AMYRIS, INC.
Form S-3
November 03, 2017

As filed with the Securities and Exchange Commission on November 3, 2017

File Number 333-

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-3

REGISTRATION STATEMENT

UNDER THE SECURITIES ACT OF 1933

Amyris, Inc.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

55-0856151

(IRS Employer Identification Number)

5885 Hollis Street, Suite 100

Emeryville, CA 94608

(510) 450-0761

(Address, including zip code, and telephone number, including

area code, of registrant's principal executive offices)

John G. Melo

President and Chief Executive Officer

5885 Hollis Street, Suite 100

Emeryville, CA 94608

(510) 450-0761

(Name, address, including zip code, and telephone number, including

area code, of agent for service)

Please send copies of all correspondence to:

Gordon K. Davidson, Esq.

Daniel J. Winnike, Esq.

Fenwick & West LLP

801 California Street

Mountain View, California 94041

(650) 988-8500

From time to time after the effectiveness of this registration statement.

(Approximate date of commencement of proposed sale to the public)

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

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

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

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

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

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

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

Large accelerated filer		Accelerated filer
Non-accelerated filer	(Do not check if a smaller reporting company)	Smaller reporting company

CALCULATION OF REGISTRATION FEE

Title of each class of securities to be registered	Amount to be registered (1)	Proposed maximum offering price per unit (2)	Proposed maximum aggregate offering price (2)	Amount of registration fee
Common Stock, $0.0001 par value per share	26,209,764	$3.03	$79,415,584.92	$9,887.24

(1) Pursuant to Rule 416 under the Securities Act of 1933, this Registration Statement shall also cover any additional shares of common stock which become issuable by reason of any stock dividend, stock split or other similar transaction effected without the receipt of consideration that results in an increase in the number of the outstanding shares of our common stock.

(2) In accordance with Rule 457(c) under the Securities Act of 1933, the aggregate offering price of our common stock is estimated solely for the purpose of calculating the registration fees due for this filing. For the initial filing of this Registration Statement, this estimate was based on the average of the high and low sales price of our common stock reported by The NASDAQ Stock Market on October 27, 2017.

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

THE INFORMATION IN THIS PROSPECTUS IS NOT COMPLETE AND MAY BE CHANGED. THE SELLING STOCKHOLDERS MAY NOT SELL THESE SECURITIES UNTIL THE REGISTRATION STATEMENT FILED WITH THE SECURITIES AND EXCHANGE COMMISSION IS EFFECTIVE. THIS PROSPECTUS IS NOT AN OFFER TO SELL THESE SECURITIES AND THE SELLING STOCKHOLDERS ARE NOT SOLICITING OFFERS TO BUY THESE SECURITIES IN ANY JURISDICTION WHERE THE OFFER OR SALE IS NOT PERMITTED.

SUBJECT TO COMPLETION DATED NOVEMBER 3, 2017

PROSPECTUS

26,209,764

AMYRIS, INC.

Common Stock

This prospectus relates to the offer and sale of up to 26,209,764 shares of our common stock by the selling stockholders identified in the "Selling Stockholders" section of this prospectus (the "Offering"). The shares of common stock registered hereunder consist of (i) outstanding shares held by the selling stockholders, (ii) shares issuable to the selling stockholders upon the exercise of warrants to purchase common stock issued to the selling stockholders (the "Warrants") pursuant to those certain Securities Purchase Agreements, each dated as of August 2, 2017 (the "Purchase Agreements"), by and among the Company and the selling stockholders and (iii) shares issuable to certain of the selling stockholders upon conversion of shares of the Company's Series D Convertible Preferred Stock, par value $0.0001 per share (the "Series D Preferred Stock"), issued to such selling stockholders pursuant to the Purchase Agreements and the Certificate of Designation of Preferences, Rights and Limitations of Series D Convertible Preferred Stock filed with the Secretary of State of Delaware on August 3, 2017 (the "Series D Certificate of Designation").

The selling stockholders may sell the shares directly to purchasers or through underwriters, broker-dealers or agents, who may receive compensation in the form of discounts, concessions or commissions. The selling stockholders may sell the shares at any time at market prices prevailing at the time of sale or at privately negotiated prices. For more information regarding the selling stockholders and the sale of the shares, see "Selling Stockholders" and "Plan of Distribution" below.

We are not selling any securities under this prospectus and will not receive any of the proceeds from the sale of these shares by the selling stockholders. We will pay the expenses incurred in registering the shares, including legal and accounting fees.

Our common stock is traded on the NASDAQ Global Select Market under the symbol "AMRS." On November 2, 2017, the closing price of our common stock was $3.34.

Investing in our securities involves risks. See "Risk Factors" commencing on page 6. You should carefully read this prospectus, the documents incorporated herein, and, if applicable, any prospectus supplement subsequently filed with respect to this prospectus, before making any investment decision.

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

The date of this prospectus is November 3, 2017.

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INFORMATION CONTAINED IN THIS PROSPECTUS

We have not authorized any dealer, agent or other person to give any information or to make any representation other than those contained or incorporated by reference in this prospectus and, if applicable, any accompanying prospectus supplement or any free writing prospectus. You must not rely upon any information or representation not contained or incorporated by reference in this prospectus or, if applicable, any accompanying prospectus supplement or any free writing prospectus. This prospectus and, if applicable, any accompanying prospectus supplement or any free writing prospectus, do not constitute an offer to sell or the solicitation of an offer to buy any securities other than the registered securities to which they relate, nor do this prospectus and, if applicable, any accompanying prospectus supplement or any free writing prospectus constitute an offer to sell or the solicitation of an offer to buy securities in any jurisdiction to any person to whom it is unlawful to make such offer or solicitation in such jurisdiction. You should not assume that the information contained in this prospectus and, if applicable, any accompanying prospectus supplement or any free writing prospectus, is accurate on any date subsequent to the date set forth on the front of the document or that any information we have incorporated by reference is correct on any date subsequent to the date of the document incorporated by reference, even though this prospectus and, if applicable, any accompanying prospectus supplement or any free writing prospectus, is delivered or securities are sold on a later date.

This prospectus may be supplemented from time to time by one or more prospectus supplements. Any such prospectus supplements may include additional information, such as additional risk factors or other special considerations applicable to us, our business or results of operations or our common stock, and may also update or change the information in this prospectus. If there is any inconsistency between the information in this prospectus and any prospectus supplement, you should rely on the information in the prospectus supplement.

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SUMMARY

The following summary provides an overview of selected information related to this offering and does not contain all the information that you should consider before investing in our securities. You should carefully read this entire prospectus, including the risks of investing discussed under "Risk Factors" beginning on page 6, the financial statements and related notes and other information incorporated by reference in this prospectus, and, if applicable, any prospectus supplement or related free writing prospectus, and the additional information described under the captions "Where You Can Find More Information" and "Incorporation of Certain Information by Reference," before buying securities in this offering. Unless the context otherwise requires, "Amyris," the "Company," "we," "us," "our" and similar names refer to Amyris, Inc. References to the "selling stockholders" refer to the stockholders listed herein under the heading "Selling Stockholders" on page 44, who may sell shares from time to time as described in this prospectus.

About This Prospectus

This prospectus is part of a registration statement that we have filed with the Securities and Exchange Commission, or the SEC, using a "shelf" registration process to register 26,209,764 shares of our common stock, or the Shares. The shares of common stock registered hereunder consist of (i) outstanding shares held by the selling stockholders, (ii) shares issuable to the selling stockholders upon exercise of the Warrants and (iii) shares issuable to certain of the selling stockholders upon conversion of shares of the Series D Preferred Stock. The Shares are being registered for resale or other disposition by the selling stockholders. We will not receive any proceeds from the sale or other disposition of the Shares registered hereunder, or interests therein.

About Amyris, Inc.

Overview

We are a leading integrated industrial biotechnology company that is applying our technology platform to engineer, manufacture and sell high performance, low cost products into the Health and Nutrition, Personal Care and Performance Materials markets. Our proven technology platform allows us to rapidly engineer microbes and use them as catalysts to metabolize renewable, plant-sourced sugars into large volume, high-value ingredients. Our biotechnology platform and industrial fermentation process replaces existing complex and expensive chemical manufacturing processes. We believe industrial synthetic biology represents a third industrial revolution, bringing together biology and engineering to generate new, more sustainable materials to meet the growing global demand for bio-based replacements for petroleum, animal- or plant-derived ingredients. We continue to build demand for our current portfolio of products through a sales network comprised of direct sales and distributors, and are engaged in collaborations across each of our three market focus areas to drive additional product sales and partnership opportunities. Via our partnership model, we co-invest in the development of each molecule to bring it from the lab to commercial scale and then capture long term revenue either via the sale of the molecule to the partner and/or value sharing of end product sales.

Background

Amyris was founded in 2003 in the San Francisco Bay Area by a group of scientists from the University of California, Berkeley. Our first major milestone came in 2005 when, through a grant from the Bill & Melinda Gates Foundation, we developed technology capable of creating microbial strains that produce artemisinic acid - a precursor of artemisinin, an effective anti-malarial drug. In 2008, we granted royalty-free licenses to allow Sanofi-Aventis to produce artemisinic acid using our technology. Building on our success with artemisinic acid, in 2007 we began applying our technology platform to develop, manufacture and sell sustainable alternatives to a broad range of markets.

We focused our initial development efforts primarily on the production of Biofene®, our brand of renewable farnesene, a long-chain, branched hydrocarbon molecule that we manufacture through fermentation using engineered microbes. Our farnesene derivatives are sold in hundreds of products as nutraceuticals, skin care, fragrances, solvents, polymers, and lubricants ingredients. The commercialization of farnesene pushed us to create a more cost efficient, faster and accurate development process in the lab and drive costs out of our Brotas, Brazil production facility. This investment has enabled our technology platform to rapidly develop microbial strains and commercialize target molecules. In 2014, we began manufacturing additional molecules for the flavors and fragrance industry, in 2015 we began investing to expand our capabilities to other small molecule chemical classes beyond terpenes via our collaboration with the Defense Advanced Research Project Agency, or DARPA, and in 2016 we expanded into proteins.

Since inception, we have received equity and debt financing from investors including affiliates of Total S.A. (collectively referred to as Total), the international energy company, affiliates of Temasek Holdings (Private) Limited (collectively referred to as Temasek), the Singapore sovereign wealth fund, affiliates of Koninklijke DSM N.V. (collectively referred to as DSM), the global science-based company active in health, nutrition and materials, and various venture capital and private equity investors. Our common stock is traded on the NASDAQ Global Select Market under the symbol AMRS.

Our Platform

Amyris has invested over $500 million in infrastructure and technology to create microbes that produce chemicals from sugar or other feedstocks at commercial scale. This platform has been used to design, build, optimize, and upscale strains producing 5 distinct molecules, leading to more than 15 commercial products used in 500 consumer products. Our time to market for molecules has decreased from 7 years to less than a year for our most recent molecule, mainly due to our ability to leverage the technology platform we have built.

Our technology platform has been in active use since 2008, and has been integrated with our commercial production since 2011, creating a seamless organism development process that we believe makes Amyris an industry leader in the successful scale-up of small molecules. The key performance characteristics of our platform that we believe differentiate Amyris include our proprietary computational tools, strain construction tools, screening and analytics tools, and advanced lab automation and data integration. Our state-of-the-art infrastructure includes industry leading strain engineering and lab automation located in Emeryville, CA, pilot scale production facilities in Emeryville, CA and Campinas, Brazil, a demonstration scale facility in Campinas, Brazil and a commercial scale production facility in Brotas, Brazil.

We are able to use a wide variety of feedstocks for production, but have focused on accessing Brazilian sugarcane for our large-scale production because of its renewability, low cost and relative price stability. We have also successfully used other feedstocks such as sugar beets, corn dextrose, sweet sorghum and cellulosic sugars at various manufacturing facilities.

Strategy and Business Model

Our mission is to apply innovative science to deliver sustainable solutions for a growing world. We seek to become the world’s leading provider of renewable, high-performance alternatives to non-renewable and scarce products. In the past, choosing a renewable product often required producers to compromise on performance or price. With our technology, leading consumer brands can develop products made from renewable sources that offer equivalent or better performance and stable supply with competitive pricing. We call this our No Compromise® value proposition. We aim to improve the world one molecule at a time by providing the best alternatives to the products the world relies on every day.

We have developed and are operating our company under a business model that generates cash from collaborations, from product sales, and value share. We believe this combination will enable us to realize our vision of becoming the world's leading renewable products company.

Corporate Information

We organized our business in July 2003 as a California corporation under the name Amyris Biotechnologies, Inc. and reincorporated in Delaware in April 2010 and changed our name to Amyris, Inc. Our corporate headquarters are located at 5885 Hollis Street, Suite 100, Emeryville, California 94608, and our telephone number is (510) 450-0761. Our website address is www.amyris.com. The information contained in or accessible through our website or contained on other websites is not a part of, and not incorporated into, this prospectus.

Amyris, the Amyris logo, Biofene, Neossance and No Compromise are trademarks or registered trademarks of Amyris, Inc. This prospectus also contains trademarks and trade names of other businesses that are the property of their respective holders.

SELECTED FINANCIAL DATA

You should read the following selected financial data together with our financial statements and the related notes contained in Item 8 of Part II of our Annual Report on Form 10-K for the fiscal year ended December 31, 2016 and our financial statements and the related notes contained in Item 1 of Part I of our Quarterly Report on Form 10-Q for the quarter ended June 30, 2017, which are incorporated by reference into this prospectus, except that share and per share information for the periods ended December 31, 2016, 2015, 2014, 2013 and 2012 have been revised to reflect the 15-to-1 reverse stock split of our issued and outstanding shares of common stock effective at the close of business on June 5, 2017. The selected data in this section is not intended to replace the consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2016, except that share and per share information for the periods ended December 31, 2016, 2015, 2014, 2013 and 2012 have been revised to reflect the 15-to-1 reverse stock split.

We have derived the statements of operations data for each of the three years ended December 31, 2016, 2015 and 2014 and the balance sheet data as of December 31, 2016 and 2015 from the audited financial statements contained in Item 8 of Part II of our Annual Report on Form 10-K for the year ended December 31, 2016. The selected balance sheet data as of December 31, 2014, 2013 and 2012 and the statement of operations data for the years ended December 31, 2013 and 2012 has been derived from the audited financial statements for such years not included in our Annual Report on Form 10-K for the year ended December 31, 2016. The consolidated statement of operations data set forth below for the six months ended June 30, 2017 and 2016 and the consolidated balance sheet data as of June 30, 2017 have been derived from our financial statements included in Item 1 of Part I of our Quarterly Report on Form 10-Q for the three and six months ended June 30, 2017, which is incorporated by reference into this prospectus.

The historical financial information set forth below may not be indicative of our future performance and should be read together with “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and our historical financial statements and notes to those statements included in Item 7 of Part II and Item 8 of Part II, respectively, of our Annual Report on Form 10-K for the year ended December 31, 2016, “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and our historical financial statements and notes to those statements included in Item 2 of Part I and Item 1 of Part I, respectively, of our Quarterly Report on Form 10-Q for the three and six months ended June 30, 2017, and any amendment or update thereto reflected in subsequent filings with the SEC, and all other annual, quarterly and other reports that we file with the SEC after the date of the initial registration statement of which this prospectus forms a part and that also are incorporated herein by reference.

	Year Ended December 31,					Six Months Ended June 30,	
Statements of Operations Data:	2016	2015	2014	2013	2012	2017	2016
	(in thousands, except share and per share amounts)					(unaudited)	
Total revenue	$67,192	$34,153	$43,274	$41,119	$73,694	$38,660	$18,409
Research and development expense	51,412	44,636	49,661	56,065	73,630	28,956	25,082
Sales, general and administrative expense	47,721	56,262	55,435	57,051	78,718	28,799	23,674
Net loss	(97,334)	(218,052)	2,167	(234,907)	(206,033)	(36,751)	(28,874)
Net loss attributable to common stockholders	(97,334)	(217,952)	2,286	(235,111)	(205,139)	(47,636)	(28,874)

Net loss per common share:							
Basic	$(6.12)	$(26.20)	$0.44	$(46.72)	$(54.26)	$(2.24)	$(2.00)
Diluted	$(6.55)	$(26.20)	$(13.52)	$(46.72)	$(54.26)	$(2.24)	$(3.46)
Weighted average number of common shares							
Basic	15,896,013	8,464,105	5,226,673	5,031,518	3,781,191	21,226,013	14,426,247
Diluted	17,642,963	8,464,105	8,123,963	5,031,518	3,781,191	21,226,013	17,253,961

Balance Sheet Data:	December 31, 2016	2015	2014	2013	2012	June 30, 2017
	(in thousands)					(unaudited)
Cash and cash equivalents	$27,150	$11,992	$42,047	$6,868	$30,592	$5,078
Working capital	(50,745)	(41,147)	33,606	(382)	3,668	(21,809)
Total assets	129,873	106,116	216,183	198,864	242,834	112,705
Long-term and related party debt – current portion	59,155	36,281	17,100	6,391	3,325	13,285
Long-term and related party debt	167,888	115,693	215,361	145,671	100,839	152,032
Stockholders' equity	(183,508)	(158,456)	(125,063)	(135,848)	66,229	(199,346)

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RISK FACTORS

Investing in our common stock involves a high degree of risk. Prior to making a decision about investing in our securities, you should carefully consider the specific factors discussed below, which may be amended, supplemented, or superseded from time to time by reports we file with the SEC in the future. These risk factors should be read together with the financial and other information contained or incorporated by reference in this prospectus before making a decision to buy our common stock. If any of the risks actually occur, our business, financial condition and results of operations could suffer. In these circumstances, the market price of our common stock could decline and you may lose all or part of your investment in our common stock.

