

BioAmber Inc.
Form 424B5
July 15, 2014
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Filed pursuant to Rule 424(b)(5)
Registration No. 333-196470

The information in this preliminary prospectus supplement is not complete and may be changed. This preliminary prospectus supplement and the accompanying prospectus are not an offer to sell these securities and we are not soliciting an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED JULY 15, 2014

Prospectus Supplement to Prospectus dated July , 2014

BioAmber Inc.

2,800,000 Shares of Common Stock

We are offering 2,800,000 shares of our common stock in this offering.

Our common stock is traded on the New York Stock Exchange under the symbol BIOA. The last reported sale price of our common stock on the New York Stock Exchange on July 14, 2014 was \$14.03 per share.

Investing in our securities involves risks. See Risk Factors beginning on page S-14 of this prospectus supplement.

	Per Share	Total
Public offering price per share	\$	\$
Underwriting discounts and commissions ⁽¹⁾	\$	\$
Proceeds, before expenses, to BioAmber Inc.	\$	\$

(1) We have agreed to reimburse the underwriters for certain FINRA-related expenses. See Underwriting. We have granted the underwriters an option for a period of 30 days from the date of this prospectus supplement to purchase up to 420,000 additional shares of common stock from us. If the underwriters exercise this option in full, the total underwriting discounts and commissions will be \$ and total proceeds, before expenses, to us will be \$.

The underwriters expect to deliver the shares on or about , 2014.

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

Credit Suisse

Prospectus Supplement dated , 2014

Canaccord Genuity

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ABOUT THIS PROSPECTUS SUPPLEMENT

This document is part of the registration statement that we filed with the Securities and Exchange Commission, or the SEC, using a shelf registration process and consists of two parts. The first part is this prospectus supplement, which describes the specific terms of this offering. The second part, the accompanying prospectus, gives more general information, some of which may not apply to this offering. Generally, when we refer only to the prospectus, we are referring to both parts combined. This prospectus supplement may add to, update or change information in the accompanying prospectus and the documents incorporated by reference into this prospectus supplement or the accompanying prospectus.

If information in this prospectus supplement is inconsistent with the accompanying prospectus or with any document incorporated by reference that was filed with the SEC before the date of this prospectus supplement, you should rely on this prospectus supplement. This prospectus supplement, the accompanying prospectus and the documents incorporated into each by reference include important information about us, the securities being offered and other information you should know before investing in our securities. You should also read and consider information in the documents we have referred you to in the sections of this prospectus supplement and the accompanying prospectus entitled *Where You Can Find Additional Information* and *Incorporation of Certain Information by Reference*.

You should rely only on this prospectus supplement, the accompanying prospectus, the information incorporated or deemed to be incorporated by reference in this prospectus supplement, the accompanying prospectus and any free writing prospectus prepared by us or on our behalf. We have not, and the underwriters have not, authorized anyone to provide you with information that is in addition to or different from that contained or incorporated by reference in this prospectus supplement and the accompanying prospectus. If anyone provides you with different or inconsistent information, you should not rely on it. We and the underwriters are not offering to sell these securities in any jurisdiction where the offer or sale is not permitted. You should not assume that the information contained or incorporated by reference in this prospectus supplement, the accompanying prospectus or any free writing prospectus is accurate as of any date other than as of the date of this prospectus supplement or the accompanying prospectus or any free writing prospectus, as the case may be, or in the case of the documents incorporated by reference, the date of such documents regardless of the time of delivery of this prospectus supplement and the accompanying prospectus or any sale of our securities. Our business, financial condition, liquidity, results of operations and prospects may have changed since those dates.

All references in this prospectus supplement or the accompanying prospectus to BioAmber, the Company, we, us, or our mean BioAmber Inc. and our subsidiaries, unless we state otherwise or the context otherwise requires.

No action is being taken in any jurisdiction outside the United States to permit a public offering of the securities or possession or distribution of this prospectus supplement or the accompanying prospectus in that jurisdiction. Persons who come into possession of this prospectus supplement or the accompanying prospectus in jurisdictions outside the United States are required to inform themselves about and to observe any restrictions as to this offering and the distribution of this prospectus supplement or the accompanying prospectus applicable to that jurisdiction.

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WHERE YOU CAN FIND ADDITIONAL INFORMATION

We have filed with the SEC a registration statement on Form S-3 (File No. 333-196470) under the Securities Act of 1933, as amended, or the Securities Act, with respect to the common stock offered by this prospectus supplement and the accompanying prospectus. This prospectus supplement and the accompanying prospectus filed as part of the registration statement do not contain all the information set forth in the registration statement and its exhibits and schedules. For further information about us, we refer you to the registration statement and to its exhibits and schedules.

We file annual, quarterly and current reports and other information with the SEC. You may read and copy any materials 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 further information about the Public Reference Room. The SEC also maintains an internet website at www.sec.gov that contains periodic and current reports, proxy and information statements, and other information regarding registrants that file electronically with the SEC.

These documents are also available, free of charge, through the Investors section of our website, which is located at www.bio-amber.com. Information contained on our website is not incorporated by reference into this prospectus supplement or the accompanying prospectus and you should not consider information on our website to be part of this prospectus supplement or the accompanying prospectus.

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INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to incorporate by reference the information we file with it, which means that we can disclose important information to you by referring you to those documents instead of having to repeat the information in this prospectus supplement and the accompanying prospectus. The information incorporated by reference is considered to be part of this prospectus supplement and the accompanying prospectus, and later information that we file with the SEC will automatically update and supersede this information. We incorporate by reference the documents listed below that we have filed with the SEC:

description of our common stock contained in our Registration Statement on Form 8-A, filed on May 1, 2013;

our Annual Report on Form 10-K for the fiscal year ended December 31, 2013, filed on March 28, 2014;

our Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2014, filed on May 13, 2014;

our Current Reports on Form 8-K filed on January 3, 2014, February 18, 2014, May 29, 2014 and June 25, 2014; and

our Proxy Statement on Schedule 14A filed on April 30, 2014.

We also incorporate by reference into this prospectus supplement and the accompanying prospectus all documents (other than current reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed on such form that are related to such items) that are filed by us with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act (i) after the date of the initial filing of the registration statement of which this prospectus supplement and the accompanying prospectus are a part and prior to effectiveness of the registration statement, or (ii) after the date of this prospectus supplement until we sell all of the shares covered by this prospectus supplement and the accompanying prospectus or the sale of shares by us pursuant to this prospectus supplement and the accompanying prospectus is terminated.

A statement contained in a document incorporated by reference into this prospectus supplement and the accompanying prospectus shall be deemed to be modified or superseded for purposes of this prospectus supplement and the accompanying prospectus to the extent that a statement contained in this prospectus supplement and the accompanying prospectus or in any other subsequently filed document which is also incorporated in this prospectus supplement and the accompanying prospectus modifies or replaces such statement. Any statements so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus supplement and the accompanying prospectus. You should not assume that the information in this prospectus supplement and the accompanying prospectus or in the documents incorporated by reference is accurate as of any date other than the date on the front of this prospectus supplement or those documents.

You may request a copy of these documents, orally or in writing, which will be provided to you at no cost by contacting: BioAmber Inc., 1250 Rene Levesque West, Suite 4110, Montreal, Quebec, Canada H3B 4W8, or calling (514) 844-8000.

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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus supplement contains or incorporates by reference statements that are not historical facts and are considered forward-looking within the meaning of Section 27A of the Securities Act and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. These forward-looking statements may contain projections of our future results of operations or of our financial position or state other forward-looking information. In some cases you can identify these statements by forward-looking words such as anticipate, believe, could, continue, estimate, expect, intend, may, should, will, would, plan, projected or the negative of such words or phrases. We believe that it is important to communicate our future expectations to our investors. However, there may be events in the future that we are not able to accurately predict or control and that may cause our actual results to differ materially from the expectations we describe in our forward-looking statements. Investors are cautioned not to unduly rely on forward-looking statements because they involve risks and uncertainties, and actual results may differ materially from those discussed as a result of various factors, including, but not limited to:

the expected funding sources of our planned Sarnia, Ontario plant and our other planned manufacturing facilities and the expected timing of the completion of construction and the start of commercial operations at each of these facilities;

our joint venture with Mitsui & Co. Ltd., or Mitsui;

our take-or-pay agreement with Vinmar International Ltd., or Vinmar, related to bio-based 1,4 butanediol, or 1,4 BDO, and bio-based succinic acid;

our take-or-pay agreement with PTT MCC Biochem Company Limited, or PTTMCC, related to bio-succinic acid from our planned Sarnia, Ontario plant;

the expected applications of our products and the sizes of addressable markets;

our ability to gain market acceptance for bio-succinic acid, its derivatives and other building block chemicals;

the benefits of our transition from our *E. coli* bacteria to our yeast;

our ability to commence commercial sales and execute on our commercial expansion plan, including the timing and volume of our future production and sales;

the expected cost-competitiveness and relative performance attributes of our bio-succinic acid and the products derived from it;

our ability to cost-effectively produce and commercialize bio-succinic acid, its derivatives and other building block chemicals;

customer qualification, approval and acceptance of our products;

our ability to maintain and advance strategic partnerships and collaborations and the expected benefits and accessible markets related to those partnerships and collaborations;

the impact of the recent off-take agreements on our business with our customers, our distributors and our current and future equity partners;

our ability to economically obtain feedstock and other inputs;

the achievement of advances in our technology platform;

our ability to obtain and maintain intellectual property protection for our products and processes and not infringe on others' rights;

government regulatory and industry certification approvals for our facilities and products;

government policymaking and incentives relating to bio-chemicals;

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and other risks and uncertainties referenced under "Risk Factors" below and in any applicable free writing prospectus and any documents incorporated by reference herein. Readers should not place undue reliance on our forward-looking statements. These forward-looking statements speak only as of the date on which the statements were made and are not guarantees of future performance. Except as may be required by applicable law, we do not undertake or intend to update any forward-looking statements after the date of this prospectus supplement or the respective dates of documents incorporated by reference herein or therein that include forward-looking statements.

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SUMMARY

This summary highlights selected information contained elsewhere or incorporated by reference in this prospectus supplement and the accompanying prospectus. This summary does not contain all the information that you should consider before investing in our securities. You should read the entire prospectus supplement and the accompanying prospectus carefully, including Risk Factors contained in this prospectus supplement, the accompanying prospectus and the documents incorporated by reference herein and therein and the financial statements incorporated by reference in this prospectus supplement and the accompanying prospectus, before making an investment decision.

Overview

We are an industrial biotechnology company producing sustainable chemicals. Our proprietary technology platform combines industrial biotechnology and chemical catalysis to convert renewable feedstocks into sustainable chemicals that are cost-competitive replacements for petroleum-derived chemicals, which are used in a wide variety of everyday products including plastics, resins, food additives and personal care products. We currently sell our first product, bio-succinic acid, to customers in a variety of chemical markets. We intend to produce bio-succinic acid that is cost-competitive with succinic acid produced from petroleum at our planned facility in Sarnia, Ontario. We currently produce our bio-succinic acid in a large-scale demonstration facility using a 350,000 liter fermenter in Pomacle, France, which we believe to be among the largest bio-based chemical fermenters in the world. We have produced approximately 3.5 million pounds, or 1.6 metric tons, of bio-succinic acid at this facility as of June 30, 2014.

Succinic acid can be used to manufacture a wide variety of products used every day, including plastics, food additives and personal care products, and can also be used as a building block for a number of derivative chemicals. Today, petroleum-derived succinic acid is not used in many potential applications because of its relatively high production costs and selling price. We believe that our low-cost production capability and our development of next-generation bio-succinic derived products including 1,4 BDO, which is used to produce polyesters, plastics, spandex and other products, will provide us with access to a more than \$10 billion market opportunity. Combining these opportunities with other building block chemicals we are developing, such as adipic acid, which is used in the production of nylons, we believe that our total addressable market is in excess of \$30 billion.

We believe we can produce bio-succinic acid that is cost-competitive with succinic acid produced from oil priced as low as \$35 per barrel, based on management's estimates of production costs at our planned facility in Sarnia, Ontario and an assumed corn price of \$6.50 per bushel. While we can provide no assurance that we will be able to secure corn at \$6.50 per bushel given the fluctuations in corn prices, we believe this assumption is reasonable given the historic price of corn and management's expectations as to their ability to manage the cost of glucose from corn and other inputs for our planned facility in Sarnia, Ontario. Over the past five years, the price of corn ranged from a low of \$2.91 per bushel to a high of \$8.44 per bushel. As of June 30, 2014, the spot price was \$4.13 per bushel and the six-month forward price was \$4.25 per bushel. We estimate that a \$1.00 increase or decrease in the per bushel price of corn would result in just a \$0.025 per pound change in our variable cost of our bio-succinic acid. We expect the productivity of our yeast organism and on-going process improvements to further reduce our production costs. Our ability to compete on cost is not dependent on government subsidies or tariffs.

We have signed a take-or-pay supply agreement with PTTMCC for the supply of bio-succinic acid for their subsequent production of bio-based polymers. We have entered into strategic relationships with several segment leaders, such as our partnership with LANXESS for phthalate-free plasticizers made with bio-succinic acid, our agreement with Inolex for the development and commercialization of succinic acid esters in personal care applications, and our collaboration with Stahl for the development of coatings made with our bio-succinic acid.

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We have also entered into technology partnerships to lower our production costs, expand our product portfolio and enhance our biochemical production platform. For example, we entered into a technology partnership with Cargill, Inc., or Cargill, through which we exclusively license a proprietary yeast organism for use in our fermentation process to produce our products. We refer to the yeast organism that we have licensed from Cargill as our yeast. We have also established other technology licenses and collaborations, including with E.I. du Pont de Nemours and Company, Evonik Industries AG and Celexion.

Our business strategy is to leverage the value of our technology by building and operating production facilities around the world. However, depending on our access to capital and third-party demand for our technology, we may also enter into technology licenses on an opportunistic basis.

In order to support our growth, we plan to rapidly expand our manufacturing capacity beyond the current production at the large-scale demonstration facility we operate in Pomacle, France. We have entered into a joint venture with Mitsui to finance, build and operate a manufacturing facility in Sarnia, Ontario through our BioAmber Sarnia joint venture in which we own a 70% equity interest and Mitsui owns the remaining 30%. The joint venture agreement, which was entered into on November 2, 2011 and amended and restated on January 24, 2014, also establishes our non-binding intent to build and operate a 1,4 BDO and/or bio-succinic acid production facility with Mitsui, which we expect to occur by the end of 2017. As part of the amendment, Mitsui increased its maximum capital commitment to the project from \$23.7 million to \$45.6 million in order to maintain a 30% equity stake in the joint venture. In exchange, Mitsui obtained the right to sell us back its shares in the Sarnia joint venture under certain specific circumstances: (i) Mitsui has the right to sell its shares and we have the obligation to purchase those shares at 100% of the investment value if the cost of the Sarnia facility is greater than \$140 million and we do not provide the additional funds to complete the facility, with a corresponding increase in our pro rata share of the joint venture; (ii) in the event of an occurrence of a dissolution event of the joint venture until December 31, 2020, Mitsui has the right to sell its shares and we have the obligation to purchase those shares at 100% of the investment value, with the dissolution event consisting of the Sarnia plant not being operational by January 31, 2016, cumulative losses accrued from 2016 through 2020 exceeding 75% of paid-in capital, no after-tax profit earned in any three consecutive years from 2016 onwards, and any act of insolvency, bankruptcy, or similar event; and (iii) until December 31, 2018, Mitsui in its sole discretion may sell its shares and we must purchase those shares at a 50% discount to their investment value.

To date, we have entered into several supply agreements and memoranda of understanding that contemplate, but do not obligate, us to supply approximately 144,000 metric tons of bio-succinic acid, and, as we continue construction of our planned facility in Sarnia, Ontario, we are actively seeking to enter into definitive supply agreements and form new relationships with potential customers. For example, on April 18, 2014, we entered into a three-year supply agreement with PTTMCC, a joint venture between PTT Public Company Limited and Mitsubishi Chemical Corporation that was established to produce and sell polybutylene succinate, or PBS, a biodegradable plastic made from succinic acid and 1,4 BDO. PTTMCC is constructing a PBS plant in Thailand that is expected to be operational in the first half of 2015 and consume approximately 14,000 tons of succinic acid per year at full capacity. This supply agreement provides that we will exclusively supply a minimum of 30% of PTTMCC's total bio-succinic needs in 2015 and 80% until the end of 2017, with approximately 40% of the total purchases under take-or-pay terms. This is one of many potential customers and applications that we are targeting for the bio-succinic acid that we plan to produce at our Sarnia facility, and we expect to enter into additional definitive supply agreements in advance of mechanical completion in late 2014 or early 2015. These supply agreements reflect our ongoing efforts to expand the succinic acid addressable market into new applications such as PBS.

We also expect to grow our revenue base by developing new value-added applications and derivative products. On January 22, 2014, we entered into a 15 year take-or-pay contract for bio-based 1,4 BDO with

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Vinmar International, Ltd., a privately held marketing, distribution, and project development company headquartered in Houston, Texas. Under the terms of the master off-take agreement, Vinmar has committed to purchase 100% of the bio-based 1,4 BDO produced in a 100,000 metric ton per year capacity plant that we plan to build in North America and commission in 2017. Vinmar also plans to invest in the facility alongside us. While this agreement is binding, our inability to finance and construct the 1,4 BDO plant would relieve Vinmar of its obligation to purchase 1,4 BDO under the terms of the take-or-pay agreement.

We are committed to managing our economic, social, environmental and ethical performance through continued sustainable business practices. We have completed a life cycle analysis for our planned facility in Sarnia that indicates that no carbon dioxide equivalent (or greenhouse gases) will be emitted per kilogram of our bio-succinic acid produced, making our process carbon neutral. This is significantly less carbon intensive than the current petrochemical process for making succinic acid, in which 7.1 kilograms of carbon dioxide equivalent are emitted per kilogram of succinic acid produced. This represents a 100% reduction in greenhouse gases for our bio-succinic acid process, relative to the current petrochemical process for making succinic acid. The life cycle analysis also indicates that our planned facility in Sarnia will consume 60% less energy than the current petrochemical process.

We were incorporated in the state of Delaware in October 2008 as DNP Green Technology, Inc. and were established as the result of the spin-off of certain assets from Diversified Natural Products, Inc. In September 2010, we acquired the 50% interest in our joint venture BioAmber S.A.S. that we did not already own, after which, BioAmber S.A.S. became wholly owned by us. Concurrent with this acquisition, we changed our name from DNP Green Technology, Inc. to BioAmber Inc. and changed our fiscal year end from June 30 to December 31.

Our principal executive offices are located at 1250 Rene Levesque West, Suite 4110, Montreal, Quebec, Canada H3B 4W8, and our principal research and development facility is located at 3850 Annapolis Lane North, Suite 180, Plymouth, Minnesota, United States of America, 55447. Our telephone number in the United States is (763) 253-4480 and our telephone number in Canada is (514) 844-8000. Our website address is www.bio-amber.com. We do not incorporate the information on or accessible through our website into this prospectus supplement or accompanying prospectus, and you should not consider any information on, or that can be accessed through, our website as part of this prospectus supplement or accompanying prospectus.

Recent Developments

Comerica, Export Development Canada, and Farm Credit Canada Senior Secured Term Loan

On June 20, 2014, our BioAmber Sarnia joint venture signed a loan agreement with a financial consortium, comprised of Export Development Canada, Farm Credit Canada and Comerica Bank, for a senior secured loan in the principal amount of CAD\$20.0 million. The loan will bear interest at a floating interest rate per annum based on the greater of (i) the Canadian prime rate and (ii) the Canadian dealer offered rate plus 1%, in either case plus an interest spread of 5%. There will be an initial interest-only period from draw down of the term loan until the first payment of principal. The loan's principal will be repaid in 26 equal, quarterly installments beginning three months after the completion of the commissioning and start-up phase of the Sarnia plant, but at the latest on June 30, 2015. The disbursement of the loan, net of a 2.5% upfront loan fee which is due and payable 30 days after the date of the agreement, is subject to customary conditions, including continued progress on the construction of the Sarnia plant, which are expected to be met in or around December 2014. Until drawdown of the CAD\$20.0 million term loan, BioAmber Sarnia will pay a 1.0% per annum commitment fee on the undrawn amount. BioAmber Sarnia may prepay all or a portion of the loan outstanding from and after the date of the first principal repayment, without penalty. BioAmber Sarnia's obligations under the loan are secured by (i) a security interest on all of BioAmber Sarnia's assets and (ii) a pledge of all the shares of BioAmber Sarnia. In addition, we will provide the lenders with a guarantee representing 70% of the secured

obligations under the loan, and

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Mitsui & Co., Ltd. will provide a guarantee representing 30% of the secured obligations under the loan that is capped at CAD\$6.0 million plus all accrued interest on the secured obligations and fees and expenses. The proceeds of the loan will be used by BioAmber Sarnia to complete the ongoing construction of the Sarnia Plant and fund its startup and commissioning. The loan agreement contains certain representations and warranties, affirmative covenants, negative covenants and conditions that are customarily required for similar financings, including in connection with the disbursement of the loan. The financial covenants require BioAmber Sarnia to maintain a minimum debt service ratio of 1.75 on a historical basis, at the end of any and each quarter during the term of the loan. The agreement also contains customary events of default (subject, in certain instances, to specified grace periods) including, but not limited to, the failure to make payments of interest or premium, if any, on, or principal under the loan, the failure to comply with certain covenants and agreements specified in the agreement, the occurrence of a material adverse effect, defaults in respect of certain other indebtedness and agreements, and certain events of insolvency. If an event of default occurs, the principal, premium, if any, interest and any other monetary obligations on all the then outstanding amounts under the loan may become due and payable immediately.

