

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

**FORM 10-K**

**ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2006; or

**TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

Commission File Number 001-33133

**METABOLIX, INC.**

(Exact name of registrant as specified in its charter)

**Delaware**  
(State or other jurisdiction of incorporation or organization)

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

**21 Erie Street**  
**Cambridge, MA**  
(Address of principal executive offices)

**02139**  
(Zip Code)

(Registrant's telephone number, including area code): **(617) 492-0505**

**Securities registered pursuant to Section 12(b) of the Act:**

Common Stock, par value \$.01 per share	The NASDAQ Stock Market LLC
Title of each class	Name of exchange on which registered

**Securities registered pursuant to Section 12(g) of the Act:**

None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Yes  No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes  No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes  No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (Section 229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer or a non-accelerated filer.

Large accelerated filer

Accelerated filer

Non-accelerated filer

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of Act). Yes  No

The aggregate market value of the voting and non-voting common equity held by non-affiliates computed by reference to the price at which the common equity was last sold on the NASDAQ Global Market on March 23, 2007 was \$16.88. The registrant has provided this information as of March 23, 2007 because its common equity was not publicly traded as of the last business day of its most recently completed second fiscal quarter.

The number of shares outstanding of the registrant's common stock as of March 23, 2007 was 21,065,274.

**DOCUMENTS INCORPORATED BY REFERENCE**

Portions of the Registrant's definitive Proxy Statement to be filed with the Securities and Exchange Commission (the "Commission") pursuant to Regulation 14A in connection with the 2007 Annual Meeting of Stockholders to be held on May 17, 2007 are incorporated herein by reference into Part III of this report.

**METABOLIX, INC.**  
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**For the Year Ended December 31, 2006**  
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## Forward Looking Statements

This annual report on Form 10-K contains “forward-looking statements” within the meaning of 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. In particular, statements contained in the Form 10-K, including but not limited to, statements regarding our future results of operations and financial position, business strategy and plan prospects, projected revenue or costs and objectives of management for future research, development or operations, are forward-looking statements. These statements relate to our future plans, objectives, expectations and intentions and may be identified by words such as “may,” “will,” “should,” “expects,” “plans,” “anticipate,” “intends,” “target,” “projects,” “contemplates,” “believe,” “estimates,” “predicts,” “potential,” and “continue,” or similar words.

Although we believe that our expectations are based on reasonable assumptions within the bounds of our knowledge of our business and operations, the forward-looking statements contained in this document are neither promises nor guarantees; and our business is subject to significant risk and uncertainties and there can be no assurance that our actual results will not differ materially from our expectations. These forward looking statements include, but are not limited to, statements concerning: current or future financial performance and position, management’s strategy, plans and objectives for future operations, plans and objectives for product development and commercialization, plans and objectives for present and future research and development and results of such research and development, plans and objectives for manufacturing, the commercialization of environmentally sustainable, economically attractive alternatives to petrochemical-based plastics, fuels and chemicals, the commercialization of *Natural Plastic* through our alliance with Archer Daniels Midland Company, or ADM, sales of *Natural Plastic* as an alternative to petrochemical-based plastics, the construction of the Commercial Manufacturing Facility, the production of *Natural Plastic* at the Commercial Manufacturing Facility, the commercial success of *Natural Plastic*, the feasibility of extracting *Natural Plastic* from switchgrass, the commercial viability of switchgrass, recognition of revenue, management’s plans and expectations for revenue from government grants, research and development revenue, research and development expenses and capital and working capital requirements. Factors which could cause actual results to differ materially from our expectations set forth in our forward-looking statements include, among others: (i) our ability to successfully manufacture *Natural Plastic* at commercial scale in a timely or economical manner, (ii) we may not be successful in the development of our products, including *Natural Plastic*, (iii) if ADM does not build the Commercial Manufacturing Facility on time and on budget, our revenues and the distribution of profits, if any, to us will be delayed, (iv) we may not be able to develop manufacturing capacity sufficient to meet demand in an economical manner or at all, (v) we may not achieve market acceptance of our products, (vi) we have limited marketing and sales experience and capabilities, which may make the commercialization of our products difficult, (vii) we rely heavily on ADM and will rely heavily on future collaborative partners, (viii) 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, (ix) our future profitability is uncertain, and we have a limited operating history on which you can base your evaluation of our business, (x) we may need to secure additional funding and may be unable to raise additional capital on favorable terms or at all, (xi) 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, (xii) 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, (xiii) patent protection for our products is important and uncertain, (xiv) a substantial portion of the technology used in our business is owned by or subject to retained rights of third parties, (xv) third parties may claim we infringe their intellectual property, and we could suffer significant litigation or licensing expense as a result, (xvi) if we are unable to manage our growth effectively, our business could be adversely affected, (xvii) we may not be successful in identifying market needs for new technologies and developing new products to meet those needs, (xviii) our products

are made using genetically modified products which may be, or may be perceived as being, harmful to human health or the environment, (xix) we face and will face substantial competition in several different markets that may adversely affect our results of operations, (xx) 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, (xxi) our government grants may subject us to government audits, which could materially harm our business and results of operations, (xxii) we face risks associated with our international business, (xxiii) 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, (xxiv) 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, (xxv) our pre-commercial manufacturing recovery operations are currently conducted at a single location which makes us susceptible to disasters.

The forward-looking statements and risks factors presented made in this document are made only as of the date hereof and we do not intend to update any of these factors or to publicly announce the results of any revisions to any of our forward-looking statements other than as required under the federal securities laws.

## PART I

### ITEM 1. BUSINESS

#### 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 joint venture 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 *Natural Plastic*. Our microbial fermentation system combines our proprietary engineered bacteria with corn sugar and other materials in a fermenter. The bacteria digest the corn sugar and produce *Natural Plastic* inside the bacteria. We separate the *Natural Plastic* from the remainder of the bacteria and formulate the polymer into its final form for commercial sale. Through the joint venture with ADM, which will operate under the name *Telles*<sup>TM</sup>, 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. We will be selling *Natural Plastic* under the brand name *Mirel*<sup>TM</sup>, and our products will be produced in a 110 million pound annual capacity commercial scale plant, or Commercial Manufacturing Facility, which is now under construction, by ADM, in Clinton, Iowa. The Commercial Manufacturing Facility will produce biodegradable *Natural Plastic* out of corn sugar, an abundant agriculturally-produced renewable resource. We are currently producing pre-commercial quantities of *Natural Plastic* jointly with ADM at a small scale, market development plant. For a more detailed description of our relationship with ADM, see “Business—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 *Natural Plastic* and biomass feedstock for the production of power or liquid fuels such as ethanol or other biofuels. For this system, we are engineering switchgrass to produce *Natural Plastic* 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. 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 co-producing *Natural Plastic* in switchgrass 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 pre-commercial field trials in approximately 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 *Mirel Natural Plastic* in 2008. The *Natural Plastics* that this facility will produce 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 joint venture with ADM we intend to initially position *Mirel Natural Plastic* as a premium priced specialty material 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 production of pre-commercial amounts of *Natural Plastic*, working with potential customers, and initiation of qualification trials of our material for selected customer applications. Currently, we have about 40 customer prospects evaluating approximately 60 different product applications. Of these, about 20 are engaged in prototype testing and qualification trials for specific 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.

Our research and development expenses, which include salaries, employee benefits, product development, and pre-commercial manufacturing costs, were approximately \$11.2 million, \$6.0 million and \$5.4 million, in 2006, 2005 and 2004, respectively.

We own over 340 issued patents and 120 patent applications world wide, and have licensed an additional 60 issued patents and 30 patent applications world wide. These patents cover, among other things, the fundamental biotechnology needed to produce *Natural Plastic* 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% by weight, and about 20% by volume, 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 mostly 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 and local jurisdictions within 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 led to 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 or politically risky 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 exceeded 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 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. The issues surrounding petroleum 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 of 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 *Natural Plastic* can potentially address many of the issues associated with petrochemical-based products. In aerobic conditions, *Natural Plastic* degrades into water and carbon dioxide.

***A Solution to Plastic Waste and Pollution from Persistent Plastics***—*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, *Natural Plastic* 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. *Natural Plastic* 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 *Natural Plastics* are functionally durable and do not spontaneously degrade under typical cold, hot or wet conditions.

***Leveraging the Stability of Agricultural Commodity Pricing***—Our use of corn sugar as a feedstock to produce *Natural Plastic* 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 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 *Natural Plastic*, may experience a more predictable cost structure and may become competitive to traditional petrochemical-based polymers over time. While *Natural Plastic* will initially be produced using corn syrup, which has experienced rising prices due to increased ethanol demand, other sugars including cane or cellulosic sugar as well as vegetable oils can be used as feedstocks, which can enhance cost stability. 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.

***Reducing Dependency on Foreign Energy***—We believe the widespread use of our *Natural Plastic* can help lower the United States' exposure to oil imported from politically unstable countries. In addition, we

believe that the *Natural Plastic*-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 160 million tons of *Natural Plastic*-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 *Natural Plastic* 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 *Natural Plastic* produces carbon dioxide, both the agricultural production of corn feedstock for microbial fermentation and the direct production of *Natural Plastic* 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 Commercial Manufacturing Facility will employ clean power (including biomass energy) which will contribute to our products having a favorable emissions profile.

#### **History of *Natural Plastic* and Formation of Metabolix**

Polymers are found in nature in a wide range of organisms including bacteria, plants and in animals. Polyhydroxyalkanoates, or PHAs, which we call *Natural Plastic*, 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 and its performance properties were limited. 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 significantly, and 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 *Natural Plastic* 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.

Our company was formed in 1992 to exploit these discoveries. In order to fully capture the opportunity, we also acquired Monsanto's patent estate which relates to *Natural Plastic*, which included the Biopol assets, in 2001. We have since fully developed an integrated manufacturing process using transgenic strains and a proprietary recovery process that have been demonstrated to work in commercial equipment. This integrated manufacturing process is being incorporated into the Commercial Manufacturing Facility.

## Business Strategy

Our goal is to be the leader in discovering, developing and commercializing economically attractive, environmentally sustainable alternatives to petroleum-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 Natural Plastic**—We have put into operation a pre-commercial manufacturing facility to produce Natural Plastic to seed the market. In order to supply greater amounts of *Natural Plastic* material for market development activities, Metabolix and ADM are investing in an expansion of pre-commercial production capacity from about 17,000 pounds per month to about 50,000 pounds per month.

As part of our strategic alliance, ADM is constructing a 110 million pound annual capacity Commercial Manufacturing Facility to produce *Natural Plastic*. The ADM site in Clinton, Iowa is being designed, engineered, and 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 *Natural Plastics* as premium priced, specialty materials that are environmentally attractive alternatives to petrochemical-based plastics. We are marketing *Natural Plastic* under the brand name *Mirel* consistent with this positioning and will seek to co-brand *Mirel* with our customers. The focus of this effort will be to build a pipeline of approximately 100 customer projects across a range of applications, and presently we have ongoing relationships with over 40 customer prospects for approximately 60 different applications. Of these, about 20 are engaged in prototype testing and qualification trials. Our goal is to dedicate a substantial amount of the production capacity of the Commercial Manufacturing Facility to customers prior to completion.

**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 *Natural Plastic* 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 Natural Plastic**—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: blown film, foam, 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 *Natural Plastic* 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 *Natural Plastic* 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 *Natural Plastic* along with bio-diesel feedstock, and sugar cane, which is suitable for tropical climates and can co-produce *Natural Plastic* 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 *Natural Plastic*. 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 *Natural Plastic* and fuels (e.g., ethanol and biodiesel); and
- switchgrass strains that optimize crop yields and processing traits for conversion to fuels.

#### **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.

### **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 accomplished, was to determine whether our process for fermenting and recovering *Natural Plastic* 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 an upfront payment of approximately \$3 million from ADM, and in May 2006, we received approximately \$2 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 *Natural Plastic* through a joint venture company owned equally by each of Metabolix and ADM Polymer, which we have named Telles, to make arrangements for the financing of the operation and to allocate distributions of cash flow. We anticipate that Telles will offer *Natural Plastic* for sale in pellet form (for further processing and resale as finished goods or components by customers) and in other forms as may be determined by the joint venture (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 *Natural Plastic* produced through fermentation (including patents licensed by us to Telles and patents claiming inventions made during the strategic alliance with ADM Polymer), unless we and ADM enter the Joint Venture Phase (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 Telles. In addition, ADM will finance the working capital requirements of Telles. 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 Telles until completion of the construction of the Commercial Manufacturing Facility. At that time, Telles will assume control of such activities. The joint venture will make up to twelve quarterly payments of approximately \$1.6 million to us 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 Telles making all twelve such payments, the quarterly payments will cease, and the joint venture will pay us a lump sum equal to the number of remaining unpaid payments multiplied by \$250,000.

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

ADM will construct, finance, own and operate the Commercial Manufacturing Facility through a manufacturing agreement with Telles. Even though Telles is a separate legal entity owned equally by each of Metabolix and ADM Polymer, ADM Polymer will disproportionately fund the activities of Telles 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 Telles will be distributed to ADM until ADM’s disproportionate investment in Telles, including the costs of constructing the Commercial Manufacturing Facility, have been returned to ADM.

Once ADM has recouped such amounts, the profits of Telles will 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 *Natural Plastic* through fermentation. These agreements do not, however, limit our right to develop, manufacture or sell *Natural Plastic* produced through plants such as switchgrass (rather than through fermentation) independent of the alliance.

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. ADM and we have agreed that the following are examples of a change in circumstances beyond the reasonable control of ADM:

- a third party challenge to the validity or enforceability of our technology or patent rights relating to our fermentation program;
- the emergence of a third party's superior technology;
- an increase in the projected cost required to construct the Commercial Manufacturing Facility or to manufacture *Natural Plastic*; and
- a decrease in the projected sales volume of *Natural Plastic*.

The agreement does not provide examples of a change in circumstances beyond our reasonable control. 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 alliance. For example, on such a termination due to a breach by us, ADM would be permitted to continue to produce and sell *Natural Plastic* (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 or termination by ADM due to a change in circumstances, we would be permitted to continue to produce, and sell, *Natural Plastic*, and ADM would be required to perform fermentation services for us for a period of time following the termination (subject to certain payment obligations to ADM).

**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 with us in order to build additional capacity and expand the commercial operation beyond the limits of the initial production capacity. The new joint venture entity would be owned equally by Metabolix and ADM Polymer. Under certain circumstances, if ADM does not exercise its option, then Metabolix would have an opportunity to manufacture and sell *Natural Plastic* independent of the Commercial Alliance.

#### **Target Markets for Mirel Natural Plastic**

We believe *Natural Plastic* 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 *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 *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 are branding *Natural Plastic* under the name *Mirel*, and we expect that by co-branding with products that use *Mirel*, 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 they believe consumer preferences are shifting. We believe the use of *Mirel* 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 petroleum-based incumbents is increasing. 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 of funding within the 2007 budget to build biomass biorefineries.