Additional risks and uncertainties beyond those set forth in our reports and not presently known to us or that we currently deem immaterial may also affect our operations. Any risks and uncertainties, whether set forth in our reports or otherwise, could cause our business, financial condition, results of operations and future prospects to be materially and adversely harmed. The trading price of our common stock could decline due to any of these risks and uncertainties, and, as a result, you may lose all or part of your investment.

Risks Related to Our Business

We have incurred losses to date, anticipate continuing to incur losses in the future, and may never achieve or sustain profitability.

We have incurred significant losses in each year since our inception and believe that we will continue to incur losses and negative cash flow from operations into at least 2018. As of June 30, 2017, we had an accumulated deficit of $1.2 billion and had cash, cash equivalents and short term investments of $6.6 million. We have significant outstanding debt, a significant working capital deficit and contractual obligations related to capital and operating leases, as well as purchase commitments of $1.6 million. As of June 30, 2017, our debt totaled $165.3 million, net of discount and issuance costs of $26.0 million, of which $13.3 million is classified as current. Our debt service obligations over the next twelve months are significant, including approximately $7.2 million of anticipated interest payments (excluding interest paid in kind by adding to outstanding principal) and may include potential early conversion payments of up to approximately $6.9 million (assuming all note holders convert) under our outstanding 9.50% Convertible Senior Notes due 2019, or the 2015 144A Notes. Furthermore, our debt agreements contain various financial and operating covenants, including restrictions on business that could cause us to be at risk of defaults. We expect to incur additional costs and expenses related to the continued development and expansion of our business, including construction and operation of our manufacturing facilities, contract manufacturing, research and development operations, and operation of our pilot plants and demonstration facility. There can be no assurance that we will ever achieve or sustain profitability on a quarterly or annual basis.

Our unaudited condensed consolidated financial statements as of and for the three and six months ended June 30, 2017 have been prepared on the basis that we will continue as a going concern, which contemplates the realization of assets and satisfaction of liabilities in the normal course of business. We have incurred significant losses since our inception and we expect that we will continue to incur losses as we aim to successfully execute our business plan and will be dependent on additional public or private financings, collaborations or licensing arrangements with strategic partners, or additional credit lines or other debt financing sources to fund continuing operations. Based on our cash balances and recurring losses since inception, there is substantial doubt about our ability to continue as a going concern within one year after the date that these financial statements are issued or one year of the effectiveness of this registration statement. Our operating plans for the remainder of 2017 and 2018 contemplate a significant reduction in our net cash outflows resulting from (i) growth of sales of existing and new products with positive gross margins, (ii) reduced production costs as a result of manufacturing and technical developments, (iii) cash inflows from collaborations and (iv) access to various financing commitments. In addition, as noted below, for our 2018 operating plan, we are dependent on funding from sources that are not subject to existing commitments. We may need to obtain additional funding from equity or debt financings, which may require us to agree to burdensome covenants, grant further security interests in our assets, enter into collaboration and licensing arrangements that require us to relinquish commercial rights, or grant licenses on terms that are not favorable. No assurance can be given at this time as to whether we will be able to achieve our expense reduction or fundraising objectives, regardless of the terms. If we are unable to raise additional financing, or if other expected sources of funding are delayed or not received, our ability to continue as a going concern would be jeopardized and we may be forced to delay, scale back or eliminate some of our general and administrative, research and development, or production activities or other operations and reduce investment in new product and commercial development efforts in an effort to provide sufficient funds to continue our operations. If any of these events occurs, our ability to achieve our development and commercialization goals would be adversely affected. In addition, if we are unable to continue as a going concern, we may be unable to meet our obligations under our existing debt facilities, which could result in an acceleration of our obligation to repay all amounts outstanding under those facilities, and we may be forced to liquidate our assets. In such a scenario, the value we receive for our assets in liquidation or dissolution could be significantly lower than the value reflected in our financial statements.

Our unaudited condensed consolidated financial statements for the periods ending March 31, 2017 and June 30, 2017 do not include any adjustments that might result from the outcome of this uncertainty, which could have a material adverse effect on our financial condition and cause investors to suffer the loss of all or a substantial portion of their investment.

We have limited experience producing our products at commercial scale and may not be able to commercialize our products to the extent necessary to sustain and grow our current business.

To commercialize our products, we must be successful in using our yeast strains to produce target molecules at commercial scale and at a commercially viable cost. If we cannot achieve commercially-viable production economics for enough products to support our business plan, including through establishing and maintaining sufficient production scale and volume, we will be unable to achieve a sustainable integrated renewable products business. Virtually all of our production capacity is through a purpose-built, large-scale production plant in Brotas, Brazil. This plant commenced operations in 2013, and scaling and running the plant has been, and continues to be, a time-consuming, costly, uncertain and expensive process. Given our limited experience commissioning and operating our own manufacturing facilities and our limited financial resources, we cannot be sure that we will be successful in achieving production economics that allow us to meet our plans for commercialization of various products we intend to offer. In addition, our attempts to scale production of new molecules are subject to uncertainty and risk. For example, even to the extent we successfully complete product development in our laboratories and pilot and demonstration facilities, and at contract manufacturing facilities, we may be unable to translate such success to large-scale, purpose-built plants. If this occurs, our ability to commercialize our technology will be adversely affected and we may be unable to produce and sell any significant volumes of our products. Furthermore, with respect to products that we are able to bring to market, we may not be able to lower the cost of production, which would adversely affect our ability to sell such products profitably. In addition, we will likely need to identify and secure access to additional production capacity to satisfy anticipated volume requirements. There can be no assurance that we will be able obtain such capacity on favorable or acceptable terms, if at all, and even if we are successful in obtaining such capacity, there can be no assurance that we will be able to scale and operate any additional plants to allow us to meet our operational goals, which could harm our ability to grow our business.

We will require significant inflows of cash from product sales and collaborations and, if needed, financings to fund our anticipated operations and to service our debt obligations and may not be able to obtain such funding on favorable terms, if at all.

Our planned working capital needs for the remainder of 2017 and 2018, our planned operating and capital expenditures for the remainder of 2017 and 2018, and our ability to service our outstanding debt obligations are dependent on significant inflows of cash from existing and new collaboration partners and product sales and, if needed, financings. We will continue to need to fund our research and development and related activities and to provide working capital to fund production, storage, distribution and other aspects of our business. Some of our anticipated funding sources, such as research and development collaborations, are subject to the risk that we cannot meet milestones, that the collaborations may end prematurely for reasons that may be outside of our control (including technical infeasibility of the project or a collaborator’s right to terminate without cause), or the collaborations are not yet subject to definitive agreements or mandatory funding commitments and, if needed, we may not be able to secure additional types of funding in a timely manner or on reasonable terms, if at all. The inability to generate sufficient cash flow, as described above, could have an adverse effect on our ability to continue with our business plans and our status as a going concern.

If we are unable to raise additional funding, or if other expected sources of funding are delayed or not received, our ability to continue as a going concern would be jeopardized and we would take the following actions:

- Effect significant headcount reductions, particularly with respect to employees not connected to critical or contracted activities across all functions of the Company, including employees involved in general and administrative, research and development, and production activities.
- Shift focus to existing products and customers with significantly reduced investment in new product and commercial development efforts.
- Reduce production activity at our Brotas manufacturing facility to levels only sufficient to satisfy volumes required for product revenues forecast from existing products and customers.
- Reduce expenditures for third party contractors, including consultants, professional advisors and other vendors.
- Reduce or delay uncommitted capital expenditures, including non-essential facility and lab equipment, and information technology projects.
- Closely monitor the Company's working capital position with customers and suppliers, as well as suspend operations at pilot plants and demonstration facilities.

Implementing this plan could have a negative impact on our ability to continue our business as currently contemplated, including, without limitation, delays or failures in our ability to:

- Achieve planned production levels;
- Develop and commercialize products within planned timelines or at planned scales; and
- Continue other core activities.

Furthermore, any inability to scale-back operations as necessary, and any unexpected liquidity needs, could create pressure to implement more severe measures. Such measures could have an adverse effect on our ability to meet contractual requirements, including obligations to maintain manufacturing operations, and increase the severity of the consequences described above.

Future revenues are difficult to predict, and our failure to predict revenue accurately may cause our results to be below our expectations or those of analysts or investors and could result in our stock price declining.

Our revenues are comprised of product revenues and grants and collaborations revenues. We generate the substantial majority of our product revenues from sales to collaborators and distributors and only a small portion from direct sales. Our collaboration, supply and distribution agreements do not usually include any specific purchase obligations. The sales volume of our products in any given period has been difficult to predict. A significant portion of our product sales is dependent upon the interest and ability of third party distributors to create demand for, and generate sales of, such products to end-users. For example, if such distributors are unsuccessful in creating pull-through demand for our products with their customers, such distributors may purchase less of our products from us than we expect. In addition, many of our new and novel products are intended to be a component of other companies' products; therefore, sales of our products may be contingent on our collaborators' and/or customers' timely and successful development and commercialization of end-use products that incorporate our products, and price volatility in the markets for such end-use products, which may include commodities, could adversely affect the demand for our products and the margin we receive for our product sales, which could harm our financial results. Furthermore, we have begun to market and sell some of our products directly to end-consumers, initially in the cosmetics market. Because we have little experience in marketing and selling directly to consumers, it is difficult to predict how successful our efforts will be and we may not achieve the product sales we expect to achieve on the timeline we anticipate, if at all.

In addition, we have in the past entered into, and expect in the future to enter into, research and development collaboration arrangements pursuant to which we receive payments from our collaborators. Some of such collaboration arrangements include advance payments in consideration for grants of exclusivity or research and development activities to be performed by us. It has in the past been difficult for us to know with certainty when we will sign a new collaboration arrangement and receive payments thereunder. As a result, achievement of our quarterly and annual financial goals has been difficult to forecast with certainty. Once a collaboration agreement has been signed, receipt of cash payments and/or recognition of related revenues may depend on our achievement of research, development, production or cost milestones, which may be difficult to predict. In addition, a portion of the advance payments we receive under our collaboration agreements is typically classified as deferred revenue and recognized over multiple quarters or years. Since our business model depends in part on collaboration agreements with advance payments that we recognize over time, it may also be difficult for us to rapidly increase our revenues through additional collaborations in any period, as revenue from such new collaborations will often be recognized over multiple quarters or years.

These factors have made it difficult to predict future revenues and have resulted in our revenues being below our previously announced guidance or analysts' estimates. We continue to face these risks in the future, which may cause our stock price to decline.

A limited number of customers, collaboration partners and distributors account for a significant portion of our revenues, and the loss of major customers, collaboration partners or distributors could harm our operating results.

Our revenues have varied significantly from quarter to quarter and are dependent on sales to, and collaborations with, a limited number of customers, collaboration partners and/or distributors. We cannot be certain that customers, collaboration partners and/or distributors that have accounted for significant revenues in past periods, individually or as a group, will continue to generate similar revenues in any future period. If we fail to renew with, or if we lose, a major customer, collaborator or distributor or group of customers, collaborators or distributors, our revenues could decline if we are unable to replace the lost revenues with revenues from other sources.

Our existing financing arrangements may cause significant risks to our stockholders and may impact our ability to pursue certain transactions and operate our business.

As of June 30, 2017, our debt totaled $165.3 million, net of discount and issuance costs of $26.0 million, of which $13.3 million of the debt is classified as current. Our cash balance is substantially less than the principal amount of our outstanding debt, and we will be required to generate cash from operations or raise additional working capital through future financings or sales of assets to enable us to repay this indebtedness as it becomes due. There can be no assurance that we will be able to do so.

In addition, we have agreed to significant covenants in connection with our debt financing transactions, including restrictions on our ability to incur future indebtedness, and customary events of default, including failure to pay amounts due, breaches of covenants and warranties, material adverse effect events, certain cross defaults and judgments, and insolvency. A failure to comply with the covenants and other provisions of our debt instruments, including any failure to make a payment when required would generally result in events of default under such instruments, which could permit acceleration of such indebtedness and could result in a material adverse effect on us. If such indebtedness is accelerated, it would generally also constitute an event of default under our other outstanding indebtedness, permitting acceleration of such other outstanding indebtedness. Any required repayment of our indebtedness as a result of acceleration or otherwise would lower our current cash on hand such that we would not have those funds available for use in our business or for payment of other outstanding indebtedness.

If we are at any time unable to generate sufficient cash flow from operations to service our indebtedness when payment is due, we may be required to attempt to renegotiate the terms of the instruments relating to the indebtedness, seek to refinance all or a portion of the indebtedness or obtain additional financing. There can be no assurance that we would be able to successfully renegotiate such terms, that any such refinancing would be possible or that any additional financing could be obtained on terms that are favorable or acceptable to us, if at all. Any debt financing that is available could cause us to incur substantial costs and subject us to covenants that significantly restrict our ability to conduct our business. If we seek to complete additional equity financings, the interests of existing equity holders may be diluted.

In addition, the covenants in our debt agreements materially limit our ability to take certain actions, including our ability to pay dividends, make certain investments and other payments, undertake certain mergers and consolidations, and encumber and dispose of assets. For example, the purchase agreement for convertible notes that we sold in separate closings in October 2013 and January 2014, which we refer to as the Tranche Notes, requires us to obtain the consent of the holders of a majority of these notes before completing any change of control transaction or purchasing assets in one transaction or a series of related transactions in an amount greater than $20.0 million, in each case while the Tranche Notes are outstanding. In addition, certain of our existing investors, including the investors that purchased the Tranche Notes, have pro rata rights to invest in equity securities that we issue in certain financings, which could delay or prevent us from completing such financings.

Furthermore, certain of our outstanding securities, including the Tranche Notes, the 2015 144A Notes, and warrants that we issued in May 2017 and August 2017 (including the Warrants), contain anti-dilution adjustment provisions, which may be triggered by future issuances of equity or equity-linked instruments in financing transactions. If such adjustment provisions are triggered, the conversion or exercise price of such securities will decrease and/or the number of shares issuable upon conversion or exercise of such securities will increase. In such event, existing stockholders will be further diluted and the effective issuance price of such equity or equity-linked instruments will be reduced, which may harm our ability to engage in future financing transactions to fund our business.

Our substantial leverage could adversely affect our ability to fulfill our obligations under our existing indebtedness and may place us at a competitive disadvantage in our industry.

We continue to have substantial debt outstanding and we may incur additional indebtedness from time to time to finance working capital, product development efforts, strategic acquisitions, investments and partnerships, or capital expenditures, or for other general corporate purposes, subject to the restrictions contained in our debt agreements. Our significant indebtedness and debt service requirements could adversely affect our ability to operate our business and may limit our ability to take advantage of potential business opportunities. For example, our high level of indebtedness presents the following risks:

- we will be required to use a substantial portion of our cash flow from operations to pay principal and interest on our indebtedness, thereby reducing the availability of our cash flow to fund working capital, capital expenditures, product development efforts, acquisitions, investments and strategic alliances and for other general corporate requirements;
- our substantial leverage increases our vulnerability to economic downturns and adverse competitive and industry conditions and could place us at a competitive disadvantage compared to those of our competitors that are less leveraged;
- our debt service obligations could limit our flexibility in planning for, or reacting to, changes in our business and our industry and could limit our ability to pursue other business opportunities, borrow more money for operations or capital in the future and implement our business strategies;
- our level of indebtedness and the covenants in our debt instruments may restrict us from raising additional financing on satisfactory terms to fund working capital, capital expenditures, product development efforts, strategic acquisitions, investments and alliances, and for other general corporate requirements; and
- our substantial leverage may make it difficult for us to attract additional financing when needed.

If we are at any time unable to generate sufficient cash flow from operations to service our indebtedness when payment is due, we may be required to attempt to renegotiate the terms of the instruments relating to the indebtedness, seek to refinance all or a portion of the indebtedness or obtain additional financing. There can be no assurance that we will be able to successfully renegotiate such terms, that any such refinancing would be possible or that any additional financing could be obtained on terms that are favorable or acceptable to us, if at all.

A failure to comply with the covenants and other provisions of our debt instruments, including any failure to make a payment when required, could result in events of default under such instruments, which could permit acceleration of such indebtedness. If such indebtedness is accelerated, it could also constitute an event of default under our other outstanding indebtedness, permitting acceleration of such other outstanding indebtedness. Any required repayment of our indebtedness as a result of acceleration or otherwise would lower our current cash on hand such that we would not have those funds available for use in our business or for payment of other outstanding indebtedness.

Our U.S. GAAP operating results could fluctuate substantially due to the accounting for the early conversion payment features of outstanding convertible promissory notes.

