

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

FORM S-3

**REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933**

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, Massachusetts 02139
(617) 583-1700

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Joseph Shaulson
President and Chief Executive Officer
Metabolix, Inc.
21 Erie Street
Cambridge, MA 02139
(617) 583-1700

(Name, address, including zip code, and telephone number, including area code, of agent for service)

with copies to:

Sarah P. Cecil, Esq.
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21 Erie Street
Cambridge, MA 02139
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Exchange Place
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Approximate date of commencement of proposed sale to the public: From time to time after this Registration Statement becomes effective.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box.

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

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

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box:

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box:

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

Large accelerated filer	<input type="radio"/>	Accelerated filer	<input type="radio"/>
Non-accelerated filer	<input checked="" type="radio"/> (Do not check if a smaller reporting company)	Smaller reporting company	<input checked="" type="checkbox"/>

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered(1)	Amount to be Registered(2)(3)	Proposed Maximum Offering Price Per Unit(3)(4)	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee(5)(6)
Common Stock, par value \$0.01 per share				
Preferred Stock, par value \$0.01 per share				
Warrants				
Subscription Rights				
Preferred Stock Purchase Rights(7)				
Total:			\$ 100,000,000.00	\$ 12,880.00

- (1) This registration statement also covers (i) common stock and preferred stock that may be issued upon exercise of warrants and/or subscription rights and (ii) such indeterminate amount of securities as may be issued in exchange for or upon conversion of, as the case may be, the securities registered hereunder. In addition, securities registered hereunder may be sold separately or as units with other securities registered hereunder.
- (2) An indeterminate number of the securities is being registered as may at various times be issued at indeterminate prices, with an aggregate public offering price not to exceed \$100,000,000 or the equivalent thereof in one or more currencies.
- (3) Not specified as to each class of securities to be registered pursuant to General Instruction II.D of Form S-3 under the Securities Act.
- (4) The proposed maximum offering price per unit will be determined from time to time by the registrant in connection with, and at the time of, the issuance of the securities registered hereunder.
- (5) Calculated pursuant to Rule 457(o) under the Securities Act, based on the proposed maximum aggregate offering price.
- (6) Pursuant to Rule 415(a)(6) under the Securities Act, the securities registered pursuant to this Registration Statement include unsold securities previously registered by the Registrant on the Registrant's Registration Statement on Form S-3 (Registration No. 333-172725) filed on March 10, 2011, amended on April 28, 2011 and declared effective on May 9, 2011 (the "Prior Registration Statement"). The Prior Registration Statement registered the offer and sale of an indeterminate number of shares of common stock (and preferred stock purchase rights relating thereto), such indeterminate number of shares of preferred stock, and such indeterminate number of warrants to purchase common stock or preferred stock as shall have an aggregate initial offering price not to exceed \$100,000,000, a portion of securities which remain unsold as of the date of filing of this Registration Statement. The Registrant has determined to include in this Registration Statement such securities that remain unsold under the Prior Registration Statement with an aggregate offering price of \$48,307,500 (the "Unsold Securities"). Pursuant to Rule 415(a)(6) under the Securities Act, the filing fee of \$5,608.50 relating to the Unsold Securities under the Prior Registration Statement will continue to be applied to such securities registered pursuant to this Registration Statement. The Registrant is also registering new securities on this Registration Statement with an aggregate offering price of \$51,692,500 (the "New Securities"), which aggregate offering price is not specified as to each class of security (see footnote (4)). To the extent that, after the filing date hereof and prior to the effectiveness of this Registration Statement, the Registrant sells any Unsold Securities pursuant to the Prior Registration Statement, the Registrant will identify in a pre-effective amendment to this Registration Statement the updated amount of Unsold Securities from the Prior Registration Statement to be included in this Registration Statement pursuant to Rule 415(a)(6) and the updated amount of New Securities to be registered on this Registration Statement. Pursuant to Rule 415(a)(6) under the Securities Act, the offering of the Unsold Securities under the Prior Registration Statement will be deemed terminated as of the date of effectiveness of this Registration Statement.
- (7) This Registration Statement also relates to the rights to purchase shares of Series A Junior Participating Cumulative Preferred Stock of the Registrant, which are attached to all shares of Common Stock issued, pursuant to the terms of the Registrant's Shareholder Rights Agreement dated July 7, 2009. Until the occurrence of prescribed events, the rights are not exercisable, are evidenced by the certificates for the Common Stock and will be transferred with and only with such Common Stock.

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

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

SUBJECT TO COMPLETION, DATED JANUARY 16, 2014

PROSPECTUS

METABOLIX, INC.

\$100,000,000

Common Stock

Preferred Stock

Warrants

Subscription Rights

This prospectus relates to common stock, preferred stock, warrants and subscription rights that we may sell from time to time in one or more offerings up to a total public offering price of \$100,000,000 on terms to be determined at the time of sale. We will provide specific terms of these securities in supplements to this prospectus. You should read this prospectus and any supplement carefully before you invest. This prospectus may not be used to offer and sell securities unless accompanied by a prospectus supplement for those securities.

Our common stock is traded on The NASDAQ Global Market under the symbol “MBLX.”

These securities may be sold directly by us, through dealers or agents designated from time to time, to or through underwriters or through a combination of these methods. See “Plan of Distribution” in this prospectus. We may also describe the plan of distribution for any particular offering of these securities in any applicable prospectus supplement. If any agents, underwriters or dealers are involved in the sale of any securities in respect of which this prospectus is being delivered, we will disclose their names and the nature of our arrangements with them in a prospectus supplement. The net proceeds we expect to receive from any such sale will also be included in a prospectus supplement.

As of January 8, 2014, 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 or the average bid and asked price of such common equity on that date, was approximately \$38,532,883, based on 34,581,449 shares of outstanding common stock, of which 27,992,379 were held by non-affiliates. Pursuant to General Instruction I.B.6 of Form S-3, in no event will we sell securities in a public primary offering with a value exceeding more than one-third of our public float in any 12-month period so long as our public float remains below \$75.0 million. We have not offered any securities pursuant to General Instruction I.B.6 of Form S-3 during the 12 calendar months prior to and including the date of this prospectus.

Investing in our securities involves a high degree of risk. See “Risk Factors” on page 7 of this prospectus. We may include additional risk factors in an applicable prospectus supplement under the heading “Risk Factors.” You should review that section of the prospectus supplement for a discussion of matters that investors in our securities should consider.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus or any accompanying prospectus supplement. Any representation to the contrary is a criminal offense.

Our principal executive office is at 21 Erie Street, Cambridge, MA 02139, and our telephone number is (617) 583-1700.

The date of this prospectus is _____, 2014.

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YOU SHOULD RELY ONLY ON THE INFORMATION CONTAINED IN THIS PROSPECTUS, ANY PROSPECTUS SUPPLEMENT OR ANY DOCUMENT TO WHICH WE HAVE REFERRED YOU. WE HAVE NOT AUTHORIZED ANYONE ELSE TO PROVIDE YOU WITH INFORMATION THAT IS DIFFERENT. THIS PROSPECTUS AND ANY PROSPECTUS SUPPLEMENT MAY BE USED ONLY WHERE IT IS LEGAL TO SELL THESE SECURITIES. THE INFORMATION IN THIS PROSPECTUS OR ANY PROSPECTUS SUPPLEMENT IS CURRENT ONLY AS OF THE DATE ON THE FRONT OF THESE DOCUMENTS.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission, or the SEC, using a “shelf” registration process. Under this shelf process, we may sell any combination of the securities described in this prospectus in one or more offerings up to a total public offering price of \$100,000,000 (or its equivalent in foreign or composite currencies). The registration statement of which this prospectus is a part replaces our prior “shelf” registration statement on Form S-3 that became effective in May 2011. We will not issue any additional securities under that prior registration statement.