In the geographic segments where regulatory drivers exist, our *Natural Plastic* can meet requirements for bio-based content or biodegradability that favor *Natural Plastic* 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, erosion control, 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 *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. *Natural Plastic*, 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.

**Applications for Mirel Natural Plastic**

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 variety of customer 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>• Beverage cartons</li> </ul>	<ul style="list-style-type: none"> <li>• Cosmetics cases</li> <li>• Food jars and tubs</li> <li>• Bags</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>

To serve these market opportunities, we have developed formulations of *Natural Plastic* that can be processed in conventional plastics processing equipment for injection molding, casting film and sheet, thermoforming and paper coating. We also have plans to develop additional formulations to address the market segments above. We are presently working on blown film, as well as 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 blow molded bottles and fiber. To support these efforts, we are expanding our product development team.



## Marketing and Sales

We are leading the marketing and sales effort on behalf of Telles. Sales of *Natural Plastic* are highly technical in nature. Our expertise in polymer science combined with our familiarity with the properties of the PHA family of polymers are essential to developing resin grades that meet specific customer requirements. In some cases, we coordinate joint marketing and sales efforts with ADM, taking advantage of ADM's strong customer base. 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.

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. At present, we have ongoing efforts with over 40 different customers for approximately 60 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 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 *Natural Plastic* in larger scale product qualification trials and test marketing, which in turn may lead to product adoption and sales.

We are branding *Natural Plastic* under the name *Mirel*, and, where possible, we intend to co-brand the materials with products that incorporate them. Prospective buyers of *Mirel Natural Plastic* 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. Co-branding enables our customers to convey environmental responsibility to their end consumers by referencing our brand with their product.

*Natural Plastic* is being positioned as a specialty material that can serve both a functional need (which petrochemical polymers may satisfy) and a social need (which petrochemical polymers cannot address). Consequently, we expect Telles to price *Natural Plastic* as a specialty product 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.

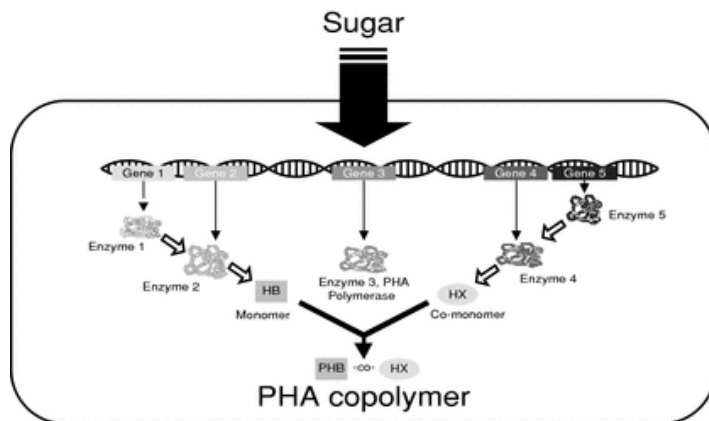
On behalf of Telles, we intend to sell *Natural Plastic* into markets around the globe. We intend to establish marketing and sales efforts either directly or through regional alliances with local firms in the Far East and Europe. We will also consider selected market development arrangements in certain discrete segments (fiber, for example) where there may be advantages to working closely 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, often *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 a series of chemical alterations to turn it into a monomer, the precursor to plastic. To execute this series of 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 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 achieved. The illustration below shows a schematic of our multi-gene system to produce *Natural Plastic*.



**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 from 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 *Natural Plastic* 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. We have 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 prototype blends suitable for injection molding, casting film and sheet, thermoforming and paper coating. We will work with our customers to finalize our blends to commercial specifications. 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 *Natural Plastic* but also cost advantaged biomass for biofuels (e.g., 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 *Natural Plastic* by microbial fermentation;
- expand the market applications into which *Natural Plastic* 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 *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 specific *Natural Plastic* compositions 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 *Natural Plastic* directly in plants, specifically targeting switchgrass. This effort builds on our success in creating high productivity microbial biofactories and may enable the production of *Natural Plastic* with economics that are as or more favorable than general purpose commodity plastics such as polyethylene, polypropylene, and polystyrene. We have successfully achieved the milestone of polymer production in switchgrass in small amounts and are now working to increase production levels to amounts that would be commercially viable.

**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 *Natural Plastic* 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.

As of December 31, 2006, we employed 39 personnel conducting research and development for our programs. Among our research staff, 15 hold Ph.D.s and 21 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.

#### **Switchgrass Biomass Biorefinery Program**

We are developing a breakthrough technology to produce *Natural Plastic* directly in plants. This effort builds on our success in creating high productivity microbial bio-factories and offers the potential to

produce *Natural Plastic* 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 *Natural Plastic* along with biomass for conversion to fuels (such as ethanol) or energy. We believe the co-production of *Natural Plastic* 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 *Natural Plastic* along with biodiesel fuel.

Switchgrass is an attractive biomass to energy crop that is generally considered to be a leading candidate for cellulose-derived production of ethanol and other biofuels. 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 is sometimes referred to as prairie grass. Switchgrass is found from the eastern United States west to Montana and Arizona, and from Canada to 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 in other areas in addition to *Natural Plastic* production. 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 *Natural Plastic* in switchgrass. Our research is currently focused on increasing *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 *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, starch, a precursor to our feedstock (i.e. corn sugar) is produced within the plant and considerable costs are incurred extracting starch and converting it to corn sugar feedstock, and then converting that feedstock to *Natural Plastic*. 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 co-produces both fuel and *Natural Plastic* can have more value than one that does not.

While the cost of producing *Natural Plastic* 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 *Natural Plastic* 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 approximately \$7.5 million, 5-year grant to develop production of *Natural Plastic* directly in crops that can be used to generate energy. In 2003, the U.S. Department of Agriculture awarded us an additional \$2 million for this program. This concept, called a “Biomass Biorefinery”, is based on the coproduction of energy and higher value *Natural Plastic*. 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 and Mitsubishi 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, polylactic acid (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, *Natural Plastic* offers 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, *Natural Plastic* can:

- biodegrade in the natural environment, including the marine environment,
- biodegrade in cold and 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: -DuPont -BASF -Mitsubishi Chemical -Showa Denko	PHA: -Metabolix' <i>Natural Plastic</i> -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 *Natural Plastic* products compare well against other biodegradable plastics when judged on the following factors:

- *Biodegradability*—*Natural Plastic* 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*—*Natural Plastic* possesses a particularly broad range of functional properties, varying from stiff to flexible to rubbery;
- *Processability*—*Natural Plastic* can be processed in many types of existing polymer conversion equipment;
- *Upper Service Temperature*—Some formulations of *Natural Plastic* will withstand temperatures in excess of 100 °C, i.e., the boiling point of water, an important threshold;
- *Resistance to Hydrolysis*—While *Natural Plastic* will biodegrade in marine, wetland, and fresh water environments, it is resistant to reacting with even hot water over durations encountered in many 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 alternative products.

#### 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 340 issued patents and 120 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 *Natural Plastic* 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, 2006, these fees totaled \$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. In addition registration applications for our marks *Mirel* and *Telles* are pending.

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 December 31, 2006, we had 59 full-time employees located in Cambridge, Massachusetts, one in California and one in Fort Mill, South Carolina, of whom 39 are in research and development, 7 are in marketing, 1 is in government programs and 12 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.



## Corporate and Investor Information

We were incorporated in Massachusetts in June 1992 under the name Metabolix Inc. In September 1998, we reincorporated in Delaware. Financial and other information about us is available on our website (<http://www.metabolix.com>). The information on our website is not incorporated by reference into this annual report on Form 10-K and should not be considered to be part of this annual report on Form 10-K. We make available on our website, free of charge, copies of our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 as soon as reasonably practicable after filing such material electronically or otherwise furnishing it to the Securities and Exchange Commission.

### ITEM 1A. RISK FACTORS

Our operations and financial results are subject to various risks and uncertainties that could have a materially adverse effect on our business, financial condition, results of operations and the trading price of our common stock.

#### *Risks Relating to Our Business*

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

We are currently producing *Natural Plastic* using our fermentation platform in relatively small quantities, at pre-commercial scale, for use in marketing activities. The current and anticipated methods for manufacturing *Natural Plastic*, 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 *Natural Plastic* in plants, namely switchgrass, though we are only operating at research scale. We cannot predict the cost of producing *Natural Plastic* 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 *Natural Plastic* at a commercial scale in a timely or economical manner using either of our technology platforms.

*Natural Plastic* 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 *Natural Plastic*, 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 only recently begun construction of the commercial manufacturing facility for the production of *Natural Plastic* through microbial fermentation (referred to as 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 *Natural Plastic* 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 *Natural Plastic* economically on a commercial scale or in commercial volumes, our commercialization of *Natural Plastic* 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 *Natural Plastic* in switchgrass.**

In addition to our development and scale-up work to produce *Natural Plastic* through fermentation, we are also at an early stage of development of technology and a process to produce *Natural Plastic* 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 *Natural Plastic* in crops has focused primarily on the genetic engineering required to cause the crops to aggregate *Natural Plastic* in the plant mass during the life cycle of the plant. We have not yet achieved a high enough concentration of *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 *Natural Plastic* 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 *Natural Plastic*, 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 *Natural Plastic* by the Telles joint venture company, will be very significant. Although the final costs of construction have not been determined, we estimate that our portion of these expenses may be as much as \$15 million. ADM will be advancing a disproportionate share of the financial capital needed for such activities and, therefore, under our agreement all profits, after payment of all royalties, reimbursements and fees, from the Telles joint venture company will first be distributed to ADM until ADM's disproportionate investment in the Telles joint venture 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 *Natural Plastic* 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.**

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. Also, the expansion of a commercial-scale manufacturing facility is complex and expensive. If demand for *Natural Plastic* increases beyond the scope of the Commercial Manufacturing Facility being built to serve the Telles joint venture 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.

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

We do not currently have customers for commercial quantities of 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 *Natural Plastic* to resist biodegradation for a certain period of time in particular environments;
- the willingness and speed at which potential customers qualify *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 large-scale 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 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 *Natural Plastic* 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. We and ADM have the ability to terminate the Commercial Alliance Agreement with 30 days notice if, based upon a change in circumstances beyond the reasonable control of the other party, the projected financial return from the commercial alliance is deemed by the other party to be either too uncertain or inadequate. We and ADM also have the ability to terminate the Commercial Alliance Agreement with 90 days notice in the case of a breach by the other party. 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 have a materially adverse affect on 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 have a materially adverse 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.

**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 *Natural Plastic* 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 3 years, the prices of petroleum and corn have diverged dramatically. Recently, the price of corn has increased. 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

*Natural Plastic* 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 December 31, 2006, our accumulated deficit was approximately \$66 million. Since 1992, we have been engaged solely in research and development activities. As a part of our strategic alliance, ADM Polymer has only recently begun construction of the commercial scale Commercial Manufacturing Facility for *Natural Plastic*. We currently expect the Commercial Manufacturing Facility to become operational in 2008, and until such time, we will not have significant revenues from sales of *Natural Plastic*. 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 *Natural Plastic* 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 *Natural Plastic* in crops and other products, or if sales of such *Natural Plastic* 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 *Natural Plastic* in crops and for 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. Although we believe our existing cash resources of approximately \$122 million as of December 31, 2006, plus anticipated payments from the strategic alliance with ADM of approximately \$1.6 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 the use of existing cash resources and through strategic collaborations, governmental research grants, and/or by licensing all or a portion of our programs or technology. We may also seek additional funds through private or public sales of our securities, or debt financings. 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 is 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 *Natural Plastic*, 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 pre-commercial 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.

**Intellectual property 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 a method of producing some types of 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 five 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 have, and expect to have in the future, 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 are 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 13 issued U.S. patents, 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 *Natural Plastic* and fuels, their compositions, formulations and uses, and processes for their production. Such third parties may claim that we infringe their patents. For example, we are aware of competitors with patents relating to *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. In addition, 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. 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 *Natural Plastic* 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 *Natural Plastic* 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 facilities, and 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 grow at the required rate, we may be unable to staff and manage projects adequately. This may slow the development process, and 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 *Natural Plastic*, 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-engineered systems which may be, or may be perceived as being, harmful to human health or the environment.**

*Natural Plastic* is a new material 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 *Natural Plastic* 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 of products therefrom. 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 petroleum-based plastics, fuels and chemicals. 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 *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. Our competitors include, but are not limited to, Kaneka in the PHA plastic segment, Cargill,

Mitsui Chemical, Toyota, Novamont, and Stanelco in PLA and starch-based biodegradables, 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 made from such crops and organisms 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, beginning with our annual report for the year ending December 31, 2007, 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, 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 have recently begun a formal evaluation, documentation and analysis of our internal controls. During the course of our 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 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 Form 10-K.

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 the intrinsic value method under APB Opinion No. 25 and, as such, generally recognized no compensation cost for employee stock options. The effect of adopting SFAS No. 123R for the twelve months ended December 31, 2006 was an increase in net loss by approximately \$1.9 million and a \$0.34 increase to basic and diluted net loss per share. The total compensation cost related to these options not yet recognized in the financial statements is approximately \$4.5 million to be expensed over the next 3.6 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 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 pre-commercial manufacturing recovery operations are currently conducted at a single location which makes us susceptible to disasters.**

Our pre-commercial 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 Relating to Owning Our Common Stock***

**An active trading market for our common stock may not be available on a consistent basis to provide stockholder with adequate liquidity. Our stock price may be extremely volatile, and our stockholders could lose a significant part of their investment.**

Prior to November 10, 2006, there was no public market for our common stock. An active trading market for shares of our common stock may not be sustained on a consistent basis. The public trading price for our common stock will be affected by a number of factors, including:

- reported progress of our business and technology development, including construction of the Commercial Manufacturing Facility, 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, our stockholders may not be able to resell their shares at, or above, their purchase 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. The valuations of many biotechnology companies without consistent product revenues and earnings are extraordinarily high based on conventional valuation standards, such as price to earnings and price to sales ratios. These trading prices and valuations may not be sustained. Any negative change in the public's perception of the prospects of biotechnology companies could depress our stock price regardless of our results of operations. These factors may materially and adversely affect the market price of our common stock.

**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. As of March 1, 2007, we had 20,736,882 shares of common stock outstanding. Of these, approximately 7,844,500 shares sold in the initial public offering or pursuant to a registration statement on Form S-8 are 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 approximately 12,892,311 shares of our common stock are available for sale pursuant to Rule 144, Rule 144(k) and Rule 701, as follows:

<u>Number of Shares (as of March 1, 2007)</u>	
95,452	shares are immediately eligible for sale in the public market without restriction pursuant to Rule 144 (k);
8,198	additional shares eligible for sale in the public market under Rule 144 or Rule 701, subject to volume, manner of sale, and other limitations under those rules
12,195,489	additional shares will become eligible for sale, subject to the provisions of Rule 144, Rule 144(k) or Rule 701, beginning 180 days after November 10, 2006 (subject to extension under certain circumstances), upon the expiration of agreements not to sell such shares entered into between the underwriters and such stockholders; and
593,172	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.