Additional SDTC Grant

On July 2, 2014, we announced that our BioAmber Sarnia subsidiary had secured a CAD\$7.0 million increase in the initial grant of CAD\$7.5 million from Sustainable Development Technology Canada (SDTC) pursuant to a contribution agreement dated November 29, 2011. This grant, now totaling CAD\$14.5 million, is and will be used to support the ongoing construction of the Sarnia Plant.

Vinmar Master Product Offtake Agreement

On July 3, 2014, we signed a master product offtake agreement with Vinmar International, Ltd. having three components. The first component is Vinmar committing to purchase and BioAmber Sarnia committing to sell 10,000 metric tons of succinic acid per year produced by the 30,000 ton per year plant that is currently under construction in Sarnia, Canada, during a 15-year period commencing upon the completion of the commissioning and start-up phase of the plant. The second component is the broadening of the scope of our previously announced 100,000 metric ton per year 1,4 BDO plant, which we currently plan to start up in late 2017, by expanding the production of this second plant to include 70,000 metric tons of bio-based succinic acid, of which Vinmar has committed to purchase and we have committed to sell a minimum of 50,000 metric tons for a period of 15 years from this second plant's start-up date. The third component involves a third plant producing 200,000 metric tons of bio-based succinic acid per year, which we currently plan to start up in late 2020, and Vinmar's commitment to purchase and our commitment to sell a minimum of 150,000 metric tons of this plant's production for a period of 15 years from this third plant's start-up date. Vinmar also has the option to secure additional bio-succinic acid tonnage under the agreement if we have not committed the remaining volume of either the second or the third plant at the time their respective financing is secured. Vinmar plans to make a 10% or greater equity investment in each of the expanded second plant and the third plant. Both Vinmar's and our obligations in connection with each of the second and third plants are subject to their respective financing, construction and commissioning. As with our January 2014 agreement with Vinmar, though this agreement is binding, our inability to finance and construct either the second or third plant would relieve Vinmar of its obligation to purchase products from that plant under the terms of this agreement.

Other Updates

Our cash on hand is expected to be approximately \$54 million at June 30, 2014. The Sarnia facility continues to be on budget and is expected to be mechanically complete by early 2015.

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THE OFFERING

Common stock offered by us	2,800,000 shares. We have also granted the underwriters a 30-day option to purchase up to 420,000 additional shares.
Common stock outstanding following the offering	21,361,869 shares (or 21,781,869 shares if the underwriters exercise their option to purchase additional shares in full).
Use of proceeds	We estimate that the net proceeds from this offering will be approximately \$ (or approximately \$ if the underwriters exercise their option to purchase additional shares in full) after deducting underwriting discounts and commissions and estimated offering expenses. We intend to use the proceeds from this offering for working capital and other general corporate purposes. See Use of Proceeds .
New York Stock Exchange symbol	BIOA
Risk factors	Investing in our securities involves risks. See Risk Factors beginning on page S-14 of this prospectus supplement and other information included or incorporated into this prospectus supplement and the accompanying prospectus for a discussion of the factors you should carefully consider before deciding to invest in our securities.

The number of shares of our common stock to be outstanding after this offering is based on 18,561,869 shares of common stock outstanding as of March 31, 2014, and excludes:

4,342,841 shares of common stock issuable upon the exercise of stock options outstanding as of March 31, 2014, at a weighted average exercise price of \$8.49 per share;

1,096,832 shares of our common stock reserved for future issuance under our equity incentive plans as of March 31, 2014; and

5,308,801 shares of common stock issuable upon the exercise of warrants outstanding as of March 31, 2014, at a weighted average exercise price of \$9.00 per share.

Except as otherwise indicated, all information in this prospectus supplement is as of March 31, 2014, and assumes no exercise by the underwriters of their option to purchase up to an additional 420,000 shares of common stock in this offering.

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SUMMARY CONSOLIDATED FINANCIAL DATA

The following tables set forth summary financial data and other operating information of the Company. The summary statements of operations for the years ended December 31, 2013, 2012 and 2011 and for the period from October 15, 2008 (inception) to December 31, 2013 and the balance sheet data as of December 31, 2013 and 2012 as set forth below are derived from our audited consolidated financial statements included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2013 and incorporated by reference herein. We derived the consolidated financial data for the year ended June 30, 2010 and six months ended December 31, 2010, and as of December 31, 2011 and 2010 and June 30, 2010, from audited consolidated financial statements which are not included or incorporated by reference in this prospectus statement. The consolidated statements of operations data for the three months ended March 31, 2014 and 2013 and for the period from October 15, 2008 (inception) to March 31, 2014 and the consolidated balance sheet data as of March 31, 2014 are derived from our unaudited interim consolidated financial statements included in our Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2014 and incorporated by reference herein. The unaudited interim consolidated financial statements have been prepared to the same basis as the audited consolidated financial statements and, in the opinion of management, reflect all adjustments of a normal recurring nature considered necessary to present fairly our financial position. The information is only a summary and you should read it in conjunction with our audited consolidated financial statements, including the related notes, and other financial information and Management's Discussion and Analysis of Financial Condition and Results of Operations included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2013 and our Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2014 and incorporated by reference herein. Historical results are not necessary indicative of the results for future periods.

Table of Contents**Consolidated Statement of Operations Data:**

	12 Months ended Dec. 31, 2013	12 Months ended Dec. 31, 2012	12 Months ended Dec. 31, 2011	6 Months ended Dec. 31, 2010	12 Months ended June 30, 2010	3 Months ended March 31, 2014	3 Months ended March 31, 2013	Period from October 15, 2008 (inception) to Dec. 31, 2013	Period from October 15, 2008 (inception) to Dec. 31, 2013
(in thousands, except share and per share data)									
Revenue	\$ 2,665	\$ 2,291	\$ 560	\$ 75	\$ 966	\$ 351	\$ 331	\$ 1,301	\$ 1,301
Cost of sales	2,665	2,291	560	75	966	351	331	6,818	6,818
Cost of goods sold	2,689	1,746	837			280	199	5,272	5,272
Profit (loss)	(24)	545	(277)	75	966	71	132	1,546	1,546
Operating expenses									
Depreciation and amortization	9,757	11,665	6,776	1,590	1,543	2,919	2,338	31,983	31,983
Interest expense, net ⁽²⁾	16,579	20,417	16,717	4,841	1,458	3,314	6,099	60,416	60,416
Marketing expenses	4,730	4,193	2,471	103	59	1,111	1,095	11,556	11,556
Impairment loss on intangible assets	1,165	2,116	522	264	484	60	533	4,813	4,813
Impairment loss on other assets	8,619	1,213						9,961	9,961
Gain on exchange of assets	306	50	99	(26)	121	168	(88)	559	559
Other operating expenses	41,156	39,654	26,585	6,772	3,665	7,572	9,978	119,288	119,288
Operating loss	41,180	39,109	26,862	6,697	2,699	7,501	9,846	117,742	117,742
Gain on disposition of financing debt	240	100	12	2	157	73	69	526	526
Loss on disposition of financing debt	(7,433)		3,870	155	962	12,353		(1,790)	(1,790)

charges net ⁽³⁾										
debt										
payment	(314)							(314)		(314)
revenue										
related parties				(73)	(89)					(162)
participation										
of equity										
items ⁽⁴⁾	15	274		1,548	4,340			15		7,063
payment of										
S.A.S. ⁽⁴⁾				(6,216)						(6,216)
pre income										
	33,688	39,483	26,585	2,113	8,069	19,927	9,616	116,849		
expenses	103	55	108			25		(634)		
	\$ 33,791	\$ 39,538	\$ 30,852	\$ 2,113	\$ 8,069	\$ 19,952	\$ 9,616	\$ 116,215	\$	
attributable										
for Inc.										
owners	\$ 33,218	\$ 39,351	\$ 30,621	\$ 2,011	\$ 7,992	\$ 19,911	\$ 9,500	\$ 115,044	\$	
controlling	573	187	231	102	77	41	116	1,171		
	\$ 33,791	\$ 39,538	\$ 30,852	\$ 2,113	\$ 8,069	\$ 19,952	\$ 9,616	\$ 116,215	\$	
per share										
available to										
owners basic ⁽⁵⁾	\$ 2.13	\$ 3.82	\$ 3.89	\$ 0.45	\$ 2.75	\$ 1.07	\$ 0.92			
weighted-average										
number of shares										
outstanding basic	15,590,814	10,296,633	7,864,371	4,497,258	2,905,876	18,559,652	10,370,815			

(1) Consists of licensing fees charged to Bioamber S.A.S. prior to our acquisition of control of Bioamber S.A.S. effective October 1, 2010.

(2) Research and development expenses include some costs of production related to product development and are net of research and development tax credits.

(3) Financial charges consist primarily of accreted interest on convertible notes we issued in June 2009 and November 2010 and which were subsequently converted to shares of common stock. Financial charges also include the recording of the increases in fair value of contingent consideration in connection with the acquisition of Sinoven and held in escrow until September 30, 2011. This escrow was modified on October 1, 2011 when we acquired the remaining 25% of Sinoven and on March 1, 2013 pursuant to entering into a Termination and Release Agreement. For the year ended December 31, 2013, financial charges (income), include interest on long-term debt, end of term charge accretion from the HTGC loan, and the recognition of gains or losses resulting from the mark-to-market adjustment required at the balance sheet date on the warrants issued in connection with the IPO completed on May 9, 2013.

(4)

Until October 1, 2010, when we took control of Bioamber S.A.S., we recorded our share of Bioamber S.A.S.'s losses in excess of the investment's book value. Upon completion of our acquisition of Bioamber S.A.S., the 50% held equity interest, net of long-term accounts receivable from Bioamber S.A.S., was re-measured to its estimated fair value resulting in a gain of \$6,216,000 in the six months ended December 31, 2010. See note 4 to our audited consolidated financial statements incorporated herein by reference.

(5) We have incurred losses in each period since inception, accordingly, diluted loss per share is not presented.

Table of Contents**Consolidated Balance Sheet Data:**

	As of March 31, 2014	As of December 31, 2013	As of December 31, 2012	As of December 31, 2011	As of December 31, 2010	As of June 30, 2010
Cash	\$ 73,022	\$ 83,728	\$ 25,072	\$ 47,956	\$ 1,268	\$ 4,114
Working capital	61,509	77,150	22,162	44,910	(2,438)	3,573
Total assets	117,236	114,079	50,004	68,096	20,879	14,936
Long-term debt, including current portion	29,954	29,730	2,600	255		
Total liabilities	61,294	46,945	12,206	8,681	7,024	7,351
Accumulated deficit	(134,955)	(115,044)	(81,826)	(42,475)	(11,854)	(9,843)
Shareholders equity	45,995	67,134	37,798	59,415	13,855	7,585

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RISK FACTORS

Investing in our securities involves a high degree of risk. In addition to the other information contained in this prospectus supplement to the accompanying prospectus and in the documents we incorporate by reference, you should carefully consider the risks discussed below and under the heading Risk Factors in our Annual Report on Form 10-K for the fiscal year ended December 31, 2013 and in our Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2014 before making a decision about investing in our securities. The risks and uncertainties discussed below and in our Annual Report on Form 10-K for the fiscal year ended December 31, 2013 and in our Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2014 are not the only ones facing us. Additional risks and uncertainties not presently known to us may also harm our business. If any of these risks occur, our business, financial condition and operating results could be harmed, the trading price of our common stock could decline and you could lose part or all of your investment.

Risks Related to this Offering and Our Common Stock

Our stock price has been and could remain volatile, which could further adversely affect the market price of our stock, our ability to raise additional capital and/or cause us to be subject to securities class action litigation.

The market price of our common stock has historically experienced and may continue to experience significant volatility. Between June 10, 2013 (the date our common stock commenced trading) and June 30, 2014, the sales price of our common stock fluctuated from a high of \$15.05 per share to a low of \$3.96, and on July 14, 2014, the closing sale price of our common stock was \$14.03 per share. Our planned completion of construction and start of commercial operations of our planned Sarnia, Ontario plant, our ability to commence commercial sales and execute on our commercial expansion plan, our quarterly operating results, our perceived prospects, changes in securities analysts recommendations or earnings estimates and our ability to meet such estimates, changes in general conditions in the economy or the financial markets, adverse events related to our strategic relationships, significant sales of our common stock by existing stockholders, and other developments affecting us or our competitors could cause the market price of our common stock to fluctuate substantially. In addition, in recent years, the stock market has experienced significant price and volume fluctuations. This volatility has affected the market prices of securities issued by many companies for reasons unrelated to their operating performance and may adversely affect the price of our common stock. Such market price volatility could adversely affect our ability to raise additional capital. In addition, we may be subject to securities class action litigation as a result of volatility in the price of our common stock, which could result in substantial costs and diversion of management's attention and resources and could harm our stock price, business, prospects, results of operations and financial condition.

The market price of our common stock may be adversely affected by market conditions affecting the stock markets in general, including price and trading fluctuations on the New York Stock Exchange.

Market conditions may result in volatility in the level of, and fluctuations in, market prices of stocks generally and, in turn, our common stock and sales of substantial amounts of our common stock in the market, in each case being unrelated or disproportionate to changes in our operating performance. The overall weakness in the economy has recently contributed to the extreme volatility of the markets which may have an effect on the market price of our common stock.

Future sales of common stock or warrants by existing stockholders could cause our stock price to decline.

If our existing stockholders sell, or indicate an intent to sell, substantial amounts of our common stock or warrants in the public market, the trading price of our common stock or warrants could decline significantly. We cannot predict

the effect, if any, that future public sales of these securities or the availability of these securities for sale will have on the market price of our securities. Holders of 8,488,213 shares of our common stock, including the shares of common stock issuable upon exercise of warrants in existence prior to our initial public

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offering, have the right to require us to register these shares under the Securities Act pursuant to a shareholders agreement. If our existing stockholders sell substantial amounts of our common stock or warrants in the public market, or if the public perceives that such sales could occur, this could have an adverse impact on the market price of our securities, even if there is no relationship between such sales and the performance of our business.

Our financial results could vary significantly from quarter to quarter and are difficult to predict.

Our quarterly operating results may fluctuate significantly in the future. As a result of these fluctuations, we may fail to meet or exceed the expectations of research analysts covering the company or of investors, which could cause the market price of our securities to decline. Future quarterly fluctuations, many of which are beyond our control, may result from a number of factors, including but not limited to:

the timing and cost associated with the completion of our planned manufacturing facilities;

the level and timing of expenses for product development and sales, general and administrative expenses;

delays or greater than anticipated expenses associated with the scale-up and the commercialization of chemicals produced using our processes;

our ability to successfully enter into or maintain partnering arrangements, and the terms of those relationships;

commercial success with our existing product and success in identifying and sourcing new product opportunities;

the development of new competitive technologies or products by others and competitive pricing pressures;

fluctuations in the prices or availability of the feedstocks required to produce chemicals using our processes or those of our competitors;

changes in demand for our products, including any seasonal variations in demand;

changes in product development costs due to the achievement of certain milestones under third-party development agreements;

changes in the amount that we invest to develop, acquire or license new technologies and processes;

business interruptions, including disruptions in the production process at any facility where chemicals produced using our processes are manufactured as well as a result of changes in the technologies we employ, including our transition from our *E. coli* bacteria to our yeast;

departures of executives or other key management employees;

foreign exchange fluctuations;

changes in general economic, industry and market conditions, both domestically and in our foreign markets;
and

changes in governmental, accounting and tax rules and regulations, environmental, health and safety requirements, and other rules and regulations.

Based on the above factors and other uncertainties, we believe our future operating results will vary significantly from quarter-to-quarter and year-to-year. As a result, quarter-to-quarter and year-to-year comparisons of operating results are not necessarily meaningful nor do they indicate what our future performance will be.

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We will have broad discretion in how we use the net proceeds of this offering. We may not use these proceeds effectively, which could affect our results of operations and cause our stock price to decline.

We will have considerable discretion in the application of the net proceeds of this offering. We currently intend to use the net proceeds from this offering for working capital and other general corporate purposes. As a result, investors will be relying upon management's judgment with only limited information about our specific intentions for the use of the net proceeds of this offering. We may use the net proceeds for purposes that do not yield a significant return or any return at all for our stockholders. In addition, pending their use, we may invest the net proceeds from this offering in a manner that does not produce income or that loses value.

Provisions of Delaware law and our charter documents could delay or prevent an acquisition of our company and could make it more difficult for you to change management.

Provisions of our amended and restated certificate of incorporation and amended and restated by-laws may discourage, delay or prevent a merger, acquisition or other change in control that stockholders may consider favorable, including transactions in which stockholders might otherwise receive a premium for their shares. These provisions may also prevent or delay attempts by stockholders to replace or remove our current management or members of our board of directors. These provisions include:

a classified board of directors;

limitations on the removal of directors;

advance notice requirements for stockholder proposals and nominations;

the inability of stockholders to act by written consent or to call special meetings;

the ability of our board of directors to make, alter or repeal our amended and restated by-laws; and

the authority of our board of directors to issue blank check preferred stock, the terms of which may be established and the shares of which may be issued without stockholder approval.

The affirmative vote of the holders of not less than 75% of our shares of capital stock entitled to vote, and not less than 75% of the outstanding shares of each class entitled to vote thereon as a class, is generally necessary to amend or repeal the above provisions that are contained in our amended and restated certificate of incorporation. Also, absent approval of our board of directors, our amended and restated by-laws may only be amended or repealed by the affirmative vote of the holders of at least 75% of our shares of capital stock entitled to vote.

In addition, we are subject to the provisions of Section 203 of the Delaware General Corporation Law, which limits business combination transactions with stockholders of 15% or more of our outstanding voting stock that our board of directors has not approved. These provisions and other similar provisions make it more difficult for stockholders or potential acquirers to acquire us without negotiation. These provisions may apply even if some stockholders may

consider the transaction beneficial to them.

As a result, these provisions could limit the price that investors are willing to pay in the future for shares of our common stock. These provisions might also discourage a potential acquisition proposal or tender offer, even if the acquisition proposal or tender offer is at a premium over the then current market price for our common stock.

We do not intend to pay cash dividends. We have never paid dividends on our capital stock and we do not anticipate paying any dividends in the foreseeable future. Consequently, any gains from an investment in our securities will likely depend on whether the price of our common stock increases.

We have not paid dividends on any of our capital stock to date and we currently intend to retain our future earnings, if any, to fund the development and growth of our business. As a result, capital appreciation, if any, of

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our common stock will be your sole source of gain for the foreseeable future. Consequently, in the foreseeable future, you will likely only experience a gain from your investment in our securities if the price of our common stock increases.

We have incurred and will continue to incur significant costs as a result of operating as a public company and our management is required to devote substantial time to new compliance initiatives.