Several of our outstanding convertible debt instruments are accounted for under Accounting Standards Codification 815, Derivatives and Hedging, or ASC 815, as an embedded derivative. For instance, with respect to the 2015 144A Notes, if the holders elect convert their 2015 144A Notes, such converting holders will receive an early conversion payment equal to the present value of the remaining scheduled payments of interest that would have been made on the 2015 144A Notes being converted through April 15, 2019, the maturity date of the 2015 144A Notes. Our 6.50% Convertible Senior Notes due 2019, or the 2014 144A Notes, contain a similar early conversion payment feature, provided that the last reported sale price of our common stock for 20 or more trading days (whether or not consecutive) in a period of 30 consecutive trading days ending within five trading days immediately prior to the date we receive a notice of such election to convert exceeds the conversion price in effect on each such trading day. The early conversion payment features of the 2014 144A Notes and the 2015 144A Notes are accounted for under ASC 815 as embedded derivatives. ASC 815 requires companies to bifurcate conversion options from their host instruments and account for them as free standing derivative financial instruments according to certain criteria. The fair value of the derivative is remeasured to fair value at each balance sheet date, with a resulting non-cash gain or loss related to the change in the fair value of the derivative being charged to earnings (loss). We have determined that we must bifurcate and account for the early conversion payment features of the 2014 144A Notes and the 2015 144A Notes, as well as certain other features of our other convertible debt instruments, as embedded derivatives in accordance with ASC 815. We have recorded these embedded derivative liabilities as non-current liabilities on our consolidated balance sheet with a corresponding debt discount at the date of issuance that is netted against the principal amount of the 2014 144A Notes, the 2015 144A Notes or other convertible debt instrument, as applicable. The derivative liabilities are remeasured to fair value at each balance sheet date, with a resulting non-cash gain or loss related to the change in the fair value of the derivative liabilities being recorded in other income or loss. There is no current observable market for this type of derivative and, as such, we determine the fair value of the embedded derivatives using the binomial lattice model. The valuation model uses the stock price, conversion price, maturity date, risk-free interest rate, estimated stock volatility and estimated credit spread. Changes in the inputs for these valuation models may have a significant impact on the estimated fair value of the embedded derivative liabilities. For example, an increase in our stock price results in an increase in the estimated fair value of the embedded derivative liabilities. The embedded derivative liabilities may have, on a U.S. GAAP basis, a substantial effect on our balance sheet from quarter to quarter and it is difficult to predict the effect on our future U.S. GAAP financial results, since valuation of these embedded derivative liabilities are based on factors largely outside of our control and may have a negative impact on our earnings and balance sheet. The effects of these embedded derivatives may cause our U.S. GAAP operating results to be below expectations, which may cause our stock price to decline.

If we are not able to successfully commence, scale up or sustain operations at our existing and planned manufacturing facilities, our customer relationships, business and results of operations may be adversely affected.

A substantial component of our planned production capacity in the near and long term depends on successful operations at our existing and potential large-scale production plants. We are currently operating our first purpose-built, large-scale production plant in Brotas, Brazil and may complete construction of certain other facilities in the coming years. Delays or problems in the construction, start-up or operation of these facilities will cause delays in our ramp-up of production and hamper our ability to reduce our production costs. Delays in construction can occur

due to a variety of factors, including regulatory requirements and our ability to fund construction and commissioning costs. For example, in 2012 we determined it was necessary to delay further construction of our large-scale manufacturing facility with São Martinho in order to focus on the construction and commissioning of our Brotas facility. We have since permanently ceased construction of the São Martinho facility. In 2016 we produced at capacity at our Brotas facility and will likely need to identify and secure access to additional production capacity based on anticipated volume requirements, either by constructing a new custom-built facility, acquiring an existing facility from a third party, retrofitting an existing facility operated by a current or potential partner or increasing our use of contract manufacturing facilities. In December 2016, we acquired a production facility in Leland, North Carolina, which facility had been previously operated by our partner Glycotech to perform chemical conversion and production of our end-products, and which facility was subsequently transferred to our newly-formed joint venture with Nikko Chemicals Co., Ltd. and Nippon Surfactant Industries Co., Ltd., or, collectively, Nikko. In addition, in February 2017 we broke ground on a second custom-built production facility adjacent to our existing Brotas facility. However, there can be no assurance that we will be able to complete such facility on our expected timeline, if at all.

Once our large-scale production facilities are built, acquired or retrofitted, we must successfully commission them, if necessary, and they must perform as we expect. If we encounter significant delays, cost overruns, engineering issues, contamination problems, equipment or raw material supply constraints, unexpected equipment maintenance requirements, safety issues, work stoppages or other serious challenges in bringing these facilities online and operating them at commercial scale, we may be unable to produce our renewable products in the time frame and at the cost we have planned. Industrial scale fermentation is an emerging field and it is difficult to predict the effects of scaling up production to commercial scale, which involves various risks to the quality and consistency of our molecules. In addition, in order to produce molecules at our existing and potential future plants, we have been and may in the future be required to perform thorough transition activities, and modify the design of the plant. Any modifications to the production plant could cause complications in the operations of the plant, which could result in delays or failures in production. If any of these risks occur, or if we are unable to create or obtain additional manufacturing capacity necessary to meet existing and potential customer demand, we may need to continue to use, or increase our use of, contract manufacturing sources, which generally entail greater cost to us to produce our products and would therefore reduce our anticipated gross margins and may also prevent us from accessing certain markets for our products. Further, if our efforts to increase (or commence, as the case may be) production at these facilities are not successful, our partners may decide not to work with us to develop additional production facilities, demand more favorable terms or delay their commitment to invest capital in our production. If we are unable to create and sustain manufacturing capacity and operations sufficient to satisfy the existing and potential demand of our customers and partners, our business and results of operations may be adversely affected.

Our reliance on the large-scale production plant in Brotas, Brazil subjects us to execution and economic risks.

Our decision to focus our efforts for production capacity on our manufacturing facility in Brotas, Brazil means that we have limited manufacturing sources for our products in 2017 and beyond. While we have undertaken efforts to identify and obtain additional manufacturing capacity, including the manufacturing facility in Leland, North Carolina and the proposed second manufacturing facility at the Brotas site discussed above, there can be no assurance that such efforts will be successful on the timelines or at the cost we require, if at all. Any production delays could have a significant negative impact on our business, including our ability to achieve commercial viability for our products and meeting existing and potential customer demand. With the facility in Brotas, Brazil, we are, for the first time, operating a commercial fermentation and separation facility ourselves. We have in the past faced, and may in the future face, unexpected difficulties associated with the operation of our plants. For example, we have in the past, at certain contract manufacturing facilities and at the Brotas facility, encountered delays and difficulties in ramping up production based on contamination in the production process, problems with plant utilities, lack of automation and related human error, issues arising from process modifications to reduce costs and adjust product specifications or transition to producing new molecules, and other similar challenges. We cannot be certain that we will be able to remedy all of such challenges quickly or effectively enough to achieve commercially viable production costs and volumes.

To the extent we secure collaboration arrangements with new or existing partners, we may be required to make significant capital investments at our existing or new facilities in order to produce molecules or other products for such collaborations. Any failure or difficulties in establishing, building up or retooling our operations for these new collaboration arrangements could have a significant negative impact on our business, including our ability to achieve commercial viability for our products, lead to the inability to meet our contractual obligations and could cause us to allocate capital, personnel and other resources from our organization which could adversely affect our business and reputation.

As part of our arrangement to build the plant in Brotas, Brazil we have an agreement with Tonon Bioenergia S.A., or Tonon, to purchase from Tonon sugarcane juice and syrup corresponding to a certain number of tons of sugarcane per year, along with specified water and vapor volumes. Until this annual volume is reached, we are restricted from purchasing sugarcane juice or syrup for processing in the facility from any third party, subject to limited exceptions, unless we pay the premium to Tonon that we would have paid if we bought the sugarcane juice from them. As such, we will be relying on Tonon to supply such juice and syrup and utilities on a timely basis, in the volumes we need, and at competitive prices. If a third party can offer superior prices and Tonon does not consent to our purchasing from such third party, we would be required to pay Tonon the applicable premium, which would have a negative impact on our production cost. Furthermore, we agreed to pay a price for the juice or syrup that is based on the lower of the cost of two other products produced by Tonon using such juice or syrup, plus a premium. Tonon may not want to sell sugarcane juice or syrup to us if the price of one of the other products is substantially higher than the one setting the price for the juice or syrup we purchase. While the agreement provides that Tonon would have to pay a penalty to us if it fails to supply the agreed-upon volume of syrup or juice for a given month, the penalty may not be enough to compensate us for the increased cost if third-party suppliers do not offer competitive prices. Also, if the prices of the other products produced by Tonon increase, we could be forced to pay those increased prices for production without a related increase in the price at which we can sell our products, reducing or eliminating any margins we can otherwise achieve. If in the future these supply terms no longer provide a viable economic structure for the operation in Brotas, Brazil we may be required to renegotiate our agreement, which could result in manufacturing disruptions and delays. In December 2015, Tonon filed for bankruptcy protection in Brazil. If Tonon is unable to supply sugarcane juice or syrup, water and steam in accordance with our agreement, or if we cannot reach an arrangement with any successor to, or purchaser of, Tonon’s assets on satisfactory terms, if at all, we may not be able to obtain substitute supplies from third parties in necessary quantities or at favorable prices, or at all. In such event, our ability to manufacture our products in a timely or cost-effective manner, or at all, would be negatively affected, which would have a material adverse effect on our business.

Furthermore, as we continue to scale up production of our products, through contract manufacturers, at our existing and planned production plants in Brotas, Brazil and Leland, North Carolina and at any future manufacturing facility, we may be required to store increasing amounts of our products for varying periods of time and under differing temperatures or other conditions that cannot be easily controlled, which may lead to a decrease in the quality of our products and their utility profiles and could adversely affect their value. If our stored products degrade in quality, we may suffer losses in inventory and incur additional costs in order to further refine our stored products or we may need to make new capital investments in shipping, improved storage or sales channels and related logistics, which would reduce our cash on hand.

Loss or termination of contract manufacturing relationships could harm our ability to meet our production goals.

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As we have focused on building and commissioning, acquiring or retrofitting our own plants or the plants of existing or potential partners, respectively, and improving our production economics, we have reduced our use of contract manufacturing and have terminated relationships with some of our contract manufacturing partners. The failure to have multiple available supply options for farnesene or other target molecules could create a risk for us if a single source or a limited number of sources of manufacturing runs into operational issues. In addition, if we are unable to secure the services of contract manufacturers when and as needed, we may lose customer opportunities and the growth of our business may be impaired. We cannot be sure that contract manufacturers will be available when we need their services, that they will be willing to dedicate a portion of their capacity to our projects, or that we will be able to reach acceptable price and other terms with them for the provision of their production services. If we shift priorities and adjust anticipated production levels (or cease production altogether) at contract manufacturing facilities, such adjustments or cessations could also result in disputes or otherwise harm our business relationships with contract manufacturers. In addition, reducing or stopping production at one facility while increasing or starting up production at another facility generally results in significant losses of production efficiency, which can persist for significant periods of time. Also, in order for production to commence under our contract manufacturing arrangements, we generally must provide equipment for such operations, and we cannot be assured that such equipment can be ordered or installed on a timely basis, at acceptable costs, or at all. Further, in order to establish new manufacturing facilities, we need to transfer our yeast strains and production processes from our labs to commercial plants controlled by third parties, which may pose technical or operational challenges that delay production or increase our costs.

Our use of contract manufacturers exposes us to risks relating to costs, contractual terms and logistics.

While we have commenced commercial production at our Brotas, Brazil and Leland, North Carolina plants, we continue to commercially produce, process and manufacture some specialty molecules through the use of contract manufacturers, and we anticipate that we will continue to use contract manufacturers for the foreseeable future for chemical conversion and production of end-products and, to mitigate cost and volume risks at our large-scale production facilities, for production of Biofene and other fermentation target compounds. Establishing and operating contract manufacturing facilities requires us to make significant capital expenditures, which reduces our cash and places such capital at risk. Also, contract manufacturing agreements may contain terms that commit us to pay for capital expenditures and other costs and amounts incurred or expected to be earned by the plant operators and owners, which can result in contractual liability and losses for us even if we terminate a particular contract manufacturing arrangement or decide to reduce or stop production under such an arrangement.

The locations of contract manufacturers can pose additional cost, logistics and feedstock challenges. If production capacity is available at a plant that is remote from usable chemical finishing or distribution facilities, or from customers, we will be required to incur additional expenses in shipping products to other locations. Such costs could include shipping costs, compliance with export and import controls, tariffs and additional taxes, among others. In addition, we may be required to use feedstock from a particular region for a given production facility. The feedstock available in such region may not be the least expensive or most effective feedstock for production, which could significantly raise our overall production cost or reduce our product’s quality until we are able to optimize the supply chain.

Our operations rely on sophisticated information technology and equipment systems and infrastructure, a disruption of which could harm our operations.

We rely on various information technology and equipment systems, some of which are dependent on services provided by third parties, to manage our technology platform and operations. These systems provide critical data and services for internal and external users, including procurement and inventory management, transaction processing, financial, commercial and operational data, human resources management, legal and tax compliance information and other information and processes necessary to operate and manage our business. These systems are complex and are frequently updated as technology improves, and include software and hardware that is licensed, leased or purchased from third parties. If our information technology and equipment systems experience breaches or other failures or disruptions, our systems and the information could be compromised. While we have implemented security measures and disaster recovery plans designed to mitigate the effects of any failures or disruption of these systems, such measures may not adequately prevent adverse events such as breaches or failures from occurring or mitigate their severity if they do occur. If our information technology or equipment systems are breached, damaged or fail to function properly due to internal errors or defects, implementation or integration issues, catastrophic events or power outages, we may experience a material disruption in our ability to manage our business operations. Failure or disruption of these systems could have an adverse effect on our operating results and financial condition.

If we are unable to reduce our production costs, we may not be able to produce our products at competitive prices or at a profit, and our ability to grow our business will be limited.

In order to be competitive in the markets we are targeting, our products must have superior qualities or be competitively priced relative to alternatives available in the market. Currently, our costs of production are not low enough to allow us to offer some of our planned products at competitive prices relative to alternatives available in the market. Our production costs depend on many factors that could have a negative effect on our ability to offer our planned products at competitive prices, including, in particular, our ability to establish and maintain sufficient production scale and volume, and feedstock cost. For example, see "*We have limited experience producing our products at commercial scale and may not be able to commercialize our products to the extent necessary to sustain and grow our current business*," "*Our manufacturing operations require sugar feedstock, energy and steam, and the inability to obtain such feedstock, energy and steam in sufficient quantities or in a timely manner, or at reasonable prices, may limit our ability to produce products profitably or at all*," and "*The price of sugarcane and other feedstocks can be volatile as a result of changes in industry policy and may increase the cost of production of our products*."

We face financial risk associated with scaling up production to reduce our production costs. To reduce per-unit production costs, we must increase production to achieve economies of scale and to be able to sell our products with positive margins. However, if we do not sell production output in a timely manner or in sufficient volumes, our investment in production will harm our cash position and generate losses. Additionally, we may incur added costs in storage and we may face issues related to the decrease in quality of our stored products, which could adversely affect the value of such products. Since achieving competitive product prices generally requires increased production volumes and our manufacturing operations and cash flows from sales are in their early stages, we have had to produce and sell products at a loss in the past, and may continue to do so as we build our business. If we are unable to achieve adequate revenues from a combination of product sales and other sources, we may not be able to invest in production and we may not be able to pursue our business plans. In addition, in order to attract potential collaboration or joint venture partners, or to meet payment milestones under existing or future collaboration agreements, we have in the past and may in the future be required to guarantee or meet certain levels of production costs. If we are unable to reduce our production costs to meet such guarantees or milestones, our net cash flow will be further reduced.

Key factors beyond production scale and feedstock cost that impact our production costs include yield, productivity, separation efficiency and chemical process efficiency. Yield refers to the amount of the desired molecule that can be produced from a fixed amount of feedstock. Productivity represents the rate at which our product is produced by a given yeast strain. Separation efficiency refers to the amount of desired product produced in the fermentation process that we are able to extract and the time that it takes to do so. Chemical process efficiency refers to the cost and yield for the chemical finishing steps that convert our target molecule into a desired product. In order to compete successfully in our target markets, we must produce our products at significantly lower costs, which will require both substantially higher yields than we have achieved to date and other significant improvements in production efficiency, including in productivity and in separation and chemical process efficiencies. There can be no assurance that we will be able to make these improvements or reduce our production costs sufficiently to offer our planned products at competitive prices or to attract and maintain collaboration partners, and any such failure could have a material adverse impact on our business and prospects.

Our ability to establish substantial commercial sales of our products is subject to many risks, any of which could prevent or delay revenue growth and adversely impact our customer relationships, business and results of operations.

There can be no assurance that our products will be approved or accepted by customers, that customers will choose our products over competing products, or that we will be able to sell our products profitably at prices and with features sufficient to establish demand. The markets we have entered first are primarily those for specialty chemical products used by large consumer products or specialty chemical companies. In entering these markets, we have sold and we intend to sell our products as alternatives to chemicals currently in use, and in some cases the chemicals that we seek to replace have been used for many years. The potential customers for our molecules generally have well developed manufacturing processes and arrangements with suppliers of the chemical components of their products and may have a resistance to changing these processes and components. These potential customers frequently impose lengthy and complex product qualification procedures on their suppliers, influenced by consumer preference, manufacturing considerations such as process changes and capital and other costs associated with transitioning to alternative components, supplier operating history, established business relationships and agreements, regulatory issues, product liability and other factors, many of which are unknown to, or not well understood by, us. Satisfying these processes may take many months or years. Additionally, we may be subject to product safety testing and may be required to meet certain regulatory and/or product safety standards. Meeting these standards can be a time consuming and expensive process, and we may invest substantial time and resources into such qualification efforts without ultimately securing approval. If we are unable to convince these potential customers (and the consumers who purchase products containing such chemicals) that our products are comparable to the chemicals that they currently use or that the use of our products is otherwise to their benefit, we will not be successful in entering these markets and our business will be adversely affected.

We expect to face competition for our products from existing providers of petroleum-based products and from other companies seeking to provide alternatives to these products, and if we cannot compete effectively against these companies or products we may not be successful in bringing our products to market or further growing our business after we do so.

We expect that our renewable products will compete with both the traditional products that are currently being used in our target markets and with the alternatives to these existing products that established enterprises and new companies are seeking to produce.

In the markets that we are initially entering, and in other markets that we may seek to enter in the future, we will compete primarily with the established providers of ingredients currently used in products in these markets. Producers of these incumbent products include global oil companies, large international chemical companies and companies specializing in specific products, such as squalane or essential oils. We may also compete in one or more of these markets with products that are offered as alternatives to the traditional products being offered in these markets.