Stockholders holding an aggregate of approximately 13,950,315 shares of common stock have rights with respect to the registration of these shares of common stock with the SEC. 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 of our initial public offering, 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 directors and management collectively control approximately 34% of our outstanding common stock.**

Our directors and executive officers and their affiliates collectively control approximately 34% of our outstanding common stock. 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. Other stockholders may 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 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 our stockholders might otherwise receive a premium for their 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 our stockholders could receive a premium for their common stock in an acquisition.

**We do not currently intend to pay dividends on our common stock and, consequently, our stockholders' ability to achieve a return on their 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, our stockholders are not likely to receive any dividends on their common stock for the foreseeable future.

#### **ITEM 1B. UNRESOLVED STAFF COMMENTS**

Not applicable

#### **ITEM 2. PROPERTIES**

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 are presently negotiating to lease additional office space Lowell, Massachusetts. With the addition of this space, we believe that our leased facilities will be adequate to meet our current needs.

We have entered into an agreement with Nation Ford Chemical, or NFC, to act as a contract manufacturer and to operate a recovery facility for pre-commercial manufacturing in Fort Mill, South Carolina. We deliver raw materials to NFC for manufacturing and processing of *Natural Plastic*, which is stored and then shipped at our instruction. The agreement terminates October 13, 2007, 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.

#### **ITEM 3. 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 a method of producing some types of 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.

#### ITEM 4. SUBMISSION FOR MATTERS TO A VOTE OF SECURITY HOLDERS

On November 3, 2006, in connection with our initial public offering, our stockholders approved the following matters by written consent: (i) the adoption of our Amended and Restated Certificate of Incorporation to provide for certain changes consistent with our becoming a public company and to effect a .8173-for-1 reverse split of our common stock to be effective prior to the closing of the public offering; (ii) the election of Edward M. Muller, Matthew Strobeck and Robert L. Van Nostrand to serve as Class I directors until the annual meeting of stockholders to be held in 2007 or until his earlier death, resignation or removal; (iii) the election of Jack W. Lasersohn, Jay Kouba, Ph.D. and Oliver P. Peoples, Ph.D. to serve as Class II directors until the annual meeting of stockholders to be held in 2008 or until his earlier death, resignation or removal; (iv) the election of Edward M. Giles, Anthony J. Sinskey, Sc.D. and James J. Barber to serve as Class III directors until the annual meeting of stockholders to be held in 2009 or until his earlier death, resignation or removal; (v) the adoption of our Amended and Restated By-laws to provide for certain changes consistent with our becoming a public company; (vi) the adoption of our Amended and Restated Certificate of Incorporation to eliminate the terms of our preferred stock outstanding to be effective upon the closing of the public offering; and (vii) the adoption of our 2006 Stock Option and Incentive Plan. All such actions were effected pursuant to an action by written consent of our stockholders pursuant to Section 228 of the Delaware General Corporation Law. A total of 7,786,584 shares of our stock out of 14,749,713 shares issued and outstanding (on an as-if-converted basis and without giving effect to the .8173-for-1 reverse split of our common stock) voted in favor of these matters.

#### PART II

#### ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

##### Market Information

Our Common Stock has been traded on the NASDAQ Global Market under the symbol "MBLX" since November 10, 2006. Prior to that time, there was no established public trading market for our common stock. The following table sets forth, for the period indicated, the high and low sales prices for the common stock, as reported by the NASDAQ Global Market, since the common stock commenced public trading:

	Common Stock	
	High	Low
<b>2006:</b>		
Fourth Quarter*	\$21.18	\$14.09

\* Our common stock began trading on November 10, 2006.

##### Stockholders

As of March 23, 2007, there were approximately 21,065,274 shares of our common stock outstanding held by approximately 135 stockholders of record, and the last reported sale price of our common stock on the NASDAQ Global Market on March 23, 2007 was \$16.88 per share.

##### Dividends

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.

#### **Equity Compensation Plan Information**

Please see part III, item 12, for information regarding securities authorized for issuance under our equity compensation plans.

#### **Unregistered Sales of Securities**

In connection with our initial public offering, all outstanding shares of our convertible preferred stock were converted into an aggregate of 9,992,041 shares of common stock.

Concurrent with our initial public offering, Archer Daniels Midland Company, or ADM, purchased 535,714 shares of common stock at \$14.00 per share in a private placement.

On December 12, 2006, Thomas G. Auchincloss, Jr. exercised a warrant to purchase 1,021 shares of common stock at an exercise price of \$13.21 per share. The exercise price was paid in cash for aggregate consideration of \$13,500.

On December 18, 2006, Edward M. Giles exercised warrants for 130,211 shares of common stock at an exercise price of \$.12 per share in a net exercise transaction. As a result of this cashless exercise, we issued 129,356 shares of common stock.

On November 9, 2006, we issued stock options for the purchase of an aggregate of 365,000 shares to employees and stock options for the purchase of an aggregate of 123,654 shares to members of our Board of Directors under our 2006 Stock Option and Incentive Plan. All such stock options had an exercise price of \$14.00 per share, which was the initial public offering price.

No underwriters were involved in these transactions, and there were no underwriting discounts or commissions. The issuance of securities described above were deemed to be exempt from registration under the Securities Act of 1933 in reliance on Section 4(2) of the Securities Act of 1933 as transactions by an issuer not involving any public offering. The recipients of securities in each such transaction represented their intention to acquire the securities for investment only and not with a view to or for sale in connection with any distribution thereof and appropriate legends were affixed to the share certificates and other instruments issued in such transactions. The sales of these securities were made without general solicitation or advertising.

#### **Use of Proceeds from Registered Securities**

On November 15, 2006, we issued and sold all of the 6,800,000 shares of our common stock that we registered under a Registration Statement on Form S-1 (File No. 333-135760), which was declared effective by the SEC on November 9, 2006, in an initial public offering at an offering price of \$14.00 per share. On November 16, 2006, the underwriters exercised the option to purchase an additional 1,020,000 shares of common stock from us at the offering price of \$14.00 per share less underwriting discounts and commissions. The offering of the common stock (including the exercise by the underwriters of their over-allotment option and the sale of the ADM shares) resulted in gross proceeds of \$117 million and net proceeds of approximately \$107 million to us after deducting underwriting discounts and commissions of approximately \$7.6 million and related offering costs of an estimated \$2.5 million. The book-running manager for the offering was Piper Jaffray & Co. and Jeffries & Company, Thomas Weisel Partners LLC and Ardour Capital Investments, LLC acted as representatives of the underwriters. No payments were made to directors, officers or persons owning ten percent or more of our common stock or to their associates, or to our affiliates, other than payments in the ordinary course of business to officers for salaries and to non-employee directors as compensation for board or board committee service.

As of March 23, 2007, all of the net proceeds remained available and were primarily invested in money market accounts or marketable securities. Pending any use, as described below, we have invested the net proceeds in investment-grade, short-term, interest-bearing securities.

There has been no material change in the planned use of proceeds from our initial public offering as described in our final prospectus filed with the Securities and Exchange Commission pursuant to Rule 424(b).

**Issuer Purchases of Equity Securities**

During the quarter ended December 31, 2006, there were no repurchases made by us or on our behalf, or by any “affiliated purchasers”, of shares of our common stock.

## ITEM 6. SELECTED CONSOLIDATED FINANCIAL DATA

The selected condensed consolidated statement of operations data for the years ended December 31, 2006, 2005, and 2004 and balance sheet data as of December 31, 2006 and 2005 have been derived from our consolidated financial statements and related notes, which are included elsewhere in this report, 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, 2003 and 2002 and the balance sheet data as of December 31, 2004, 2003 and 2002 have been derived from our audited financial statements that are not included in this report. 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 report. The historical results are not necessarily indicative of the results to be expected for any future period.

	Year ended December 31,				
	2006	2005	2004	2003	2002
(in thousands, except share and per share data)					
<b>Statement of operations data:</b>					
Total Revenue	\$ 4,590	\$ 2,781	\$ 3,678	\$ 2,383	\$ 1,989
<b>Operating expenses</b>					
Research and development expenses, including costs of revenue	11,235	5,980	5,426	6,204	4,409
General and administrative expenses	10,879	3,825	3,252	2,692	2,644
<b>Total Operating expenses</b>	<b>22,114</b>	<b>9,805</b>	<b>8,678</b>	<b>8,896</b>	<b>7,053</b>
Loss from operations	(17,524)	(7,024)	(5,000)	(6,513)	(5,064)
Interest income and (expense) net	1,462	99	(55)	(128)	(124)
Loss on investment in related parties	—	(700)(1)	—	—	—
<b>Net loss(2)</b>	<b>\$ (16,062)</b>	<b>\$ (7,625)</b>	<b>\$ (5,055)</b>	<b>\$ (6,641)</b>	<b>\$ (5,188)</b>
Net loss per share Basic and Diluted	\$ (2.96)	\$ (2.56)	\$ (1.68)	\$ (3.33)	\$ (2.91)
Number of shares used in per share calculations Basic and Diluted	5,432,586	2,975,116	3,009,137	1,991,106	1,781,876

- (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 to our entire investment in Tepha, Inc.
- (2) Due to the adoption of SFAS 123R on January 1, 2006 the Company changed the manner in which it accounts for share-based compensation.

	As of December 31,				
	2006	2005	2004	2003	2002
<b>Balance Sheet Information:</b>					
Cash and short-term investments	\$122,080	\$ 3,174	\$ 4,455	\$ 1,495	\$ 868
Total Assets	127,596	7,325	7,510	3,331	2,561
Long-term obligations	1,120	1,280	1,440	266	857
Long-term deferred revenue	13,667	5,621	3,000	—	—
Total Liabilities	18,008	9,874	7,246	4,546	3,588
Redeemable stock convertible preferred stock	—	44,009	39,235	32,640	27,764
Accumulated deficit	(66,237)	(50,175)	(42,549)	(37,495)	(30,855)
Total stockholders' equity (deficit)	109,588	(46,558)	(38,971)	(33,855)	(28,791)

## ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion and analysis should be read in conjunction with the Consolidated Financial Statements and Notes thereto included in this Annual Report on Form 10-K.

All dollar amounts are stated in thousands.

### 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 joint venture 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 *Natural Plastic*. Our microbial fermentation system combines our proprietary engineered bacteria with corn sugar and other materials in a fermenter. The bacteria digest the corn sugar and *Natural Plastic* is produced inside the bacteria. We separate the *Natural Plastic* from the remainder of the bacteria and formulate the polymer into its final form for commercial sale. Through the joint venture with ADM, which will operate under the name *Telles™*, we intend to sell *Natural Plastic* 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. We will be selling *Natural Plastic* under the brand name, *Mirel™*, and our products will be produced by ADM in a 110 million pound annual capacity commercial scale plant, or the Commercial Manufacturing Facility, which is presently under construction by ADM in Clinton, Iowa. The Commercial Manufacturing Facility will produce biodegradable *Natural Plastic* out of corn sugar, an abundant agriculturally-produced renewable resource. We are currently producing pre-commercial quantities of *Natural Plastic* jointly with ADM at a small scale market development plant.

Our second technology platform, which is in an early stage, is a biomass biorefinery system using switchgrass to co-produce both *Natural Plastic* and biomass feedstock for the production of power or liquid fuels such as ethanol or other biofuels. For this system, we are engineering switchgrass to produce *Natural Plastic* 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 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 pre-commercial field trials within four years and to establish strategic alliances with attractive partners to commercially exploit this platform.

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 pre-commercial manufacturing of *Natural Plastic*. Commercialization of *Natural Plastic* will require significant additional expenditures in several areas, including research and development, pre-commercial manufacturing, product development, and sales and marketing organization development. We expect these expenditures to increase in future years.

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 110 million pound annual 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 *Natural Plastic*. In 2004, we received a \$3,000 upfront payment from ADM. In July 2006, ADM Polymer exercised its option under our Technology Alliance and Option Agreement and entered into the Commercial Alliance Agreement with us. Upon entering into the Commercial Alliance Agreement, the Technology Alliance and Option Agreement terminated pursuant to its terms. The Commercial Alliance Agreement calls for up to 12 quarterly payments of \$1,575 to us from Telles, our joint venture company, during the construction period of the Commercial Manufacturing Facility, along with reimbursements from the joint venture company for pre-commercial manufacturing facility expansion and material production expenses. We received \$6,300 in quarterly payments from ADM since the signing of the Commercial Alliance Agreement through December 31, 2006. We also received \$2,000 in milestone payments and \$1,857 in reimbursements for pre-commercial manufacturing and capital expenses during 2005 and 2006.

We have generated revenues primarily from government grants, research and development payments, license fees, and royalty payments. We have funded our operations primarily through the sale of equity securities, government grants, and payments from our collaborative partners.

During the Commercial Alliance Phase, ADM will construct, finance, own and operate the Commercial Manufacturing Facility through a manufacturing agreement with our Telles joint venture and we will provide or procure formulation services to convert the output from the Commercial Manufacturing Facility into forms that are suitable for various commercial applications. Even though Telles is a separate legal entity owned equally by us and ADM Polymer, ADM Polymer will disproportionately fund the activities of the joint venture. Specifically, the cost of the Commercial Manufacturing Facility, the working capital requirements of the joint venture and the support payments to us will exceed the investments made by us to establish formulation operations for the joint venture. In order to rebalance the respective investments made by the parties, a preferential distribution of cash flow will be used, whereby all profits from the joint venture, after payment of all royalties, reimbursements and fees, will be distributed to ADM until ADM's disproportionate investment in the joint venture including the costs of constructing the Commercial Manufacturing Facility have been returned to ADM. Once ADM has recouped such amounts, the profits of the joint venture will be distributed in equal amounts to the parties. In order to track the disproportionate investments ADM has made, a "Ledger Account" has been established to record the respective investments made by the parties. As of December 31, 2006 the balance of the Ledger Account, as defined in the Commercial Alliance Agreement, was \$20,100. This balance is expected to increase as the construction of the Commercial Manufacturing Facility progresses and our joint venture Telles becomes operational.

On September 20, 2006, a 0.8173-for-1 reverse stock split was approved by the Board of Directors and became effective on November 3, 2006. Except as otherwise indicated, all information in the consolidated financial statements has been retroactively adjusted to reflect such reverse stock split.

During November 2006, we completed our initial public offering of 7,820,000 shares of common stock at an initial public offering price of \$14.00 per share. Net proceeds were \$99,327 after deducting underwriting discounts, commissions, and other offering expenses. Offering expenses (excluding underwriting discounts and commissions) equaled \$2,489, and consisted of legal, accounting, printing, and various other fees associated with the registration and listing of our common stock. Concurrent with this offering, ADM purchased 535,714 shares at an initial offering price of \$14.00 per share, and we realized

additional net proceeds of \$7,500. Our redeemable convertible preferred stock was converted on a one-for-one basis into 9,992,041 shares of common stock upon the closing of the initial public offering.