As a public company and particularly after we cease to be an emerging growth company (and cease to take advantage of certain exceptions from reporting requirements that are available under the Jumpstart Our Business Startups Act of 2012, or the JOBS Act, as an emerging growth company), we have incurred and will incur significant legal, accounting, administrative and other costs and expenses that we did not face as a private company. As a public company, we are subject to rules and regulations that regulate corporate governance practices of public companies, including the Exchange Act, the Sarbanes-Oxley Act of 2002, as amended, or the Sarbanes-Oxley Act, and rules promulgated by the New York Stock Exchange, or NYSE. The compliance with these public company requirements increased and will increase our costs and make some activities more time consuming and may result in a diversion of management's time and attention from revenue-generating activities. For example, we created new board committees, adopted new internal controls and disclosure controls and procedures, and devoted significant management resources to our SEC reporting requirements. A number of those requirements require us to carry out activities we did not perform as a private company. Furthermore, if we are unable to build our internal controls and accounting capabilities or subsequently identify any issues in complying with those requirements (for example, if we or our registered public accounting firm identify a material weakness or significant deficiency in our internal control over financial reporting), we could incur additional costs rectifying those issues, and the existence of those issues could adversely affect us, our reputation or investor perceptions of us. The additional reporting and other obligations imposed on us by these rules and regulations increased our legal and financial compliance costs and the costs of our related legal, accounting and administrative activities significantly. These increased costs required and will continue to require us to divert a significant amount of money that we could otherwise use to expand our business and achieve our strategic objectives.

We are an emerging growth company and have elected to take advantage of reduced reporting requirements applicable to emerging growth companies, which could make our securities less attractive to investors.

We are an emerging growth company, as defined in the JOBS Act, and we have elected to take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not emerging growth companies, including, but not limited to, not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act, or Section 404, reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements, exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and shareholder approval of any golden parachute payments not previously approved, and delaying the adoption of new or revised accounting standards until they are applicable to private companies. As a result of our election to use the extended transition period provided in Section 7(a)(2)(B) of the Securities Act, our financial statements may not be comparable to companies that comply with new or revised accounting standards on the relevant dates on which adoption of such standards is required for companies that comply with public company effective dates. We cannot predict if investors will find our securities less attractive as a result of our choice to rely on these exemptions. If some investors find our securities less attractive as a result, there may be a less active trading market for our securities and the market price of our securities may be more volatile.

We will remain an emerging growth company for up to five years after our initial public offering that took place in May 2013, or until the earliest of (i) the last day of the first fiscal year in which our annual gross revenues exceed \$1 billion, (ii) the date that we become a large accelerated filer as defined in Rule 12b-2 under the Exchange Act, which would occur if the market value of our common stock that is held by non-affiliates exceeds \$700 million as of the last

business day of our most recently completed second fiscal quarter, or (iii) the date on which we have issued more than \$1 billion in non-convertible debt during the preceding three-year period.

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If we fail to augment and maintain an effective system of internal controls, we might not be able to report our financial results accurately or prevent fraud. In that case, our stockholders could lose confidence in our financial reporting, which would harm our business and could negatively impact the price of our securities.

Our management is required to deliver a report that assesses the effectiveness of our internal control over financial reporting. Additionally, Section 404 may require our auditors to deliver an attestation report on the effectiveness of our internal controls over financial reporting in conjunction with their opinion on our audited financial statements beginning with the annual report that we will be required to file with SEC for the fiscal year ending December 31, 2014. However, we have elected to take advantage of certain exceptions from reporting requirements that are available to emerging growth companies under the JOBS Act and therefore we will not be required to make our first annual assessment of our internal control over financial reporting pursuant to Section 404 until after the date we are no longer an emerging growth company as defined in the JOBS Act, which may be up to five years from our initial public offering.

The process of designing and implementing effective internal controls and procedures, and expanding our internal accounting capabilities, is a continuous effort that requires us to anticipate and react to changes in our business and the economic and regulatory environments and to expend significant resources to establish and maintain a system of internal controls that is adequate to satisfy our reporting obligations as a public company. The standards that must be met for management to assess the internal control over financial reporting as effective are complex, and require significant documentation, testing and possible remediation to meet the detailed standards. We cannot be certain at this time whether we will be able to successfully complete the implementation of controls and procedures or the certification and attestation requirements of Section 404. Our independent auditors have previously identified significant deficiencies that we have since remediated. In the future we may have additional significant deficiencies, which could cause us to fail to meet the periodic reporting obligations that we will be subject to under Section 404 or result in material misstatements in our financial statements. If we identify and report a material weakness or any additional significant deficiencies, it could adversely affect our stock price.

Investors in this offering will experience immediate and substantial dilution.

If you purchase shares in this offering, you will incur immediate and substantial dilution of \$ per share, representing the difference between the price per share you pay and the net tangible book value per share of our common stock immediately after this offering. Any exercise of outstanding stock options, warrants or other equity awards will result in further dilution. For a further description of the dilution that you will experience immediately after this offering, see Dilution.

If securities or industry research analysts cease publishing research or reports about our business or if they issue unfavorable commentary or downgrade our common stock, the market price of our securities and trading volume could decline.

The trading market for our securities relies in part on the research and reports that securities and industry research analysts publish about us, our industry and our business. We cannot assure you that any research analysts, including those in the United States and Europe, will continue to provide research coverage on us or our securities. We do not have any control over these analysts. The market price of our securities and trading volumes could decline if one or more securities or industry analysts downgrade our securities, issue unfavorable commentary about us, our industry or our business, cease to cover our company or fail to regularly publish reports about us, our industry or our business.

We have listed our common stock on the Professional Segment of NYSE Euronext in Paris under the symbol BIOA, and therefore, the risks relating to our common stock, as set out above, apply in similar respects to investors trading

our common stock on NYSE Euronext Paris. In addition, investors trading our common stock on NYSE Euronext Paris should consider the following additional risks relating specifically to the listing and trading of our common stock on NYSE Euronext Paris.

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The dual listing of our common stock on NYSE and NYSE Euronext Paris may adversely affect the liquidity and trading prices for our common stock on one or both of the exchanges as a result of circumstances that may be outside of our control.

Although we believe the dual listing of our common stock is beneficial for the liquidity of our common stock as it permits a broader base of investors to purchase shares of our common stock in secondary trading, it may also adversely affect liquidity and trading prices for our common stock on one or both of the exchanges as a result of circumstances that may be outside of our control. For example, transfers by investors of our shares from trading on one exchange to the other could result in increases or decreases in liquidity and/or trading prices on either or both of the exchanges. In addition, investors could seek to sell or buy our common stock to take advantage of any price differences between the two markets through a practice referred to as arbitrage. Any arbitrage activity could create unexpected volatility in both our common stock prices on either exchange and the volumes of shares of our common stock available for trading on either exchange.

Our common stock is dual listed and trades in U.S. dollars on NYSE and in Euros on NYSE Euronext Paris, and the trading price of our common stock on NYSE Euronext Paris and the value of dividends, if any, paid on our common stock to investors who hold our common stock on NYSE Euronext Paris and elect to receive dividends in Euros may be materially adversely affected by fluctuations in the exchange rate for converting U.S. dollars into Euros.

Our common stock trades in U.S. dollars on NYSE and in Euros on NYSE Euronext Paris. Fluctuations in the exchange rate for converting U.S. dollars into Euros may affect the value of our common stock. Specifically, as the value of the U.S. dollar relative to the Euro declines, each of the following values will also decline (and vice versa):

the Euro equivalent of the U.S. dollar trading price of our common stock on NYSE, which may consequently cause the trading price of our common stock on NYSE Euronext Paris to also decline; and

the Euro equivalent of cash dividends paid in U.S. dollars on our common stock if investors holding our common stock on NYSE Euronext Paris request dividends to be paid in Euros.

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USE OF PROCEEDS

We expect to receive approximately \$ million in net proceeds from this offering. If the underwriters exercise their option to purchase additional shares in full, the net proceeds of this offering will be approximately \$. Net proceeds is what we expect to receive after deducting the underwriting discounts and commissions, as described in Underwriting below, and other estimated offering expenses payable by us, which include legal, accounting and printing fees.

We intend to use the net proceeds from this offering for working capital and other general corporate purposes. Until we use the net proceeds of this offering, we intend to invest the funds in short-term, investment grade, interest-bearing securities.

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If you invest in our common stock, your ownership interest will be diluted by the difference between the price per share you pay and the net tangible book value per share of our common stock immediately after this offering.

Our net tangible book value as of March 31, 2014, was approximately \$50.5 million, or \$2.72 per share of our common stock, based upon 18,561,869 shares of our common stock outstanding as of that date. Net tangible book value per share is determined by dividing our total tangible assets, less total liabilities, by the number of shares of our common stock outstanding as of March 31, 2014. Dilution in net tangible book value per share represents the difference between the amount per share paid by purchasers of shares of common stock in this offering and the net tangible book value per share of our common stock immediately after this offering.

After giving effect to the sale of 2,800,000 shares of our common stock in this offering at the public offering price of \$ _____ per share and after deducting the underwriting discounts and commissions and estimated offering expenses payable by us, our as adjusted net tangible book value as of March 31, 2014, would have been approximately \$ _____ million, or \$ _____ per share. This represents an immediate increase in net tangible book value of \$ _____ per share to existing stockholders and immediate dilution in net tangible book value of \$ _____ per share to new investors purchasing our common stock in this offering at the public offering price. The following table illustrates this dilution on a per share basis:

Public offering price per share		\$
Net tangible book value per share as of March 31, 2014	\$ 2.72	
Increase in net tangible book value per share attributable to this offering	\$	
Adjusted net tangible book value per share as of March 31, 2014, after giving effect to this offering		\$
Dilution in net tangible book value per share to new investors		\$
If the underwriters exercise their option in full to purchase additional shares in this offering, the adjusted net tangible book value will increase to \$ _____ million representing an immediate dilution of \$ _____ per share to new investors.		

The foregoing table and discussion is based on 18,561,869 shares of common stock outstanding as of March 31, 2014, and excludes:

4,342,841 shares of common stock issuable upon the exercise of stock options outstanding as of March 31, 2014, at a weighted average exercise price of \$8.49 per share;

1,096,832 shares of our common stock reserved for future issuance under our equity incentive plans as of March 31, 2014; and

5,308,801 shares of common stock issuable upon the exercise of warrants outstanding as of March 31, 2014, at a weighted average exercise price of \$9.00 per share.

To the extent that outstanding stock options, warrants or other equity awards are exercised or become vested or any additional options, warrants or other equity awards are granted and exercised or become vested or other issuances of

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

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Our common stock and warrants have traded on the NYSE since June 10, 2013, when the units issued in our initial public offering on May 9, 2013 were split into our common stock, trading under the symbol **BIOA**, and our warrants, trading under the symbol **BIOA.WS**. In connection with the initiation of the separate trading of our common stock and warrants, the trading of the units was suspended and the units were delisted from the NYSE. The following table shows the high and low sale prices per share of our common stock and per warrant as reported on the NYSE for the periods indicated:

	Common Stock		Warrants	
	High	Low	High	Low
Year ended December 31, 2014				
1st Quarter	\$ 15.05	\$ 7.37	\$ 3.13	\$ 0.75
2nd Quarter	\$ 12.99	\$ 9.05	\$ 2.88	\$ 1.68
3rd Quarter (through July 14, 2014)	\$ 14.10	\$ 9.75	\$ 2.79	\$ 2.40
Year ended December 31, 2013				
2nd Quarter (beginning June 10, 2013) ⁽¹⁾	\$ 8.31	\$ 6.30	\$ 1.00	\$ 0.15
3rd Quarter	\$ 7.75	\$ 3.96	\$ 0.99	\$ 0.50
4th Quarter	\$ 8.23	\$ 4.98	\$ 1.14	\$ 0.51

(1) From May 10, 2013 through June 7, 2013 our units traded on the NYSE under the symbol **BIOA.U**. The high and low sales prices per unit as reported on the NYSE during the period May 10, 2013 through June 7, 2013 were \$10.05 and \$7.01, respectively.

On July 14, 2014, the last reported sale price for our common stock on the NYSE was \$14.03 per share, and the last reported sale price for our warrants was \$2.79 per warrant. As of July 9, 2014, there were approximately 117 record holders of our common stock and approximately 28 record holders of our warrants.

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DIVIDEND POLICY

We have never declared or paid dividends on our common stock and we do not anticipate paying any dividends in the foreseeable future. We currently intend to retain all available funds and any future earnings to fund the development and growth of our business. Any future determination to declare dividends will be subject to the discretion of our board of directors and will depend on various factors, including applicable laws, our result of operations, financial condition, future prospects and any other factors deemed relevant by our board of directors. In addition, pursuant to the terms of the loan and security agreement we entered into with Hercules Technology Growth Capital, Inc., or HTGC, on June 27, 2013, we are prohibited from declaring any cash dividends or making any cash distribution on any class of stock or other equity interest so long as the loan from HTGC, which matures on June 1, 2016, has not been repaid in full. Investors should not purchase our common stock with the expectation of receiving dividends.

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Table of Contents**CAPITALIZATION**

The following table sets forth our cash and capitalization as of March 31, 2014:

on an actual basis; and

on an as adjusted basis to give effect to our sale in this offering of 2,800,000 shares of common stock at \$ per share and after deducting underwriting discounts and commissions and estimated offering expenses payable by us.

You should read this table in conjunction with Use of Proceeds as well as our Management's Discussion and Analysis of Financial Condition and Results of Operations and our consolidated financial statements, including the related notes, incorporated by reference into this prospectus supplement and the accompanying prospectus from our Annual Report on Form 10-K for the fiscal year ended December 31, 2013 and our Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2014.

	As of March 31, 2014	
	Actual	As Adjusted
	(unaudited)	
	(in thousands, except share	
	and per share data)	
Cash	\$ 73,022	\$
Long term debt, including current portion	29,954	29,954
Warrants financial liability	17,440	17,440
Redeemable non-controlling interest	9,947	9,947
Stockholders' equity:		
Common stock, par value \$0.01 per share; 250,000,000 shares authorized; 18,561,869 shares issued and outstanding, actual; 21,361,869 shares issued and outstanding, as adjusted	186	
Preferred stock, par value \$0.01 per share; 5,000,000 authorized, zero shares issued or outstanding actual and as adjusted		
Additional paid-in capital	178,766	
Warrants	2,962	2,962
Accumulated deficit	(135,919)	(135,919)
Total stockholders' equity	45,995	
Total capitalization	\$ 85,896	\$

The number of shares of our common stock to be outstanding after this offering is based on 18,561,869 shares of common stock outstanding as of March 31, 2014, and excludes:

4,342,841 shares of common stock issuable upon the exercise of stock options outstanding as of March 31, 2014, at a weighted average exercise price of \$8.49 per share;

1,096,832 shares of our common stock reserved for future issuance under our equity incentive plans as of March 31, 2014; and

5,308,801 shares of common stock issuable upon the exercise of warrants outstanding as of March 31, 2014, at a weighted average exercise price of \$9.00 per share.

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Table of Contents**UNDERWRITING**

Under the terms and subject to the conditions contained in an underwriting agreement dated _____, 2014, we have agreed to sell to the underwriters named below, for whom Credit Suisse Securities (USA) LLC and Canaccord Genuity Inc. are acting as representatives, the following respective numbers of shares of common stock:

Underwriter	Number of Shares
Credit Suisse Securities (USA) LLC	
Canaccord Genuity Inc.	
Total	2,800,000

The underwriting agreement provides that the underwriters are obligated to purchase all the shares of common stock in the offering if any are purchased, other than those shares covered by the option described below. The underwriters are offering the shares of common stock subject to receipt and acceptance of the shares from us and subject to the underwriters' right to reject any order in whole or in part. The underwriting agreement also provides that if an underwriter defaults, the purchase commitments of non-defaulting underwriters may be increased or the offering may be terminated.

We have granted to the underwriters a 30-day option to purchase on a pro rata basis up to 420,000 additional shares at the public offering price less the underwriting discounts and commissions.

The underwriters propose to offer the shares of common stock initially at the public offering price on the cover page of this prospectus supplement and to selling group members at that price less a selling concession of \$ _____ per share. After the offering, the representatives may change the offering price and selling concession.

The following table shows the per share and total underwriting discounts and commissions to be paid to the underwriters by us. Such amounts are shown assuming both no exercise and full exercise of the underwriters' option to purchase 420,000 additional shares.

	Per Share		Total	
	Without Option	With Option	Without Option	With Option
Underwriting discounts and commissions paid by us	\$	\$	\$	\$

We estimate that our out of pocket expenses for this offering will be approximately \$ _____ (excluding underwriting discounts and commissions), including up to \$30,000 for certain expenses for which we have agreed to reimburse the underwriters (including fees of counsel for FINRA-related matters).

We and our officers, directors and certain holders of our common stock have agreed with the underwriters, subject to certain exceptions, not to offer, sell, contract to sell, announce the intention to sell, pledge, grant any option to purchase, make any short sale or otherwise dispose of any shares of our common stock, or any options or warrants to purchase any shares of our common stock, or any securities convertible into, exchangeable for or that represent the right to receive shares of our common stock during the period from the date of this prospectus continuing through the

date 90 days after the date of this prospectus, except with the prior written consent of Credit Suisse Securities (USA) LLC and Canaccord Genuity Inc. This agreement does not apply to any existing employee benefit plans. Certain of our shareholders who are not our directors or officers will only be subject to the foregoing agreement through the date 75 days after the date of this prospectus and only with respect to shares they owned prior to the consummation of our initial public offering.

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

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The shares of common stock are listed on the New York Stock Exchange under the symbol **BIOA** . The shares are also listed on the Professional Segment of NYSE Euronext Paris, or NYSE Euronext Paris, under the symbol **BIOA**.

Certain of the underwriters and their respective affiliates have in the past performed commercial banking, investment banking (including serving as underwriters in our May 2013 initial public offering) and advisory services for us and our affiliates from time to time for which they have received customary fees and reimbursement of expenses and may, from time to time, engage in transactions with and perform services for us and our affiliates in the ordinary course of their business for which they may receive customary fees and reimbursement of expenses.

In addition, in the ordinary course of their various business activities, the underwriters and their respective affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own account and for the accounts of their customers, and such investment and securities activities may involve securities and/or instruments of ours. The underwriters and their respective affiliates may also make investment recommendations and/or publish or express independent research views in respect of such securities or instruments and may at any time hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

In connection with the offering, the underwriters may engage in stabilizing transactions, over-allotment transactions, syndicate covering transactions and penalty bids in accordance with Regulation M under the Exchange Act.

Stabilizing transactions permit bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum.

Over-allotment involves sales by the underwriters of shares in excess of the number of shares the underwriters are obligated to purchase, which creates a syndicate short position. The short position may be either a covered short position or a naked short position. In a covered short position, the number of shares over-allotted by the underwriters is not greater than the number of shares that they may purchase in the over-allotment option. In a naked short position, the number of shares involved is greater than the number of shares in the over-allotment option. The underwriters may close out any covered short position by either exercising their over-allotment option and/or purchasing shares in the open market.

Syndicate covering transactions involve purchases of the common stock in the open market after the distribution has been completed in order to cover syndicate short positions. In determining the source of shares to close out the short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market as compared to the price at which they may purchase shares through the over-allotment option. If the underwriters sell more shares than could be covered by the over-allotment option, a naked short position, the position can only be closed out by buying shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that there could be downward pressure on the price of the shares in the open market after pricing that could adversely affect investors who purchase in the offering.

Penalty bids permit the representatives to reclaim a selling concession from a syndicate member when the common stock originally sold by the syndicate member is purchased in a stabilizing or syndicate covering

transaction to cover syndicate short positions.

These stabilizing transactions, syndicate covering transactions and penalty bids may have the effect of raising or maintaining the market price of our common stock or preventing or retarding a decline in the market price of the common stock. As a result the price of our common stock may be higher than the price that might otherwise exist in the open market. These transactions may be effected on the New York Stock Exchange or otherwise and, if commenced, may be discontinued at any time.

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A prospectus in electronic format may be made available on the websites maintained by one or more of the underwriters, or selling group members, if any, participating in this offering and one or more of the underwriters participating in this offering may distribute prospectuses electronically. The representatives may agree to allocate a number of shares to underwriters and selling group members for sale to their online brokerage account holders. Internet distributions will be allocated by the underwriters and selling group members that will make internet distributions on the same basis as other allocations.

European Economic Area. In relation to each Member State of the European Economic Area which has implemented the Prospectus Directive (each, a Relevant Member State), each underwriter has represented and agreed that with effect from and including the date on which the Prospectus Directive is implemented in that Relevant Member State (the Relevant Implementation Date) it has not made and will not make an offer of shares which are the subject of the offering contemplated by this prospectus to the public in that Relevant Member State, except that it may, with effect from and including the Relevant Implementation Date, make an offer of shares to the public in that Relevant Member State at any time:

- (a) to any legal entity which is a qualified investor as defined in the Prospectus Directive;
- (b) to fewer than 100 or, if the Relevant Member State has implemented the relevant provisions of the 2010 PD Amending Directive, 150, natural or legal persons (other than qualified investors as defined in the Prospectus Directive) subject to obtaining the prior consent of the underwriters; or
- (c) in any other circumstances falling within Article 3(2) of the Prospectus Directive.

provided that no such offer of shares referred to in paragraphs (a) to (c) above shall require the Company or any underwriter to publish a prospectus pursuant to Article 3 of the Prospectus Directive or supplement a prospectus pursuant to Article 16 of the Prospectus Directive.

