stock. The issuance may also adversely affect the rights and powers, including voting rights, of these holders and may have the effect of delaying, deterring or preventing a change in control of us.

### **Section 203 of the Delaware General Corporation Law**

Upon completion of this offering, we will be subject to the provisions of Section 203 of the Delaware General Corporation Law. In general, Section 203 prohibits a publicly held Delaware corporation from engaging in a "business combination" with an "interested stockholder" for a three-year period following the time that this stockholder becomes an interested stockholder, unless the business combination is approved in a prescribed manner. A "business combination" includes, among other things, a merger, asset or stock sale or other transaction resulting in a financial benefit to the interested stockholder. An "interested stockholder" is a person who, together with affiliates and associates, owns, or did own within three years prior to the determination of interested stockholder status, 15% or more of the corporation's voting stock. Under Section 203, a business combination between a corporation and an interested stockholder is prohibited unless it satisfies one of the following conditions:

- before the stockholder became interested, the board of directors approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;
- upon consummation of the transaction which 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 commenced, excluding for purposes of determining the voting stock outstanding, shares owned by persons who are directors and also officers, and employee stock plans, in some instances; or
- at or after the time the stockholder became interested, the business combination was approved by the board of directors of the corporation and authorized at an annual or special meeting of the stockholders by the affirmative vote of at least two-thirds of the outstanding voting stock which is not owned by the interested stockholder.

### **NASDAQ Stock Market Listing**

We have applied to the NASDAQ Global Market for the quotation of our common stock under the trading symbol MBLX.

### **Transfer Agent and Registrar**

Upon completion of this offering, the transfer agent and registrar for our common stock will be American Stock Transfer & Trust Company.

## SHARES ELIGIBLE FOR FUTURE SALE

Immediately prior to this offering, there was no public market for our common stock. Future sales of substantial amounts of common stock in the public market, or the perception that such sales may occur, could adversely affect the market price of our common stock. Although we have applied to have our common stock approved for quotation on the NASDAQ Global Market, we cannot assure you that there will be an active public market for our common stock.

Upon completion of this offering, we will have outstanding an aggregate of \_\_\_\_\_ shares of common stock, assuming the issuance of \_\_\_\_\_ shares of common stock offered hereby, the issuance of the ADM Shares and no exercise of the underwriter's over-allotment option and no exercise of outstanding options or warrants. Of these shares, \_\_\_\_\_ shares sold in this offering will be freely tradable without restriction or further registration under the Securities Act, except for any shares purchased by our "affiliates," as that term is defined in Rule 144 under the Securities Act, whose sales would be subject to certain limitations and restrictions described below.

All remaining \_\_\_\_\_ shares of common stock held by existing stockholders were issued and sold by us in reliance on exemptions from the registration requirements of the Securities Act. Of these shares, \_\_\_\_\_ shares will be subject to "lock-up" agreements with the underwriters or us described below on the effective date of this offering. On the effective date of this offering, there will be \_\_\_\_\_ shares that are not subject to lock-up agreements and eligible for sale pursuant to Rule 144 (k). Upon expiration of the lock-up agreements 180 days after the effective date of this offering, \_\_\_\_\_ shares will become eligible for sale, subject in most cases to the limitations of Rule 144. In addition, holders of stock options could exercise such options and sell certain of the shares issued upon exercise as described below.

Days After Date of this Prospectus	Shares Eligible for Sale	Comment
Upon Effectiveness		Shares sold in this offering
Upon Effectiveness		Freely tradable shares saleable under Rule 144(k) that are not subject to the lock-up
90 Days		Shares saleable under Rules 144 and 701 that are not subject to a lock-up
180 Days		Lock-ups released, subject to extension; shares saleable under Rules 144 and 701
Thereafter		Restricted securities held for one year or less

### Lock-up Agreements

We, each of our directors and executive officers, and certain of our other stockholders, who collectively own \_\_\_\_\_ shares of our common stock, including the issuance of the ADM shares, based on shares outstanding as of June 30, 2006, have agreed that, without the prior written consent of Piper Jaffray on behalf of the underwriters, we and they will not, subject to limited exceptions, during the period ending 180 days after the date of this prospectus, subject to extension in specified circumstances:

- offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend or

otherwise transfer or dispose of, directly or indirectly, any shares of our common stock or any securities convertible into or exercisable or exchangeable for common stock; or

- enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of our common stock,

whether any transaction described above is to be settled by delivery of our common stock or such other securities, in cash or otherwise. Any determination to release any shares subject to the lock-up agreements would be made on a case-by-case basis based on a number of factors at the time of determination, including the market price of the common stock, the liquidity of the trading market for the common stock, general market conditions, the number of shares proposed to be sold and the timing, purpose and terms of the proposed sale. Piper Jaffray on behalf of the underwriters will have discretion in determining if, and when, to release any shares subject to lock-up agreements.

The 180-day restricted period described in the preceding paragraph will be automatically extended if: (1) during the last 17 days of the 180-day restricted period we issue an earnings release or announce material news or a material event; or (2) prior to the expiration of the 180-day restricted period, we announce that we will release earnings results during the 15-day period following 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 earnings release or the announcement of the material news or material event.

We do not currently expect any release of shares subject to lock-up agreements prior to the expiration of the applicable lock-up periods. Upon the expiration of the applicable lock-up periods, substantially all of the shares subject to such lock-up restrictions will become eligible for sale, subject to the limitations discussed above.

#### **Rule 144**

In general, under Rule 144 as currently in effect, beginning 90 days after the date of this prospectus, a person who has beneficially owned shares of our common stock for at least one year, including an affiliate, would be entitled to sell in "broker's transactions" or to market makers, within any three-month period, a number of shares that does not exceed the greater of:

- 1% of the number of shares of our common stock then outstanding, which will equal approximately \_\_\_\_\_ shares immediately after this offering; or
- the average weekly trading volume in our common stock on the NASDAQ Global Market during the four calendar weeks preceding the filing of a notice on Form 144 with respect to such sale.

Sales under Rule 144 are generally subject to the availability of current public information about us.

#### **Rule 144(k)**

Under Rule 144(k), a person who is not deemed to have been an affiliate of ours at any time during the 90 days preceding a sale, and who has beneficially owned the shares proposed to be sold for at least two years, is entitled to sell such shares without having to comply with the manner of sale, public information, volume limitation or notice filing provisions of Rule 144. Therefore, unless otherwise restricted, "144(k) shares" may be sold immediately upon the completion of this offering.

## **Rule 701**

In general, under Rule 701, any of our employees, directors, officers, consultants or advisors who purchased shares from us in connection with a compensatory stock or option plan or other written agreement before the effective date of this offering is entitled to sell such shares 90 days after the effective date of this offering in reliance on Rule 144, without having to comply with the holding period and notice filing requirements of Rule 144 and, in the case of non-affiliates, without having to comply with the public information, volume limitation or notice filing provisions of Rule 144.

The SEC has indicated that Rule 701 will apply to typical stock options granted by an issuer before it becomes subject to the reporting requirements of the Securities Exchange Act of 1934, as amended, along with the shares acquired upon exercise of such options, including exercises after the date of this prospectus. Securities issued in reliance on Rule 701 are restricted securities and subject to the contractual restrictions described above, beginning 90 days after the date of this prospectus, may be sold by persons other than affiliates subject only to the manner of sale provisions of Rule 144 and by affiliates without compliance with its one year minimum holding period requirements.

## **Stock Options**

We intend to file one or more registration statements on Form S-8 under the Securities Act to register all shares of common stock subject to outstanding stock options and common stock issued or issuable under our stock plans. We expect to file the registration statement covering shares offered pursuant to our stock plans shortly after the date of this prospectus, permitting the resale of such shares by nonaffiliates in the public market without restriction under the Securities Act, but subject to the provisions of the lock-up agreements.

## **Registration Rights**

Upon completion of this offering, the holders of approximately 11,641,232 shares of our common stock will be eligible to exercise certain rights with respect to the registration of such shares under the Securities Act. In addition, we have granted ADM registration rights with respect to the ADM Shares. See "Description of Capital Stock — Registration Rights." Upon the effectiveness of a registration statement covering these shares, the shares would become freely tradable.

**UNDERWRITING**

The underwriters named below have agreed to buy, subject to the terms of the purchase agreement, the number of shares listed opposite their names below. Piper Jaffray is acting as book-running manager for the offering and together with Jefferies & Company, Inc., Thomas Weisel Partners LLC and Ardour Capital Investments, LLC is acting as representative of the underwriters. The underwriters are committed to purchase and pay for all of the shares if any are purchased other than those shares covered by the over-allotment option described below.

Underwriters	Number of Shares
Piper Jaffray & Co.	
Jefferies & Company, Inc.	
Thomas Weisel Partners LLC	
Ardour Capital Investments, LLC	
Total	

The underwriters have advised us that they propose to offer the shares to the public at \$ \_\_\_\_\_ per share. The underwriters propose to offer the shares to certain dealers at the same price less a concession of not more than \$ \_\_\_\_\_ per share. The underwriters may allow and the dealers may reallocate a concession of not more than \$ \_\_\_\_\_ per share on sales to certain other brokers and dealers. After this offering, these figures may be changed by the underwriters.

We have granted to the underwriters an option to purchase up to an additional \_\_\_\_\_ shares of common stock from us, at the same price to the public, and with the same underwriting discount, as set forth in the table above. The underwriters may exercise this option any time during the 30-day period after the date of this prospectus, but only to cover over-allotments, if any. To the extent the underwriters exercise the option, each underwriter will become obligated, subject to certain conditions, to purchase approximately the same percentage of the additional shares as it was obligated to purchase under the purchase agreement.

We estimate that the total fees and expenses payable by us, excluding underwriting discounts and commissions will be approximately \$2.3 million, which includes legal, accounting and printing costs and various other fees associated with registration and listing of our common stock. The following table shows the underwriting fees to be paid to the underwriters in connection with this offering. These amounts are shown assuming both no exercise and full exercise of the underwriters' over-allotment option.

	No Exercise	Full Exercise
Per share	\$ _____	\$ _____
Total	\$ _____	\$ _____

We have agreed to indemnify the underwriters against certain liabilities, including civil liabilities under the Securities Act, or to contribute to payments that the underwriters may be required to make in respect of those liabilities.

We and each of our directors, executive officers and certain of our shareholders have agreed to certain restrictions on our ability to sell additional shares of our common stock for a period of 180 days after the date of this prospectus. We have agreed not to directly or indirectly offer for sale, sell, contract to

sell, grant any option for the sale of, or otherwise issue or dispose of, any shares of common stock, options or warrants to acquire shares of common stock, or any related security or instrument, without the prior written consent of Piper Jaffray. The agreements provide exceptions for (1) sales to underwriters pursuant to the purchase agreement, (2) our sales in connection with the exercise of options granted and the granting of options to purchase up to an additional            shares under our existing stock option plans and (3) certain other exceptions.

The 180-day restricted period described in the preceding paragraph will be automatically extended if: (1) during the last 17 days of the 180-day restricted period we issue an earnings release or announce material news or a material event; or (2) prior to the expiration of the 180-day restricted period, we announce that we will release earnings results during the 16-day period following 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 earnings release or the announcement of the material news or material event.

Prior to this offering, there has been no established trading market for the common stock. The initial public offering price for the shares of common stock offered by this prospectus was negotiated by us and the underwriters. The factors considered in determining the initial public offering price include the history of and the prospects for the industry in which we compete, our past and present operations, our historical results of operations, our prospects for future earnings, the recent market prices of securities of generally comparable companies and the general condition of the securities markets at the time of this offering and other relevant factors. There can be no assurance that the initial public offering price of the common stock will correspond to the price at which the common stock will trade in the public market subsequent to this offering or that an active public market for the common stock will develop and continue after this offering.

To facilitate this offering, the underwriters may engage in transactions that stabilize, maintain or otherwise affect the price of the common stock during and after this offering. Specifically, the underwriters may over-allot or otherwise create a short position in the common stock for their own account by selling more shares of common stock than have been sold to them by us. The underwriters may elect to cover any such short position by purchasing shares of common stock in the open market or by exercising the over-allotment option granted to the underwriters. In addition, the underwriters may stabilize or maintain the price of the common stock by bidding for or purchasing shares of common stock in the open market and may impose penalty bids. If penalty bids are imposed, selling concessions allowed to syndicate members or other broker-dealers participating in this offering are reclaimed if shares of common stock previously distributed in this offering are repurchased, whether in connection with stabilization transactions or otherwise. The effect of these transactions may be to stabilize or maintain the market price of the common stock at a level above that which might otherwise prevail in the open market. The imposition of a penalty bid may also effect the price of the common stock to the extent that it discourages resales of the common stock. The magnitude or effect of any stabilization or other transactions is uncertain. These transactions may be effected on the NASDAQ Global Market or otherwise and, if commenced, may be discontinued at any time.

In connection with this offering, some underwriters may also engage in passive market making transactions in the common stock on the NASDAQ Global Market. Passive market making consists of displaying bids on the NASDAQ Global Market limited by the prices of independent market makers and effecting purchases limited by those prices in response to order flow. Rule 103 of Regulation M promulgated by the SEC limits the amount of net purchases that each passive market maker may make and the displayed size of each bid. Passive market making may stabilize the market price of the common stock at a level above that which might otherwise prevail in the open market and, if commenced, may be discontinued at any time.



From time to time in the ordinary course of their respective businesses, certain of the underwriters and their affiliates may in the future engage in commercial banking or investment banking transactions with us and our affiliates.

### **Directed Share Program**

At our request, Piper Jaffray has reserved for sale as part of the underwritten offering, at the initial public offering price, up to 5% of the total number of shares offered by this prospectus, for our directors, officers, employees, business associates and other persons with whom we have a relationship. The number of shares of common stock available for sale to the general public will be reduced to the extent such persons purchase such reserved shares. Any reserved shares that are not so purchased will be offered by the underwriters to the general public on the same basis as the other shares offered in this prospectus.

### **Notice to Prospective Investors**

In relation to each member state of the European Economic Area that 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, or the relevant implementation date, it has not made and will not make an offer of shares of our common stock to the public in this offering in that relevant member state prior to the publication of a prospectus in relation to such shares which have 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 our common stock to the public in that relevant member state at any time:

- to any legal entity that is authorized or regulated to operate in the financial markets or, if not so authorized or regulated, whose corporate purpose is solely to invest in securities;
- to any legal entity that 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 and (3) an annual net turnover of more than €50,000,000, as shown in its last annual or consolidated accounts;
- to fewer than 100 natural or legal persons (other than qualified investors as defined in the Prospectus Directive) subject to obtaining prior consent of the underwriters; or
- in any other circumstances that do not require the publication of a prospectus pursuant to Article 3 of the Prospectus Directive.

provided that no such offer of shares shall result in a requirement for the publication of a prospectus pursuant to Article 3 of the Prospectus Directive or any measure implementing the Prospectus Directive in a relevant member state and each person who initially acquires any share or to whom any offer is made under this offering will be deemed to have represented, acknowledged and agreed that it is a "qualified investor" within the meaning of Article 2(1)(e) of the Prospectus Directive.

For purposes of this provision, the expression an "offer to the public" 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 securities to be offered so as to enable an investor to decide to purchase or subscribe the securities, as the expression may be varied in that member state by any measure implementing the

Prospectus Directive in that member state, and the expression "Prospectus Directive" means Directive 2003/71/EC and includes any relevant implementing measure in each relevant member state.

We have not authorized and do not authorize the making of any offer of our common stock through any financial intermediary on our behalf, other than offers made by the underwriters with a view to the final placement of the common stock as contemplated in this prospectus supplement. Accordingly, no purchaser of our common stock, other than the underwriters, is authorized to make any further offer of our common stock on behalf of the sellers or the underwriters.

The shares have not been and will not be offered to the public within the meaning of the German Sales Prospectus Act (Verkaufsprospektgesetz) or the German Investment Act (Investmentgesetz). The shares have not been and will not be listed on a German exchange. No sales prospectus pursuant to the German Sales Prospectus Act has been or will be published or circulated in Germany or filed with the German Federal Financial Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht) or any other governmental or regulatory authority in Germany. This prospectus does not constitute an offer to the public in Germany and it does not serve for public distribution of the shares in Germany. Neither this prospectus, nor any other document issued in connection with this offering, may be issued or distributed to any person in Germany except under circumstances which do not constitute an offer to the public within the meaning of the German Sales Prospectus Act or the German Investment Act.

Each underwriter has represented, warranted and agreed that: (i) it has not offered or sold and, prior to the expiry of a period of six months from the closing date, will not offer or sell any shares to persons in the United Kingdom except to persons whose ordinary activities involve them in acquiring, holding, managing or disposing of investments (as principal or agent) for the purposes of their businesses or otherwise in circumstances which have not resulted and will not result in an offer to the public in the United Kingdom within the meaning of the Public Offers of Securities Regulations 1995; (ii) it has only communicated or caused to be communicated and will only communicate or cause to be communicated any invitation or inducement to engage in investment activity (within the meaning of section 21 of the Financial Services and Markets Act 2000, or FSMA) received by it in connection with the issue or sale of any shares in circumstances in which section 21(1) of the FSMA does not apply to our company and (iii) 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 offered pursuant to this prospectus will not be offered, directly or indirectly, to the public in Switzerland and this prospectus does not constitute a public offering prospectus as that term is understood pursuant to Article 652a or Article 1156 of the Swiss Federal Code of Obligations. We have not applied for a listing of the shares being offered pursuant to this prospectus on the SWX Swiss Exchange or on any other regulated securities market, and consequently, the information presented in this prospectus does not necessarily comply with the information standards set out in the relevant listing rules. The shares being offered pursuant to this prospectus have not been registered with the Swiss Federal Banking Commission as foreign investment funds, and the investor protection afforded to acquirers of investment fund certificates does not extend to acquirers of securities.

If you purchase shares of common stock offered in this prospectus, you may be required to pay stamp taxes and other charges under the laws and practices of the country of purchase, in addition to the offering price listed on the cover page of this prospectus.

## LEGAL MATTERS

Goodwin Procter LLP, Boston, Massachusetts, will pass upon the validity of the shares of common stock offered hereby. Latham & Watkins LLP, New York, New York, will pass upon certain legal matters relating to this offering for the underwriters. As at the date of this prospectus, Christopher J. Denn, a partner at Goodwin Procter LLP, is the beneficial owner of 4,387 shares of our common stock.

## EXPERTS

The financial statements as of December 31, 2005 and 2004 and for each of the three years in the period ended December 31, 2005 included in this prospectus have been so included in reliance on the report of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of such firm as experts in auditing and accounting.

## MARKET AND INDUSTRY DATA

Unless otherwise indicated, information contained in this prospectus concerning the plastics, fuels and biofuels markets and industries, including our general expectations and market position, market opportunity and market share, is based on information from independent industry analysts and third party sources and management estimates. Management estimates are derived from publicly available information released by independent industry analysts and third party sources, as well as data from our internal research, and are based on assumptions made by us based on such data and our knowledge of such industry and markets, which we believe to be reasonable. None of the sources cited in this prospectus has consented to the inclusion of any data from its reports, nor have we sought their consent. Our internal research has not been verified by any independent source, and we have not independently verified any third party information. In addition, while we believe the market position, market opportunity and market share information included in this prospectus is generally reliable, such data involves risks and uncertainties and are subject to change based on various factors, including those discussed under the heading "Risk Factors."

## WHERE YOU CAN FIND MORE INFORMATION

We have filed a registration statement on Form S-1 with the SEC for the stock we are offering by this prospectus. This prospectus does not include all of the information contained in the registration statement. You should refer to the registration statement and its exhibits for additional information. Whenever we make reference in this prospectus to any of our contracts, agreements or other documents, the references are not necessarily complete and you should refer to the exhibits filed as part of the registration statement for copies of the actual contract, agreement or other document. After this offering, we will file annual, quarterly and special reports, proxy statements and other information with the SEC.

You can obtain copies of our SEC filings, including the registration statement, over the Internet at the SEC's web site at [www.sec.gov](http://www.sec.gov). You may also read and copy any document we file with the SEC at its public reference facilities at 100 F Street, NE, Washington, DC 20549. You may also obtain copies of the documents at prescribed rates by writing to the Public Reference Section of the SEC at 100 F Street, NE, Washington, DC 20549. Please call the SEC at 1-800-SEC-0330 for further information on the operation of the public reference facilities.

You should rely on the information contained in this prospectus and in the registration statement as well as other information you deem relevant. We have not authorized anyone to provide you with

information different from that contained in this prospectus. This prospectus is an offer to sell, or a solicitation of offers to buy, securities only in jurisdictions where offers and sales are permitted. The information contained in this prospectus is accurate only as of the date of this prospectus, regardless of the time of delivery of this prospectus or any sale or exchange of securities. However, we have a duty to update that information while this prospectus is in use by you where, among other things, any facts or circumstances arise which, individually or in the aggregate, represent a fundamental change in the information contained in this prospectus or any material information with respect to the plan of distribution was not previously disclosed in the prospectus or there is any material change to such information in the prospectus. This prospectus does not offer to sell or solicit any offer to buy any securities other than the common stock to which it relates, nor does it offer to sell or solicit any offer to buy any of these securities in any jurisdiction to any person to whom it is unlawful to make such offer or solicitation in such jurisdiction.

METABOLIX, INC.

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**REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

To the Board of Directors and Stockholders of  
Metabolix, Inc.

The 0.8173-for-1 reverse stock split approved on September 20, 2006 described in Note 15 to the financial statements has not been consummated at September 20, 2006. When it has been consummated, we will be in a position to furnish the following report:

"In our opinion, the accompanying consolidated balance sheets and the related consolidated statements of operations, stockholders' equity (deficit) and cash flows present fairly, in all material respects, the financial position of Metabolix, Inc. and its subsidiary at December 31, 2004 and 2005, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2005 in conformity with accounting principles generally accepted in the United States of America. 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 of these statements 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. An audit 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."

/s/ PricewaterhouseCoopers LLP

Boston, Massachusetts  
June 26, 2006, (except for Note 14,  
as to which the date is July 25, 2006).

Metabolix, Inc.

Consolidated Balance Sheets

	December 31,		June 30, 2006	Pro Forma June 30, 2006
	2004	2005		
				(Unaudited)
<b>Assets</b>				
<b>Current assets</b>				
Cash and cash equivalents	\$ 3,151,673	\$ 1,834,632	\$ 15,224,914	\$ 15,224,914
Short-term investments	1,302,906	1,339,015	646,665	646,665
Restricted cash	497,486	496,367	498,129	498,129
Accounts receivable	26,675	30,000	—	—
Unbilled receivable	399,334	430,873	956,917	956,917
Other current assets	47,855	123,709	274,206	274,206
<b>Total current assets</b>	<b>5,425,929</b>	<b>4,254,596</b>	<b>17,600,831</b>	<b>17,600,831</b>
Property and equipment, net	1,383,799	3,005,472	3,535,791	3,535,791
Other assets	—	64,526	907,473	907,473
Investment in related party	700,000	—	—	—
<b>Total assets</b>	<b>\$ 7,509,728</b>	<b>\$ 7,324,594</b>	<b>\$ 22,044,095</b>	<b>\$ 22,044,095</b>
<b>Liabilities, Redeemable Convertible Preferred Stock and Stockholder' Equity (Deficit)</b>				
<b>Current liabilities</b>				
Accounts payable	\$ 1,494,883	\$ 1,299,356	\$ 1,300,529	\$ 1,300,529
Accrued expenses	725,616	830,704	1,423,252	1,423,252
Advances on financing from investors	2,000	614,994	—	—
Current portion of capital lease obligations	118,929	62,571	14,117	14,117
Current portion of deferred rent	165,470	165,470	165,469	165,469
Convertible promissory note	299,731	—	—	—
<b>Total current liabilities</b>	<b>2,806,629</b>	<b>2,973,095</b>	<b>2,903,367</b>	<b>2,903,367</b>
Capital lease obligations	60,694	—	—	—
Deferred rent	1,378,911	1,213,443	1,130,708	1,130,708
Long-term deferred revenue	3,000,000	5,620,808	6,258,286	6,258,286
Other long-term liabilities	—	66,218	68,548	68,548
<b>Total liabilities</b>	<b>7,246,234</b>	<b>9,873,564</b>	<b>10,360,909</b>	<b>10,360,909</b>
<b>Commitments and contingencies (Note 7)</b>				
Redeemable convertible preferred stock (Note 9)	39,234,609	44,008,906	61,442,480	—
<b>Stockholders' equity (deficit)</b>				
Common stock (\$0.01 par value per share); 23,000,000 shares authorized in 2004 and 2005 and 26,500,000 shares authorized in June 30, 2006; 1,808,641, 1,812,828 and 2,073,390 shares issued in 2004, 2005 and June 30, 2006, respectively; 1,798,017, 1,802,204 and 2,062,766 shares outstanding in 2004, 2005 and June 30, 2006, respectively; 12,065,433 and 12,054,809 shares issued and outstanding on a pro forma basis at June 30, 2006 (unaudited)	18,086	18,128	20,734	120,654
Treasury stock (at cost); 10,624 shares in 2004, 2005 and 2006	(35,100)	(35,100)	(35,100)	(35,100)
Additional paid-in capital	3,595,037	3,633,661	4,361,185	65,703,745
Deferred compensation	—	—	(43,313)	(43,313)
Accumulated deficit	(42,549,138)	(50,174,565)	(54,062,800)	(54,062,800)
<b>Total stockholders' equity (deficit)</b>	<b>(38,971,115)</b>	<b>(46,557,876)</b>	<b>(49,759,294)</b>	<b>11,683,186</b>
<b>Total liabilities, redeemable convertible preferred stock and stockholders' equity (deficit)</b>	<b>\$ 7,509,728</b>	<b>\$ 7,324,594</b>	<b>\$ 22,044,095</b>	<b>\$ 22,044,095</b>

The accompanying notes are an integral part of these consolidated financial statements.

## Consolidated Statements of Operations

	Years Ended December 31,			Six Months Ended June 30,	
	2003	2004	2005	2005	2006
	(Unaudited)				
<b>Revenue</b>					
Research and development revenue	\$ 120,430	\$ 96,875	\$ 106,462	\$ 31,387	\$ 2,502,450
License fee and royalty revenue					
From related parties	112,800	316,880	242,100	134,000	189,800
Other	—	75,000	—	—	—
Grant revenue	2,149,995	3,189,449	2,432,439	1,343,500	1,117,486
<b>Total revenue</b>	<b>2,383,225</b>	<b>3,678,204</b>	<b>2,781,001</b>	<b>1,508,887</b>	<b>3,809,736</b>
<b>Operating expenses</b>					
Research and development expenses, including cost of revenue	6,203,632	5,426,601	5,980,339	2,823,666	4,640,315
General and administrative expenses	2,692,105	3,251,800	3,825,303	2,077,846	3,397,257
<b>Total operating expenses</b>	<b>8,895,737</b>	<b>8,678,401</b>	<b>9,805,642</b>	<b>4,901,512</b>	<b>8,037,572</b>
Loss from operations	(6,512,512)	(5,000,197)	(7,024,641)	(3,392,625)	(4,227,836)
<b>Other income (expense)</b>					
Interest income	6,876	14,154	109,356	44,042	341,902
Interest expense	(134,430)	(68,468)	(10,142)	(11,904)	(2,301)
Loss on investment in related party	—	—	(700,000)	—	—
<b>Net loss</b>	<b>\$ (6,640,066)</b>	<b>\$ (5,054,511)</b>	<b>\$ (7,625,427)</b>	<b>\$ (3,360,487)</b>	<b>\$ (3,888,235)</b>
<b>Net loss per share</b>					
Basic and Diluted	\$ (3.33)	\$ (1.68)	\$ (2.56)	\$ (1.13)	\$ (1.30)
<b>Number of shares used in per share calculations</b>					
Basic and Diluted	1,991,106	3,009,137	2,975,116	2,973,441	2,987,860
<b>Pro forma net loss per share</b>					
Basic and Diluted (unaudited)			\$ (0.73)	\$	(0.31)
<b>Pro forma number of shares used in per share calculations</b>					
Basic and Diluted (unaudited)			10,391,929		12,729,420

The accompanying notes are an integral part of these consolidated financial statements.



## Consolidated Statements of Stockholders' Equity (Deficit)

	Common Stock		Treasury Stock		Additional Paid-in Capital	Deferred Compensation	Accumulated Deficit	Total
	Shares	Par value	Shares	Amount				
<b>Balance, December 31, 2002</b>	1,792,500	\$ 17,925	10,624	\$ (35,100)	\$ 2,080,349	\$ —	\$ (30,854,561)	\$ (28,791,387)
Issuance of common stock warrants in connection with Series I preferred stock financing					149,405			149,405
Issuance of common stock warrants in connection with Series J preferred stock financing					373,725			373,725
Issuance of common stock warrants in connection with an exchange of Series I preferred stock and cancellation of warrants for Series I-1 and Series J preferred stock					908,771			908,771
Exercise of common stock options	16,141	161			21,215			21,376
Stock-based compensation related to common stock options issued to nonemployees					123,554			123,554
Net loss							(6,640,066)	(6,640,066)
<b>Balance, December 31, 2003</b>	1,808,641	18,086	10,624	(35,100)	3,657,019	\$ —	(37,494,627)	(33,854,622)
Issuance of common stock warrants in connection with Series J preferred stock financing					66,140			66,140
Issuance of common stock warrants in connection with an exchange of Series I preferred stock for Series J preferred stock					41,730			41,730
Cancellation of 189,716 shares of common stock warrants in connection with the exchange of Series J-1 and Series 04 preferred stock					(218,774)			(218,774)
Stock-based compensation related to common stock options issued to nonemployees					48,922			48,922
Net loss							(5,054,511)	(5,054,511)
<b>Balance, December 31, 2004</b>	1,808,641	18,086	10,624	(35,100)	3,595,037	\$ —	(42,549,138)	(38,971,115)
Exercise of common stock options	4,187	42			11,602			11,644
Stock-based compensation related to common stock options issued to nonemployees					27,022			27,022
Net loss							(7,625,427)	(7,625,427)
<b>Balance, December 31, 2005</b>	1,812,828	18,128	10,624	(35,100)	3,633,661	\$ —	(50,174,565)	(46,557,876)
Exercise of common stock warrants (unaudited)	249,300	2,493			300,327			302,820
Exercise of common stock options (unaudited)	11,262	113			28,954			29,067
Stock-based compensation related to common stock options issued to nonemployees and employees (unaudited)					398,243	(43,313)		354,930
Net loss (unaudited)							(3,888,235)	(3,888,235)
<b>Balance, June 30, 2006 (Unaudited)</b>	2,073,390	\$ 20,734	10,624	\$ (35,100)	\$ 4,361,185	\$ (43,313)	\$ (54,062,800)	\$ (49,759,294)

The accompanying notes are an integral part of these consolidated financial statements.