This prospectus provides you with a general description of the securities we may offer. Each time we sell securities, we will provide a prospectus supplement that will contain specific information about the securities being offered and the terms of that offering. The prospectus supplement may also add to, update or change information contained in this prospectus. You should read both this prospectus and any prospectus supplement together with the additional information described under the heading “Where You Can Find More Information” carefully before making an investment decision.

Unless the context otherwise requires, in this prospectus, “Metabolix,” “the Company,” “we,” “us,” “our” and similar names refer to Metabolix, Inc. and its subsidiaries.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and any accompanying prospectus supplement (including any document incorporated by reference herein or therein) contain statements with respect to the Company which constitute “forward-looking statements” within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, and are intended to be covered by the “safe harbor” created by those sections. Forward-looking statements, which are based on certain assumptions and reflect our plans, estimates and beliefs, can generally be identified by the use of forward-looking terms such as “believes,” “expects,” “may,” “will,” “should,” “could,” “seek,” “intends,” “plans,” “estimates,” “anticipates” or other comparable terms. These forward looking statements include, but are not limited to, statements concerning potential future collaborations, expectations regarding future manufacturing capacity, and objectives for research and development, product development, and commercialization of current and future products, including the commercialization of our biopolymer products. Our actual results could differ materially from those discussed in the forward-looking statements. Factors that could cause or contribute to these differences include those discussed in “Risk Factors” in any prospectus supplement and in the documents incorporated by reference herein or therein.

We caution readers not to place undue reliance upon any such forward-looking statements, which speak only as of the date they are made. We disclaim any obligation, except as specifically required by law and the rules of the SEC, to publicly update or revise any such statements to reflect any change in company expectations or in events, conditions or circumstances on which any such statements may be based, or that may affect the likelihood that actual results will differ from those set forth in the forward-looking statements.

You should read this prospectus and any accompanying prospectus supplement and the documents that we reference herein and therein and have filed as exhibits to the registration statement, of which this prospectus is part, completely and with the understanding that our actual future results may be materially different from what we expect. You should assume that the information appearing in this prospectus and any accompanying prospectus supplement is accurate as of the date on the front cover of this prospectus or such prospectus supplement only. Our business, financial condition, results of operations and prospects may change. We may not update these forward-looking statements, even though our situation may change in the future, unless we have obligations under the Federal securities laws to update and disclose material developments related to previously disclosed information. We qualify all of the information presented in this prospectus and any accompanying prospectus supplement, and particularly our forward-looking statements, by these cautionary statements.

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Overview

Metabolix is an innovation-driven bioscience company focused on delivering sustainable solutions to the plastics, chemicals and energy industries. 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 our biotechnology research with real world chemical engineering and industrial practice. In addition, we have created an extensive intellectual property portfolio to protect our innovations and, together with our technology, to serve as a valuable foundation for future industry collaborations.

The markets for petroleum-based plastics, chemicals and fuels are among the largest in the global economy. Issues associated with the prolonged use of petroleum-based products include plastic waste management and pollution, limited fossil fuel availability and price volatility, and global warming and climate change. We believe that a substantial global market opportunity exists to develop and commercialize our technology to produce sustainable, renewable alternatives to petroleum-based products including advanced biopolymers, biobased industrial chemicals and bioenergy.

Metabolix was formed to leverage the ability of natural systems to produce complex biopolymers from renewable resources. We have focused on a family of biopolymers found in nature called polyhydroxyalkanoates (“PHAs”), which occur naturally in living organisms and are chemically similar to polyesters. We have demonstrated the production of PHAs at industrial scale to produce PHA biopolymers and biobased industrial chemicals. We have also demonstrated the production of polyhydroxybutyrate (“PHB”), a subclass of PHAs, in agriculturally significant crop plants.

PHA Biopolymers Platform

From 2004 through 2011, we developed and began commercialization of our PHA biopolymers through a technology alliance and subsequent commercial alliance with a wholly-owned subsidiary of Archer Daniels Midland Company (“ADM”), one of the largest agricultural processors in the world. Under the commercial alliance, ADM was responsible for resin manufacturing, and Metabolix was primarily responsible for product development, compounding, marketing and sales. Through this alliance, the companies established a joint venture company, Telles, LLC (“Telles”), to commercialize PHA biopolymer products.

After ADM terminated the Telles joint venture early in 2012, we retained significant rights and assets associated with the PHA biopolymers business, which we have used to relaunch the business with a new commercial model, focused on targeted marketing of biopolymer products and identifying alternate manufacturing capability. We hold exclusive rights to the Metabolix technology and intellectual property used in the joint venture. We acquired all of Telles’s product inventory and compounding raw materials totaling more than five million pounds, all product certifications and all product trademarks including Mirel TM and Mvera TM, and we retained all co-funded pilot plant equipment in locations outside of the ADM commercial manufacturing facility in Clinton, Iowa. In early 2012, we restructured the biopolymers business retaining a core team in our biopolymers group to provide continuity with the technology, manufacturing process, and markets.

During 2012, we took steps toward establishing a new commercial model for our PHA biopolymers business. We worked closely with our core customers to supply product from existing inventory as a bridge to new supply. We evaluated the potential applications for our biopolymer products and narrowed our market development focus to three high value market segments: (i) film and bag applications; (ii) performance additives; and (iii) functional biodegradation. In March 2012, we began directly recording product sales and shipping product from inventory to our customers. During the second half of 2012, we developed, sampled and launched two new products: Mvera B5008, a compostable film grade resin, and I6001, a polymeric modifier for polyvinyl chloride (“PVC”). We also established Metabolix GmbH, a subsidiary located in Cologne, Germany, to serve as a focal point for our commercial activities in Europe. This location is intended to enable us to directly access the European market, which is the largest for bioplastics.

During 2013, we continued to use existing inventory as well as biobased and biodegradable polymers sourced from third parties to develop the market and to supply new and existing customers. In the second half of 2013, we broadened our offering of film resins with the launch of Mvera B5010, a new certified compostable resin and the launch of Mvera B5011, a new transparent certified compostable film resin for film and bag applications. In October 2013, we launched I6003rp, a new polymeric modifier for recycled PVC and presented data at a technical conference supporting the use of this

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product in that application. Throughout 2013, we worked closely with customers developing applications using our materials and we expect that some of these will convert into purchase commitments and sales. In the film business, we had multiple repeat customers and have the potential to expand sales revenue as we grow the customer base. In 2014, we plan to continue to develop and launch biobased and biodegradable resins and performance additive products based on PHAs and other biobased and biodegradable materials.

We continue to explore alternative options to establish a new biopolymer manufacturing and supply chain properly sized to our business. In 2013, we conducted due diligence on several potential manufacturing sites and expect to select a site in 2014. When this PHA supply chain is fully established, this captive capacity will be combined with access to additional biobased and biodegradable materials sourced from third parties, which will allow us to continue formulating proprietary high-performance products for our target segments.

In March 2013, we entered into a supply agreement with China-based Tianjin GreenBio Materials, or “TGBM,” to buy various grades of PHA polymers that may extend the range and availability of our formulations. We have been working with TGBM and its products for more than one year and have spent time with TGBM at their site in China.