For the purposes of this provision, the expression an offer of shares to the public in relation to any shares of our common stock in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and the shares to be offered so as to enable an investor to decide to purchase or subscribe any shares of our common stock, as the same may be varied in that Relevant Member State by any measure implementing the Prospectus Directive in that Relevant Member State, the expression Prospectus Directive means Directive 2003/71/EC (and amendments thereto, including the 2010 PD Amending Directive, to the extent implemented in the Relevant Member State) and includes any relevant implementing measure in the Relevant Member State and the expression 2010 PD Amending Directive means Directive 2010/73/EU.

France. No prospectus (including any amendment, supplement or replacement thereto) nor any other marketing material has been prepared in connection with the offering of the shares, has been filed with or approved by the French *Autorité des marchés financiers*, or AMF, or by the competent authority of another state that is a contracting party to the Agreement on the European Economic Area and notified to the AMF. This prospectus is not published in connection with and does not constitute an offer of securities by or on behalf of us. Each of the underwriters and the Company represent, warrant and agree that it has not offered or sold and will not offer or sell, directly or indirectly, the shares to the public in France, and has not distributed or caused to be distributed and will not distribute or cause to be distributed to the public in France, this prospectus or any other offering material relating to our common stock, and that such offers, sales and distributions have been and will only be made in France to persons licensed to provide the investment service of portfolio management for the accounts of third parties (*personnes fournissant le service d'investissement de gestion de portefeuille pour compte de tiers*), qualified investors (*investisseurs qualifiés*) investing for their own account, all as defined in, and in accordance with, Articles L. 411-1, L. 411-2 and D. 411-1 of

the French *Code monétaire et financier*, except that qualified investors shall not include individuals.

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United Kingdom. Each underwriter has represented and agreed that:

- (a) it has only communicated or caused to be communicated and will only communicate or cause to be communicated an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the Financial Services and Markets Act 2000, as amended, or the FSMA) received by it in connection with the issue or sale of the shares of our common stock in circumstances in which Section 21(1) of the FSMA does not apply to us; and
- (b) it has complied and will comply with all applicable provisions of the FSMA with respect to anything done by it in relation to the shares of our common stock in, from or otherwise involving the United Kingdom.

Hong Kong. The shares may not be offered or sold by means of any document other than (1) in circumstances which do not constitute an offer to the public within the meaning of the Companies Ordinance (Cap. 32, Laws of Hong Kong), or (2) to professional investors within the meaning of the Securities and Futures Ordinance (Cap. 571, Laws of Hong Kong) and any rules made thereunder, or (3) in other circumstances which do not result in the document being a prospectus within the meaning of the Companies Ordinance (Cap. 32, Laws of Hong Kong), and no advertisement, invitation or document relating to the shares may be issued or may be in the possession of any person for the purpose of issue (in each case whether in Hong Kong or elsewhere), which is directed at, or the contents of which are likely to be accessed or read by, the public in Hong Kong (except if permitted to do so under the laws of Hong Kong) other than with respect to shares which are or are intended to be disposed of only to persons outside Hong Kong or only to professional investors within the meaning of the Securities and Futures Ordinance (Cap. 571, Laws of Hong Kong) and any rules made thereunder.

Singapore. This prospectus has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, this prospectus and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the shares may not be circulated or distributed, nor may the shares be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than (1) to an institutional investor under Section 274 of the Securities and Futures Act, Chapter 289 of Singapore (the SFA), (2) to a relevant person, or any person pursuant to Section 275(1A), and in accordance with the conditions, specified in Section 275 of the SFA or (3) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

Where the shares are subscribed or purchased under Section 275 by a relevant person which is: (a) a corporation (which is not an accredited investor) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or (b) a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary is an accredited investor, shares, debentures and units of shares and debentures of that corporation or the beneficiaries' rights and interest in that trust shall not be transferable for six months after that corporation or that trust has acquired the shares under Section 275 except: (1) to an institutional investor under Section 274 of the SFA or to a relevant person, or any person pursuant to Section 275(1A), and in accordance with the conditions, specified in Section 275 of the SFA; (2) where no consideration is given for the transfer; or (3) by operation of law.

Japan. The shares have not been and will not be registered under the Financial Instruments and Exchange Law of Japan (the Financial Instruments and Exchange Law) and each underwriter has agreed that it will not offer or sell any shares, directly or indirectly, in Japan or to, or for the benefit of, any resident of Japan (which term as used herein means any person resident in Japan, including any corporation or other entity organized under the laws of Japan), or to

others for re-offering or resale, directly or indirectly, in Japan or to a resident of Japan, except pursuant to an exemption from the registration requirements of, and otherwise in compliance with, the Financial Instruments and Exchange Law and any other applicable laws, regulations and ministerial guidelines of Japan.

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CERTAIN UNITED STATES FEDERAL INCOME AND ESTATE TAX

CONSIDERATIONS FOR NON-U.S. HOLDERS OF COMMON STOCK

This section summarizes the material United States federal income and estate tax considerations relating to the purchase, ownership and disposition of common stock by a non-U.S. holder (as defined below). This summary does not provide a complete analysis of all potential tax considerations. The information provided below is based upon provisions of the Internal Revenue Code of 1986, as amended, or the Code, Treasury regulations promulgated thereunder and administrative rulings and judicial decisions, all as currently in effect. These authorities may change at any time, possibly on a retroactive basis, or the United States Internal Revenue Service, or the IRS, might interpret the existing authorities differently. In either case, the tax considerations of purchasing, owning or disposing of common stock could differ from those described below.

For purposes of this summary, a non-U.S. holder is any holder other than:

an individual who is a citizen or resident of the United States;

a corporation, or other entity taxable as a corporation for United States federal income tax purposes, created or organized under the laws of the United States, any state thereof or the District of Columbia;

a trust that (1) is subject to the primary supervision of a United States court and one or more United States persons have authority to control all substantial decisions of the trust or (2) has a valid election in effect under applicable United States Treasury regulations to be treated as a United States person; or

an estate the income of which is subject to United States federal income tax regardless of source.

If a partnership or other pass-through entity for United States federal income tax purposes is a beneficial owner of common stock, the tax treatment of a partner in the partnership or an owner of the entity will depend upon the status of the partner or other owner and the activities of the partnership or other entity. Any partner in a partnership or member in a pass-through entity holding shares of our common stock should consult its own tax advisor.

This discussion assumes that a non-U.S. holder will hold our common stock as a capital asset (generally, property held for investment). This summary generally does not address tax considerations that may be relevant to particular investors because of their specific circumstances, or because they are subject to special rules, including if the investor is a United States expatriate, controlled foreign corporation, passive foreign investment company, corporation that accumulates earnings to avoid United States federal income tax, dealer in securities or currencies, financial institution, regulated investment company, real estate investment trust, tax-exempt entity, insurance company, person holding our common stock as part of a hedging, integrated, conversion or constructive sale transaction or a straddle, trader in securities that elects to use a mark-to-market method of accounting, person liable for the alternative minimum tax, and partnerships or other pass-through entities (and their owners). Finally, this summary does not describe the effects of any applicable foreign, state or local laws, or, except to the extent discussed below, the effects of any applicable gift or estate tax laws.

INVESTORS CONSIDERING THE PURCHASE, OWNERSHIP OR DISPOSITION OF COMMON STOCK SHOULD CONSULT THEIR OWN TAX ADVISORS REGARDING THE APPLICATION OF THE UNITED STATES FEDERAL INCOME AND ESTATE TAX LAWS TO THEIR PARTICULAR SITUATIONS AND THE CONSEQUENCES OF FOREIGN, STATE OR LOCAL LAWS, AND TAX TREATIES.

Dividends

We do not expect to declare or pay any distributions on our common stock in the foreseeable future. If we do make any distributions on shares of our common stock, however, such distributions will constitute dividends for United States federal income tax purposes to the extent paid from our current or accumulated earnings and

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profits, as determined under United States federal income tax principles. Distributions in excess of our current and accumulated earnings and profits will constitute a return of capital that is applied against and reduces, but not below zero, a non-U.S. holder's adjusted tax basis in shares of our common stock. Any remaining excess will be treated as gain realized on the sale or other disposition of our common stock. See [Sale of Common Stock](#).

Any dividend paid to a non-U.S. holder on our common stock will generally be subject to United States withholding tax at a 30% rate. The withholding tax might not apply, however, or might apply at a reduced rate, under the terms of an applicable income tax treaty between the United States and the non-U.S. holder's country of residence. Non-U.S. holders should consult their own tax advisors regarding their entitlement to benefits under a relevant income tax treaty. Generally, in order for us or our paying agent to withhold tax at a lower treaty rate, a non-U.S. holder must certify its entitlement to treaty benefits. A non-U.S. holder generally can meet this certification requirement by providing to us or our paying agent an applicable IRS Form W-8 (which generally remains valid for three years, after which time a new properly completed and executed form must be provided to us or our paying agent). If the holder holds the stock through a financial institution or other agent acting on the holder's behalf, the holder will be required to provide appropriate documentation to the agent. The holder's agent will then be required to provide certification to us or our paying agent, either directly or through other intermediaries. If a non-U.S. holder is eligible for a reduced rate of United States federal withholding tax under an income tax treaty, such non-U.S. holder may obtain a refund or credit of any excess amounts withheld by filing an appropriate claim for a refund with the IRS in a timely manner.

Dividends received by a non-U.S. holder that are effectively connected with a U.S. trade or business conducted by the non-U.S. holder, or, if an income tax treaty between the United States and the non-U.S. holder's country of residence applies, are attributable to a permanent establishment or a fixed base maintained by the non-U.S. holder in the United States, are not subject to such withholding tax. To obtain this exemption, a non-U.S. holder must provide us or our paying agent with an IRS Form W-8ECI properly certifying such exemption. Such effectively connected dividends, although not subject to withholding tax, are taxed at the same graduated rates applicable to U.S. persons, as defined under the Code, net of certain deductions and credits, subject to any applicable income tax treaty providing otherwise. In addition to the graduated tax described above, dividends received by corporate non-U.S. holders that are effectively connected with a U.S. trade or business of the corporate non-U.S. holder may also be subject to a branch profits tax at a rate of 30% or such lower rate as may be specified by an applicable income tax treaty.

Sale of Common Stock

Non-U.S. holders will generally not be subject to United States federal income tax on any gains realized on the sale, exchange or other disposition of common stock unless:

the gain (1) is effectively connected with the conduct by the non-U.S. holder of a U.S. trade or business and (2) if an income tax treaty between the United States and the non-U.S. holder's country of residence applies, the gain is attributable to a permanent establishment or a fixed base maintained by the non-U.S. holder in the United States, in which case the special rules described below apply;

the non-U.S. holder is an individual who is present in the United States for 183 days or more in the taxable year of the sale, exchange or other disposition of our common stock, and certain other requirements are met, in which case the gain would be subject to a flat 30% tax, or such reduced rate as may be specified by an applicable income tax treaty, which may be offset by United States source capital losses, even though the individual is not considered a resident of the United States; or

the rules of the Foreign Investment in Real Property Tax Act, or FIRPTA, treat the gain as effectively connected with a U.S. trade or business.

The FIRPTA rules would apply to a sale, exchange or other disposition of common stock if we are, or were within the shorter of the five-year period preceding the disposition and the non-U.S. holder's holding period, a U.S. real property holding corporation, orUSRPHC. In general, we would be a USRPHC if our interests in

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United States real estate comprised at least half of the fair market value of our assets. We do not believe that we are a USRPHC and we do not anticipate becoming one in the future. Even if we are or become a USRPHC, as long as our common stock is regularly traded on an established securities market, then only a non-U.S. holder that actually or constructively owns (at any time during the shorter of the five-year period preceding the date of disposition or the holder's holding period) more than 5% of our outstanding common stock will be subject to United States federal income tax on the disposition of our common stock.

Any gain described in the first bullet point above will be subject to United States federal income tax at the regular graduated rates. If the non-U.S. holder is a corporation, under certain circumstances, that portion of its earnings and profits that is effectively connected with its U.S. trade or business, subject to certain adjustments, generally would be subject to a branch profits tax. The branch profits tax rate is generally 30%, although an applicable income tax treaty between the United States and the non-U.S. holder's country of residence might provide for a lower rate.

Legislation Affecting Certain Non-U.S. Holders

Legislation enacted in 2010 generally imposes withholding at a rate of 30% on payments to certain foreign entities of dividends on our common stock and, for dispositions of our common stock occurring after December 31, 2016, the gross proceeds of such dispositions, unless various U.S. information reporting and due diligence requirements (generally relating to ownership by United States persons, as defined under the Code, of interests in or accounts with those entities) have been satisfied. Non-U.S. holders should consult their tax advisors regarding the possible implications of this legislation on their investment in our common stock.

United States Federal Estate Tax

The estates of nonresident alien individuals generally are subject to United States federal estate tax on property with a United States situs. Because we are a United States corporation, our common stock will be United States situs property and therefore will be included in the taxable estate of a nonresident alien decedent, unless an applicable income tax treaty between the United States and the decedent's country of residence provides otherwise.

Backup Withholding and Information Reporting

We must report to a non-U.S. holder and the IRS the amount of dividends paid during each calendar year, if any, and the amount of any tax withheld. These information reporting requirements apply even if no withholding was required because the distributions were effectively connected with the non-U.S. holder's conduct of a U.S. trade or business, or withholding was eliminated by an applicable income tax treaty. This information also may be made available under a specific treaty or agreement with the tax authorities in the country in which the non-U.S. holder resides or is established. Backup withholding, however, generally will not apply to dividends paid a non-U.S. holder of shares of our common stock provided the non-U.S. holder furnishes to us or our paying agent the required certification under penalties of perjury as to its non-U.S. status, such as by providing an applicable IRS Form W-8, or certain other requirements are met. Notwithstanding the foregoing, backup withholding may apply if either we or our paying agent has actual knowledge, or reason to know, that the non-U.S. holder is a United States person as defined under the Code that is not an exempt recipient.

The payment of proceeds from the disposition of shares of our common stock by a non-U.S. holder made to or through a U.S. office of a broker generally will be subject to information reporting and backup withholding unless the non-U.S. holder furnishes to the broker the required certification as to its non-U.S. status, such as by providing an applicable IRS Form W-8 (and the broker does not have actual knowledge, or reason to know, that the holder is a United States person) and certain other conditions are met, or the non-U.S. holder otherwise establishes an exemption.

The payment of proceeds from the disposition of shares of our common stock by a non-U.S. holder made to or through a non-U.S. office of a broker generally will not be subject to backup

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withholding or information reporting. Information reporting, but not backup withholding, will apply to a payment of proceeds, even if that payment is made outside of the United States, if a non-U.S. holder sells our common stock through a non-U.S. office of a broker with certain connections to the United States, unless the non-U.S. holder furnishes to the broker the required certification as to its non-U.S. status as described above and certain other conditions are satisfied, or the non-U.S. holder otherwise establishes an exemption (and the broker has no actual knowledge or reason to know to the contrary). Brokers required to file information returns with respect to stock in a corporation acquired on or after January 1, 2011 must also report (1) each customer's adjusted basis (computed in accordance with rules formulated for this reporting requirement) and (2) whether any gain or loss realized is long-term or short-term.

Backup withholding is not an additional tax and may be refunded to the extent it results in an overpayment of tax and appropriate information is timely supplied to the IRS.

THE PRECEDING DISCUSSION OF UNITED STATES FEDERAL TAX CONSIDERATIONS IS FOR GENERAL INFORMATION ONLY. IT IS NOT TAX ADVICE. EACH PROSPECTIVE INVESTOR SHOULD CONSULT ITS OWN TAX ADVISOR REGARDING THE PARTICULAR UNITED STATES FEDERAL, STATE, LOCAL AND FOREIGN TAX CONSEQUENCES OF PURCHASING, HOLDING AND DISPOSING OF OUR COMMON STOCK, INCLUDING THE CONSEQUENCES OF ANY PROPOSED CHANGE IN APPLICABLE LAWS.

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LEGAL MATTERS

Certain legal matters with respect to the common stock offered by this prospectus supplement and the accompanying prospectus will be passed upon for us by Goodwin Procter LLP, Boston, Massachusetts. Certain legal matters will be passed upon for the underwriters by Simpson Thacher & Bartlett LLP, New York, New York.

EXPERTS

The consolidated financial statements of BioAmber Inc. and subsidiaries (a development stage company) at December 31, 2013 and 2012, and for each of the three years in the period ended December 31, 2013 and for the period from October 15, 2008 (date of inception) to December 31, 2013 have been audited by Deloitte LLP, independent registered public accounting firm, as stated in their report which is incorporated herein by reference from the Annual Report on Form 10-K for the fiscal year ended December 31, 2013 (which report expresses an unqualified opinion and includes an explanatory paragraph relating to the company's development stage status). Such consolidated financial statements have been incorporated in reliance upon the report of such experts in accounting and auditing.

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PROSPECTUS

\$100,000,000

Common Stock

Preferred Stock

Debt Securities

Warrants

Units

From time to time, we may offer up to \$100,000,000 of any combination of the securities described in this prospectus, either individually or in units. Each time we offer securities, we will provide the specific terms of the securities offered in one or more supplements to this prospectus. We may also authorize one or more free writing prospectuses to be provided to you in connection with these offerings. The prospectus supplement and any related free writing prospectus may also add, update or change information contained in this prospectus. You should carefully read this prospectus, the applicable prospectus supplement and any related free writing prospectus, as well as any documents incorporated by reference, before buying any of the securities being offered.

The securities offered by this prospectus may be sold directly by us to investors, through agents designated from time to time or to or through underwriters or dealers. We will set forth the names of any underwriters or agents and any applicable fees, commissions, discounts and over-allotments in an accompanying prospectus supplement. For additional information on the methods of sale, you should refer to the section entitled Plan of Distribution in this prospectus and in the applicable prospectus supplement. The price to the public of such securities and the net proceeds we expect to receive from such sale will also be set forth in a prospectus supplement.

Our common stock is traded on the New York Stock Exchange under the symbol BIOA. On June 2, 2014, the last reported sale price of our common stock on the New York Stock Exchange was \$9.65 per share. The applicable prospectus supplement will contain information, where applicable, as to any other listing, if any, on the New York Stock Exchange or any securities market or other exchange of the securities covered by the applicable prospectus supplement.

Investing in our securities involves a high degree of risk. You should review carefully the risks and uncertainties referenced under the heading Risk Factors on page 11 of this prospectus as well as those

contained in the applicable prospectus supplement and any related free writing prospectus, and in the other documents that are incorporated by reference into this prospectus.

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

The date of this prospectus is July 9, 2014.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-3 that we filed with the Securities and Exchange Commission, or the SEC, utilizing a shelf registration process. Under this shelf registration process, we may offer shares of our common stock and preferred stock, various series of warrants to purchase common stock or preferred stock and debt securities, either individually or in units, in one or more offerings, up to a total dollar amount of \$100,000,000. This prospectus provides you with a general description of the securities we may offer. Each time we offer a type or series of securities under this prospectus, we will provide a prospectus supplement that will contain more specific information about the specific terms of the offering. We may also authorize one or more free writing prospectuses to be provided to you that may contain material information relating to these offerings. Each such prospectus supplement and any related free writing prospectus that we may authorize to be provided to you may also add, update or change information contained in this prospectus or in documents incorporated by reference into this prospectus. We urge you to carefully read this prospectus, any applicable prospectus supplement and any related free writing prospectus, together with the information incorporated herein by reference as described under the headings **Where You Can Find Additional Information** and **Incorporation of Certain Information by Reference** before buying any of the securities being offered.