## Consolidated Statements of Cash Flows

	Years Ended December 31,			Six Months Ended June 30,	
	2003	2004	2005	2005	2006
				Unaudited	
<b>Cash flows from operating activities</b>					
Net loss	\$ (6,640,066)	\$ (5,054,511)	\$ (7,625,427)	\$ (3,360,487)	\$ (3,888,235)
Adjustments to reconcile net loss to cash used in operating activities					
Depreciation	307,508	265,253	314,565	136,976	427,692
Stock-based compensation	123,554	48,922	27,022	2,154	354,969
Loss on investment in related party	—	—	700,000	—	—
Changes in operating assets and liabilities					
Accounts receivable	(36,848)	10,173	(3,325)	16,800	30,000
Unbilled receivable	(261,679)	180,477	(31,539)	(206,170)	(526,044)
Other current assets	(9,543)	(14,842)	(75,854)	(108,729)	(150,497)
Other assets	84,050	234,082	(64,526)	—	(842,947)
Accounts payable	928,774	(429,303)	(195,527)	(759,323)	1,173
Accrued expenses	473,126	(439,535)	105,088	617,709	594,878
Deferred rent	(30,270)	1,452,699	(165,469)	(82,735)	(82,736)
Deferred revenue	(84,050)	2,765,918	2,620,808	1,050,000	637,478
Net cash used in operating activities	(5,145,444)	(980,667)	(4,394,184)	(2,693,805)	(3,444,269)
<b>Cash flows from investing activities</b>					
Purchase of property and equipment	(35,182)	(1,324,397)	(1,870,019)	(53,764)	(958,012)
Restricted cash	—	(497,486)	1,119	3,241	(1,762)
Proceeds from maturity of short-term investments	—	—	1,287,521	—	17,585,098
Purchase of short-term investments	—	(1,302,906)	(1,323,630)	—	(16,892,787)
Net cash used in investing activities	(35,182)	(3,124,789)	(1,905,009)	(50,523)	(267,463)
<b>Cash flows from financing activities</b>					
Principal payments for capitalized lease obligations	(84,636)	(124,544)	(117,052)	(64,404)	(48,454)
Payments on convertible promissory note	(436,379)	(596,877)	(299,731)	(299,731)	—
Advances for financing from investors	—	—	612,994	—	—
Proceeds from issuance of redeemable convertible preferred stock and warrants, net of issuance costs	6,307,220	6,484,038	4,774,297	4,828,695	16,818,581
Proceeds from options exercised	21,376	—	11,644	6,413	29,067
Proceeds from warrants exercised	—	—	—	—	302,820
Net cash provided by financing activities	5,807,581	5,762,617	4,982,152	4,470,973	17,102,014
Net increase (decrease) in cash and cash equivalents	626,955	1,657,161	(1,317,041)	1,726,645	13,390,282
Cash and cash equivalents at beginning of period	867,557	1,494,512	3,151,673	3,151,673	1,834,632
Cash and cash equivalents at end of period	\$ 1,494,512	\$ 3,151,673	\$ 1,834,632	\$ 4,878,318	\$ 15,224,914
<b>Supplemental disclosure of cash flow information</b>					
Cash paid during the period for interest	\$ 93,635	\$ 35,233	\$ 10,141	\$ 5,169	\$ 2,301
<b>Supplemental disclosure of noncash activities</b>					
Equipment acquired under capital lease obligations	191,982	71,600	—	—	—
Conversion of advances from investors to preferred stock	—	—	—	—	(614,993)

The accompanying notes are an integral part of these consolidated financial statements.

Notes to Consolidated Financial Statements

(Information as of June 30, 2006  
and the six months ended  
June 30, 2006 and 2005  
is unaudited)

**1. Nature of Business**

Metabolix, Inc. (the "Company"), which began operations on June 19, 1992, uses advanced biotechnology to develop environmentally sustainable, economically attractive alternatives to petrochemical-based plastics, fuels and chemicals. Metabolix is a leader in applying the advanced tools of metabolic engineering and molecular biology to efficiently produce *PHA Natural Plastics* in microbial systems and directly in nonfood plant crops. In 2005 the Company determined that it is no longer a development stage enterprise due to the commencement of its principal operations, significant collaboration agreements and its revenue levels.

The Company has incurred losses since inception and expects to incur net operating losses and negative cash flows in the near term as expenditures for research and development and commercialization exceed its revenues. The Company plans to continue to seek additional financing and collaboration arrangements to fund operations. If the Company is unable to obtain cash from these sources at acceptable terms, management intends to reduce expenses so that it can continue to meet its obligations. There can be no assurance that the Company will be successful in raising additional funds or reducing spending to a sufficient level. The Company completed a preferred stock financing round in January 2006 (Note 9).

The Company is subject to risks common to companies in the biotechnology industry including, but not limited to, development by the Company's competitors of new technological innovations, dependence on key personnel, protection of proprietary technology, the need to obtain additional funding, and compliance with government regulations.

**2. Summary of Significant Accounting Policies**

**Unaudited Interim Financial Statements**

The consolidated financial statements and related notes of the Company for the six months ended June 30, 2005 and June 30, 2006, respectively, are unaudited. Management believes the unaudited consolidated financial statements have been prepared on the same basis as the audited consolidated financial statements and include all adjustments, consisting only of normal recurring adjustments, necessary for a fair statement of the financial position and results of operations in such periods. Results of operations for the six months ended June 30, 2006 are not necessarily indicative of the results that may be expected for the year ended December 31, 2006.

**Unaudited Pro Forma Presentation**

Unaudited pro forma net loss per share is computed using the weighted average number of common shares outstanding and warrants that can be issued with little or no consideration during the period, including the pro forma effects of automatic conversion of all outstanding redeemable convertible preferred stock into shares of the Company's common stock effective upon the assumed closing of the

Company's proposed initial public offering as if such conversion had occurred at the date of original issuance.

Upon the closing of the Company's initial public offering of securities, all of the outstanding shares of Series A, B, C, D, E, F, G, I-1, J-1, 04, and 05 convertible preferred stock will automatically convert on a one-for-0.8173 basis to 9,992,043 shares of the Company's common stock. The unaudited pro forma presentation of the balance sheet has been prepared assuming the conversion of the convertible preferred stock into common stock as of June 30, 2006.

### **Principles of Consolidation**

The consolidated financial statements include the accounts of the Company and its former wholly-owned subsidiary, Metabolix Canada. The subsidiary was closed during 2005. All significant intercompany transactions were eliminated.

### **Use of Estimates**

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting periods. Actual results could differ from those estimates.

### **Cash and Cash Equivalents**

The Company considers all highly liquid investments purchased with an original maturity date of ninety days or less at the date of purchase to be cash equivalents. Cash and cash equivalents consist of cash on deposit.

### **Short-Term Investments**

The Company considers all highly liquid investments with a maturity date of one year or less at the balance sheet date to be short-term investments. Short-term investments consist of certificates of deposit, for which the carrying amount approximates fair value as of December 31, 2004 and 2005. As of June 30, 2006, the Company held a corporate bond of \$646,665.

**Restricted Cash**

The Company has restricted cash consisting of a certificate of deposit supporting a letter of credit, of \$496,367 and \$498,129 at December 31, 2005 and June 30, 2006, respectively, in connection with its leased facility.

**Comprehensive Income (Loss)**

Statement of Financial Accounting Standards No. 130, *Reporting Comprehensive Income* ("SFAS No. 130"), requires that changes in comprehensive income be shown in the financial statements with the same prominence as other financial statements. For all periods presented the Company's net loss is equal to comprehensive loss and as a result separate disclosure is not necessary.

**Concentration of Credit Risk**

Financial instruments that potentially subject the Company to concentrations of credit risk primarily consist of cash and cash equivalents and short-term investments. The Company invests its excess cash and cash equivalents in interest bearing certificates of deposit of a major U.S. bank. Accordingly, management believes these investments are subject to minimal credit and market risk and are of high credit quality.

At December 31, 2004 and 2005, all of the Company's unbilled receivables were due under U.S. government grants and credit risk is considered minimal. Additionally, all grant revenues were related to U.S. government grants for all periods presented.

**Fair Value of Financial Instruments**

The carrying amounts of the Company's financial instruments as of December 31, 2004 and 2005, which include cash equivalents, accounts receivable, unbilled receivable, accounts payable, accrued expenses, promissory note and advances on financing from investors, approximate their fair values due to the short-term nature of these instruments.

**Segment Information**

Statement of Financial Accounting Standards No. 131, *Disclosures about Segments of an Enterprise and Related Information* ("SFAS 131"), establishes standards for reporting information on operating segments in interim and annual financial statements. The Company operates in one segment, which is the business of developing technologies for the production of polymers and chemicals in plants and in microbes. The chief operating decision-makers review the Company's operating results on a consolidated basis and manage operations as a single operating segment.

## Property and Equipment

Property and equipment are stated at cost less accumulated depreciation. Repairs and maintenance are charged to operations as incurred. Gains and losses on the disposition of equipment are recorded in net income or loss and the related cost and accumulated depreciation are removed from the respective accounts.

Depreciation is computed using the straight-line method over the estimated useful lives as follows:

	Estimated Useful Life
Equipment	2 <sup>1</sup> / <sub>2</sub> - 3 years
Furniture and Fixtures	5
Software	3
Capital leases and leasehold improvements	Shorter of life or term of lease

The Company accounts for operating lease incentive payments received from the lessor in accordance with Statement of Financial Accounting Standards No. 13, *Accounting for Leases* ("SFAS 13"). Under SFAS 13, leasehold improvements made by a lessee that are funded by landlord incentives or allowances under an operating lease should be recorded by the lessee as leasehold improvement assets and amortized over the shorter of their economic lives or the lease term. The Company records landlord incentive received as deferred rent and amortizes those amounts as reductions to lease expense over the lease term.

## Impairment of Long-Lived Assets

The Company accounts for the impairment and disposal of long-lived assets utilizing Statement of Financial Accounting Standards No. 144, *Accounting for the Impairment or Disposal of Long-Lived Assets* ("SFAS 144"). SFAS 144 requires that long-lived assets, such as property, plant and equipment, and purchased intangible assets subject to amortization, be reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. SFAS No. 144 further refines the requirements of Statement of Financial Accounting Standards No. 121, *Accounting for the Impairment of Long-Lived Assets and Long-Lived Assets to be Disposed of* ("SFAS No. 121"), that companies (1) recognize an impairment loss only if the carrying amount of a long-lived asset is not recoverable based on its undiscounted future cash flows and (2) measure an impairment loss as the difference between the carrying amount and fair value of the asset.

## Redeemable Convertible Preferred Stock

The preferred stock contains certain redemption features that are considered outside the control of the Company, including redemption upon a change in control. Therefore the Company presents

redeemable convertible preferred stock as temporary equity in the mezzanine level of the consolidated balance sheet.

### **Research and Development Expenses**

All costs associated with internal research and development as well as research and development services conducted for others are expensed as incurred. Research and development expenses include direct costs for salaries, employee benefits, subcontractors, facility related expenses, depreciation and stock-based compensation related to employees and non-employees involved in the company's research and development. Costs related to revenue-producing contracts are recorded as research and development expenses.

### **Revenue Recognition**

The Company recognizes revenue in accordance with the Staff Accounting Bulletin No. 104, *Revenue Recognition* ("SAB 104"), and Emerging Issues Task Force (EITF) Issue No. 00-21, *Revenue Arrangements with Multiple Deliverables*, for all revenue transactions entered into in fiscal periods beginning after June 15, 2003. Principal sources of revenue are government grants, license fees, royalty revenues and research and development payments that are primarily derived from collaborative agreements with other companies.

The Company's research and development revenue includes research services and delivery of specified materials or sample product produced resulting from the research services and revenue is recognized upon completion of the related services.

Fees to license the use of the Company's proprietary and licensed technologies in research performed by the customer are recognized only after both the license period has commenced and the technology has been delivered. Royalty revenue is recognized when it becomes determinable and collectibility is reasonably assured, otherwise the Company recognizes revenue upon receipt of payment.

The Company analyzes its multiple element arrangements to determine whether the elements can be separated and accounted for individually as separate units of accounting in accordance with EITF No. 00-21. The Company recognizes up-front license payments or technology access fees as revenue if the license or access fee has stand-alone value and the fair value of the undelivered items can be determined. If the license is considered to have stand-alone value but the fair value of any of the undelivered services or items cannot be determined, the license payments are initially deferred and recognized as revenue over the period of performance of undelivered services or as undelivered items are delivered.

Revenue from milestone payments related to arrangements under which the Company has continuing performance obligations are recognized as revenue upon achievement of the milestone only if all of the following conditions are met: the milestone payments are nonrefundable; achievement of the milestone was not reasonably assured at the inception of the arrangement; substantive effort is involved in achieving the milestone; and the amount of the milestone is reasonable in relation to the effort expended or the risk associated with the achievement of the milestone. If any of these conditions are not met, the milestone payments are deferred and recognized as revenue over the term of the arrangement as the Company completes its performance obligations.

Government research grants that provide for payments to the Company for work performed are recognized as revenue when the related expense is incurred and the Company has obtained governmental approval to use the grant funds for agreed upon budgeted expenses. Government grant revenue is earned as research expenses related to the grants are incurred.

### **Intellectual Property Costs**

The Company includes all costs associated with the prosecution and maintenance of patents within general and administrative expenses in the consolidated statement of operations.

### **Stock-Based Compensation**

Prior to January 1, 2006, as permitted by Statement of Financial Accounting Standards No. 123, *Accounting for Stock-Based Compensation* ("SFAS No. 123"), the Company accounted for its stock-based awards to employees and directors using the intrinsic value method prescribed in Accounting Principles Board Opinion No. 25 ("APB No. 25"), *Accounting for Stock Issued to Employees*, and related interpretations. The Company recognizes compensation expense for stock options granted to nonemployees in accordance with the requirements of SFAS No. 123 and Emerging Issues Task Force ("EITF") Issue No. 96-18, *Accounting for Equity Instruments that Are Issued to Other than Employees for Acquiring, or in Conjunction with Selling, Goods or Services* ("EITF 96-18"). EITF 96-18 requires that such equity instruments be recorded at their fair value at the measurement date, which is generally the vesting date of the instruments. Therefore, the measurement of stock-based compensation is subject to periodic adjustments as the underlying equity instruments vest.

On January 1, 2006, the Company adopted Statement of Financial Accounting Standards No. 123(R), *Share-Based Payments* ("SFAS No. 123(R)"). Under the provisions of SFAS No. 123(R), compensation cost recognized for the six months ended June 30, 2006 includes compensation cost for all share-based payments granted subsequent to January 1, 2006, based on the grant-date fair value estimated in accordance with the provisions of SFAS No. 123(R) and will be recognized over the vesting period of the applicable award on a straight-line basis. The effect of adopting SFAS No. 123(R) for the six months ended June 30, 2006 was an increase in net loss by \$88,801 and a \$0.03 increase to basic and



diluted net loss per share. There is no expense recorded for options which were granted prior to January 1, 2006 under the minimum value method and with an exercise price equal to the fair value of common stock and that had a fixed measurement date at the time of grant.

Had compensation expense been determined based on the fair value of the options at the grant date consistent with the provisions of SFAS No. 123, the Company's net loss would have increased to the pro forma amounts below:

	Years Ended December 31,		
	2003	2004	2005
Net loss as reported	\$ (6,640,066)	\$ (5,054,511)	\$ (7,625,427)
Add stock-based employee compensation expense included in reported net loss	—	—	—
Deduct stock-based employee compensation expense determined under fair value method	(80,316)	(32,264)	(106,255)
Net loss — pro forma	\$ (6,720,382)	\$ (5,086,775)	\$ (7,731,682)
Net loss per share, as reported			
Basic and Diluted	\$ (3.33)	\$ (1.68)	\$ (2.56)
Pro forma net loss per share			
Basic and Diluted	\$ (3.38)	\$ (1.69)	\$ (2.60)
Number of shares used in per share calculations			
Basic and Diluted	1,991,106	3,009,137	2,975,116

Pursuant to the requirements of SFAS No. 123, for the three years ended December 31, 2005 the Company had estimated the fair value of its stock options, by applying the minimum value method which does not consider expected volatility of the underlying stock using the following assumptions and for the six months ended June 30, 2006, the Company determined the fair value of stock options using the Black-Scholes option pricing model with the following assumptions for option grants, respectively:

	Years Ended December 31,			Six Months Ended June 30, 2006
	2003	2004	2005	
Expected dividend yield	—	—	—	—
Risk-free interest rate	3.77%	4.08%	4.22%	4.89%
Expected option term (in years)	5	5	5	6.1
Volatility	—	—	—	75%

For the six months ended June 30, 2006, expected volatility is based on review of historical volatilities for similar companies as adjusted to anticipate increased expected volatility associated with being a newly public company. Management believes that the historical volatility of the Company's stock price does not best represent the expected volatility of the stock price.

The risk-free interest rate used for each grant is equal to the U.S. Treasury yield curve in effect at the time of grant for instruments with a similar expected life.

## 2. Summary of Significant Accounting Policies (Continued)

For the period ended June 30, 2006, the expected term of the options granted was determined using the "simplified" method for "plain vanilla" options as permitted by Staff Accounting Bulletin No. 107.

The stock price volatility and expected terms utilized in the calculation involve management's best estimates at that time, both of which impact the fair value of the option calculated under the Black-Scholes methodology and, ultimately, the expense that will be recognized over the life of the option. SFAS 123R also requires that the Company recognize compensation expense for only the portion of options that are expected to vest. Therefore, the Company has estimated expected forfeitures of stock options for the grants valued. In developing a forfeiture rate estimate, the Company considered its historical experience, its growing employee base and the limited liquidity of its common stock. If the actual number of forfeitures differs from those estimated by management, additional adjustments to compensation expense may be required in future periods.

### Earnings per Share

Basic net loss per share is computed by dividing net loss by the weighted-average number of shares of common stock outstanding and warrants outstanding that were previously issued for little or no consideration, excluding the dilutive effects of common stock equivalents. Common stock equivalents include stock options, certain warrants and convertible securities. Diluted net income per share assumes the conversion of all outstanding shares of redeemable convertible preferred stock using the "if converted" method, if dilutive, and includes the dilutive effect of common stock equivalents under the treasury stock method.

The number of shares of potentially dilutive common stock related to redeemable convertible preferred stock, options and warrants that were excluded from the calculation of dilutive shares since the inclusion of such shares would be anti-dilutive for the years ended December 31, 2003, 2004, 2005, and the periods ended June 30, 2005 and 2006 are shown below:

	2003	2004	2005	Six Months Ended June 30,	
				2005	2006
				(Unaudited)	(Unaudited)
Redeemable convertible preferred stock	4,600,314	6,875,186	7,605,556	7,605,556	9,992,043
Common stock options	681,322	762,635	2,036,982	1,067,377	2,285,167
Common stock warrants	789,444	939,150	939,150	939,150	830,911
	6,071,080	8,576,971	10,581,688	9,612,083	13,108,121

## Foreign Currency Translation

The financial statements of the Company's former wholly-owned Canadian subsidiary which ceased to exist during 2005, were remeasured using the U.S. dollar as the functional currency. Monetary assets and liabilities were translated using the current exchange rate. Nonmonetary assets and liabilities are remeasured using historical exchange rates. Revenue and expenses were remeasured using average exchange rates for the period, except for items related to nonmonetary assets and liabilities, which are translated using historical exchange rates. All remeasurement gains and losses were included in determining net loss for the period in which exchange rates change and were immaterial for all years presented.

## Income Taxes

The Company follows the provisions of Statement of Financial Accounting Standards No. 109, *Accounting for Income Taxes* ("SFAS No. 109"). SFAS No. 109 requires recognition of deferred tax assets and liabilities for the expected future tax consequences of events that have been included in the financial statements or tax returns. Under this method, deferred tax assets and liabilities are determined based on the difference between the financial statement and tax basis of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to reverse. A valuation allowance is provided to reduce the deferred tax asset to a level which, more likely than not, will be realized.

## Recent Accounting Pronouncements

In December 2004, the Financial Accounting Standards Board ("FASB") issued SFAS No. 123(R), which replaces SFAS No. 123 and supersedes APB No. 25. SFAS No. 123(R) which requires all share-based payments to employees, including grants of employee stock options, to be recognized in the statement of operations based on their fair values. The Company implemented SFAS No. 123(R) in the reporting period beginning January 1, 2006, which resulted in a material effect on its stock compensation expense for the period ended June 30, 2006. The Company expects stock compensation expense to materially increase in future periods as a result of the adoption of this standard and future possible stock grant activity.

In April 2005, the FASB issued FASB Interpretation No. 47, *Accounting for Conditional Asset Retirement Obligations—an interpretation of FASB Statement No. 143* (FIN No. 47). FIN No. 47 expands on the accounting guidance of Statement of Financial Accounting Standards No. 143, *Accounting for Asset Retirement Obligations* (SFAS No. 143), providing clarification of the term, conditional asset retirement obligation, and guidelines for the timing of recording the obligation. The interpretation is effective for fiscal years ending after December 15, 2005. The Company adopted FIN No. 47 and has recorded a long-term liability for its asset retirement obligations of \$66,218 and an

associated non-current asset of \$64,615 at December 31, 2005 which represents the contractual obligations associated with the potential removal of a leasehold addition constructed during 2005.

In May 2005, the FASB issued Statement of Financial Accounting Standards No. 154, *Accounting Changes and Error Corrections*, a replacement of APB Opinion No. 20, *Accounting Changes*, and FASB issued Statement of Financial Accounting Standards No. 3, *Reporting Accounting Changes in Interim Financial Statements* ("SFAS No. 154"). SFAS No. 154 requires retrospective application to prior period financial statements of changes in accounting principle, unless it is impracticable to determine either the period-specific effects or the cumulative effect of the change. This statement requires that retrospective application of a change in accounting principle be limited to the direct effects of a change. SFAS 154 is effective for accounting changes and corrections of errors made in fiscal years beginning after December 15, 2005.

In July, 2006 the FASB issued Financial Accounting Standards Interpretation No. (FIN) 48, *Accounting for Uncertainty in Income Taxes*. FIN 48 clarifies the accounting for uncertainty in income taxes recognized in an enterprises' financial statements in accordance with SFAS No. 109. FIN 48 prescribes a recognition threshold and measurement attributable for the financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. FIN 48 also provides guidance on derecognition, classification, interest and penalties, accounting in interim periods, disclosures and transitions. FIN 48 is effective for fiscal years beginning after December 15, 2006. The adoption of this statement is not expected to have a material impact on the Company's consolidated financial position or results of operations.

### **Statement of Cash Flows**

As of June 30, 2006, Other Assets include \$882,473 of deferred costs associated with our initial public offering of common stock, of which \$598,560 were paid and reflected as a use of cash from operating activities in the cash flow statement for the six month period then ended.

### **3. Significant Collaborations**

#### **ADM Agreement**

On November 3, 2004, the Company signed an agreement with ADM Polymer Corporation ("ADM"), a subsidiary of Archer Daniels Midland Company, to establish an alliance whereby the Company would provide technology and licenses thereto and research and development services, and ADM would provide manufacturing services and capital necessary to produce *PHA Natural Plastics* on a commercial scale basis. This agreement was amended by the parties on September 8, 2005 to define certain cost sharing activities related to pilot manufacturing, to change certain milestones and make

other minor modifications. The arrangement is comprised of two primary agreements: (1) the Technology Alliance and Option Agreement and (2) the Commercial Alliance Agreement.

### ***Technology Alliance and Option Agreement***

The goal of the Technology Alliance and Option Agreement is to demonstrate the capabilities of the Company's fermentation and recovery technologies at commercial scale and to prepare a master plan and budget for the construction of a 50,000 ton commercial manufacturing facility, which would provide the basis for entering into the Commercial Alliance Agreement.

The Technology Alliance and Option Agreement provides ADM with an option (the "Option") to enter into a commercial alliance for further research, development, manufacture, use and sale of *PHA Natural Plastics* on the terms and conditions set forth in the Commercial Alliance Agreement (see below). The Option is exercisable by ADM under certain conditions at any time until 30 days after the expiration of the term of the Technology Alliance and Option Agreement. This Agreement was scheduled to expire on October 6, 2006. On July 12, 2006, ADM exercised the Option (see Note 14).

Under the Technology Alliance and Option Agreement, ADM made a nonrefundable, noncreditable upfront payment of \$3,000,000 to the Company in 2004. In May 2006, the Company received a \$2,000,000 payment from ADM in recognition of achieving certain technical goals under the Technology Alliance and Option Agreement (unaudited). Due to future obligations of the Company under the agreements for which fair value cannot be determined, including the requirement to provide research and development activities and recovery services under the Technology Alliance and Option Agreement and certain manufacturing services, including formulation, and sales and marketing activities and other services under the Commercial Alliance Agreement (as discussed below), the entire upfront payment and milestone payment received have been recorded as deferred revenue. The Company's policy is to expense, as period costs, the direct and incremental costs incurred associated with this collaboration.

In connection with the 2005 amendment, ADM agreed to reimburse the Company for one-half of certain costs incurred by the Company related to the Company's establishment of pilot manufacturing capabilities. If the Technology Alliance was terminated without ADM exercising its Option to enter into a commercial alliance, the Company would have been required to refund to ADM a portion of these reimbursements. Amounts reimbursed in 2005 and during the six month period ended June 30, 2006, totaled approximately \$620,000 and \$587,000, respectively, and have been recorded as deferred revenue.

Revenue recognition for amounts deferred through June 30, 2006 are expected to commence approximately at the time of the first commercial sale of *PHA Natural Plastics* (see Commercial

Alliance Agreement below) and amounts will be recognized proportionately over the period that the final services are provided over the remaining term of the Commercial Alliance Agreement.

### **Commercial Alliance Agreement**

The Commercial Alliance Agreement specifies the terms and structure of the relationship between the Company and ADM once the Option is exercised by ADM. As of December 31, 2005 and June 30, 2006, the Option had not been exercised (see Note 14). The primary goal of this agreement is to establish the activities and obligations of the Company and ADM by which the parties will commercialize *PHA Natural Plastics*. These activities include: the establishment of a Joint Sales Company (JSC) to market and sell *PHA Natural Plastics*, the construction of a manufacturing facility capable of producing 50,000 tons of material annually, the licensing of technology to the JSC and to ADM, and the conducting of various research, development, manufacturing, sales and marketing, formulation and administrative services by the parties.

The JSC will be a limited liability company, formed and equally owned by the Company and ADM, and is intended to: (i) serve as the commercial entity to establish and develop the commercial market for the *PHA Natural Plastics*, and conduct the marketing and sales in accordance with the goals of the commercial alliance, (ii) assist in the coordination and integration of the manufacturing, formulation and marketing activities, and (iii) administer and account for financial matters on behalf of the parties. The Company and ADM will each have 50% equity and voting interest in the JSC.

A summary of the key activities under this agreement is as follows: (i) ADM will arrange for and finance the construction of a facility in which it will manufacture *PHA Natural Plastics* under contract to the JSC; (ii) the Company will either arrange for and finance the acquisition or construction of a facility in which it will formulate PHA materials or it will arrange for third parties to formulate the *PHA Natural Plastics*; (iii) the Company, acting in the name and on behalf of the JSC, will establish the initial market for the *PHA Natural Plastics*. The Company will also continue its research and development efforts to further advance the technology and expand and enhance the commercial potential of PHA materials. Subject to certain limitations, ADM will finance the working capital requirements of the JSC.

The JSC will make up to twelve payments of \$1,575,000 per calendar quarter to the Company to support these activities during the construction of the Commercial Manufacturing Facility. In the event construction is completed and sale of commercial product commences prior to the JSC making all twelve such payments, the quarterly payments will cease, and the JSC will pay the Company a lump sum equal to the number of remaining unpaid payments multiplied by \$250,000.

Upon the commencement of commercial sales, the JSC will pay the Company royalties on sales as well as reimburse it for the cost of services provided pursuant to the agreement.

While the JSC will be a fifty-fifty joint venture, ADM will be advancing a disproportionate share of the financial capital needed to construct the manufacturing plant and to fund the activities of the JSC. Therefore, a preferential distribution of cash flow will be used, whereby all profits (after payment of all royalties, reimbursements and fees) from the JSC shall be distributed to ADM until ADM's disproportionate investment in the JSC has been returned in full. Once ADM has recouped such amounts, the profits of the JSC shall be distributed in equal amounts to the parties.

The Commercial Alliance Agreement provides for expansion of the operations of the JSC beyond the initial license of 50,000 tons annual production through an equally owned joint venture. While certain principles of the joint venture have been agreed to, the detailed terms and conditions will not be determined until a later date.

The agreements include detailed provisions setting out the rights and obligations of the parties in the event of a termination of the Commercial Alliance. These provisions include the right for parties to terminate the Commercial Alliance upon a material default of a material obligation by the other party after a notice and cure period has expired. The parties are also permitted to terminate the Commercial Alliance if a change in circumstances that is not reasonably within the control of a party makes the anticipated financial return from the project inadequate or too uncertain. Finally, the parties have specific obligations to fulfill in the event of termination or if they file for bankruptcy protection.

#### **BP America Production Company**

On February 14, 2005, the Company signed a joint development agreement with BP America Production Company ("BP") to advance the Company's technology for producing PHA polymers in plants and to conduct an evaluation of the potential for using PHA producing plants in a biomass to energy system. In exchange for the Company completing certain research and development activities, the agreement provided for BP to pay the Company \$500,000 at the start of each calendar quarter during the term of the agreement with the first two such payments due within five days of the effective date of the agreement. The Company received \$2,000,000 in 2005 related to this agreement. Due to these amounts being applicable for determining BP's equity participation in a potential future joint venture between the parties, these amounts were recorded as deferred revenue at December 31, 2005.

In January 2006, the Company received notice of termination from BP with respect to the joint development agreement and as a result, there will no longer be any continuing obligations from either party. During the six months ended June 30, 2006, the Company recognized \$2,500,000 in revenue from the BP arrangement, consisting of the \$2,000,000 of deferred revenue and the \$500,000 final payment due under the arrangement, which was received in June 2006 (unaudited).

#### 4. Property and Equipment

Property and equipment consist of the following:

	December 31,		June 30,
	2004	2005	2006
			(Unaudited)
Equipment	\$ 1,810,395	\$ 2,011,264	\$ 2,207,285
Equipment under lease	342,539	249,030	188,950
Furniture and Fixtures	21,071	24,255	55,542
Leasehold improvements	1,284,020	3,104,947	3,894,059
Software	19,773	22,938	22,938
Total property and equipment, at cost	3,477,798	5,412,434	6,368,774
Less: Accumulated depreciation	(2,093,999)	(2,406,962)	(2,832,983)
Property and equipment, net	\$ 1,383,799	\$ 3,005,472	\$ 3,535,791

Depreciation expense for the six months ended June 30, 2005 and 2006 and for the years ended December 31, 2003, 2004 and 2005 was \$136,976 (unaudited), \$427,692 (unaudited), \$307,508, \$265,253 and \$312,964, respectively. Accumulated depreciation for equipment acquired under capital leases was \$225,964 and \$200,750, respectively, as of December 31, 2004 and 2005.

During 2004 the Company received a lease incentive payment of \$1,521,045 from its lessor for leasehold improvements. In accordance with SFAS No. 13, the Company has recorded the leasehold improvements as an asset and is amortizing them over their useful life, along with a corresponding deferred rent liability that will be amortized as a reduction of lease expense over the remaining term of the lease.

#### 5. Convertible Promissory Note

In conjunction with the purchase of certain technology in 2001, the Company issued a promissory note in the amount of \$2,000,000. The note accrued interest beginning January 2002 at a rate of 10% per annum, through March 2005. Payments due on the promissory note were due in quarterly installments of \$142,857 through March 2005. At December 31, 2005, the convertible promissory note had been repaid in full.



## 6. Accrued Expenses

Accrued expenses consist of the following:

	December 31,		June 30,
	2004	2005	2006
			(Unaudited)
Intellectual property costs	\$ 111,938	\$ 92,104	\$ 105,459
Contracted research and development	31,805	126,259	9,383
Professional services	299,128	497,295	561,470
Tolling fees	—	—	220,000
Other	282,745	115,046	526,940
Total accrued expenses	\$ 725,616	\$ 830,704	\$ 1,423,252

## 7. Commitments and Contingencies

### Leases

The Company leases its facility under an operating lease, which expires in May 2014. The Company leases equipment under capital leases with various rates of interest, ranging from 10.07% to 15.71%, with expiration dates through August 2006. All commitments are collateralized by equipment under lease. Rental payments under operating leases for the years ended December 31, 2003, 2004 and 2005, were \$484,003, \$590,169 and \$834,148, respectively. The deferred rent liability recorded on the balance sheet includes the unamortized balance of the landlord incentive payments and the cumulative difference between actual facility lease payments and lease expense recognized ratably over the operating lease period. At December 31, 2005, the Company's future minimum payments required under operating and capital leases are as follows:

	Operating	Capital
2006	\$ 988,185	\$ 65,001
2007	988,185	—
2008	988,185	—
2009	988,185	—
2010	988,185	—
2011 and thereafter	3,443,948	—
Total commitments and contingencies	\$ 8,384,873	65,001
Less: Amount representing interest		(2,430)
Present value of minimum lease payments		62,571
Less: Current portion		(62,571)
Capital leases — long term		\$ —

## **Patent Action**

The Procter & Gamble Company ("P&G") filed a nullity action on March 8, 2005 in Germany seeking to revoke the German equivalent of one of the Company's patents. The patent is licensed by the Massachusetts Institute of Technology ("MIT") exclusively to the Company. The Company is controlling the response to the nullity action, at the Company's expense, with MIT's cooperation.

The Company believes this nullity action is without merit and intends to vigorously defend this patent. The Company is unable to determine the potential outcome at this time and has not reserved for any potential liability in this matter at either December 31, 2005 or June 30, 2006.