In July 2013, we formalized a Memorandum of Understanding (“MOU”) with Samsung Fine Chemicals, a company based in South Korea with a significant role in the biopolymers industry. Samsung is pursuing a similar strategy to Metabolix, offering a complementary product slate and complementary regional positioning. Metabolix is focused on the U.S. and Europe while Samsung has a strong market presence in Korea and across Asia. Metabolix has been working with Samsung on biodegradable polymers since early 2012. Under the MOU, we each fund our respective costs separately, but work together with the goal of expanding the global market for biodegradable polymers. Our MOU with Samsung provides access to additional biodegradable polymers that we can use in resin formulations designed to deliver the best performance and value to targeted customer applications. The MOU does not represent a legally binding commitment by either party, and it may be terminated at any time by either party without liability or obligations to the other party.

Biobased Industrial Chemicals Platform.

For our second platform, we are developing C4 and C3 chemicals from biobased sources, as opposed to the fossil fuels that are used to produce most industrial chemicals today. Our process for creating biobased industrial C4 and C3 chemicals involves engineering metabolic pathways into microbes that, in a fermentation process, produce specific PHA structures that serve as precursors for the chemicals. Through our PHA technology, we are able to control the microbe biology to achieve high concentrations of specific, naturally-occurring PHAs that accumulate inside cells as they metabolize sugars. This intracellular accumulation of the biopolymers inside the microbes is a unique and differentiating aspect of our technology. When the fermentation is completed, we use a novel internally developed recovery process known as “FAST” (fast-acting, selective thermolysis) that converts the biopolymer to the target chemical using heat.

In the C4 program, we have produced biobased gamma butyrolactone (“GBL”) at industrial scale and demonstrated a chemical profile that meets or exceeds the existing industrial specifications. In 2012, we completed the preliminary design for a commercial scale plant to enable production of biobased GBL and, through an established conversion process, butanediol (“BDO”). This plan, which could be implemented under a potential future collaboration, includes specifications for all of the components of our fermentation and recovery process. We believe that developing and commercializing biobased C3 chemicals could represent another attractive application of our technology. In 2011, we undertook an analysis of the global market for acrylic acid, a C3 chemical, to assess the market participants, renewable technology competition, economics, intellectual property status, and end use applications. In 2012, we continued scale up of fermentation and optimization of microbial strains to produce biobased C3 chemicals. We also successfully demonstrated recovery of acrylic acid from dried biomass using the “FAST” process in our Cambridge laboratory and provided sample quantities of dried biomass for conversion to biobased acrylic acid for customer evaluation. In 2013, we achieved three technical milestones in our biobased chemicals program. We demonstrated a process to efficiently recover ultra-high purity GBL from fermentation broth and showed that our C4 technology can be adapted to produce deuterated bio-GBL. We also demonstrated that our C3 and C4 microbial strains and fermentation processes are suitable for production of biobased chemicals based on second generation feedstocks, or cellulosic sugars. We believe that strategic alliances will be required to commercialize C3 and C4 chemicals, however, there can be no assurance that we will be successful in establishing or maintaining suitable partnerships.

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Crops Platform.

In our third technology platform, we are harnessing the renewable nature of plants to make bioplastics, renewable chemicals and bioenergy from crops. The focal point of our plant technology efforts is around PHB, the simplest member of the broad PHA family of biopolymers. While applications for PHAs have focused mainly on their use as biodegradable bioplastics, these polymers have a number of other unique features that will allow their use in other applications, such as the production of chemical intermediates and their use as value-added animal feeds. We are working to create proprietary systems to produce PHB in high quantity in the leaves of biomass crops or seeds of oilseed crops for these multiple applications.

Our work in crops highlights our leading edge capabilities and researchers at Metabolix have designed novel, multi-gene expression systems to increase production of PHB in plant tissue. The science behind this shift in metabolism is complex since the goal is to significantly increase production of PHB to be viable at industrial scale without impairing the ability of the plant to thrive in its natural environment. In 2011, Metabolix was awarded a \$6 million grant by the U.S. Department of Energy (“DOE”) to engineer switchgrass to produce 10 percent PHB, by weight, in the whole plant and to develop methods to thermally convert the PHB-containing biomass to crotonic acid and a higher density residual biomass fraction for production of bioenergy. During 2012 and 2013, Metabolix was awarded additional grants for leading-edge crop research targeting multi-gene expression and transformation of plants including important biofuel and food crops. Funding from these additional grants is expected to total approximately \$1.0 million and will run through 2014.

In 2014, we plan to continue to identify additional sources of grant funding while we advance research under our existing grants, focused primarily on increasing PHB production in switchgrass and developing a thermal conversion process to recover crotonic acid. We may also seek to establish alliances with partners to commercially exploit this platform and the intellectual property we have gained in our work in this area. However, there can be no assurance that we will be successful in establishing or maintaining suitable partnerships.

Liquidity and Capital Resources

The Company held unrestricted cash, cash equivalents and investments of \$25,748 at September 30, 2013. We believe that these resources and the cash to be generated from existing grants and expected product sales will be sufficient to meet our projected operating requirements into the third quarter of 2014. However, any significant costs incurred to establish a commercial biopolymer manufacturing facility will shorten this liquidity horizon and require that we seek additional funds in order to continue and advance our operations. We continue to face significant challenges and uncertainties and, as a result, our available capital resources may be consumed more rapidly than currently expected due to: (a) lower than expected sales of our biopolymer products as a result of slow market adoption; (b) increases in capital costs and operating expenses related to the establishment and start-up of commercial manufacturing operations either on our own or with third parties for our biopolymer products; (c) changes we may make to the business that affect ongoing operating expenses; (d) changes we may make to our business strategy; (e) changes in our research and development spending plans; and (f) other items affecting our forecasted level of expenditures and use of cash resources. Accordingly, we will need to raise additional funds to support our operating and capital needs. We will attempt to obtain additional funding through public or private financing, collaborative arrangements with strategic partners, or through additional credit lines or other debt financing sources to increase the funds available to support operations. However, there is uncertainty regarding whether the Company can successfully execute these actions, and the Company can provide no assurance that it will. Furthermore, if the Company issues equity or debt securities to raise additional funds, our existing stockholders may experience dilution, and the new equity or debt securities may have rights, preferences and privileges senior to those of our existing stockholders. If we raise additional funds through collaboration, licensing or other similar arrangements, it may be necessary to relinquish valuable rights to our potential products or proprietary technologies, or grant licenses on terms that are not favorable to the Company. Without additional funds, we will be forced to delay, scale back or eliminate some of our sales and marketing efforts, research and development activities, or other operations and potentially delay product development in an effort to provide sufficient funds to continue our operations. If any of these events occurs, our ability to achieve our development and commercialization goals would be adversely affected.

CORPORATE INFORMATION

We were incorporated in Massachusetts in June 1992 under the name of Metabolix, Inc. In September 1998, we reincorporated in Delaware. Our principal executive offices are located at 21 Erie Street, Cambridge, Massachusetts 02139, and our telephone number is (617) 583-1700. Our worldwide web address is www.metabolix.com. The information on our website is not incorporated by reference into this prospectus or any prospectus supplement and should not be considered to be part of this prospectus or any prospectus supplement. 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 well as reports relating to our securities filed by others pursuant to Section 16 of such act, are available through the investor relations page of our Internet website free of charge as soon as reasonably practicable after we electronically file such material with, or furnish it to, the Securities and Exchange Commission (the "SEC"). The SEC maintains an Internet website that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC. The address of that website is <http://www.sec.gov>.