As of December 31, 2006, we had 59 full-time employees, of whom 38 are scientists specializing in *Natural Plastic* production, in microbial fermentation, and plant technologies as well as extraction and manufacturing of *Natural Plastic* from these technologies. We expect that we will add a significant number of employees during 2007 to support our research, development, sales and marketing efforts, and to build the infrastructure necessary to operate as a public company.

We have incurred significant losses since our inception. As of December 31, 2006, our accumulated deficit from inception to date was \$66,237 and total stockholders' equity was \$109,588. We recognized net losses of \$16,062, \$7,625, and \$5,055 in 2006, 2005, and 2004, respectively. We expect our net losses to increase in the next two years as we continue our pre-commercial manufacturing development and expand our research and development and sales and marketing activities. In addition we will need to 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 2004. We also formed a joint development arrangement with BP in 2005. As of December 31, 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 of \$1,575 and other payments, will be classified as deferred revenue as well. We expect to begin recognizing revenue at the time of the first commercial sale of *Natural Plastic* and all amounts will be recognized proportionally over the period in which our commercial obligations are fulfilled in accordance with the terms of the Commercial Alliance Agreement.

Deferred revenue of \$2,500 associated with the BP arrangement was recognized in full during the first quarter of 2006 when the alliance was terminated.

We received the following payments from these arrangements to offset operating cash needs during the three years ended December 31, 2006:

- upfront payment of \$3,000 from ADM in November 2004;
- milestone payment of \$2,000 from ADM in May 2006;
- support payments of \$6,300 from ADM during 2006;
- cost sharing payments from ADM for pre-commercial manufacturing plant construction and operations of \$621 during 2005 and \$1,236 during 2006; and
- upfront payment of \$1,000 and three subsequent quarterly payments of \$500 each, totaling \$2,500 in payments from BP during 2005 and 2006.



## United States Government Contracts and Grants

As of December 31, 2006, expected gross proceeds of \$1,435 remain 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:

<u>Program Title</u>	<u>Funding Agency</u>	<u>Total Government funds(in \$000)</u>	<u>Total Received through December 31, 2006 (in \$000)</u>	<u>Estimated amount remaining as of December 31, 2006 (in \$000)</u>	<u>Contract/Grant Expiration</u>
<b>Biomass Biorefinery for the Production of Polymers and Fuel</b>	Department of Energy (1)	\$ 7,480	\$ 6,606	\$ 513	Apr. 2007
<b>Industrial genome Engineering</b>	Department of Commerce	\$ 1,641	\$ 1,641	—	Jul. 2005
<b>Advanced Biorefinery Feedstocks</b>	Department of Agriculture	\$ 2,000	\$ 2,000	—	Oct. 2006
<b>PHA Bioplastic Packaging Materials</b>	SERDP(2)	\$ 1,005	\$ 163	\$ 842	Aug. 2008
<b>Blow Molded Bioproducts from Natural Plastic</b>	Department of Agriculture	\$ 80	—	\$ 80	Dec. 2007
<b>Total</b>		<b>\$12,206</b>	<b>\$10,410</b>	<b>\$1,435</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

Since inception, we have generated revenues primarily from government grants, research and development payments, license fees and royalty payments. Our collaborative arrangement with ADM is complex and has 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 under our collaborative arrangements with ADM until future years. We expect to begin recognizing revenue approximately at the time of the first commercial sale of *Natural Plastic* and amounts will be recognized proportionally over the period in which our commercial obligations are fulfilled in accordance with the terms of the Commercial Alliance Agreement.

Revenues for the years ended December 31, 2006, 2005, and 2004 were primarily derived from government grants and totaled \$4,590, \$2,781 and \$3,678, respectively. The 2006 revenue includes recognition of \$2,500, previously deferred revenue, associated with the termination of the BP joint development agreement.

We expect the revenues from government grants to fluctuate based on 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 in 2007 as we are not anticipating any 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 pre-commercial manufacturing costs. All research and development costs, including those funded by third parties, are expensed as incurred. Research and development expenses include:

- employee and consultant related expenses, which include salary and benefits;
- external research and development expenses incurred under agreements with third parties; 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 December 2006, 2005, and 2004 were \$11,235, \$5,980, and \$5,426 respectively. An increase in the pre-commercial production of *Natural Plastic* for customer and product development activities, expansion of our research and development, and product development programs were the primary drivers for the increase in research and development expenses. We expect that our expenses will increase during 2007, and in future periods, as we further increase manufacturing of our pre-commercial material and expand our research and development and product 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.

The potential for commercial success of our *Natural Plastic* may be impacted by numerous factors, including our continued collaboration with ADM, properties of *Natural Plastic*, and successful development of manufacturing capability and commercial viability of *Natural Plastic*.

In addition, we expect research and development expenditures to grow as we advance our switchgrass program and explore other commercial opportunities to which our technology platform can be applied. 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.

## **Selling, General and Administrative Expenses**

General and administrative expenses consist principally of salaries and related costs for personnel in the executive, finance, accounting, marketing and sales, business development, information technology, legal and human resources functions. Other general and administrative expenses include patent related costs, allocated facility costs, and professional fees for legal, consulting, and accounting services.

General and administrative expenses were \$10,879, \$3,825, and \$3,252 in 2006, 2005, and 2004, respectively. General and administrative expenses increased primarily due to the addition of personnel for our sales and marketing initiatives as well as administrative initiatives to support expanding commercialization activities, including requirements associated with being a public company. We expect that our general and administrative expenses will increase as we expand our legal, accounting, marketing and sales staff, and add infrastructure to support expanded operations. We also expect to incur additional costs related to operating as a public company, including directors' and officers' insurance, investor relations programs, directors' fees, and increased professional fees.

## **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 begin to be recognized at the time of the first commercial sale of *Natural Plastic*. All amounts will be recognized proportionally over the period in which our commercial obligations are fulfilled in accordance with the term of the Commercial Alliance Agreement. As of December 31, 2006, payments received from ADM totaling \$13,157 have been recorded as deferred revenue, including non-refundable up-front payments totaling \$3,000, \$2,000 in milestone payments, \$6,300 in support payments and \$1,857 in reimbursements related to pre-commercial manufacturing construction and operating costs. As of December 31, 2006 we had an amount due from ADM of \$511 for the net reimbursement of pre-commercial manufacturing expenses under the cost sharing arrangement which was recorded as deferred revenue and due from related party receivables.

Under our joint development arrangement with BP, we received \$2,000 in 2005 and \$500 in 2006. Due to these amounts being applicable to future elements of the arrangement, the amounts received

during 2005 were recorded as deferred revenue at December 31, 2005. We recognized the revenue for these amounts during the first quarter of 2006 upon the termination notice from BP in January 2006, as we were 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, we 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 employee-related 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 due to our prior use of the minimum value method to value options. The prospective method 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.

Determining the appropriate fair value model and calculating the fair value of stock-based payment awards requires 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 123, we had elected not to apply fair value-based accounting for awards under our stock incentive plan through December 31, 2005. Instead, we 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*.

We have employed the following key assumptions to determine fair values of option grants pursuant to the Black-Scholes option pricing model.

	<u>December 31, 2006</u>	<u>December 31, 2005</u>	<u>December 31, 2004</u>
<b>Expected dividend yield</b>	—	—	—
<b>Risk-free rate</b>	4.29–5.15%	4.22%	4.08%
<b>Expected option term (in years)</b>	6.1	5	5
<b>Volatility</b>	75%	—	—

To estimate expected volatility we reviewed the volatilities of publicly traded peer companies and adjusted for expected higher volatility associated with being a newly traded public company. Management believes that the historical volatility of our stock price does not best represent the expected volatility of the stock price. We are currently a newly public company and therefore lack company specific historical and implied volatility information. We intend to continue to consistently use the same group of publicly traded

peer companies to determine volatility in the future until such time that sufficient information regarding the volatility of our share price becomes available or that the selected companies are no longer suitable for this purpose.

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 December 31, 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. For stock options that are not considered "plain vanilla" and, as such, do not qualify for the simplified method, for example stock options with an exercise price below the related fair value of common stock on the date of grant, our estimate of expected term was based upon review of the expected terms of publicly traded peer companies with stock options that have similar characteristics.

The stock price volatility and expected terms utilized in the calculation of fair values 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 we recognize compensation expense for only the portion of options that are expected to vest. Therefore, we have estimated expected forfeitures of stock options with the adoption of SFAS 123R. In developing a forfeiture rate estimate, we considered our historical experience, our growing employee base, actual forfeitures for the year, and the rates used by publicly traded peer companies. If the actual number of forfeitures differ from those estimated by management, additional adjustments to compensation expense may be required in future periods.

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. In years prior to 2006, 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 and prior to our initial public offering, determining the fair value of our stock has required 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 as determined was 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. Upon completion of our initial public offering the fair market value for our stock has been based upon the traded market value.

We account for stock compensation arrangements with non-employees in accordance with Emerging Issues Task Force No. 96-18, or EITF No. 96-18, *Accounting for Equity Instruments That Are Issued to Other Than Employees for Acquiring, or in Conjunction with Selling, Goods or Services*, using a fair value approach. For stock options granted to non-employees, the fair value of the stock options is estimated using the Black-Scholes valuation model. Stock-based compensation expense is recognized over the period of expected service by the non-employee. As the service is performed, we are required to update these assumptions and periodically revalue unvested options and make adjustments to the stock-based compensation expense using the new valuation. These adjustments may result in additional or lesser stock-based compensation expense than originally estimated or recorded, with a corresponding increase or decrease in compensation expense in the statement of operations. Ultimately, the final compensation charge for each option grant to non-employees is unknown until those options have vested or the performance of services is completed.

In connection with our initial public offering, our board of directors determined to undertake a reassessment of the fair value of our common stock as of each of the 2006 grant dates. In connection with this undertaking, our board of directors considered the following:

- the valuation indicated by the January 2006 closing of our Series 05 convertible preferred stock financing, which included participation by investors who had not participated in prior financing rounds; and
- events leading up to the signing of our commercial alliance agreement with ADM in July 2006.

Following this reassessment, our board of directors, with input from management, determined that the exercise prices of stock option grants in 2006 were less than the respective fair values of our common stock on the grant dates for accounting purposes. We have therefore revised the Black-Scholes fair value of these stock option grants to reflect the reassessed fair value of our common stock. Due to this reassessment the increase in the Black-Scholes fair value relating to the options granted to employees and non-employees during 2006 was \$1,230 and will be recognized over the remaining service period. The increase in deferred compensation related to variable options granted to an officer of the Company in 2005 was \$198.

## ***Results of Operations***

### ***Comparison of the Years Ended December 31, 2006 and 2005***

#### ***Revenue***

Total revenues were \$4,590 for the year ended December 31, 2006 as compared to \$2,781 for the year ended December 31, 2005. We recognized revenue from research and development services of \$2,505 and \$106 during the years ended December 31, 2006 and 2005, respectively. The primary reason for the increase in revenue during 2006 was the recognition of \$2,500 of deferred revenue associated with the termination of the Company's joint development arrangement with BP. We also recognized government grant revenue of \$1,828 and \$2,433 during the years ended December 31, 2006 and 2005, respectively. Government grant revenue declined due to the completion of the Advanced Technology Program in 2005 and the United States Department of Agriculture program in the first quarter of 2006. These decreases were offset in part by new grant programs in 2006 and increased Department of Energy grant activity. Total license and royalty revenue was \$257 for the year ended December 31, 2006 as compared to \$242 for the year ended December 31, 2005.

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

Research and development expenses increased to \$11,235 in 2006 from \$5,980 in 2005. The increase was primarily due to the growth of pre-commercial manufacturing of our *Natural Plastic* material and related product development activities. The expense attributable to pre-commercial manufacturing was \$3,522 and \$703 in 2006 and 2005 respectively. We also had higher personnel and related expenses, \$3,880 in 2006 and \$2,645 in 2005, due to an increase in research and development personnel for our microbial fermentation platform, to support our collaborative arrangement with ADM, and for our switchgrass research program.

We expect to incur increasing research and development expenses in future periods as we expand our pre-commercial manufacturing and product development activities. The potential for commercial success of our *Natural Plastic* may be impacted by numerous factors, including our continued collaboration with ADM, properties of *Natural Plastic*, and successful development of manufacturing capability and commercial viability of *Natural Plastic*.

### ***Selling, General and Administrative Expenses***

General and administrative expenses for 2006 increased to \$10,879 from \$3,825 in 2005. The increase was primarily due to the recognition of stock-based compensation expense, which amounted to \$3,339 during 2006, including options granted to directors. The stock-based compensation expense increase was primarily due to the adoption of SFAS 123R on January 1, 2006. In addition, certain performance-based options previously granted to an officer of the company, vested during 2006. Options to consultants, which were marked to market during the year, also vested during 2006, contributing to additional stock-based compensation expense. We had additional personnel and related expenses (\$3,532 in 2006 and \$1,382 in 2005) and increased professional fees and consulting services (\$1,651 in 2006 and \$702 in 2005) to prepare for the commercialization of *Natural Plastic*, to support our growing operations, and to provide for the administrative requirements of being a public company. Expenses were higher due to the following activities: we hired two key officers during 2006 to build and manage our sales and marketing function, we increased our finance and legal personnel to support the requirements of being a public company, and we appointed additional independent directors to our board. There were also additional expenses incurred in the fourth quarter of 2006 for directors and officers insurance, directors' fees, professional fees and other expenses related to being a public company.

### ***Other Income (Expense)***

Interest income increased to \$1,467 in 2006 from \$109 in 2005 primarily due to higher cash and short-term investment balances during 2006. Cash and short-term investments were \$122,080 and \$3,174 at December 31, 2006 and 2005 respectively. The increase in cash and short-term investments was primarily a result of the completion of the initial public offering in November 2006 and issuance of the Series 05 preferred stock in January 2006.

During 2005 we recorded an asset impairment charge of \$700 with respect to our investment in Tepha, Inc., a related party. We did not incur any additional such charges during 2006 as this asset has no remaining net book value. See Footnote 10 to our financial statements included in this report.

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

#### ***Revenue***

Our revenue for 2005 and 2004 was \$2,781 and \$3,678, respectively. We recognized revenue from government grants of \$2,433 during 2005 as compared to \$3,189 during 2004. The decrease of \$756 of government grant revenue was due to the expiration of a government grant in 2005. We recorded \$2,621 of

payments from collaborative arrangements as deferred revenue. In 2005, we recognized revenue of \$242 from license fees and related royalty payments as compared to \$392 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 that were recognized on a cash basis in 2005. We also recognized \$106 and \$97 of research and development revenue during 2005 and 2004 respectively.