## **Funded Research Arrangements**

The Company has entered into various arrangements with universities and other unrelated third parties to perform certain research and development activities. As of June 30, 2006, the Company has committed funding of approximately \$299,491 to these universities and unrelated parties. Certain of these arrangements also contain provisions for future royalties to be paid by the Company on sales of products developed under the arrangements. The Company has the right in most arrangements to terminate the relationship by giving written notice, after which the Company would be liable for services rendered to date under the arrangement.

## **License Agreement with Massachusetts Institute of Technology ("MIT")**

The Company's exclusive license agreement with MIT requires the Company to pay annual license fees of \$25,000 and additional potential royalty payments to MIT based on a percentage of net sales of products or services covered by a patent that is subject to the license. There are no material license fees or royalties accrued at December 31, 2004, 2005 and approximately \$27,000 accrued at June 30, 2006.

## **8. Related Party Transactions**

### **Tepha, Inc.**

During 1999, the Company entered into a sublicense agreement with Tepha, Inc. ("Tepha"), to sublicense technology to Tepha. The Company's director, Dr. Williams, is the president, chief executive officer and a director of Tepha. In addition, the Company directors Messrs. Muller and Giles and Dr. Sinsky serve on the Board of Directors of Tepha. The agreement with Tepha contains provisions for sublicense maintenance fees to be paid to the Company upon Tepha achieving certain financing milestones and for product related milestone payments. Under the agreement, the Company will also

receive royalties on net sales of licensed products or sublicensing revenues received by Tephra, subject to a minimum payment each year.

In December 2002, the Company amended this agreement to provide that \$800,000 of Tephra's payment obligation pursuant to the agreement became payable in both cash and equity. In October 2002, Tephra paid the Company \$100,000 and the balance of the payment obligation was satisfied in December 2002 through the issuance of 648,149 shares of Tephra's Series A redeemable convertible preferred stock. The Company licensed or sublicensed additional technology to Tephra in subsequent periods. The Company recognized license and royalty revenues of \$112,800, \$316,880, \$242,100 and \$189,800 from Tephra for the years ended December 31, 2003, 2004, 2005 and six months ended June 30, 2006 (unaudited), respectively.

The Company reviewed the preferred stock investment in Tephra for other than temporary impairment in accordance with Statement of Financial Accounting Standard No. 115, *Accounting for Certain Investments in Debt and Equity Securities* ("SFAS No. 115") and determined that at December 31, 2005, its investment was fully impaired based on its current fair value and, therefore, recorded an asset impairment charge of \$700,000 in 2005.

#### **ADM**

The Company's collaborative partner ADM made a \$5,000,000 investment in the Company as part of the Series 05 redeemable convertible preferred stock issuance in January 2006 (Note 9). ADM makes various payments to the Company under the collaborative agreements signed during November 2004 and July 2006 (Notes 3 and 14.)

#### **Dr. ChoKyun Rha**

The Company retained Dr. ChoKyun Rha, a related party, to serve as an advisor for the purpose of building and managing business relationships in Asia. Dr. Rha is the spouse of a director of the Company. In consideration for Dr. Rha's services, on September 20, 2005, the Company granted her a nonqualified stock option for the purchase of 16,346 shares of the Company's common stock, vesting over a period of four years, with an exercise price of \$1.65 per share, which was the fair market value per share of the common stock at the date of grant of the option (Note 11).

## 9. Redeemable Convertible Preferred Stock

At December 31, 2005 the total number of shares of all classes of stock which the Company had authorization to issue was 41,600,000, consisting of 18,600,000 shares of \$0.01 par value preferred stock, and 23,000,000 shares of \$0.01 par value common stock.

Redeemable convertible preferred stock consists of the following at December 31:

2003				
	Number of Shares Authorized	Shares Outstanding	Liquidation Preference	Carrying Value
Series A preferred stock	1,033,000	1,033,000	\$ 1,177,620	\$ 1,177,279
Series B preferred stock	396,000	396,000	633,600	633,600
Series C preferred stock	785,000	785,000	1,884,000	1,884,000
Series D preferred stock	733,000	733,000	3,371,800	3,374,732
Series E preferred stock	420,751	420,751	4,544,111	4,515,903
Series F preferred stock	186,899	186,899	2,018,509	2,018,509
Series G preferred stock	312,119	312,119	3,370,885	3,370,885
Series H preferred stock	300,000	—	—	—
Series I preferred stock	1,437,945	36,918	398,714	335,220
Series I-1 preferred stock	1,437,945	192,147	2,075,188	1,800,000
Series J preferred stock	1,837,945	1,532,954	16,555,903	13,529,539
Series J-1 preferred stock	1,837,945	—	—	—
	<u>10,718,549</u>	<u>5,628,788</u>	<u>\$ 36,030,330</u>	<u>\$ 32,639,667</u>
2004				
	Number of Shares Authorized	Shares Outstanding	Liquidation Preference	Carrying Value
Series A preferred stock	1,033,000	1,033,000	\$ 1,177,620	\$ 1,177,279
Series B preferred stock	396,000	396,000	633,600	633,600
Series C preferred stock	785,000	785,000	1,884,000	1,884,000
Series D preferred stock	733,000	733,000	3,371,800	3,374,732
Series E preferred stock	420,751	420,751	4,544,111	4,515,903
Series F preferred stock	186,899	186,899	2,018,509	2,018,509
Series G preferred stock	312,119	312,119	3,370,885	3,370,885
Series H preferred stock	300,000	—	—	—
Series I-1 preferred stock	192,147	192,147	2,075,188	1,800,000
Series J preferred stock	1,627,242	—	—	—
Series J-1 preferred stock	1,627,242	2,000	21,600	19,010
Series 04 preferred stock	4,458,188	4,351,250	23,496,750	20,440,691
Series 04-1 preferred stock	4,458,188	—	—	—
	<u>16,529,776</u>	<u>8,412,166</u>	<u>\$ 42,594,063</u>	<u>\$ 39,234,609</u>

	Number of Shares Authorized	Shares Outstanding	Liquidation Preference	Carrying Value
Series A preferred stock	1,033,000	1,033,000	\$ 1,177,620	\$ 1,177,279
Series B preferred stock	396,000	396,000	633,600	633,600
Series C preferred stock	785,000	785,000	1,884,000	1,884,000
Series D preferred stock	733,000	733,000	3,371,800	3,374,732
Series E preferred stock	420,751	420,751	4,544,111	4,515,903
Series F preferred stock	186,899	186,899	2,018,509	2,018,509
Series G preferred stock	312,119	312,119	3,370,885	3,370,885
Series H preferred stock	300,000	—	—	—
Series I-1 preferred stock	192,147	192,147	2,075,188	1,800,000
Series J preferred stock	1,627,242	—	—	—
Series J-1 preferred stock	1,627,242	2,000	21,600	19,010
Series 04 preferred stock	5,458,188	5,244,902	28,322,471	25,214,988
Series 04-1 preferred stock	5,458,188	—	—	—
	18,529,776	9,305,818	\$ 47,419,784	\$ 44,008,906

At June 30, 2006, the total number of shares of all stock which the Company has authorized to issue is 47,400,000 (unaudited), consisting of 20,900,000 (unaudited) shares of \$0.01 par value preferred stock, and 26,500,000 (unaudited) shares of \$0.01 par value common stock.

Redeemable convertible preferred stock consists of the following at June 30:

2006				
(Unaudited)				
	Number of Shares Authorized	Shares Outstanding	Liquidation Preference	Carrying Value
Series A preferred stock	1,033,000	1,033,000	\$ 1,177,620	\$ 1,177,279
Series B preferred stock	396,000	396,000	633,600	633,600
Series C preferred stock	785,000	785,000	1,884,000	1,884,000
Series D preferred stock	733,000	733,000	3,371,800	3,374,732
Series E preferred stock	420,751	420,751	4,544,111	4,515,903
Series F preferred stock	186,899	186,899	2,018,509	2,018,509
Series G preferred stock	312,119	312,119	3,370,885	3,370,885
Series I-1 preferred stock	192,147	192,147	2,075,188	1,800,000
Series J-1 preferred stock	2,000	2,000	21,600	19,010
Series 04 preferred stock	5,244,902	5,244,902	28,322,471	25,214,988
Series 04-1 preferred stock	5,244,902	—	—	—
Series 05 preferred stock	2,920,000	2,920,000	17,520,000	17,433,574
Series 05-1 preferred stock	2,920,000	—	—	—
	20,390,720	12,225,818	\$ 64,939,784	\$ 61,442,480

9. Redeemable Convertible Preferred Stock (Continued)

The following table depicts the preferred stock activity for the years ended December 31, 2003, 2004, 2005 and the period ended June 30, 2006:

	Series A-H Redeemable Preferred Stock		Series I & I-1 Redeemable Preferred Stock		Series J & J-1 Redeemable Preferred Stock		Series 04 & 04-1 Redeemable Preferred Stock		Series 05 Redeemable Preferred Stock		Total Redeemable Preferred Stock	
	Shares	Value	Shares	Value	Shares	Value	Shares	Value	Shares	Value	Shares	Value
<b>Balance, December 31, 2002</b>	3,866,769	\$ 16,974,908	1,167,241	\$ 10,789,439	—	\$ —	—	\$ —	—	\$ —	5,034,010	\$ 27,764,347
Issuance of Series I preferred stock and common stock warrants, net of issuance costs of \$74,268			270,704	2,699,931							270,704	2,699,931
Issuance of Series J preferred stock and common stock warrants for cash and upon conversion of notes payable and accrued expenses, net of issuance costs of \$42,115					324,074	3,084,160					324,074	3,084,160
Exchange of 1,401,027 shares of Series I preferred stock and cancellation of warrants for 192,147 shares of Series I-1 preferred stock and 1,208,880 shares of Series J preferred stock and issuance of warrants			(1,208,880)	(11,354,150)	1,208,880	10,445,379					—	(908,771)
<b>Balance, December 31, 2003</b>	3,866,769	16,974,908	229,065	2,135,220	1,532,954	13,529,539	—	—	—	—	5,628,788	32,639,667
Issuance of Series J preferred stock and common stock warrants, net of issuance costs of \$12,015					57,370	541,440					57,370	541,440
Exchange of 36,918 shares of Series I preferred stock for 36,918 shares of Series J preferred stock and issuance of warrants			(36,918)	(335,220)	36,918	293,490					—	(41,730)
Exchange of 1,627,242 shares of Series J preferred stock for 2,000 shares of Series J-1 preferred stock and 3,250,484 shares of Series 04 preferred stock and cancellation of 189,716 shares of common stock warrants					(1,625,242)	(14,345,459)	3,250,484	14,564,233			1,625,242	218,774
Issuance of Series 04 preferred stock, net of issuance costs of \$67,678							1,100,766	5,876,458			1,100,766	5,876,458
<b>Balance, December 31, 2004</b>	3,866,769	16,974,908	192,147	1,800,000	2,000	19,010	4,351,250	20,440,691	—	—	8,412,166	39,234,609
Issuance of Series 04 preferred stock, net of issuance costs of \$54,399							893,652	4,774,297			893,652	4,774,297
<b>Balance, December 31, 2005</b>	3,866,769	16,974,908	192,147	1,800,000	2,000	19,010	5,244,902	25,214,988	—	—	9,305,818	44,008,906
Issuance of Series 05 preferred stock, net of issuance costs of \$86,426 (unaudited)									2,920,000	17,433,574	2,920,000	17,433,574
<b>Balance, June 30, 2006 (Unaudited)</b>	3,866,769	\$ 16,974,908	192,147	\$ 1,800,000	2,000	\$ 19,010	5,244,902	\$ 25,214,988	2,920,000	\$ 17,433,574	12,225,818	\$ 61,442,480

## 9. Redeemable Convertible Preferred Stock (Continued)

The rights and preferences of the preferred stock at December 31, 2005 are as follows:

### Dividends

The holders of outstanding preferred stock shall be entitled to receive, out of funds legally available, when and if declared by the Board of Directors, dividends at the same rate as dividends that are paid with respect to the common stock, treating each share of preferred stock as being equal to the number of shares of common stock into which each such share of preferred stock is then convertible.

### Liquidation Preferences

In the event of any voluntary or involuntary liquidation, dissolution or winding-up of the Company, the holders of preferred stock then outstanding shall be entitled to be paid out of the assets of the Corporation available for distribution to its stockholders before any payment shall be made to the holders of common stock or any other class or series of stock ranking on liquidation junior to the preferred stock by reason of their ownership thereof, an amount equal to:

- (i) \$1.14 per share of Series A preferred,
- (ii) \$1.60 per share of Series B preferred,
- (iii) \$2.40 per share of Series C preferred,
- (iv) \$4.60 per share of Series D preferred,
- (v) \$10.80 per share of Series E preferred,
- (vi) \$10.80 per share of Series F preferred,
- (vii) \$10.80 per share of Series G preferred,
- (viii) \$10.80 per share of Series H preferred,
- (ix) \$10.80 per share of Series I-1 preferred,
- (x) \$10.80 per share of Series J preferred,
- (xi) \$10.80 per share of Series J-1 preferred,
- (xii) \$5.40 per share of Series 04 preferred, and
- (xiii) \$5.40 per share of Series 04-1 preferred.

Each of the above shall be appropriately adjusted for stock splits, stock dividends, reclassifications, recapitalizations or other similar events affecting the preferred stock.

If upon any such liquidation, dissolution or winding-up of the Company the remaining assets of the Company available for distribution to its stockholders shall be insufficient to pay the holders of shares of preferred stock the full amount to which they shall be entitled, the assets of the Company shall be distributed as follows:

- (i) ratably to the holders of shares of Series 04 preferred until the Series 04 preference is paid in full,
- (ii) ratably to the holders of shares of 04-1 preferred, Series J preferred, Series J-1 preferred and Series I-1 preferred in proportion to the respective amounts which would otherwise be payable in respect to the shares held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full, until the Series 04-1 preference, Series J preference, Series J-1 preference and Series I-1 preference are paid in full, and
- (iii) then to the holders of shares of junior preferred and any class or series of stock ranking on liquidation on a parity with the junior preferred in proportion to the respective amounts which would otherwise be payable with respect to the shares held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full.

After the payment of all preferential amounts required to be paid to the holders of preferred stock and any other class or series of stock of the Company ranking on liquidation senior to or on a parity with the preferred stock, upon the dissolution, liquidation or winding-up of the Company, the remaining net assets of the Company available for distribution shall be distributed ratably among the participating holders of Series 04 preferred, Series 04-1 preferred, Series J preferred, Series J-1 preferred, Series I-1 preferred and common stock.

#### **Change in Control**

A merger or consolidation of the Company, or the sale of all or substantially all the assets of the Company, shall be deemed to be a liquidation, dissolution or winding up of the Company, and the holders of preferred stock shall be paid the liquidation amount for their shares, but only if, in the case of a merger, after giving effect to such merger, the holders of the Company's securities immediately prior to such merger own 50% or less of any surviving entity's voting securities.



## **Voting**

Each holder of outstanding shares of preferred stock shall be entitled to the number of votes equal to the number of whole shares of common stock into which the shares of preferred stock held by such holder are then convertible. Except as provided by law, by the provisions of the Certificate of Incorporation or by the provisions establishing any other series of preferred stock, holders of any outstanding series of preferred stock shall vote together with the holders of common stock as a single class on all actions to be taken by the stockholders of the Company.

In addition, the Certificate of Incorporation provides holders of certain series of preferred stock with additional voting rights and requires the Company to secure stockholder consent for certain actions as defined in the Certificate of Incorporation.

## **Conversion**

The holders of the preferred stock shall have conversion rights as follows:

### **Right to Convert**

Each share of preferred stock shall be convertible, at the option of the holder, at any time and from time to time, into such number of fully paid and nonassessable shares of common stock as is determined by dividing the Adjusted Purchase Price for the series of preferred stock being converted by the applicable Conversion Price in effect at the time of conversion. The Adjusted Purchase Price and the Conversion Price shall initially be equal to the liquidation preferences.

All shares of preferred stock then outstanding shall convert into shares of common stock at the then effective conversion rate at the closing of the sale of shares of common stock in a fully underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933.

### **Adjustment of Series J and Series 04 Conversion Price Upon Issuance of Common Stock**

If the Company shall, at any time there are shares of Series J preferred and/or Series 04 preferred outstanding, issue or sell, any shares of common stock for a consideration per share less than the Conversion Price of such series of preferred stock in effect immediately prior to the time of such issue or sale, then, the Effective Conversion Price for such series of preferred stock shall be reduced to the price determined by dividing (i) an amount equal to the sum of (a) the number of shares of common stock outstanding or deemed outstanding, determined on a fully diluted basis assuming the exercise, conversion and exchange of all outstanding shares of Convertible Securities and Options immediately prior to such issue or sale multiplied by the then existing per share Effective Conversion Price for such series of preferred stock and (b) the consideration, if any, received by the Company upon such issue or

sale, by (ii) the total number of shares of common stock outstanding or deemed outstanding determined on a fully diluted basis assuming the exercise, conversion and exchange of all outstanding shares of Convertible Securities and Options immediately after such issue or sale.

### **Pay to Play**

In the event that the Company issues any securities which would result in the reduction of the Effective Conversion Price of the Series J preferred and/or the Series 04 preferred (a "Dilutive Equity Financing"), the Company shall, after the initial closing of such Dilutive Equity Financing, provide notice to each holder of the Series J preferred and /or Series 04 preferred, that did not purchase its Participation Amount of the securities issued in such Dilutive Equity Financing (the "Pay to Play Notice"). If such holder does not purchase or agree to purchase its Participation Amount by the close of business on the 15th day after delivery of the Pay to Play Notice, then, as of such date, such holder shall be deemed to be a "Non-Participating holder" and all of the shares of the Series J preferred and/or Series 04 preferred owned by the Non-participating Holder shall automatically be converted into one share of a newly created series of preferred stock (Series J-1 or Series 04-1, as the case may be), which series shall be identical in all respects to the Series J or Series 04 preferred except that the Conversion Price of the newly created series of preferred stock shall be equal to the Effective Conversion Price of the Series J or Series 04 preferred immediately prior to the applicable Subsequent Dilutive Equity Financing and shall not be subject to further anti-dilution adjustments.

### **Redeemable Convertible Preferred Stock Issuances for 2003 through 2005 and for the period ended June 30, 2006 (unaudited)**

In June 2003, the Company issued 270,704 shares of Series I preferred stock at \$10.80 per share and warrants to purchase common stock for gross proceeds of \$2,923,604.

In November 2003, the Company issued 324,074 shares of Series J redeemable convertible preferred stock at \$10.80 per share and warrants to purchase common stock for gross proceeds of \$3,499,999.

In November 2003, in conjunction with the issuance of Series J preferred stock, shareholders of 1,208,880 shares of Series I preferred stock exercised their right to exchange the shares of Series I preferred stock for 1,208,880 shares of Series J preferred stock.

In November 2003, shareholders of 192,147 shares of Series I preferred stock who elected not to participate in the Series J preferred stock offering had their 192,147 shares of Series I preferred stock converted into 192,147 shares of Series I-1 redeemable convertible preferred stock in accordance with the preferred stock provisions.

In January 2004, the Company issued an additional 57,370 shares of Series J preferred stock at \$10.80 per share and warrants to purchase common stock for gross proceeds of \$619,596.

In January 2004, in conjunction with the issuance of Series J preferred stock, the remaining shareholders of 36,918 shares of Series I preferred stock exercised their right to exchange the shares of Series I preferred stock for 36,918 shares of Series J preferred stock.

In April through August 2004, the Company issued 1,100,766 shares of Series 04 redeemable convertible preferred stock at \$5.40 per share for gross proceeds of \$5,944,136. In conjunction with the issuance of Series 04 preferred stock, shareholders of 1,625,242 shares of Series J preferred stock exercised their right to exchange the shares of Series J preferred stock for 3,250,484 shares of Series 04 preferred stock.

Shareholders of 2,000 shares of Series J preferred stock who elected not to participate in the Series 04 preferred stock offering had their 2,000 shares of Series J preferred stock converted into 2,000 shares of Series J-1 redeemable convertible preferred stock in accordance with the preferred stock provisions.

From March through May 2005, the Company issued 893,652 shares of Series 04 redeemable convertible preferred stock at \$5.40 per share for gross proceeds of \$4,825,721.

In January 2006, the Company issued 2,920,000 shares of Series 05 redeemable convertible preferred stock at \$6.00 per share for gross proceeds of \$17,520,000. The rights and preferences associated with this Series are similar to those rights of Series 04 redeemable convertible preferred stock. The Company also authorized 2,920,000 shares of Series 05-1 redeemable convertible preferred stock which has the rights similar to those of Series 04-1. The Company also cancelled Series H and Series J preferred stock during its first quarter ended March 31, 2006. There was no associated Series H or Series J preferred stock outstanding.

### **Warrants**

In connection with the issuance of the Series H preferred stock during 2001, the Company issued warrants to purchase 108,239 shares of common stock at an exercise of \$13.21 per share. The warrants expire five years from issuance date. The warrants were recorded at their relative fair value of \$169,703 as a reduction to the carrying value of the Series H preferred stock and a corresponding increase to additional paid-in capital. The fair value of the warrants was estimated on the date of grant using the Black-Scholes option-pricing model with the following assumptions: no dividend yield, 90% volatility, risk-free interest rate of 5.13%, and a life of five years.

In connection with the issuance of Series I preferred stock during 2002, the Company issued warrants to purchase 520,990 shares of common stock at an exercise price of \$13.21 per share; and concurrently, the Company issued warrants to purchase 432,983 shares of common stock at an exercise price of \$13.21 per share in connection with the exchange of Series H preferred stock for Series I preferred stock. The warrants expire five years from issuance date. The warrants were recorded at their relative fair value of \$1,553,389 as a reduction to the carrying value of the Series I preferred stock and a corresponding increase to additional paid-in capital. The fair value of the warrants was estimated on the date of grant using the Black-Scholes option-pricing model with the following assumptions: no dividend yield, 100% volatility, risk-free interest of 4.65%, and a life of five years.

In conjunction with the issuance of the Series I preferred stock during 2003, the Company issued warrants to purchase 221,238 shares of common stock at an exercise price of \$13.21 per share. The warrants expire five years from issuance date. The warrants were recorded at their relative fair value of \$149,405 as a reduction to the carrying value of the Series I preferred stock and a corresponding increase to additional paid-in capital. The fair value of the warrants was estimated on the date of grant using the Black-Scholes option-pricing model with the following assumptions: no dividend yield, 100% volatility, risk-free interest of 2.27%, and a life of five years.

In connection with the issuance of Series J preferred stock, the Company issued warrants to purchase 264,865 shares of common stock at an exercise price of \$0.12 per share; and concurrently, the Company issued warrants to purchase 988,004 shares of common stock at an exercise price of \$0.12 per share in connection with the exchange of Series I preferred stock for Series J preferred stock. The warrants expire five years from issuance date. In addition, the Company cancelled warrants to purchase 348,386 shares of common stock at an exercise price of \$13.21 per share. The warrants issued were recorded at their relative fair value of \$1,282,495 as a reduction to the carrying value of the Series J preferred and a corresponding increase to additional paid-in capital, net of the reversal of the canceled warrants. The fair value of the warrants was estimated on the date of grant using the Black-Scholes option-pricing model with the following assumptions: no dividend yield, 100% volatility, risk-free interest rate of 3.29%, and a life of five years.

In connection with the issuance of the Series J preferred stock during 2004, the Company issued warrants to purchase 46,881 shares of common stock at an exercise price of \$0.12 per share; and concurrently, the Company issued warrants to purchase 30,173 shares of common stock at an exercise price of \$0.12 per share in connection with the exchange of Series I preferred stock for Series J preferred stock. The warrants expire five years from issuance date. The warrants were recorded at their relative fair value of \$107,870 as a reduction to the carrying value of the Series J preferred stock and a corresponding increase to additional paid-in capital. The fair value of the warrants was estimated on the date of grant using the Black-Scholes option-pricing model with the following assumptions: no dividend yield, 100% volatility, risk-free interest rate range of 3.12% - 3.29%, and a life of five years.

In connection with signing the lease agreement in 2004, the Company issued the landlord warrants to purchase 4,086 shares of common stock at an exercise price of \$3.30 per share. The warrants expire ten years from the lease term commencement date. The fair value of the warrants was immaterial.

In conjunction with the issuance of Series 04 preferred stock in 2004 and the exchange of the shares of Series J preferred stock, 155,041 warrants to purchase common stock were cancelled resulting in a decrease of additional paid-in capital of \$218,773.

During the six months ended June 30, 2006, 228,501 and 20,800 of the outstanding \$0.12 and \$13.21 warrants, respectively, were exercised (unaudited). Also, during the six months ended June 30, 2006, 87,439 warrants at \$13.21 expired (unaudited).

## **10. Common Stock**

### **Common Stock Issuances**

In 1992, the Company issued 245,190 shares of common stock to initial investors at a price of \$0.04 per share or total proceeds of \$9,000.

In November 1993, the Company issued 980,760 shares of common stock to new and existing stockholders at a price of \$0.031 per share or total proceeds of \$30,000. Additionally, in November 1993, the Company issued 408,650 shares of Class A common stock to existing stockholders at a price of \$0.24 per share or total proceeds of \$100,000. The outstanding shares of Class A common stock were automatically converted into common stock upon issuance of a preferred series in 1994 and Class A common shares are no longer authorized by the Company.

## **11. Stock Compensation Plans**

In 1995, the Company adopted a stock plan (the "1995 Plan"). The 1995 Plan provided for the granting of incentive stock options, nonqualified stock options, stock awards, and opportunities to make direct purchases of stock, to employees, officers, directors and consultants of the Company. In June 2005, the 1995 Plan was terminated, and the Company adopted a new plan (the "2005 Plan" and, together with the 1995 Plan, referred to as the "Plans"). No further grants or awards have been, or may be, made under the 1995 Plan. Options that are outstanding under the 1995 Stock Plan continue to be governed by the 1995 Stock Plan. The 2005 Plan provides for the granting of incentive stock options, nonqualified stock options, stock grants, and stock-based awards to employees, officers, directors and consultants of the Company. The number of shares of common stock authorized for issuance under the 2005 Plan is 1,838,925 shares plus the amount of shares, if any, that were subject to options under the 1995 Stock Plan at June 2, 2005, but which subsequently become unissued upon the cancellation, surrender or termination of such options. At December 31, 2005, there were 2,448 and 2,656 shares that were subject to outstanding options under the 1995 Plan and the 2005 Plan, respectively, which had been unissued as a result of termination.

Options granted under the Plans generally vest ratably over four years from the date of hire, or date of commencement of services with the Company for nonemployees, and generally expire ten years from the date of issuance.

A summary of the number of shares of common stock for which outstanding options were exercisable under each of the Plans follows:

	1995 Stock Plan		2005 Stock Plan	
	Number Exercisable	Weighted Average Exercise Price	Number Exercisable	Weighted Average Exercise Price
December 31, 2003	406,677	\$ 3.11	—	\$ —
December 31, 2004	516,136	3.07	—	—
December 31, 2005	644,751	3.79	296,775	1.70
June 30, 2006 (unaudited)	671,724	3.76	458,032	1.84

A summary of the activity related to the shares of common stock covered by outstanding options under each of the plans follows:

	1995 Stock Option Plan			2005 Stock Option Plan		
	Number of Shares	Exercise Price Per Share	Weighted Average Exercise Price	Number of Shares	Exercise Price Per Share	Weighted Average Exercise Price
<b>Balance at December 31, 2002</b>	489,877	\$0.49 - \$13.21	\$ 4.04	—	\$—	\$ —
Granted	216,365	\$3.30	3.30	—	—	—
Exercised	(16,137)	\$0.49 - \$3.30	1.32	—	—	—
Cancelled	(8,783)	\$3.30	3.30	—	—	—
<b>Balance at December 31, 2003</b>	681,322	\$1.41 - \$13.21	3.88	—	—	—
Granted	89,483	\$1.65	1.65	—	—	—
Exercised	—	—	—	—	—	—
Cancelled	(8,170)	\$1.65 - \$3.30	3.14	—	—	—
<b>Balance at December 31, 2004</b>	762,635	\$1.41 - \$13.21	3.62	—	—	—
Granted	—	—	—	1,283,641	\$1.65 - \$1.84	1.70
Exercised	(3,265)	\$1.65 - \$3.30	3.09	(918)	1.65	1.65
Cancelled	(2,454)	\$1.65 - \$3.30	2.48	(2,657)	1.65	1.65
<b>Balance at December 31, 2005</b>	756,916	\$1.41 - \$13.21	\$ 3.63	1,280,066	\$1.65 - \$1.84	\$ 1.70

The weighted average fair value per share of options granted during fiscal years 2003, 2004 and 2005 was approximately \$1.41, \$0.54 and \$0.33, respectively.

## 11. Stock Compensation Plans (Continued)

A summary of information about the shares of common stock covered by outstanding and exercisable options under the option plans at December 31, 2005 follows:

Exercise Prices	Outstanding			Exercisable	
	Number of Shares	Weighted Average Remaining Contractual Life (Years)	Weighted Average Exercise Price	Number of Shares	Weighted Average Exercise Price
\$1.41	40,045	1.52	\$ 1.41	40,045	\$ 1.41
\$1.65	1,042,440	9.51	\$ 1.65	266,482	\$ 1.65
\$1.84	324,658	9.96	\$ 1.84	76,670	\$ 1.84
\$3.30	582,436	5.57	\$ 3.30	510,926	\$ 3.30
\$13.21	47,403	4.06	\$ 13.21	47,403	\$ 13.21
\$1.41 - 13.21	2,036,982	8.17	\$ 2.42	941,526	\$ 3.13

At December 31, 2005, 560,395 shares were available for future option grants, stock grants, and stock-based awards under the 2005 Plan.

In December 2005, 324,660 options were granted to an officer of the Company of which 125,864 contain performance based vesting conditions. These options were issued at an exercise price of \$1.84 which was below their fair market value of \$1.91 at the time of grant and the related compensation expense was immaterial for the period ended December 31, 2005. The 125,864 options are a variable award and are subject to remeasurement which could result in the recording of compensation expense in the future, depending on the probability of achieving certain performance conditions. All other option grants awards during 2003, 2004 and 2005 were issued at an exercise price equal to the fair market value on the date of issuance.

During the six months ended June 30, 2006, 41,954 of the 125,864 variable options granted to the officer of the Company during 2005 were cancelled due to the term expiration; 41,954 of these variable options were determined to be highly probable for meeting the performance condition and as a result \$95,289 in compensation expense and \$43,313 in deferred compensation was recorded during the period (unaudited).

During 2005 and through June 30, 2006 (unaudited), the Company granted the following options to employees and nonemployees:

Grants Made During Quarter Ended	Number of Options Granted	Weighted-Average Exercise Price	Weighted-Average Fair Value per Share	Weighted-Average Intrinsic Value per Share
6/30/2006 (unaudited)	297,492	\$ 4.47	\$ 4.47	\$ —
3/31/2006 (unaudited)	17,570	\$ 1.84	\$ 1.91	\$ 0.06
12/31/2005	324,658	\$ 1.84	\$ 1.91	\$ 0.06
9/30/2005	652,200	\$ 1.65	\$ 1.65	\$ —
6/30/2005	306,783	\$ 1.65	\$ 1.65	\$ —
3/31/2005	—	\$ —	\$ —	\$ —

During 2003, 2004, 2005 and the six months ended June 30, 2006, the Company granted stock options to purchase 75,395, 17,980, 59,558 and 42,907 (unaudited) shares of common stock, respectively, to nonemployees. The compensation expense related to these options is recognized over a period of four years. The 2005 and 2006 grants vest quarterly and the 2003 and 2004 grants vest on an annual basis and such vesting is contingent upon future services provided by the consultants to the Company. Relating to these options, the Company recorded stock based compensation expense of \$123,554, \$48,922, \$27,022 and \$163,756 (unaudited) during 2003, 2004, 2005 and the six months ended June 30, 2006, respectively. Options remaining unvested for the nonemployee are subject to remeasurement each reporting period prior to vesting in full. Since the fair market value of the options issued to the nonemployee is subject to change in the future, the compensation expense recognized in each year may not be indicative of future compensation charges.