With the emergence of many new companies seeking to produce products from alternative sources, we may face increasing competition from such companies. As they emerge, some of these companies may be able to establish production capacity and commercial partnerships to compete with us. If we are unable to establish production and sales channels that allow us to offer comparable products at attractive prices, we may not be able to compete effectively with these companies.

We believe the primary competitive factors in our target markets are:

- product price;
- product performance and other measures of quality;
- infrastructure compatibility of products;
- sustainability; and
- dependability of supply.

The oil companies, large chemical companies and well-established agricultural products companies with whom we compete are much larger than us, have, in many cases, well developed distribution systems and networks for their products, have valuable historical relationships with the potential customers we are seeking to serve and have much more extensive sales and marketing programs in place to promote their products. In order to be successful, we must convince customers that our products are at least as effective as the traditional products they are seeking to replace and we must provide our products on a cost basis that does not greatly exceed these traditional products and other available alternatives. Some of our competitors may use their influence to impede the development and acceptance of renewable products of the type that we are seeking to produce.

We believe that for our chemical products to succeed in the market, we must demonstrate that our products are comparable alternatives to existing products and to any alternative products that are being developed for the same markets based on some combination of product cost, availability, performance, and consumer preference characteristics. In addition, with the wide range of chemical products under development, we must be successful in reaching potential customers and convincing them that ours are effective and reliable alternatives.

Certain rights we have granted to Total, DSM and other existing stockholders, including in relation to our future securities offerings, could have substantial impacts on our company.

Under certain agreements between us and Total related to Total's original investment in our capital stock, for as long as Total owns 10% of our voting securities, it has rights to an exclusive negotiation period if our board of directors decides to sell our company. In addition, in connection with Total's investments in Amyris, our certificate of incorporation includes a provision that excludes Total from prohibitions on business combinations between Amyris and an "interested stockholder." These provisions could have the effect of discouraging potential acquirers from making offers to acquire us, and give Total more access to Amyris than other stockholders if Total decides to pursue an acquisition.

In addition, Total, DSM, Temasek and certain other investors have the right to designate one or more directors to serve on our board of directors pursuant to agreements between us and such investors.

In May 2017, we entered into an agreement with DSM, pursuant to which we agreed (i) that for as long as there is a DSM-designated director serving on our board of directors, we will not engage in certain commercial or financial transactions or arrangements without the consent of such director, (ii) to provide DSM with certain exclusive negotiating rights in connection with certain future commercial projects and arrangements, and (iii) to use a portion of our manufacturing capacity for toll manufacturing of DSM's products, subject to certain conditions. These provisions could discourage other potential partners from approaching us with business opportunities, and could restrict, delay or prevent us from pursuing or engaging in such opportunities, which could adversely affect our business.

Additionally, in connection with investments in Amyris, we granted certain investors, including Total and DSM, a right of first investment if we propose to sell securities in certain financing transactions. With these rights, such investors may subscribe for a portion of any such new financing and require us to comply with certain notice periods, which could discourage other investors from participating in, or cause delays in our ability to close, such a financing. Further, such investors in certain cases have the right to pay for any securities purchased in connection with an exercise of their right of first investment by cancelling all or a portion of our debt held by them. To the extent such investors exercise these rights, it will reduce the cash proceeds we may realize from the relevant financing.

Our relationship with Ginkgo Bioworks, Inc. exposes us to financial and commercial risks.

In June 2016, we entered into an initial strategic partnership agreement with Ginkgo Bioworks, Inc., or Ginkgo, pursuant to which we licensed certain intellectual property to Ginkgo in exchange for a license fee and royalty, and agreed to pursue the negotiation and execution of a definitive partnership agreement setting forth the terms of a long-term commercial partnership and collaboration arrangement between us and Ginkgo, and in September 2016 we executed a definitive collaboration agreement with Ginkgo setting forth the terms of a commercial partnership under which the parties would collaborate to develop, manufacture and sell commercial products and would share in the value of such products. In connection with the entry into such commercial agreements, we received a waiver under, and subsequently entered into an amendment of, our senior secured credit facility, the agent and lender under which is an affiliate of Ginkgo, which amendment extended, subject to certain conditions which were satisfied in January 2017, the maturity of the loans under the senior secured credit facility, eliminated principal repayments under the facility prior to maturity, subject to the requirement that we apply certain monies received by us under the collaboration agreement with Ginkgo to repay the outstanding loans under the facility, and waived the covenant in the senior secured loan facility requiring the Company to maintain unrestricted, unencumbered cash in defined U.S. bank accounts in an amount equal to at least 50% of the principal amount outstanding under the facility until the maturity date.

There can be no assurance that our partnership with Ginkgo will be successful, and the partnership may prevent us from pursuing other business opportunities in the future or, if pursued, realizing the full value of such opportunities. If the partnership is unsuccessful, our ability to continue with our business plans would be adversely affected. In addition, negative developments in our commercial partnership with Ginkgo could negatively affect our relationship with the agent and lender under our senior secured credit facility, an affiliate of Ginkgo, which could adversely impact our ability to incur additional indebtedness in the future or take other actions the consent for which would be required from the agent and lender under the facility. In such event, our financial condition and business operations could be adversely affected.

If we do not meet technical, development and commercial milestones in our collaboration agreements, our future revenues and financial results will be adversely impacted.

We have entered into a number of agreements regarding the further development of certain of our products and, in some cases, for ultimate sale of certain products to the customer under the agreement. None of these agreements affirmatively obligates the other party to purchase specific quantities of any products, and most contain important conditions that must be satisfied before additional research and development funding or product purchases would occur. These conditions include research and development milestones and technical specifications that must be achieved to the satisfaction of our collaborators, which we cannot be certain we will achieve. If we do not achieve these contractual milestones, our revenues and financial results will be adversely affected.

We are subject to risks related to our reliance on collaboration arrangements to fund development and commercialization of our products and the success of such products is uncertain.

For most product markets we are seeking to enter, we either have or are seeking collaboration partners to fund the research and development, commercialization and production efforts required for the target products. Typically we provide limited exclusive rights and revenue sharing with respect to the production and sale of particular types of products in specific markets in exchange for such up-front funding. These exclusivity, revenue-sharing and other similar terms limit our ability to commercialize our products and technology, and may impact the size of our business or our profitability in ways that we do not currently envision. In addition, revenues from these types of relationships are a key part of our cash plan for 2017 and beyond. If we fail to collect expected collaboration revenues, or to identify and add sufficient additional collaborations to fund our planned operations, we may be unable to fund our operations or pursue development and commercialization of our planned products. To achieve our collaboration revenue targets from year to year, we may be forced to enter into agreements that contain less favorable terms. As part of our current and future collaboration arrangements, we may be required to make significant capital investments at our existing or new facilities in order to produce molecules or other products for such collaborations. Any failure or difficulties in establishing, building up or retooling our operations for these collaboration arrangements could have a significant negative impact on our business, including our ability to achieve commercial viability for our products, lead to the inability to meet our contractual obligations and could cause us to allocate capital, personnel and other resources from our organization which could adversely affect our business and reputation.

With respect to pharmaceutical collaborations, our experience in this industry is limited, so we may have difficulty identifying and securing collaboration partners and customers for pharmaceutical applications of our products and services. Furthermore, our success in the pharmaceutical market depends primarily upon our ability to identify and validate new small molecule compounds of pharmaceutical interest (including through the use of our discovery platform), and identify, test, develop and commercialize such compounds. Our research efforts may initially show promise in discovering potential new therapeutic candidates, yet fail to yield viable product candidates for clinical development for a number of reasons, including:

- because our research methodology, including our screening technology, may not successfully identify medically relevant product candidates;
- we may identify and select from our discovery platform novel untested classes of product candidates for the particular disease indication we are pursuing, which may be challenging to validate because of the novelty of the product candidates, or we may fail to validate at all after further research work;
- our product candidates may cause adverse effects in patients or subjects, even after successful initial toxicology studies, which may make the product candidates unmarketable;
- our product candidates may not demonstrate a meaningful benefit to patients or subjects; or
- collaboration partners may change their development profiles or plans for potential product candidates or abandon a therapeutic area or the development of a partnered product.

Research programs to identify new product targets and candidates require substantial technical, financial and human resources. We may focus our efforts and resources on potential discovery efforts, programs or product candidates that ultimately prove to be unsuccessful.

Our collaboration arrangements may restrict or prevent our future business activity in certain markets or industries, which could harm our ability to grow our business.

As part of our collaboration arrangements in the ordinary course of business, we may grant to our partners exclusive rights with respect to the development, production and/or commercialization of particular products or types of products in specific markets in exchange for up-front funding and/or downstream value sharing arrangements. These rights might inhibit potential collaboration or strategic partners or potential customers from entering into negotiations with us about further business opportunities, and we may be restricted or prevented from engaging with other partners or customers in those markets, which may limit our ability to grow our business.

For example, under our Amended and Restated Jet Fuel Agreement with Total Amyris BioSolutions B.V., or TAB, our joint venture with Total, and our License Agreement regarding Diesel Fuel in the European Union with Total, we granted TAB and Total, respectively, certain exclusive rights to produce and commercialize farnesene- or farnesane-based jet and diesel fuel in certain jurisdictions, as well as certain purchase rights. As a result of these agreements, we generally no longer have an independent right to make or sell farnesene- or farnesane-based jet or diesel fuels in such jurisdictions without the approval of TAB or Total, as applicable. If, for any reason, we would like to pursue farnesene- or farnesane-based jet or diesel fuels in such jurisdictions independently or with a third party, these arrangements could impair our ability to develop, produce or commercialize such jet or diesel fuels, which could have a material adverse effect on our business and long term prospects.

In the past, we have had to grant concessions to existing partners in exchange for such partners waiving or modifying their exclusive rights with respect to a particular product, type of product or market so that we could engage with a third party with respect to such product, product type or market. There can be no assurance that existing partners will be willing to grant waivers of or modify their exclusive rights in the future on favorable terms, if at all. If we are unable to engage other potential partners with respect to particular product types or markets for which we have previously granted exclusive rights, our ability to grow our business would be harmed and our results of operations may be adversely effected.

If our collaboration partners are not successful in commercializing products that incorporate our technology, our business and results of operations may be adversely affected.

We rely on our collaboration partners to create demand with end-users for products that incorporate our products and technologies. If such collaboration partners are unable to create such demand, we may not be able to successfully

market or sell our products. In addition, while we maintain certain clawback rights to our technology in the event our collaboration partners are unable or unwilling to commercialize the products we create for them under the applicable collaboration arrangement, if our collaboration partners do not commercialize the products covered by our collaboration or supply arrangements, we may be restricted from or unable to market or sell such products or technologies to other potential collaboration partners, which could hinder the growth of our business. If we allocate resources to collaborations that do not lead to products that are commercially viable, our revenues, financial condition and results of operations could be adversely affected.

In addition, certain of our collaboration partners have the right to terminate their agreements with us if we undergo a change of control or a sale of our business, which could discourage a potential acquirer from making an offer to acquire us.

We have limited control over our joint ventures.

As a result of the restructuring of our joint ventures TAB and Novvi LLC during 2016, as discussed above, we do not have the right or power to control the management of such entities, and our joint venture partners may take action with respect to such joint ventures which is contrary to our interests or objectives. In addition, with respect to the joint venture we formed in December 2016 with Nikko relating to our Neossance cosmetic ingredients business, while we hold a 50% equity interest in such joint venture and have a right to appoint one half of its board of directors, our joint venture partners acting together will have the right to designate the Chief Executive Officer and certain other officers, which could restrict our ability to control the operations of such joint venture. If our joint venture partners act contrary to our interest, it could harm our brand, business, results of operations and financial condition. In addition, operating a joint venture often requires additional organizational formalities as well as time-consuming procedures for sharing information and making decisions, which can divert management resources, and if a joint venture partner changes or relationships deteriorate, our success in the joint venture may be materially adversely affected, which could harm our business. Furthermore, with respect to TAB, if we were to experience a change of control or fail to make any required capital contribution to TAB, Total has a right to buy out our interest in TAB at fair market value. If Total were to exercise these rights, we would, in effect, relinquish our economic rights to the intellectual property we have exclusively licensed to TAB, and our ability to seek future revenue from farnesene-based jet fuel outside of Brazil would be adversely affected (or completely prevented). This could significantly reduce the value of our product offerings and have a material adverse effect on our ability to grow our business in the future.

Our manufacturing operations require sugar feedstock, energy and steam, and the inability to obtain such feedstock, energy and steam in sufficient quantities or in a timely manner, or at reasonable prices, may limit our ability to produce our products profitably, or at all.

We anticipate that the production of our products will require large volumes of feedstock. We have relied on a mixture of feedstock sources for use at our contract manufacturing operations, including cane sugar, corn-based dextrose and beet molasses. For our large-scale production facility in Brazil, we are relying primarily on Brazilian sugarcane. We cannot predict the future availability or price of these various feedstocks, nor can we be sure that our mill partners, which we expect to supply the sugarcane feedstock necessary to produce our products in Brazil, will be able to supply it in sufficient quantities or in a timely manner. For example, in December 2015, Tonon, one of our suppliers of sugarcane juice and syrup, filed for bankruptcy protection in Brazil, which may adversely affect its ability to supply us with sugarcane juice and syrup in the future, or we may not be able reach an arrangement with any successor to, or purchaser of, Tonon’s assets to supply us with sugarcane juice and syrup on satisfactory terms, if at all. Furthermore, to the extent we are required to rely on sugar feedstock other than Brazilian sugarcane, the cost of such feedstock may be higher than we expect, increasing our anticipated production costs. Feedstock crop yields and sugar content depend on weather conditions, such as rainfall and temperature. Weather conditions have historically caused volatility in the ethanol and sugar industries by causing crop failures or reduced harvests. Excessive rainfall can adversely affect the

supply of sugarcane and other sugar feedstock available for the production of our products by reducing the sucrose content and limiting growers' ability to harvest. Crop disease and pestilence can also occur from time to time and can adversely affect feedstock growth, potentially rendering useless or unusable all or a substantial portion of affected harvests. With respect to sugarcane, our initial primary feedstock, seasonal availability and price, the limited amount of time during which it keeps its sugar content after harvest, and the fact that sugarcane is not itself a traded commodity, increases these risks and limits our ability to substitute supply in the event of such an occurrence. If production of sugarcane or any other feedstock we may use to produce our products is adversely affected by these or other conditions, our production will be impaired, and our business will be adversely affected.

Additionally, our facility in Brotas, Brazil depends on large quantities of energy and steam to operate. We have a supply agreement with Cogeração de Energia Elétrica Rhodia Brotas S.A. pursuant to which we receive energy and steam in sufficient amounts to meet our current needs. However, we cannot predict the future availability or price of energy and steam. If, for whatever reason, we must purchase energy or steam from a different supplier, the cost of such energy and steam may be higher than we expect, increasing our anticipated production costs. Droughts or other weather conditions or natural disasters in Brazil may also affect energy and steam production, cost and availability and, therefore, may adversely affect our production. If our supply and access to energy or steam is adversely affected by these or other conditions, our production will be impaired, and our business will be adversely affected.

The price of sugarcane and other feedstocks can be volatile as a result of changes in industry policy and may increase the cost of production of our products.

In Brazil, Conselho dos Produtores de Cana, Açúcar e Álcool (Council of Sugarcane, Sugar and Ethanol Producers or Consecana), an industry association of producers of sugarcane, sugar and ethanol, sets market terms and prices for general supply, lease and partnership agreements for sugarcane. If Consecana makes changes to such terms and prices, it could result in higher sugarcane prices and/or a significant decrease in the volume of sugarcane available for the production of our products. Furthermore, if Consecana were to cease to be involved in this process, such prices and terms could become more volatile. Similar principles apply to the pricing of other feedstocks as well. Any of these events could adversely affect our business and results of operations.

Our large-scale commercial production capacity is centered in Brazil, and our business will be adversely affected if we do not operate effectively in that country.

For the foreseeable future, we will be subject to risks associated with the concentration of essential product sourcing and operations in Brazil. The Brazilian government has changed in the past, and may change in the future, monetary, taxation, credit, tariff, labor and other policies to influence the course of Brazil's economy. For example, the government's actions to control inflation have at times involved setting wage and price controls, adjusting interest rates, imposing taxes and exchange controls and limiting imports into Brazil. We have no control over, and cannot predict what policies or actions the Brazilian government may take in the future. Our business, financial performance and prospects may be adversely affected by, among others, the following factors:

- delays or failures in securing licenses, permits or other governmental approvals necessary to build and operate facilities and use our yeast strains to produce products;
- rapid consolidation in the sugar and ethanol industries in Brazil, which could result in a decrease in competition;
- political, economic, diplomatic or social instability in or affecting Brazil;
- changing interest rates;
- tax burden and policies;
- effects of changes in currency exchange rates;
-

any changes in currency exchange policy that lead to the imposition of exchange controls or restrictions on remittances abroad;

- inflation;
- land reform or nationalization movements;
- changes in labor related policies;
- export or import restrictions that limit our ability to move our products out of Brazil or interfere with the import of essential materials into Brazil;
- changes in, or interpretations of foreign regulations that may adversely affect our ability to sell our products or repatriate profits to the United States;
- tariffs, trade protection measures and other regulatory requirements;
- compliance with United States and foreign laws that regulate the conduct of business abroad;
- compliance with anti-corruption laws recently enacted in Brazil;
- an inability, or reduced ability, to protect our intellectual property in Brazil including any effect of compulsory licensing imposed by government action; and
- difficulties and costs of staffing and managing foreign operations.