You should rely only on the information contained or incorporated by reference in this prospectus, any applicable prospectus supplement and any related free writing prospectus. We have not authorized anyone to provide you with different information in addition to or different from that contained in this prospectus, any applicable prospectus supplement and any related free writing prospectus. No dealer, salesperson or other person is authorized to give any information or to represent anything not contained in this prospectus, any applicable prospectus supplement or any related free writing prospectus that we may authorize to be provided to you. You must not rely on any unauthorized information or representation. This prospectus is an offer to sell only the securities offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so. You should assume that the information in this prospectus, any applicable prospectus supplement or any related free writing prospectus is accurate only as of the date on the front of the document and that any information incorporated by reference is accurate only as of the date of the document incorporated by reference, regardless of the time of delivery of this prospectus, any applicable prospectus supplement or any related free writing prospectus, or any sale of a security. Our business, financial condition, results of operating and prospects may have changed materially since those dates.

This prospectus contains summaries of certain provisions contained in some of the documents described herein, but reference is made to the actual documents for complete information. All of the summaries are qualified in their entirety by the actual documents. Copies of some of the documents referred to herein have been filed, will be filed or will be incorporated by reference as exhibits to the registration statement of which this prospectus is a part, and you may obtain copies of those documents as described below under the heading **Where You Can Find Additional Information**.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

We post on our public website (www.bio-amber.com) 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 amended, or the Exchange Act, as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. Our website and the information contained on that site, or connected to that site, are not incorporated into and are not a part of this prospectus.

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You can find, copy and inspect information we file with the SEC at the SEC's public reference room, which is located 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 SEC's public reference room. You can also review our electronically filed reports and other information that we file with the SEC on the SEC's website at <http://www.sec.gov>.

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This prospectus is part of a registration statement that we filed with the SEC. The registration statement contained more information than this prospectus regarding us and the securities, including exhibits and schedules. You can obtain a copy of the registration statement from the SEC at any address listed above or from the SEC's website. You should review the information and exhibits in the registration statement for further information on us and our consolidated subsidiary and the securities we are offering. Statements in this prospectus concerning any document we filed as an exhibit to the registration statement or that we otherwise filed with the SEC are not intended to be comprehensive and are qualified by reference to these filings. You should review the complete document to evaluate these statements.

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INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to incorporate by reference the information we file with it, which means that we can disclose important information to you by referring you to those documents instead of having to repeat the information in this prospectus. The information incorporated by reference is considered to be part of this prospectus, and later information that we file with the SEC will automatically update and supersede this information. We incorporate by reference the documents listed below that we have filed with the SEC:

description of our common stock contained in our Registration Statement on Form 8-A, filed May 1, 2013;

description of our warrants contained in our Registration Statement on Form 8-A/A filed May 9, 2013 and amended on May 10, 2013;

our Annual Report on Form 10-K for the year ended December 31, 2013, filed on March 28, 2014;

our Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2014, filed on May 13, 2014; and

our Proxy Statement on Schedule 14A filed with the SEC on April 30, 2014.

We also incorporate by reference into this prospectus all documents (other than current reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed on such form that are related to such items) that are filed by us with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act (i) after the date of the initial filing of the registration statement of which this prospectus is a part and prior to effectiveness of the registration statement, or (ii) after the date of this prospectus until we sell all of the shares covered by this prospectus or the sale of shares by us pursuant to this prospectus is terminated.

A statement contained in a document incorporated by reference into this prospectus shall be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus, any prospectus supplement or in any other subsequently filed document which is also incorporated in this prospectus modifies or replaces such statement. Any statements so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus. You should not assume that the information in this prospectus or in the documents incorporated by reference is accurate as of any date other than the date on the front of this prospectus or those documents.

You may request a copy of these documents, orally or in writing, which will be provided to you at no cost by contacting: BioAmber Inc., 1250 Rene Levesque West, Suite 4110, Montreal, Quebec, Canada H3B 4W8, or calling (514) 844-8000.

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FORWARD-LOOKING STATEMENTS

This prospectus contains statements that are not historical facts and are considered forward-looking within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Exchange Act. These forward-looking statements contain projections of our future results of operations or of our financial position or state other forward-looking information. In some cases you can identify these statements by forward-looking words such as anticipate, believe, could, continue, estimate, expect, intend, may, plan, projected or the negative of such words or other similar words or phrases. We believe that it is important to communicate our future expectations to our investors. However, there may be events in the future that we are not able to accurately predict or control and that may cause our actual results to differ materially from the expectations we describe in our forward-looking statements. Investors are cautioned not to unduly rely on forward-looking statements because they involve risks and uncertainties, and actual results may differ materially from those discussed as a result of various factors, including, but not limited to:

the expected funding sources of our planned Sarnia, Ontario plant and our other planned manufacturing facilities and the expected timing of the completion of construction and the start of commercial operations at each of these facilities;

our joint venture with Mitsui & Co. Ltd., or Mitsui;

our take-or-pay agreement with Vinmar International Ltd., or Vinmar, related to bio-based 1, 4 BDO;

our take-or-pay agreement with PTT MCC Biochem Company Limited, or PTTMCC, related to bio-succinic acid from our planned Sarnia, Ontario plant;

the expected applications of our products and the sizes of addressable markets;

our ability to gain market acceptance for bio-succinic acid, its derivatives and other building block chemicals;

the benefits of our transition from our *E. coli* bacteria to our yeast;

our ability to commence commercial sales and execute on our commercial expansion plan, including the timing and volume of our future production and sales;

the expected cost-competitiveness and relative performance attributes of our bio-succinic acid and the products derived from it;

our ability to cost-effectively produce and commercialize bio-succinic acid, its derivatives and other building block chemicals;

customer qualification, approval and acceptance of our products;

our ability to maintain and advance strategic partnerships and collaborations and the expected benefits and accessible markets related to those partnerships and collaborations;

our ability to economically obtain feedstock and other inputs;

the achievement of advances in our technology platform;

our ability to obtain and maintain intellectual property protection for our products and processes and not infringe on others' rights;

government regulatory and industry certification approvals for our facilities and products;

government policymaking and incentives relating to bio-chemicals;
and other risks and uncertainties referenced under "Risk Factors" below and in any applicable prospectus supplement or free writing prospectus and any documents incorporated by reference herein or therein. You

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should not place undue reliance on our forward-looking statements. These forward-looking statements speak only as of the date on which the statements were made and are not guarantees of future performance. Except as may be required by applicable law, we do not undertake or intend to update any forward-looking statements after the date of this prospectus or the respective dates of documents incorporated herein or therein that include forward-looking statements.

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SUMMARY

This summary highlights selected information from this prospectus or incorporated by reference in this prospectus, and does not contain all of the information that you need to consider in making your investment decision. You should carefully read the entire prospectus, the applicable prospectus supplement and any related free writing prospectus, including the risks of investing in our securities referred to under the heading **Risk Factors** in this prospectus and contained in the applicable prospectus supplement and any related free writing prospectus, and in the other documents that are incorporated by reference into this prospectus. You should also carefully read the information incorporated by reference into this prospectus, including our financial statements, and the exhibits to the registration statement of which this prospectus is a part.

Unless otherwise mentioned or unless the context requires otherwise, throughout this prospectus, any applicable prospectus supplement and any related free writing prospectus, the words **BioAmber**, **we**, **us**, **our**, **the company** or similar references refer to BioAmber Inc. and its subsidiaries; and the term **securities** refers collectively to our common stock, preferred stock, warrants to purchase common stock or preferred stock, debt securities, or any combination of the foregoing securities.

This prospectus and the information incorporated herein by reference includes trademarks, service marks and trade names owned by us or other companies. All trademarks, service marks and trade names included or incorporated by reference into this prospectus, any applicable prospectus supplement or any related free writing prospectus are the property of their respective owners.

Our Company

We are an industrial biotechnology company producing sustainable chemicals. Our proprietary technology platform combines industrial biotechnology and chemical catalysis to convert renewable feedstocks into sustainable chemicals that are cost-competitive replacements for petroleum-derived chemicals, which are used in a wide variety of everyday products including plastics, resins, food additives and personal care products. We currently sell our first product, bio-succinic acid, to customers in a variety of chemical markets. We intend to produce bio-succinic acid that is cost-competitive with succinic acid produced from petroleum at our planned facility in Sarnia, Ontario. We currently produce our bio-succinic acid in a large-scale demonstration facility using a 350,000 liter fermenter in Pomacle, France, which we believe to be among the largest bio-based chemical fermenters in the world. We have produced approximately 3.39 million pounds, or 1.539 metric tons, of bio-succinic acid at this facility as of May 31, 2014.

Succinic acid can be used to manufacture a wide variety of products used every day, including plastics, food additives and personal care products, and can also be used as a building block for a number of derivative chemicals. Today, petroleum-derived succinic acid is not used in many potential applications because of its relatively high production costs and selling price. We believe that our low-cost production capability and our development of next-generation bio-succinic derived products including 1,4 BDO, which is used to produce polyesters, plastics, spandex and other products, will provide us with access to a more than \$10 billion market opportunity. Combining these opportunities with other building block chemicals we are developing, such as adipic acid, which is used in the production of nylons, we believe that our total addressable market is in excess of \$30 billion.

We believe we can produce bio-succinic acid that is cost-competitive with succinic acid produced from oil priced as low as \$35 per barrel, based on management's estimates of production costs at our planned facility in Sarnia, Ontario and an assumed corn price of \$6.50 per bushel. While we can provide no assurance that we will be able to secure corn at \$6.50 per bushel given the fluctuations in corn prices, we believe this assumption is reasonable given the historic price of corn and management's expectations as to their ability to manage the cost

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of glucose from corn and other inputs for our planned facility in Sarnia, Ontario. Over the past five years, the price of corn ranged from a low of \$2.68 per bushel to a high of \$8.44 per bushel. As of May 31, 2014, the spot price was \$4.52 per bushel and the six-month forward price was \$4.58 per bushel. We estimate that a \$1.00 increase or decrease in the per bushel price of corn would result in just a \$0.025 per pound change in our variable cost of our bio-succinic acid. We expect the productivity of our yeast organism and on-going process improvements to further reduce our production costs. Our ability to compete on cost is not dependent on government subsidies or tariffs.

We have signed a take-or-pay supply agreement with PTT-MCC Biochem for the supply of bio-succinic acid for their subsequent production of bio-based polymers. We have entered into strategic relationships with several segment leaders, such as our partnership with LANXESS for phthalate-free plasticizers made with bio-succinic acid, our agreement with Inolex for the development and commercialization of succinic acid esters in personal care applications, and our collaboration with Stahl for the development of coatings made with our bio-succinic acid.

We have also entered into technology partnerships to lower our production costs, expand our product portfolio and enhance our biochemical production platform. For example, we entered into a technology partnership with Cargill through which we exclusively license a proprietary yeast organism for use in our fermentation process to produce our products. We refer to the yeast organism that we have licensed from Cargill as our yeast. We have also established other technology licenses and collaborations, including with DuPont, Evonik and Celexion.

Our business strategy is to leverage the value of our technology by building and operating production facilities around the world. However, depending on our access to capital and third-party demand for our technology, we may also enter into technology licenses on an opportunistic basis.

In order to support our growth, we plan to rapidly expand our manufacturing capacity beyond the current production at the large-scale demonstration facility we operate in Pomacle, France. We have entered into a joint venture with Mitsui to finance, build and operate a manufacturing facility in Sarnia, Ontario through our BioAmber Sarnia subsidiary in which we own a 70% equity interest and Mitsui owns the remaining 30%. The joint venture agreement, which was entered into on November 2, 2011 and amended on January 24, 2014, also establishes our non-binding intent to build and operate a BDO and/or succinic acid production facility with Mitsui, which we expect to occur by the end of 2017. As part of the amendment, Mitsui increased its maximum capital commitment to the project from \$23.7 million to \$45.6 million in order to maintain a 30% equity stake in the joint venture. In exchange, Mitsui obtained the right to sell us back its shares in the Sarnia joint venture under certain specific circumstances: (i) Mitsui has the right to sell its shares and we have the obligation to purchase those shares at 100% of the investment value if the cost of the Sarnia facility is greater than \$140 million and we do not provide the additional funds to complete the facility, with a corresponding increase in our prorata share of the joint venture; (ii) in the event of an occurrence of a dissolution event of the joint venture until December 31, 2020, Mitsui has the right to sell its shares and we have the obligation to purchase those shares at 100% of the investment value, with the dissolution event consisting of the Sarnia plant not being operational by January 31, 2016, cumulative losses accrued from 2016 through 2020 exceeding 75% of paid-in capital, no after-tax profit earned in any three consecutive years from 2016 onwards, and any act of insolvency, bankruptcy, or similar event, and (iii) until December 31, 2018, Mitsui in its sole discretion may sell its shares and we must purchase those shares at a 50% discount to their investment value.

To date, we have entered into several supply agreements and memoranda of understanding, or MOUs, that contemplate, but do not obligate, us to supply approximately 144,000 metric tons of bio-succinic acid, and, as we continue construction of our planned facility in Sarnia, Ontario, we are actively seeking to enter into definitive supply agreements and form new relationships with potential customers. For example, on April 18, 2014, we

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entered into a three year supply agreement with PTT MCC Biochem Company Limited, or PTTMCC, a joint venture between PTT Public Company Limited and Mitsubishi Chemical Corporation that was established to produce and sell polybutylene succinate, or PBS, a biodegradable plastic made from succinic acid and 1,4 BDO. PTTMCC is constructing a PBS plant in Thailand that is expected to be operational in the first half of 2015 and consume approximately 14,000 tons of succinic acid per year at full capacity. This supply agreement provides that we will exclusively supply a minimum of 80% of PTTMCC's total bio-succinic needs until the end of 2017, with approximately 50% of the total purchases under take-or-pay terms. This is one of many potential customers and applications that we are targeting for the bio-succinic acid that we plan to produce at our Sarnia facility, and we expect to enter into additional definitive supply agreements in advance of mechanical completion in late 2014 or early 2015. These supply agreements reflect our ongoing efforts to expand the succinic acid addressable market into new applications such as PBS.

We also expect to grow our revenue base by developing new value-added applications and derivative products. On January 22, 2014, we entered into a 15 year take-or-pay contract for bio-based 1,4-Butanediol (BDO) with Vinmar International Ltd., a privately held marketing, distribution, and project developed company headquartered in Houston, Texas. Under the terms of the master off-take agreement, Vinmar has committed to purchase 100% of the bio-based 1,4 BDO produced in a 100,000 metric ton per year capacity plant that we plan to build in North America and commission in 2017. Vinmar also plans to invest in the facility alongside us. While this agreement is binding, our inability to finance and construct the BDO plant would relieve Vinmar of its obligation to purchase BDO under the terms of the take-or-pay agreement.

We are committed to managing our economic, social, environmental and ethical performance through continued sustainable business practices. We have completed a life cycle analysis for our planned facility in Sarnia that indicates that no carbon dioxide equivalent (or greenhouse gases) will be emitted per kilogram of our bio-succinic acid produced, making our process carbon neutral. This is significantly less carbon intensive than the current petrochemical process for making succinic acid, in which 7.1 kilograms of carbon dioxide equivalent are emitted per kilogram of succinic acid produced. This represents a 100% reduction in greenhouse gases for our bio-succinic acid process, relative to the current petrochemical process for making succinic acid. The life cycle analysis also indicates that our planned facility in Sarnia will consume 60% less energy than the current petrochemical process.

We were incorporated in the State of Delaware in October 2008 as DNP Green Technology, Inc. and were established as the result of the spin-off of certain assets from Diversified Natural Products, Inc. In September 2010, we acquired the 50% interest in our joint venture BioAmber S.A.S. that we did not already own, after which, BioAmber S.A.S. became wholly owned by us. Concurrent with this acquisition, we changed our name from DNP Green Technology, Inc. to BioAmber Inc. and changed our fiscal year end from June 30 to December 31.

Our principal executive offices are located at 1250 Rene Levesque West, Suite 4110, Montreal, Quebec, Canada H3B 4W8, and our principal research and development facility is located at 3850 Annapolis Lane North, Suite 180, Plymouth, Minnesota, United States of America, 55447. Our telephone number in the United States is (763) 253-4480 and our telephone number in Canada is (514) 844-8000. Our website address is www.bio-amber.com. We do not incorporate the information on or accessible through our website into this prospectus, and you should not consider any information on, or that can be accessed through, our website as part of this prospectus.

The Securities We May Offer

We may offer shares of our common stock and preferred stock, various series of warrants to purchase common stock or preferred stock and debt securities, in one or more series, as either senior or subordinated debt

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or as senior or subordinated convertible debt, either individually or in units, with a total value of up to \$100,000,000 from time to time under this prospectus at prices and on terms to be determined at the time of any offering. This prospectus provides you with a general description of the securities we may offer. Each time we offer a type or series of securities under this prospectus, we will provide a prospectus supplement that will describe the specific amounts, prices and other important terms of the securities.

The prospectus supplement and any related free writing prospectus that we may authorize to be provided to you may also add, update or change information contained in this prospectus or in documents we have incorporated by reference. However, no prospectus supplement or free writing prospectus will offer a security that is not registered and described in this prospectus at the time of the effectiveness of the registration statement of which this prospectus is a part.

We may sell the securities directly to investors or to or through agents, underwriters or dealers. We, and our agents or underwriters, reserve the right to accept or reject all or part of any proposed purchase of securities. If we do offer securities to or through agents or underwriters, we will include in the applicable prospectus supplement:

the names of those agents or underwriters;

applicable fees, discounts and commissions to be paid to them;

details regarding over-allotment options, if any; and

the net proceeds to us.

Common Stock. We may issue shares of our common stock from time to time. Holders of shares of our common stock are entitled to one vote for each share held of record on all matters to be voted on by stockholders and do not have cumulative voting rights. Subject to the preferences that may be applicable to any then outstanding preferred stock, the holders of our outstanding shares of common stock are entitled to receive dividends, if any, as may be declared from time to time by our board of directors out of legally available funds. In the event of our liquidation, dissolution or winding up, holders of our common stock will be entitled to share ratably in the net assets legally available for distribution to stockholders after the payment of all of our debts and other liabilities, subject to the satisfaction of any liquidation preference granted to the holders of any outstanding shares of preferred stock.

Preferred Stock. We may issue shares of our preferred stock from time to time, in one or more series. Our board of directors will determine the rights, preferences and privileges of the shares of each wholly unissued series, and any qualifications, limitations or restrictions thereon, including dividend rights, conversion rights, preemptive rights, terms of redemption or repurchase, liquidation preferences, sinking fund terms and the number of shares constituting any series or the designation of any series. Convertible preferred stock will be convertible into our common stock or exchangeable for other securities. Conversion may be mandatory or at your option and would be at prescribed conversion rates.

If we sell any series of preferred stock under this prospectus, we will fix the rights, preferences and privileges of the preferred stock of such series, as well as any qualifications, limitations or restrictions thereon, in the certificate of designation relating to that series. We will file as an exhibit to the registration statement of which this prospectus is a

part, or will incorporate by reference from reports that we file with the SEC, the form of any certificate of designation that describes the terms of the series of preferred stock we are offering before the issuance of that series of preferred stock. We urge you to read the applicable prospectus supplement and any free writing prospectus that we may authorize to be provided to you related to the series of preferred stock being offered, as well as the complete certificate of designation that contains the terms of the applicable series of preferred stock.

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Debt Securities. We may issue debt securities, in one or more series, as either senior or subordinated debt or as senior or subordinated convertible debt. In this prospectus, we have summarized certain general features of the debt securities. We urge you, however, to read the applicable prospectus supplement and any free writing prospectus that we may authorize to be provided to you related to the particular series of debt securities being offered, as well as the complete indenture that contains the terms of the debt securities. We will file as exhibits to the registration statement of which this prospectus is a part, the form of indenture and any supplemental agreements that describe the terms of the series of debt securities we are offering before the issuance of the related series of debt securities.

We will evidence each series of debt securities by indentures we will issue. Debt securities may be issued under an indenture that we enter into with a trustee. We will indicate the name and address of the trustee, if applicable, in the prospectus supplement relating to the particular series of debt securities being offered.

Warrants. We may issue warrants for the purchase of common stock and/or preferred stock in one or more series. We may issue warrants independently or together with common stock and/or preferred stock and/or debt securities, and the warrants may be attached to or separate from these securities. In this prospectus, we have summarized certain general features of the warrants. We urge you, however, to read the applicable prospectus supplement and any free writing prospectus that we may authorize to be provided to you related to the particular series of warrants being offered, as well as the complete warrant agreements and warrant certificates that contain the terms of the warrants. Forms of the warrant agreements and forms of warrant certificates containing the terms of the warrants being offered will be filed as exhibits to the registration statement of which this prospectus is a part or will be incorporated by reference from reports that we file with the SEC.