The fair value of each option granted to non-employees was estimated using the Black-Scholes option pricing model with the following assumptions:

Dividend yield	—
Volatility	75 - 100%
Risk-free interest rate	3.94 - 5.15%
Option term	10 years



**Stock Options under SFAS No. 123(R) for the period ended June 30, 2006 (unaudited)**

A summary of stock option activity under the Plans for the six months ended June 30, 2006 (unaudited) is presented below:

	1995 Stock Option Plan			2005 Stock Option Plan		
	Number of Shares	Exercise Price Per Share	Weighted Average Exercise Price	Number of Shares	Exercise Price Per Share	Weighted Average Exercise Price
Balance at December 31, 2005	756,916	\$1.41 - \$13.21	\$ 3.63	1,280,066	\$1.65 - \$1.84	\$ 1.70
Granted	—	—	—	315,062	\$1.84 - \$5.14	4.32
Exercised	(7,966)	\$1.65 - \$3.30	2.96	(3,294)	\$1.65	1.65
Cancelled	(2,247)	\$1.65 - \$3.30	2.10	(53,370)	\$1.65 - \$1.84	1.81
Balance at June 30, 2006	746,703	\$1.41 - \$13.21	3.64	1,538,464	\$1.65 - \$5.14	2.23

A summary of information about the shares of common stock covered by outstanding and exercisable options under the option plans at June 30, 2006 (unaudited) follows:

Exercise Prices	Outstanding			Exercisable		
	Number of Shares	Weighted Average Remaining Contractual Life (Years)	Weighted Average Exercise Price	Number of Shares	Weighted Average Exercise Price	
\$1.41	40,045	1.02	\$ 1.41	40,045	\$ 1.41	1.41
\$1.65	1,028,548	9.02	\$ 1.65	386,240	\$ 1.65	1.65
\$1.84	296,188	9.47	\$ 1.84	98,222	\$ 1.84	1.84
\$3.30	575,491	5.06	\$ 3.30	534,221	\$ 3.30	3.30
\$3.36	112,376	9.81	\$ 3.36	7,279	\$ 3.36	3.36
\$5.14	185,116	9.96	\$ 5.14	16,346	\$ 5.14	5.14
\$13.21	47,403	3.57	\$ 13.21	47,403	\$ 13.21	13.21
\$1.41 - 13.21	2,285,167	7.94	\$ 2.69	1,129,756	\$ 2.98	2.98

At June 30, 2006 the aggregate intrinsic value of outstanding and exercisable options was \$5,970,249 and \$2,814,204, respectively (unaudited). At June 30, 2006 the weighted average contractual remaining life of exercisable options was 6.60 years.

The weighted average fair value of stock options granted during the six months ended June 30, 2006 was \$3.32 (unaudited).

As of June 30, 2006, the total compensation cost related to nonvested options not yet recognized in the financial statements is approximately \$728,911 (unaudited) and the weighted average period over which it is expected to be recognized is 3.74 years (unaudited).

## 12. Income Taxes

There is no provision for income taxes because the Company has incurred operating losses since inception. The reported amount of income tax expense for the years differs from the amount that would result from applying domestic federal statutory tax rates to pretax losses primarily because of changes in valuation allowance. Significant components of the Company's net deferred tax asset at December 31, 2003, 2004 and 2005 are as follows:

	2003	2004	2005
Net operating loss carryforwards	\$ 8,301,389	\$ 9,136,063	\$ 9,905,024
Capitalization of research and development expenses	3,798,657	3,572,974	4,670,977
Credit carryforwards	1,343,156	1,431,308	1,736,233
Other temporary differences	2,453,955	3,664,049	4,802,220
<b>Total deferred tax assets</b>	<b>15,897,157</b>	<b>17,804,394</b>	<b>21,114,454</b>
Valuation allowance	(15,897,157)	(17,804,394)	(21,114,454)
<b>Net deferred tax asset</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ —</b>

At December 31, 2005, the Company had net operating loss carryforwards for federal and state income tax purposes of approximately \$26,033,000 and \$16,807,000, respectively. The Company's federal and state net operating loss carryforwards will begin to expire in 2008 and 2006, respectively. The Company also has available research and development credits for federal and state income tax purposes of approximately \$1,075,000 and \$888,000, respectively. The federal and state research and development credit will begin to expire in 2012. The Company also has available investment tax credits for state income tax purposes of approximately \$114,000, which began to expire in 2005. However, changes in the Company's ownership, as defined in the Internal Revenue Code, may limit the Company's ability to utilize the net operating loss and tax credit carryforwards.

Management of the Company has evaluated the positive and negative evidence bearing upon the realizability of its deferred tax assets, which are comprised principally of net operating loss carryforwards and research and development credits. Under the applicable accounting standards, management has considered the Company's history of losses and concluded that it is more likely than not that the Company will not recognize the benefits of federal and state deferred tax assets. Accordingly, a full valuation allowance has been established against the deferred tax assets.

Utilization of the net operating losses and credits may be subject to a substantial annual limitation due to ownership change limitations provided by the Internal Revenue Code of 1986, as well as similar state and foreign provisions. These ownership changes may limit the amount of net operating loss and credit carryforwards that can be utilized annually to offset future taxable income and tax, respectively. Subsequent ownership changes could further affect the limitation in future years. These annual limitation provisions may result in the expiration of certain net operating losses and credits before utilization.

### **13. Employee Benefits**

The Company established a 401(k) savings plan in 1995, in which substantially all of its permanent employees are eligible to participate. Participants may contribute up to \$14,000 of their annual compensation to the plan in 2005, subject to certain limitations. The Company has not made any contribution from inception to December 31, 2005.

### **14. Subsequent Events**

On July 12, 2006, ADM exercised its option under the Technology Alliance and Option Agreement and entered into the Commercial Alliance Agreement with the Company at which time the Technology Alliance and Option Agreement terminated pursuant to its terms.

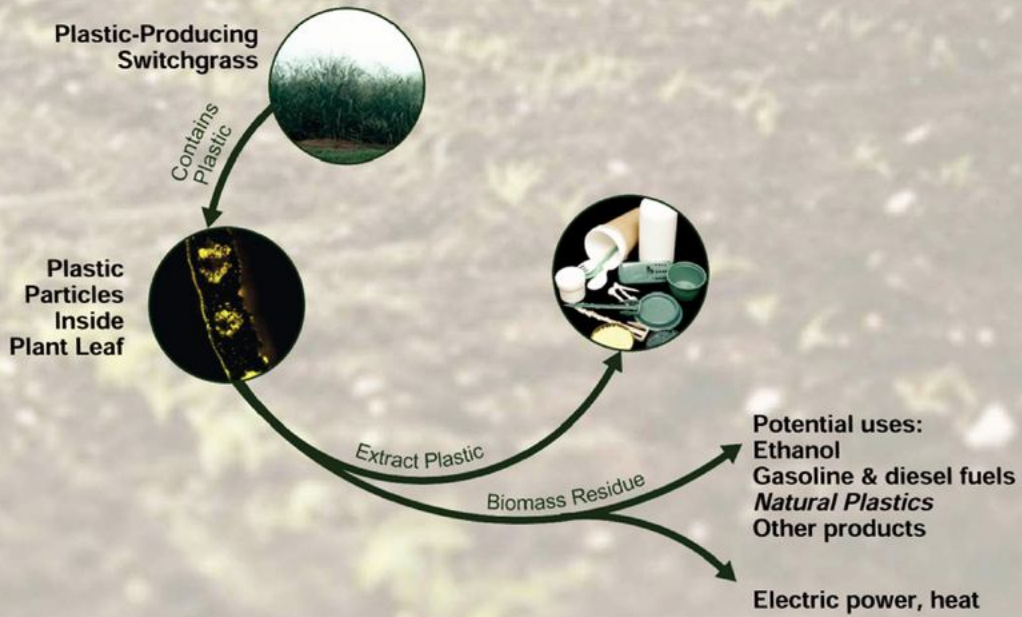
On July 14, 2006, the Company filed its initial public offering S-1 registration statement.

On July 25, 2006, the Company received the first two quarterly payments due from ADM under the Commercial Alliance Agreement totaling \$3.15 million.

### **15. Reverse Stock Split**

On September 20, 2006, a 0.8173-for-1 reverse stock split was approved by the Board of Directors and is reflected in these financial statements.

# From Plants to Plastic



“

By combining bioscience and nature we will bring clean solutions to the world in plastics, fuels, and chemicals

”

Shares

**METABOLIX, INC.**

**Common Stock**



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**PROSPECTUS**

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No dealer, salesperson or other person is authorized to give any information or to represent anything not contained in this prospectus. You must not rely on any unauthorized information or representations. This prospectus is an offer to sell only the shares offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so. The information contained in this prospectus is current only as of its date.

Through and including \_\_\_\_\_, 2006 (the 25th day after the date of this prospectus), all dealers effecting transactions in these securities, whether or not participating in this offering, may be required to deliver a prospectus. This is in addition to a dealer's obligation to deliver a prospectus when acting as an underwriter and with respect to an unsold allotment or subscription.

**Piper Jaffray**

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**Jefferies & Company**

**Thomas Weisel Partners LLC**

**Ardour Capital Investments, LLC**

, 2006

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**PART II**  
**INFORMATION NOT REQUIRED IN PROSPECTUS**

**Item 13. Other Expenses of Issuance and Distribution.**

The following table sets forth the costs and expenses, other than the underwriting discount, payable by us in connection with the sale of common stock being registered. All amounts are estimated except the SEC registration fee and the NASD filing fees.

	<u>Amount</u>
Securities and Exchange Commission registration fee	\$ 9,992
NASD registration fee	9,125
NASDAQ listing application fee	105,000
Blue sky fees and expenses	20,000
Transfer agent and registrar fee	25,000
Printing and engraving expenses	200,000
Accountant fees and expenses	550,000
Legal fees and expenses	1,000,000
Miscellaneous	380,883
	<hr/>
Total	2,300,000

**Item 14. Indemnification of Directors and Officers.**

Section 145(a) of the Delaware General Corporation Law provides, in general, that a corporation may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of the corporation), because he or she 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 or other enterprise, against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by the person in connection with such action, suit or proceeding, if he or she acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the corporation and, with respect to any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful.

Section 145(b) of the Delaware General Corporation Law provides, in general, that a corporation may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action or suit by or in the right of the corporation to procure a judgment in its favor because the person 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 or other enterprise, against expenses (including attorneys' fees) actually and reasonably incurred by the person in connection with the defense or settlement of such action or suit if he or she acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the corporation, except that no indemnification shall be made with respect to any claim, issue or matter as to which he or she shall have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery or other adjudicating court determines that, despite the adjudication of liability but in view of all of the circumstances of the case, he or she is fairly and reasonably entitled to indemnity for such expenses which the Court of Chancery or other adjudicating court shall deem proper.

Section 145(g) of the Delaware General Corporation Law provides, in general, that a 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 or other enterprise against any liability asserted against such person and incurred by such person 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 the person against such liability under Section 145 of the Delaware General Corporation Law.

Article VII of our amended and restated certificate of incorporation (the "Charter"), provides that no director of our company shall be personally liable to us or our stockholders for monetary damages for any breach of fiduciary duty as a director, except for liability (1) for any breach of the director's duty of loyalty to us or our stockholders, (2) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (3) in respect of unlawful dividend payments or stock redemptions or repurchases, or (4) for any transaction from which the director derived an improper personal benefit. In addition, our Charter provides that if the Delaware General Corporation Law is amended to authorize the further elimination or limitation of the liability of directors, then the liability of a director of our company shall be eliminated or limited to the fullest extent permitted by the Delaware General Corporation Law, as so amended.

Article VII of the Charter further provides that any repeal or modification of such article by our stockholders or an amendment to the Delaware General Corporation Law will not adversely affect any right or protection existing at the time of such repeal or modification with respect to any acts or omissions occurring before such repeal or modification of a director serving at the time of such repeal or modification.

Article V of our amended and restated by-laws (the "By-Laws"), provides that we will indemnify each of our directors and officers and, in the discretion of our board of directors, certain employees, to the fullest extent permitted by the Delaware General Corporation Law as the same may be amended (except that in the case of an amendment, only to the extent that the amendment permits us to provide broader indemnification rights than the Delaware General Corporation Law permitted us to provide prior to the amendment) against any and all expenses, judgments, penalties, fines and amounts reasonably paid in settlement that are incurred by the director, officer or such employee or on the director's, officer's or employee's behalf in connection with any threatened, pending or completed proceeding or any claim, issue or matter therein, to which he or she is or is threatened to be made a party because he or she is or was serving as a director, officer or employee of our company, or at our request as a director, partner, trustee, officer, employee or agent of another corporation, partnership, joint venture, trust, employee benefit plan or other enterprise, if he or she acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of our company and, with respect to any criminal proceeding, had no reasonable cause to believe his or her conduct was unlawful. Article V of the By-Laws further provides for the advancement of expenses to each of our directors and, in the discretion of the board of directors, to certain officers and employees.

In addition, Article V of the By-Laws provides that the right of each of our directors and officers to indemnification and advancement of expenses shall be a contract right and shall not be exclusive of any other right now possessed or hereafter acquired under any statute, provision of the Charter or By-Laws, agreement, vote of stockholders or otherwise. Furthermore, Article V of the By-Laws authorizes us to provide insurance for our directors, officers and employees, against any liability, whether or not we would have the power to indemnify such person against such liability under the Delaware General Corporation Law or the provisions of Article V of the By-Laws.

In connection with the sale of common stock being registered hereby, we intend to enter into indemnification agreements with each of our directors and our executive officers. These agreements will provide that we will indemnify each of our directors and such officers to the fullest extent permitted by law and the Charter and By-Laws.

We also intend to obtain a general liability insurance policy which covers certain liabilities of directors and officers of our company arising out of claims based on acts or omissions in their capacities as directors or officers.

In any underwriting agreement we enter into in connection with the sale of common stock being registered hereby, the underwriters will agree to indemnify, under certain conditions, us, our directors, our officers and persons who control us within the meaning of the Securities Act of 1933, as amended, against certain liabilities.

**Item 15. Recent Sales of Unregistered Securities.**

In the three years preceding the filing of this registration statement, we have issued the following securities that were not registered under the Securities Act:

***(a) Issuances of Capital Stock***

In June 2003, we issued and sold an aggregate of 270,704 shares of Series I convertible preferred stock to 20 investors for an aggregate purchase price of \$2,923,603.

In November 2003, we issued and sold an aggregate of 324,074 shares of Series J convertible preferred stock to 19 investors for an aggregate purchase price of \$3,499,999.

In November 2003, in conjunction with the issuance of Series J convertible preferred stock, shareholders of 1,208,880 shares of Series I convertible preferred stock exercised their right to exchange their shares of Series I convertible preferred stock for 1,208,880 shares of Series J convertible preferred stock.

In November 2003, shareholders of 192,147 shares of Series I convertible preferred stock not participating in the Series J convertible preferred stock offering had their 192,147 shares of Series I convertible preferred stock converted into 192,147 shares of Series I-1 redeemable convertible preferred stock in accordance with the preferred stock provisions.

In January 2004, we issued and sold an aggregate of 57,370 shares of Series J convertible preferred stock to 15 investors for an aggregate purchase price of \$619,596.

In January 2004, in conjunction with the issuance of Series J convertible preferred stock, shareholders of 36,918 shares of Series I convertible preferred stock exercised their right to exchange their shares of Series I convertible preferred stock for 36,918 shares of Series J convertible preferred stock.

In April through August 2004, we issued and sold an aggregate of 1,100,766 shares of Series 04 convertible preferred stock to 39 investors for an aggregate purchase price of \$5,944,136. In conjunction with the issuance of Series 04 convertible preferred stock, shareholders of 1,625,242 shares of Series J convertible preferred stock exercised their right to exchange the shares of Series J convertible preferred stock for 3,250,484 shares of Series 04 convertible preferred stock.



Shareholders of 2,000 shares of Series J convertible preferred stock not participating in the Series 04 preferred stock offering had their 2,000 shares of Series J convertible preferred stock converted into 2,000 shares of Series J-1 redeemable convertible preferred stock in accordance with the preferred stock provisions.

From March through May 2005, we issued and sold an aggregate of 893,652 shares of Series 04 convertible preferred stock to 29 investors for an aggregate purchase price of \$4,825,721.

In January 2006, we issued 2,920,000 shares of Series 05 convertible preferred stock at \$6.00 per share.

ADM has agreed to purchase \$7.5 million of our shares of common stock in a private placement concurrent with this offering at a price per share equal to the initial public offering price. The sale of shares to ADM will not be registered in this offering.

No underwriters were used in the foregoing transactions. All sales of securities described above were made in reliance upon the exemption from registration provided by Section 4(2) of the Securities Act (and/or Regulation D promulgated thereunder) for transactions by an issuer not involving a public offering. All of the foregoing securities are deemed restricted securities for the purposes of the Securities Act.

***(b) Grants and Exercises of Stock Options.***

From May 1, 2003 to June 30, 2006, we granted stock options to purchase an aggregate of 1,770,117 shares of our common stock, with exercise prices ranging from \$1.65 to \$5.14 per share, to employees, directors and consultants pursuant to our stock option plans. Since May 1, 2003, we issued and sold an aggregate of 15,443 shares of our common stock upon exercise of stock options granted pursuant to our stock plans for an aggregate consideration of \$2,194. The issuance of common stock upon exercise of the options were exempt either pursuant to Rule 701, as a transaction pursuant to a compensatory benefit plan, or pursuant to Section 4(2), as a transaction by an issuer not involving a public offering. The common stock issued upon exercise of options and in connection with awards of restricted stock are deemed restricted securities for the purposes of the Securities Act.

***(c) Issuance of Warrants.***

In conjunction with the issuance of the Series I preferred stock during 2003, the Company issued warrants to purchase 221,238 shares of common stock at an exercise price of \$13.21 per share.

In connection with the issuance of Series J preferred stock, the Company issued warrants to purchase 264,865 shares of common stock at an exercise price of \$0.12 per share; and concurrently, the Company issued warrants to purchase 988,004 shares of common stock at an exercise price of \$0.12 per share in connection with the exchange of Series I preferred stock for Series J preferred stock. The warrants expire five years from issuance date. In addition, the Company canceled warrants to purchase 348,386 shares of common stock at an exercise price of \$13.21 per share.

In connection with the issuance of the Series J preferred stock during 2004, the Company issued warrants to purchase 46,881 shares of common stock at an exercise price of \$0.12 per share; and concurrently, the Company issued warrants to purchase 30,173 shares of common stock at an exercise price of \$0.12 per share in connection with the exchange of Series I preferred stock for Series J preferred stock.

In connection with signing the lease agreement in 2004, the Company issued the landlord warrants to purchase 4,086 shares of common stock at an exercise price of \$3.30 per share.

During 2004, the Company canceled warrants to purchase 155,041 shares of common stock at an exercise price of \$0.12 per share. The cancellation resulted in a decrease of additional paid-in capital of \$218,774.

This issuance was made in reliance upon the exemption from registration provided by Section 4(2) of the Securities Act (and/or Regulation D promulgated thereunder) for transactions by an issuer not involving a public offering. The common stock issued upon exercise of the warrant are deemed restricted securities for the purposes of the Securities Act.

**Item 16. Exhibits and Financial Statement Schedules.**

(a) See the Exhibit Index on the page immediately preceding the exhibits for a list of exhibits filed as part of this registration statement on Form S-1, which Exhibit Index is incorporated herein by reference.

(b) Financial Statement Schedules

None.

**Item 17. Undertakings.**

The undersigned registrant hereby undertakes to provide to the underwriter at the closing specified in the underwriting agreements, certificates in such denominations and registered in such names as required by the underwriter to permit prompt delivery to each purchaser.

Insofar as indemnification for liabilities arising under the Securities Act of 1933 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 Act, 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 Act and will be governed by the final adjudication of such issue.

The undersigned registrant hereby undertakes that:

(1) For purposes of determining any liability under the Securities Act of 1933, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.

(2) For the purpose of determining any liability under the Securities Act of 1933, 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 this 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 certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-1 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Cambridge, Massachusetts, on this 21st day of September, 2006.

METABOLIX, INC.

By: /s/ JAMES J. BARBER

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Name: James J. Barber  
Title: President, Chief Executive Officer and Director

Pursuant to the requirements of the Securities Act of 1933, as amended, this registration statement has been signed by the following persons in the capacities and on the dates indicated:

<u>/s/ JAMES J. BARBER</u> James J. Barber	President, Chief Executive Officer, and Director (Principal Executive Officer)	September 21, 2006
<u>/s/ DR. OLIVER P. PEOPLES</u> Dr. Oliver P. Peoples	Chief Scientific Officer, Vice President Research and Director	September 21, 2006
<u>/s/ THOMAS G. AUCHINCLOSS, JR.</u> Thomas G. Auchincloss, Jr.	Vice President and Chief Financial Officer (Principal Financial Officer)	September 21, 2006
<u>/s/ ANINDA KATRAGADDA</u> Aninda Katragadda	Director of Finance and Corporate Controller (Principal Accounting Officer)	September 21, 2006
<u>*</u> Edward M. Muller	Chairman of the Board, Director	September 21, 2006
<u>*</u> Edward M. Giles	Director	September 21, 2006
<u>*</u> Dr. Jay Kouba	Director	September 21, 2006
<u>*</u> Jack W. Lasersohn	Director	September 21, 2006
<u>*</u> Dr. Anthony J. Sinskey	Director	September 21, 2006
<u>*</u> Dr. Simon F. Williams		

\*By: /s/ JAMES J. BARBER  
James J. Barber  
Attorney-in-fact

**POWER OF ATTORNEY**

The undersigned director of Metabolix, Inc. hereby constitutes and appoints James J. Barber and Thomas G. Auchincloss, Jr. as the attorneys-in-fact for the undersigned, in any and all capacities, with full power of substitution to sign any and all pre- or post-effective amendments to this Registration Statement, any subsequent Registration Statement for the same offering which may be filed pursuant to rule 462(b) under the Securities Act of 1933, as amended, and any and all pre- or post-effective amendments thereto, and to file the same with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premise, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorney-in-fact may lawfully do or cause to be done by virtue hereof.

/s/ DR. MATTHEW STROBECK

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Dr. Matthew Strobeck

Director

September 21, 2006

**EXHIBIT INDEX**

<b>Number</b>	<b>Description</b>
1.1*	Form of Underwriting Agreement
3.1/*\	Form of Amended and Restated Certificate of Incorporation of the Registrant
3.2/*\	Form of Second Amended and Restated Certificate of Incorporation of the Registrant (to be effective upon the completion of this offering)
3.3**	Amended and Restated By-laws of the Registrant
4.1/*\	Specimen Stock Certificate for shares of the Registrant's Common Stock
4.2**	Form of Common Stock Purchase Warrant issued in each of the Series I Financing, the Series J Financing and the Series 04 financing
5.1*	Opinion of Goodwin Procter LLP
10.1†**	1995 Stock Plan
10.1.1†/*\	1995 Stock Plan, Form of Incentive Stock Option Agreement
10.1.2†**	1995 Stock Plan, Form of Non-Qualified Stock Option Agreement
10.2†**	2005 Stock Plan
10.2.1†**	2005 Stock Plan, Form of Incentive Stock Option Agreement
10.2.2†**	2005 Stock Plan, Form of Non-Qualified Stock Option Agreement
10.3†*	2006 Stock Option and Incentive Plan
10.3.1†*	2006 Stock Option and Incentive Plan, Form of Incentive Stock Option Agreement
10.3.2†*	2006 Stock Option and Incentive Plan, Form of Non-Qualified Stock Option Agreement
10.4#**	License Agreement between the Registrant and Massachusetts Institute of Technology dated July 15, 1993, as amended
10.5#**	Commercial Alliance Agreement by and among the Registrant, ADM/Metabolix Sales Company, LLC and ADM Polymer Corporation dated July 14, 2006
10.6#**	Operating Agreement of ADM/Metabolix Sales Company, LLC by and between the Registrant and ADM Polymer Corporation dated July 14, 2006
10.7**	Letter Agreement by and between the Registrant and Archer Daniels Midland Company dated November 3, 2004.
10.8†*	Employment Agreement by and between the Registrant and James J. Barber dated December 14, 2005
10.9†*	Employment Agreement by and between the Registrant and Thomas G. Auchincloss dated January 10, 2006
10.10†*	Employment Agreement by and between the Registrant and Johan van Walsem dated May 1, 2006
10.11†*	Employment Agreement by and between the Registrant and Robert Findlen dated May 24, 2006.
10.12†*	Form of Employee Noncompetition, Nondisclosure and Inventions Agreement with James J. Barber and Johan van Walsem.

- 10.13†\* Form of Noncompetition, Nondisclosure and Inventions Agreement with Mr. Auchincloss, Dr. Peoples Mr. Findlen and Mr. Igoe.
- 10.14†\* Form of Indemnification Agreement
- 10.15\*\* Lease Agreement by and between the Registrant and 21 Erie Realty Trust dated as of December 29, 2003 for the premises located at 21 Erie Street, Cambridge, Massachusetts 02139
- 10.16\*\* Fifth Amended and Restated Stockholders Agreement by and among the Registrant and certain of its stockholders dated January 19, 2006.
- 10.17\*\* Amendment No. 1 to Fifth Amended and Restated Stockholders Agreement by and among the Registrant and certain of its stockholders dated July 12, 2006
- 10.18\*\* Stock Purchase Agreement between the Registrant and Archer Daniels Midland Company dated July 12, 2006
- 10.19### License Agreement by and between the Registrant and Tepha, Inc. dated as of October 1, 1999.
- 10.20### License Agreement by and between the Registrant and Tepha, Inc. dated as of September 9, 2003.
- 10.21### Technology Alliance and Option Agreement by and between the Registrant and ADM Polymer Corporation dated as of November 4, 2004.
- 10.22### First Amendment to Technology Alliance and Option Agreement by and between the Registrant and ADM Polymer Corporation dated as of September 8, 2005.
- 10.23†/\*\ Employment Agreement by and between the Registrant and Brian Igoe dated August 29, 2006.
- 10.24†/\*\ Employment Agreement by and between the Registrant and Oliver Peoples dated July 20, 2006.
- 23.1\* Consent of Goodwin Procter LLP (included in Exhibit 5.1)
- 23.2/\*\ Consent of PricewaterhouseCoopers LLP
- 24.1/\*\ Power of Attorney (included in page II-8)

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† Indicates a management contract or any compensatory plan, contract or arrangement.

\* To be filed by amendment.

\*\* Previously filed.

/\*\ Filed herewith.

# Confidential treatment requested for portions of this document.

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AMENDED AND RESTATED  
CERTIFICATE OF INCORPORATION  
OF  
METABOLIX, INC.

Metabolix, Inc., a corporation organized and existing under the laws of the State of Delaware (the "Corporation"), hereby certifies as follows:

1. The name of the Corporation is Metabolix, Inc. The original certificate of incorporation of Metabolix, Inc. was filed with the Secretary of State of the State of Delaware on September 1, 1998.
2. This Amended and Restated Certificate of Incorporation was duly adopted in accordance with the provisions of Sections 242 and 245 of the Delaware General Corporation Law (the "DGCL").
3. The text of the Certificate of Incorporation of this corporation be hereby amended and restated in its entirety to provide as herein set forth in full.

ARTICLE I

The name of the Corporation is Metabolix, Inc.

ARTICLE II

The address of the Corporation's registered office in the State of Delaware is c/o The Corporation Trust Company, 1209 Orange Street in the City of Wilmington, County of New Castle. The name of its registered agent at such address is The Corporation Trust Company.

ARTICLE III

The purpose of the Corporation is to engage in any lawful act or activity for which corporations may be organized under the DGCL.

ARTICLE IV

CAPITAL STOCK

The total number of shares of capital stock which the Corporation shall have authority to issue is One Hundred Five Million (105,000,000) shares, of which (i) Seventy-Nine Million One Hundred Thousand (79,100,000) shares shall be a class designated as common stock, par value \$.01 per share (the "Common Stock"), (ii) Twenty Million Nine Hundred Thousand (20,900,000) shares shall be a class designated as Preferred Stock, par value \$.01 per share (the "pre-IPO Preferred Stock"), and (iii) Five Million (5,000,000) shares shall be a class designated as undesignated preferred stock, par value \$.01 per share (the "Undesignated Preferred Stock" and, together with the pre-IPO Preferred Stock, the "Preferred Stock").

The number of authorized shares of the class of Undesignated Preferred Stock may from time to time be increased or decreased (but not below the number of shares outstanding) by the affirmative vote of the holders of a majority of the outstanding shares of Common Stock entitled to vote, without a vote of the holders of the Preferred Stock (subject to the terms of the pre-IPO Preferred Stock and except as otherwise provided in any certificate of designations of any series of Undesignated Preferred Stock).

The powers, preferences and rights of, and the qualifications, limitations and restrictions upon, each class or series of stock shall be determined in accordance with, or as set forth below in, this Article IV.

At the time the filing of this Amended and Restated Certificate of Incorporation with the Secretary of State of the State of Delaware becomes effective:

(a) Each outstanding share of Common Stock, par value \$0.01 per share, of the Corporation (the "Old Common Stock") shall be reclassified as and subdivided into 0.8173 shares of Common Stock, par value \$0.01 per share, of the Corporation; (the "Reverse Stock Split") and

(b) All authorized but unissued shares of Old Common Stock shall be eliminated and extinguished.

Upon the effective filing hereof with the Secretary of State of the State of Delaware, the reclassification and subdivision of the issued and outstanding shares of Old Common Stock into issued and outstanding shares of Common Stock shall occur automatically without any further action by the holders of such shares of Old Common Stock and whether or not the certificates representing the shares of Old Common Stock are surrendered to the Corporation; provided, however, that the Corporation shall not be obligated to issue certificates evidencing the shares of Common Stock issuable upon such reclassification and subdivision unless certificates evidencing such shares of Old Common Stock which have been reclassified and subdivided are either delivered to the Corporation as hereinafter provided or the holder notifies the Corporation that such certificates have been lost, stolen or destroyed and executes an agreement satisfactory to the Corporation to indemnify the Corporation from any loss incurred by it in connection therewith.

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Upon the occurrence of the automatic reclassification and subdivision of the Old Common Stock, the holders of Old Common Stock shall surrender the certificates representing such shares at the office of the Corporation. Thereupon there shall be issued and delivered to such holder at such office and in the name shown on such surrendered certificate or certificates(s), a certificate for the number of shares of Common Stock into which the surrendered shares of Old Common Stock have been reclassified and subdivided, dated as of the date on which such automatic reclassification and subdivision occurs.

#### A. COMMON STOCK

Subject to all the rights, powers and preferences of the Preferred Stock and except as provided by law or in this Article IV (or in any certificate of designations of any series of Undesignated Preferred Stock):

(a) the holders of the Common Stock shall have the exclusive right to vote for the election of directors of the Corporation (the "Directors") and on all other matters requiring stockholder action, each outstanding share entitling the holder thereof to one vote on each matter properly submitted to the stockholders of the Corporation for their vote; PROVIDED, HOWEVER, that, except as otherwise required by law, holders of Common Stock, as such, shall not be entitled to vote on any amendment to this Certificate (or on any amendment to a certificate of designations of any series of Undesignated Preferred Stock) that alters or changes the powers, preferences, rights or other terms of one or more outstanding series of Undesignated Preferred Stock if the holders of such affected series are entitled to vote, either separately or together with the holders of one or more other such series, on such amendment pursuant to this Certificate (or pursuant to a certificate of designations of any series of Undesignated Preferred Stock) or pursuant to the DGCL;

(b) dividends may be declared and paid or set apart for payment upon the Common Stock out of any assets or funds of the Corporation legally available for the payment of dividends, but only when and as declared by the Board or any authorized committee thereof; and

(c) upon the voluntary or involuntary liquidation, dissolution or winding up of the Corporation, the net assets of the Corporation shall be distributed pro rata to the holders of the Common Stock.

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#### B. PRE-IPO CONVERTIBLE PREFERRED STOCK

1. GENERAL. The pre-IPO Preferred Stock may be issued in one or more series at such time or times and for such consideration or considerations as a majority of the Board of Directors of the Corporation may determine. Each series shall be so designated as to distinguish the shares thereof from the shares of all other series and classes of capital stock. Except as otherwise provided in this Certificate of Incorporation, different series of pre-IPO Preferred Stock shall not be construed to constitute different classes of shares for the purpose of voting by classes.