RISK FACTORS

Investing in our securities involves risk. The prospectus supplement applicable to each type or series of securities we offer will contain a discussion of the risks applicable to an investment in Metabolix and to the particular types of securities that we are offering under that prospectus supplement. Prior to making a decision about investing in our securities, you should carefully consider the specific factors discussed under the heading "Risk Factors" in the applicable prospectus supplement, together with all of the other information contained or incorporated by reference in the prospectus supplement or appearing or incorporated by reference in this prospectus. You should also consider the risks, uncertainties and assumptions discussed under the heading "Risk Factors" included in our most recent annual report on Form 10-K, as revised or supplemented by our most recent quarterly report on Form 10-Q, each of which are on file with the SEC and are incorporated herein by reference, and which may be amended, supplemented or superseded from time to time by other reports we file with the SEC in the future.

USE OF PROCEEDS

We currently intend to use the estimated net proceeds from the sale of these securities for working capital and other general corporate purposes, and possibly acquisitions of other companies, products or technologies. Working capital and other general corporate purposes may include research and development expenditures, capital expenditures, operating and administrative expenditures, and any other purpose that we may specify in any prospectus supplement. While we have no current plans for any specific acquisitions at this time, we believe

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opportunities may exist from time to time to expand our current business through strategic alliances or acquisitions with other companies, products or technologies. We have not yet determined the amount of net proceeds to be used specifically for any of the foregoing purposes. Accordingly, our management will have significant discretion and flexibility in applying the net proceeds from the sale of these securities. Pending any use, as described above, we intend to invest the net proceeds in high-quality, short-term, interest-bearing securities. Our plans to use the estimated net proceeds from the sale of these securities may change, and if they do, we will update this information in a prospectus supplement.

DESCRIPTION OF CAPITAL STOCK

The following description of our common stock and preferred stock, together with the additional information included in any applicable prospectus supplements, summarizes the material terms and provisions of these types of securities but is not complete. For the complete terms of our common stock and preferred stock, please refer to our Amended and Restated Certificate of Incorporation, as amended to date, which we refer to as our Certificate of Incorporation, and our Amended and Restated By-laws, which we refer to as our By-laws, each of which is incorporated by reference into the registration statement of which this prospectus is a part and, with respect to any new shares of preferred stock, the certificate of designation which will be filed with the SEC for each new series of preferred stock we may designate, if any.

General

We will describe in a prospectus supplement the specific terms of any common stock or preferred stock we may offer pursuant to this prospectus. If indicated in a prospectus supplement, the terms of such common stock or preferred stock may differ from the terms described below.

We have 105,000,000 shares of capital stock authorized under our Certificate of Incorporation, consisting of 100,000,000 shares of common stock, par value \$0.01 per share and 5,000,000 shares of undesignated preferred stock, par value \$0.01 per share. The authorized shares of common stock and undesignated preferred stock are available for issuance without further action by our stockholders, unless such action is required by applicable law or the rules of any stock exchange or automated quotation system on which our securities may be listed or traded. If the approval of our stockholders is not so required, our board of directors may determine not to seek stockholder approval.

Common Stock

As of January 8, 2014, there were 34,581,449 shares of our common stock outstanding held by 54 stockholders of record.

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

Preferred Stock

Our board of directors is authorized, without action by the stockholders, to designate and issue up to an aggregate of 5,000,000 shares of preferred stock in one or more series of which 45,000 shares have been designated as Series A Junior Participating Cumulative Preferred Stock. The board of directors can fix the rights, preferences and privileges of the shares of each series and any of its qualifications, limitations or restrictions. Our board of directors may authorize the issuance of preferred stock with voting or conversion rights that could adversely affect the voting power or other rights of the holders of common stock.

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harm the market price of our common stock. There are no restrictions on our ability to repurchase or reclaim our preferred shares while there is any arrearage in the payment of dividends on our preferred stock.

Our board of directors will make any determination to issue such shares based on its judgment as to our company's best interests and the best interests of our stockholders.

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

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

Board Composition and Filling Vacancies. In accordance with our certificate of incorporation, our board is divided into three classes serving staggered three-year terms, with one class being elected each year. Our certificate of incorporation also provides that directors may be removed only for cause and then only by the affirmative vote of the holders of 75% or more of the shares then entitled to vote at an election of directors. Furthermore, any vacancy on our board of directors, however occurring, including a vacancy resulting from an increase in the size of our board, may only be filled by the affirmative vote of a majority of our directors then in office even if less than a quorum.

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

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

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

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

Blank Check Preferred Stock. Our certificate of incorporation provides for 5,000,000 authorized shares of preferred stock of which 45,000 shares have been designated as Series A Junior Participating Cumulative Preferred Stock. The existence of authorized but unissued shares of preferred stock may enable our board of directors to render more difficult or to discourage an attempt to obtain control of us by means of a merger, tender offer, proxy contest or otherwise. For example, if in the due exercise of its fiduciary obligations, our board of directors were to determine that a takeover proposal is not in the best interests of us or our stockholders, our board of directors could cause shares of preferred stock to be issued without stockholder approval in one or more private offerings or other transactions that might dilute the voting or other rights of the proposed acquirer or insurgent stockholder or stockholder group. In this regard, our certificate of incorporation grants our board of directors broad power to establish the rights and preferences of authorized and unissued shares of preferred stock. The issuance of shares of preferred stock could decrease the amount of earnings and

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assets available for distribution to holders of shares of common stock. The issuance may also adversely affect the rights and powers, including voting rights, of these holders and may have the effect of delaying, deterring or preventing a change in control of us.

Shareholder Rights Plan; Series A Junior Participating Cumulative Preferred Stock

On July 7, 2009, our board of directors adopted a shareholder rights plan, as set forth in the Shareholder Rights Agreement, dated July 7, 2009, between us and American Stock Transfer & Trust Company, LLC, as Rights Agent (as amended, the "Rights Agreement"). The Rights Agreement contains a "TIDE" provision, which requires an independent committee of our board of directors to review once every three years whether maintaining the Rights Agreement continues to be in the best interest of the stockholders. In 2012 our board of directors reviewed the Rights Agreement and determined that it continues to be in the best interest of the stockholders. The following description of the terms of the Rights Agreement does not purport to be complete and is qualified in its entirety by reference to (i) the Rights Agreement which is attached as an exhibit to our Current Report on Form 8-K as filed with the SEC on July 8, 2009 and (ii) Amendment No. 1 to the Rights Agreement which is attached as an exhibit to our Current Report on Form 8-K as filed with the SEC on February 10, 2012, each of which is incorporated herein by reference.

Pursuant to the terms of the Rights Agreement, our board of directors declared a dividend distribution of one Preferred Stock Purchase Right (a "Right") for each outstanding share of our common stock, par value \$0.01 per share, (the "Common Stock") to stockholders of record as of the close of business on July 8, 2009 (the "Record Date"). In addition, one Right will automatically attach to each share of Common Stock issued between the Record Date and the Distribution Date (as hereinafter defined). Each Right entitles the registered holder thereof to purchase from us a unit consisting of one ten-thousandth of a share (a "Unit") of our Series A Junior Participating Cumulative Preferred Stock, par value \$0.01 per share, (the "Preferred Stock") at a cash exercise price of \$80.00 per Unit (the "Exercise Price"), subject to adjustment, under certain conditions specified in the Rights Agreement and summarized below.