We will evidence each series of warrants by warrant certificates that we will issue. Warrants may be issued under an applicable warrant agreement that we enter into with a warrant agent. We will indicate the name and address of the warrant agent, if applicable, in the prospectus supplement relating to the particular series of warrants being offered.

Units. We may issue, in one or more series, units consisting of common stock, preferred stock, debt securities and/or warrants for the purchase of common stock and/or preferred stock in any combination. In this prospectus, we have summarized certain general features of the units. We urge you, however, to read the applicable prospectus supplement (and any free writing prospectus that we may authorize to be provided to you) related to the series of units being offered, as well as the complete unit agreement that contains the terms of the units. We will file as exhibits to the registration statement of which this prospectus is a part, or will incorporate by reference from reports that we file with the SEC, the form of unit agreement and any supplemental agreements that describe the terms of the series of units we are offering before the issuance of the related series of units.

We will evidence each series of units by unit certificates that we will issue. Units may be issued under a unit agreement that we enter into with a unit agent. We will indicate the name and address of the unit agent, if applicable, in the prospectus supplement relating to the particular series of units being offered.

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RISK FACTORS

Investing in our securities involves a high degree of risk. Before purchasing our securities, you should carefully consider the risks and uncertainties set forth under the heading "Risk Factors" in our Annual Report on Form 10-K for the fiscal year ended December 31, 2013, filed with the SEC on March 28, 2014, and our Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2014, filed with SEC on May 13, 2014, which are incorporated by reference in this prospectus, as well as any updates thereto contained in subsequent filings with the SEC or any applicable prospectus supplement or free writing prospectus. If any of these risks were to occur, our business, financial condition or results of operations would likely suffer. In that event, the value of our securities could decline, and you could lose all or part of your investment. The risks and uncertainties we describe are not the only ones facing us. Additional risks not presently known to us or that we currently deem immaterial may also impair our business operations.

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RATIO OF EARNINGS TO FIXED CHARGES

Our ratio of earnings to fixed charges for each of the five most recently completed fiscal years and any required interim periods will each be specified in a prospectus supplement or in a document that we file with the SEC and incorporate by reference pertaining to the issuance, if any, by us of preference securities in the future.

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USE OF PROCEEDS

Except as described in any prospectus supplement or in any related free writing prospectus that we may authorize to be provided to you, the net proceeds received by us from our sale of the securities described in this prospectus will be added to our general funds and will be used for our general corporate purposes. From time to time, we may engage in additional public or private financings of a character and amount which we may deem appropriate.

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DILUTION

If there is a material dilution of the purchasers' equity interest from the sale of common equity securities offered under this prospectus, we will set forth in any prospectus supplement the following information regarding any such material dilution of the equity interests of purchasers' securities in an offering under this prospectus:

the net tangible book value per share of our equity securities before and after the offering;

the amount of the increase in such net tangible book value per share attributable to the cash payments made by the purchasers in the offering; and

the amount of the immediate dilution from the public offering price which will be absorbed by such purchasers.

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PLAN OF DISTRIBUTION

We may sell the securities from time to time pursuant to underwritten public offerings, negotiated transactions, block trades or a combination of these methods. We may sell the securities to or through underwriters or dealers, through agents, or directly to one or more purchasers. We may distribute securities from time to time in one or more transactions:

at a fixed price or prices, which may be changed;

at market prices prevailing at the time of sale;

at prices related to such prevailing market prices; or

at negotiated prices.

Each time we offer and sell securities, we will provide a prospectus supplement that will set forth the terms of the offering of the securities, including:

the name or names of the underwriters, if any;

the purchase price of the securities and the proceeds we will receive from the sale;

any over-allotment options under which underwriters may purchase additional securities;

any agency fees or underwriting discounts and other items constituting agents or underwriters compensation;

any public offering price;

any discounts or concessions allowed or reallocated or paid to dealers; and

any securities exchange or market on which the securities may be listed.

If underwriters are used in the sale, they will acquire the securities for their own account and may resell the securities from time to time in one or more transactions at a fixed public offering price or at varying prices determined at the time of sale. The obligations of the underwriters to purchase the securities will be subject to the conditions set forth in the applicable underwriting agreement. We may offer the securities to the public through underwriting syndicates represented by managing underwriters or by underwriters without a syndicate. Subject to certain conditions, the

underwriters will be obligated to purchase all of the securities offered by the prospectus supplement, other than securities covered by any over-allotment option. Any public offering price and any discounts or concessions allowed or reallocated or paid to dealers may change from time to time. We may use underwriters with whom we or they have a material relationship. The prospectus supplement, naming the underwriter, will describe the nature of any such relationship.

We may sell securities directly or through agents we or they designate from time to time. The prospectus supplement will name any agent involved in the offering and sale of securities and any commissions we will pay to them. Unless the prospectus supplement states otherwise, any agent will be acting on a best-efforts basis for the period of its appointment.

We may authorize agents or underwriters to solicit offers by certain purchasers to purchase securities from us or them at the public offering price set forth in the prospectus supplement pursuant to delayed delivery contracts providing for payment and delivery on a specified date in the future. The prospectus supplement will set forth the conditions to these contracts and any commissions we must pay for solicitation of these contracts.

We may provide agents and underwriters with indemnification against civil liabilities, including liabilities under the Securities Act, or contribution with respect to payments that the agents or underwriters may make with respect to these liabilities. Agents and underwriters may engage in transactions with, or perform services for, us in the ordinary course of business.

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All securities we may offer, other than common stock, will be new issues of securities with no established trading market. Any underwriters may make a market in these securities, but will not be obligated to do so and may discontinue any market making at any time without notice. We cannot guarantee the liquidity of the trading markets for any securities.

Any underwriter may engage in over-allotment, stabilizing transactions, short-covering transactions and penalty bids in accordance with Regulation M under the Exchange Act. Over-allotment involves sales in excess of the offering size, which create a short position. Stabilizing transactions permit bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum price. Syndicate-covering or other short-covering transactions involve purchases of the securities, either through exercise of the over-allotment option or in the open market after the distribution is completed, to cover short positions. Penalty bids permit the underwriters to reclaim a selling concession from a dealer when the securities originally sold by the dealer are purchased in a stabilizing or covering transaction to cover short positions. Those activities may cause the price of the securities to be higher than it would otherwise be. If commenced, the underwriters may discontinue any of the activities at any time.

Any underwriters that are qualified market makers on the New York Stock Exchange, or NYSE, may engage in passive market making transactions in the common stock on the NYSE in accordance with Regulation M under the Exchange Act, during the business day prior to the pricing of the offering, before the commencement of offers or sales of the common stock. Passive market makers must comply with applicable volume and price limitations and must be identified as passive market makers. In general, a passive market maker must display its bid at a price not in excess of the highest independent bid for such security; if all independent bids are lowered below the passive market maker's bid, however, the passive market maker's bid must then be lowered when certain purchase limits are exceeded. Passive market making may stabilize the market price of the securities at a level above that which might otherwise prevail in the open market and, if commenced, may be discontinued at any time.

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DESCRIPTION OF CAPITAL STOCK

General

Our authorized capital stock consists of 250,000,000 shares of common stock, \$0.01 par value per share, and 5,000,000 shares of preferred stock, \$0.01 par value per share. As of May 31, 2014, there were 18,586,299 shares of our common stock outstanding, warrants issued as part of the units in our initial public offering, or IPO warrants, to purchase 4,000,000 shares of our common stock and warrants issued prior to our initial public offering, or legacy warrants, to purchase 1,305,371 shares of our common stock outstanding.

The following summary description of our capital stock is based on the provisions of our amended and restated certificate of incorporation, amended and restated bylaws, form of IPO warrant, legacy warrants and the applicable provisions of the Delaware General Corporation Law. This information is qualified entirely by reference to the applicable provisions of our amended and restated certificate of incorporation, amended and restated bylaws, form of IPO warrant, legacy warrants and the Delaware General Corporation Law. For information on how to obtain copies of our amended and restated certificate of incorporation and amended and restated bylaws, which are exhibits to the registration statement of which this prospectus is a part, see [Where You Can Find Additional Information](#) and [Incorporation of Certain Information by Reference](#).

Common Stock

Holders of our common stock are entitled to one vote for each share of common stock held of record for the election of directors and on all matters submitted to a vote of stockholders. Holders of our common stock do not have cumulative voting rights in the election of directors. 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. There are no sinking fund provisions applicable to our common stock. 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 under [Antitakeover Effects of Delaware Law, Provisions of our Amended and Restated Certificate of Incorporation and Amended and Restated By-laws and French Law Takeover Regulations](#) below, a majority vote of the holders of common stock is generally required to take action under our amended and restated certificate of incorporation and amended and restated by-laws.

IPO Warrants

The following description of our IPO warrants is subject to, and qualified in its entirety by, the form of IPO warrant, which filed as an exhibit to our registration statement on Form S-1 file number 333-177917. You should review a copy of the form of IPO warrant for a complete description of the terms and conditions applicable to the IPO warrants.

Term. The IPO warrants are exercisable during the period beginning on August 8, 2013 and ending at 5:30 P.M. on May 9, 2017. The term can also be extended by us at our sole discretion.

Anti-Dilution Protection. The IPO warrants contain full ratchet anti-dilution protection upon the issuance of any common stock, securities convertible into common stock or certain other issuances at a price below the then-existing exercise price of the IPO warrants, with certain exceptions.

Exercise Price. The exercise price of the IPO warrants is \$11.00 per whole share of common stock. The exercise price is subject to appropriate adjustment in the event of certain stock dividends and distributions, stock

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splits, stock combinations, stock issuances, reclassifications or similar events affecting our common stock, as well as the anti-dilution protection described above. The exercise price can also be lowered by us at our sole discretion.

Exercisability. The IPO warrants became exercisable on August 8, 2013 and are exercisable at any time during the applicable term of the IPO warrant. The IPO warrants are exercisable, at the option of each holder, in whole or in part, by delivering to us a duly executed exercise notice accompanied by payment in full for the number of shares of our common stock purchased upon such exercise.

No Fractional Shares. No fractional shares or scrip representing fractional shares shall be issued upon the exercise of the IPO warrants. As to any fraction of a share which the holder would otherwise be entitled to purchase upon such exercise, we shall, at our election, either pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the exercise price of the IPO warrant or round up to the next whole share.

Transferability. Subject to applicable laws and the restriction on transfer set forth in the IPO warrants, the IPO warrants may be transferred at the option of the holder upon surrender of the IPO warrants to us together with the appropriate instruments of transfer.

Authorized Shares. During the period the IPO warrants are outstanding, we will reserve from our authorized and unissued common stock a sufficient number of shares to provide for the issuance of shares of common stock underlying the IPO warrants upon the exercise of the IPO warrants.

Exchange Listing. The IPO warrants are listed on NYSE under the symbol `BIOA.WS`.

Fundamental Transactions. In the event of any fundamental transaction, as described in the IPO warrants and generally including any merger with or into another entity, sale of all or substantially all of our assets, tender offer or exchange offer, or reclassification of our common stock, then upon any subsequent exercise of an IPO warrant the holder shall have the right to receive as alternative consideration, for each share of our common stock that would have been issuable upon such exercise immediately prior to the occurrence of such fundamental transaction, the number of shares of common stock of the successor or acquiring corporation or of BioAmber, if it is the surviving corporation, and any additional consideration receivable upon or as a result of such transaction by a holder of the number of shares of our common stock for which the IPO warrant is exercisable immediately prior to such event. In addition, in the event of a fundamental transaction in which the amount of the alternate consideration is less than the exercise price of the warrant, then we or any successor entity shall pay at the holder's option, exercisable at any time concurrently with or within ninety (90) days after the consummation of the fundamental transaction, an amount of cash equal to the value of the IPO warrant as determined in accordance with the Black Scholes option pricing model.

Right as a Stockholder. Except as otherwise provided in the IPO warrants or by virtue of such holder's ownership of shares of our common stock, the holders of the IPO warrants do not have the rights or privileges of holders of our common stock, including any voting rights, until they exercise their IPO warrants.

Waivers and Amendments. Any term of the IPO warrants may be amended or waived with our written consent and the written consent of holders representing $66\frac{2}{3}\%$ of the shares of common stock issuable upon exercise of the IPO warrants then outstanding. The foregoing notwithstanding, we may extend the termination date and reduce the exercise price without the consent of the holders.

Enforceability of Rights by Holders of IPO Warrants. Each IPO warrant agent will act solely as our agent under the applicable IPO warrant agreement and will not assume any obligation or relationship of agency or trust with any holder of any IPO warrant. A single bank or trust company may act as IPO warrant agent for more than one issue of

IPO warrants. A IPO warrant agent will have no duty or responsibility in case of any default by us under the applicable IPO warrant agreement or IPO warrant, including any duty or responsibility to initiate any

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proceedings at law or otherwise, or to make any demand upon us. Any holder of a an IPO warrant may, without the consent of the related IPO warrant agent or the holder of any other IPO warrant, enforce by appropriate legal action its right to exercise, and receive the securities purchasable upon exercise of, its IPO warrants.

Legacy Warrants

As of May 31, 2014, legacy warrants to purchase 334,541 shares of our common stock at an exercise price of \$1.07, legacy warrants to purchase 610,890 shares of our common stock at an exercise price of \$1.43 per share, legacy warrants to purchase 264,670 shares of our common stock at an exercise price of \$5.74 per share, and legacy warrants to purchase 96,576 shares of our common stock at an exercise price of \$10.55 per share were outstanding. Some of these legacy warrants have a net exercise provision under which its holder may, in lieu of payment of the exercise price in cash, surrender the legacy warrant and receive a net amount of shares based on a the fair market value of our common stock at the time of exercise of the legacy warrant after deduction of the aggregate exercise price. Each warrant contains provisions for the adjustment of the exercise price and the number of shares issuable upon the exercise of the legacy warrant in the event of certain stock dividends, stock splits, reorganizations, reclassifications and consolidations. Certain holders of the shares issuable upon exercise of our legacy warrants are entitled to registration rights with respect to such shares as described in greater detail under the heading Registration Rights below.

Preferred Stock

Pursuant to our amended and restated certificate of incorporation, our board of directors has the authority, without further action by the stockholders (unless such stockholder action is required by applicable law or NYSE rules), to designate and issue up to 5,000,000 shares of preferred stock in one or more series, to establish from time to time the number of shares to be included in each such series, to fix the rights, preferences and privileges of the shares of each wholly unissued series, and any qualifications, limitations or restrictions thereon, and to increase or decrease the number of shares of any such series, but not below the number of shares of such series then outstanding.

We will fix the rights, preferences and privileges of the preferred stock of each such series, as well as any qualifications, limitations or restrictions thereon, in the certificate of designation relating to that series. We will file as an exhibit to the registration statement of which this prospectus is a part, or will incorporate by reference from reports that we file with the SEC, the form of any certificate of designation that describes the terms of the series of preferred stock we are offering before the issuance of that series of preferred stock. This description will include:

the title and stated value;

the number of shares we are offering;

the liquidation preference per share;

the purchase price;

the dividend rate, period and payment date and method of calculation for dividends;

whether dividends will be cumulative or non-cumulative and, if cumulative, the date from which dividends will accumulate;

the procedures for any auction and remarketing, if any;

the provisions for a sinking fund, if any;

the provisions for redemption or repurchase, if applicable, and any restrictions on our ability to exercise those redemption and repurchase rights;

any listing of the preferred stock on any securities exchange or market;

whether the preferred stock will be exchangeable into debt securities, and, if applicable, the exchange price, or how it will be calculated, and the exchange period;

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voting rights, if any, of the preferred stock;

preemptive rights, if any;

restrictions on transfer, sale or other assignment, if any;

whether interests in the preferred stock will be represented by depositary shares;

a discussion of any material United States federal income tax considerations applicable to the preferred stock;

the relative ranking and preferences of the preferred stock as to dividend rights and rights if we liquidate, dissolve or wind up our affairs;

any limitations on the issuance of any class or series of preferred stock ranking senior to or on a parity with the series of preferred stock as to dividend rights and rights if we liquidate, dissolve or wind up our affairs; and

any other specific terms, preferences, rights or limitations of, or restrictions on, the preferred stock.

The General Corporation Law of the State of Delaware, the state of our incorporation, provides that the holders of preferred stock will have the right to vote separately as a class (or, in some cases, as a series) on an amendment to our amended and restated certificate of incorporation if the amendment would change the par value, the number of authorized shares of the class or the powers, preferences or special rights of the class or series so as to adversely affect the class or series, as the case may be. This right is in addition to any voting rights that may be provided for in the applicable certificate of designation.

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 our common stock. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions and other corporate purposes, could, among other things, have the effect of delaying, deferring or preventing a change in our control and may adversely affect the market price of the common stock and the voting and other rights of the holders of common stock. Additionally, the issuance of preferred stock may have the effect of decreasing the market price of our common stock.

Stock and Warrant Issuances

On June 22, 2009, we issued 35 shares of common stock, a secured convertible promissory note and warrants to purchase 208,985 shares of common stock in a private placement to FCPR Sofinnova Capital VI for gross proceeds of \$4,201,000. The note matured October 30, 2009 and was converted into 696,500 shares of common stock in connection with the October 22, 2009 transaction described below. The warrants are exercisable for 208,985 common stock at \$5.74 per share and have a 10 year term.

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On October 22, 2009, we issued an aggregate of 2,089,570 shares of common stock in a private placement at a per share price of \$5.74 for aggregate consideration of \$12 million. The transaction included the issuance of 695,500 shares of common stock upon the conversion of a promissory note issued on June 22, 2009 with an aggregate principal amount of \$4 million and a conversion price of \$5.74 per share. The table below sets forth the purchase price and the shares of common stock issued to our directors, executive officers, beneficial owners of more than 5% of our voting capital stock and their affiliates and other holders of registration rights described below under the caption **Registration Rights** in the transaction.

	Shares of Common Stock	Purchase Price
FCPR Sofinnova Capital VI	1,393,035	\$ 8,000,102 ⁽¹⁾
MCVP Technology Fund I, LLC	348,250	1,999,950
Clifton Equities Inc.	87,080	499,839

(1) Includes amounts converted from promissory note issued June 22, 2009.

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On November 23, 2010, we issued unsecured convertible promissory notes in a private placement for aggregate proceeds of \$4 million. The promissory notes were converted into an aggregate of 379,155 shares of common stock and warrants to purchase 94,745 shares of common stock at an exercise price of \$10.55 with a 10 year term in connection with the April 15, 2011 transaction described below. The table below sets forth the principal amount of the promissory notes issued to our directors, executive officers, beneficial owners of more than 5% of our voting capital stock and their affiliates and other holders of registration rights described below under the caption Registration Rights as well as the number of shares of common stock and warrants to purchase common stock into which the promissory notes were converted.

	Principal Amount of Promissory Note	Shares of Common Stock	Warrants to Purchase Common Stock
FCPR Sofinnova Capital VI	\$ 2,932,242	278,005	69,475
MCVP Technology Fund I, LLC	\$ 665,128	63,035	15,750
Jean-François Huc	\$ 25,000	2,345	595
Michael Hartmann	\$ 25,000	2,345	595

On April 15, 2011, we issued an aggregate of 4,266,640 shares of common stock and warrants for 94,745 shares of common stock in a private placement at a per share price of \$10.55 for aggregate consideration of \$45 million. The table below sets forth the purchase price and number of shares issued to our directors, executive officers and beneficial owners of more than 5% of our voting capital stock and their affiliates in and other holders of registration rights described below under the caption Registration Rights in the transaction.

	Shares of Common Stock Purchased	Total Purchase Price
Naxamber S.A.	2,370,375	\$ 25,000,006.50
FCPR Sofinnova Capital VI	932,050	\$ 9,830,198.20
Mitsui & Co., Ltd.	758,520	\$ 8,000,002.08
MCVP Technology Fund I, LLC	151,690	\$ 1,599,852.76
Jean-François Huc	2,345	\$ 24,732.38
Mike Hartmann	2,345	\$ 24,732.38
Clifton Equities Inc.	24,570	\$ 699,999.30

On November 4, 2011, we issued an aggregate of 702,135 shares of common stock in a private placement at a per share price of \$28.49 for aggregate proceeds of approximately \$20 million. The table below sets forth the shares of common stock issued to and the aggregate price paid by our directors, executive officers, beneficial owners of more than 5% of our voting capital stock and their affiliates and other holders of registration rights described below under the caption Registration Rights .