The Board of Directors of the Corporation is expressly authorized, by a vote or written consent of at least a majority of the Board of Directors then in office, to provide for the issuance of all or any shares of the pre-IPO Preferred Stock in one or more series, each with such designations, preferences, voting powers (or no voting powers), relative, participating, optional or other special rights and privileges and such qualifications, limitations or restrictions thereof as shall be stated in the resolution or resolutions adopted

by the Board of Directors of the Corporation to create such series, and a Certificate of Designation of said resolution or resolutions shall be filed in accordance with the General Corporation Law of the State of Delaware. The authority of the Board of Directors of the Corporation with respect to each such series shall include, without limitation of the foregoing, the right to provide that the shares of each such series may:

(i) have such distinctive designation and consist of such number of shares;

(ii) be subject to redemption at such time or times and at such price or prices;

(iii) be entitled to the benefit of a retirement or sinking fund for the redemption of such series on such terms and in such amounts;

(iv) be entitled to receive dividends (which may be cumulative or non-cumulative) at such rates, on such conditions, and at such times, and payable in preference to, or in such relation to, the dividends payable on any other class or classes or any other series;

(v) be entitled to such rights upon the dissolution of, or upon any distribution of the assets of, the Corporation;

(vi) be convertible into, or exchangeable for, shares of any other class or classes of capital stock, or of any other series of the same or any other class or classes of stock of the Corporation at such price or prices or at such rates of exchange and with such adjustments, if any;

(vii) be entitled to the benefit of such limitations, if any, on the issuance of additional shares of such series or shares of any other series of pre-IPO Preferred Stock; or

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(vii) be entitled to such other preferences, powers, qualifications, rights and privileges, all as the Board of Directors of the Corporation may deem advisable and as are not inconsistent with law and the provisions of this Certificate of Incorporation.

2. DESIGNATION. Of the 20,900,000 shares of pre-IPO Preferred Stock which the Corporation has authority to issue, 1,033,000 shall be designated and known as Series A Convertible Preferred Stock (the "Series A Preferred"), 396,000 shall be designated and known as the Series B Convertible Preferred Stock (the "Series B Preferred"), 785,000 shall be designated and known as the Series C Convertible Preferred Stock (the "Series C Preferred"), 733,000 shall be designated and known as the Series D Convertible Preferred Stock (the "Series D Preferred"); 420,751 shall be designated and known as the Series E Convertible Preferred Stock (the "Series E Preferred"); 186,899 shall be designated as the Series F Convertible Preferred Stock (the "Series F Preferred"); 312,119 shall be designated as the Series G Convertible Preferred Stock (the "Series G Preferred"); 192,147 shall be designated as the Series I-1 Convertible Preferred Stock (the "Series I-1 Preferred"); 2,000 shall be designated as the Series J-1 Convertible Preferred Stock (the "Series J-1 Preferred"); 5,244,902 shall be designated as the Series 04 Convertible Preferred Stock (the "Series 04 Preferred"); 5,244,902 shall be designated as the Series 04-1 Convertible Preferred Stock (the "Series 04-1 Preferred"); 2,920,000 shall be designated as the Series 05 Convertible Preferred Stock (the "Series 05 Preferred"); and 2,920,000 shall be designated as the Series 05-1 Convertible Preferred Stock (the "Series 05-1 Preferred"). The Series A Preferred, Series B Preferred, Series C Preferred, Series D Preferred, Series E Preferred, Series F Preferred and Series G Preferred shall be collectively referred to herein as the "Junior Preferred".

3. DIVIDENDS. The holders of the then outstanding pre-IPO Preferred Stock shall be entitled to receive, out of funds legally available therefor, when and if declared by the Board of Directors, dividends at the same rate as dividends (other than dividends paid in additional shares of Common Stock) that are paid with respect to the Common Stock (treating each share of pre-IPO Preferred Stock as being equal to the number of shares of Common Stock (including fractions of a share) into which each such share of pre-IPO Preferred Stock is then convertible).

4. LIQUIDATION, DISSOLUTION OR WINDING UP. All of the preferential amounts to be paid to the holders of the pre-IPO Preferred Stock pursuant to Section 4(a) of this Article FOURTH shall be paid or set apart for payment before the payment or setting apart for payment of any amount for, or the distribution of any assets of the Corporation to, the holders of the Common Stock in connection with a liquidation, dissolution or winding up of the Corporation.

(a) In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation, the holders of pre-IPO Preferred Stock then outstanding shall be entitled to be paid out of the assets of the Corporation available for distribution to its stockholders before any payment shall be made to the holders of Common Stock or any other class or series of stock ranking on liquidation junior to the pre-IPO Preferred Stock by reason of their ownership thereof, an amount equal to (i) One and 14/100 Dollars (\$1.14) per share of Series A Preferred, (ii) One and 60/100 Dollars (\$1.60) per share of Series B Preferred, (iii) Two and 40/100 Dollars (\$2.40) per share of Series C Preferred, (iv) Four and 60/100 Dollars (\$4.60) per share of Series D Preferred, (v) Ten and 80/100 Dollars (\$10.80) per share of Series E

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Preferred, (vi) Ten and 80/100 Dollars (\$10.80) per share of Series F Preferred, (vii) Ten and 80/100 Dollars (\$10.80) per share of Series G Preferred, (viii) Ten and 80/100 Dollars (\$10.80) per share of Series I-1 Preferred (the "Series I-1 Preference"), (ix) Ten and 80/100 Dollars (\$10.80) per share of Series J-1 Preferred (the "Series J-1 Preference"), (x) Five and 40/100 Dollars (\$5.40) per share of Series 04 Preferred (the "Series 04 Preference") and Five and 40/100 Dollars (\$5.40) per share of Series 04-1 Preferred (the "Series 04-1 Preference"), and (xi) Six and 00/100 Dollars (\$6.00) per share of Series 05 Preferred (the "Series 05 Preference") and Six and 00/100 Dollars (\$6.00) per share of Series 05-1 Preferred (the "Series 05-1 Preference") (each appropriately adjusted for stock splits, stock dividends, reclassifications, recapitalizations or other similar events affecting the pre-IPO Preferred Stock). If upon any such liquidation, dissolution or winding up of the Corporation the remaining assets of the Corporation available for distribution to its stockholders shall be insufficient to pay the holders of shares of pre-IPO Preferred Stock the full amount to which they shall be entitled, the assets of the Corporation shall first be distributed ratably to the holders of shares of Series 05 Preferred and Series 04 Preferred in proportion to the respective amounts which would otherwise be payable in respect of the shares held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full until the Series 05 Preference and the Series 04 Preference are paid in full, then ratably to the holders of shares of Series 05-1 Preferred, Series 04-1 Preferred, Series J-1 Preferred and Series I-1 Preferred in proportion to the respective amounts which would otherwise be payable in respect of the shares held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full, until the Series 05-1 Preference, Series 04-1 Preference, Series J-1 Preference and Series I-1 Preference are paid in full, and then to the holders of shares of Junior Preferred and any class or series of stock ranking on liquidation on a parity with the Junior Preferred in proportion to the respective amounts which would otherwise be payable in respect of the shares held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full.

(b) After the payment of all preferential amounts required to be paid to the holders of pre-IPO Preferred Stock pursuant to Section 4(a) of this Article FOURTH and any other class or series of stock of the Corporation ranking on liquidation senior to or on a parity with the pre-IPO Preferred Stock, upon the dissolution, liquidation or winding up of the Corporation, the remaining net assets of the Corporation available for distribution shall be distributed ratably among the holders of Series 05 Preferred, Series 05-1 Preferred, Series 04 Preferred, Series 04-1 Preferred, Series J-1 Preferred, Series I-1 Preferred and Common Stock (with each share of Series 05 Preferred, Series 05-1 Preferred, Series 04 Preferred, Series 04-1 Preferred, Series J-1 Preferred, and Series I-1 Preferred being deemed, for such purpose, to be equal to the number of shares of Common Stock (including fractions of a share) into which each such share is convertible immediately prior to the close of business on the business day fixed for such distribution).

(c) The merger or consolidation of the Corporation into or with another corporation which results in the exchange of outstanding shares of the Corporation for securities or other consideration issued or paid or caused to be issued or paid by such other corporation or an affiliate thereof, or the sale of all or substantially all the assets of the Corporation, shall be deemed to be a liquidation, dissolution or winding up of the Corporation for purposes of this Section 4, but only if, in the case of a merger, after giving effect to such

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merger, the holders of the Corporation's securities immediately prior to such merger own 50% or less of any surviving entity's voting securities. The amount deemed distributed to the holders of pre-IPO Preferred Stock upon any such merger or consolidation shall be the cash or the value of the property, rights

or securities distributed to such holders by the acquiring person, firm or other entity. The value of such property, rights or other securities shall be determined in good faith by the Board of Directors of the Corporation.

#### 5. VOTING.

(a) Each holder of outstanding shares of pre-IPO Preferred Stock shall be entitled to the number of votes equal to the number of whole shares of Common Stock into which the shares of pre-IPO Preferred Stock held by such holder are then convertible (as adjusted from time to time pursuant to Section 7 of this Article FOURTH), at each meeting of stockholders of the Corporation (and written actions of stockholders in lieu of meetings) with respect to any and all matters presented to the stockholders of the Corporation for their action or consideration. Except as provided by law, by the provisions of this Certificate of Incorporation or by the provisions establishing any other series of pre-IPO Preferred Stock, holders of any outstanding series of pre-IPO Preferred Stock shall vote together with the holders of Common Stock as a single class on all actions to be taken by the stockholders of the Corporation, including actions amending this Certificate of Incorporation to increase the number of authorized shares of Common Stock.

(b) For this purpose, without limiting the generality of the foregoing (but subject to the provisions of Section 5(d) of this Article FOURTH) the authorization or issuance of any series of pre-IPO Preferred Stock which is on a parity with or has preference or priority over the Series A Preferred, Series B Preferred, Series C Preferred, Series D Preferred, Series E Preferred, Series F Preferred, Series G Preferred, Series I-1 Preferred, Series J-1 Preferred, Series 04 Preferred, Series 04-1 Preferred, Series 05 Preferred or Series 05-1 Preferred (the "Existing pre-IPO Preferred Stock") as to the right to receive either dividends or amounts distributable upon liquidation, dissolution or winding up of the Corporation shall not be deemed to affect adversely the Existing pre-IPO Preferred Stock. The number of authorized shares of pre-IPO Preferred Stock of any series may be increased or decreased (but not below the number of shares then outstanding) by the affirmative vote of the holders of a majority of the then outstanding shares of the Common Stock, the Existing pre-IPO Preferred Stock and all other classes or series of stock of the Corporation entitled to vote thereon, voting as a single class.

(c) In addition to any other rights provided by law, by the provisions of this Certificate of Incorporation or by the provisions establishing any other series of pre-IPO Preferred Stock, so long as at least 750,000 shares of pre-IPO Preferred Stock are outstanding (appropriately adjusted for stock splits, stock contributions, stock dividends and recapitalizations of the pre-IPO Preferred Stock), the Corporation shall not, without first obtaining the affirmative vote or written consent of the holders of a majority of the shares of pre-IPO Preferred Stock then outstanding, voting together as a single class:

(i) enter into any sale, consolidation, merger, reorganization or conversion of the Corporation, or liquidate the Corporation;

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(ii) declare or pay any dividend on any class of capital stock or repurchase any shares of any class of capital stock, except for repurchases of stock issued under any stock or option plan approved by the Board of Directors, from any person or entity pursuant to an agreement approved by the Board of Directors and repurchases in accordance with the exchange rights set forth in that certain Series 04 Preferred Stock Purchase Agreement by and among the Corporation and certain investors dated April 2, 2004, as amended from time to time (the "Series 04 Purchase Agreement"), that certain 2005 Series 04 Preferred Stock Purchase Agreement by and among the Corporation and certain investors dated March 2, 2005, as amended from time to time (the "2005 Series 04 Purchase Agreement" and together with the Series 04 Purchase Agreement, the "Series 04 Purchase Agreements"), that certain Series 04 Preferred Stock Exchange Agreement by and among the Corporation and certain investors dated April 2, 2004, as amended from time to time (the "Series 04 Exchange Agreement") or that certain Series 05 Preferred Stock Purchase Agreement by and among the Corporation and certain investors dated January 19, 2006, as amended from time to time (the "Series 05 Purchase Agreement") or in accordance with Section 9 of this Article FOURTH;

(iii) effect any recapitalization or reclassification of any shares of pre-IPO Preferred Stock;

(iv) sell, lease, transfer, license or pledge all, or substantially all of its assets;

(v) file or consent to the filing of a petition under federal or state bankruptcy, insolvency, reorganization or similar laws with respect to the Corporation;

(vi) increase the size of the Corporation's Board of Directors to a number greater than seven (7); or

(vii) amend this Section 5(c).

(d) In addition to any other rights provided by law, by the provisions of this Certificate of Incorporation or by the provisions establishing any other series of pre-IPO Preferred Stock, so long as Vertical Fund I, L.P. and Vertical Fund II, L.P. (collectively, "Vertical") together with their Affiliates (as defined in Section 9 of this Article FOURTH) continue to hold at least 50% of the aggregate shares of (i) Series 04 Preferred issued to Vertical pursuant to the Series 04 Purchase Agreements and the Series 04 Exchange Agreement and (ii) Series 05 Preferred issued pursuant to the Series 05 Purchase Agreement (appropriately adjusted for stock splits, stock contributions, stock dividends and recapitalizations of the Series 05 Preferred and the Series 04 Preferred), the Corporation shall not, without first obtaining the affirmative vote or written consent of the holders of a majority of the aggregate shares of Series

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05 Preferred and Series 04 Preferred then outstanding, voting as a single class (which vote or consent must include the vote or consent of Vertical):

(i) issue any securities (including debt securities) ranking senior to the Series 04 Preferred or the Series 05 Preferred as to dividends, interest, redemption or as to the distribution of assets on the liquidation, dissolution or winding up of the Corporation or, except to the extent required by law, having the right to vote as a separate class on any matter to be presented to the stockholders; or

(ii) amend this Certificate of Incorporation in a manner materially adverse to the holders of Series 05 Preferred or Series 04 Preferred or amend any provisions of Section 4 (Liquidation, Dissolution or Winding Up), Section 5 (Voting), Section 7(d) (Adjustment of Series 04 and/or Series 05 Conversion Price Upon Issuance of Common Stock) or Section 9 (Pay to Play Provision) of this Article FOURTH which affects the rights of the Series 05 Preferred or Series 04 Preferred. For the avoidance of doubt, the provisions of this Section 5(d)(ii) shall not apply to any amendments to this Certificate of Incorporation, the purpose of which is to authorize a series of capital stock the rights and preferences of which are pari-passu with or junior to those of the Series 05 Preferred or Series 04 Preferred with respect to dividends, interest, redemptions or as to distribution of assets on the liquidation, dissolution or winding up of the Corporation.

6. [Intentionally Omitted]

7. OPTIONAL CONVERSION. The holders of the pre-IPO Preferred Stock shall have conversion rights as follows (the "Conversion Rights"):

(a) RIGHT TO CONVERT. Each share of pre-IPO Preferred Stock shall be convertible, at the option of the holder thereof, at any time and from time to time, into such number of fully paid and nonassessable shares of Common Stock as is determined by dividing the Adjusted Purchase Price (as defined below) for the series of pre-IPO Preferred Stock being converted by the applicable Conversion Price (as defined below) in effect at the time of conversion. The Adjusted Purchase Price and the Conversion Price shall initially be (i) One and 14/100 Dollars (\$1.14) per share of Series A Preferred, (ii) One and 60/100 Dollars (\$1.60) per share of Series B Preferred, (iii) Two and 40/100 Dollars (\$2.40) per share of Series C Preferred, (iv) Four and 60/100 Dollars (\$4.60) per share of Series D Preferred, (v) Ten and 80/100 Dollars (\$10.80) per share of Series E Preferred, (vi) Ten and 80/100 Dollars (\$10.80) per share of Series F Preferred, (vii) Ten and 80/100 Dollars (\$10.80) per share of Series G Preferred, (viii) Ten and 80/100 Dollars (\$10.80) per share of Series I-1 Preferred, (ix) Ten and 80/100 Dollars (\$10.80) per share of Series J-1 Preferred, (x) Five and 40/100 Dollars (\$5.40) per share of Series 04 Preferred, (xi) Five and 40/100 Dollars (\$5.40) per share of Series 04-1 Preferred, (xii) Six and 00/100 Dollars (\$6.00) per share of Series 05 Preferred and (xiii) Six and 00/100 Dollars (\$6.00) per share of Series 05-1 Preferred. Such Conversion Price, and the rate at which shares of pre-IPO Preferred Stock may be converted into shares of Common Stock, shall be subject to adjustment as provided below.

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In the event of a liquidation of the Corporation, the Conversion Rights shall terminate immediately prior to the payment of any amounts distributable on liquidation to the holders of pre-IPO Preferred Stock.

(b) FRACTIONAL SHARES. No fractional shares of Common Stock shall be issued upon conversion of the pre-IPO Preferred Stock. In lieu of any fractional shares to which the holder would otherwise be entitled, the Corporation shall pay cash equal to such fraction multiplied by the market price per share of Common Stock (as determined in good faith by the Board of Directors) on the close of business on the date of such conversion. The determination of the number of fractional shares shall be based on the total number of shares of pre-IPO Preferred Stock being converted at any one time by any holder thereof, not upon each share of pre-IPO Preferred Stock being converted.

(c) MECHANICS OF CONVERSION.

(i) In order for a holder of pre-IPO Preferred Stock to convert shares of pre-IPO Preferred Stock into shares of Common Stock, such holder shall surrender the certificate or certificates for such shares of pre-IPO Preferred Stock, at the office of the transfer agent for the pre-IPO Preferred Stock (or at the principal office of the Corporation if the Corporation serves as its own transfer agent), together with written notice that such holder elects to convert all or any number of the shares of the pre-IPO Preferred Stock represented by such certificate or certificates. Such notice shall state such holder's name or the names of the nominees in which such holder wishes the certificate or certificates for shares of Common Stock to be issued. If required by the Corporation, certificates surrendered for conversion shall be endorsed or accompanied by a written instrument or instruments of transfer, in form satisfactory to the Corporation, duly executed by the registered holder or his or its attorney duly authorized in writing. The date of receipt of such certificates and notice by the transfer agent (or by the Corporation if the Corporation serves as its own transfer agent) shall be the conversion date ("Conversion Date"). The Corporation shall, as soon as practicable after the Conversion Date, issue and deliver to such holder of pre-IPO Preferred Stock, or to his or its nominees, a certificate or certificates for the full number of shares of Common Stock issuable on such conversion in accordance with the provisions hereof and cash as provided in Section 7(b) of this Article FOURTH in respect of any fraction of a share of Common Stock otherwise issuable upon such conversion.

(ii) The Corporation shall at all times when pre-IPO Preferred Stock shall be outstanding, reserve and keep available out of its authorized but unissued stock, for the purpose of effecting the conversion of the pre-IPO Preferred Stock, such number of its duly authorized shares of Common Stock as shall from time to time be sufficient to effect the conversion of all outstanding shares of pre-IPO Preferred Stock. Before taking any action which would cause an adjustment reducing the Conversion Price below the then par value of the shares of Common Stock issuable upon conversion of the pre-IPO Preferred Stock, the Corporation

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will take any corporate action which may, in the opinion of its counsel, be necessary in order that the Corporation may validly and legally issue fully paid and nonassessable shares of Common Stock at such adjusted Conversion Price.

(iii) Upon any such conversion, no adjustment to the Conversion Price shall be made for any accrued and unpaid dividends on the pre-IPO Preferred Stock surrendered for conversion or on the Common Stock delivered upon conversion.

(iv) All shares of pre-IPO Preferred Stock which shall have been surrendered for conversion as herein provided shall no longer be deemed to be outstanding and all rights with respect to such shares, including the rights, if any, to receive notices and to vote, shall immediately cease and terminate on the Conversion Date, except only the right of the holders thereof to receive shares of Common Stock in exchange therefor and payment of any accrued and unpaid dividends thereon. Any shares of pre-IPO Preferred Stock so converted shall be retired and canceled and shall not be reissued, and the Corporation may from time to time take such appropriate action as may be necessary to reduce the authorized shares of pre-IPO Preferred Stock

accordingly.

(v) If the conversion is in connection with an underwritten offer of securities registered pursuant to the Securities Act of 1933, as amended, the conversion may at the option of any holder tendering pre-IPO Preferred Stock for conversion, be conditioned upon the closing with the underwriter of the sale of securities pursuant to such offering, in which event the person(s) entitled to receive the Common Stock issuable upon such conversion of the pre-IPO Preferred Stock shall not be deemed to have converted such pre-IPO Preferred Stock until immediately prior to the closing of the sale of securities.

(d) ADJUSTMENT OF SERIES 04 AND/OR SERIES 05 CONVERSION PRICE UPON ISSUANCE OF COMMON STOCK. Except as provided in Section 7(e) or Section 9 of this Article FOURTH, if the Corporation shall, at any time, or from time to time, after the date on which this Certificate of Incorporation is filed with the Secretary of State of the State of Delaware (the "Applicable Issue Date") and while there are shares of Series 04 Preferred and/or Series 05 Preferred outstanding, issue or sell, or is, in accordance with Section 7(d)(1) through (5) of this Article FOURTH, deemed to have issued or sold, any shares of Common Stock for a consideration per share less than the Conversion Price of such series of pre-IPO Preferred Stock in effect immediately prior to the time of such issue or sale (the "Effective Conversion Price"), then, forthwith upon such issue or sale, the Effective Conversion Price for such series of pre-IPO Preferred Stock shall be reduced to the price determined by dividing (i) an amount equal to the sum of (a) the number of shares of Common Stock outstanding or deemed outstanding, determined on a fully diluted basis assuming the exercise, conversion and exchange (as the case may be) of all outstanding shares of Convertible Securities and Options (each as defined below) immediately prior to such issue or sale multiplied by the then existing per share Effective Conversion Price for such series of pre-IPO Preferred Stock and (b) the consideration, if any, received by the Corporation upon such issue or sale, by (ii) the total number of shares of

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Common Stock outstanding or deemed outstanding determined on a fully diluted basis assuming the exercise, conversion and exchange (as the case may be) of all outstanding shares of Convertible Securities and Options immediately after such issue or sale. For the avoidance of doubt, for purposes of the calculation in (ii) above, the number of shares of Common Stock deemed issuable upon conversion or exchange of any series of pre-IPO Preferred Stock shall not take into account the issuance of any additional shares of Common Stock as a result of any adjustment to the Effective Conversion Price of any series of pre-IPO Preferred Stock as a result of the then applicable calculation. With respect to any issue or sale (deemed or otherwise) by the Corporation of shares of Common Stock, the application of this Section 7(d) may be waived with respect to all shares of Series 05 Preferred and Series 04 Preferred, upon the affirmative vote or written consent of the holders of a majority of the shares of the aggregate of Series 05 Preferred and Series 04 Preferred then outstanding (which vote or consent must include the vote or consent of Vertical, so long as Vertical together with its Affiliates continues to hold at least 50% of the aggregate shares of Series 05 Preferred and Series 04 Preferred on an as-converted to Common Stock basis issued to Vertical, together with its Affiliates pursuant to the Series 05 Purchase Agreement, the Series 04 Purchase Agreements and the Series 04 Exchange Agreement, appropriately adjusted for stock splits, stock contributions, stock dividends and recapitalizations of the Series 05 Preferred and Series 04 Preferred).

For purposes of this Section 7(d) only, the following Sections 7(d)(1) to 7(d)(5) shall also be applicable:

(1) ISSUANCE OF RIGHTS OR OPTIONS. In case at any time the Corporation shall in any manner grant (whether directly or by assumption in a merger or otherwise) any warrants or other rights to subscribe for or to purchase or any options for the purchase of Common Stock or any stock or security convertible into or exchangeable for Common Stock (such warrants, rights or options being called "Options" and such convertible or exchangeable stock or securities being called "Convertible Securities") whether or not such Options or the right to convert or exchange any such Convertible Securities are immediately exercisable, and the price per share for which Common Stock is issuable upon the exercise of such Options or upon the conversion or exchange of such Convertible Securities (determined by dividing (i) the total amount, if any, received or receivable by the Corporation as consideration for the granting of such Options, plus the minimum aggregate amount of additional consideration payable to the Corporation upon the exercise of all such Options, plus, in the case of such Options which relate to Convertible Securities, the minimum



aggregate amount of additional consideration, if any, payable upon the issue or sale of such Convertible Securities and upon the conversion or exchange thereof, by (ii) the total maximum number of shares of Common Stock issuable upon the exercise of such Options or upon the conversion or exchange of all such Convertible Securities issuable upon the exercise of such Options) shall be less than the Effective Conversion Price of either the Series 04 Preferred or the Series 05 Preferred, then the total maximum number of shares of Common Stock issuable upon the exercise of such Options or upon conversion or exchange of the total maximum amount of such Convertible Securities issuable upon the exercise of such Options shall be deemed to have

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been issued for such price per share as of the date of granting of such Options or the issuance of such Convertible Securities and thereafter shall be deemed to be outstanding. Except as otherwise provided in Section 7(d)(3) of this Article FOURTH no adjustment of the Effective Conversion Price of the Series 04 Preferred or the Series 05 Preferred shall be made upon the actual issue of such Common Stock or of such Convertible Securities upon exercise of such Options or upon the actual issue of such Common Stock upon conversion or exchange of such Convertible Securities.

(2) ISSUANCE OF CONVERTIBLE SECURITIES. In case the Corporation shall in any manner issue (whether directly or by assumption in a merger or otherwise) or sell any Convertible Securities, whether or not the rights to exchange or convert any such Convertible Securities are immediately exercisable, and the price per share for which Common Stock is issuable upon such conversion or exchange (determined by dividing (i) the total amount received or receivable by the Corporation as consideration for the issue or sale of such Convertible Securities, plus the minimum aggregate amount of additional consideration, if any, payable to the Corporation upon the conversion or exchange thereof, by (ii) the total maximum number of shares of Common Stock issuable upon the conversion or exchange of all such Convertible Securities) shall be less than the Effective Conversion Price of either the Series 04 Preferred or the Series 05 Preferred, then the total maximum number of shares of Common Stock issuable upon conversion or exchange of all such Convertible Securities shall be deemed to have been issued for such price per share as of the date of the issue or sale of such Convertible Securities and thereafter shall be deemed to be outstanding, provided that (a) except as otherwise provided in Section 7(d)(3) of this Article FOURTH, no adjustment of the Effective Conversion Price of the Series 04 Preferred or the Series 05 Preferred shall be made upon the actual issue of such Common Stock upon conversion or exchange of such Convertible Securities and (b) if any such issue or sale of such Convertible Securities is made upon exercise of any Options to purchase any such Convertible Securities for which adjustments of the Effective Conversion Price of either the Series 04 Preferred or the Series 05 Preferred has been or is to be made pursuant to other provisions of this Section 7(d), no further adjustment of such Effective Conversion Price shall be made by reason of such issue or sale.

(3) CHANGE IN OPTION PRICE OR CONVERSION RATE. Upon the happening of any of the following events, namely, if the purchase price provided for in any Option referred to in Section 7(d)(1) of this Article FOURTH, the additional consideration, if any, payable upon the conversion or exchange of any Convertible Securities referred to in Section 7(d)(1) or 7(d)(2) of this Article FOURTH, or the rate at which Convertible Securities referred to in Section 7(d)(1) or 7(d)(2) of this Article FOURTH are convertible into or exchangeable for Common Stock shall change at any time (including, but not limited to, changes under or by reason of provisions designed to protect against dilution), the Effective Conversion Price of the Series 04 Preferred and the Series 05 Preferred

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shall forthwith be readjusted to the Conversion Price of such series which would have been in effect at such time had such Options or Convertible Securities still outstanding provided for such changed purchase price, additional consideration or conversion rate, as the case may be, at the time initially granted, issued or sold. On the expiration or termination of any Option or any right to convert or exchange any Convertible Security, the Effective Conversion Price of the Series 04 Preferred and the Series 05 Preferred shall be increased

to the Conversion Price of such series which would have been in effect at the time of such expiration or termination had such Option or Convertible Security, to the extent outstanding as of such termination or expiration, never been issued.

(4) CONSIDERATION FOR STOCK. In case any shares of Common Stock, Options or Convertible Securities shall be issued or sold for cash, the consideration received therefor shall be deemed to be the amount received by the Corporation therefor, without deduction therefrom of any expenses incurred or any underwriting commissions or concessions paid or allowed by the Corporation in connection therewith. In case any shares of Common Stock, Options or Convertible Securities shall be issued or sold for a consideration other than cash, the amount of the consideration other than cash received by the Corporation shall be deemed to be the fair value of such consideration as determined in good faith by the Board of Directors of the Corporation, without deduction of any expenses incurred or any underwriting commissions or concessions paid or allowed by the Corporation in connection therewith. In case any Options shall be issued in connection with the issue and sale of other securities of the Corporation, together comprising one integral transaction in which no specific consideration is allocated to such Options by the parties thereto, such Options shall be deemed to have been issued for such consideration as determined in good faith by the Board of Directors of the Corporation.

(5) TREASURY SHARES. The number of shares of Common Stock outstanding at any given time shall not include shares owned or held by or for the account of the Corporation, and the disposition of any such shares shall be considered an issue or sale of Common Stock for the purpose of this Section 7(d).

(e) CERTAIN ISSUES OF COMMON STOCK EXCEPTED. Anything herein to the contrary notwithstanding, the Corporation shall not be required to make any adjustment to the Effective Conversion Price of the Series 04 Preferred or the Series 05 Preferred upon any issuance of (A) shares of capital stock of the Corporation (including securities convertible into or exercisable for capital stock of the Corporation) under any stock or option plan approved by a majority of the Corporation's Board of Directors, (B) Common Stock upon conversion of any shares of pre-IPO Preferred Stock of the Corporation outstanding on the date hereof or issued any date hereafter, (C) shares of capital stock of the Corporation (including securities convertible into or exchangeable for capital stock of the Corporation) issued in connection with the acquisition of another corporation by the Corporation by merger, purchase of substantially all assets or other reorganization whereby the Corporation owns, upon consummation of such acquisition, greater than fifty percent (50%) of the voting power to elect the directors of such

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corporation, (D) shares of capital stock of the Corporation (including securities convertible into or exercisable for capital stock of the Corporation) to financial institutions and leasing companies in connection with borrowing or lease financing arrangements of the Corporation, or to landlords or service companies, (E) capital stock of the Corporation (including securities convertible into or exercisable for capital stock of the Corporation) to acquire technology or licenses, (F) shares of capital stock of the Corporation (including securities convertible into or exchangeable for capital stock of the Corporation) issued pursuant to Section 3 of the Series 04 Purchase Agreements, (G) shares of capital stock of the Corporation (including securities convertible into or exchangeable for capital stock of the Corporation) issued pursuant to Section 3 of the Series 04 Exchange Agreement, (H) shares of capital stock of the Corporation (including securities convertible into or exchangeable for capital stock of the Corporation) issued pursuant to Section 3 of the Series 05 Purchase Agreement; (I) shares of capital stock of the Corporation issued pursuant to the provisions of Section 9 of this Article FOURTH; (J) securities issued upon exercise, conversion or exchange of any of the securities described in (A)-(I) above (and securities issued upon exercise, conversion or exchange of any of those securities); and (K) with respect to the Series 05 Preferred only, any shares of capital stock of the Corporation (including securities convertible into or exchangeable for capital stock of the Corporation) issued pursuant to Section 1 of the Series 05 Purchase Agreement after the date hereof (and securities issued upon the conversion or exchange of any of those securities).

(f) ADJUSTMENT FOR STOCK SPLITS AND COMBINATIONS. If the Corporation shall at any time or from time to time after the Applicable Issue Date effect a subdivision of the outstanding Common Stock, the Conversion Price then in effect immediately before that subdivision shall be proportionately decreased. If the Corporation shall at any time or from time to time after the Applicable Issue Date for the pre-IPO Preferred Stock combine the outstanding

shares of Common Stock, the Conversion Price then in effect immediately before the combination shall be proportionately increased. For avoidance of doubt, the Conversion Price in effect immediately prior to the Reverse Stock Split shall be proportionally adjusted in order to give effect to such Reverse Stock Split. Any adjustment under this paragraph shall become effective at the close of business on the date the subdivision or combination becomes effective.