We cannot predict whether the current or future Brazilian government will implement changes to existing policies on taxation, exchange controls, monetary strategy, labor relations, social security and the like, nor can we estimate the impact of any such changes on the Brazilian economy or our operations.

Brazil's economy has recently experienced quarters of slow or negative gross domestic product growth and has experienced high inflation and a growing fiscal deficit of its federal government accounts. In addition, major corruption scandals involving members of the executive, state-controlled enterprises and large private sector companies have been disclosed and are the subject of ongoing investigation by federal authorities. The final outcome of these investigations and their impact on the Brazilian economy is not yet known and cannot be predicted with certainty.

In addition, during the 2016 U.S. presidential election campaign, President Trump made comments suggesting that he was not supportive of certain existing international trade agreements as well as that he might take action to restrict or tax products imported into the U.S. from foreign jurisdictions. At this time, it remains unclear what actions President Trump will or will not take with respect to these international trade agreements or U.S. trade policy. If President Trump takes action to withdraw from or materially modify international trade agreements or place restrictions or tariffs on products imported from Brazil, our business, financial condition and results of operations could be adversely affected.

We maintain operations in foreign jurisdictions other than Brazil, and may in the future expand our operations to additional foreign jurisdictions. Many, if not all of the above-mentioned risks also apply to our operations in such jurisdictions. If any of these risks were to occur, our operations and business would be adversely affected.

Our international operations expose us to the risk of fluctuation in currency exchange rates and rates of foreign inflation, which could adversely affect our results of operations.

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We currently incur significant costs and expenses in Brazilian real and may in the future incur additional expenses in foreign currencies and derive a portion of our revenues in the local currencies of customers throughout the world. As a result, our revenues and results of operations are subject to foreign exchange fluctuations, which we may not be able to manage successfully. During the past few decades, the Brazilian currency in particular has faced frequent and substantial exchange rate fluctuations in relation to the United States dollar and other foreign currencies. There can be no assurance that the Brazilian real will not significantly appreciate or depreciate against the United States dollar in the future. We also bear the risk that the rate of inflation in the foreign countries where we incur costs and expenses or the decline in value of the United States dollar compared to those foreign currencies will increase our costs as expressed in United States dollars. For example, future measures by the Central Bank of Brazil to control inflation, including interest rate adjustments, intervention in the foreign exchange market and actions to fix the value of the real, may weaken the United States dollar in Brazil. Whether in Brazil or elsewhere, we may not be able to adjust the prices of our products to offset the effects of inflation or foreign currency appreciation on our cost structure, which could increase our costs and reduce our net operating margins. If we do not successfully manage these risks through hedging or other mechanisms, our revenues and results of operations could be adversely affected.

Ethical, legal and social concerns about products using genetically modified microorganisms could limit or prevent the use of our products and technologies and could harm our business.

Our technologies and products involve the use of genetically modified microorganisms, or GMMs. Public perception about the safety of, and ethical, legal or social concerns over, genetically engineered products, including GMMs, could affect public acceptance of our products. If we are not able to overcome any such concerns relating to our products, our technologies may not be accepted by our customers or end-users. In addition, the use of GMMs has in the past received negative publicity, which could lead to greater regulation or restrictions on imports of our products. Further, there is a risk that products produced using our technologies could cause adverse health effects or other adverse events, which could also lead to negative publicity. If our technologies and products are not accepted by our customers or their end-users due to negative publicity or lack of public acceptance, our business could be significantly harmed.

Our use of genetically-modified feedstocks and yeast strains to produce our products subjects us to risks of regulatory limitations and rejection of our products.

The use of GMMs, such as our yeast strains, is subject to laws and regulations in many countries, some of which are new and some of which are still evolving. In the United States, the Environmental Protection Agency (EPA), regulates the commercial use of GMMs as well as potential products produced from GMMs. Various states or local governments within the United States could choose to regulate products made with GMMs as well. While the strain of genetically modified yeast that we currently use for the development and commercial production of our target molecules, *S. cerevisiae*, is eligible for exemption from EPA review because it is generally recognized as safe, we must satisfy certain criteria to achieve this exemption, including but not limited to use of compliant containment structures and safety procedures, and we cannot be sure that we will meet such criteria in a timely manner, or at all. If exemption of *S. cerevisiae* is not obtained, our business may be substantially harmed. In addition to *S. cerevisiae*, we may seek to use different GMMs in the future that will require EPA approval. If approval of different GMMs is not

secured, our ability to grow our business could be adversely affected.

In Brazil, GMMs are regulated by the National Biosafety Technical Commission, or CTNBio. We have obtained approvals from CTNBio to use GMMs in a contained environment in our Brazil facilities for research and development purposes as well as at contract manufacturing facilities in Brazil. In addition, we have obtained initial commercial approvals from CTNBio for two of our yeast strains. As we continue to develop new yeast strains and deploy our technology at new production facilities in Brazil, we will be required to obtain further approvals from CTNBio in order to use these strains in commercial production in Brazil. We may not be able to obtain approvals from relevant Brazilian authorities on a timely basis, or at all, and if we do not, our ability to produce our products in Brazil would be impaired, which would adversely affect our results of operations and financial condition.

In addition to our production operations in the United States and Brazil, we have been party to contract manufacturing agreements with parties in other production locations around the world, including Europe. The use of GMM technology is strictly regulated in the European Union, which has established various directives for member states regarding regulation of the use of such technology, including notification processes for contained use of such technology. We expect to encounter GMM regulations in most, if not all, of the countries in which we may seek to establish production capabilities and/or conduct sales to customers or end-use consumers, and the scope and nature of these regulations will likely be different from country to country. If we cannot meet the applicable requirements in other countries in which we intend to produce or sell products using our yeast strains, or if it takes longer than anticipated to obtain such approvals, our business could be adversely affected. Furthermore, there are various non-governmental and quasi-governmental organizations that review and certify products with respect to the determination of whether products can be classified as "natural" or other similar classifications. While the certification from such non-governmental and quasi-governmental organizations is generally not mandatory, some of our current or prospective customers, collaborators or distributors may require that we meet the standards set by such organizations as a condition precedent to purchasing or distributing our products. We cannot be certain that we will be able to satisfy the standards of such organizations, and any delay or failure to do so could harm our ability to sell or distribute some or all of our products to certain customers and prospective customers, which could have a negative impact on our business.

We may not be able to obtain regulatory approval for the sale of our renewable products.

Our renewable chemical products may be subject to government regulation in our target markets. In the United States, the EPA administers the Toxic Substances Control Act, or the TSCA, which regulates the commercial registration, distribution, and use of many chemicals. Before an entity can manufacture or distribute a new chemical subject to the TSCA, it must file a Pre-Manufacture Notice, or PMN, to add the chemical to a product. The EPA has 90 days to review the filing but may request additional data, which could significantly extend the timeline for approval. As a result, we may not receive EPA approval to list future molecules on the TSCA registry as expeditiously as we would like, resulting in delays or significant increases in testing requirements. A similar program exists in the European Union, called REACH. Under this program, chemicals imported or manufactured in the European Union in certain quantities must be registered with the European Chemicals Agency, and this process could cause delays or entail significant costs. To the extent that other countries in which we are producing or selling (or seeking to produce or sell) our products, such as Brazil and various countries in Asia, rely on TSCA or REACH (or similar laws and programs) for chemical registration or regulation in their jurisdictions, delays with the United States or European authorities, or any relevant authorities in such other countries, may delay entry into these markets as well. In addition, some of our Biofene-derived products are sold for the cosmetics market, and some countries may impose additional regulatory requirements or permits for such uses, which could impair, delay or prevent sales of our products in those markets.

We expect to encounter regulations in most, if not all, of the countries in which we may seek to produce, import or sell our products (and our customers may encounter similar regulations in selling end-use products to consumers), and we cannot assure you that we (or our customers) will be able to obtain necessary approvals in a timely manner or at all. If our products do not meet applicable regulatory requirements in a particular country, then we (or our customers) may not be able to commercialize our products in such country and our business will be adversely affected.

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In addition, many of our products are intended to be a component of our collaborators' and/or customers' (or their customers') end-use products. Such end-use products may be subject to various regulations, including regulations promulgated by the EPA or the United States Food and Drug Administration. If our collaborators and customers (or their customers) are not successful in obtaining any required regulatory approval for their end-use products that incorporate our products, or fail to comply with any applicable regulations for such end-use products, whether due to our products or otherwise, demand for our products may decline and our revenues will be adversely affected.

Changes in government regulations, including subsidies and economic incentives, could have a material adverse effect on our business.

The market for renewable chemical products is heavily influenced by foreign, federal, state and local government regulations and policies. Changes to existing or adoption of new domestic or foreign federal, state and local legislative initiatives that impact the production, distribution or sale of renewable chemical products may harm our business. The uncertainty regarding future standards and policies may also affect our ability to develop new renewable products or to license our technologies to third parties and to sell products to our end customers. Any inability to address these requirements and any regulatory or policy changes could have a material adverse effect on our business, financial condition and results of operations.

Furthermore, the production of our products will depend on the availability of feedstock, especially sugarcane. Agricultural production and trade flows are subject to government policies and regulations. Governmental policies affecting the agricultural industry, such as taxes, tariffs, duties, subsidies, incentives and import and export restrictions on agricultural commodities and commodity products can influence the planting of certain crops, the location and size of crop production, whether unprocessed or processed commodity products are traded, the volume and types of imports and exports, and the availability and competitiveness of feedstocks as raw materials. Future government policies may adversely affect the supply of feedstocks, restrict our ability to use sugarcane or other feedstocks to produce our products, or encourage the use of feedstocks more advantageous to our competitors, which would put us at a commercial disadvantage and could negatively impact our future revenues and results of operations.

We may incur significant costs to comply with environmental laws and regulations, and failure to comply with these laws and regulations could expose us to significant liabilities.

We use hazardous chemicals and radioactive and biological materials in our business, and such materials are subject to a variety of federal, state and local laws and regulations governing the use, generation, manufacture, storage, handling and disposal of these materials in the United States and in Brazil. Although we have implemented safety procedures for handling and disposing of these materials and related waste products in an effort to comply with these laws and regulations, we cannot be sure that our safety measures will prevent accidental injury or contamination from the use, storage, handling or disposal of hazardous materials. In the event of contamination or injury, we could be held liable for any resulting damages, and any liability could exceed our insurance coverage. There can be no assurance that violations of environmental, health and safety laws will not occur in the future as a result of human error,

accident, equipment failure or other causes. Compliance with applicable environmental laws and regulations may be expensive, and the failure to comply with past, present, or future laws could result in the imposition of fines, third party property damage, product liability and personal injury claims, investigation and remediation costs, the suspension of production, or a cessation of operations, and our liability may exceed our total assets. Liability under environmental laws can be joint and several, without regard to comparative fault, and may be punitive in nature. Furthermore, environmental laws could become more stringent over time, imposing greater compliance costs and increasing risks and penalties associated with violations, which could impair our research, development or production efforts and otherwise harm our business.

A decline in the price of petroleum and petroleum-based products has in the past and may in the future reduce demand for some of our renewable products and may otherwise adversely affect our business.

While many of our products do not compete with, and do not serve as alternatives to, petroleum-based products, we anticipate that some of our renewable products will be marketed as alternatives to corresponding petroleum-based products. The price of oil has fallen significantly in recent years, and accordingly, we may be unable to produce certain of our products as cost-effective alternatives to petroleum-based products. Declining oil prices, or the perception of a sustained or future decline in oil prices, has adversely affected the prices or demand for such products in the past and may do so in the future. During sustained periods of lower oil prices we may be unable to sell such products at anticipated levels, which could negatively impact our operating results.

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

Our revenues and results of operations could vary significantly from quarter to quarter because of a variety of factors, many of which are outside of our control. As a result, comparing our results of operations on a period-to-period basis may not be meaningful. Factors that could cause our quarterly results of operations to fluctuate include:

- achievement, or failure, with respect to technology, product development or manufacturing milestones needed to allow us to enter identified markets on a cost effective basis;
- delays or greater than anticipated expenses associated with the completion, commissioning, acquisition or retrofitting of new production facilities, or the time to ramp up and stabilize production following completion, acquisition or retrofitting of a new production facility or the transition to, and ramp up of, producing new molecules at our existing facilities or a contract manufacturer;
- impairment of assets based on shifting business priorities and working capital limitations;
- disruptions in the production process at any manufacturing facility, including disruptions due to seasonal or unexpected downtime at our facilities as a result of feedstock availability, contamination, safety or other issues or other technical difficulties or the scheduled downtime at our facilities as a result of transitioning our equipment to the production of different molecules;
- losses of, or the inability to secure new, major customers, collaboration partners, suppliers or distributors;
- losses associated with producing our products as we ramp to commercial production levels;
- failure to recover value added tax (VAT) that we currently reflect as recoverable in our financial statements (e.g., due to failure to meet conditions for reimbursement of VAT under local law);
- the timing, size and mix of product sales to customers;
- increases in price or decreases in availability of feedstock;
- the unavailability of contract manufacturing capacity altogether or at reasonable cost;
- exit costs associated with terminating contract manufacturing relationships;
- fluctuations in foreign currency exchange rates;
- gains or losses associated with our hedging activities;
- change in the fair value of derivative instruments;

- fluctuations in the price of and demand for sugar, ethanol, and petroleum-based and other products for which our products are alternatives;
- seasonal variability in production and sales of our products;
- competitive pricing pressures, including decreases in average selling prices of our products;
- unanticipated expenses or delays associated with changes in governmental regulations and environmental, health, labor and safety requirements;
- reductions or changes to existing fuel and chemical regulations and policies;
- departure of executives or other key management employees resulting in transition and severance costs;
- our ability to use our net operating loss carryforwards to offset future taxable income;
- business interruptions such as earthquakes, tsunamis and other natural disasters;
- our ability to integrate businesses that we may acquire;
- our ability to successfully collaborate with joint venture partners;
- risks associated with the international aspects of our business; and
- changes in general economic, industry and market conditions, both domestically and in our foreign markets.

Due to the factors described above, among others, the results of any quarterly or annual period may not meet our expectations or the expectations of our investors and may not be meaningful indications of our future performance.

Loss of key personnel, including key management personnel, and/or failure to attract and retain additional personnel could delay our product development programs and harm our research and development efforts and our ability to meet our business objectives.

Our business involves complex, global operations across a variety of markets and requires a management team and employee workforce that is knowledgeable in the many areas in which we operate. As we continue to build our business, we will need to hire and retain qualified research and development, management and other personnel to succeed. The process of hiring, training and successfully integrating qualified personnel into our operations, in the United States, Brazil and other countries in which we may seek to operate, is a lengthy and expensive one. The market for qualified personnel is very competitive because of the limited number of people available who have the necessary technical skills and understanding of our technology and products, particularly in Brazil. Our failure to hire and retain qualified personnel could impair our ability to meet our research and development and business objectives and adversely affect our results of operations and financial condition.

The loss of any key member of our management or key technical and operational employees, or the failure to attract or retain such employees, could prevent us from developing and commercializing our products for our target markets and executing our business strategy. In addition, we may not be able to attract or retain qualified employees in the future due to the intense competition for qualified personnel among biotechnology and other technology-based businesses, particularly in the renewable chemicals area. Furthermore, reductions to our workforce as part of potential cost-saving measures, such as those discussed above with respect to our operating plans for the remainder of 2017 and 2018, may make it more difficult for us to attract and retain key employees. If we do not maintain the necessary personnel to accomplish our business objectives, we may experience staffing constraints that will adversely affect our ability to

meet the demands of our collaborators and customers in a timely fashion or to support our internal research and development programs and operations. In particular, our product and process development programs depend on our ability to attract and retain highly skilled technical and operational personnel. Competition for such personnel from numerous companies and academic and other research institutions may limit our ability to do so on acceptable terms. All of our employees are “at-will” employees, which means that either the employee or we may terminate their employment at any time.

Growth may place significant demands on our management and our infrastructure.

We have experienced, and expect to continue to experience, expansion of our business as we continue to make efforts to develop and bring our products to market. We have grown from 18 employees at the end of 2005 to 462 full-time employees at June 30, 2017. Our growth and diversified operations have placed, and may continue to place, significant demands on our management and our operational and financial infrastructure. In particular, continued growth could strain our ability to:

- manage multiple research and development programs;
- operate multiple manufacturing facilities around the world;
- develop and improve our operational, financial and management controls;
- enhance our reporting systems and procedures;
- recruit, train and retain highly skilled personnel;
- develop and maintain our relationships with existing and potential business partners;
- maintain our quality standards; and
- maintain customer satisfaction.

Managing our growth will require significant expenditures and allocation of valuable management resources. If we fail to achieve the necessary level of efficiency in our organization as it grows, our business, results of operations and financial condition would be adversely impacted.

Our proprietary rights may not adequately protect our technologies and product candidates.

Our commercial success will depend substantially on our ability to obtain patents and maintain adequate legal protection for our technologies and product candidates in the United States and other countries. As of June 30, 2017, we had approximately 520 issued United States and foreign patents and approximately 330 pending United States and foreign patent applications that were owned or co-owned by or licensed to us. We will be able to protect our proprietary rights from unauthorized use by third parties only to the extent that our proprietary technologies and future products are covered by valid and enforceable patents or are effectively maintained as trade secrets.