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

Research and development expenses increased to \$5,980 in 2005 from \$5,426 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.

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

General and administrative expenses increased to \$3,825 in 2005 from \$3,252 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.

#### **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, 2006, we had net operating loss carryforwards for federal and state income tax purposes of \$26,230 and \$13,807, respectively. As of December 31, 2006, we also had federal and state research and development tax credit carryforwards of \$1,515 and \$1,226, respectively. If not utilized, the federal and state net operating loss carryforwards will begin expiring in 2008 and 2007, respectively and tax credit carryforwards will begin to expire in 2012. The federal and state research and development credit will begin to expire in 2012 and 2017, respectively. The Company also has available investment tax credits for state income tax purposes of \$159 which begin to expire in 2007. 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 our initial public offering aggregated with certain other sales of our stock before or after our initial public offering.

#### **Liquidity and Capital Resources**

In November 2006, we completed our initial public offering of 7,820,000 shares of common stock at an initial public offering price of \$14.00 per share. Net proceeds were \$99,327 after deducting underwriting discounts and commissions and other offering expenses. Offering expenses, excluding underwriting discounts and commissions, were \$2,489, which included legal, accounting and printing costs and various other fees associated with registration and listing of our common stock. Concurrent with this offering, ADM purchased 535,714 shares at an initial offering price of \$14.00 per share, and we realized additional net proceeds of \$7,500. Our redeemable convertible preferred stock was converted on a one-to-one basis into 9,992,041 shares of common stock upon the closing of the initial public offering.



Prior to our public offering, we financed our operations primarily through private placements of equity securities, receiving aggregate net proceeds from such sales totaling \$61,442, revenues primarily from government grants and our joint development arrangement with BP totaling \$16,522, and payments arising from our strategic alliance with ADM. At December 31, 2006, we had \$122,080 in cash, cash equivalents, and short-term investments. Cash in excess of immediate requirements is invested in short-term instruments. The unrestricted cash and cash equivalents are held for working capital purposes. The Company does not enter into investments for trading or speculative purposes. The primary objective of our investment activities is to preserve our capital to fund operations.

### **Operating Activities**

Net cash used in operating activities was \$3,603, \$4,394, and \$981 in 2006, 2005 and 2004 respectively. The net cash used in 2006 primarily reflects the net loss for this period, as adjusted for changes in deferred revenue, stock-based compensation expense, and depreciation. The increase in deferred revenue totaled \$7,596 in 2006. This balance was composed of the \$2,000 in milestone payments, \$6,300 in support payments, \$1,236 in reimbursements related to pre-commercial manufacturing construction and operation costs from ADM in conjunction with our alliance agreement, and \$60 related to an agreement with a potential customer, offset by the \$2,000 of previously deferred revenue from the joint development arrangement with BP recognized in 2006. The other non-cash offsets to net loss consist of \$964 of depreciation and \$3,505 in stock-based compensation. The increase in cash used from 2004 to 2005 primarily reflects an increase in the net loss for 2005, offset in part by \$700 recorded for the loss of investment in Tepha and changes in operating assets and liabilities. During 2005 we received \$2,000 and \$621 in payments from the joint development arrangement with BP and alliance agreement with ADM, respectively, all of which was deferred. During 2004 the landlord for our new research facilities provided lease incentives to offset our leasehold improvement costs of \$1,521. We also received \$3,000 in payments under the alliance agreement with ADM, which was deferred. To date, all payments from ADM related to our collaborative arrangement have been recorded as deferred revenue.

### **Investing Activities**

Net cash used in investing activities was \$97,076, \$1,905, and \$3,124 in 2006, 2005, and 2004, respectively. Investing activities consist primarily of purchases and sales of short term securities and capital purchases. Purchases of property and equipment were \$1,632, \$1,870, and \$1,324 in 2006, 2005 and 2004, respectively. Purchases of property, plant, and equipment for 2006 primarily consisted of construction costs of \$698 for our pre-commercial manufacturing facility for the pre-commercial production of *Natural Plastic*, co-funded through our alliance with ADM, \$354 related to the construction of our greenhouse to support our switchgrass program, and \$429 related to purchases of equipment to support our research and development activities and corporate infrastructure expansion. The primary increase in the purchase of property and equipment during 2005 was due to the construction costs of \$1,172 for our pre-commercial manufacturing facility for the production of *Natural Plastic*, co-funded through our alliance with ADM. In addition, \$566 was spent during 2005 for the construction of the greenhouse to support our switchgrass program. 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. During 2006 we purchased short-term investments in the amount of \$118,487. Sales of short-term investments totaled \$22,956. During 2005, we rolled over a \$1,339 certificate of deposit purchased in 2004, along with an additional amount of interest.

### **Financing Activities**

Net cash provided by financing activities was \$124,026, \$4,982, and \$5,762 in 2006, 2005, and 2004 respectively. Financing activities primarily consisted of proceeds from our initial public offering in

November 2006, and the sale of our preferred stock and promissory notes. We received \$106,863 in gross proceeds before underwriting discounts and commissions and other offering expenses from our initial public offering during 2006. Proceeds of \$16,819, \$4,774, and \$6,484 were received from the issuance of preferred stock and warrants during 2006, 2005, and 2004, respectively. Payments on a convertible promissory note and capital lease obligations were \$63, \$417, and \$722 during 2006, 2005 and 2004, 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 *Natural Plastic*, and expand our marketing, sales, manufacturing and corporate infrastructure as well as research and development activities.

We believe that our cash, cash equivalents and short-term securities, the interest we earn on these balances, as well as cash expected from our ADM alliance will be sufficient to meet our anticipated cash requirements with respect to the initial commercial launch of our *Natural Plastic* 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 need 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 *Natural Plastic*, 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 \$25,000 to \$35,000 to purchase property and equipment to support our pre-commercial manufacturing and formulation of *Natural Plastic* 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 pre-commercial production of *Natural Plastic* 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 *Natural Plastic*;
- the revenue generated by sales of our *Natural Plastic*;
- 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 *Natural Plastic* 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 December 31, 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 facility space, at December 31, 2006 were as follows:

#### *Payments Due by Period*

	<u>Total</u>	<u>Less Than 1 year</u>	<u>2-3 Years</u>	<u>4-5 Years</u>	<u>More Than 5 years</u>
Operating lease obligations	\$7,246	\$ 988	\$1,976	\$1,976	\$2,306
Purchase obligations	225	25	50	50	100
	<u>\$7,471</u>	<u>\$1,013</u>	<u>\$2,026</u>	<u>\$2,026</u>	<u>\$2,406</u>

#### 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, we recorded an impairment charge on a related party investment. For a full description, see Note 10 in our notes to consolidated financial statements and the "Certain Relationships and Related Party Transactions."

#### Effects of Inflation

Our assets are primarily monetary, consisting of cash, cash equivalents and short-term investments. Because of their liquidity, these assets are not directly affected by inflation. Since we intend to retain and continue to use our equipment, furniture and fixtures and leasehold improvements, we believe that the incremental inflation related to replacement costs of such items will not materially affect our operations. However, the rate of inflation affects our expenses, such as those for employee compensation, which could increase our level of expenses and the rate at which we use our resources.

#### Recent Accounting Pronouncements

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.

In September 2006, the FASB issued SFAS No.157, *Fair Value Measurements*. SFAS No. 157 defines fair value, establishes a framework for measuring fair value in generally accepted accounting principles, and expands disclosures about fair value measurements. The standard is effective for financial statements issued for fiscal years beginning after November 15, 2007 and interim periods within those fiscal years. We do not believe that its adoption in the first quarter of 2008 will have a material impact on our financial statements.

In September 2006, the SEC released Staff Accounting Bulletin No. 108, "Considering the Effects of Prior Year Misstatements when Quantifying Misstatements in Current Year Financial Statements" ("SAB 108"). SAB 108 provides interpretive guidance on the SEC's views regarding the process of quantifying materiality of financial statement misstatements. SAB 108 is effective for fiscal years ending after November 15, 2006. The adoption of SAB 108 did not have a significant impact on our results of operations or financial position.

#### **ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK**

We had unrestricted cash, cash equivalents, short-term investments and restricted cash totaling \$122.1 million at December 31, 2006. The unrestricted cash and cash equivalents are held for working capital purposes, the primary purpose of which is capital preservation, with a secondary objective of generating income on such capital. 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. We have the current intent and ability to hold securities to maturity to the extent they suffer temporary reductions in market price. Our investment policy limits our exposure to the risks associated with the securities of any single issuer (other than government and agency securities). 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 December 31, 2006 all of our investments were held in money market accounts and short-term instruments.

#### **Inherent rate risk**

We have investments in commercial paper, U.S. Government and agency securities as well as corporate bonds and other debt securities. As a result, we are exposed to potential loss from market risks that may occur as a result of changes in interest rates, changes in credit quality of the issuer or otherwise. We generally place our marketable security investments in high quality credit instruments, as specified in our investment policy guidelines. The conservative nature of our investments mitigates our interest rate exposure, and our investment policy limits the amount of our credit exposure to any one issue, issuer, (with the exception of U.S. treasury obligations) and type of instrument. We do not expect any material loss from our marketable security investments due to interest rate fluctuations and therefore believe that our potential interest rate exposure is limited. We intend to hold these investments to maturity, in accordance with our business plans.

**ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA**

The consolidated financial statements and related financial statement schedules required to be filed are indexed on page F-1 and are incorporated herein.

**ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE.**

None

**ITEM 9A. CONTROLS AND PROCEDURES.****Evaluation of Disclosure Controls and Procedures**

The management, with the participation of the Chief Executive Officer, or CEO, and Chief Financial Officer, or CFO, evaluated the effectiveness of the Company's disclosure controls and procedures as of December 31, 2006. In designing and evaluating the disclosure controls and procedures, the management recognized that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives, and the management necessarily applied its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on the evaluation by the management, the CEO and CFO concluded that, as of December 31, 2006, the disclosure controls and procedures were: (1) designed to ensure that material information relating to the Company is made known to the CEO and CFO by others within the Company, particularly during the period in which this report was being prepared and (2) effective, in that they provide reasonable assurance that information required to be disclosed by the Company in reports that the Company files or submits under the Securities Exchange Act of 1934, as amended, or the Exchange Act, is recorded, processed, summarized, and reported within the time periods specified in the Securities and Exchange Commission's rules and forms.

**Internal Control over Financial Reporting**

This annual report does not include a report of management's assessment regarding internal control over financial reporting or an attestation report of the Company's registered public accounting firm due to a transition period established by the rule of the Securities and Exchange Commission for newly public companies. No change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) occurred during the fiscal quarter ended December 31, 2006 that materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

**ITEM 9B. OTHER INFORMATION**

Our policy governing transactions in our securities by our directors, officers, and employees permits our officers, directors, employees, and entities affiliated with our directors to enter into trading plans complying with Rule 10b5-1 under the Securities Exchange Act of 1934, as amended. We have been advised that James J. Barber, President and Chief Executive Officer, Oliver P. Peoples, Chief Scientific Officer, Thomas G. Auchincloss, Jr., Chief Financial Officer, Johan van Walsem, Vice President, Manufacturing, Development and Operations, Anthony J. Sinskey, Director, Edward M. Muller, Chairman of the Board and Director, and Vertical Fund I, L.P. and Vertical Fund II, L.P. have entered into trading plans covering periods after the date of this Annual Report on Form 10-K and after the expiration of applicable lock-up agreements, in accordance with Rule 10b5-1 and our policy governing transactions in our securities. We undertake no obligation to update or revise the information provided herein, including for revision or termination of an established trading plan.

### PART III

Pursuant to General Instructions G to Form 10-K, the information required for Part III, Items 10, 11, 12, 13 and 14, is incorporated herein by reference from the Company's proxy statement for the Annual Meeting of Stockholders to be held on May 17, 2007 which is expected to be filed not later than 120 days after the fiscal year end.

### PART IV

#### ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES

(a) The following documents are filed as part of this Report:

(1) **Financial Statements**

See Index to Financial Statements on page F-1.

(2) **Supplemental Schedules**

All schedules have been omitted because the required information is not present in amounts sufficient to require submission of the schedule, or because the required information is included in the consolidated financial statements or notes thereto.

(3) **Exhibits**

See Item 15(b) below.

(b) The following exhibits are filed as part of, or incorporated by reference into, this annual report on Form 10-K:

<u>Exhibit Number</u>	<u>Description</u>
3.1(1)	Amended and Restated Certificate of Incorporation of the Registrant
3.3(1)	Amended and Restated By-laws of the Registrant
4.1(1)	Specimen Stock Certificate for shares of the Registrant's Common Stock
4.2(1)	Form of Common Stock Purchase Warrant issued in each of the Series I Financing, the Series J Financing and the Series 04 financing
10.1†(1)	1995 Stock Plan
10.1.1†(1)	1995 Stock Plan, Form of Incentive Stock Option Agreement
10.1.2†(1)	1995 Stock Plan, Form of Non-Qualified Stock Option Agreement
10.2†(1)	2005 Stock Plan
10.2.1†(1)	2005 Stock Plan, Form of Incentive Stock Option Agreement
10.2.2†(1)	2005 Stock Plan, Form of Non-Qualified Stock Option Agreement
10.3†(1)	2006 Stock Option and Incentive Plan
10.3.1†(1)	2006 Stock Option and Incentive Plan, Form of Incentive Stock Option Agreement
10.3.2†(1)	2006 Stock Option and Incentive Plan, Form of Non-Qualified Stock Option Agreement
10.3.3†(1)	2006 Stock Option and Incentive Plan, Form of Director Non-Qualified Stock Option Agreement

- 10.4#(1) License Agreement between the Registrant and Massachusetts Institute of Technology dated July 15, 1993, as amended
- 10.5#(1) Commercial Alliance Agreement by and among the Registrant, ADM/Metabolix Sales Company, LLC and ADM Polymer Corporation dated July 14, 2006
- 10.6#(1) Operating Agreement of ADM/Metabolix Sales Company, LLC by and between the Registrant and ADM Polymer Corporation dated July 14, 2006
- 10.7(1) Letter Agreement by and between the Registrant and Archer Daniels Midland Company dated November 3, 2004
- 10.8#(1) Technology Alliance and Option Agreement by and between the Registrant and ADM Polymer Corporation dated as of November 4, 2004
- 10.9#(1) First Amendment to Technology Alliance and Option Agreement by and between the Registrant and ADM Polymer Corporation dated as of September 8, 2005
- 10.10†(1) Amended and Restated Employment Agreement by and between the Registrant and James J. Barber dated September 19, 2006
- 10.11†(1) Employment Agreement by and between the Registrant and Oliver P. Peoples dated July 20, 2006.
- 10.12†(1) Amended and Restated Employment Agreement by and between the Registrant and Thomas G. Auchincloss dated September 22, 2006
- 10.13†(1) Amended and Restated Employment Agreement by and between the Registrant and Johan van Walsem dated September 22, 2006
- 10.14†(1) Amended and Restated Employment Agreement by and between the Registrant and Robert C. Findlen dated September 22, 2006
- 10.15†(1) Employment Agreement by and between the Registrant and Brian Igoe dated August 29, 2006.
- 10.16†(1) Form of Employee Noncompetition, Nondisclosure and Inventions Agreement with James J. Barber, Oliver P. Peoples, Johan van Walsem and Thomas G. Auchincloss
- 10.17†(1) Form of Noncompetition, Nondisclosure and Inventions Agreement with Mr. Findlen and Mr. Igoe.
- 10.18†(1) Form of Indemnification Agreement between the Registrant and its Directors and Officers
- 10.19(1) 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
- 10.20(1) Fifth Amended and Restated Stockholders Agreement by and among the Registrant and certain of its stockholders dated January 19, 2006
- 10.21(1) Amendment No. 1 to Fifth Amended and Restated Stockholders Agreement by and among the Registrant and certain of its stockholders dated July 12, 2006
- 10.22(1) Stock Purchase Agreement between the Registrant and Archer Daniels Midland Company dated July 12, 2006

10.23#(1)	License Agreement by and between the Registrant and Tephra, Inc. dated as of October 1, 1999
10.24#(1)	License Agreement by and between the Registrant and Tephra, Inc. dated as of September 9, 2003
21.1*	Subsidiaries of the Registrant
23.1*	Consent of PricewaterhouseCoopers LLP
24.1	Power of Attorney (incorporated by reference to the signature page of this Annual Report on Form 10-K)
31.1*	Certification Pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Securities Exchange Act of 1934
31.2*	Certification Pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Securities Exchange Act of 1934
32.1*	Certification Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

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† Indicates a management contract or any compensatory plan, contract or arrangement.