(g) ADJUSTMENT FOR CERTAIN DIVIDENDS AND DISTRIBUTIONS. In the event the Corporation at any time, or from time to time after the Applicable Issue Date shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable in additional shares of Common Stock, then and in each such event the Conversion Price for such pre-IPO Preferred Stock then in effect shall be decreased as of the time of such issuance or, in the event such a record date shall have been fixed, as of the close of business on such record date, by multiplying the Conversion Price for such pre-IPO Preferred Stock then in effect by a fraction:

(1) the numerator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date, and

(2) the denominator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such

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issuance or the close of business on such record date plus the number of shares of Common Stock issuable in payment of such dividend or distribution;

provided, however, if such record date shall have been fixed and such dividend is not fully paid or if such distribution is not fully made on the date fixed therefor, the Conversion Price for such pre-IPO Preferred Stock shall be re-computed accordingly as of the close of business on such record date and thereafter the Conversion Price for such pre-IPO Preferred Stock shall be adjusted pursuant to this paragraph as of the time of actual payment of such dividends or distributions.

(h) ADJUSTMENTS FOR OTHER DIVIDENDS AND DISTRIBUTIONS. In the event the Corporation at any time or from time to time after the Applicable Issue Date shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable in securities of the Corporation other than shares of Common Stock, then and in each such event provision shall be made so that the holders of such pre-IPO Preferred Stock shall receive upon conversion thereof in addition to the number of shares of Common Stock receivable thereupon, the amount of securities of the Corporation that they would have received had their pre-IPO Preferred Stock been converted into Common Stock on the date of such event and had thereafter, during the period from the date of such event to and including the conversion date, retained such securities receivable by them as aforesaid during such period giving application to all adjustments called for during such period, under this paragraph with respect to the rights of the holders of the pre-IPO Preferred Stock.

(i) ADJUSTMENT FOR RECLASSIFICATION, EXCHANGE, OR SUBSTITUTION. If, any time after the Applicable Issue Date, the Common Stock issuable upon the conversion of the pre-IPO Preferred Stock shall be changed into the same or a different number of shares of any class or classes of stock, whether by capital reorganization, reclassification, or otherwise (other than a subdivision or combination of shares or stock dividend provided for above, or a reorganization, merger, consolidation, or sale of assets provided for below), then and in each such event the holder of each such share of pre-IPO Preferred Stock shall have the right thereafter to convert such share into the kind and amount of shares of stock and other securities and property receivable upon such reorganization, reclassification, or other change, by holders of the number of shares of Common Stock into which such shares of pre-IPO Preferred Stock might have been converted immediately prior to such reorganization, reclassification, or change, all subject to further adjustment as provided herein.

(j) NO IMPAIRMENT. The Corporation will not, by amendment of this Certificate of Incorporation or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms to be observed or performed hereunder by the Corporation, but will at all times in good faith assist in the carrying out of all the provisions of this Section 7 and in the taking of all such action as may be necessary or

appropriate in order to protect the Conversion Rights of the holders of the pre-IPO Preferred Stock against impairment.

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(k) CERTIFICATE AS TO ADJUSTMENTS. Upon the occurrence of each adjustment or readjustment of the Conversion Price pursuant to this Section 7, the Corporation at its expense shall promptly compute such adjustment or readjustment in accordance with the terms hereof and furnish to each holder of pre-IPO Preferred Stock a certificate setting forth such adjustment or readjustment and showing in detail the facts upon which such adjustment or readjustment is based. The Corporation shall, upon the written request at any time of any holder of pre-IPO Preferred Stock, furnish or cause to be furnished to such holder a similar certificate setting forth (i) such adjustments and readjustments, (ii) the Conversion Price then in effect, and (iii) the number of shares of Common Stock and the amount, if any, of other property which then would be received upon the conversion of pre-IPO Preferred Stock.

(l) NOTICE OF RECORD DATE. In the event:

(i) that the Corporation declares a dividend (or any other distribution) on its Common Stock payable in Common Stock or other securities of the Corporation;

(ii) that the Corporation subdivides or combines its outstanding shares of Common Stock;

(iii) of any reclassification of the Common Stock of the Corporation (other than a subdivision or combination of its outstanding shares of Common Stock or a stock dividend or stock distribution thereon), or of any consolidation or merger of the Corporation into or with another corporation, or of the sale of all or substantially all of the assets of the Corporation; or

(iv) of the involuntary or voluntary dissolution, liquidation or winding up of the Corporation;

then the Corporation shall cause to be filed at its principal office or at the office of the transfer agent of the pre-IPO Preferred Stock, and shall cause to be mailed to the holders of the pre-IPO Preferred Stock at their last addresses as shown on the records of the Corporation or such transfer agent, at least ten days prior to the record date specified in (A) below or twenty days before the date specified in (B) below, a notice stating

(A) the record date of such dividend, distribution, subdivision or combination, or, if a record is not to be taken, the date as of which the holders of Common Stock of record to be entitled to such dividend, distribution, subdivision or combination are to be determined, or

(B) the date on which such reclassification, consolidation, merger, sale, dissolution, liquidation or winding up is expected to become effective, and the date as of which it is expected that holders of Common Stock of record shall be entitled to exchange their shares of Common Stock for securities or other property deliverable upon such reclassification, consolidation, merger, sale, dissolution or winding up.

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## 8. MANDATORY CONVERSION.

(a) All shares of pre-IPO Preferred Stock then outstanding shall convert into shares of Common Stock at the then effective conversion rate pursuant to Section 7 of this Article FOURTH, at the closing of the sale of shares of Common Stock in a fully underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended, (in the event of which offering, the person(s) entitled to receive Common Stock issuable upon such conversion of the pre-IPO Preferred Stock shall not be deemed to have converted until immediately prior to the closing of such offering).

(b) All holders of record of shares of pre-IPO Preferred Stock will be given written notice of the date fixed and the place designated for mandatory conversion of all such shares of pre-IPO Preferred Stock pursuant to this Section 8. Such notice will be sent by first class or registered mail, postage prepaid, to each record holder of pre-IPO Preferred Stock at such holder's address last shown on the records of the transfer agent for the pre-IPO Preferred Stock (or the records of the Corporation, if it serves as its own transfer agent). On or before the date fixed for conversion, each holder of shares of pre-IPO Preferred Stock shall surrender his or its certificate or certificates for all such shares to the Corporation at the place designated in

such notice, and shall thereafter receive certificates for the number of shares of Common Stock to which such holder is entitled pursuant to this Section 8. On the date fixed for conversion, all rights with respect to the pre-IPO Preferred Stock so converted, including the rights, if any, to receive notices and vote, will terminate, except for the rights of the holders thereof, upon surrender of their certificate or certificates therefor, to receive certificates for the number of shares of Common Stock into which such pre-IPO Preferred Stock has been converted, and payment of any accrued but unpaid dividends thereon. If so required by the Corporation, certificates surrendered for conversion shall be endorsed or accompanied by written instrument or instruments of transfer, in form satisfactory to the Corporation, duly authorized in writing. As soon as practicable after the date of such mandatory conversion and the surrender of the certificate or certificates for pre-IPO Preferred Stock, the Corporation shall cause to be issued and delivered to each holder, or to his or its nominee, a certificate or certificates for the number of full shares of Common Stock issuable on such conversion in accordance with the provisions hereof and cash as provided in Section 7(b) of this Article FOURTH in respect of any fraction of a share of Common Stock otherwise issuable upon such conversion.

(c) All certificates evidencing shares of pre-IPO Preferred Stock which are required to be surrendered for conversion in accordance with the provisions hereof shall, from and after the date such certificates are so required to be surrendered, be deemed to have been retired and canceled and the shares of pre-IPO Preferred Stock represented thereby converted into Common Stock for all purposes, notwithstanding the failure of the holder or holders thereof to surrender such certificates on or prior to such date. The Corporation may thereafter take such appropriate action as may be necessary to reduce the authorized shares of pre-IPO Preferred Stock accordingly.

9. PAY TO PLAY PROVISION. In the event that the Corporation issues any securities which would result in the reduction (whether or not such reduction is waived as provided in Section 7(d)) of (i) the Effective Conversion Price of the Series 04 Preferred (a "Series 04

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Dilutive Equity Financing"), and/or (ii) the Effective Conversion Price of the Series 05 Preferred (a "Series 05 Dilutive Equity Financing" and, together with the Series 04 Dilutive Equity Financing, a "Dilutive Equity Financing"), the Corporation shall, after the initial closing of such Dilutive Equity Financing, provide notice to each holder of (x) Series 04 Preferred, in the event of a Series 04 Dilutive Equity Financing, and/or (y) Series 05 Preferred, in the event of a Series 05 Dilutive Equity Financing, that did not purchase or agree to purchase (in the case of a Dilutive Issuance structured in a manner in which an investment is made in the Corporation in more than one tranche) its Participation Amount (as defined below) of the securities issued in such Dilutive Equity Financing (the "Pay to Play Notice"). If such holder does not purchase or agree to purchase, as the case may be, its Participation Amount of the securities issued in such Dilutive Equity Financing, by the close of business on the 15th day after delivery of the Pay to Play Notice, then, as of such date, such holder shall be deemed to be a "Non-Participating Holder." Upon being deemed to be a Non-Participating Holder, all of the shares of Series 04 Preferred and/or Series 05 Preferred, as the case may be, owned by the Non-Participating Holder shall automatically and without further action on the part of such holder be converted in accordance with the remaining provisions of this Section 9, with such conversion to be effective as of the date of the initial closing of the applicable Dilutive Equity Financing. Any notice to be delivered by the Corporation in accordance with this Section 9 will be sent by overnight courier or first class or registered mail, postage prepaid, to a holder at such holder's address last shown on the records of the Corporation's transfer agent (or the records of the Corporation, if it serves as its own transfer agent), and shall be deemed to be delivered one day after being sent by courier or two days after being sent by mail.

(a) CONVERSION OF SERIES 04 PREFERRED. In connection with the first Series 04 Dilutive Equity Financing to occur after the Applicable Issue Date, (the "First Series 04 Dilutive Equity Financing"), each share of Series 04 Preferred held by a Non-Participating Holder shall be converted into one share of Series 04-1 Preferred. In connection with any Series 04 Dilutive Equity Financing to occur after the First Series 04 Dilutive Equity Financing (a "Subsequent Series 04 Dilutive Equity Financing"), each share of Series 04 Preferred held by a Non-Participating Holder shall be converted into one share of a newly created series of pre-IPO Preferred Stock (having such number of shares as the Board of Directors may by resolution fix), which series shall be identical in all respects to the Series 04-1 Preferred, except that the Conversion Price of the newly created series of pre-IPO Preferred Stock shall be equal to the Effective Conversion Price of the Series 04 Preferred immediately prior to the applicable Subsequent Series 04 Dilutive Equity Financing and shall be subject to no further adjustments similar to those adjustments set forth in Section 7(d) of this Article FOURTH.

(b) CONVERSION OF SERIES 05 PREFERRED. In connection with the first Series 05 Dilutive Equity Financing to occur after the Applicable Issue Date, ( the "First Series 05 Dilutive Equity Financing"), each share of Series 05 Preferred held by a Non-Participating Holder shall be converted into one share of Series 05-1 Preferred. In connection with any Series 05 Dilutive Equity Financing to occur after the First Series 05 Dilutive Equity Financing (a "Subsequent Series 05 Dilutive Equity Financing" and, together with any Subsequent Series 04 Dilutive Equity Financing, sometimes referred to herein as a "Subsequent Dilutive Equity Financing"), each share of Series 05 Preferred held by a Non-Participating Holder shall be converted into one share of a newly created series of pre-IPO Preferred Stock (having such number of shares as the Board of Directors may by resolution fix), which series shall be identical

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in all respects to the Series 05-1 Preferred, except that the Conversion Price of the newly created series of pre-IPO Preferred Stock shall be equal to the Effective Conversion Price of the Series 05 Preferred immediately prior to the applicable Subsequent Series 05 Dilutive Equity Financing and shall be subject to no further adjustments similar to those adjustments set forth in Section 7(d) of this Article FOURTH.

(c) Upon the occurrence of a Subsequent Dilutive Equity Financing, the Board of Directors shall take all necessary actions to designate each new series of pre-IPO Preferred Stock required to be designated in accordance with Sections 9(a) and 9(b) of this Article FOURTH. Upon the conversion of shares of Series 04 Preferred or Series 05 Preferred in accordance with this Section 9, the shares of Series 04 Preferred and/or Series 05 Preferred so converted shall be cancelled and not subject to reissuance. As used in this Section 9, the term Participation Amount shall mean the amount of securities issued in the applicable Dilutive Equity Financing that such holder of Series 04 Preferred and/or Series 05 Preferred has the right to purchase pursuant to Article III of the Fifth Amended and Restated Stockholders' Agreement by and among the Corporation and certain stockholders of the Corporation dated as of January 19, 2006, as the same may be amended from time to time, and as such Participation Amount may be waived or amended in accordance with the terms and conditions of such agreement; provided that in the event that Vertical purchases less than 100% of its Participation Amount of the securities issued in the applicable Dilutive Equity Financing, the Participation Amount of each holder of Series 04 Preferred and/or Series 05 Preferred (including Vertical) shall be reduced to such percentage of such holder's Participation Amount as is equal to the percentage of Vertical's Participation Amount that Vertical purchases in the offering. In determining any such holder's Participation Amount, the holder shall be deemed to have owned immediately prior to such Dilutive Equity Financing all equity securities of the Corporation (including warrants, but excluding any outstanding options issued under any stock or option plan approved by the Company's Board of Directors) then owned in the aggregate by such holder and all persons, firms or entities that control, are controlled by, or are under common control with, such holder (hereinafter, "Affiliate") and to have purchased in such Dilutive Equity Financing all securities purchased in the aggregate in such Dilutive Equity Financing by such holder and all of its Affiliates.

(d) The holder of any shares of Series 04 Preferred and/or Series 05 Preferred converted pursuant to Sections 9(a) or 9(b) of this Article FOURTH shall deliver to the Corporation during regular business hours at the office of the transfer agent for the pre-IPO Preferred Stock (or at the principal office of the Corporation if the Corporation serves as its own transfer agent), the certificate or certificates for the shares so converted, duly endorsed or assigned in blank to the Corporation. As promptly as practicable thereafter, the Corporation shall issue and deliver to such holder or its nominees, at the place designated by such holder, a certificate or certificates for the number of full shares of (i) Series 04-1 Preferred, if such conversion is pursuant to the First Series 04 Dilutive Equity Financing, (ii) Series 05-1 Preferred, if such conversion is pursuant to the First Series 05 Dilutive Equity Financing, or (iii) the new series of pre-IPO Preferred Stock, if such conversion is pursuant to a Subsequent Dilutive Equity Financing, to which such holder is entitled. The stockholder in whose name such certificates are to be issued shall be deemed to have become a holder of record thereof on the date of the initial closing of the applicable Dilutive Equity Financing, unless the transfer books of the Corporation

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are closed on that date, in which event such stockholder shall be deemed to have become a holder thereof on the next succeeding date on which the transfer books are open.

(f) No Non-Participating Holder may convert any shares of Series 04 Preferred or Series 05 Preferred into Common Stock after the initial closing of any Dilutive Equity Financing.

### C. UNDESIGNATED PREFERRED STOCK

The Board of Directors or any authorized committee thereof is expressly authorized, to the fullest extent permitted by law, to provide for the issuance of the shares of Undesignated Preferred Stock in one or more series of such stock, and by filing a certificate pursuant to applicable law of the State of Delaware, to establish or change from time to time the number of shares of each such series, and to fix the designations, powers, including voting powers, full or limited, or no voting powers, preferences and the relative, participating, optional or other special rights of the shares of each series and any qualifications, limitations and restrictions thereof.

### ARTICLE V

#### STOCKHOLDER ACTION

1. ACTION WITHOUT MEETING. Except as otherwise provided herein, any action required or permitted to be taken by the stockholders of the Corporation at any annual or special meeting of stockholders of the Corporation must be effected at a duly called annual or special meeting of stockholders and may not be taken or effected by a written consent of stockholders in lieu thereof.

2. SPECIAL MEETINGS. Except as otherwise required by statute and subject to the rights, if any, of the holders of any series of Undesignated Preferred Stock, special meetings of the stockholders of the Corporation may be called only by the Board of Directors acting pursuant to a resolution approved by the affirmative vote of a majority of the Directors then in office. Only those matters set forth in the notice of the special meeting may be considered or acted upon at a special meeting of stockholders of the Corporation.

### ARTICLE VI

#### DIRECTORS

1. GENERAL. The business and affairs of the Corporation shall be managed by or under the direction of the Board of Directors except as otherwise provided herein or required by law.

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2. ELECTION OF DIRECTORS. Election of Directors need not be by written ballot unless the By-laws of the Corporation (the "By-laws") shall so provide.

3. NUMBER OF DIRECTORS; TERM OF OFFICE. The number of Directors of the Corporation shall be fixed solely and exclusively by resolution duly adopted from time to time by the Board of Directors. The Directors, other than those who may be elected by the holders of any series or class of Preferred Stock, shall be classified, with respect to the term for which they severally hold office, into three classes, as nearly equal in number as reasonably possible. The initial Class I Directors of the Corporation shall be Edward M. Muller and Simon F. Williams, Ph.D.; the initial Class II Directors of the Corporation shall be Jack W. Lasersohn, Jay Kouba, Ph.D., and Oliver P. Peoples, Ph.D.; and the initial Class III Directors of the Corporation shall be Edward M. Giles, Anthony J. Sinskey, Sc.D., and James J. Barber, Ph.D. The initial Class I Directors shall serve for a term expiring at the annual meeting of stockholders to be held in 2007, the initial Class II Directors shall serve for a term expiring at the annual meeting of stockholders to be held in 2008, and the initial Class III Directors shall serve for a term expiring at the annual meeting of stockholders to be held in 2009. At each annual meeting of stockholders, Directors elected to succeed those Directors whose terms expire shall be elected for a term of office to expire at the third succeeding annual meeting of stockholders after their election. Notwithstanding the foregoing, the Directors elected to each class shall hold office until their successors are duly elected and qualified or until their earlier resignation or removal.

Notwithstanding the foregoing, whenever, pursuant to the provisions of Article IV of this Certificate, the holders of any one or more series or class of Preferred Stock shall have the right, voting separately as a series or together with holders of other such series, to elect Directors at an annual or special meeting of stockholders, the election, term of office, filling of vacancies and other features of such directorships shall be governed by the terms of this Certificate and any certificate of designations applicable thereto.

4. VACANCIES. Subject to the rights, if any, of the holders of any series or class of Preferred Stock to elect Directors and to fill vacancies in the

Board of Directors relating thereto, any and all vacancies in the Board of Directors, however occurring, including, without limitation, by reason of an increase in size of the Board of Directors, or the death, resignation, disqualification or removal of a Director, shall be filled solely and exclusively by the affirmative vote of a majority of the remaining Directors then in office, even if less than a quorum of the Board of Directors, and not by the stockholders. Any Director appointed in accordance with the preceding sentence shall hold office for the remainder of the full term of the class of Directors in which the new directorship was created or the vacancy occurred and until such Director's successor shall have been duly elected and qualified or until his or her earlier resignation or removal. Subject to the rights, if any, of the holders of any series or class of Preferred Stock to elect Directors, when the number of Directors is increased or decreased, the Board of Directors shall, subject to Article VI.3 hereof, determine the class or classes to which the increased or decreased number of Directors shall be apportioned; PROVIDED, HOWEVER, that no decrease in the number of Directors shall shorten the term of any incumbent Director.

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5. REMOVAL. Subject to the rights, if any, of any series or class of Preferred Stock to elect Directors and to remove any Director whom the holders of any such stock have the right to elect, any Director (including persons elected by Directors to fill vacancies in the Board of Directors) may be removed from office (i) only with cause and (ii) only by the affirmative vote of the holders of 75% or more of the shares then entitled to vote at an election of Directors. At least forty-five (45) days prior to any meeting of stockholders at which it is proposed that any Director be removed from office, written notice of such proposed removal and the alleged grounds thereof shall be sent to the Director whose removal will be considered at the meeting.

#### ARTICLE VII

##### LIMITATION OF LIABILITY

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, except for liability (a) for any breach of the Director's duty of loyalty to the Corporation or its stockholders, (b) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (c) under Section 174 of the DGCL or (d) for any transaction from which the Director derived an improper personal benefit. If the DGCL is amended after the effective date of this Certificate 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 DGCL, as so amended.

Any repeal or modification of this Article VII by either of (i) the stockholders of the Corporation or (ii) an amendment to the DGCL, shall not adversely affect any right or protection existing at the time of such repeal or modification with respect to any acts or omissions occurring before such repeal or modification of a person serving as a Director at the time of such repeal or modification.

#### ARTICLE VIII

##### AMENDMENT OF BY-LAWS

1. AMENDMENT BY DIRECTORS. Except as otherwise provided by law, the By-laws of the Corporation may be amended or repealed by the Board of Directors by the affirmative vote of a majority of the Directors then in office.

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2. AMENDMENT BY STOCKHOLDERS. The By-laws of the Corporation may be amended or repealed at any annual meeting of stockholders, or special meeting of stockholders called for such purpose as provided in the By-laws, by the affirmative vote of at least 75% of the outstanding shares entitled to vote on such amendment or repeal, voting together as a single class; PROVIDED, HOWEVER, that if the Board of Directors recommends that stockholders approve such amendment or repeal at such meeting of stockholders, such amendment or repeal shall only require the affirmative vote of the majority of the outstanding shares entitled to vote on such amendment or repeal, voting together as a single class.

#### ARTICLE IX

##### AMENDMENT OF CERTIFICATE OF INCORPORATION



The Corporation reserves the right to amend or repeal this Certificate in the manner now or hereafter prescribed by statute and this Certificate, and all rights conferred upon stockholders herein are granted subject to this reservation. Whenever any vote of the holders of voting stock is required to amend or repeal any provision of this Certificate, and in addition to any other vote of holders of voting stock that is required by this Certificate or by law, such amendment or repeal shall require the affirmative vote of the majority of the outstanding shares entitled to vote on such amendment or repeal, and the affirmative vote of the majority of the outstanding shares of each class entitled to vote thereon as a class, at a duly constituted meeting of stockholders called expressly for such purpose; PROVIDED, HOWEVER, that the affirmative vote of not less than 75% of the outstanding shares entitled to vote on such amendment or repeal, and the affirmative vote of not less than 75% of the outstanding shares of each class entitled to vote thereon as a class, shall be required to amend or repeal any provision of Article V, Article VI, Article VII, Article VIII or Article IX of this Certificate.

[End of Text]

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THIS AMENDED AND RESTATED CERTIFICATE OF INCORPORATION is executed as of this \_\_\_\_ day of \_\_\_\_\_, 2006.

METABOLIX, INC.

-----  
By: James Barber  
Its: Chief Executive Officer and President

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AMENDED AND RESTATED  
CERTIFICATE OF INCORPORATION  
OF  
METABOLIX, INC.

Metabolix, Inc., a corporation organized and existing under the laws of the State of Delaware (the "Corporation"), hereby certifies as follows:

1. The name of the Corporation is Metabolix, Inc. The original certificate of incorporation of Metabolix, Inc. was filed with the Secretary of State of the State of Delaware on September 1, 1998.
2. This Amended and Restated Certificate of Incorporation was duly adopted in accordance with the provisions of Sections 242 and 245 of the Delaware General Corporation Law (the "DGCL").
3. The text of the Certificate of Incorporation of this corporation be hereby amended and restated in its entirety to provide as herein set forth in full.

ARTICLE I

The name of the Corporation is Metabolix, Inc.

ARTICLE II

The address of the Corporation's registered office in the State of Delaware is c/o The Corporation Trust Company, 1209 Orange Street in the City of Wilmington, County of New Castle. The name of its registered agent at such address is The Corporation Trust Company.

ARTICLE III

The purpose of the Corporation is to engage in any lawful act or activity for which corporations may be organized under the DGCL.

ARTICLE IV

CAPITAL STOCK

The total number of shares of capital stock which the Corporation shall have authority to issue is One Hundred Five Million (105,000,000) shares, of which (i) One Hundred Million (100,000,00) shares shall be a class designated as common stock, par value \$.01 per share (the

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"Common Stock"), and (ii) Five Million (5,000,000) shares shall be a class designated as undesignated preferred stock, par value \$.01 per share (the "Undesignated Preferred Stock").

The number of authorized shares of the class of Undesignated Preferred Stock may from time to time be increased or decreased (but not below the number of shares outstanding) by the affirmative vote of the holders of a majority of the outstanding shares of Common Stock entitled to vote, without a vote of the holders of the Undesignated Preferred Stock (except as otherwise provided in any certificate of designations of any series of Undesignated Preferred Stock).

The powers, preferences and rights of, and the qualifications, limitations and restrictions upon, each class or series of stock shall be determined in accordance with, or as set forth below in, this Article IV.

A. COMMON STOCK

Subject to all the rights, powers and preferences of the Undesignated Preferred Stock and except as provided by law or in this Article IV (or in any certificate of designations of any series of Undesignated Preferred Stock):

(a) the holders of the Common Stock shall have the exclusive right to vote for the election of directors of the Corporation (the "Directors") and on all other matters requiring stockholder action, each outstanding share entitling the holder thereof to one vote on each matter properly submitted to the stockholders of the Corporation for their vote; PROVIDED, HOWEVER, that,

except as otherwise required by law, holders of Common Stock, as such, shall not be entitled to vote on any amendment to this Certificate (or on any amendment to a certificate of designations of any series of Undesignated Preferred Stock) that alters or changes the powers, preferences, rights or other terms of one or more outstanding series of Undesignated Preferred Stock if the holders of such affected series are entitled to vote, either separately or together with the holders of one or more other such series, on such amendment pursuant to this Certificate (or pursuant to a certificate of designations of any series of Undesignated Preferred Stock) or pursuant to the DGCL;

(b) dividends may be declared and paid or set apart for payment upon the Common Stock out of any assets or funds of the Corporation legally available for the payment of dividends, but only when and as declared by the Board or any authorized committee thereof; and

(c) upon the voluntary or involuntary liquidation, dissolution or winding up of the Corporation, the net assets of the Corporation shall be distributed pro rata to the holders of the Common Stock.

#### B. UNDESIGNATED PREFERRED STOCK

The Board of Directors or any authorized committee thereof is expressly authorized, to the fullest extent permitted by law, to provide for the issuance of the shares of

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Undesignated Preferred Stock in one or more series of such stock, and by filing a certificate pursuant to applicable law of the State of Delaware, to establish or change from time to time the number of shares of each such series, and to fix the designations, powers, including voting powers, full or limited, or no voting powers, preferences and the relative, participating, optional or other special rights of the shares of each series and any qualifications, limitations and restrictions thereof.

#### ARTICLE V

##### STOCKHOLDER ACTION

1. ACTION WITHOUT MEETING. Except as otherwise provided herein, any action required or permitted to be taken by the stockholders of the Corporation at any annual or special meeting of stockholders of the Corporation must be effected at a duly called annual or special meeting of stockholders and may not be taken or effected by a written consent of stockholders in lieu thereof.

2. SPECIAL MEETINGS. Except as otherwise required by statute and subject to the rights, if any, of the holders of any series of Undesignated Preferred Stock, special meetings of the stockholders of the Corporation may be called only by the Board of Directors acting pursuant to a resolution approved by the affirmative vote of a majority of the Directors then in office. Only those matters set forth in the notice of the special meeting may be considered or acted upon at a special meeting of stockholders of the Corporation.

#### ARTICLE VI

##### DIRECTORS

1. GENERAL. The business and affairs of the Corporation shall be managed by or under the direction of the Board of Directors except as otherwise provided herein or required by law.

2. ELECTION OF DIRECTORS. Election of Directors need not be by written ballot unless the By-laws of the Corporation (the "By-laws") shall so provide.

3. NUMBER OF DIRECTORS; TERM OF OFFICE. The number of Directors of the Corporation shall be fixed solely and exclusively by resolution duly adopted from time to time by the Board of Directors. The Directors, other than those who may be elected by the holders of any series of Undesignated Preferred Stock, shall be classified, with respect to the term for which they severally hold office, into three classes, as nearly equal in number as reasonably possible. The initial Class I Directors of the Corporation shall be Edward M. Muller and Simon F. Williams, Ph.D.; the initial Class II Directors of the Corporation shall be Jack W. Lasersohn, Jay Kouba, Ph.D., and Oliver P. Peoples, Ph.D.; and the initial Class III Directors of the Corporation shall be Edward M. Giles, Anthony J. Sinskey, Sc.D., and James J. Barber, Ph.D. The initial Class I Directors shall serve for a term expiring at the annual meeting of stockholders to be held

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in 2007, the initial Class II Directors shall serve for a term expiring at the annual meeting of stockholders to be held in 2008, and the initial Class III Directors shall serve for a term expiring at the annual meeting of stockholders to be held in 2009. At each annual meeting of stockholders, Directors elected to succeed those Directors whose terms expire shall be elected for a term of office to expire at the third succeeding annual meeting of stockholders after their election. Notwithstanding the foregoing, the Directors elected to each class shall hold office until their successors are duly elected and qualified or until their earlier resignation or removal.

Notwithstanding the foregoing, whenever, pursuant to the provisions of Article IV of this Certificate, the holders of any one or more series of Undesignated Preferred Stock shall have the right, voting separately as a series or together with holders of other such series, to elect Directors at an annual or special meeting of stockholders, the election, term of office, filling of vacancies and other features of such directorships shall be governed by the terms of this Certificate and any certificate of designations applicable thereto.

4. VACANCIES. Subject to the rights, if any, of the holders of any series of Undesignated Preferred Stock to elect Directors and to fill vacancies in the Board of Directors relating thereto, any and all vacancies in the Board of Directors, however occurring, including, without limitation, by reason of an increase in size of the Board of Directors, or the death, resignation, disqualification or removal of a Director, shall be filled solely and exclusively by the affirmative vote of a majority of the remaining Directors then in office, even if less than a quorum of the Board of Directors, and not by the stockholders. Any Director appointed in accordance with the preceding sentence shall hold office for the remainder of the full term of the class of Directors in which the new directorship was created or the vacancy occurred and until such Director's successor shall have been duly elected and qualified or until his or her earlier resignation or removal. Subject to the rights, if any, of the holders of any series of Undesignated Preferred Stock to elect Directors, when the number of Directors is increased or decreased, the Board of Directors shall, subject to Article VI.3 hereof, determine the class or classes to which the increased or decreased number of Directors shall be apportioned; PROVIDED, HOWEVER, that no decrease in the number of Directors shall shorten the term of any incumbent Director. In the event of a vacancy in the Board of Directors, the remaining Directors, except as otherwise provided by law, shall exercise the powers of the full Board of Directors until the vacancy is filled.

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5. REMOVAL. Subject to the rights, if any, of any series of Undesignated Preferred Stock to elect Directors and to remove any Director whom the holders of any such stock have the right to elect, any Director (including persons elected by Directors to fill vacancies in the Board of Directors) may be removed from office (i) only with cause and (ii) only by the affirmative vote of the holders of 75% or more of the shares then entitled to vote at an election of Directors. At least forty-five (45) days prior to any meeting of stockholders at which it is proposed that any Director be removed from office, written notice of such proposed removal and the alleged grounds thereof shall be sent to the Director whose removal will be considered at the meeting.

#### ARTICLE VII

##### LIMITATION OF LIABILITY

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, except for liability (a) for any breach of the Director's duty of loyalty to the Corporation or its stockholders, (b) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (c) under Section 174 of the DGCL or (d) for any transaction from which the Director derived an improper personal benefit. If the DGCL is amended after the effective date of this Certificate 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 DGCL, as so amended.

Any repeal or modification of this Article VII by either of (i) the stockholders of the Corporation or (ii) an amendment to the DGCL, shall not adversely affect any right or protection existing at the time of such repeal or modification with respect to any acts or omissions occurring before such repeal or modification of a person serving as a Director at the time of such repeal or modification.

#### ARTICLE VIII

1. AMENDMENT BY DIRECTORS. Except as otherwise provided by law, the By-laws of the Corporation may be amended or repealed by the Board of Directors by the affirmative vote of a majority of the Directors then in office.

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2. AMENDMENT BY STOCKHOLDERS. The By-laws of the Corporation may be amended or repealed at any annual meeting of stockholders, or special meeting of stockholders called for such purpose as provided in the By-laws, by the affirmative vote of at least 75% of the outstanding shares entitled to vote on such amendment or repeal, voting together as a single class; PROVIDED, HOWEVER, that if the Board of Directors recommends that stockholders approve such amendment or repeal at such meeting of stockholders, such amendment or repeal shall only require the affirmative vote of the majority of the outstanding shares entitled to vote on such amendment or repeal, voting together as a single class.