We apply for patents covering both our technologies and product candidates, as we deem appropriate. However, filing, prosecuting, maintaining and defending patents on product candidates in all countries throughout the world would be prohibitively expensive, and our intellectual property rights in some countries outside the United States are less extensive than those in the United States. We may also fail to apply for patents on important technologies or product candidates in a timely fashion, or at all. Our existing and future patents may not be sufficiently broad to prevent others from practicing our technologies or from designing products around our patents or otherwise developing competing products or technologies. In addition, the patent positions of companies like ours are highly uncertain and involve complex legal and factual questions for which important legal principles remain unresolved. No consistent policy

regarding the breadth of patent claims has emerged to date in the United States and the landscape is expected to become even more uncertain in view of recent rule changes by the United States Patent Office, or USPTO. Additional uncertainty may result from legal decisions by the United States Federal Circuit and Supreme Court as they determine legal issues concerning the scope and construction of patent claims and inconsistent interpretation of patent laws or from legislation enacted by the U.S. Congress. The patent situation outside of the United States is even less predictable. As a result, the validity and enforceability of patents cannot be predicted with certainty. Moreover, we cannot be certain whether:

- we (or our licensors) were the first to make the inventions covered by each of our issued patents and pending patent applications;
- we (or our licensors) were the first to file patent applications for these inventions;
- others will independently develop similar or alternative technologies or duplicate any of our technologies;
- any of our or our licensors' patents will be valid or enforceable;
- any patents issued to us (or our licensors) will provide us with any competitive advantages, or will be challenged by third parties;
- we will develop additional proprietary products or technologies that are patentable; or
- the patents of others will have an adverse effect on our business.

We do not know whether any of our pending patent applications or those pending patent applications that we license will result in the issuance of any patents. Even if patents are issued, they may not be sufficient to protect our technology or product candidates. The patents we own or license and those that may be issued in the future may be challenged, invalidated, rendered unenforceable, or circumvented, and the rights granted under any issued patents may not provide us with proprietary protection or competitive advantages. Moreover, third parties could practice our inventions in territories where we do not have patent protection or in territories where they could obtain a compulsory license to our technology where patented. Such third parties may then try to import products made using our inventions into the United States or other territories. Accordingly, we cannot ensure that any of our pending patent applications will result in issued patents, or even if issued, predict the breadth, validity and enforceability of the claims upheld in our and other companies' patents.

Many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions. The legal systems of certain countries do not favor the enforcement of patents or other intellectual property rights, which could hinder us from preventing the infringement of our patents or other intellectual property rights. Proceedings to enforce our patent rights in the United States or foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our patents at risk of being invalidated or interpreted narrowly and our patent applications at risk of not issuing and could provoke third parties to assert patent infringement or other claims against us. We may not prevail in any lawsuits that we initiate and the damages or other remedies awarded, if any, may not be commercially meaningful. Accordingly, our efforts to enforce our intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or license from third parties.

Unauthorized parties may attempt to copy or otherwise obtain and use our products or technology. Monitoring unauthorized use of our intellectual property is difficult, and we cannot be certain that the steps we have taken will prevent unauthorized use of our technology, particularly in certain foreign countries where the local laws may not protect our proprietary rights as fully as in the United States or may provide, today or in the future, for compulsory licenses. If competitors are able to use our technology, our ability to compete effectively could be harmed. Moreover, others may independently develop and obtain patents for technologies that are similar to, or superior to, our technologies. If that happens, we may need to license these technologies, and we may not be able to obtain licenses on reasonable terms, if at all, which could cause harm to our business.

We rely in part on trade secrets to protect our technology, and our failure to obtain or maintain trade secret protection could adversely affect our competitive business position.

We rely on trade secrets to protect some of our technology, particularly where we do not believe patent protection is appropriate or obtainable. However, trade secrets are difficult to maintain and protect. Our strategy for contract manufacturing and scale-up of commercial production requires us to share confidential information with our international business partners and other parties. Our product development collaborations with third parties, including with Total and Ginkgo, require us to share confidential information, including with employees of Total and Ginkgo who are seconded to Amyris during the term of the collaboration. While we use reasonable efforts to protect our trade secrets, our or our business partners' employees, consultants, contractors or scientific and other advisors may unintentionally or willfully disclose our proprietary information to competitors. Enforcement of claims that a third party has illegally obtained and is using trade secrets is expensive, time consuming and uncertain. In addition, foreign courts are sometimes less willing than United States courts to protect trade secrets. If our competitors independently develop equivalent knowledge, methods and know-how, we would not be able to assert our trade secrets against them.

We require new employees and consultants to execute proprietary information and inventions agreements upon the commencement of an employment or consulting arrangement with us. We additionally require contractors, advisors, corporate collaborators, outside scientific collaborators and other third parties that may receive trade secret information to execute such agreements. These agreements generally require that all confidential information developed by the individual or made known to the individual by us during the course of the individual's relationship with us be kept confidential and not disclosed to third parties. These agreements also generally provide that inventions conceived by the individual in the course of rendering services to us shall be our exclusive property. Nevertheless, our proprietary information may be disclosed, or these agreements may be unenforceable or difficult to enforce. If any of our trade secrets were to be lawfully obtained or independently developed by a competitor, we would have no right to prevent such third party, or those to whom they communicate such technology or information, from using that technology or information to compete with us. Additionally, trade secret law in Brazil differs from that in the United States, which requires us to take a different approach to protecting our trade secrets in Brazil. Some of these approaches to trade secret protection may be novel and untested under Brazilian law and we cannot guarantee that we would prevail if our trade secrets are contested in Brazil. If any of the above risks materializes, our failure to obtain or maintain trade secret protection could adversely affect our competitive business position.

We may not be able to fully enforce covenants not to compete with and not to solicit our employees, and therefore we may be unable to prevent our competitors from benefiting from the expertise of such employees.

Our proprietary information and inventions agreements with our employees contain non-compete and non-solicitation provisions. These provisions prohibit our employees from competing directly with our business or proposed business or working for our competitors during their term of employment, and from directly or indirectly soliciting our employees or consultants to leave our company for any purpose. Under applicable U.S. and Brazilian law, we may be unable to enforce these provisions. If we cannot enforce these provisions with our employees, we may be unable to prevent our competitors from benefiting from the expertise of such employees. Even if these provisions are enforceable, they may not adequately protect our interests. The defection of one or more of our employees to a

competitor could materially adversely affect our business, results of operations and ability to capitalize on our proprietary information.

Third parties may misappropriate our yeast strains.

Third parties, including collaborators, contract manufacturers, sugar and ethanol mill owners, other contractors and shipping agents, often have custody or control of our yeast strains. If our yeast strains were stolen, misappropriated or reverse engineered, they could be used by other parties who may be able to reproduce the yeast strains for their own commercial gain. If this were to occur, it would be difficult for us to challenge and prevent this type of use, especially in countries where we have limited intellectual property protection or that do not have robust intellectual property law regimes.

If we or one of our collaborators are sued for infringing intellectual property rights or other proprietary rights of third parties, litigation could be costly and time consuming and could prevent us from developing or commercializing our future products.

Our commercial success depends on our and our collaborators' ability to operate without infringing the patents and proprietary rights of other parties and without breaching any agreements we have entered into with regard to our technologies and product candidates. We cannot determine with certainty whether patents or patent applications of other parties may materially affect our ability to conduct our business. Our industry spans several sectors, including biotechnology, renewable fuels, renewable specialty chemicals and other renewable compounds, and is characterized by the existence of a significant number of patents and disputes regarding patent and other intellectual property rights. Because patent applications can take several years to issue, there may currently be pending applications, unknown to us, that may result in issued patents that cover our technologies or product candidates. We are aware of a significant number of patents and patent applications relating to aspects of our technologies filed by, and issued to, third parties. The existence of third-party patent applications and patents could significantly reduce the coverage of patents owned by or licensed to us and our collaborators and limit our ability to obtain meaningful patent protection. If we wish to make, use, sell, offer to sell, or import the technology or compound claimed in issued and unexpired patents owned by others, we will need to obtain a license from the owner, enter into litigation to challenge the validity of the patents or incur the risk of litigation in the event that the owner asserts that we infringe its patents. If patents containing competitive or conflicting claims are issued to third parties and these claims are ultimately determined to be valid, we and our collaborators may be enjoined from pursing research, development, or commercialization of products, or be required to obtain licenses to these patents, or to develop or obtain alternative technologies.

If a third party asserts that we infringe upon its patents or other proprietary rights, we could face a number of issues that could seriously harm our competitive position, including:

- infringement and other intellectual property claims, which could be costly and time consuming to litigate, whether or not the claims have merit, and which could delay getting our products to market and divert management attention from our business;
- substantial damages for past infringement, which we may have to pay if a court determines that our product candidates or technologies infringe a third party's patent or other proprietary rights;

- a court prohibiting us from selling or licensing our technologies or future products unless the holder licenses the patent or other proprietary rights to us, which it is not required to do; and

- if a license is available from a third party, such third party may require us to pay substantial royalties or grant cross licenses to our patents or proprietary rights.

The industries in which we operate, and the biotechnology industry in particular, are characterized by frequent and extensive litigation regarding patents and other intellectual property rights. Many biotechnology companies have employed intellectual property litigation as a way to gain a competitive advantage. If any of our competitors have filed patent applications or obtained patents that claim inventions also claimed by us, we may have to participate in interference proceedings declared by the relevant patent regulatory agency to determine priority of invention and, thus, the right to the patents for these inventions in the United States. These proceedings could result in substantial cost to us even if the outcome is favorable. Even if successful, an interference proceeding may result in loss of certain claims. Our involvement in litigation, interferences, opposition proceedings or other intellectual property proceedings inside and outside of the United States, to defend our intellectual property rights, or as a result of alleged infringement of the rights of others, may divert management time from focusing on business operations and could cause us to spend significant resources, all of which could harm our business and results of operations.

Many of our employees were previously employed at universities, biotechnology, specialty chemical or oil companies, including our competitors or potential competitors. We may be subject to claims that these employees or we have inadvertently or otherwise used or disclosed trade secrets or other proprietary information of their former employers. Litigation may be necessary to defend against these claims. If we fail in defending such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel and be enjoined from certain activities. A loss of key research personnel or their work product could hamper or prevent our ability to commercialize our product candidates, which could severely harm our business. Even if we are successful in defending against these claims, litigation could result in substantial costs and demand on management resources.

We may need to commence litigation to enforce our intellectual property rights, which would divert resources and management's time and attention and the results of which would be uncertain.

Enforcement of claims that a third party is using our proprietary rights without permission is expensive, time consuming and uncertain. Significant litigation would result in substantial costs, even if the eventual outcome is favorable to us and would divert management's attention from our business objectives. In addition, an adverse outcome in litigation could result in a substantial loss of our proprietary rights and we may lose our ability to exclude others from practicing our technology or producing our product candidates.

The laws of some foreign countries do not protect intellectual property rights to the same extent as do the laws of the United States. Many companies have encountered significant problems in protecting and defending intellectual property rights in certain foreign jurisdictions. The legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents and other intellectual property protection, particularly those relating to biotechnology and/or bioindustrial technologies. This could make it difficult for us to stop the infringement of our patents or misappropriation of our other intellectual property rights. Proceedings to enforce our patent rights in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business.

Moreover, our efforts to protect our intellectual property rights in such countries may be inadequate.

We do not have exclusive rights to intellectual property we develop under U.S. federally funded research grants and contracts, including with DARPA and the Department of Energy, and we could ultimately share or lose the rights we do have under certain circumstances.

Some of our intellectual property rights have been or may be developed in the course of research funded by the U.S. government, including under our agreements with DARPA and the Department of Energy. As a result, the U.S. government may have certain rights to intellectual property embodied in our current or future products pursuant to the Bayh-Dole Act of 1980. Government rights in certain inventions developed under a government-funded program include a non-exclusive, non-transferable, irrevocable worldwide license to use inventions for any governmental purpose. In addition, the U.S. government has the right to require us, or an assignee or exclusive licensee to such inventions, to grant licenses to any of these inventions to a third party if they determine that: (i) adequate steps have not been taken to commercialize the invention; (ii) government action is necessary to meet public health or safety needs; (iii) government action is necessary to meet requirements for public use under federal regulations; or (iv) the right to use or sell such inventions is exclusively licensed to an entity within the U.S. and substantially manufactured outside the U.S. without the U.S. government's prior approval. Additionally, we may be restricted from granting exclusive licenses for the right to use or sell our inventions created pursuant to such agreements unless the licensee agrees to additional restrictions (e.g., manufacturing substantially all of the invention in the U.S.). The U.S. government also has the right to take title to these inventions if we fail to disclose the invention to the government and fail to file an application to register the intellectual property within specified time limits. In addition, the U.S. government may acquire title in any country in which a patent application is not filed within specified time limits. Additionally, certain inventions are subject to transfer restrictions during the term of these agreements and for a period thereafter, including sales of products or components, transfers to foreign subsidiaries for the purpose of the relevant agreements, and transfers to certain foreign third parties. If any of our intellectual property becomes subject to any of the rights or remedies available to the U.S. government or third parties pursuant to the Bayh-Dole Act of 1980, this could impair the value of our intellectual property and could adversely affect our business.

Our products subject us to product-safety risks, and we may be sued for product liability.

The design, development, production and sale of our products involve an inherent risk of product liability claims and the associated adverse publicity. Our potential products could be used by a wide variety of consumers with varying levels of sophistication. Although safety is a priority for us, we are not always in control of the final uses and formulations of the products we supply or their use as ingredients. Our products could have detrimental impacts or adverse impacts we cannot anticipate. Despite our efforts, negative publicity about Amyris, including product safety or similar concerns, whether real or perceived, could occur, and our products could face withdrawal, recall or other quality issues. In addition, we may be named directly in product liability suits relating to our products, even for defects resulting from errors of our commercial partners, contract manufacturers, chemical finishers or customers or end users of our products. These claims could be brought by various parties, including customers who are purchasing products directly from us or other users who purchase products from our customers. We could also be named as co-parties in product liability suits that are brought against the contract manufacturers or Brazilian sugar and ethanol mills with whom we partner to produce our products. Insurance coverage is expensive, may be difficult to obtain and may not be available in the future on acceptable terms. We cannot be certain that our contract manufacturers or the sugar and ethanol producers who partner with us to produce our products will have adequate insurance coverage to cover against potential claims. Any insurance we do maintain may not provide adequate coverage against potential losses, and if claims or losses exceed our liability insurance coverage, our business would be adversely impacted. In addition, insurance coverage may become more expensive, which would harm our results of operations.

We may become subject to lawsuits or indemnity claims in the ordinary course of business, which could materially and adversely affect our business and results of operations.

From time to time, we may in the ordinary course of business be named as a defendant in lawsuits, indemnity claims and other legal proceedings. These actions may seek, among other things, compensation for alleged personal injury, employment discrimination, breach of contract, property damage and other losses or injunctive or declaratory relief. In the event that such actions, claims or proceedings are ultimately resolved unfavorably to us at amounts exceeding our accrued liability, or at material amounts, the outcome could materially and adversely affect our reputation, business and results of operations. In addition, payments of significant amounts, even if reserved, could adversely affect our liquidity position.

If we fail to maintain an effective system of internal controls, we may not be able to report our financial results accurately or in a timely manner 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 stock.

Effective internal controls are necessary for us to provide reliable financial reports and prevent fraud. In addition, Section 404 of the Sarbanes-Oxley Act of 2002, or Section 404, requires us to evaluate and report on our internal control over financial reporting. The process of implementing our internal controls and complying with Section 404 is expensive and time consuming, and requires significant attention of management. We cannot be certain that these measures will ensure that we maintain adequate controls over our financial processes and reporting in the future. In addition, to the extent we create joint ventures or have any variable interest entities and the financial statements of such entities are not prepared by us, we will not have direct control over their financial statement preparation. As a result, we will, for our financial reporting, depend on what these entities report to us, which could result in us adding monitoring and audit processes and increase the difficulty of implementing and maintaining adequate controls over our financial processes and reporting in the future and could lead to delays in our external reporting. In particular, this may occur where we are establishing such entities with commercial partners that do not have sophisticated financial accounting processes in place, or where we are entering into new relationships at a rapid pace, straining our integration capacity. Additionally, if we do not receive the information from the joint venture or variable interest entity on a timely basis, it could cause delays in our external reporting. Even if we conclude that our internal control over financial reporting provides reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles, because of its inherent limitations, internal control over financial reporting may not prevent or detect fraud or misstatements. Failure to implement required new or improved controls, or difficulties encountered in their implementation, could harm our results of operations or cause us to fail to meet our reporting obligations. If we or our independent registered public accounting firm discover a material weakness in our internal control over financial reporting, the disclosure of that fact, even if quickly remedied, could reduce the market’s confidence in our financial statements and harm our stock price. In addition, failure to comply with Section 404 could subject us to a variety of administrative sanctions, including SEC action, ineligibility for short form resale registration, the suspension or delisting of our common stock from the stock exchange on which it is listed, and the inability of registered broker-dealers to make a market in our common stock, which would further reduce our stock price and could harm our business.

If we fail to comply with our obligations as a public company, our business may be adversely affected.

As a public company, we incur significant legal, accounting and other expenses in connection with our obligations under applicable securities laws, including the internal and external costs of maintaining the system of internal controls discussed above as well as the costs of preparing and distributing periodic public reports, including financial statements and footnotes. In addition, changing laws, rules and regulations relating to corporate governance and public disclosure, including regulations implemented by the SEC and NASDAQ, increase our legal and financial costs, including costs relating to monitoring, evaluating and complying with such laws, rules and regulations. These laws, rules and regulations are subject to varying interpretations and may evolve over time as new guidance is provided by regulatory and governing bodies, which may result in increased compliance and governance costs and the diversion of management resources. If our efforts to comply with such laws, rules and regulations are not successful, we could be subject to fines, penalties or regulatory proceedings, which can be time consuming and costly to litigate and could lead to negative publicity about our company. These events could also make it more difficult for us to attract and retain qualified members of our board of directors, executive officers and other employees. If any of these risks occur, or if these requirements divert our management’s attention from other business concerns, they could have a material adverse effect on our business, financial condition and results of operations.