Initially, the Rights are not exercisable and are attached to and trade with all shares of Common Stock outstanding as of, and issued subsequent to, the Record Date. The Rights will separate from the Common Stock and will become exercisable upon the earlier of (i) the close of business on the tenth calendar day following the first public announcement that a person or group of affiliated or associated persons (an "Acquiring Person") has acquired beneficial ownership of 15% or more of the outstanding shares of Common Stock, other than as a result of repurchases of stock by us or certain inadvertent actions by a stockholder (the date of said announcement being referred to as the "Stock Acquisition Date"), or (ii) the close of business on the tenth business day (or such later day as our board of directors may determine) following the commencement of a tender offer or exchange offer that could result upon its consummation in a person or group becoming the beneficial owner of 15% or more of the outstanding shares of Common Stock (the earlier of such dates being herein referred to as the "Distribution Date").

In the event that a Stock Acquisition Date occurs, proper provision will be made so that each holder of a Right (other than an Acquiring Person or its associates or affiliates, whose Rights shall become null and void) will thereafter have the right to receive upon exercise, in lieu of a number of Units of Preferred Stock, that number of shares of our Common Stock (or, in certain circumstances, including if there are insufficient shares of Common Stock to permit the exercise in full of the Rights, Units of Preferred Stock, other securities, cash or property, or any combination of the foregoing) having a market value of two times the Exercise Price of the Right (such right being referred to as the "Subscription Right"). In the event that, at any time following the Stock Acquisition Date, (i) we consolidate with, or merges with and into, any other person, and we are not the continuing or surviving corporation, (ii) any person consolidates with us, or merges with and into us and we are the continuing or surviving corporation of such merger and, in connection with such merger, all or part of the shares of Common Stock are changed into or exchanged for stock or other securities of any other person or cash or any other property, or (iii) 50% or more of our assets or earning power is sold, mortgaged or otherwise transferred, each holder of a Right (other than an Acquiring Person or its associates or affiliates, whose Rights shall become null and void) will thereafter have the right to receive, upon exercise, common stock of the acquiring company having a market value equal to two times the Exercise Price of the Right (such right being referred to as the "Merger Right"). The holder of a Right will continue to have the Merger Right whether or not such holder has exercised the Subscription Right. Rights that are or were beneficially owned by an Acquiring Person may (under certain circumstances specified in the Rights Agreement) become null and void.

The Rights may be redeemed in whole, but not in part, at a price of \$0.001 per Right (payable in cash, Common Stock or other consideration deemed appropriate by our board of directors) by our board of directors only until the earlier of (i) the time at which any person becomes an Acquiring Person or (ii) the expiration date of the Rights Agreement. Immediately upon the action of our board of directors ordering redemption of the Rights, the Rights will terminate and thereafter the only right of the holders of Rights will be to receive the redemption price.

The Rights Agreement may be amended by our board of directors in its sole discretion at any time prior to the time at which any person becomes an Acquiring Person. After such time our board of directors may, subject to certain limitations set forth in the Rights

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Agreement, amend the Rights Agreement only to cure any ambiguity, defect or inconsistency, to shorten or lengthen any time period, or to make changes that do not adversely affect the interests of Rights holders (excluding the interests of an Acquiring Person or its associates or affiliates). In addition, our board of directors may at any time prior to the time at which any person becomes an Acquiring Person, amend the Rights Agreement to lower the threshold at which a person becomes an Acquiring Person to not less than the greater of (i) the sum of 0.001% and the largest percentage of the outstanding Common Stock then owned by any person and (ii) 10%.

Until a Right is exercised, the holder will have no rights as a stockholder of the Company (beyond those as an existing stockholder), including the right to vote or to receive dividends. While the distribution of the Rights will not be taxable to stockholders or to us, stockholders may, depending upon the circumstances, recognize taxable income in the event that the Rights become exercisable for Units, other securities of ours, other consideration or for common stock of an acquiring company.

The Rights are not exercisable until the Distribution Date and will expire at the close of business on July 8, 2019, unless previously redeemed or exchanged by us.

On February 6, 2012, the Company entered into a letter agreement (the "Schuler Agreement") with Jack W. Schuler, Renate Schuler and the Schuler Family Foundation, a tax-exempt private operating foundation of which Jack W. Schuler and Renate Schuler serve as two of the three directors (collectively, the "Schuler Stockholders"). The Schuler Stockholders may be deemed to have aggregate beneficial ownership of up to 5,091,295 shares, or approximately 14.7%, of the Company's outstanding common stock.

Pursuant to the Schuler Agreement, the Schuler Stockholders have made certain representations and covenants regarding ownership, voting support arrangements, standstill arrangements and rights of first refusal. In exchange for these representations and covenants, the Company agreed to amend the Shareholder Rights Plan to allow the Schuler Stockholders, under certain circumstances, to increase their beneficial ownership up to 19.99% of the outstanding common stock without becoming Acquiring Persons (as defined in the Rights Agreement).

On February 6, 2012, contemporaneously with the execution of the Schuler Agreement, the Company amended the Shareholder Rights Plan to provide that, generally, so long as the Schuler Stockholders and their respective affiliates and associates do not at any time have Control Intent (as defined in the Shareholder Rights Plan), they may acquire additional shares of common stock without becoming acquiring persons under the Rights Plan, provided that their collective beneficial ownership does not at any time equal or exceed 20% of the then outstanding shares of common stock.

We may issue warrants for the purchase of preferred stock or common stock. Warrants may be issued independently or together with preferred stock or common stock and may be attached to or separate from any offered securities. Each series of securities warrants will be issued under a separate warrant agreement to be entered into between us and a warrant agent. The securities warrant agent will act solely as our agent in connection with the securities warrants and will not assume any obligation or relationship of agency or trust for or with any registered holders of securities warrants or beneficial owners of securities warrants. This summary of some provisions of the securities warrants is not complete. You should refer to the securities warrant agreement, including the forms of securities warrant certificate representing the securities warrants, relating to the specific securities warrants being offered for the complete terms of the securities warrant agreement and the securities warrants. That securities warrant agreement, together with the terms of securities warrant certificate and securities warrants, will be filed with the SEC in connection with the offering of the specific securities warrants.

The particular terms of any issue of securities warrants will be described in the prospectus supplement relating to the issue. Those terms may include:

- the title of such warrants;
- the aggregate number of such warrants;
- the price or prices at which such warrants will be issued;
- the terms of the securities purchasable upon exercise of such warrants and the procedures and conditions relating to the exercise of such warrants;

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- the price at which the securities purchasable upon exercise of such warrants may be purchased;
- the date on which the right to exercise such warrants will commence and the date on which such right shall expire;
- any provisions for adjustment of the number or amount of securities receivable upon exercise of the warrants or the exercise price of the warrants;
- if applicable, the minimum or maximum amount of such warrants that may be exercised at any one time;
- if applicable, the designation and terms of the securities with which such warrants are issued and the number of such warrants issued with each such security;
- if applicable, the date on and after which such warrants and the related securities will be separately transferable;
- information with respect to book-entry procedures, if any; and
- any other terms of such warrants, including terms, procedures and limitations relating to the exchange or exercise of such warrants.

The prospectus supplement relating to any warrants to purchase equity securities may also include, if applicable, a discussion of certain U.S. federal income tax and ERISA considerations.

Securities warrants for the purchase of preferred stock and common stock will be offered and exercisable for U.S. dollars only. Securities warrants will be issued in registered form only.

Each securities warrant will entitle its holder to purchase the number of shares of preferred stock or common stock at the exercise price set forth in, or calculable as set forth in, the applicable prospectus supplement.