	Shares of Common Stock Purchased	Total Purchase Price
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Naxamber S.A.	428,295	\$ 12,200,289
FCPR Sofinnova Capital VI	214,165	\$ 6,100,643
Mitsui & Co., Ltd.	35,105	\$ 999,991
Clifton Equities Inc.	47,425	\$ 500,338

On February 6, 2012, we issued in a private placement an aggregate of 351,050 shares of common stock at a per share cost of \$28.49 to LANXESS Corporation for aggregate consideration of \$10 million.

Registration Rights

The holders of an aggregate of 8,488,213 shares of our common stock, including shares of common stock described above under the caption Stock and Warrant Issuances, shares of common stock issuable upon

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exercise of our legacy warrants, and/or their permitted transferees, are entitled to rights with respect to the registration of these shares under the Securities Act for resale to the public. These shares are referred to as registrable securities. All of these rights are provided under the terms of our amended and restated shareholders' agreement between us and the holders of these shares, and include demand registration rights, piggyback registration rights and Form S-3 registration rights, in each case as described below.

This registration statement may be used by selling stockholders who acquired shares of our common stock or securities exercisable for shares of our common stock in the transactions described above under the caption "Stock and Warrant Issuances" or upon the exercise of certain of our legacy warrants. Such selling stockholders, if any, will be identified in accordance with rules promulgated under the Securities Act of 1933, as amended.

Demand Registration Rights

The holders of a majority of the registrable securities, or initiating holders, subject to certain limitations, have the right to demand that we file a registration statement covering the registration of at least 10% of the registrable securities then outstanding and having an aggregate price to the public of not less than \$15.0 million. We will not be required to effect a registration if (1) we have effected three registrations that have been declared effective and have remained effective until the holders have completed the distribution related thereto, (2) our board of directors, in its reasonable judgment, determines that it would be detrimental to us and our stockholders for such registration statement to be effected at such time, in which case we have the right to defer such filing for up to 90 days following receipt of the demand request from the holders and (3) the initiating holders propose to dispose of registrable securities that are immediately registrable on Form S-3.

Piggyback Registration Rights

Subject to certain limitations, if at any time we file a registration statement for a public offering of any of our securities, other than a registration statement relating to our employee benefit plan, a corporate reorganization or other transaction under Rule 145 of the Securities Act, the holders of registrable securities will have the right to include all or any part of their registrable securities in the registration statement. The underwriters of any underwritten offering will have the right to limit the number of shares having registration rights to be included in the registration statement to an amount not below 20% of the total number of shares included in the registration statement.

Form S-3 Registration Rights

At any time after we become eligible to file a registration statement on Form S-3, any holder or holders of registrable securities for which a Form S-3 is available may require us to file such a registration statement having an aggregate price to the public of not less than \$1.0 million. We are not obligated to file more than two Form S-3 registration statements in any twelve-month period. In addition, we will not be obligated to effect a registration if (1) a Form S-3, is not available for such offering by the holder or holders, (2) our board of directors, in its reasonable judgment, determines that it would be detrimental to us and our stockholders for such registration statement to be effected at such time, in which case we have the right to defer such filing for up to 90 days following receipt of the Form S-3 demand request from the holder or holders and (3) with respect to a particular jurisdiction, we would be required to qualify to do business or to execute a general consent to service of process in effecting such registration, qualification or compliance.

Registration Expenses

We are generally required to bear the expenses of all registrations, including the expense of a single special counsel to the holders of each registration not to exceed \$75,000 per registration. However, we will not be required to pay for underwriting discounts and commissions or expenses in connection with the exercise of demand and piggyback registration rights if the request is subsequently withdrawn by the holders of a majority of the registrable securities, subject to limited exceptions.

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Antitakeover Effects of Delaware Law, Provisions of our Amended and Restated Certificate of Incorporation and Amended and Restated By-laws and French Law Takeover Regulations

Certain provisions of the Delaware General Corporation Law and of our amended and restated certificate of incorporation and amended and restated by-laws could have the effect of delaying, deferring or discouraging another party from acquiring control of us. These provisions, which are summarized below, are expected to discourage certain types of coercive takeover practices and inadequate takeover bids and, as a consequence, they might also inhibit temporary fluctuations in the market price of our common stock that often result from actual or rumored hostile takeover attempts. These provisions are also designed in part to encourage anyone seeking to acquire control of us to first negotiate with our board of directors. These provisions might also have the effect of preventing changes in our management. It is possible that these provisions could make it more difficult to accomplish transactions that stockholders might otherwise deem to be in their best interests. However, we believe that the advantages gained by protecting our ability to negotiate with any unsolicited and potentially unfriendly acquirer outweigh the disadvantages of discouraging such proposals, including those priced above the then-current market value of our common stock, because, among other reasons, the negotiation of such proposals could improve their terms.

Delaware Takeover Statute

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

before the time the stockholder became interested, the board of directors approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;

upon consummation of the transaction which resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the voting stock outstanding, shares owned by persons who are directors and also officers, and employee stock plans, in some instances; or

at or after the time the stockholder became interested, the business combination was approved by the board of directors of the corporation and authorized at an annual or special meeting of the stockholders by the affirmative vote of at least two-thirds of the outstanding voting stock which is not owned by the interested stockholder.

Provisions of Our Amended and Restated Certificate of Incorporation and Amended and Restated By-laws

Our amended and restated certificate of incorporation and amended and restated by-laws to be in effect upon completion of this offering will include a number of provisions that may have the effect of delaying, deferring or

discouraging another party from acquiring control of us and 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 amended and restated certificate of incorporation, our board is divided into three classes serving staggered three-year terms, with one class being elected each year. Our amended and restated certificate of incorporation also provides that directors may be

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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 amended and restated 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. This limit may lengthen the amount of time required to take stockholder actions and would prevent the amendment of our by-laws or removal of directors by our stockholder without holding a meeting of stockholders.

Meetings of stockholders. Our amended and restated 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 amended and restated 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 amended and restated 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 or 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 our amended and restated by-laws.

Adjournment of stockholders meetings. Our amended and restated by-laws give the presiding officer at the stockholders meeting the authority to reschedule or adjourn such meeting if: no quorum is present for the transaction of business; the board determines that an adjournment is necessary or appropriate to enable the stockholders to consider fully information which the board determines has not been made sufficiently or timely available to stockholders; or the board determines that adjournment is otherwise in the best interests of the company. This limit may lengthen the amount of time required to take stockholder actions.

Amendment to certificate of incorporation and by-laws. As required by the Delaware General Corporation Law, any amendment of our amended and restated certificate of incorporation must first be approved by a majority of our board of directors, and if required by law or our amended and restated certificate of incorporation, must 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, the exclusive jurisdiction of Delaware courts and the amendment of our amended and restated certificate of incorporation or our amended and restated by-laws 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 amended and restated by-laws may be amended by the affirmative vote of a majority vote 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.

Undesignated preferred stock. Our amended and restated certificate of incorporation provides for authorized shares of preferred stock. The existence of authorized but unissued shares of preferred stock may enable our board of directors to render more difficult or to discourage an attempt to obtain control of us by means of a merger, tender offer, proxy contest or otherwise. For example, if in the due exercise of its fiduciary obligations, our board of directors were to determine that a takeover proposal is not in the best interests of us or our

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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 amended and restated certificate of incorporation grants our board of directors broad power to establish the rights and preferences of authorized and unissued shares of preferred stock. The issuance of shares of preferred stock could decrease the amount of earnings and assets available for distribution to holders of shares of common stock. The issuance may also adversely affect the rights and powers, including voting rights, of these holders and may have the effect of delaying, deterring or preventing a change in control of us.

Squeeze-Out Provisions

Section 253 of the Delaware General Corporation Law authorizes the board of directors of a Delaware corporation that owns 90% or more of each of the outstanding classes of stock of a subsidiary that are entitled to vote on a merger to merge the subsidiary into itself without any requirement for action to be taken by the board of directors or the stockholders of the subsidiary.

Exclusive Jurisdiction of Delaware Courts

Our amended and restated certificate of incorporation provides that, unless we consent in writing to an alternative forum, the Court of Chancery of the State of Delaware shall be the sole and exclusive forum for (1) any derivative action or proceeding brought on behalf of our company, (2) any action asserting a claim of breach of a fiduciary duty owed by any director, officer or other employee of our company to the company or the company's stockholders, (3) any action asserting a claim arising pursuant to any provision of the Delaware General Corporation Law or our amended and restated certificate of incorporation or our amended and restated by-laws, or (4) any action asserting a claim against our company or any of our directors or officers governed by the internal affairs doctrine. Any person or entity purchasing or otherwise acquiring any interest in shares of our capital stock shall be deemed to have notice of and consented to the forum provisions in our amended and restated certificate of incorporation. However, the enforceability of similar forum provisions in other companies' certificates of incorporation has been challenged in legal proceedings, and it is possible that a court could find these types of provisions to be unenforceable.

French Law Takeover Regulations

Our shares of common stock are also listed on NYSE Euronext Paris, as a result we expect to be subject to certain takeover regulations of the *Autorité des marchés financiers*, or the AMF, which is the securities regulatory authority in France. Pursuant to Article 231-1 of the AMF General Regulation, the AMF may apply its takeover rules, except for those governing standing market offers, buyout offers with squeeze-outs, and squeeze-outs, to takeovers for securities issued by companies such as ours whose registered offices are not in the European Economic Area.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock and IPO warrants is Computershare Trust Company, N.A.

Paying Agent

The paying agent, for purposes of any shares that trade on NYSE Euronext Paris, is BNP Paribas Securities Services.

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Listing

Our common stock is listed on the New York Stock Exchange, or NYSE, under the symbol BIOA. Our common stock is also listed on the Professional Segment of NYSE Euronext Paris, or NYSE Euronext Paris, under the symbol BIOA. Our common stock trades simultaneously in U.S. dollars on NYSE and in Euros on NYSE Euronext Paris. NYSE and NYSE Euronext Paris are part of the NYSE Euronext group. The dual listing of our common stock reflects our global focus and is intended to promote additional liquidity for our investors and provide greater access to our common stock among fund managers in Europe who may be required to invest in Euro-zone markets or currencies only.

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DESCRIPTION OF OUR DEBT SECURITIES

The following description, together with the additional information we include in any applicable prospectus supplements or free writing prospectuses that we may authorize to be distributed to purchasers, summarizes the material terms and provisions of the debt securities that we may offer under this prospectus. We may issue debt securities, in one or more series, as either senior or subordinated debt or as senior or subordinated convertible debt. We refer to the senior and subordinated debt and senior and subordinated convertible debt collectively as debt securities. While the terms we have summarized below will generally apply to any future debt securities we may offer under this prospectus, a prospectus supplement or free writing prospectus will describe the particular terms of any debt securities that we may offer in more detail in the applicable prospectus supplement or free writing prospectus. The terms of any debt securities we offer under a prospectus supplement or free writing prospectus may differ from the general terms we describe below.

We may issue senior debt securities from time to time, in one or more series, under a senior indenture to be entered into between us and a senior trustee to be named in a prospectus supplement, which we refer to as the senior trustee. We may issue subordinated debt securities from time to time, in one or more series, under a subordinated indenture to be entered into between us and a subordinated trustee to be named in a prospectus supplement, which we refer to as the subordinated trustee. The forms of senior indenture and subordinated indenture are filed as exhibits to this registration statement of which this prospectus forms a part. Together, the senior indenture and the subordinated indenture are referred to as the indentures and, together, the senior trustee and the subordinated trustee are referred to as the trustees. This prospectus briefly outlines some of the provisions of the indentures.

None of the indentures will limit the amount of debt securities that we may issue. The applicable indenture will provide that debt securities may be issued up to an aggregate principal amount authorized from time to time by us and may be payable in any currency or currency unit designated by us or in amounts determined by reference to an index.

The following summaries of material provisions of the senior debt securities, the subordinated debt securities and the indentures are subject to, and qualified in their entirety by reference to, all of the provisions of the indenture applicable to a particular series of debt securities. We urge you to read the applicable prospectus supplement or free writing prospectus and any related free writing prospectuses related to the debt securities that we may offer under this prospectus, as well as the complete applicable indenture that contains the terms of the debt securities.

General

We will describe in the applicable prospectus supplement or free writing prospectus the terms of the series of debt securities being offered, including:

the title;

the principal amount being offered, and if a series, the total amount authorized and the total amount outstanding;

any limit on the amount that may be issued;

whether or not we will issue the series of debt securities in global form, and, if so, the terms and who the depository will be;

the maturity date;

whether and under what circumstances, if any, we will pay additional amounts on any debt securities held by a person who is not a United States person for tax purposes, and whether we can redeem the debt securities if we have to pay such additional amounts;

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the annual interest rate, which may be fixed or variable, or the method for determining the rate and the date interest will begin to accrue, the dates interest will be payable and the regular record dates for interest payment dates or the method for determining such dates;

whether or not the debt securities will be secured or unsecured, and the terms of any secured debt;

the terms of the subordination of any series of subordinated debt;

the place where payments will be payable;

restrictions on transfer, sale or other assignment, if any;

our right, if any, to defer payment of interest and the maximum length of any such deferral period;

the date, if any, after which, the conditions upon which, and the price at which, we may, at our option, redeem the series of debt securities pursuant to any optional or provisional redemption provisions and the terms of those redemption provisions;

the date, if any, on which, and the price at which we are obligated, pursuant to any mandatory sinking fund or analogous fund provisions or otherwise, to redeem, or at the holder's option, to purchase, the series of debt securities and the currency or currency unit in which the debt securities are payable;

whether the indenture will restrict our ability or the ability of our subsidiaries to:

incur additional indebtedness;

issue additional securities;

create liens;

pay dividends or make distributions in respect of our capital stock or the capital stock of our subsidiaries;

redeem capital stock;

place restrictions on our subsidiaries' ability to pay dividends, make distributions or transfer assets;

make investments or other restricted payments;

sell or otherwise dispose of assets;

enter into sale-leaseback transactions;

engage in transactions with stockholders or affiliates;

issue or sell stock of our subsidiaries; or

effect a consolidation or merger;

whether the indenture will require us to maintain any interest coverage, fixed charge, cash flow-based, asset-based or other financial ratios;

a discussion of certain material or special United States federal income tax considerations applicable to the debt securities;

information describing any book-entry features;

provisions for a sinking fund purchase or other analogous fund, if any;

the applicability of the provisions in the indenture on discharge;

whether the debt securities are to be offered at a price such that they will be deemed to be offered at an original issue discount as defined in paragraph (a) of Section 1273 of the Internal Revenue Code of 1986, as amended;

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the denominations in which we will issue the series of debt securities, if other than denominations of \$1,000 and any integral multiple thereof;

the currency of payment of debt securities if other than U.S. dollars and the manner of determining the equivalent amount in U.S. dollars; and

any other specific terms, preferences, rights or limitations of, or restrictions on, the debt securities, including any additional events of default or covenants provided with respect to the debt securities, and any terms that may be required by us or advisable under applicable laws or regulations or advisable in connection with the marketing of the debt securities.

We may, from time to time, without notice to or the consent of the holders of any series of debt securities, create and issue further debt securities of any such series ranking equally with the debt securities of such series in all respects (or in all respects other than (a) the payment of interest accruing prior to the issue date of such further debt securities or (b) the first payment of interest following the issue date of such further debt securities). Such further debt securities may be consolidated and form a single series with the debt securities of such series and have the same terms as to status, redemption or otherwise as the debt securities of such series.

Certain Terms of the Senior Debt Securities

Conversion or Exchange Rights. We will set forth in the applicable prospectus supplement or free writing prospectus the terms on which a series of senior debt securities may be convertible into or exchangeable for our common stock, our preferred stock or other securities (including securities of a third-party). We will include provisions as to whether conversion or exchange is mandatory, at the option of the holder or at our option. We may include provisions pursuant to which the number of shares of our common stock, our preferred stock or other securities (including securities of a third-party) that the holders of the series of senior debt securities receive would be subject to adjustment.

Consolidation, Merger or Sale. Unless we provide otherwise in the prospectus supplement or free writing prospectus applicable to a particular series of senior debt securities, the senior debt securities will not contain any covenant that restricts our ability to merge or consolidate, or sell, convey, transfer or otherwise dispose of all or substantially all of our assets. However, any successor to or acquirer of such assets must assume all of our obligations under the senior indentures or the senior debt securities, as appropriate. If the senior debt securities are convertible into or exchangeable for other securities of ours or securities of other entities, the person with whom we consolidate or merge or to whom we sell all of our property must make provisions for the conversion of the senior debt securities into securities that the holders of the senior debt securities would have received if they had converted the senior debt securities before the consolidation, merger or sale.

No Protection in the Event of a Change in Control. Unless we indicate otherwise in a prospectus supplement or free writing prospectus applicable to a particular series of senior debt securities, the senior debt securities will not contain any provisions that may afford holders of the senior debt securities protection in the event we have a change in control or in the event of a highly leveraged transaction (whether or not such transaction results in a change in control).

Events of Default. Unless we provide otherwise in the prospectus supplement or free writing prospectus applicable to a particular series of senior debt securities, the following are events of default under the senior indentures with respect to any series of senior debt securities that we may issue:

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if we fail to pay interest when due and payable and our failure continues for 90 days (or such other period as may be specified for such series) and the time for payment has not been extended;

if we fail to pay the principal, premium or sinking fund payment, if any, when due and payable at maturity, upon redemption or repurchase or otherwise (and, if specified for such series, the continuance of such failure for a specified period), and the time for payment has not been extended;

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if we fail to observe or perform any other covenant contained in the senior debt securities or the senior indentures, other than a covenant that is specifically dealt with elsewhere in the senior indenture, and our failure continues for 90 days after we receive notice from the trustee or holders of at least 25% in aggregate principal amount of the outstanding senior debt securities of the applicable series; and

if specified events of bankruptcy, insolvency or reorganization occur.

We will describe in each applicable prospectus supplement or free writing prospectus any additional events of default relating to the relevant series of senior debt securities.

If an event of default with respect to senior debt securities of any series occurs and is continuing, other than an event of default specified in the last bullet point above, the trustee or the holders of at least 25% in aggregate principal amount of the outstanding senior debt securities of that series, by notice to us in writing, and to the trustee if notice is given by such holders, may declare the unpaid principal, premium, if any, and accrued interest, if any, due and payable immediately. If an event of default specified in the last bullet point above occurs with respect to us, the unpaid principal, premium, if any, and accrued interest, if any, of each issue of senior debt securities then outstanding shall be due and payable without any notice or other action on the part of the trustee or any holder.

Unless otherwise specified in the prospectus supplement or free writing prospectus applicable to a particular series of senior debt securities originally issued at a discount, the amount due upon acceleration shall include only the original issue price of the senior debt securities, the amount of original issue discount accrued to the date of acceleration and accrued interest, if any.

The holders of a majority in principal amount of the outstanding senior debt securities of an affected series may waive any default or event of default with respect to the series and its consequences, except defaults or events of default regarding payment of principal, premium, if any, or interest, unless we have cured the default or event of default in accordance with the senior indenture. Any waiver shall cure the default or event of default.

Upon certain conditions, declarations of acceleration may be rescinded and annulled and past defaults may be waived by the holders of a majority in aggregate principal amount of all the senior debt securities of such series affected by the default. Furthermore, prior to a declaration of acceleration and subject to various provisions in the senior indenture, the holders of a majority in aggregate principal amount of a series of senior debt securities, by notice to the trustee, may waive an existing default or event of default with respect to such senior debt securities and its consequences, except a default in the payment of principal of, premium, if any, on or interest on such senior debt securities. Upon any such waiver, such default shall cease to exist, and any event of default with respect to such senior debt securities shall be deemed to have been cured, for every purpose of the senior indenture, but no such waiver shall extend to any subsequent or other default or event of default or impair any right consequent thereto.

The holders of a majority in aggregate principal amount of a series of senior debt securities will have the right to direct the time, method and place of conducting any proceeding for any remedy available to the trustee or exercising any trust or power conferred on the trustee with respect to such senior debt securities. However, the trustee may refuse to follow any direction that conflicts with law or the senior indenture that may involve the trustee in personal liability or that the trustee determines in good faith may be unduly prejudicial to the rights of holders of such series of senior debt securities not joining in the giving of such direction and may take any other action it deems proper that is not inconsistent with any such direction received from holders of such series of senior debt securities. A holder of the senior debt securities of any series will have the right to institute a proceeding under the senior indentures or to appoint a receiver or trustee, or to seek other remedies if:

the holder has given written notice to the trustee of a continuing event of default with respect to that series;

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the holders of at least 25% in aggregate principal amount of the outstanding senior debt securities of that series have made written request, and such holders have offered reasonable indemnity to the trustee or security satisfactory to it against any loss, liability or expense or to be incurred in compliance with instituting the proceeding as trustee; and

the trustee does not institute the proceeding, and does not receive from the holders of a majority in aggregate principal amount of the outstanding senior debt securities of that series other conflicting directions within 90 days after the notice, request and offer.