Our ability to use our net operating loss carryforwards to offset future taxable income may be subject to certain limitations.

In general, under Section 382 of the Internal Revenue Code, or the Code, a corporation that undergoes an "ownership change" is subject to limitations on its ability to utilize its pre-ownership change net operating loss carryforwards, or NOLs, to offset future taxable income. If the Internal Revenue Service challenges our analysis that our existing NOLs are not subject to limitations arising from previous ownership changes, or if we undergo an ownership change in the future, our ability to utilize NOLs could be limited by Section 382 of the Code. Future changes in our stock ownership, some of which are outside of our control, could result in an ownership change under Section 382 of the Code. Furthermore, our ability to utilize NOLs of companies that we may acquire in the future may be subject to limitations under Section 382 of the Code. For these reasons, we may not be able to utilize a material portion of our NOLs as of June 30, 2017, even if we attain profitability, which could adversely affect our results of operations.

Loss of, or inability to secure government contract revenues could impair our business.

We have contracts or subcontracts with certain governmental agencies or their contractors, including DARPA and DOE. Generally, these agreements, as they may be amended or modified from time to time, have fixed terms and may be terminated, modified or be subject to recovery of payments by the government agency under certain conditions (such as failure to comply with detailed reporting and governance processes or failure to achieve milestones). Under these agreements, we are also subject to audits, which can result in corrective action plans and penalties up to and including termination. If these governmental agencies terminate these agreements with us, it could reduce our revenues which could harm our business. Additionally, we anticipate securing additional government contracts as part of our business plan for 2017 and beyond. If we are unable to secure such government contracts, it could harm our business.

Our headquarters and other facilities are located in an active earthquake and tsunami zone, and an earthquake or other type of natural disaster affecting us or our suppliers could cause resource shortages, disrupt our business and harm our results of operations.

We conduct our primary research and development operations in the San Francisco Bay Area in an active earthquake and tsunami zone, and certain of our suppliers conduct their operations in the same region or in other locations that are susceptible to natural disasters. In addition, California and some of the locations where certain of our suppliers are located have experienced shortages of water, electric power and natural gas from time to time. The occurrence of a natural disaster, such as an earthquake, drought or flood, or localized extended outages of critical utilities or transportation systems, or any critical resource shortages, affecting us or our suppliers could cause a significant interruption in our business, damage or destroy our facilities, production equipment or inventory or those of our suppliers and cause us to incur significant costs or result in limitations on the availability of our raw materials, any of which could harm our business, financial condition and results of operations. The insurance we maintain against fires, earthquakes and other natural disasters may not be adequate to cover our losses in any particular case.

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Risks Related to Ownership of Our Common Stock

Our stock price may be volatile.

The market price of our common stock has been, and we expect it to continue to be, subject to significant volatility, and it has declined significantly from our initial public offering price. As of November 2, 2017, the reported closing price of our common stock on The NASDAQ Stock Market was $3.34 per share. Market prices for securities of early stage companies have historically been particularly volatile. Such fluctuations could be in response to, among other things, the factors described in this "Risk Factors" section, or other factors, some of which are beyond our control, such as:

- fluctuations in our financial results or outlook or those of companies perceived to be similar to us;
- changes in estimates of our financial results or recommendations by securities analysts;
- changes in market valuations of similar companies;
- changes in the prices of commodities associated with our business such as sugar, ethanol and petroleum or changes in the prices of commodities that some of our products may replace, such as oil and other petroleum sourced products;
- changes in our capital structure, such as future issuances of securities or the incurrence of debt;
- announcements by us or our competitors of significant contracts, acquisitions or strategic partnerships;
- regulatory developments in the United States, Brazil, and/or other foreign countries;
- litigation involving us, our general industry or both;
- additions or departures of key personnel;
- investors' general perception of us; and
- changes in general economic, industry and market conditions.

Furthermore, stock markets have experienced price and volume fluctuations that have affected, and continue to affect, the market prices of equity securities of many companies. These fluctuations often have been unrelated or disproportionate to the operating performance of those companies. These broad market fluctuations, as well as general economic, political and market conditions, such as recessions, interest rate changes and international currency fluctuations, may negatively affect the market price of our common stock.

In the past, many companies that have experienced volatility and sustained declines in the market price of their stock have become subject to securities class action and derivative action litigation. We were involved in two such lawsuits which were dismissed in 2014, are currently involved in four such lawsuits, and we may be the target of this type of litigation in the future. Securities litigation against us could result in substantial costs and divert our management's attention from other business concerns, which could seriously harm our business.

If our common stock is delisted from The NASDAQ Stock Market, our business, financial condition, results of operations and stock price could be adversely affected, and the liquidity of our stock and our ability to obtain financing could be impaired.

On June 14, 2016, we received a notice from The NASDAQ Stock Market LLC, or NASDAQ, notifying us that we were not in compliance with the requirement of NASDAQ Listing Rule 5450(a)(1) for continued listing on The NASDAQ Global Market, or the Minimum Bid Price Listing Rule, as a result of the closing bid price of our common stock being below $1.00 per share for 30 consecutive business days. In accordance with NASDAQ Listing Rule 5810(c)(3)(A), we had 180 calendar days, or until December 12, 2016, to regain compliance with the Minimum Bid Price Listing Rule. To regain compliance, the closing bid price of our common stock had to be at least $1.00 per share for a minimum of 10 consecutive business days. On November 1, 2016, we received a notice from NASDAQ that we had regained compliance with the Minimum Bid Price Listing Rule. Subsequently, on December 19, 2016, we received a notice from NASDAQ notifying us that we were again not in compliance with the Minimum Bid Price Listing Rule as a result of the closing bid price of our common stock being below $1.00 per share for 30 consecutive business days. In accordance with NASDAQ Listing Rule 5810(c)(3)(A), we had 180 calendar days, or until June 19, 2017, to regain compliance with the Minimum Bid Price Listing Rule. On June 5, 2017, after receiving board and stockholder approval, we amended our certificate of incorporation to implement a 1-for-15 reverse stock split of our common stock as well as a reduction of the total number of authorized shares of our common stock from 500,000,000 to 250,000,000. On June 20, 2017, we received a letter from NASDAQ notifying us that we had regained compliance with the Minimum Bid Price Listing Rule as a result of the closing bid price of our common stock being at $1.00 per share or greater for the 10 consecutive business days from June 6, 2017 to June 19, 2017. There can be no assurance that we will maintain compliance with the Minimum Bid Price Listing Rule in the future or that our common stock will remain listed on The NASDAQ Stock Market.

Any delisting of our common stock from The NASDAQ Stock Market could adversely affect our ability to attract new investors, decrease the liquidity of our outstanding shares of common stock, reduce our flexibility to raise additional capital, reduce the price at which our common stock trades, and increase the transaction costs inherent in trading such shares with overall negative effects for our stockholders. In addition, the delisting of our common stock could deter broker-dealers from making a market in or otherwise seeking or generating interest in our common stock, and might deter certain institutions and persons from investing in our securities at all. Furthermore, the delisting of our common stock from The NASDAQ Stock Market would constitute a breach under certain of our financing agreements, including agreements governing our outstanding convertible indebtedness, which could result in an acceleration of such indebtedness. If such indebtedness is accelerated, it would generally also constitute an event of default under our other outstanding indebtedness, permitting acceleration of such other outstanding indebtedness as well. For these reasons and others, the delisting of our common stock from The NASDAQ Stock Market could materially adversely affect our business, financial condition and results of operations.

The concentration of our capital stock ownership with insiders will limit the ability of other stockholders to influence corporate matters and presents risks related to the operations of our significant stockholders.

As of June 30, 2017:

- our executive officers and directors together held approximately 7% of our outstanding common stock;
- Temasek (which has a designee on our board of directors) held approximately 13% of our outstanding common stock; and

•Total (which has a designee on our board of directors) held approximately 17% of our outstanding common stock.

Furthermore, Total and Temasek each hold certain of our convertible promissory notes, which are convertible into approximately 3,102,120 and 178,073 shares of our common stock, respectively, as of June 30, 2017. Total and Temasek also hold certain warrants pursuant to which they may purchase shares of our common stock. This significant concentration of share ownership may adversely affect the trading price of our common stock because investors often perceive disadvantages in owning stock in companies with stockholders with significant interests. Also, these stockholders, acting together, may be able to control or significantly influence our management and affairs and matters requiring stockholder approval, including the election of directors and the approval of significant corporate transactions, such as mergers, consolidations or the sale of all or substantially all of our assets, and may not act in the best interests of our other stockholders. Consequently, this concentration of ownership may have the effect of delaying or preventing a change of control, including a merger, consolidation or other business combination involving us, or a change in our management or board of directors, or discouraging a potential acquirer from making a tender offer or otherwise attempting to obtain control of our company, even if such actions would benefit our other stockholders.

In addition, certain of our commercial partners, including Total and DSM, hold a significant portion of our capital stock and have various rights in connection with their security ownership in us. These stockholders may have interests that are different from those of our other stockholders, including with respect to commercial transactions between our company and such commercial partners or their affiliates. While we have a related-party transactions policy that requires certain approvals of any transaction between our company and a significant stockholder or its affiliates, there can be no assurance that our significant stockholders will act in the best interests of our other stockholders, which could harm our results of operations and cause our stock price to decline.

The market price of our common stock could be negatively affected by future sales of our common stock.

If our existing stockholders, particularly our largest stockholders, our directors, their affiliates, or our executive officers, sell a substantial number of shares of our common stock in the public market, the market price of our common stock could decrease significantly. The perception in the public market that these stockholders might sell our common stock could also depress the market price of our common stock and could impair our future ability to obtain capital, especially through an offering of equity securities.

We have in place, or have agreed to file, registration statements for the resale of certain shares of our common stock held by, or issuable to, certain of our largest stockholders. All of our common stock sold pursuant to an offering covered by such registration statements will be freely transferable.

In addition, shares of our common stock issued or issuable under our equity incentive plans have been registered on Form S-8 registration statements and may be freely sold in the public market upon issuance, except for shares held by

affiliates who have certain restrictions on their ability to sell.

Conversion of our outstanding convertible promissory notes or convertible preferred stock or the exercise of outstanding warrants to purchase our common stock may dilute the ownership interest of existing stockholders and may depress the market price of our common stock.

The conversion of some or all of our outstanding convertible promissory notes or shares of convertible preferred stock or the exercise of some or all of outstanding warrants to purchase our common stock may dilute the ownership interests of existing stockholders. In particular, the exercise of certain warrants which have a $0.15 per share exercise price may significantly dilute the economic ownership interest of our existing stockholders. In addition, any sales in the public market of the shares of our common stock issuable upon such conversion or exercise could adversely affect prevailing market prices of our common stock. Furthermore, the existence of our outstanding convertible promissory notes, shares of convertible preferred stock and warrants (including anti-dilution adjustment provisions contained therein which could lead to a reduction in the conversion or exercise price and/or additional shares of common stock being issuable upon conversion or exercise) may encourage short selling by market participants because the anticipated conversion of such notes or shares of preferred stock into, or exercise of such warrants for, shares of our common stock could depress the market price of our common stock.

If securities or industry analysts do not publish or cease publishing research or reports about us, our business or our market, or if they change their recommendations regarding our stock adversely, our stock price and trading volume could decline.

The trading market for our common stock will be influenced by the research and reports that industry or securities analysts may publish about us, our business, our market or our competitors. If any of the analysts who cover us change their recommendation regarding our stock adversely, or provide more favorable relative recommendations about our competitors, our stock price would likely decline. If any analyst who may cover us were to cease coverage of our company or fail to regularly publish reports on us, we could lose visibility in the financial markets, which in turn could cause our stock price or trading volume to decline.

We do not expect to declare any dividends in the foreseeable future.

We do not anticipate declaring any cash dividends to holders of our common stock in the foreseeable future. In addition, certain of our equipment leases and credit facilities currently restrict our ability to pay dividends. Consequently, investors may need to rely on sales of their shares of our common stock after price appreciation, which may never occur, as the only way to realize any future gains on their investment. Investors seeking cash dividends should not purchase our common stock.

Anti-takeover provisions contained in our certificate of incorporation and bylaws, as well as provisions of Delaware law, could impair a takeover attempt.

Our certificate of incorporation and bylaws contain provisions that could delay or prevent a change in control of our company. These provisions could also make it more difficult for stockholders to nominate directors and take other corporate actions. These provisions include:

- a staggered board of directors;
- authorizing the board of directors to issue, without stockholder approval, preferred stock with rights senior to those of our common stock;
- authorizing the board of directors to amend our bylaws, to increase the number of directors and to fill board vacancies until the end of the term of the applicable class of directors;
- prohibiting stockholder action by written consent;
- limiting the liability of, and providing indemnification to, our directors and officers;
- eliminating the ability of our stockholders to call special meetings; and

- requiring advance notification of stockholder nominations and proposals.

Section 203 of the Delaware General Corporation Law prohibits, subject to some exceptions, “business combinations” between a Delaware corporation and an “interested stockholder,” which is generally defined as a stockholder who becomes a beneficial owner of 15% or more of a Delaware corporation’s voting stock, for a three-year period following the date that the stockholder became an interested stockholder. We have agreed to opt out of Section 203 through our certificate of incorporation, but our certificate of incorporation contains substantially similar protections to our company and stockholders as those afforded under Section 203, except that we have agreed with Total that it and its affiliates will not be deemed to be “interested stockholders” under such protections.

In addition, we have an agreement with Total which provides that, so long as Total holds at least 10% of our voting securities, we must inform Total of any offer to acquire us or any decision of our board of directors to sell our company, and we must provide Total with information about the contemplated transaction. In such events, Total will have an exclusive negotiating period of fifteen business days in the event the board of directors authorizes us to solicit offers to buy our company, or five business days in the event that we receive an unsolicited offer to purchase us. This exclusive negotiation period will be followed by an additional restricted negotiation period of ten business days, during which we are obligated to continue to negotiate with Total and will be prohibited from entering into an agreement with any other potential acquirer.

These and other provisions in our certificate of incorporation, our bylaws and in our agreements with Total could discourage potential takeover attempts, reduce the price that investors are willing to pay in the future for shares of our common stock and result in the market price of our common stock being lower than it would be without these provisions.

FORWARD-LOOKING STATEMENTS

This prospectus, any prospectus supplement and the other documents we have filed with the SEC that are incorporated herein by reference contain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 that involve risks and uncertainties, as well as assumptions that, if they never materialize or prove incorrect, could cause our results to differ materially from those expressed or implied by such forward-looking statements. These risks and uncertainties, including those discussed under the heading "Risk Factors" above, include the possibilities of delays or failures in development, production or commercialization of products, and our reliance on third parties to achieve our goals.

All statements other than statements of historical fact are statements that could be deemed forward-looking statements, including any projections of financing needs, revenue, expenses, earnings or losses from operations, or other financial items; any statements of the plans, strategies and objectives of management for future operations; any statements concerning product research, development and commercialization plans and timelines; any statements regarding expected production capacities, volumes and costs; any statements regarding anticipated benefits of our products and expectations for commercial relationships; any other statements of expectation or belief; and any statements of assumptions underlying any of the foregoing. In addition, the words "believe," "anticipate," "expect," "estimate," "intend," "plan," "project," "will be," "will continue," "will result," "seek," "could," "may," "might," or any variati words or other words with similar meanings generally identify forward-looking statements.

Given these uncertainties, you should not place undue reliance on these forward-looking statements. You should read this prospectus, any supplements to this prospectus and the documents that we incorporate by reference in this prospectus with the understanding that our actual future results may be materially different from what we expect.

The forward-looking statements in this prospectus and in any prospectus supplement or other document we have filed with the SEC and incorporated herein represent our views as of the date thereof. We anticipate that subsequent events and developments will cause our views to change. However, while we may elect to update these forward-looking statements at some point in the future or to conform these statements to actual results or revised expectations, we have no current intention of doing so except to the extent required by applicable law. You should, therefore, not rely on these forward-looking statements as representing our views as of any date subsequent to the date of this prospectus or such prospectus supplement or other document.

USE OF PROCEEDS

The proceeds from the sale of the Shares offered pursuant to this prospectus are solely for the accounts of the selling stockholders. Accordingly, we will not receive any of the proceeds from the sale of the Shares offered by this prospectus. See "Selling Stockholders" and "Plan of Distribution" below.

DETERMINATION OF OFFERING PRICE

The selling stockholders may offer and sell the shares of common stock covered by this prospectus at prevailing market prices or privately negotiated prices. See “Plan of Distribution” below.

SELLING STOCKHOLDERS

The 26,209,764 shares of common stock covered by this prospectus (the "Shares") consist of (i) outstanding shares held by the selling stockholders, (ii) shares issuable to the selling stockholders upon exercise of the Warrants and (iii) shares issuable to certain of the selling stockholders upon conversion of shares of the Series D Preferred Stock. Pursuant to the DSM Purchase Agreement (as defined below) and the Stockholder Agreements (as defined below), we have agreed to file a registration statement with the SEC covering the resale of the Shares, and this registration statement has been filed pursuant to such agreements.

The tables below present information regarding the selling stockholders and the number of Shares each selling stockholder is offering under this prospectus. The tables are based on actual and deemed share ownership as of October 31, 2017. We have prepared these tables based on information furnished to us by or on behalf of the selling stockholders.