ARTICLE IX

AMENDMENT OF CERTIFICATE OF INCORPORATION

The Corporation reserves the right to amend or repeal this Certificate in the manner now or hereafter prescribed by statute and this Certificate, and all rights conferred upon stockholders herein are granted subject to this reservation. Whenever any vote of the holders of voting stock is required to amend or repeal any provision of this Certificate, and in addition to any other vote of holders of voting stock that is required by this Certificate or by law, such amendment or repeal shall require the affirmative vote of the majority of the outstanding shares entitled to vote on such amendment or repeal, and the affirmative vote of the majority of the outstanding shares of each class entitled to vote thereon as a class, at a duly constituted meeting of stockholders called expressly for such purpose; PROVIDED, HOWEVER, that the affirmative vote of not less than 75% of the outstanding shares entitled to vote on such amendment or repeal, and the affirmative vote of not less than 75% of the outstanding shares of each class entitled to vote thereon as a class, shall be required to amend or repeal any provision of Article V, Article VI, Article VII, Article VIII or Article IX of this Certificate.

[End of Text]

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THIS AMENDED AND RESTATED CERTIFICATE OF INCORPORATION is executed as of this \_\_\_\_ day of \_\_\_\_\_, 2006.

METABOLIX, INC.

-----  
By: James Barber,  
Its: Chief Executive Officer and President

[GRAPHIC]

NUMBER SHARES  
MC

METABOLIX SEE NOTE  
where nature performs(R) [LOGO]

INCORPORATED UNDER THE LAWS OF THE STATE OF DELAWARE METABOLIX, INC. CUSIP 591018 80 9

SEE REVERSE FOR CERTAIN DEFINITIONS

THIS CERTIFIES THAT

is the owner of

FULLY PAID AND NON-ASSESSABLE SHARES OF THE COMMON STOCK, \$.01 PAR VALUE, OF METABOLIX, INC.

transferable on the books of the Corporation by the holder hereof in person or by duly authorized Attorney, upon surrender of this Certificate, properly endorsed.

This Certificate is not valid until countersigned and registered by the Transfer Agent and Registrar.  
WITNESS the facsimile seal of the Corporation and the facsimile signatures of its duly authorized officers.

Dated:

/S/ JAMES J. BARBER [SEAL] /S/ THOMAS G. AUCHINCLOSS, JR.  
PRESIDENT TREASURER

COUNTERSIGNED AND REGISTERED:  
AMERICAN STOCK TRANSFER & TRUST COMPANY  
TRANSFER AGENT AND REGISTRAR

BY

AUTHORIZED SIGNATURE

THE CORPORATION IS AUTHORIZED TO ISSUE MORE THAN ONE CLASS OR SERIES OF STOCK. THE CORPORATION WILL FURNISH WITHOUT CHARGE TO EACH STOCKHOLDER WHO SO REQUESTS THE POWERS, DESIGNATIONS, PREFERENCES AND 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.

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 UNIF GIFT MIN ACT - \_\_\_\_\_Custodian\_\_\_\_\_  
TEN ENT - as tenants by the entireties (Cust) (Minor)  
JT TEN - as joint tenants with right of under Uniform Gifts to Minors  
of survivorship and not as tenants Act\_\_\_\_\_  
in common (State)

Additional abbreviations may also be used though not in the 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 \_\_\_\_\_

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.

X

-----  
Signature Guaranteed  
-----

METABOLIX, INC.

INCENTIVE STOCK OPTION AGREEMENT

Metabolix, Inc., a Delaware corporation (the "Company"), hereby grants as of [Grant Date] (the "Grant Date") to [First Name] [Last Name] (the "Employee"), an option to purchase a maximum of [Shares] shares (the "Option Shares") of its Common Stock, \$.01 par value ("Common Stock"), at the price of [Price] per share on the following terms and conditions:

1. GRANT UNDER THE 1995 STOCK PLAN OF METABOLIX, INC. This option is granted pursuant to and is governed by the 1995 Stock Plan of Metabolix, Inc., (the "Plan") and, unless the context otherwise requires, terms used herein shall have the same meaning as in the Plan. Determinations made in connection with this option pursuant to the Plan shall be governed by the Plan as it exists on this date.

2. GRANT AS INCENTIVE STOCK OPTION: OTHER OPTIONS. This option is intended to qualify as an incentive stock option under Section 422 of the Internal Revenue Code of 1986, as amended (the "Code"). This option is in addition to any other options heretofore or hereafter granted to the Employee by the Company or any Related Corporation (as defined in the Plan), but a duplicate original of this instrument shall not effect the grant of another option.

3. VESTING OF OPTION IF EMPLOYMENT CONTINUES. If the Employee has continued to be employed by the Company or any Related Corporation on the following dates, the Employee may exercise this option for the number of shares of Common Stock set opposite the applicable date:

Less than one year from [Vesting Date]	-	___ shares
One year but less than two years from [Vesting Date]	-	___ shares
Two years but less than three years from [Vesting Date]	-	an additional ___ shares
Three years but less than four years from [Vesting Date]	-	an additional ___ shares
Four years or more from [Vesting Date]	-	an additional ___ shares

The foregoing rights are cumulative and, while the Employee continues to be employed by the Company or any Related Corporation, may be exercised on or before the date which is ten years from the date this option is granted. All of the foregoing rights are subject to Sections 4 and 5, as appropriate, if the Employee ceases to be employed by the Company and all Related Corporations.

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4. TERMINATION EMPLOYMENT.

(a) TERMINATION: If the Employee ceases to be employed by the Company and all Related Corporations, other than by reason of death or disability as defined in Section 5, no further installments of this option shall become exercisable, and this option shall terminate after the passage of sixty (60) days from the Employee's last day of employment, but in no event later than the scheduled expiration date. In such a case, the Employee's only rights hereunder shall be those which are properly exercised before the termination of this option.

5. DEATH; DISABILITY.

(a) DEATH: If the Employee dies while in the employ of the Company or any Related Corporation, this option may be exercised, to the extent otherwise exercisable on the date of his or her death, by the Employee's estate, personal representative or beneficiary to whom this option has been assigned pursuant to Section 10, at any time within 180 days after the date of death, but not later than, the scheduled expiration date.

(b) DISABILITY: If the Employee ceases to be employed by the Company



and all Related Corporations by reason of his or her disability (as defined in the Plan), this option may be exercised, to the extent otherwise exercisable on the date of the termination of his or her employment, at any time within 180 days after such termination, but not later than the scheduled expiration date.

(c) EFFECT OF TERMINATION; At the expiration of the 180-day period provided in paragraph (a) or (b) of this Section 5 or the scheduled expiration date, whichever is the earlier, this option shall terminate and the only rights hereunder shall be those as to which the option was properly exercised before such termination.

6. PARTIAL EXERCISE. This option may be exercised in part at any time and from time to time within the above limits, except that this option may not be exercised for a fraction of a share unless such exercise is with respect to the final installment of stock subject to this option and cash in lieu of a fractional share must be paid, in accordance with Paragraph 13(G) of the Plan, to permit the Employee to exercise completely such final installment. Any fractional share with respect to which an installment of this option cannot be exercised because of the limitation contained in the preceding sentence shall remain subject to this option and shall be available for later purchase by the Employee in accordance with the terms hereof.

7. PAYMENT OF PRICE. The option price shall be paid in United States dollars in the following manner:

(a) in cash or by check, or any combination of the foregoing, equal in amount to the option price; or

(b) in the discretion of the Company's Board of Directors, in cash, by check, by delivery of shares of the Company's Common Stock having a fair market value (as determined by the Board of Directors) equal as of the date of exercise to the option price, or by any combination of the foregoing, equal in amount to the option price.

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Notwithstanding the foregoing, the Employee may not pay any part of the exercise price hereof by transferring Common Stock to the Company if such Company's Common Stock is both subject to a substantial risk of forfeiture and not transferable within the meaning of Section 83 of the Code.

8. RESTRICTIONS ON RESALE. Option Shares may not be transferred without the Company's written consent except by will, by the laws of descent and distribution and in accordance with the provisions of Sections 17 and 18, if applicable. Option Shares will be of an illiquid nature and will be deemed to be "restricted securities" for purposes of the Securities Act of 1933, as amended. Accordingly, such shares must be sold in compliance with the registration requirements of such Act or an exemption therefrom.

9. METHOD OF EXERCISING OPTION. Subject to the terms and conditions of this Agreement, this option may be exercised by written notice to the Company at its principal executive office, or to such transfer agent as the Company shall designate. Such notice shall state the election to exercise this option and the number of Option Shares for which it is being exercised and shall be signed by the person or persons so exercising this option. Such notice shall be accompanied by payment of the full purchase price of such shares (as provided in Section 7 hereof), and the Company shall deliver a certificate or certificates representing such shares as soon as practicable after the notice shall be received. Such certificate or certificates shall be registered in the name of the person or persons so exercising this option (or, if this option shall be exercised by the Employee and if the Employee shall so request in the notice exercising this option, shall be registered in the name of the Employee and another person jointly, with right of survivorship). In the event this option shall be exercised, pursuant to Section 5 hereof, by any person or persons other than the Employee, such notice shall be accompanied by appropriate proof of the right of such person or persons to exercise this option.

10. OPTION NOT TRANSFERABLE. This option is not transferable or assignable except by will or by the laws of descent and distribution. During the Employee's lifetime only the Employee can exercise this option.

11. NO OBLIGATION TO EXERCISE OPTION. The grant and acceptance of this option imposes no obligation on the Employee to exercise it.

12. NO OBLIGATION TO CONTINUE EMPLOYMENT. Neither the Plan, this Agreement, nor the grant of this option imposes any obligation on the Company or any Related Corporation to continue the Employee in employment.

13. NO RIGHTS AS STOCKHOLDER UNTIL EXERCISE. The Employee shall have no

rights as a stockholder with respect to the Option Shares until such time as the Employee has exercised this option by delivering a notice of exercise and has paid in full the purchase price for the shares so exercised in accordance with Section 9. Except as is expressly provided in the Plan with respect to certain changes in the capitalization of the Company, no adjustment shall be made for dividends or similar rights for which the record date is prior to such date of exercise.

14. CAPITAL CHANGES AND BUSINESS SUCCESSIONS. The Plan contains provisions covering the treatment of options in a number of contingencies such as stock splits and mergers. Provisions in the Plan for adjustment with respect to stock subject to options and the related provisions with respect to successors to the business of the Company are hereby made applicable hereunder and are incorporated herein by reference. The Option Shares shall include all shares issued in connection with such provisions.

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15. EARLY DISPOSITION. The Employee agrees to notify the Company in writing immediately after the Employee transfers any Option Shares, if such transfer occurs on or before the later of (a) the date two years after the date of this Agreement or (b) the date one year after the date the Employee acquired such Option Shares. The Employee also agrees to provide the Company with any information concerning any such transfer required by the Company for tax purposes.

16. WITHHOLDING TAXES. If the Company or any Related Corporation in its discretion determines that it is obligated to withhold any tax in connection with the exercise of this option, or in connection with the transfer of, or the lapse of restrictions on, any Common Stock or other property acquired pursuant to this option, the Employee hereby agrees that the Company or any Related Corporation may withhold from the Employee's wages or other remuneration the appropriate amount of tax. At the discretion of the Company or Related Corporation, the amount required to be withheld may be withheld in cash from such wages or other remuneration or in kind from the Common Stock or other property otherwise deliverable to the Employee on exercise of this option. The Employee further agrees that, if the Company or any Related Corporation does not withhold an amount from the Employee's wages or other remuneration sufficient to satisfy the withholding obligation of the Company or Related Corporation, the Employee will make reimbursement on demand, in cash, for the amount underwithheld.

17. COMPANY'S RIGHT OF FIRST REFUSAL.

(a) EXERCISE OF RIGHT: If the Employee desires to transfer all or any part of the Option Shares to any person other than the Company (an "Offeror"), the Employee shall: (i) obtain in writing an irrevocable and unconditional bona fide offer (the "Offer") for the purchase thereof from the Offeror; and (ii) give written notice (the "Option Notice") to the Company setting forth the Employee's desire to transfer such shares, which Option Notice shall be accompanied by a photocopy of the Offer and shall set forth at least the name and address of the Offeror and the price and terms of the Offer. Upon receipt of the Option Notice, the Company shall have an assignable option to purchase any or all of such Option Shares (the "Company Option Shares") specified in the Option Notice, such option to be exercisable by giving, within 30 days after receipt of the Option Notice, a written counter-notice to the Employee. If the Company elects to purchase any or all of such Company Option Shares, it shall be obligated to purchase, and the Employee shall be obligated to sell to the Company, such Company Option Shares at the price and terms indicated in the Offer within 30 days from the date of delivery by the Company of such counter-notice.

(b) SALE OF OPTION SHARES TO OFFEROR: The Employee may, for 60 days after the expiration of the 30-day option period as set forth in Section 17(a), sell to the Offeror, pursuant to the terms of the Offer, any or all of such Company Option Shares not purchased or agreed to be purchased by the Company or its assignee; PROVIDED, HOWEVER, that the Employee shall not sell such Company Option Shares to such Offeror if such Offeror is a competitor of the Company and the Company gives written notice to the Employee, within 30 days of its receipt of the Option Notice, stating that the Employee shall not sell his or her Company Option Shares to such Offeror; and PROVIDED, FURTHER, that prior to the sale of such Option Shares to an offeror, such Offeror shall execute an agreement with the Company pursuant to which such Offeror agrees to be subject to the restrictions set forth in this Section 17. If any or all of such Company Option Shares are not sold pursuant to an Offer within the time permitted above, the unsold Company Option Shares shall remain subject to the terms of this Section 17.

(c) ADJUSTMENTS FOR CHANGES IN CAPITAL STRUCTURE: If there shall be

any change in the Common Stock of the Company through merger, consolidation, reorganization, recapitalization,

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stock dividend, stock split, combination or exchange of shares, or the like, the restrictions contained in this Section 17 shall apply with equal force to additional and/or substitute securities, if any, received by the Employee in exchange for, or by virtue of his or her ownership of, Option Shares.

(d) FAILURE TO DELIVER OPTION SHARES: If the Employee fails or refuses to deliver on a timely basis duly endorsed certificates representing Company Option Shares to be sold to the Company or its assignee pursuant to this Section 17, the Company shall have the right to deposit the purchase price for such Company Option Shares in a special account with any bank or trust company in the Commonwealth of Massachusetts, giving notice of such deposit to the Employee, whereupon such Company Option Shares shall be deemed to have been purchased by the Company. All such monies shall be held by the bank or trust company for the benefit of the Employee. All monies deposited with the bank or trust company but remaining unclaimed for two years after the date of deposit shall be repaid by the bank or trust company to the Company on demand, and the Employee shall thereafter look only to the Company for payment. The Company may place a legend on any certificate for Option Shares delivered to the Employee reflecting the restrictions on transfer provided in Section 8 hereof and this Section 17,

(e) EXPIRATION OF COMPANY'S RIGHT OF FIRST REFUSAL: The first refusal rights of the Company set forth above shall remain in effect until such time, if ever, as a distribution to the public is made of shares of the Company's Common Stock pursuant to a registration statement filed under the Securities Act of 1933, as amended, or a successor statute, at which time the refusal rights of the Company set forth herein will automatically expire.

#### 18. COMPANY'S RIGHT OF REPURCHASE.

(a) RIGHT OF REPURCHASE. The Company shall have the right (the "Repurchase Right") to repurchase all of the Option Shares from the holder of this option upon the occurrence of any of the events specified in Section 18(b) below (the "Repurchase Event"). The Repurchase Right may be exercised by the Company within 60 days following the later of the date of the exercise of this option or the date the Company receives actual knowledge of such event (the "Repurchase Period"). The Repurchase Right shall be exercised by the Company by giving the holder written notice on or before the last day of the Repurchase Period of its intention to exercise the Repurchase Right, and, together with such notice, tendering to the holder an amount equal to the greater of the option price or the fair market value of the shares. The Company may assign the Repurchase Right to one or more persons. Upon timely exercise of the Repurchase Right in the manner provided in this Section 18(a), the holder shall deliver to the Company the stock certificate or certificates representing the shares being repurchased, duly endorsed and free and clear of any and all liens, charges and encumbrances.

If shares are not purchased under the Repurchase Right, the Employee and his or her successor in interest, if any, will hold any such shares in his or her possession subject to all of the provisions of tin's Agreement.

(b) COMPANY'S RIGHT TO EXERCISE REPURCHASE RIGHT: The Company shall have the Repurchase Right in the event that any of the following events shall occur:

(i) The termination of the Employee's employment with the Company and all Related Corporations, voluntarily or involuntarily, for any reason whatsoever including death or permanent disability;

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(ii) The receivership, bankruptcy or other creditor's proceeding regarding the Employee or the taking of any of Employee's shares acquired upon exercise of tins option by legal process, such as a levy of execution; or

(iii) Distribution of shares held by the Employee to his or her spouse as such spouse's joint or community interest pursuant to a decree of dissolution, operation of law, divorce, property settlement agreement or for any other reason, except as may be otherwise permitted by the Company.

(c) DETERMINATION OF FAIR MARKET VALUE: The fair market value of the

Option Shares shall be, for purposes of this Section 18, determined in accordance with Section 6D of the Plan as of the date of the Repurchase Event. The determination by the Board of Directors of the fair market value shall be conclusive and binding.

(d) EXPIRATION OF COMPANY'S REPURCHASE RIGHT: The Repurchase Right shall remain in effect until such time, if ever, as (i) the Option Shares are transferred in accordance with Section 17 hereof or (ii) a distribution to the public is made of shares of the Company's Common Stock pursuant to a registration statement filed under the Securities Act of 1933, as amended, or any successor statute.

19. LOCK-UP AGREEMENT. The Employee agrees that in connection with an underwritten public offering of Common Stock, upon the request of the Company or the principal underwriter managing such public offering, this Option and the Option Shares may not be sold, offered for sale or otherwise disposed of without the prior written consent of the Company or such underwriter, as the case may be, for at least 180 days after the effectiveness of the Registration Statement filed in connection with such offering, or such longer period of time as the Board of Directors may determine if all of the Company's directors and officers agree to be similarly bound. The lock-up agreement established pursuant to this paragraph 19 shall have perpetual duration.

20. PROVISION OF DOCUMENTATION TO EMPLOYEE. By signing this Agreement the Employee acknowledges receipt of a copy of this Agreement and a copy of the Plan.

21. MISCELLANEOUS.

(a) NOTICES: All notices hereunder shall be in writing and shall be deemed given when sent by certified or registered mail, postage prepaid, return receipt requested, to the address set forth below. The addresses for such notices may be changed from time to time by written notice given in the manner provided for herein.

(b) ENTIRE AGREEMENT; MODIFICATION: This Agreement constitutes the entire agreement between the parties relative to the subject matter hereof, and supersedes all proposals, written or oral, and all other communications between the parties relating to the subject matter of this Agreement. This Agreement may be modified, amended or rescinded only by a written agreement executed by both parties.

(c) SEVERABILITY: The invalidity, illegality or unenforceability of any provision of this Agreement shall in no way affect the validity, legality or enforceability of any other provision.

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(d) SUCCESSORS AND ASSIGNS: This Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective successors and assigns, subject to the limitations set forth in Section 10 hereof.

(c) GOVERNING LAW: This Agreement shall be governed by and interpreted in accordance with the laws of the Commonwealth of Massachusetts without giving effect to the principles of the conflicts of laws thereof.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

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IN WITNESS WHEREOF, the Company and the Employee have caused this instrument to be executed as of the date first above written.

-----  
Employee

METABOLIX, INC.  
303 Third Street  
Cambridge, MA 02142-1196

-----  
Print Name of Employee

By: -----  
James Barber  
President and Chief Executive Officer

-----  
Street Address

-----

City State Zip Code

METABOLIX  
where nature performs(TM) [LOGO]

[LOGO]

21 Erie Street  
Cambridge, Massachusetts 02139-4260 USA  
Tel: 617.492.0505 . Fax: 617-492-1996  
Web: www.metabolix.com

August 29, 2006

Brian Igoe  
44 Oak Street  
Weston, MA 02493

Re: EMPLOYMENT AGREEMENT

Dear Brian:

This letter is to confirm our understanding with respect to your employment by Metabolix, Inc. (the "Company"). The terms and conditions agreed to in this letter are hereinafter referred to as the "Agreement." In consideration of the mutual promises and covenants contained in this Agreement, and for other good and valuable consideration, the receipt and sufficiency of which are hereby mutually acknowledged, we have agreed as follows:

1. EMPLOYMENT.

(a) GENERAL. The Company will employ you, and you will be employed by the Company, as the Vice President, Chief Brand Officer, of the Company, reporting to the Chief Executive Officer, and you shall have the responsibilities, duty and authority commensurate with that position. You will also perform such other and/or different services for the Company as may be assigned to you from time to time. Your employment will commence on or about September 1, 2006. You agree that if your employment hereunder ends for any reason, you will tender your resignation to the Company of any office you may then hold in the Company.

(b) DEVOTION TO DUTIES. While you are employed hereunder, you will use your best efforts, skills and abilities to perform faithfully all duties assigned to you pursuant to this Agreement and will devote your full business time and energies to the business and affairs of the Company. While you are employed hereunder, you will not undertake any other employment from any person or entity without the prior written consent of the Company. Notwithstanding the foregoing, nothing contained herein shall be deemed to prohibit you from engaging in passive investment or charitable activities, so long as they do not interfere with the performance of your duties hereunder.

2. EMPLOYMENT AT WILL. Your employment hereunder will be on an "at-will" basis and may be terminated by the Company or by you at any time for any reason or for no reason.

Brian Igoe  
August 29, 2006  
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3. COMPENSATION.

(a) BASE SALARY. While you are employed hereunder, the Company will pay you a base salary at the annual rate of \$16,666.67 per month (annualized at \$200,000.00) (the "Base Salary"). This Base Salary may be subject to upward (but not downward) adjustment from time to time in the discretion of the Company. The Company will deduct from each monthly salary payment all amounts required to be deducted or withheld under applicable law or under any employee benefit plan in which you participate.

(b) BONUSES.

(i) In addition to the Base Salary, the Company shall pay you a signing bonus of \$20,000.00, payable at the same time as your first paycheck after commencement of your employment.

(ii) In addition to the foregoing, the Company on or before December 31, 2006, will establish a formalized bonus scheme and pay you an annual bonus (a "Bonus") in an amount to be determined by the Company's Compensation Committee. The amount will be based on several criteria, including the financial condition of the Company and its overall performance for the year, but will be strongly influenced by your contributions toward the achievement of established corporate goals and objectives, as well as other contributions that add recognizable value to the Company. The present target for executive bonuses is 50% of Base Salary (the "Target Bonus"). This Target Bonus will be subject to revision from time to time by the Compensation Committee. In order to receive an annual bonus, you must be employed at the time of a timely payment, which will be paid on or before March 15 of the year following the year in which it is earned.

(c) EQUITY COMPENSATION. Upon approval by the Compensation Committee of the Company's Board of Directors, the Company shall grant you stock options for the purchase of 200,000 shares of the Company's Common Stock at an exercise price equal to the fair market value per share of the Common Stock on the date of grant. Such stock options shall vest in sixteen (16) quarterly installments over a period of four (4) years from the date of commencement of your employment. Such options shall be incentive stock options to the extent permitted under applicable tax law and regulations. In addition, the Company, in the Board's sole discretion, may from time to time grant to you stock options, restricted stock or other forms of equity compensation pursuant to the Metabolix, Inc. 2005 Stock Plan or any other authorized stock plan in effect at the time.

(d) VACATION. You will be entitled to five (5) weeks paid vacation and paid holidays, accrued and used in accordance with the Company's policies as currently in effect. All vacation days will be taken at times mutually agreed by you and the Company and will be subject to the business needs of the Company.

(e) FRINGE BENEFITS. You will be entitled to participate in employee benefit plans which the Company provides or may establish for the benefit of its senior executives

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generally (for example, group life, disability, medical, dental and other insurance, retirement, pension, profit-sharing and similar plans) (collectively, the "Fringe Benefits"). Your eligibility to participate in the Fringe Benefits and receive benefits thereunder will be subject to the plan documents governing such Fringe Benefits. Nothing contained herein will require the Company to establish or maintain any Fringe Benefits.

#### 4. TERMINATION.

(a) GENERAL. As an at-will employee, your employment may be terminated at any time for any reason or for no reason. Upon termination, unless otherwise specifically provided herein, you shall be eligible only to receive (i) the portion of your Base Salary as has accrued prior to such termination and has not yet been paid, (ii) an amount equal to the value of your accrued unused vacation days, and (iii) reimbursement for expenses properly incurred by you on behalf of the Company prior to such termination if such expenses are properly documented in accordance with Company policy and practice and submitted for reimbursement within thirty (30) days of the termination date (collectively, the "Accrued Obligations"). Such amounts will be paid promptly after termination in accordance with applicable law.

(b) TERMINATION WITHOUT CAUSE OR WITH GOOD REASON. Except as provided in Section 4(c) hereof, in the event that your employment is terminated by the Company without Cause or by you with Good Reason (each, as defined below), in addition to the Accrued Obligations, and contingent on your provision of a timely and complete release of claims against the Company, you shall be entitled to receive continuation of your Base Salary in effect at the time of termination for the period of twelve (12) months following the termination. To the extent required by Section 409A of the Internal Revenue Code of 1986, as amended (the "Code"), the first installment of such Base Salary in the amount of six (6) months' Base Salary shall be payable on the first business day following the six (6) month anniversary of the effective date of termination, and the remainder shall be payable in accordance with the Company's regular payroll procedures thereafter. If Section 409A of the Code is not then applicable, such Base Salary continuation shall commence immediately from the date of termination. In addition, should the award of a Bonus have become

customary, you shall be entitled to a payment equal to the average of the Bonuses paid to you (if any) in the two years preceding the termination, to be paid (A) on the first business day following the six (6) month anniversary of the effective date of termination, to the extent required by Section 409A of the Code, or (B) if Section 409A of the Code is not then applicable, within thirty (30) days following the termination. In addition to the foregoing, you shall be entitled to receive payment of COBRA premiums to maintain medical and dental benefits, if any, in effect at the time of termination for the period of twelve (12) months following the termination.

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(c) TERMINATION WITHOUT CAUSE OR WITH GOOD REASON BEFORE OR AFTER A CHANGE OF CONTROL.

(i) In the event that your employment is terminated by the Company without Cause or by you for Good Reason (each, as defined below) within the twenty-four (24) month period immediately following or the two month period immediately prior to a Change of Control (as defined below), in addition to the Accrued Obligations, and contingent on your provision of a timely release of claims against the Company, you shall be entitled to receive:

(A) continuation of your Base Salary in effect at the time of termination for the period of twelve (12) months following the termination. To the extent required by Section 409A of the Code, the first installment of such Base Salary in the amount of six (6) months' Base Salary shall be payable on the first business day following the six (6) month anniversary of the effective date of termination, and the remainder shall be payable in accordance with the Company's regular payroll procedures thereafter. If Section 409A of the Code is not then applicable, such Base Salary continuation shall commence immediately from the date of termination.

(B) In addition, should the award of a Bonus have become customary, you shall be entitled to a payment equal to the average of the Bonuses paid to you (if any) in the two years preceding the termination, to be paid (A) on the first business day following the six (6) month anniversary of the effective date of termination, to the extent required by Section 409A of the Code, or (B) if Section 409A of the Code is not then applicable, within thirty (30) days following the termination.

(C) continued payment of COBRA premiums to maintain medical and dental benefits, if any, in effect at the time of termination for the period of twelve (12) months following the termination; and

(D) full vesting of all options granted to you under the Metabolix Inc. 1995 Stock Plan, the Metabolix Inc. 2005 Stock Plan, or any authorized successor stock plan provided that the conditions to vesting other than the passage of time have been satisfied.

(ii) You agree that the payments and benefits hereunder, and under all other contracts, arrangements or programs that apply to you (the "Company Payments"), shall be reduced to an amount that is one dollar less than the amount that would trigger an excise tax under Section 4999 of the Code, as determined in good faith by the Company's independent public accountants, PROVIDED, HOWEVER, that the reduction shall occur only if the reduced Company Payments received by you (after taking into account further reductions for applicable federal, state and local income, social security and other taxes) would be greater than the unreduced Company Payments to be received by you minus (i) the excise tax payable with respect to such Company Payments under Section 4999 of the Code; and (ii) all applicable federal, state and local income, social security and other

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taxes on such Company Payments. You and the Company agree to cooperate in good faith with each other in connection with any administrative or judicial proceedings concerning the existence or amount of golden parachute penalties with respect to payments or benefits that you receive.

(d) "CAUSE". As used herein, "Cause" shall be defined as (i) your



conviction for, or plea of nolo contendere, to a felony or a crime involving moral turpitude, (ii) your commission of a material act of personal dishonesty or a breach of fiduciary duty, in either case, involving personal profit in connection with your employment by the Company, (iii) your commission of an act which the Board of Directors shall reasonably have found to have involved willful misconduct or gross negligence on your part in the conduct of your duties under this Agreement, (iv) your habitual absenteeism, (v) your material breach of any material provision of this Agreement continuing for thirty days after your receipt of written notice thereof from the Company, or (vi) the willful and continued failure by you to perform substantially your duties with the Company (other than any such failure resulting from your incapacity due to physical or mental illness).

(e) "CHANGE OF CONTROL". As used herein, a "Change of Control" shall occur or be deemed to have occurred only upon any one or more of the following events:

(i) a merger or consolidation of the Company 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 or the parent of such corporation) at least fifty percent (50%) of the total voting power represented by the voting securities of the Company or such surviving entity or parent of such corporation outstanding immediately after such merger or consolidation;

(ii) the sale or disposition by the Company of all or substantially all of the Company's assets; or

(iii) any one person, entity or group, who is not a shareholder at time of execution of this Agreement, acquires ownership of capital stock of the Company that, together with the capital stock of the Company already held by such person, entity or group, constitutes more than 50% of the total fair market value or total voting power of the capital stock of the Company; provided, however, if any one person, entity or group is considered to own more than 50% of the total fair market value or total voting power of the capital stock of the Company, the acquisition of additional capital stock by the same person, entity or group shall not be deemed to be a Change of Control, and further provided that the foregoing shall not be deemed a Change of Control if the average stock price paid for each share of stock held by the person, entity or group is less than \$8.00/share (provided that such price shall be adjusted as appropriate to reflect any stock

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dividend, stock split, or recapitalization of the Company after the date of this agreement).

(f) "Good Reason" shall be defined as, in the absence of a cure by the Company within 30 days after written notice by you to the Board, a (i) a change in title of Vice President, Chief Brand Officer, (ii) a material diminution of responsibilities, duties or powers, (iii) a reduction in Base Salary, Target Bonus, vacation or other benefits, except that benefits need only be substantially equivalent, or (iv) a requirement that you relocate your principal place of employment to (or that you travel more than 50 days in any calendar year to the Company's principal place of business in) a location more than 50 miles from its current location in Cambridge, Massachusetts, PROVIDED THAT you must provide the Company with at least thirty (30) days advance written notice of your intent to terminate your employment hereunder and an opportunity to cure.

5. NONCOMPETITION, CONFIDENTIALITY AND INVENTIONS OBLIGATIONS. As a condition of your employment with the Company and as a condition of this Agreement, you must execute the Employee Noncompetition, Confidentiality and Inventions Agreement attached hereto as EXHIBIT A.

6. DISCLOSURE TO FUTURE EMPLOYERS. You will provide, and the Company, in its discretion, may similarly provide, a copy of the covenants contained in the Employee Noncompetition, Confidentiality and Inventions Agreement to any business or enterprise which you may, directly or indirectly, own, manage, operate, finance, join, control or in which you may participate in the ownership, management, operation, financing, or control, or with which you may be connected as an officer, director, employee, partner, principal, agent, representative, consultant or otherwise.

7. REPRESENTATIONS. You hereby represent and warrant to the Company that you understand this Agreement, that you enter into this Agreement voluntarily and that your employment under this Agreement will not conflict with any legal duty owed by you to any other party.

8. GENERAL.

(a) NOTICES. All notices, requests, consents and other communications hereunder which are required to be provided, or which the sender elects to provide, in writing, will be addressed to the receiving party's address set forth above or to such other address as a party may designate by notice hereunder, and will be either (i) delivered by hand, (ii) sent by overnight courier, or (iii) sent by registered or certified mail, return receipt requested, postage prepaid. All notices, requests, consents and other communications hereunder will be deemed to have been given either (i) if by hand, at the time of the delivery thereof to the receiving party at the address of such party set forth above, (ii) if sent by overnight courier, on the next business day following the day such notice is delivered to the courier service, or (iii) if sent by registered or certified mail, on the fifth business day following the day such mailing is made.