# Confidential treatment has been granted for certain portions of this document pursuant to a Commission order. Such provisions have been filed separately with the Commission.

(1) Incorporated by reference herein to the exhibits to the Company's Registration Statement on Form S-1 (File No. 333-135760)

\* Filed herewith



## SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

METABOLIX, INC.

March 29, 2007

By: /s/ JAMES J. BARBER

James J. Barber  
*President and Chief Executive Officer*  
*(Principal Executive Officer)*

## POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints James J. Barber and Thomas G. Auchincloss, Jr., jointly and severally, his or her attorney-in-fact, with the power of substitution, for him or her in any and all capacities, to sign any amendments to this Annual Report on Form 10-K and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that each of said attorneys-in-fact, or his or her substitute or substitutes, may do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

<u>Name</u>	<u>Title</u>	<u>Date</u>
<u>/s/ JAMES J. BARBER</u> James J. Barber	President and Chief Executive Officer and Director (Principal Executive Officer)	March 29, 2007
<u>/s/ THOMAS G. AUCHINCLOSS, JR</u> Thomas G. Auchincloss, Jr.	Vice President and Chief Financial Officer (Principal Financial Officer)	March 29, 2007
<u>/s/ ANINDA KATRAGADDA</u> Aninda Katragadda	Director of Finance and Corporate Controller (Principal Accounting Officer)	March 29, 2007
<u>/s/ EDWARD M. MULLER</u> Edward M. Muller	Chairman of the Board, Director	March 29, 2007
<u>/s/ EDWARD M. GILES</u> Edward M. Giles	Director	March 29, 2007
<u>/s/ JAY KOUBA</u> Jay Kouba	Director	March 29, 2007
<u>/s/ JACK W. LASERSOHN</u> Jack W. Lasersohn	Director	March 29, 2007

<u>/s/ OLIVER P. PEOPLES</u> Oliver P. Peoples	Director	March 29, 2007
<u>/s/ ANTHONY J. SINSKEY</u> Anthony J. Sinskey, Sc.D.	Director	March 29, 2007
<u>/s/ MATTHEW STROBECK</u> Matthew Strobeck	Director	March 29, 2007
<u>/s/ ROBERT L. VAN NOSTRAND</u> Robert L. Van Nostrand	Director	March 29, 2007

**METABOLIX, INC.**  
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**REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

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

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, 2006 and 2005, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2006 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.

As discussed in Note 3 to the consolidated financial statements, the Company changed the manner in which it accounts for share-based compensation in fiscal 2006.

/s/ PricewaterhouseCoopers LLP

Boston, Massachusetts  
March 29, 2007

**METABOLIX, INC.**  
**CONSOLIDATED BALANCE SHEETS**  
(In thousands, except share and per share amounts)

	December 31, 2006	December 31, 2005
<b>Assets</b>		
Current assets		
Cash and cash equivalents	\$ 25,182	\$ 1,835
Short-term investments	96,898	1,339
Accounts receivable	58	30
Due from related parties	521	—
Unbilled receivable	90	431
Prepaid expenses and other current assets	651	124
Total current assets	<u>123,400</u>	<u>3,759</u>
Restricted cash	498	496
Property and equipment, net	3,673	3,005
Other assets	25	65
Total assets	<u>\$ 127,596</u>	<u>\$ 7,325</u>
<b>Liabilities, Redeemable Convertible Preferred Stock and Stockholders' Equity (Deficit)</b>		
Current Liabilities		
Accounts payable	\$ 1,604	\$ 1,299
Accrued expenses	1,391	831
Advances on financing from investors	—	615
Current portion of capital lease obligations	—	63
Current portion of deferred rent	166	165
Deferred Revenue	60	—
Total current liabilities	<u>3,221</u>	<u>2,973</u>
Deferred rent	1,048	1,213
Long-term deferred revenue	13,667	5,621
Other long-term liabilities	72	67
Total liabilities	<u>18,008</u>	<u>9,874</u>
Commitments and contingencies (Note 9)		
Redeemable convertible preferred stock	—	44,009
Stockholders' Equity (Deficit)		
Common stock (\$0.01 par value per share); 100,000,000 and 23,000,000 shares authorized at December 31, 2006 and 2005, respectively; 20,574,412 and 1,812,828 shares issued at December 31, 2006 and 2005, respectively; 20,574,412 and 1,802,204 shares outstanding at December 31, 2006 and 2005, respectively	206	18
Treasury stock (at cost); 10,624 shares in 2005	—	(35)
Additional paid-in capital	175,803	3,634
Deferred compensation	(212)	—
Accumulated other comprehensive income	28	—
Accumulated deficit	<u>(66,237)</u>	<u>(50,175)</u>
Total stockholders' equity (deficit)	<u>109,588</u>	<u>(46,558)</u>
Total liabilities, redeemable convertible preferred stock and stockholders' equity (deficit)	<u>\$ 127,596</u>	<u>\$ 7,325</u>

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

**METABOLIX, INC.**  
**CONSOLIDATED STATEMENTS OF OPERATIONS**  
(In thousands, except share and per share amounts)

	Years Ended December 31,		
	2006	2005	2004
Revenue			
Research and development revenue	\$ 2,505	\$ 106	\$ 97
License fee and royalty revenue			
From related parties	257	242	317
Other	—	—	75
Grant revenue	1,828	2,433	3,189
Total revenue	<u>4,590</u>	<u>2,781</u>	<u>3,678</u>
Operating expenses			
Research and development expenses, including cost of revenue	11,235	5,980	5,426
Selling, general, and administrative expenses	10,879	3,825	3,252
Total operating expenses	<u>22,114</u>	<u>9,805</u>	<u>8,678</u>
Loss from operations	(17,524)	(7,024)	(5,000)
Other income (expense)			
Interest income	1,467	109	14
Interest expense	(5)	(10)	(69)
Loss on investment in related party	—	(700)	—
Net loss	<u>\$ (16,062)</u>	<u>\$ (7,625)</u>	<u>\$ (5,055)</u>
Net loss per share			
Basic and Diluted	\$ (2.96)	\$ (2.56)	\$ (1.68)
Number of shares used in per share calculations			
Basic and Diluted	5,432,586	2,975,116	3,009,137

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

**METABOLIX INC.**  
**STATEMENT OF STOCKHOLDERS' EQUITY (DEFICIT)**

	Common Stock		Treasury Stock		Additional Paid-In Capital	Deferred Compensation	Accumulated other comprehensive income	Accumulated Deficit	Stockholder's Equity	Total Comprehensive Loss
	Shares	Par Value	Shares	Amount						
<b>Balance, December 31, 2003</b>	1,808,641	\$ 18	10,624	\$ (35)	\$ 3,657	\$ —	\$—	\$(37,495)	\$ (33,855)	—
Issuance of common stock warrants in connection with Series J preferred stock financing					66				66	
Issuance of common stock warrants in connection with an exchange of Series I preferred stock for Series J preferred stock					42				42	
Cancellation of 189,717 shares of common stock warrants in connection with the exchange of Series J-1 and Series 04 preferred stock					(219)				(219)	
Stock-based compensation related to common stock options issued to nonemployee					49				49	
Net loss								(5,055)	(5,055)	(5,055)
<b>Balance, December 31, 2004</b>	1,808,641	\$ 18	10,624	\$ (35)	\$ 3,595	\$ —	\$—	\$(42,550)	\$ (38,972)	\$ (5,055)
2004 Comprehensive loss										
Exercise of common stock options	4,187				12				12	
Stock-based compensation related to common stock options issued to nonemployee					27				27	
Net loss								(7,625)	(7,625)	(7,625)
<b>Balance, December 31, 2005</b>	1,812,828	\$ 18	10,624	\$ (35)	\$ 3,634	\$ —	\$—	\$(50,175)	\$ (46,558)	(7,625)
2005 Comprehensive loss										
Exercise of common stock warrants	383,586	4			312				316	
Exercise of common stock options	40,867	1			90				91	
Stock-based compensation related to common stock options issued to nonemployees and employees					3,717	(212)			3,505	
Treasury stock restored to authorized but unissued	(10,624)	—	(10,624)	35	(35)				—	
Conversion of redeemable convertible preferred stock into common stock upon initial public offering	9,992,041	100			61,343				61,443	
Issuance of common stock upon initial public offering, net of offering costs of \$10,153	8,355,714	83			106,742				106,825	
Unrealized gain on investment							28		28	28
Net loss								(16,062)	(16,062)	(16,062)
<b>Balance, December 31, 2006</b>	20,574,412	\$ 206	—	—	\$175,803	\$(212)	\$28	\$(66,237)	\$109,588	\$(16,034)
2006 Comprehensive loss										

**METABOLIX INC.**  
**CONSOLIDATED STATEMENT OF CASH FLOWS**  
**(IN THOUSANDS)**

	<u>2006</u>	<u>2005</u>	<u>2004</u>
<b>Cash flows from operating activities</b>			
Net loss	\$ (16,062)	\$ (7,625)	\$ (5,055)
Adjustments to reconcile net loss to cash used in operating activities			
Depreciation and amortization	964	315	265
Stock-based compensation	3,505	27	49
Loss on investment in related party	—	700	—
Changes in operating assets and liabilities			
Accounts receivable	(28)	(3)	10
Unbilled receivable	340	(32)	180
Prepaid expenses and other current assets	(538)	(76)	(15)
Other assets	2	(65)	234
Accounts payable	304	(196)	(429)
Accrued expenses	479	105	(439)
Deferred lease obligation	(165)	(165)	1,453
Deferred revenue	7,596	2,621	2,766
Net cash used in operating activities	<u>(3,603)</u>	<u>(4,394)</u>	<u>(981)</u>
<b>Cash flows from investing activities</b>			
Purchase of property and equipment	(1,544)	(1,870)	(1,324)
Restricted cash	(2)	1	(497)
Purchase of short term investments	(118,486)	(1,324)	—
Proceeds from sale and maturity of short term investments	22,956	1,288	(1,303)
Net cash used in investing activities	<u>(97,076)</u>	<u>(1,905)</u>	<u>(3,124)</u>
<b>Cash flows from financing activities</b>			
Principal payments for capitalized lease obligations	(63)	(117)	(125)
Proceeds from issuance of redeemable convertible preferred stock and warrants, net of issuance costs	16,819	4,774	6,484
Payments on convertible promissory note	—	(300)	(597)
Advances from investors	—	613	—
Proceeds from options exercised	91	12	—
Proceeds from warrants exercised	316	—	—
Proceeds from initial public offering net of issuance costs	106,863	—	—
Net cash provided by financing activities	<u>124,026</u>	<u>4,982</u>	<u>5,762</u>
Net increase in cash and cash equivalents	23,347	(1,317)	1,657
Cash and cash equivalents at beginning of period	1,835	3,152	1,495
Cash and cash equivalents at end of period	<u>\$ 25,182</u>	<u>\$ 1,835</u>	<u>\$ 3,152</u>
<b>Supplemental disclosure of cash flow information</b>			
Cash paid during the year for interest	\$ 5	\$ 10	\$ 35
<b>Supplemental disclosure of noncash activities</b>			
Equipment acquired under capital lease obligations	—	—	72
Conversion of advances from investors to preferred stock	(613)	—	—
Conversion of preferred stock to common stock	61,443	—	—

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



## METABOLIX, INC.

### NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

*(in thousands, except share and per share data)*

#### 1. Nature of Business

Metabolix, Inc. (the “Company”) 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 *Natural Plastic* 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 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. Initial Public Offering

In November 2006, the Company completed its initial public offering of 7,820,000 shares of common stock at an initial public offering price of \$14.00 per share. Net proceeds were \$99,327 after deducting underwriting discounts and commissions and other offering expenses. Offering expenses, excluding underwriting discounts and commissions, were \$2,489, and included legal, accounting and printing costs and various other fees associated with registration and listing of the Company’s common stock. Concurrent with this offering, Archer Daniels Midland Company (“ADM”) purchased 535,714 shares at an initial offering price of \$14.00 per share, and the Company realized additional net proceeds of \$7,500. The Company’s redeemable convertible preferred stock was converted on a one-to-one basis into 9,992,041 shares of common stock upon the closing of the initial public offering.

#### 3. Summary of Significant Accounting Policies

##### Principles of Consolidation

The consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries, Metabolix Securities Corp. and Metabolix Canada. Metabolix Canada 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.

**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 corporate debt and asset backed securities at December 31, 2006. At December 31, 2005, short-term investments consisted of certificates of deposit, for which the carrying amount approximated fair value. The Company held short term investments of \$96,898 and \$1,339 as of December 31, 2006 and 2005 respectively. (See note 5)

**Restricted Cash**

The Company has restricted cash, consisting of a certificate of deposit supporting a letter of credit, of \$498 and \$496 at December 31, 2006 and December 31, 2005, 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. Comprehensive income (loss) is comprised of net income (loss) and certain changes in stockholder's equity that are excluded from net income (loss). The Company includes unrealized gains and losses on marketable securities in other comprehensive income (loss).