After the close of business on the expiration date, unexercised securities warrants will become void. We will specify the place or places where, and the manner in which, securities warrants may be exercised in the applicable prospectus supplement.

Upon receipt of payment and the warrant certificate properly completed and duly executed at the corporate trust office of the warrant agent or any other office indicated in the applicable prospectus supplement, we will, as soon as practicable, forward the purchased securities. If less than all of the warrants represented by the warrant certificate are exercised, a new warrant certificate will be issued for the remaining warrants.

Prior to the exercise of any securities warrants to purchase preferred stock or common stock, holders of the securities warrants will not have any of the rights of holders of preferred stock or common stock purchasable upon exercise, including the right to vote or to receive any payments of dividends on the preferred stock or common stock purchasable upon exercise.

DESCRIPTION OF SUBSCRIPTION RIGHTS

The following is a general description of the terms of the subscription rights we may issue from time to time. Particular terms of any subscription rights we offer will be described in the prospectus supplement or free writing prospectus relating to such subscription rights, and may differ from the terms described herein.

We may issue subscription rights to purchase our securities. These subscription rights may be issued independently or together with any other security offered hereby and may or may not be transferable by the stockholder receiving the subscription rights in such offering. In connection with any offering of subscription rights, we may enter into a standby arrangement with one or more underwriters or other purchasers pursuant to which the underwriters or other purchasers may be required to purchase any securities remaining unsubscribed for after such offering.

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The applicable prospectus supplement will describe the specific terms of any offering of subscription rights for which this prospectus is being delivered, including the following:

- whether common stock, preferred stock, or warrants for those securities will be offered under the stockholder subscription rights;
- the price, if any, for the subscription rights;
- the exercise price payable for each security upon the exercise of the subscription rights;
- the number of subscription rights issued to each stockholder;
- the number and terms of the securities which may be purchased per each subscription right;
- the extent to which the subscription rights are transferable;
- any other terms of the subscription rights, including the terms, procedures and limitations relating to the exchange and exercise of the subscription rights;
- the date on which the right to exercise the subscription rights shall commence, and the date on which the subscription rights shall expire;
- the extent to which the subscription rights may include an over-subscription privilege with respect to unsubscribed securities;
- if appropriate, a discussion of material U.S. federal income tax considerations; and
- if applicable, the material terms of any standby underwriting or purchase arrangement entered into by us in connection with the offering of subscription rights.

The description in the applicable prospectus supplement of any subscription rights we offer will not necessarily be complete and will be qualified in its entirety by reference to the applicable subscription rights certificate or subscription rights agreement, which will be filed with the SEC if we offer subscription rights.

PLAN OF DISTRIBUTION

We may sell the securities being offered pursuant to this prospectus directly to purchasers, to or through underwriters, through dealers or agents, or through a combination of such methods. The prospectus supplement with respect to the securities being offered will set forth the terms of the offering of those securities, including the names of the underwriters, dealers or agents, if any, the purchase price, the net proceeds to us, any underwriting discounts and other items constituting underwriters' compensation, the public offering price, any discounts or concessions allowed or reallocated or paid to dealers and any securities exchanges on which such securities may be listed.

If underwriters are used in an offering, we will execute an underwriting agreement with such underwriters and will specify the name of each underwriter and the terms of the transaction (including any underwriting discounts and other terms constituting compensation of the underwriters and any dealers) in a prospectus supplement. The securities may be offered to the public either through underwriting syndicates represented by managing underwriters or directly by one or more investment banking firms or others, as designated. If an underwriting syndicate is used, the managing underwriter(s) will be specified on the cover of the prospectus supplement. If underwriters are used in the sale, the offered securities will be acquired by the underwriters for their own accounts and may be resold from time to time in one or more transactions, including negotiated transactions, at a fixed public offering price or at varying prices determined at the time of sale. Any public offering price and any discounts or concessions allowed or reallocated or paid to dealers may be changed from time to time. Unless otherwise set forth in the prospectus supplement, the obligations of the underwriters to purchase the offered securities will be subject to conditions precedent and the underwriters will be obligated to purchase all of the offered securities if any are purchased.

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We may grant to the underwriters options to purchase additional securities to cover over-allotments, if any, at the public offering price, with additional underwriting commissions or discounts, as may be set forth in a related prospectus supplement. The terms of any over-allotment option will be set forth in the prospectus supplement for those securities.

If any underwriters are involved in the offer and sale, they will be permitted to engage in transactions that maintain or otherwise affect the price of the securities. These transactions may include over-allotment transactions, purchases to cover short positions created by the underwriter in connection with the offering and the imposition of penalty bids. If an underwriter creates a short position in the securities in connection with the offering by selling more securities than set forth on the cover page of the applicable prospectus supplement, the underwriter may reduce that short position by purchasing the securities in the open market. In general, purchases of a security to reduce a short position could cause the price of the security to be higher than it might be in the absence of such purchases. As noted above, underwriters may also choose to impose penalty bids on other underwriters and/or selling group members. This means that if underwriters purchase securities on the open market to reduce their short position or to stabilize the price of the securities, they may reclaim the amount of the selling concession from those underwriters and/or selling group members who sold such securities as part of the offering.

Neither we nor any underwriter make any representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the price of such securities. In addition, neither we nor any underwriter make any representation that such underwriter will engage in such transactions or that such transactions, once commenced, will not be discontinued without notice.

If dealers are used in an offering, we will sell the securities to the dealers as principals. The dealers then may resell the securities to the public at varying prices which they determine at the time of resale. The names of the dealers and the terms of the transaction will be specified in a prospectus supplement.

The securities may be sold directly by us or through agents we designate from time to time at a fixed price or prices, which may be changed, or at varying prices determined at the time of sale. If agents are used in an offering, the names of the agents and the terms of the agency will be specified in a prospectus supplement. Unless otherwise indicated in a prospectus supplement, the agents will act on a best-efforts basis for the period of their appointment.

Dealers and agents named in a prospectus supplement may be deemed to be underwriters (within the meaning of the Securities Act of 1933, also referred to in this prospectus as the “Securities Act”) of the securities described therein. In addition, we may sell the securities directly to institutional investors or others who may be deemed to be underwriters within the meaning of the Securities Act with respect to any resales thereof.

Underwriters, dealers and agents may be entitled to indemnification by us against specific civil liabilities, including liabilities under the Securities Act, or to contribution with respect to payments which the underwriters or agents may be required to make in respect thereof, under underwriting or other agreements. The terms of any indemnification provisions will be set forth in a prospectus supplement. Certain underwriters, dealers or agents and their associates may engage in transactions with and perform services for us in the ordinary course of business.

If so indicated in a prospectus supplement, we will authorize underwriters or other persons acting as our agents to solicit offers by institutional investors to purchase securities pursuant to contracts providing for payment and delivery on a future date. We may enter into contracts with commercial and savings banks, insurance companies, pension funds, investment companies, educational and charitable institutions and other institutional investors. The obligations of any institutional investor will be subject to the condition that its purchase of the offered securities will not be illegal at the time of delivery. The underwriters and other agents will not be responsible for the validity or performance of such contracts.

Direct sales to investors or our stockholders may be accomplished through subscription offerings or through subscription rights distributed to stockholders. In connection with subscription offerings or the distribution of subscription rights to stockholders, if all of the underlying securities are not subscribed for, we may sell any unsubscribed securities to third parties directly or through underwriters or agents. In addition, whether or not all of the underlying securities are subscribed for, we may concurrently offer additional securities to third parties directly or through underwriters or agents. If securities are to be sold through subscription rights, the subscription rights will be distributed as a dividend to the stockholders for which they will pay no separate consideration.