These limitations do not apply to a suit instituted by a holder of senior debt securities if we default in the payment of the principal, premium, if any, or interest on, the senior debt securities, or other defaults that may be specified in the applicable prospectus supplement or free writing prospectus.

Modification and Waiver. We and the trustee may amend, supplement or modify a senior indenture or the senior debt securities without the consent of any holders with respect to the following specific matters:

to fix any ambiguity, defect or inconsistency in the senior indenture or to conform the senior indenture or the senior debt securities to the description of senior debt securities of such series set forth in this prospectus or any applicable prospectus supplement or any free writing supplement;

to convey, transfer, assign, mortgage or pledge any assets as security for the senior debt securities of one or more series;

to add to, delete from or revise the conditions, limitations, and restrictions on the authorized amount, terms, or purposes of issue, authentication and delivery of senior debt securities;

to evidence the succession of another corporation, and the assumption by such successor corporation of our covenants, agreements and obligations under the senior indenture;

to provide for or add guarantors with respect to the senior debt securities of any series;

to establish the form of any certifications required to be furnished pursuant to the terms of the senior indenture or any series of senior debt securities, or to add to the rights of the holders of any series of senior debt securities;

to evidence and provide for the acceptance of appointment hereunder by a successor trustee or to make such changes as shall be necessary to provide for or facilitate the administration of the trusts in the senior indenture by more than one trustee;

to make any change to the senior debt securities of any series, so long as no senior debt securities of such series are outstanding

to provide for uncertificated senior debt securities and to make all appropriate changes for such purpose;

to add to our covenants such new covenants, restrictions, conditions or provisions for the benefit of the holders, to make the occurrence, or the occurrence and the continuance, of a default in any such additional covenants, restrictions, conditions or provisions an event of default or to surrender any right or power conferred to us in the senior indenture; or

to change anything that does not materially adversely affect the interests of any holder of senior debt securities of any series.

Other amendments and modifications of the senior indenture or the senior debt securities issued may be made, and our compliance with any provision of the senior indenture with respect to any series of senior debt securities may be waived, with the consent of the holders of a majority of the aggregate principal amount of the outstanding senior debt securities of all series affected by the amendment or modification (voting together as a single class); provided, however, that each affected holder must consent to any modification, amendment or waiver that:

extends the stated maturity of any senior debt securities;

reduces the principal amount, reducing the rate of or extending the time of payment of interest, or reducing any premium payable upon the redemption or repurchase of any senior debt securities;

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reduces the rate or extends the time of payment of interest on any senior debt securities; or

reduces the percentage of senior debt securities, the holders of which are required to consent to any amendment, supplement, modification or waiver.

Satisfaction and Discharge. We can elect satisfy and discharge our obligations with respect to one or more series of senior debt securities, except for specified obligations, including obligations to:

register the transfer or exchange of debt securities of the series;

replace stolen, lost or mutilated debt securities of the series;

maintain paying agencies;

hold monies for payment in trust;

recover excess money held by the trustee;

compensate and indemnify the trustee; and

appoint any successor trustee.

In order to exercise our rights to be discharged, we must deposit with the trustee money or government obligations sufficient to pay all the principal of, any premium and interest on, the senior debt securities of the series on the dates payments are due.

Under current U.S. federal income tax law, the deposit and our legal release from the senior debt securities would be treated as though we took back a holder's senior debt securities and gave such holder his or her share of the cash and debt securities or bonds deposited in trust. In that event, such holder could recognize gain or loss on the senior debt securities such holder gives back to us. Holders of the senior debt securities should consult their own advisers with respect to the tax consequences to them of such deposit and discharge, including the applicability and effect of tax laws other than the U.S. federal income tax law.

Information Concerning the Trustee. The trustee, other than during the occurrence and continuance of an event of default under a senior indenture, undertakes to perform only those duties as are specifically set forth in the applicable senior indenture. Upon an event of default under a senior indenture, the trustee must use the same degree of care as a prudent person would exercise or use in the conduct of his or her own affairs.

Subject to this provision, the trustee is under no obligation to exercise any of the powers given it by the senior indentures at the request of any holder of senior debt securities unless it is offered reasonable security and indemnity against the costs, expenses and liabilities that it might incur.

We may have normal banking relationships with the trustee in the ordinary course of business.

Certain Terms of the Subordinated Debt Securities

Other than the terms of the subordinated indenture and subordinated debt securities relating to subordination or otherwise as described in the prospectus supplement or free writing prospectus relating to a particular series of subordinated debt securities, the terms of the subordinated indenture and subordinated debt securities are identical in all material respects to the terms of the senior indenture and senior debt securities.

Additional or different subordination terms may be specified in the prospectus supplement applicable to a particular series.

Subordination. The indebtedness evidenced by the subordinated debt securities is subordinate to the prior payment in full of all of our senior indebtedness, as defined in the subordinated indenture. During the

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continuance beyond any applicable grace period of any default in the payment of principal, premium, interest or any other payment due on any of our senior indebtedness, we may not make any payment of principal of, or premium, if any, on or interest on the subordinated debt securities (except for certain sinking fund payments). In addition, upon any payment or distribution of our assets upon any dissolution, winding-up, liquidation or reorganization, the payment of the principal of, or premium, if any, on and interest on the subordinated debt securities will be subordinated to the extent provided in the subordinated indenture in right of payment to the prior payment in full of all our senior indebtedness. Because of this subordination, if we dissolve or otherwise liquidate, holders of our subordinated debt securities may receive less, ratably, than holders of our senior indebtedness. The subordination provisions do not prevent the occurrence of an event of default under the subordinated indenture.

Governing Law

The indentures and the debt securities will be governed by and construed in accordance with the internal laws of the State of New York.

Ranking of Debt Securities

The senior debt securities will rank equally in right of payment to all our other senior unsecured debt. The subordinated debt securities will be subordinate and junior in priority of payment to certain of our other indebtedness (including senior debt securities) to the extent described in a prospectus supplement or free writing prospectus.

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DESCRIPTION OF WARRANTS

The following description, together with the additional information we include in any applicable prospectus supplements or free writing prospectuses that we may authorize to be distributed to purchasers, summarizes the material terms and provisions of the warrants that we may offer under this prospectus. Warrants may be offered independently or together with common stock, preferred stock and/or debt securities offered by any prospectus supplement or free writing prospectus, and may be attached to or separate from those securities. While the terms we have summarized below will generally apply to any future warrants we may offer under this prospectus, we will describe the particular terms of any warrants that we may offer in more detail in the applicable prospectus supplement or free writing prospectus. The terms of any warrants we offer under a prospectus supplement or free writing prospectus may differ from the general terms we describe below.

We will file as exhibits to the registration statement of which this prospectus is a part, or will incorporate by reference from reports that we file with the SEC, the form of warrant agreement, including a form of warrant certificate, that describes the terms of the particular series of warrants we are offering before the issuance of the related series of warrants. The following summaries of material provisions of the warrants and the warrant agreements are subject to, and qualified in their entirety by reference to, all the provisions of the warrant agreement and warrant certificate applicable to the particular series of warrants that we may offer under this prospectus. We urge you to read the applicable prospectus supplements related to the particular series of warrants that we may offer under this prospectus, as well as any related free writing prospectuses, and the complete warrant agreements and warrant certificates that contain the terms of the warrants.

General

We will describe in the applicable prospectus supplement the terms of the series of warrants being offered. If warrants for the purchase of debt securities are offered, the prospectus supplement or free writing prospectus will describe the following terms, to the extent applicable:

the offering price and the aggregate number of warrants offered;

the currencies in which the warrants are being offered;

the designation, aggregate principal amount, currencies, denominations and terms of the series of debt securities that can be purchased if a holder exercises a warrant;

the designation and terms of any series of debt securities with which the warrants are being offered and the number of warrants offered with each such debt security;

the date on and after which the holder of the warrants can transfer them separately from the related series of debt securities;

the principal amount of the series of debt securities that can be purchased if a holder exercises a warrant and the price at which and currencies in which such principal amount may be purchased upon exercise;

the terms of any rights to redeem or call the warrants;

the date on which the right to exercise the warrants begins and the date on which such right expires;

federal income tax consequences of holding or exercising the warrants; and

any other specific terms, preferences, rights or limitations of, or restrictions on, the warrants.

Warrants for the purchase of debt securities will be in registered form only.

If warrants for the purchase of common stock or preferred stock are offered, the prospectus supplement or free writing prospectus will describe the following terms, to the extent applicable:

the offering price and aggregate number of warrants offered;

the currency for which the warrants may be purchased;

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if applicable, the designation and terms of the securities with which the warrants are issued and the number of warrants issued with each such security or each principal amount of such security;

if applicable, the date on and after which the warrants and the related securities will be separately transferable;

the number of shares of common stock or preferred stock, as the case may be, purchasable upon the exercise of one warrant and the price at which these shares may be purchased upon such exercise;

the effect of any merger, consolidation, sale or other disposition of our business on the warrant agreements and the warrants;

the terms of any rights to redeem or call the warrants;

any provisions for changes to or adjustments in the exercise price or number of securities issuable upon exercise of the warrants;

the dates on which the right to exercise the warrants will commence and expire;

the manner in which the warrant agreements and warrants may be modified;

the terms of the securities issuable upon exercise of the warrants; and

any other specific terms, preferences, rights or limitations of or restrictions on the warrants.

Before exercising their warrants, holders of warrants will not have any of the rights of holders of the securities purchasable upon such exercise, including the right to receive dividends, if any, or, payments upon our liquidation, dissolution or winding up or to exercise voting rights, if any

Exercise of Warrants

Each warrant will entitle the holder to purchase the securities that we specify in the applicable prospectus supplement at the exercise price that we describe in the applicable prospectus supplement. Unless we otherwise specify in the applicable prospectus supplement, holders of the warrants may exercise the warrants at any time up to the specified time on the expiration date that we set forth in the applicable prospectus supplement. After the close of business on the expiration date, unexercised warrants will become void.

Holders of the warrants may exercise the warrants by delivering the warrant certificate representing the warrants to be exercised together with specified information, and paying the required amount to the warrant agent in immediately available funds, as provided in the applicable prospectus supplement. We will set forth on the reverse side of the

warrant certificate and in the applicable prospectus supplement the information that the holder of the warrant will be required to deliver to the warrant agent.

Upon receipt of the required 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 issue and deliver the securities purchasable upon such exercise. If fewer than all of the warrants represented by the warrant certificate are exercised, then we will issue a new warrant certificate for the remaining amount of warrants. If we so indicate in the applicable prospectus supplement, holders of the warrants may surrender securities as all or part of the exercise price for warrants.

Governing Law

Unless we provide otherwise in the applicable prospectus supplement, the warrants and warrant agreements will be governed by and construed in accordance with the laws of the State of New York.

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Enforceability of Rights by Holders of Warrants

Each warrant agent will act solely as our agent under the applicable warrant agreement and will not assume any obligation or relationship of agency or trust with any holder of any warrant. A single bank or trust company may act as warrant agent for more than one issue of warrants. A warrant agent will have no duty or responsibility in case of any default by us under the applicable warrant agreement or warrant, including any duty or responsibility to initiate any proceedings at law or otherwise, or to make any demand upon us. Any holder of a warrant may, without the consent of the related warrant agent or the holder of any other warrant, enforce by appropriate legal action its right to exercise, and receive the securities purchasable upon exercise of, its warrants.

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DESCRIPTION OF UNITS

The following description, together with the additional information that we include in any applicable prospectus supplements or free writing prospectuses that we may authorize to be distributed to purchasers, summarizes the material terms and provisions of the units that we may offer under this prospectus. We may issue, in one more series, units consisting of common stock, preferred stock, debt securities and/or warrants for the purchase of common stock and/or preferred stock in any combination. While the terms we have summarized below will generally apply to any future series of units we may offer under this prospectus, we will describe the particular terms of any series of units that we may offer in more detail in the applicable prospectus supplement or free writing prospectus. The terms of any series of units we offer under a prospectus supplement or free writing prospectus may differ from the general of terms we described below.

We will file as exhibits to the registration statement of which this prospectus is a part, or will incorporate by reference from reports that we file with the SEC, the form of unit agreement that describes the terms of the series of units we are offering, and any supplemental agreements, before the issuance of the related series of units. The following summaries of material terms and provisions of the units are subject to, and qualified in their entirety by reference to, all the provisions of the unit agreement and any supplemental agreements applicable to a particular series of units. We urge you to read the applicable prospectus supplements related to the particular series of units that we may offer under this prospectus, as well as any related free writing prospectuses and the complete unit agreement and any supplemental agreements that contain the terms of the units.

General

Each unit will be issued so that the holder of the unit is also the holder of each security included in the unit. Thus, the holder of a unit will have the rights and obligations of a holder of each included security. The unit agreement under which a unit is issued may provide that the securities included in the unit may not be held or transferred separately, at any time or at any time before a specified date.

We will describe in the applicable prospectus supplement the terms of the series of units being offered, including:

the designation and terms of the units and of the securities comprising the units, including whether and under what circumstances those securities may be held or transferred separately;

any provisions of the governing unit agreement that differ from those described below in this section; and

any provisions for the issuance, payment, settlement, transfer or exchange of the units or of the securities comprising the units.

The provisions described in this section, as well as those described under **Description of Capital Stock** and **Description of Warrants** will apply to each unit and to any common stock, preferred stock or warrant included in each unit, respectively.

Issuance in Series

We may issue units in such amounts and in such numerous distinct series as we determine.

Enforceability of Rights by Holders of Units

Each unit agent will act solely as our agent under the applicable unit agreement and will not assume any obligation or relationship of agency or trust with any holder of any unit. A single bank or trust company may act as unit agent for more than one series of units. A unit agent will have no duty or responsibility in case of any default by us under the applicable unit agreement or unit, including any duty or responsibility to initiate any

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proceedings at law or otherwise, or to make any demand upon us. Any holder of a unit may, without the consent of the related unit agent or the holder of any other unit, enforce by appropriate legal action its rights as holder under any security included in the unit.

Title

We, and any unit agent and any of their agents, may treat the registered holder of any unit certificate as an absolute owner of the units evidenced by that certificate for any purpose and as the person entitled to exercise the rights attaching to the units so requested, despite any notice to the contrary.

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FORMS OF SECURITIES

General

Each debt security, unit and warrant will be represented either by a certificate issued in definitive form to a particular purchaser or by one or more global securities representing the entire issuance of securities. Unless the applicable prospectus supplement provides otherwise, certificated securities in definitive form and global securities will be issued in registered form. Definitive securities name you or your nominee as the owner of the security, and in order to transfer or exchange these securities or to receive payments other than interest or other interim payments, you or your nominee must physically deliver the securities to the trustee, registrar, paying agent or other agent, as applicable. Global securities name a depositary or its nominee as the owner of the debt securities, units or warrants represented by these global securities. The depositary maintains a computerized system that will reflect each purchaser's beneficial ownership of the securities through an account maintained by the purchaser with its broker/dealer, bank, trust company or other representative, as we explain more fully below.

Registered Global Securities

We may issue the registered debt securities, units and warrants in the form of one or more fully registered global securities that will be deposited with a depositary or its nominee identified in the applicable prospectus supplement and registered in the name of that depositary or nominee. In those cases, one or more registered global securities will be issued in a denomination or aggregate denominations equal to the portion of the aggregate principal or face amount of the securities to be represented by registered global securities. Unless and until it is exchanged in whole for securities in definitive registered form, a registered global security may not be transferred except as a whole by and among the depositary for the registered global security, the nominees of the depositary or any successors of the depositary or those nominees.

If not described below, any specific terms of the depositary arrangement with respect to any securities to be represented by a registered global security will be described in the prospectus supplement relating to those securities. We anticipate that the following provisions will apply to all depositary arrangements.

Ownership of beneficial interests in a registered global security will be limited to persons, called participants, that have accounts with the depositary or persons that may hold interests through participants. Upon the issuance of a registered global security, the depositary will credit, on its book-entry registration and transfer system, the participants accounts with the respective principal or face amounts of the securities beneficially owned by the participants. Any dealers, underwriters or agents participating in the distribution of the securities will designate the accounts to be credited. Ownership of beneficial interests in a registered global security will be shown on, and the transfer of ownership interests will be effected only through, records maintained by the depositary, with respect to interests of participants, and on the records of participants, with respect to interests of persons holding through participants. The laws of some states may require that some purchasers of securities take physical delivery of these securities in definitive form. These laws may impair such purchasers' abilities to own, transfer or pledge beneficial interests in registered global securities.

So long as the depositary, or its nominee, is the registered owner of a registered global security, that depositary or its nominee, as the case may be, will be considered the sole owner or holder of the securities represented by the registered global security for all purposes under the applicable indenture, unit agreement or warrant agreement. Except as described below, owners of beneficial interests in a registered global security will not be entitled to have the securities represented by the registered global security registered in their names, will not receive or be entitled to receive physical delivery of the securities in definitive form and will not be considered the owners or holders of the securities

under the applicable indenture, unit agreement or warrant agreement. Accordingly, each person owning a beneficial interest in a registered global security must rely on the procedures of the depository for that registered global security and, if that person is not a participant, on the procedures of the participant through which the person owns its interest, to exercise any rights of a holder under the applicable indenture, unit agreement or warrant agreement. We understand that under existing industry

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practices, if we request any action of holders or if an owner of a beneficial interest in a registered global security desires to give or take any action that a holder is entitled to give or take under the applicable indenture, unit agreement or warrant agreement, the depository for the registered global security would authorize the participants holding the relevant beneficial interests to give or take that action, and the participants would authorize beneficial owners owning through them to give or take that action or would otherwise act upon the instructions of beneficial owners holding through them.

Principal, premium, if any, on and interest payments on debt securities, and any payments to holders with respect to warrants, or units, represented by a registered global security registered in the name of a depository or its nominee will be made to the depository or its nominee, as the case may be, as the registered owner of the registered global security. None of us, the trustees, the warrant agents, the unit agents or any other agent of ours, agent of the trustees or agent of the warrant agents or unit agents will have any responsibility or liability for any aspect of the records relating to payments made on account of beneficial ownership interests in the registered global security or for maintaining, supervising or reviewing any records relating to those beneficial ownership interests.

We expect that the depository for any of the securities represented by a registered global security, upon receipt of any payment of principal, premium, interest or other distribution of underlying securities or other property to holders on that registered global security, will immediately credit participants' accounts in amounts proportionate to their respective beneficial interests in that registered global security as shown on the records of the depository. We also expect that payments by participants to owners of beneficial interests in a registered global security held through participants will be governed by standing customer instructions and customary practices, as is now the case with the securities held for the accounts of customers or registered in street name, and will be the responsibility of those participants.

If the depository for any of the securities represented by a registered global security is at any time unwilling or unable to continue as depository or ceases to be a clearing agency registered under the Securities Exchange Act of 1934, as amended, or Exchange Act, and a successor depository registered as a clearing agency under the Exchange Act is not appointed by us within 90 days, we will issue securities in definitive form in exchange for the registered global security that had been held by the depository. Any securities issued in definitive form in exchange for a registered global security will be registered in the name or names that the depository gives to the relevant trustee, warrant agent, unit agent or other relevant agent of ours or theirs. It is expected that the depository's instructions will be based upon directions received by the depository from participants with respect to ownership of beneficial interests in the registered global security that had been held by the depository.

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LEGAL MATTERS

The validity of the securities being offered by this prospectus will be passed upon by Goodwin Procter LLP, Boston, Massachusetts.

EXPERTS

The consolidated financial statements of BioAmber Inc. and subsidiaries (a development stage company) as at December 31, 2013 and 2012, and for each of the three years in the period ended December 31, 2013, and the period from October 15, 2008 (date of inception) to December 31, 2013, incorporated by reference in this Prospectus have been audited by Deloitte LLP, an independent registered public accounting firm, as stated in their report which is incorporated herein by reference from the Annual Report on Form 10-K (which report expresses an unqualified opinion and includes an explanatory paragraph relating to the company's development stage status). Such financial statements have been so incorporated in reliance upon the report of such firm given upon their authority as experts in accounting and auditing.

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2,800,000 Shares

Common Stock

PROSPECTUS SUPPLEMENT

Credit Suisse

Canaccord Genuity

, 2014