**Concentration of Credit Risk**

The Company had unrestricted cash, cash equivalents, and short-term investments totaling \$122,080 at December 31, 2006. The unrestricted cash and cash equivalents are held for working capital purposes. The Company does 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, 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 December 31, 2006 all of our investments were held in money market accounts and short-term instruments. We actively monitor changes in interest rates.

**Fair Value of Financial Instruments**

The carrying amounts of the Company's financial instruments as of December 31, 2006 and 2005, which include cash equivalents, accounts receivable, unbilled receivable, accounts payable, accrued expenses, 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 located, and operated, in the United States of America. All revenues are earned, and all assets are held, in the United States of America.

## 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:

	<u>Estimated Useful Life</u>
Equipment	2.5–3 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

Prior to its conversion to common stock, the Company’s preferred stock contained certain redemption features that were considered outside the control of the Company, including redemption upon a change in control. Therefore the Company presented redeemable convertible preferred stock as temporary equity in the mezzanine level of the consolidated balance sheet. All of the preferred stock was converted to common stock on a one-to-one basis in the fourth quarter of 2006 in conjunction with the Company’s initial public offering.

## 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. 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

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 year ended December 31, 2006 includes compensation cost for all share-based payments granted to employees 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 year ended December 31, 2006 was an increase in net loss of \$1,867 and a \$0.34 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.

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 recognized 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 required 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 was subject to periodic adjustments as the underlying equity instruments vest.

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:

	<u>Years Ended December 31,</u>	
	<u>2005</u>	<u>2004</u>
	<u>In thousands except share and per share data</u>	
Net loss as reported	\$ (7,625)	\$ (5,055)
Add stock-based employee compensation expense included in reported net loss	0	0
Deduct stock-based employee compensation expense determined under fair value method	(106)	(32)
Net loss—pro forma	<u>\$ (7,731)</u>	<u>\$ (5,087)</u>
Net loss per share, as reported		
Basic and Diluted	\$ (2.56)	\$ (1.68)
Pro forma net loss per share		
Basic and Diluted	\$ (2.60)	\$ (1.69)
Number of shares used in per share calculations		
Basic and Diluted	2,975,116	3,009,137

Pursuant to the requirements of SFAS No. 123, for the two 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 year ended December 31, 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:

	<u>December 31, 2006</u>	<u>December 31, 2005</u>	<u>December 31, 2004</u>
Expected dividend yield	—	—	—
Risk-free rate	4.29–5.15%	4.22%	4.08%
Expected option term (in years)	6.1	5	5
Volatility	75%	—	—

For the year ended December 31, 2006, expected volatility is based on review of historical volatilities for similar public 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 term similar to the expected life of the related option.

For the year ended December 31, 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. For stock options that are not considered "plain vanilla" and, as such, do not qualify for the simplified method, for example stock options with an exercise price below the related fair value of common stock on the date of grant, the Company's estimate of expected term was based upon review of the expected terms of publicly traded peer companies with stock options that have similar characteristics.

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 forfeiture rates used by peer companies. The Company will continue to evaluate its forfeiture rate as compared to the actual number of forfeitures in future periods to determine if adjustments to compensation expense may be required.

#### Basic and Diluted Net Loss per Common 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 three years ended December 31, 2006 are shown below:

	Years ended		
	2006	2005	2004
Redeemable convertible preferred stock	8,471,666	7,605,556	6,875,186
Common stock options	2,764,647	2,036,982	762,635
Common stock warrants	829,890	939,150	939,150
	<u>12,066,203</u>	<u>10,581,688</u>	<u>8,576,971</u>

#### Foreign Currency Translation

The financial statements of the Company's former wholly-owned Canadian subsidiary, which was closed 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 were 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 were translated using historical exchange rates. All remeasurement gains and losses were included in determining net loss for the period in which exchange rates changed 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 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 the Company's consolidated financial position or results of operations.

In September 2006, the FASB issued SFAS No. 157, *Fair Value Measurements*. SFAS No. 157 defines fair value, establishes a framework for measuring fair value in generally accepted accounting principles, and expands disclosures about fair value measurements. The standard is effective for financial statements issued for fiscal years beginning after November 15, 2007 and interim periods within those fiscal years. The Company does not believe that its adoption in the first quarter of 2008 will have a material impact on the Company's financial statements.

In September 2006, the SEC released Staff Accounting Bulletin No. 108, "Considering the Effects of Prior Year Misstatements when Quantifying Misstatements in Current Year Financial Statements" ("SAB 108"). SAB 108 provides interpretive guidance on the SEC's views regarding the process of quantifying materiality of financial statement misstatements. SAB 108 is effective for fiscal years ending after November 15, 2006. The adoption of SAB 108 did not have a significant impact on the Company's results of operations or financial position.

#### **4. 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 *Natural Plastic* on a commercial scale basis. This agreement was amended by the parties on September 8, 2005 to define certain cost sharing activities related to pre-commercial 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 was 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 110 million pound commercial manufacturing facility, which would provide the basis for entering into the Commercial Alliance Agreement.

The Technology Alliance and Option Agreement provided ADM with an option (the "Option") to enter into a commercial alliance for further research, development, manufacture, use, and sale of *Natural Plastic* on the terms and conditions set forth in the Commercial Alliance Agreement (see below). The Option was 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. On July 12, 2006, ADM exercised this Option.

Under the Technology Alliance and Option Agreement, ADM made a nonrefundable, noncreditable upfront payment of \$3,000 to the Company in 2004. In May 2006, the Company received a \$2,000 payment from ADM in recognition of achieving certain technical goals under the Technology Alliance and Option Agreement. 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 payments 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.

The technology alliance and option agreement was amended in 2005. In accordance, with this amendment ADM agreed to reimburse the Company for one-half of certain costs incurred by the Company related to the Company's establishment of pre-commercial manufacturing capabilities. Amounts reimbursed in 2006 and 2005 totaled \$588 and \$621, respectively, and were recorded as deferred revenue. Further reimbursements were made under the Commercial Alliance agreement as noted below.

Revenue recognition for amounts deferred through December 31, 2006 is expected to commence approximately at the time of the first commercial sale of *Natural Plastic* (see Commercial Alliance Agreement below) and amounts will be recognized proportionately over the period that the final services are provided over the estimated 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 was exercised by ADM. On July 12, 2006, ADM exercised this option. The primary function of this agreement is to establish the activities and obligations of the Company and ADM by which the parties will commercialize *Natural Plastic*. These activities include: the establishment of a Joint Sales Company ("JSC") which has been named Telles, to market and sell *Natural Plastic*, the construction of a manufacturing facility capable of producing 110 million pounds 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 *Natural Plastic*, 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 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, finance the construction of, and own, a facility in which it will manufacture *Natural Plastic* 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 *Natural Plastic* or it will arrange for third parties to formulate the *Natural Plastic*; (iii) the Company, acting in the name and on behalf of the JSC, will establish the initial market for the *Natural Plastic*. The Company will also continue its research and development efforts to further advance the technology and expand and enhance the commercial potential of *Natural Plastic*. 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 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. During 2006, support payments totaling \$6,300 have been received by the Company and recorded as deferred revenue.

During the construction period of the Commercial Manufacturing Facility all pre-commercial material production expenses incurred by ADM and the Company are shared equally. Since the exercise of this agreement in July 2006 through December 31, 2006, ADM has reimbursed the company \$648. At December 31, 2006 net reimbursements of \$511 were due from ADM. All amounts due from ADM relating to this agreement are recorded as deferred revenue.

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 is 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 110 million pounds annual production through a new 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 each calendar quarter during the term of the agreement. The Company received \$2,000 in 2005 related to this agreement. As the agreement provided

for 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 year ended December 31, 2006, the Company recognized \$2,500 in revenue from the BP arrangement, consisting of the \$2,000 of deferred revenue and the \$500 final payment due under the arrangement, which was received in June 2006.

## 5. Investments

Short term investments consist of the following (in thousands):

	Amortized Cost	Unrealized Gain/(Loss)	Market Value
<b>December 31, 2006</b>			
Corporate debt securities	\$80,604	\$26	\$80,630
Asset-backed securities	16,266	2	16,268
	<u>\$96,870</u>	<u>\$28</u>	<u>\$96,898</u>
<b>December 31, 2005</b>			
Certificates of deposit	\$ 1,339	\$ —	\$ 1,339
	<u>\$ 1,339</u>	<u>\$ —</u>	<u>\$ 1,339</u>

As of December 31, 2006 and 2005 the contractual maturity of all investments was one year or less.

## 6. Property and Equipment

	December 31,	
	2006	2005
Equipment	\$ 2,688	\$ 2,011
Equipment under lease	—	249
Furniture and Fixtures	62	24
Leasehold improvements	4,229	3,105
Software	64	23
Total property and equipment, at cost	\$ 7,044	\$ 5,412
Less: Accumulated depreciation	(3,371)	(2,407)
Property and equipment, net	<u>\$ 3,673</u>	<u>\$ 3,005</u>

Depreciation expense for the years ended December 31, 2006, 2005, and 2004 was \$964, \$315, and \$265, respectively. Accumulated depreciation for equipment acquired under capital leases was \$201 as of December 31, 2005. The company had no leased equipment at December 31, 2006.

During 2004 the Company received a lease incentive payment of \$1,521 from its lessor for leasehold improvements. In accordance with SFAS No. 13, the Company has recorded the leasehold improvement as an asset and is amortizing it over its 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.

## 7. 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. 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 \$143 through March 2005. At December 31, 2005, the convertible promissory note had been paid in full.

## 8. Accrued Expenses

Accrued expenses consist of the following:

	<u>December 31, 2006</u>	<u>December 31, 2005</u>
Intellectual property costs	\$ 143	\$ 92
Contracted research and development	44	126
Professional services	306	410
Capital expenditures	88	—
Employee compensation and benefits	201	59
Pilot manufacturing costs	384	—
Other	225	144
Total accrued expenses	<u>\$ 1,391</u>	<u>\$ 831</u>

## 9. Commitments and Contingencies

### Leases

The Company leases its facility under an operating lease, which expires in May 2014. The Company leased equipment under capital leases with various rates of interest, ranging from 10.07% to 15.71%, with expiration dates through August 2006. All commitments were collateralized by equipment under lease. Rental payments under operating leases for the years ended December 31, 2006, 2005 and 2004 were \$1,051, \$590, and \$834, 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, 2006, the Company's future minimum payments required under operating leases are as follows:

	<u>Operating</u>
2007	\$ 988
2008	988
2009	988
2010	988
2011	988
2012 and thereafter	2,306
Total Commitments and contingencies	<u>\$7,246</u>

### 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 December 31, 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 December 31, 2006, the Company has committed funding of \$1,245, 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 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 were no material license fees or royalties accrued at December 31, 2005 and \$62 was accrued at December 31, 2006.

### **10. 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 at the time, 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 Tepha, subject to a minimum payment each year.

The Company recognized license and royalty revenues of \$257, \$242, and \$317 from Tepha for the years ended December 31, 2006, 2005 and 2004, respectively.

The Company received preferred stock in Tepha as consideration for license payments totaling \$700 in 2002. The Company reviewed the preferred stock investment in Tepha 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 in the fourth quarter of 2005.

#### **ADM**

The Company’s collaborative partner ADM made a \$5,000 investment in the Company as part of the Series 05 redeemable convertible preferred stock issuance in January 2006. Concurrent with the Company’s initial public offering, ADM purchased \$7,500 of the Company’s shares in a private placement. ADM makes various payments to the Company under the collaborative agreements signed during November 2004 and July 2006. (See Note 4)

## 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.

### 11. Redeemable Convertible Preferred Stock

In connection with the Company's initial public offering in November 2006 and in accordance with the preferred stock agreements, all outstanding shares of preferred stock were converted into 9,992,041 of the Company's common stock, and at December 31, 2006 and there were no shares of preferred stock outstanding.

The following table depicts the preferred stock activity for the years ended December 31, 2004, 2005, and 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 & 05-1 Redeemable Preferred Stock		Total Redeemable Preferred Stock	
	Shares	Value	Shares	Value	Shares	Value	Shares	Value	Shares	Value	Shares	Value
<b>Balance, December 31, 2003</b>	3,866,769	\$ 16,975	229,065	\$ 2,135	1,532,954	\$ 13,530	—	\$ —	—	\$ —	5,628,788	\$ 32,640
Issuance of Series J preferred stock and common stock warrants, net of issuance costs of \$12					57,370	541					57,370	541
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)	36,918	293					—	(42)
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)	(14,344)	3,250,484	14,564			1,625,242	220
Issuance of Series 04 preferred stock, net of issuance costs of \$68							1,100,766	5,877			1,100,766	5,877
<b>Balance, December 31, 2004</b>	3,866,769	16,975	192,147	1,800	2,000	20	4,351,250	20,441	—	—	8,412,166	39,236
Issuance of Series 04 preferred stock, net of issuance costs of \$54							893,652	4,774			893,652	4,774
<b>Balance, December 31, 2005</b>	3,866,769	16,975	192,147	1,800	2,000	20	5,244,902	25,215	—	—	9,305,818	44,010
Issuance of Series 05 preferred stock, net of issuance cost of \$86									2,920,000	17,433	2,920,000	17,433
Conversion of redeemable convertible preferred stock into common stock	(3,866,769)	(16,975)	(192,147)	(1,800)	(2,000)	(20)	(5,244,902)	(25,215)	(2,920,000)	(17,433)	(12,225,818)	(61,443)
<b>Balance, December 31, 2006</b>	—	\$ —	—	\$ —	—	\$ —	—	\$ —	—	\$ —	—	\$ —

The liquidation preference of the preferred stock was \$47,420 and \$42,594 at December 31, 2005 and 2004, respectively.

## 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 price of \$13.21 per share. The warrants expired five years from issuance date. The warrants were recorded at their relative fair value of \$170 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 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 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 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 \$108 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 \$219.

At December 31, 2006, there were 812,247, 825,804 and 4,086 warrants outstanding with exercise prices of \$0.12, \$13.21, and \$3.30 per share, respectively. During 2006, 362,621 and 21,821 warrants with exercise prices of \$0.12 and \$13.21, respectively, were exercised.

## **12. Common Stock**

### **Common Stock Issuances**

On September 20, 2006, a 0.8173-for-1 reverse stock split was approved by the Board of Directors and became effective on November 3, 2006. Except as otherwise indicated, all information in these consolidated financial statements has been retroactively adjusted to reflect such reverse stock split.

During November 2006, the Company completed its initial public offering of 7,820,000 shares of common stock at an initial public offering price of \$14.00 per share. Net proceeds were \$99,327 after deducting underwriting discounts, commissions and other offering expenses. Concurrent with this offering, Archer Daniels Midland Company ("ADM") purchased 535,714 shares at an initial offering price of \$14.00 per share, and the Company realized additional net proceeds of \$7,500. The Company's redeemable convertible preferred stock was converted on a one-to-one basis into 9,992,041 shares of common stock upon the closing of the initial public offering. In addition, the Company's treasury stock was restored to authorized but unissued status upon the completion of the initial public offering.