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Any common stock sold pursuant to a prospectus supplement will be eligible for quotation and trading on NASDAQ, subject to official notice of issuance. Any underwriters to whom securities are sold by us for public offering and sale may make a market in the securities, but such underwriters will not be obligated to do so and may discontinue any market making at any time without notice.

In order to comply with the securities laws of some states, if applicable, the securities offered hereby will be sold in those jurisdictions only through registered or licensed brokers or dealers. In addition, in some states securities may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and complied with.

LEGAL MATTERS

The validity of the securities offered hereby will be passed upon for us by Goodwin Procter LLP, Boston, Massachusetts. If the securities are being distributed in an underwritten offering, certain legal matters will be passed upon for the underwriters by counsel identified in the applicable prospectus supplement.

EXPERTS

The consolidated financial statements incorporated in this Prospectus by reference to Metabolix, Inc.’s Current Report on Form 8-K dated January 16, 2014 and management’s assessment of the effectiveness of internal control over financial reporting (which is included in Management’s Report on Internal Control over Financial Reporting) incorporated in this Prospectus by reference to the Annual Report on Form 10-K of Metabolix, Inc for the year ended December 31, 2012 have been so incorporated in reliance on the report (which contains a reference to Note 1 to the financial statements) of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

We are a public company and file annual, quarterly and current reports, proxy statements and other information with the Securities and Exchange Commission. You may read and copy any document we file at the SEC’s Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for more information about the operation of the public reference room. Our SEC filings are also available to the public on the SEC’s website at <http://www.sec.gov>, or on our website at <http://www.metabolix.com> under the “Investor Relations” link. Information contained on our website is not part of this prospectus.

This prospectus is only part of a Registration Statement on Form S-3 that we have filed with the SEC under the Securities Act of 1933, as amended, and therefore omits certain information contained in the Registration Statement. We have also filed exhibits with the Registration Statement that are excluded from this prospectus, and you should refer to the applicable exhibit for a complete description of any statement referring to any contract or other document. You may:

- inspect a copy of this prospectus, including the exhibits and schedules, without charge at the public reference room;
- obtain a copy of this prospectus from the SEC upon payment of the fees prescribed by the SEC; or
- obtain a copy of this prospectus from the SEC website.

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC allows us to “incorporate by reference” information from other documents that we file with them, which means that we can disclose important information in this prospectus by referring to those documents. The information incorporated by reference is considered to be part of this prospectus, and information that we file later with the SEC will automatically update and supersede the information in this prospectus. We incorporate by reference the documents listed below and any future filings made with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended. The documents we are incorporating by reference as of their respective dates of filing are:

- Our Annual Report on Form 10-K for the fiscal year ended December 31, 2012;

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- Our Quarterly Reports on Form 10-Q for the fiscal quarters ended March 31, 2013, June 30, 2013 and September 30, 2013;
- Portions of our Proxy Statement filed with the SEC on April 25, 2013 that have been incorporated by reference into our Annual Report on Form 10-K;
- Our Current Reports on Form 8-K as filed on June 5, 2013, July 17, 2013, October 2, 2013, December 23, 2013 and January 16, 2014;
- All other reports filed pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”) since December 31, 2012; and
- The description of our common stock contained in Item 1 of our Registration Statement on Form 8-A filed with the SEC on November 6, 2006, including any amendments or reports filed for the purpose of updating the description.

All documents and reports filed by us with the SEC pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act (other than Current Reports on Form 8-K containing only information furnished under Item 2.02 or Item 7.01 of Form 8-K, unless otherwise indicated therein) after the date of this prospectus and prior to the termination of the offering made hereby shall be deemed to be incorporated by reference into this prospectus and to be a part hereof from the date of filing of such documents. Any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained herein or in any other subsequently filed document which also is or is deemed to be incorporated by reference herein or in any prospectus supplement modifies or supersedes such statement. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

We will provide, without charge to each person, including any beneficial owner, to whom this prospectus is delivered, upon written or oral request of such person, a copy of any or all of the documents incorporated herein by reference other than exhibits, unless such exhibits are specifically incorporated by reference into such documents or this document. Requests for such documents should be addressed in writing or by telephone to:

Investor Relations
Metabolix, Inc.
21 Erie Street
Cambridge, MA 02139
(617) 583-1700

You should rely only on the information contained in this prospectus, any prospectus supplement or any document to which we have referred you. We have not authorized anyone else to provide you with information that is different. This prospectus and any prospectus supplement may be used only where it is legal to sell these securities. The information in this prospectus or any prospectus supplement is current only as of the date on the front of these documents.

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PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

ITEM 14. OTHER EXPENSES OF ISSUANCE AND DISTRIBUTION

The following table sets forth the costs and expenses payable by us in connection with the offerings described in this registration statement, other than underwriting discounts and commissions.

SEC Registration Fee	\$	
NASDAQ Global Market Listing Fee		*
Printing Expenses		*
Accounting Fees and Expenses		*
Legal Fees and Expenses		*
Miscellaneous		*
TOTAL	\$	*

* These fees are calculated based on the securities offered and the number of issuances and accordingly, cannot be estimated at this time.

ITEM 15. INDEMNIFICATION OF DIRECTORS AND OFFICERS

The Delaware General Corporation Law and our certificate of incorporation and by-laws provide for indemnification of our directors and officers for liabilities and expenses that they may incur in such capacities. In general, directors and officers are indemnified with respect to actions taken in good faith in a manner reasonably believed to be in, or not opposed to, the best interests of the registrant and, with respect to any criminal action or proceeding, actions that the indemnitee had no reasonable cause to believe were unlawful.

Our certificate of incorporation provides that no director shall be personally liable to us or to our stockholders for monetary damages for breach of fiduciary duty as a director, except that the limitation shall not eliminate or limit liability to the extent that the elimination or limitation of such liability is not permitted by the Delaware General Corporation Law as the same exists or may hereafter be amended.

Our by-laws further provide for the indemnification of our directors and officers to the fullest extent permitted by Section 145 of the Delaware General Corporation Law, including circumstances in which indemnification is otherwise discretionary. A principal effect of these provisions is to limit or eliminate the potential liability of our directors for monetary damages arising from breaches of their duty of care, subject to certain exceptions. These provisions may also shield directors from liability under federal and state securities laws.

We have entered into indemnification agreements with each of our directors and certain of our executive officers. These agreements provide that we will indemnify each of our directors and certain of our executive officers to the fullest extent permitted by law.

We also maintain a general liability insurance policy which covers certain liabilities of directors and officers of our company arising out of claims based on acts or omissions in their capacities as directors or officers.

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ITEM 16. EXHIBITS

<u>Exhibit No.</u>	<u>Description</u>
1.1**	Form of Underwriting Agreement
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24.1*	Power of Attorney (included on signature page to this Registration Statement)

* Filed herewith.

** To be subsequently filed, if applicable, by an amendment to the Registration Statement or by a Current Report on Form 8-K.

ITEM 17. UNDERTAKINGS

The undersigned registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) to include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;

(ii) to reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Securities and Exchange Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and

(iii) to include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

provided, however, that paragraphs (1)(i), (1)(ii) and (1)(iii) do not apply if the information required to be included in a post-effective amendment by such clauses is contained in reports filed with or furnished to the Securities and Exchange Commission by the registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated herein by reference, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(4) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser:

(i) if the registrant is relying on Rule 430B:

(A) each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and

(B) each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii), or (x) for the purpose of providing the information required by section 10(a) of the Securities Act of 1933 shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date; or

(ii) if the registrant is subject to Rule 430C, each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on

Rule 430A, shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.