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(b) ENTIRE AGREEMENT. This Agreement, together with any Stock Option Agreements executed by you and the Company (either prior to or in conjunction with this Agreement), the Employee Noncompetition, Confidentiality and Inventions Agreement and the other agreements specifically referred to herein, embodies the entire agreement and understanding between the parties hereto with respect to the subject matter hereof and supersedes all prior oral or written agreements and understandings relating to the subject matter hereof. No statement, representation, warranty, covenant or agreement of any kind not expressly set forth in this Agreement will affect, or be used to interpret, change or restrict, the express terms and provisions of this Agreement.

(c) MODIFICATIONS AND AMENDMENTS. The terms and provisions of this Agreement may be modified or amended only by written agreement executed by the parties hereto.

(d) WAIVERS AND CONSENTS. The terms and provisions of this Agreement may be waived, or consent for the departure therefrom granted, only by written document executed by the party entitled to the benefits of such terms or provisions. No such waiver or consent will be deemed to be or will constitute a waiver or consent with respect to any other terms or provisions of this Agreement, whether or not similar. Each such waiver or consent will be effective only in the specific instance and for the purpose for which it was given, and will not constitute a continuing waiver or consent.

(e) ASSIGNMENT. The Company may assign its rights and obligations hereunder to any person or entity that succeeds to all or substantially all of the Company's business or that aspect of the Company's business in which you are principally involved or to any Company Affiliate. You may not assign your rights and obligations under this Agreement without the prior written consent of the Company and any such attempted assignment by you without the prior written consent of the Company will be void.

(f) GOVERNING LAW. This Agreement and the rights and obligations of the parties hereunder will be construed in accordance with and governed by the law of Massachusetts, without giving effect to the conflict of law principles thereof.

(g) JURISDICTION, VENUE AND SERVICE OF PROCESS. Any legal action or proceeding with respect to this Agreement will be brought in the courts of Massachusetts or of the United States of America for the District of Massachusetts. By execution and delivery of this Agreement, each of the parties hereto accepts for itself and in respect of its property, generally and unconditionally, the exclusive jurisdiction of the aforesaid courts.

(h) SEVERABILITY. The parties intend this Agreement to be enforced as written. However, if any portion or provision of this Agreement is to any extent declared illegal or unenforceable by a duly authorized court having jurisdiction, then the remainder of this Agreement, or the application of such portion or provision in circumstances other than those as to which it is so declared illegal or unenforceable, will not be

affected thereby, and each

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portion and provision of this Agreement will be valid and enforceable to the fullest extent permitted by law.

(i) HEADINGS AND CAPTIONS. The headings and captions of the various subdivisions of this Agreement are for convenience of reference only and will in no way modify or affect the meaning or construction of any of the terms or provisions hereof.

(j) ACKNOWLEDGMENTS. You hereby acknowledge and recognize that the enforcement of any of the provisions in this Agreement and the Noncompetition, Confidentiality and Inventions Agreement may potentially interfere with your ability to pursue a proper livelihood. You represent that you are knowledgeable about the business of the Company and further represent that you are capable of pursuing a career in other industries other than the field of noncompetition as set forth in the Noncompetition, Confidentiality and Inventions Agreement to earn a proper livelihood. You recognize and agree that the enforcement of the Noncompetition, Confidentiality and Inventions Agreement is necessary to ensure the preservation, protection and continuity of the business, trade secrets and goodwill of the Company. You agree that, due to the proprietary nature of the Company's business, the restrictions set forth in the Noncompetition, Confidentiality and Inventions Agreement are reasonable as to time and scope.

(k) TAXES. All payments required to be made by the Company to you under this Agreement shall be subject to the withholding of such amounts for taxes and other payroll deductions as the Company may reasonably determine it should withhold pursuant to any applicable law or regulation. To the extent applicable, it is intended that this Agreement comply with the provisions of Section 409A of the Code, and this Agreement shall be construed and applied in a manner consistent with this intent. In the event that any severance payments or benefits hereunder are determined by the Company to be in the nature of nonqualified deferred compensation payments, you and the Company hereby agree to take such actions as may be mutually agreed to ensure that such payments or benefits comply with the applicable provisions of Section 409A of the Code and the official guidance issued thereunder. Notwithstanding the foregoing, the Company does not guarantee the tax treatment or tax consequences associated with any payment or benefit arising under this Agreement.

(l) COUNTERPARTS. This Agreement may be executed in two or more counterparts, and by different parties hereto on separate counterparts, each of which will be deemed an original, but all of which together will constitute one and the same instrument.

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If the foregoing accurately sets forth our agreement, please so indicate by signing and returning to us the enclosed copy of this Agreement.

Very truly yours,

Metabolix, Inc.

By: /s/ JAMES J. BARBER  
-----  
Name: James J. Barber  
Title: President and CEO

ACCEPTED AND APPROVED:

/s/ BRIAN IGOE  
-----  
Brian Igoe

8/29/06  
-----  
Date



July 20, 2006

Dr. Oliver Peoples  
c/o Metabolix, Inc.  
21 Erie Street  
Cambridge, MA 02139

Re: EMPLOYMENT AGREEMENT

Dear Oliver:

This letter is to confirm our understanding with respect to your employment by Metabolix, Inc. (the "Company"). The terms and conditions agreed to in this letter are hereinafter referred to as the "Agreement". In consideration of the mutual promises and covenants contained in this Agreement, and for other good and valuable consideration, the receipt and sufficiency of which are hereby mutually acknowledged, we have agreed as follows:

1. EMPLOYMENT.

(a) GENERAL. The Company will employ you, and you will be employed by the Company, as the Chief Scientific Officer and Vice President, Research of the Company, reporting to the Chief Executive Officer, and you shall have the responsibilities, duty and authority commensurate with that position. You will also perform such other and/or different services for the Company as may be assigned to you from time to time. You agree that if your employment hereunder ends for any reason, you will tender your resignation to the Company.

(b) DEVOTION TO DUTIES. While you are employed hereunder, you will use your best efforts, skills and abilities to perform faithfully all duties assigned to you pursuant to this Agreement and will devote your full business time and energies to the business and affairs of the Company. While you are employed hereunder, you will not undertake any other employment from any person or entity without the prior written consent of the Company.

2. EMPLOYMENT AT WILL. Your employment hereunder will be on an "at-will" basis and may be terminated by the Company or by you at any time for any reason or for no reason.

3. COMPENSATION.

(a) BASE SALARY. While you are employed hereunder, the Company will pay you a base salary at the annual rate of \$16,666.66 per month (annualized at \$200,000.00) (the "Base Salary"). This Base Salary is effective July 1, 2006, and may be subject to upward

(but not downward) adjustment from time to time in the discretion of the Company. The Company will deduct from each monthly salary payment all amounts required to be deducted or withheld under applicable law or under any employee benefit plan in which you participate.

(b) BONUSES.

(i) As soon as practicable, but no later than July 31, 2006 after the execution of this Agreement, the Company shall pay you a bonus of \$75,000, less all amounts required to be deducted or withheld under applicable law or under any employee benefit plan in which you participate.

(ii) Subject to your continued employment with the Company on the date of completion of an initial public offering (an "IPO") of the Company's common stock, as soon as practicable following the IPO, but in no event later than 2 months following the IPO, the Company shall pay you an additional bonus of \$75,000, less all amounts required to be deducted or withheld under applicable law or under any employee benefit plan in which you participate.

(iii) In addition to the foregoing, the Company on or before December 31, 2006, will establish a formalized bonus scheme and pay you an annual bonus in an amount to be determined by the Company's Compensation Committee. The amount will be based on several criteria, including the financial condition of the Company and its overall performance for the year, but will be strongly influenced by your contributions toward the

achievement of established corporate goals and objectives, as well as other contributions that add recognizable value to the Company. The present target for executive bonuses is 50% of Base Salary (the "Target Bonus"). This Target Bonus will be subject to revision from time to time by the Compensation Committee. In order to receive an annual bonus, you must be employed at the time of a timely payment, which will be paid on or before March 15 of the year following the year in which it is earned.

(c) EQUITY COMPENSATION. The Company, in the Board's sole discretion, may from time to time grant to you stock options, restricted stock or other forms of equity compensation pursuant to the Metabolix, Inc. 2005 Stock Plan or any other authorized stock plan in effect at the time.

(d) VACATION. You will be entitled to paid vacation and paid holidays, accrued and used in accordance with the Company's policies as currently in effect. For the purpose of clarity the current policy for an individual with ten (10) years of service is five (5) weeks. All vacation days will be taken at times mutually agreed by you and the Company and will be subject to the business needs of the Company.

(e) FRINGE BENEFITS. You will be entitled to participate in employee benefit plans which the Company provides or may establish for the benefit of its senior executives

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generally (for example, group life, disability, medical, dental and other insurance, retirement, pension, profit-sharing and similar plans) (collectively, the "Fringe Benefits"). Your eligibility to participate in the Fringe Benefits and receive benefits thereunder will be subject to the plan documents governing such Fringe Benefits. Nothing contained herein will require the Company to establish or maintain any Fringe Benefits.

(f) LEGAL FEES. The Company shall reimburse you for all legal fees and expenses incurred by you in connection with the negotiation of this Agreement; PROVIDED that the Company's reimbursement obligation with respect to such legal fees and expenses shall not exceed \$3,000.

#### 4. TERMINATION.

(a) GENERAL. As an at-will employee, your employment may be terminated at any time for any reason or for no reason. Upon termination, unless otherwise specifically provided herein, you shall be eligible only to receive (i) the portion of your Base Salary as has accrued prior to such termination and has not yet been paid, (ii) an amount equal to the value of your accrued unused vacation days, and (iii) reimbursement for expenses properly incurred by you on behalf of the Company prior to such termination if such expenses are properly documented in accordance with Company policy and practice and submitted for reimbursement within thirty (30) days of the termination date (collectively, the "Accrued Obligations"). Such amounts will be paid promptly after termination in accordance with applicable law.

(b) TERMINATION WITHOUT CAUSE OR WITH GOOD REASON. Except as provided in Section 4(c) hereof, in the event that your employment is terminated by the Company without Cause or by you with Good Reason (each, as defined below), in addition to the Accrued Obligations, and contingent on your provision of a timely and complete release of claims against the Company, you shall be entitled to receive: (i) a lump-sum cash payment equal to twenty-four (24) months of your Base Salary, and (ii) a pro rata Target Bonus for the year in which such termination occurs, each of the clause (i) and (ii) amounts to be payable (A) on the first business day following the six (6) month anniversary of the effective date of termination, to the extent required by Section 409A of the Internal Revenue Code of 1986, as amended (the "Code"), or (B) if Section 409A of the Code is not then applicable, promptly following the date of termination. In addition to the foregoing, you shall be entitled to receive payment of COBRA premiums to maintain medical and dental benefits, if any, in effect at the time of termination for the period of twenty-four (24) months following the termination.

(c) TERMINATION WITHOUT CAUSE OR WITH GOOD REASON BEFORE OR AFTER A CHANGE OF CONTROL.

(i) In the event that your employment is terminated by the Company without Cause or by you for Good Reason (each, as defined below) within the twenty-four (24) month period immediately following or the two month period immediately prior to a

Change of Control (as defined below), in addition to the Accrued Obligations, and contingent on your provision of a timely release of claims against the Company, you shall be entitled to receive:

(A) a lump-sum cash payment equal to two times the sum of (I) your then-current Base Salary plus (II) 50% of your then-current Target Bonus, such amount to be payable (x) on the first business day following the six (6) month anniversary of the effective date of termination, to the extent required by Section 409A of the Code, or (y) if Section 409A of the Code is not then applicable, promptly following the date of termination; and

(B) continued payment of COBRA premiums to maintain medical and dental benefits, if any, in effect at the time of termination for the period of twenty-four (24) months following the termination; and

(C) full vesting of all options granted to you under the Metabolix Inc. 1995 Stock Plan, the Metabolix Inc. 2005 Stock Plan or any authorized successor stock plan provided that the conditions to vesting other than the passage of time have been satisfied.

(ii) You agree that the payments and benefits hereunder, and under all other contracts, arrangements or programs that apply to you (the "Company Payments"), shall be reduced to an amount that is one dollar less than the amount that would trigger an excise tax under Section 4999 of the Code, as determined in good faith by the Company's nationally recognized independent auditors, PROVIDED, HOWEVER, that the reduction shall occur only if the reduced Company Payments received by you (after taking into account further reductions for applicable federal, state and local income, social security and other taxes) would be greater than the unreduced Company Payments to be received by you minus (i) the excise tax payable with respect to such Company Payments under Section 4999 of the Code; and (ii) all applicable federal, state and local income, social security and other taxes on such Company Payments. You and the Company agree to cooperate in good faith with each other in connection with any administrative or judicial proceedings concerning the existence or amount of golden parachute penalties with respect to payments or benefits that you receive.

(d) "CAUSE". As used herein, "Cause" shall be defined as (i) your conviction for, or plea of nolo contendere, to a felony or a crime involving moral turpitude, (ii) your commission of a material act of personal dishonesty or a breach of fiduciary duty involving personal profit in connection with your employment by the Company, (iii) your commission of an act which the Board of Directors shall reasonably have found to have involved willful misconduct or gross negligence on your part in the conduct of your duties under this Agreement, (iv) your habitual absenteeism, (v) your material breach of any material provision of this Agreement continuing for thirty days after your receipt of written notice thereof from the Company, or (vi) the willful and continued failure by you

to perform substantially your duties with the Company (other than any such failure resulting from your incapacity due to physical or mental illness).

(e) "CHANGE OF CONTROL". As used herein, a "Change of Control" shall occur or be deemed to have occurred only upon any one or more of the following events:

(i) a merger or consolidation of the Company 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 or the parent of such corporation) at least fifty percent (50%) of the total voting power represented by the voting securities of the Company or such surviving entity or parent of such corporation outstanding immediately after such merger or consolidation;

(ii) the sale or disposition by the Company of all or substantially all of the Company's assets; or

(iii) any one person, entity or group, who is not a shareholder at time of execution of this Agreement, acquires ownership of capital stock of the Company that, together with the capital stock of the Company already held by such person, entity or group, constitutes more than 50% of the

total fair market value or total voting power of the capital stock of the Company; provided, however, if any one person, entity or group is considered to own more than 50% of the total fair market value or total voting power of the capital stock of the Company, the acquisition of additional capital stock by the same person, entity or group shall not be deemed to be a Change of Control, and further provided that the foregoing shall not be deemed a Change of Control if the average stock price paid for each share of stock held by the person, entity or group is less than \$8.00/share.

(f) "Good Reason" shall be defined as, in the absence of a cure by the Company within 30 days after written notice by you to the Board, a (i) a change in title of Chief Scientific Officer and Vice President, Research, (ii) a material diminution of responsibilities, duties or powers, (iii) a reduction in Base Salary, Target Bonus, vacation or other benefits, except that benefits need only be substantially equivalent, or (iv) a requirement that you relocate your principal place of employment to (or that you travel more than 50 days in any calendar year to the Company's principal place of business in) a location more than 50 miles from its current location in Cambridge, Massachusetts, PROVIDED THAT you must provide the Company with at least thirty (30) days advance written notice of your intent to terminate your employment hereunder and an opportunity to cure.

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5. NONCOMPETITION, NONDISCLOSURE AND INVENTIONS OBLIGATIONS. Your Employee Noncompetition, Nondisclosure and Inventions Agreement dated 5 April 1994 as amended on July 20, 2006 shall continue in full force and effect in accordance with its terms.

6. DISCLOSURE TO FUTURE EMPLOYERS. You will provide, and the Company, in its discretion, may similarly provide, a copy of the covenants contained in The Employee Noncompetition, Nondisclosure and Inventions Agreement to any business or enterprise which you may, directly or indirectly, own, manage, operate, finance, join, control or in which you may participate in the ownership, management, operation, financing, or control, or with which you may be connected as an officer, director, employee, partner, principal, agent, representative, consultant or otherwise.

7. REPRESENTATIONS. You hereby represent and warrant to the Company that you understand this Agreement, that you enter into this Agreement voluntarily and that your employment under this Agreement will not conflict with any legal duty owed by you to any other party.

8. GENERAL.

(a) NOTICES. All notices, requests, consents and other communications hereunder which are required to be provided, or which the sender elects to provide, in writing, will be addressed to the receiving party's address set forth above or to such other address as a party may designate by notice hereunder, and will be either (i) delivered by hand, (ii) sent by overnight courier, or (iii) sent by registered or certified mail, return receipt requested, postage prepaid. All notices, requests, consents and other communications hereunder will be deemed to have been given either (i) if by hand, at the time of the delivery thereof to the receiving party at the address of such party set forth above, (ii) if sent by overnight courier, on the next business day following the day such notice is delivered to the courier service, or (iii) if sent by registered or certified mail, on the fifth business day following the day such mailing is made.

(b) ENTIRE AGREEMENT. This Agreement, together with any Stock Option Agreements executed by you and the Company (either prior to or in conjunction with this Agreement), the Employee Noncompetition, Nondisclosure and Inventions Agreement and the other agreements specifically referred to herein, embodies the entire agreement and understanding between the parties hereto with respect to the subject matter hereof and supersedes all prior oral or written agreements and understandings relating to the subject matter hereof. No statement, representation, warranty, covenant or agreement of any kind not expressly set forth in this Agreement will affect, or be used to interpret, change or restrict, the express terms and provisions of this Agreement.

(c) MODIFICATIONS AND AMENDMENTS. The terms and provisions of this Agreement may be modified or amended only by written agreement executed by the parties hereto.

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(d) WAIVERS AND CONSENTS. The terms and provisions of this Agreement may be waived, or consent for the departure therefrom granted, only by written document executed by the party entitled to the benefits of such terms or provisions. No such waiver or consent will be deemed to be or will constitute a waiver or consent with respect to any other terms or provisions of this Agreement, whether or not similar. Each such waiver or consent will be effective only in the specific instance and for the purpose for which it was given, and will not constitute a continuing waiver or consent.

(e) ASSIGNMENT. The Company may assign its rights and obligations hereunder to any person or entity that succeeds to all or substantially all of the Company's business or that aspect of the Company's business in which you are principally involved or to any Company Affiliate. You may not assign your rights and obligations under this Agreement without the prior written consent of the Company and any such attempted assignment by you without the prior written consent of the Company will be void.

(f) GOVERNING LAW. This Agreement and the rights and obligations of the parties hereunder will be construed in accordance with and governed by the law of placeStateMassachusetts, without giving effect to the conflict of law principles thereof.

(g) JURISDICTION, VENUE AND SERVICE OF PROCESS. Any legal action or proceeding with respect to this Agreement will be brought in the courts of placeStateMassachusetts or of the placecountry-regionUnited States of America for the District of Massachusetts. By execution and delivery of this Agreement, each of the parties hereto accepts for itself and in respect of its property, generally and unconditionally, the exclusive jurisdiction of the aforesaid courts.

(h) SEVERABILITY. The parties intend this Agreement to be enforced as written. However, if any portion or provision of this Agreement is to any extent declared illegal or unenforceable by a duly authorized court having jurisdiction, then the remainder of this Agreement, or the application of such portion or provision in circumstances other than those as to which it is so declared illegal or unenforceable, will not be affected thereby, and each portion and provision of this Agreement will be valid and enforceable to the fullest extent permitted by law.

(i) HEADINGS AND CAPTIONS. The headings and captions of the various subdivisions of this Agreement are for convenience of reference only and will in no way modify or affect the meaning or construction of any of the terms or provisions hereof.

(j) ACKNOWLEDGMENTS. You hereby acknowledge and recognize that the enforcement of any of the provisions in this Agreement and the Noncompetition, Nondisclosure and Inventions Agreement may potentially interfere with your ability to pursue a proper livelihood. You represent that you are knowledgeable about the business of the Company. You recognize and agree that the enforcement of the Noncompetition, Nondisclosure and Inventions Agreement is necessary to ensure the preservation, protection and continuity of the business, trade secrets and goodwill of the Company. You agree that, due to the proprietary nature of the Company's business, the restrictions set forth in the

Noncompetition, Nondisclosure and Inventions Agreement are reasonable as to time and scope.

(k) TAXES. All payments required to be made by the Company to you under this Agreement shall be subject to the withholding of such amounts for taxes and other payroll deductions as the Company may reasonably determine it should withhold pursuant to any applicable law or regulation. To the extent applicable, it is intended that this Agreement comply with the provisions of Section 409A of the Code, and this Agreement shall be construed and applied in a manner consistent with this intent. In the event that any severance payments or benefits hereunder are determined by the Company to be in the nature of nonqualified deferred compensation payments, you and the Company hereby agree to take such actions as may be mutually agreed to ensure that such payments or benefits comply with the applicable provisions of Section 409A of the Code and the official guidance issued thereunder. Notwithstanding the foregoing, the Company does not guarantee the tax treatment or tax consequences associated with any payment or benefit arising under this Agreement.

(l) COUNTERPARTS. This Agreement may be executed in two or more counterparts, and by different parties hereto on separate counterparts,

each of which will be deemed an original, but all of which together will constitute one and the same instrument.

If the foregoing accurately sets forth our agreement, please so indicate by signing and returning to us the enclosed copy of this Agreement.

Very truly yours,

Metabolix, Inc.

By: /s/ JAMES J. BARBER

-----  
Name: James J. Barber  
Title: President & CEO

ACCEPTED AND APPROVED:

OLIVER PEOPLES

-----  
Print Name: Oliver Peoples

7/20/06

-----  
Date

**CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

We hereby consent to the use in this Amendment No. 2 to the Registration Statement on Form S-1 of our report dated June 26, 2006, except for the information presented in footnote 14 for which the date is July 25, 2006, relating to the financial statements of Metabolix, Inc., which appears in such Amendment No. 2 to the Registration Statement. We also consent to the references to us under the headings "Experts" and "Selected Financial Data" in such Amendment No. 2 to the Registration Statement.

/s/ PricewaterhouseCoopers LLP  
Boston, Massachusetts  
September 20, 2006

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QuickLinks

[Exhibit 23.2](#)

[CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM](#)

September 21, 2006

United States Securities and Exchange Commission  
Division of Corporation Finance  
100 F Street, N.E.  
Washington, D.C. 20549-7010

Attention: Pamela A. Long

**Re: Metabolix, Inc.  
Amendment No. 1 to the Registration Statement on Form S-1 filed August 31, 2006  
File No. 333-135760**

Dear Ladies and Gentleman:

This letter is being furnished on behalf of Metabolix, Inc. (the "*Company*") in response to comments in the letter dated September 13, 2006 (the "*Letter*") from Pamela A. Long of the Staff (the "*Staff*") of the Securities and Exchange Commission (the "*Commission*") to James J. Barber, Chief Executive Officer of the Company, with respect to the Company's Amendment No. 1 to the Registration Statement on Form S-1 (the "*Registration Statement*") that was filed with the Commission on August 31, 2006. Amendment No. 2 to the Registration Statement ("*Amendment No. 2*"), including the prospectus contained herein, is being filed on behalf of the Company with the Commission on September 21, 2006.

The responses and supplementary information set forth below have been organized in the same manner in which the Commission's comments were organized and all page references in the Company's response are to Amendment No. 2 as marked. Copies of this letter and its attachments are being sent under separate cover to Brigitte Lippmann of the Commission. The Company respectfully requests that the Staff return to us all material supplementally provided by the Company once the Staff has completed its review.

**Metabolix, Inc., page 1**

1. *We note your response to comment 9 of our letter dated August 10, 2006. Please revise your third paragraph on page 1 to disclose the second sentence of your response.*

RESPONSE: The Company advises the Staff that page 1 of the prospectus has been revised in response to the Staff's comment.

2. *We reissue comment 12 of our letter dated August 10, 2006. Disclose in the first paragraph of this section that since 1992 you have been engaged solely in research and developmental activities and that you currently do not produce commercial products. Your current disclosure that you are a leading biotechnology company gives the impression that you have operations for commercial products.*

RESPONSE: The Company advises the Staff that page 1 of the prospectus has been revised in response to the Staff's comment.

3. *We note your response to comment 14 of our letter dated August 10, 2006. Please highlight the information in the supplemental materials that form the basis for your assertion that you are a leading biotechnology company that develops and plans to commercialize alternatives to petrochemical based plastics.*
-

RESPONSE: The Company advises the Staff that pages 1, 33 and 48 of the prospectus has been revised to remove the word "leading".

### **Risks Associated with Our Business, page 3**

4. *We note your response to comment 15 of our letter dated August 10, 2006. Add disclosure that for each of your major research and development projects you are unable to estimate:*

- *The costs incurred to date for the project;*
- *The anticipated completion dates; and*
- *The period in which material net cash inflows from significant projects are expected to commence.*

RESPONSE: The Company advises the Staff that page 3 of the prospectus has been revised in response to the Staff's comment.

5. *In addition, please also quantify and state the net losses you have incurred.*

RESPONSE: The Company advises the Staff that page 4 of the prospectus has been revised in response to the Staff's comment.

6. *We note your new bullet six on page 3 under this subheading. Please revise to explain the risks associated with the termination provisions in your agreements with ADM and ADM's subsidiary and the anticipated termination provisions in your agreements with future collaborative partners. We note your disclosure in the risk factor on page 11 concerning termination "for no reason and on limited notice." In addition, please clarify in your risk factor on page 11 and elsewhere in your document as necessary the time period associated with this "limited notice."*

RESPONSE: The Company advises the Staff that pages 3 and 11 of the prospectus has been revised in response to the Staff's comment.

7. *Disclose that management will have broad discretion over the use of proceeds.*

RESPONSE: The Company advises the Staff that page 4 of the prospectus has been revised in response to the Staff's comment.

### **Special Note Regarding Forward-Looking Statements, page 26**

8. *We note your response to comment 22 of our letter dated August 10, 2006. Please delete the language on page 101 that the information is inherently imprecise.*

RESPONSE: The Company advises the Staff that page 102 of the prospectus has been revised in response to the Staff's comment.

### **Use of Proceeds, page 27**

9. *We note your response to comment 23 of our letter dated August 16, 2006. We reissue this comment. Please quantify and state the amount of net proceeds you anticipate using for each of the purposes listed.*

RESPONSE: The Company advises the Staff that page 27 of the prospectus has been revised in response to the Staff's comment.

### **Business, page 48**

10. *We note your response to comment 30 of our letter dated August 10, 2006. Please disclose in greater detail the significant terms and characteristics of the ADM agreements and the MIT license agreement, including the various elements of products and services to be delivered by each party,*

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*the contract period, payment terms and amounts, obligations of the parties, events and circumstances that trigger milestone payments, and termination provisions.*

RESPONSE: The Company advises the Staff that pages 56 through 58 of the prospectus has been revised in response to the Staff's comment.

## **Financial Statements**

### **Consolidated Statements of Cash Flows. page F-6.**

11. *You disclosed an increase in Other Assets of \$842,947 in your statements of cash flows. Please tell us the material assets and the amounts of the material assets that comprise Other Assets. Please also tell us why you have classified the increase within cash flows from operating activities. Please refer to SFAS 95.*

RESPONSE: As of June 30, 2006, Other Assets were primarily comprised of \$882,473 of costs incurred in connection with the anticipated public offering of our common stock and \$25,000 in long term deposits. Such costs have been capitalized on our balance sheet and included in cash flows from operations during the six months ended June 30, 2006. We reviewed Statement of Financial Accounting Standards (SFAS) No. 95, "Statement of Cash Flows" with particular focus on paragraphs 18-20 which provide the guidance of what constitutes cash flows from financing activities. We did not note any specific guidance with respect to the classification of costs incurred in anticipation of an offering of common stock. Given this lack of specific guidance, we believe that the most appropriate classification of such cash outflow is as an operating activity.

In addition, to increase the transparency within the financial statements, we have disclosed in footnote 2 to the financial statements, the amount of offering costs included within other assets as of June 30, 2006 and the related effect on operating cash flows for the six month period then ended.

### **Note 11—Stock Compensation Plans, page F-33**

12. *We have reviewed your response to comment 46 of our letter dated August 16, 2006. Please provide us with the December 2005 and June and July 2006 valuation reports, including all significant assumptions, as well as the option-pricing analysis supporting the allocation of enterprise value between classes of equity.*

RESPONSE: The Company advises the Staff that we have provided, under separate cover dated September 14, 2006, the independent valuation reports prepared as of December 31, 2005, June 9, 2006 and July 28, 2006.

13. *Please tell us the value attributed to each option issuance during 2006 and indicate the basis for all significant assumptions, including:*

- *The assumed volatility used to determine the fair value of each stock option issuance,*
  - *The listing of comparable public companies used to estimate the volatility of your stock options, their assumed volatility, the term over which you computed the volatility of these comparable companies and why you believe these companies are comparable,*
  - *The assumed expected term, the vesting term and the contractual term of each stock options issuance,*
  - *The assumed discount due to lack of marketability, if any, of each stock option issuance,*
  - *Objective and reliable documentation to support any discount for lack of marketability, and*
  - *A comprehensive explanation of the justification for any changes in the assumed volatility, expected term and marketability discounts, if any, at each relevant date.*
-

RESPONSE:

The basis for significant assumptions in computing the value attributed to each of the stock option issuance is as follows:

Volatility:

The Company used four comparable companies (Diversa Corporation, Senomyx, Inc., Martek Biosciences Corporation and Symyx Technologies, Inc.) to evaluate stock volatilities. While none of them are direct competitors of the Company, they are all engaged in developing advanced biotechnology for industrial or consumer product type applications excluding pharmaceuticals. Diversa Corporation is engineering novel enzymes for various products and processes. Senomyx, Inc. is developing proprietary flavor ingredients using biotechnology. Martek Biosciences Corp. produces a patented bioproduct from algae to be used as an additive for baby formula. Symyx Technologies, Inc. uses combinatorial chemistry to develop novel catalysts for industrial processing applications. These companies are generally small to mid-capitalization companies that derive considerable funding from partnering their technology. Investors who understand and buy the stocks of these companies are ones who, in our view, would be interested in the Company as a prospective investment.

Company Name	Assumed Volatility	5 year computed volatility *	Expected Term used by the respective company
Diversa Corporation	61%	63%	5 years
Senomyx, Inc.	60%	54%	6.08 years
Martek Biosciences Corp.	61%	61%	5 years
Symyx Technologies, Inc.	52.5%	61%	5 years

\* Since IPO on 6/22/04 for Senomyx, Inc.

The Company based the assumed volatility rate on a review of historical volatilities for a 5 year term for the above companies, except that in the case of Senomyx, the Company used the historical available prices since Senomyx's IPO on June 22, 2004. The Company also reviewed the computed volatilities for these companies over 6 year periods and the range was 62% to 71%. The Company then adjusted the volatility to 75% to anticipate increased expected volatility associated with being a newly public company.

Expected Term:

The Company used an assumed expected term of 6.0625 years based on the Simplified Method as allowed by SAB 107 for "plain vanilla" options. The Company issued options to employees during 2006 with quarterly vesting over 4 years from the start of employment. The Company also issued options to one director that were fully vested upon issuance. The contractual term for all options issued during 2006 was 10 years from the date of grant.

Discounts due to lack of marketability:

The Company did not use any assumed discounts due to the lack of marketability in the calculation of the fair value of each option. In determining the fair value of our common stock, we assumed a 10% discount due to the lack of marketability. Please see our valuation reports provided in response to question 12 for more information.

The Company used the same assumed volatility and expected term for all the stock option issuances during 2006. The effect of not utilizing a shorter term in the valuation of the one grant with non-standard vesting provisions was immaterial.



Fair value of stock options issued to employees is as follows:

Date	Fair Value
01/05/06	\$ 1.08
01/19/06	\$ 1.08
02/01/06	\$ 1.09
04/13/06	\$ 1.91
04/24/06	\$ 1.91
06/13/06	\$ 2.91
06/20/06	\$ 3.44
08/03/06	\$ 5.01

If you require any additional information, please telephone either John M. Mutkoski at (617) 570-1073 or the undersigned at (617) 570-1393.

Sincerely,

/s/ ROBERT E. PUOPOLO

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Robert E. Puopolo

cc: James J. Barber, *Metabolix, Inc.*  
Thomas G. Auchincloss, Jr., *Metabolix Inc.*  
Aninda Katragadda, *Metabolix, Inc.*  
John M. Mutkoski, Esq.  
Christopher J. Denn, Esq.

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