### **13. 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"). No further grants or awards have been, or may be, made under the 1995 Plan. The 2005 Plan provided 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 was 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. In November 2006, the 2005 Plan was terminated, and the Company adopted a new plan (the "2006 Plan" and, together with the 1995 Plan and the 2005 Plan, referred to as the "Plans"). The 2006 Plan provides for the granting 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. No further grants or awards have been, or may be, made under the 2005 Plan. Options that are outstanding under the 1995 Plan and 2005 Plan continue to be governed by the 1995 Plan and 2005 Plan, respectively. The 2006 Plan states that not more than 10,000,000 shares shall be issued in the form of Incentive Stock Options under the Plan.

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 follows:

	<u>Number Exercisable</u>	<u>Weighted Average Exercise Price</u>
December 31, 2003	406,677	\$ 3.11
December 31, 2004	516,136	\$ 3.07
December 31, 2005	941,526	\$ 3.13
December 31, 2006	1,490,668	\$ 3.59

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

	<u>Number of Shares</u>	<u>Weighted Average Exercise Price</u>
Balance at December 31, 2003	681,322	\$ 3.88
Granted	89,483	\$ 1.65
Exercised	—	—
Cancelled	(8,170)	\$ 3.14
Balance at December 31, 2004	762,635	\$ 3.62
Granted	1,283,641	\$ 1.70
Exercised	(4,183)	\$ 2.78
Cancelled	(5,111)	\$ 2.05
Balance at December 31, 2005	2,036,982	\$ 2.42
Granted	824,147	\$ 10.17
Exercised	(40,865)	\$ 2.23
Cancelled	(103,020)	\$ 7.06
Balance at December 31, 2006	<u>2,717,244</u>	\$ 4.60

The weighted average grant date fair value per share of options granted during fiscal years 2006, 2005, and 2004 was \$8.76, \$0.33 and \$0.54, respectively.

A summary of information about the shares of common stock covered by outstanding and exercisable options under the option plans at December 31, 2006 follows:

<u>Number of Shares</u>	<u>Outstanding</u>		<u>Number of Shares</u>	<u>Exercisable</u>	
	<u>Weighted Average Remaining Contractual Life (Years)</u>	<u>Weighted Average Exercise Price</u>		<u>Weighted Average Remaining Contractual Life (Years)</u>	<u>Weighted Average Exercise Price</u>
39,045	0.52	\$ 1.41	39,045	0.52	\$ 1.41
1,008,116	8.54	\$ 1.65	500,788	8.47	\$ 1.65
296,188	8.96	\$ 1.84	183,192	8.96	\$ 1.84
567,318	4.55	\$ 3.30	557,711	4.51	\$ 3.30
112,376	9.30	\$ 3.36	28,986	9.30	\$ 3.36
185,116	9.46	\$ 5.14	37,440	9.47	\$ 5.14
20,431	9.60	\$ 8.81	2,040	9.60	\$ 8.81
488,654	9.87	\$ 14.00	141,466	9.87	\$ 14.00
<u>2,717,244</u>	7.98	\$ 4.60	<u>1,490,668</u>	7.02	\$ 3.59



At December 31, 2006, the aggregate intrinsic value of outstanding and exercisable options was \$39,250 and \$23,206, respectively. At December 31, 2006, the weighted average contractual remaining life of exercisable options was 7.02 years. The total intrinsic value for options exercised during the twelve months ended December 31, 2006 was \$683.

As of December 31, 2006, the total compensation cost related to nonvested options not yet recognized in the financial statements was \$4,504 and the weighted average period over which it is expected to be recognized was 3.60 years. The amount of employee stock-based compensation for the year ending December 31, 2006 was \$1,867.

In December 2005, 324,658 options were granted to an officer of the Company of which 125,863 contained performance based vesting conditions. The 125,863 options were a variable award and were subject to remeasurement which could have resulted in the recording of compensation expense in the future, depending on the probability of achieving certain performance conditions. During the twelve months ended December 31, 2006, 41,954 of the 125,863 variable options granted to the officer of the Company during 2005 were cancelled due to the term expiration; 41,955 of these variable options were deemed to have met the performance conditions in the second quarter of 2006; 41,954 of these variable options were deemed to have met the performance conditions in the fourth quarter of 2006, as a result \$635 of compensation expense was recorded during the year ended December 31, 2006. Deferred compensation, of \$212, will be expensed as the officer completes the remaining service conditions related to these options.

#### Non-employee Stock Option Awards

During the years ended December 2006, 2005, and 2004, the Company granted stock options to purchase 51,080, 59,558 and 17,980 shares of common stock, respectively, to nonemployees. The compensation expense related to these options is to be 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 \$996, \$27, and \$49 during the years ended December 2006, 2005 and 2004, respectively. Options remaining unvested for nonemployees are subject to remeasurement each reporting period prior to vesting in full. Since the fair market value of the options issued to nonemployees is subject to change in the future, the compensation expense recognized in each year may not be indicative of future compensation charges. The Company's policy is to issue new shares upon the exercise of stock options.

The fair value of each option granted to non-employees was estimated using the Black-Scholes option pricing model with the following assumptions:

	Year		
	2006	2005	2004
Dividend yield			
Volatility	75%	75-100%	100%
Risk-free interest rate	4.64-5.15%	3.94-4.50%	4.24%
Option term	10 years	10 years	10 years

#### 14. 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, 2006, 2005 and 2004 are as follows:

	<u>2006</u>	<u>2005</u>	<u>2004</u>
Net operating loss carryforward	\$ 9,784	\$ 9,905	\$ 9,136
Capitalization of research and development expenses	6,178	4,671	3,573
Credit carryforwards	2,429	1,736	1,431
Other temporary differences	9,148	4,802	3,664
Total deferred tax assets	27,539	21,114	17,804
Valuation allowance	(27,539)	(21,114)	(17,804)
Net deferred tax asset	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>

At December 31, 2006 and 2005, the Company had net operating loss carryforwards for federal and state income tax purposes of \$26,230 and \$13,807, respectively. The Company's federal and state net operating loss carryforwards will begin to expire in 2008 and 2007, respectively. The Company also has available research and development credits for federal and state income tax purposes of \$1,515 and \$1,226, respectively. The federal and state research and development credit will begin to expire in 2012 and 2017 respectively. The Company also has available investment tax credits for state income tax purposes of \$159 which began to expire in 2007. 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.

#### 15. 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 \$15,000 of their annual compensation to the plan in 2006, subject to certain limitations. The Company has not made any contribution from inception to December 31, 2006.

## 16. Summary of Quarterly Financial Data (unaudited)

The following tables summarize the unaudited quarterly financial data for the last two fiscal years (in thousands, except per share data):

	2006 Quarter Ended			
	March 31.	June 30.	September 30.	December 31.
Total revenues	\$ 3,082 <sup>(1)</sup>	\$ 728	\$ 423	\$ 357
Loss from operations	\$ (457)	\$ (4,218)	\$ (4,450)	\$ (8,399) <sup>(2)</sup>
Net loss	\$ (325)	\$ (4,010)	\$ (4,230)	\$ (7,497) <sup>(2)</sup>
Basic and diluted net loss per share	\$ (0.09)	\$ (1.09)	\$ (1.41)	\$ (0.59)

	2005 Quarter Ended			
	March 31.	June 30.	September 30.	December 31.
Total revenues	\$ 702	\$ 807	\$ 565	\$ 707
Loss from operations	\$ (1,589)	\$ (1,803)	\$ (1,961)	\$ (1,671)
Net loss	\$ (1,587)	\$ (1,774)	\$ (1,941)	\$ (2,323)
Basic and diluted net loss per share	\$ (0.44)	\$ (0.49)	\$ (0.65)	\$ (0.78)

(1) The Company recognized \$2,500 in previously deferred revenue related to the termination of its joint development agreement with BP. (See note 4)

(2) Expenses related to stock-based compensation totaled \$55, \$747, \$409, and \$2,293 for the first, second, third, and fourth quarters of 2006 respectively.

## Exhibit Index

<u>Exhibit Number</u>	<u>Description</u>
3.1(1)	Amended and Restated Certificate of Incorporation of the Registrant
3.3(1)	Amended and Restated By-laws of the Registrant
4.1(1)	Specimen Stock Certificate for shares of the Registrant's Common Stock
4.2(1)	Form of Common Stock Purchase Warrant issued in each of the Series I Financing, the Series J Financing and the Series 04 financing
10.1†(1)	1995 Stock Plan
10.1.1†(1)	1995 Stock Plan, Form of Incentive Stock Option Agreement
10.1.2†(1)	1995 Stock Plan, Form of Non-Qualified Stock Option Agreement
10.2†(1)	2005 Stock Plan
10.2.1†(1)	2005 Stock Plan, Form of Incentive Stock Option Agreement
10.2.2†(1)	2005 Stock Plan, Form of Non-Qualified Stock Option Agreement
10.3†(1)	2006 Stock Option and Incentive Plan
10.3.1†(1)	2006 Stock Option and Incentive Plan, Form of Incentive Stock Option Agreement
10.3.2†(1)	2006 Stock Option and Incentive Plan, Form of Non-Qualified Stock Option Agreement
10.3.3†(1)	2006 Stock Option and Incentive Plan, Form of Director Non-Qualified Stock Option Agreement
10.4#(1)	License Agreement between the Registrant and Massachusetts Institute of Technology dated July 15, 1993, as amended
10.5#(1)	Commercial Alliance Agreement by and among the Registrant, ADM/Metabolix Sales Company, LLC and ADM Polymer Corporation dated July 14, 2006
10.6#(1)	Operating Agreement of ADM/Metabolix Sales Company, LLC by and between the Registrant and ADM Polymer Corporation dated July 14, 2006
10.7(1)	Letter Agreement by and between the Registrant and Archer Daniels Midland Company dated November 3, 2004
10.8#(1)	Technology Alliance and Option Agreement by and between the Registrant and ADM Polymer Corporation dated as of November 4, 2004
10.9#(1)	First Amendment to Technology Alliance and Option Agreement by and between the Registrant and ADM Polymer Corporation dated as of September 8, 2005
10.10†(1)	Amended and Restated Employment Agreement by and between the Registrant and James J. Barber dated September 19, 2006
10.11†(1)	Employment Agreement by and between the Registrant and Oliver P. Peoples dated July 20, 2006.
10.12†(1)	Amended and Restated Employment Agreement by and between the Registrant and Thomas G. Auchincloss dated September 22, 2006
10.13†(1)	Amended and Restated Employment Agreement by and between the Registrant and Johan van Walsem dated September 22, 2006
10.14†(1)	Amended and Restated Employment Agreement by and between the Registrant and Robert C. Findlen dated September 22, 2006
10.15†(1)	Employment Agreement by and between the Registrant and Brian Igoe dated August 29, 2006.

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10.16†(1)	Form of Employee Noncompetition, Nondisclosure and Inventions Agreement with James J. Barber, Oliver P. Peoples, Johan van Walsem and Thomas G. Auchincloss
10.17†(1)	Form of Noncompetition, Nondisclosure and Inventions Agreement with Mr. Findlen and Mr. Igoe.
10.18†(1)	Form of Indemnification Agreement between the Registrant and its Directors and Officers
10.19(1)	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
10.20(1)	Fifth Amended and Restated Stockholders Agreement by and among the Registrant and certain of its stockholders dated January 19, 2006
10.21(1)	Amendment No. 1 to Fifth Amended and Restated Stockholders Agreement by and among the Registrant and certain of its stockholders dated July 12, 2006
10.22(1)	Stock Purchase Agreement between the Registrant and Archer Daniels Midland Company dated July 12, 2006
10.23#(1)	License Agreement by and between the Registrant and Tepha, Inc. dated as of October 1, 1999
10.24#(1)	License Agreement by and between the Registrant and Tepha, Inc. dated as of September 9, 2003
21.1*	Subsidiaries of the Registrant
23.1*	Consent of PricewaterhouseCoopers LLP
24.1	Power of Attorney (incorporated by reference to the signature page of this Annual Report on Form 10-K)
31.1*	Certification Pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Securities Exchange Act of 1934
31.2*	Certification Pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Securities Exchange Act of 1934
32.1*	Certification Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

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† Indicates a management contract or any compensatory plan, contract or arrangement.

# Confidential treatment has been granted for certain for portions of this document pursuant to a Commission order. Such provisions have been filed separately with the Commission.

(1) Incorporated by reference herein to the exhibits to the Company's Registration Statement on Form S-1 (File No. 333-135760)

\* Filed herewith

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**EXHIBIT 21.1**

**Subsidiary  
Name**

Metabolix Securities Corp.

**State of  
Organization**

MA

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**Exhibit 23.1**

**CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

We hereby consent to the incorporation by reference in the Registration Statement on Form S-8 (No. 333-138631) of Metabolix, Inc. of our report dated March 29, 2007 relating to the financial statements, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP

Boston, Massachusetts

March 29, 2007

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**EXHIBIT 31.1**

**CERTIFICATIONS**

I, James J. Barber, Chief Executive Officer of Metabolix, Inc., certify that:

1. I have reviewed this annual report on Form 10-K of Metabolix, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the registrant and have:
  - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - (b) [Omitted pursuant to SEC Release Nos. 33-8238 and 34-47986];
  - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
  - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
  - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 29, 2007

/s/ JAMES J. BARBER

Name: James J. Barber

Title: Chief Executive Officer

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**EXHIBIT 31.2**

**CERTIFICATIONS**

I, Thomas G. Auchincloss, Jr., Chief Financial Officer of Metabolix, Inc., certify that:

1. I have reviewed this annual report on Form 10-K of Metabolix, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the registrant and have:
  - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - (b) [Omitted pursuant to SEC Release Nos. 33-8238 and 34-47986];
  - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
  - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
  - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 29, 2007

/s/ THOMAS G. AUCHINCLOSS, JR.

Name: Thomas G. Auchincloss, Jr.

Title: Chief Financial Officer

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**EXHIBIT 32.1**

**CERTIFICATION PURSUANT TO  
18 U.S.C. SECTION 1350,  
AS ADOPTED PURSUANT TO  
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the annual report on Form 10-K of Metabolix, Inc. (the "Company") for the year ended December 31, 2006 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), we James J. Barber, the Chief Executive Officer of the Company, and Thomas G. Auchincloss, Jr., the Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, to our knowledge that:

- 1 the Report fully complies with the requirements of Section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934, as amended, and
- 2 the information in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

This certification is being provided pursuant to 18 U.S.C. 1350 and is not to be deemed a part of the Report, nor is it to be deemed to be "filed" for any purpose whatsoever.

Dated: March 29, 2007

/s/ JAMES J. BARBER

James J. Barber  
Chief Executive Officer

Dated: March 29, 2007

/s/ THOMAS G. AUCHINCLOSS, JR.

Thomas G. Auchincloss, Jr.  
Chief Financial Officer

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