(5) That, for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the securities: the undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

(i) any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;

(ii) any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;

(iii) the portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and

(iv) any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

(6) That, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant, pursuant to the foregoing provisions or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act of 1933, and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act of 1933 and will be governed by the final adjudication of such issue.

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SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Cambridge, Commonwealth of Massachusetts, on January 16, 2014.

METABOLIX, INC.

By: /s/ Joseph Shaulson

Name: Joseph Shaulson

Title: *President and Chief Executive Officer*

POWER OF ATTORNEY

We, the undersigned officers and directors of Metabolix, Inc. hereby severally constitute and appoint Joseph Shaulson, Joseph D. Hill and Sarah P. Cecil, and each of them singly, our true and lawful attorneys, with full power to them and each of them to sign for us in our names in the capacities indicated below, all pre-effective and post-effective amendments to this registration statement and any related subsequent registration statement pursuant to Rule 462(b) of the Securities Act of 1933, as amended, and generally to do all things in our names and on our behalf in such capacities to enable Metabolix, Inc. to comply with the provisions of the Securities Act of 1933, as amended, and all requirements of the Securities and Exchange Commission.

Pursuant to the requirements of the Securities Act of 1933, as amended, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Joseph Shaulson</u> Joseph Shaulson	President and Chief Executive Officer and Director (principal executive officer)	January 16, 2014
<u>/s/ Joseph D. Hill</u> Joseph D. Hill	Chief Financial Officer (principal accounting and financial officer)	January 16, 2014
<u>/s/ Peter N. Kellogg</u> Peter N. Kellogg	Director	January 16, 2014
<u>/s/ Celeste Beeks Mastin</u> Celeste Beeks Mastin	Director	January 16, 2014
<u>/s/ Oliver P. Peoples</u> Oliver P. Peoples	Director	January 16, 2014
<u>/s/ Anthony J. Sinskey</u> Anthony J. Sinskey	Director	January 16, 2014
<u>/s/ Matthew Strobeck</u> Matthew Strobeck	Director	January 16, 2014
<u>/s/ Robert L. Van Nostrand</u> Robert L. Van Nostrand	Director	January 16, 2014

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January 16, 2014

Metabolix, Inc.
21 Erie Street
Cambridge, MA 02139

Re: Securities Being Registered under Registration Statement on Form S-3

Ladies and Gentlemen:

We have acted as counsel to you in connection with your filing of a Registration Statement on Form S-3 (as amended or supplemented, the "Registration Statement") pursuant to the Securities Act of 1933, as amended (the "Securities Act"), relating to the registration of up to \$100,000,000 of any combination of (i) common stock, par value \$0.01 per share (the "Common Stock"), of Metabolix, Inc., a Delaware corporation (the "Company"), (ii) preferred stock, par value \$0.01 per share, of the Company (the "Preferred Stock"), (iii) warrants to purchase Common Stock or Preferred Stock ("Warrants") and (iv) subscription rights to purchase securities of the Company ("Subscription Rights"). The Common Stock, Preferred Stock, Warrants and Subscription Rights are sometimes referred to collectively herein as the "Securities." Securities may be issued in an unspecified number. The Registration Statement provides that the Securities may be offered separately or together, in separate series, in amounts, at prices and on terms to be set forth in one or more prospectus supplements (each a "Prospectus Supplement") to the prospectus contained in the Registration Statement.

We have reviewed such documents and made such examination of law as we have deemed appropriate to give the opinions expressed below. We have relied, without independent verification, on certificates of public officials and, as to matters of fact material to the opinions set forth below, on certificates of officers of the Company.

The opinions set forth below are limited to the Delaware General Corporation Law (which includes reported judicial decisions interpreting the Delaware General Corporation Law), the law of New York, and the federal law of the United States. Without limiting the generality of the foregoing, we express no opinion with respect to (i) state securities or "blue sky" laws, or (ii) state or federal antitrust laws.

For purposes of the opinions set forth below, without limiting any other exceptions or qualifications set forth herein, we have assumed that after the issuance of any Securities offered pursuant to the Registration Statement, the total number of issued shares of Common Stock or Preferred Stock, as applicable, together with the total number of shares of such stock issuable upon the exercise, exchange, conversion or settlement, as the case may be, of any exercisable, exchangeable or convertible security (including without limitation any Warrant or Subscription Right), as the case may be, then outstanding, will not exceed the total number of authorized

shares of Common Stock or Preferred Stock, as applicable, under the Company's certificate of incorporation as then in effect (the "Charter").

For purposes of the opinions set forth below, we refer to the following as the "Future Authorization and Issuance" of Securities:

- with respect to any of the Securities, (a) the authorization by the Company of the amount, terms and issuance of such Securities (the "Authorization") and (b) the issuance of such Securities in accordance with the Authorization therefor upon the receipt by the Company of the consideration (which, in the case of shares of Common Stock or Preferred Stock, is not less than the par value of such shares) to be paid therefor in accordance with the Authorization;
- with respect to Preferred Stock, (a) the establishment of the terms of such Preferred Stock by the Company in conformity with the Charter and applicable law and (b) the execution, acknowledgement and filing with the Delaware Secretary of State, and the effectiveness of, a certificate of designations to the Charter setting forth the terms of such Preferred Stock in accordance with the Charter and applicable law; and
- with respect to Warrants or Subscription Rights, (a) the authorization, execution and delivery by the Company and the other parties thereto of any agreement under which such Securities are to be issued and (b) the establishment of the terms of such Securities, and the execution and delivery of such Securities, in conformity with any applicable agreement under which such Securities are to be issued and applicable law.

Based upon the foregoing, and subject to the additional qualifications set forth below, we are of the opinion that:

1. Upon the Future Authorization and Issuance of shares of Common Stock, such shares of Common Stock, will be validly issued, fully paid and nonassessable.
2. Upon the Future Authorization and Issuance of shares of Preferred Stock, such shares of Preferred Stock will be validly issued, fully paid and nonassessable.
3. Upon the Future Authorization and Issuance of Warrants, such Warrants will be valid and binding obligations of the Company.
4. Upon the Future Authorization and Issuance of Subscription Rights, such Subscription Rights will be valid and binding obligations of the Company.

This opinion letter and the opinions it contains shall be interpreted in accordance with the Legal Opinion Principles issued by the Committee on Legal Opinions of the American Bar Association's Business Law Section as published in 53 Business Lawyer 831 (May 1998).

We hereby consent to the inclusion of this opinion as Exhibit 5.1 to the Registration Statement and to the references to our firm under the caption "Legal Matters" in the Registration Statement. In giving our consent, we do not admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations thereunder.

Very truly yours,

/S/ Goodwin Procter LLP

GOODWIN PROCTER LLP

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in this Registration Statement on Form S-3 of our report dated March 28, 2013, except for the second paragraph in Note 1, as to which the date is January 16, 2014, relating to the consolidated financial statements and the effectiveness of internal control over financial reporting, which appears in Metabolix, Inc.'s Current Report on Form 8-K dated January 16, 2014. We also consent to the reference to us under the heading "Experts" in such Registration Statement.

/s/PricewaterhouseCoopers LLP
Boston, Massachusetts
January 16, 2014