Under the rules of the SEC, beneficial ownership includes shares over which the indicated beneficial owner exercises voting or investment power. Beneficial ownership is determined under Section 13(d) of the Securities Exchange Act of 1934, or the Exchange Act, and generally includes voting or investment power with respect to securities, including any securities that grant the selling stockholder the right to acquire shares of our common stock within 60 days of October 31, 2017 (the "60-Day Period"). These shares are deemed to be outstanding and beneficially owned by the person holding those securities for the purpose of computing the percentage ownership of that person, but they are not treated as outstanding for the purpose of computing the percentage ownership of any other person. The tables below show beneficial ownership as of October 31, 2017, as determined in accordance with Section 13(d) of the Exchange Act. The percentage ownership data is based on 42,474,148 shares of our common stock issued and outstanding as of October 31, 2017 (as reflected in the records of our stock transfer agent). Because (i) the Beneficial Ownership Limitation (as defined below) limits the number of shares that can be issued to certain of the selling stockholders upon the exercise of Vivo Cash Warrants (as defined below) and conversion of shares of Series D Preferred Stock as of October 31, 2017, and (ii) the exercise of the Dilution Warrants (as defined below), under which no shares are issuable as of October 31, 2017, is subject to the Stockholder Approval (as defined below), we have presented two tables below. The first table shows actual beneficial ownership as of October 31, 2017, as determined in accordance with Section 13(d) of the Exchange Act. The second table shows such beneficial ownership and also includes (i) the full number of shares issuable upon the exercise of Vivo Cash Warrants and conversion of shares of Series D Preferred Stock as of October 31, 2017, including those shares subject to the Beneficial Ownership Limitation and (ii) the number of shares that may become issuable under the Dilution Warrants in the event (A) we obtain the Stockholder Approval with respect to the exercisability of the Dilution Warrants and (B) we make certain issuances of equity or equity-linked securities during the DSM Dilution Period (as defined below) or Vivo Dilution Period (as defined below), as applicable, at a per share price (including any conversion or exercise price, if applicable) as low as $3.00 per share.

Unless otherwise indicated in the footnotes below, we believe that the selling stockholders have sole voting and investment power with respect to all shares beneficially owned by them. Since the date on which they provided us with the information below, the selling stockholders may have sold, transferred or otherwise disposed of some or all

of their shares in transactions exempt from the registration requirements of the Securities Act of 1933, as amended, or the Securities Act.

The conversion and exercise terms of the Series D Preferred Stock and Warrants, respectively, are as follows:

Series D Preferred Stock

Each share of Series D Preferred Stock has a stated value of $1,000 and, subject to the Beneficial Ownership Limitation, is convertible at any time, at the option of the holder, into shares of common stock at a conversion price of $4.26 per share (the “Conversion Rate”). The Conversion Rate is subject to adjustment in the event of any dividends or distributions of our common stock, or any stock split, reverse stock split, recapitalization, reorganization or similar transaction.

Notwithstanding the foregoing, the holders will not have the right to convert any Series D Preferred Stock if the holder, together with its affiliates, would beneficially own in excess of 9.99% of the number of shares of our common stock outstanding immediately after giving effect to the issuance of shares issuable upon conversion of such Series D Preferred Stock (the "Beneficial Ownership Limitation"). Any holder may waive the Beneficial Ownership Limitation upon notice to us, provided that such waiver (i) will not be effective until the 61st day after such notice is delivered to us and (ii) will not be effective to the extent such waiver would require the prior approval of our stockholders, unless such approval has been obtained.

Warrants

Pursuant to the Securities Purchase Agreement, dated as of August 2, 2017, between the Company, on the one hand, and Vivo Capital Fund VIII, L.P. and Vivo Capital Surplus Fund VIII, L.P. (collectively, "Vivo"), on the other hand (the "Vivo Purchase Agreement"), on August 3, 2017, we issued to Vivo warrants, each with an exercise price of $6.39 per share, to purchase an aggregate of 5,575,118 shares of common stock (the "Vivo Cash Warrants"). The exercise price of the Vivo Cash Warrants may, at the election of the holder, be paid in cash or on a net exercise basis, and will be subject to standard adjustments as well as full-ratchet anti-dilution protection for any issuance by us of equity or equity-linked securities during the three-year period following the issuance of the Vivo Cash Warrants (the "Vivo Dilution Period") at a per share price (including any conversion or exercise price, if applicable) less than the then-current exercise price of the Vivo Cash Warrants, subject to certain exceptions.

In addition, on August 3, 2017, we issued to Vivo warrants (the "Vivo Dilution Warrants"), with an exercise price of $0.0001 per share, to purchase a number of shares of common stock sufficient to provide Vivo with full-ratchet anti-dilution protection for any issuance by us of equity or equity-linked securities during the Vivo Dilution Period at a per share price (including any conversion or exercise price, if applicable) less than $4.26 per share, subject to certain exceptions and subject to a price floor of $0.10 per share. The exercise price of the Vivo Dilution Warrants may, at the election of the holder, be paid in cash or on a net exercise basis. As of October 31, 2017, the Vivo Dilution Warrants were not exercisable for any shares of common stock.

The exercise of the Vivo Cash Warrants and Vivo Dilution Warrants is subject to the Beneficial Ownership Limitation.

Pursuant to the Securities Purchase Agreement, dated as of August 2, 2017, between the Company and DSM International B.V. (the "DSM Purchase Agreement"), on August 7, 2017, we issued to DSM International B.V. a warrant, with an exercise price of $6.30 per share, to purchase 3,968,116 shares of common stock (the "DSM Cash Warrant" and, together with the Vivo Cash Warrants, the "Cash Warrants"). The exercise price of the DSM Cash Warrant may, at the election of the holder, be paid in cash or on a net exercise basis, and will be subject to standard adjustments as well as full-ratchet anti-dilution protection for any issuance by us of equity or equity-linked securities during the three-year period following the issuance of the DSM Cash Warrant (the "DSM Dilution Period") at a per share price (including any conversion or exercise price, if applicable) less than the then-current exercise price of the

DSM Cash Warrant, subject to certain exceptions.

In addition, on August 7, 2017, the Company issued to DSM International B.V. a warrant (the "DSM Dilution Warrant" and, together with the Vivo Dilution Warrants, the "Dilution Warrants"), with an exercise price of $0.0001 per share, to purchase a number of shares of common stock sufficient to provide DSM International B.V. with full-ratchet anti-dilution protection for any issuance by us of equity or equity-linked securities during the DSM Dilution Period at a per share price (including any conversion or exercise price, if applicable) less than $6.30 per share, subject to certain exceptions and subject to a price floor of $0.10 per share. The DSM Dilution Warrant may, at the election of the holder, be paid in cash or on a net exercise basis. As of October 31, 2017, the DSM Dilution Warrant was not exercisable for any shares of common stock.

The effectiveness of the anti-dilution adjustment provision of the Cash Warrants and the exercise of the Dilution Warrants are subject to the Stockholder Approval. Pursuant to the Purchase Agreements, we have agreed to solicit from our stockholders such approval as may be required by the applicable rules and regulations of the NASDAQ Stock Market with respect to the anti-dilution provisions of the Cash Warrants and the Dilution Warrants (the "Stockholder Approval") at an annual or special meeting of stockholders to be held on or prior to the date of our 2018 annual meeting of stockholders (the "Stockholder Meeting"), and to use commercially reasonable efforts to secure the Stockholder Approval. DSM and Vivo may, at their option, upon at least 90 days' prior written notice, require us to hold the Stockholder Meeting prior to the Company's 2018 annual meeting of stockholders. Pursuant to the Purchase Agreements, if we do not obtain Stockholder Approval at the Stockholder Meeting, we will call a stockholder meeting every four months thereafter to seek the Stockholder Approval until the earlier of the date Stockholder Approval is obtained or the Cash Warrants and the Dilution Warrants are no longer outstanding.

The Warrants each have a term of five years from the date such Warrants are initially exercisable.

The number of shares in the columns entitled “Shares Offered Hereby” represent all of the Shares that the selling stockholders may offer under this prospectus and may be sold by the selling stockholders, by those persons or entities to whom they transfer, donate, devise, pledge or distribute their Shares or by other successors in interest. The information regarding shares beneficially owned after this offering assumes the sale of all Shares offered by each of the selling stockholders hereunder. The selling stockholders may sell less than all of the Shares listed in the tables. In addition, the Shares listed below may be sold pursuant to this prospectus or in privately negotiated transactions. Accordingly, we cannot estimate the number of Shares the selling stockholders will sell under this prospectus. The selling stockholders may sell some, all or none of their Shares in this offering.

The selling stockholders have not held any position or office or had any other material relationship with us or any of our predecessors or affiliates within the past three years, other than: (i) the acquisition and beneficial ownership of the shares described in the tables below or other of our debt or equity securities, (ii) with respect to DSM International B.V., directors Philip Eykerman and Christoph Goppelsroeder are employees of Koninklijke DSM N.V. and DSM Nutritional Products Ltd., respectively, each of which is an affiliate of DSM International B.V. and a commercial partner of Amyris, and were designated to serve on our Board of Directors pursuant to the right of DSM International B.V. to designate two members of our Board of Directors pursuant to the DSM Stockholder Agreement (as defined below), (iii) with respect to Vivo, director Frank Kung is a member of Vivo Capital LLC, which is an affiliate of each of Vivo Capital Fund VIII, L.P. and Vivo Capital Surplus Fund VIII, L.P., and was designated to serve on our Board of Directors pursuant to the right of Vivo to designate one member of our Board of Directors pursuant to the Vivo Stockholder Agreement (as defined below).

Table I – Actual Beneficial Ownership

Name of Selling Stockholder	Shares Beneficially Owned before Offering*		Shares Offered Hereby[1]**	Shares Beneficially Owned After Offering[1]**	
	Number	Percentage (%)		Number	Percentage (%)
DSM International B.V.[2]	16,621,192	32.97	7,936,232	8,684,960	17.23
Vivo Capital Fund VIII, L.P.[3]	3,849,109	8.78**	3,849,109	-	***
Vivo Capital Surplus Fund VIII, L.P.[4]	516,031	1.21**	516,031	-	***

* For those selling stockholders whose acquisition of shares of common stock upon the exercise of Vivo Cash Warrants and conversion of shares of Series D Preferred Stock within 60 days of October 31, 2017 is limited by the Beneficial Ownership Limitation, the footnotes below allocate the shares beneficially owned by such selling stockholders between the number of Shares issuable upon the exercise of Vivo Cash Warrants and conversion of shares of Series D Preferred Stock based on the respective number of shares issuable upon such exercise or conversion

** Vivo Capital Fund VIII, L.P. and Vivo Capital Surplus Fund VIII, L.P. are collectively subject to the Beneficial Ownership Limitation and have been allocated portions of the Beneficial Ownership Limitation pro rata based on

their respective funding amounts under the Vivo Purchase Agreement.

*** Represents beneficial ownership of less than one percent of the outstanding shares of our common stock

(1) We do not know when or in what amounts a selling stockholder may offer Shares for sale. The selling stockholders may not sell any or all of the Shares offered by this prospectus. Because the selling stockholders may offer all or some of the Shares pursuant to this offering and because there are currently no agreements, arrangements or undertakings with respect to the sale of any of the Shares, we cannot estimate the number of Shares that will be held by the selling stockholders after completion of this offering. However, for illustrative purposes of this table, we have assumed that, after completion of this offering, none of the Shares covered by this prospectus will be held by the selling stockholders.

(2) Includes (i) 3,968,116 shares currently issuable upon exercise of Cash Warrants and (ii) 3,968,116 shares currently issuable upon exercise of certain other warrants held by DSM International B.V. DSM International B.V. is a wholly owned subsidiary of Koninklijke DSM N.V. Accordingly, Koninklijke DSM N.V. may be deemed to share beneficial ownership of the securities held of record by DSM International B.V. Koninklijke DSM N.V. is a publicly traded company with securities listed on the Amsterdam Stock Exchange. The address for DSM International B.V. is HET Overloon 1, 6411 TE Heerlen, Netherlands.

(3) Includes (i) 481,984 shares currently issuable upon conversion of Series D Preferred Stock and (ii) 883,388 shares currently issuable upon exercise of Cash Warrants. Vivo Capital VIII, LLC is the general partner of Vivo Capital Fund VIII, L.P. The voting members of Vivo Capital VIII, LLC are Dr. Frank Kung, Dr. Albert Cha, Dr. Edgar Engleman, Dr. Chen Yu and Shan Fu, none of whom has individual voting or investment power with respect to the securities covered hereby. The address for Vivo Capital Fund VIII, L.P. is 505 Hamilton Avenue, Suite 207, Palo Alto, California 94301.

(4) Includes (i) 61,090 shares currently issuable upon conversion of Series D Preferred Stock and (ii) 111,967 shares currently issuable upon exercise of Cash Warrants. Vivo Capital VIII, LLC is the general partner of Vivo Capital Surplus Fund VIII, L.P. The voting members of Vivo Capital VIII, LLC are Dr. Frank Kung, Dr. Albert Cha, Dr. Edgar Engleman, Dr. Chen Yu and Shan Fu, none of whom has individual voting or investment power with respect to the securities covered hereby. The address for Vivo Capital Surplus Fund VIII, L.P. is 505 Hamilton Avenue, Suite 207, Palo Alto, California 94301.

Table II – Alternative Beneficial Ownership

Name of Selling Stockholder	**Shares Beneficially Owned before Offering**		**Shares Offered Hereby[1]**	**Shares Beneficially Owned After Offering[1]**	
	Number	**Percentage (%)**		**Number**	**Percentage (%)**
DSM International B.V.[2]	20,986,272	38.31	12,301,312	8,684,960	15.86
Vivo Capital Fund VIII, L.P.[3]	12,220,893	23.41	12,220,893	-	*
Vivo Capital Surplus Fund VIII, L.P.[4]	1,687,559	3.85	1,687,559	-	*

* Represents beneficial ownership of less than one percent of the outstanding shares of our common stock.

(1) We do not know when or in what amounts a selling stockholder may offer Shares for sale. The selling stockholders may not sell any or all of the Shares offered by this prospectus. Because the selling stockholders may offer all or some of the Shares pursuant to this offering and because there are currently no agreements, arrangements or undertakings with respect to the sale of any of the Shares, we cannot estimate the number of Shares that will be held by the selling stockholders after completion of this offering. However, for illustrative purposes of this table, we have assumed that, after completion of this offering, none of the Shares covered by this prospectus will be held by the selling stockholders.

(2) Includes (i) 3,968,116 shares currently issuable upon exercise of Cash Warrants, (ii) 3,968,116 shares currently issuable upon exercise of certain other warrants held by DSM International B.V., and (iii) 4,365,080 shares issuable upon exercise of Dilution Warrants. DSM International B.V. is a wholly owned subsidiary of Koninklijke DSM N.V. Accordingly, Koninklijke DSM N.V. may be deemed to share beneficial ownership of the securities held of record by DSM International B.V. Koninklijke DSM N.V. is a publicly traded company with securities listed on the Amsterdam Stock Exchange. The address for DSM International B.V. is HET Overloon 1, 6411 TE Heerlen, Netherlands.

(3) Includes (i) 2,672,758 shares currently issuable upon conversion of Series D Preferred Stock, (ii) 4,898,670 shares currently issuable upon exercise of Cash Warrants and (iii) 2,165,728 shares issuable upon exercise of Dilution Warrants. Vivo Capital VIII, LLC is the general partner of Vivo Capital Fund VIII, L.P. The voting members of Vivo Capital VIII, LLC are Dr. Frank Kung, Dr. Albert Cha, Dr. Edgar Engleman, Dr. Chen Yu and Shan Fu, none of whom has individual voting or investment power with respect to the securities covered hereby. The address for Vivo Capital Fund VIII, L.P. is 505 Hamilton Avenue, Suite 207, Palo Alto, California 94301.

(4) Includes (i) 369,076 shares currently issuable upon conversion of Series D Preferred Stock, (ii) 676,448 shares currently issuable upon exercise of Cash Warrants and (iii) 299,061 shares issuable upon exercise of Dilution Warrants. Vivo Capital VIII, LLC is the general partner of Vivo Capital Surplus Fund VIII, L.P. The voting members of Vivo Capital VIII, LLC are Dr. Frank Kung, Dr. Albert Cha, Dr. Edgar Engleman, Dr. Chen Yu and Shan Fu, none of whom has individual voting or investment power with respect to the securities covered hereby. The address for Vivo Capital Surplus Fund VIII, L.P. is 505 Hamilton Avenue, Suite 207, Palo Alto, California 94301.

PLAN OF DISTRIBUTION

The selling stockholders, or their pledgees, donees, transferees, or any of their successors in interest selling Shares received from a named selling stockholder as a gift, partnership distribution or other non-sale-related transfer after the date of this prospectus (all of whom may be selling stockholders), may sell the Shares from time to time on any stock exchange or automated interdealer quotation system on which the Shares are listed, in the over-the-counter market, in privately negotiated transactions or otherwise, at fixed prices that may be changed, at market prices prevailing at the time of sale, at prices related to prevailing market prices or at prices otherwise negotiated. The selling stockholders may sell the Shares by one or more of the following methods, without limitation:

(a) block trades in which the broker or dealer so engaged will attempt to sell the securities as agent but may position and resell a portion of the block as principal to facilitate the transaction;

(b) purchases by a broker or dealer as principal and resale by the broker or dealer for its own account pursuant to this prospectus;

(c) an exchange distribution in accordance with the rules of any stock exchange on which the securities are listed;

(d) ordinary brokerage transactions and transactions in which the broker solicits purchases;

(e) privately negotiated transactions;

(f) short sales;

(g) through the writing of options on the securities, whether or not the options are listed on an options exchange;

(h) through the distribution of the securities by any selling stockholder holder to its partners, members or stockholders;

(i) one or more underwritten offerings on a firm commitment or best efforts basis;

(j) any combination of any of these methods of sale;

(k) through such other method described in any applicable prospectus supplement for such offering; or

(l) any other method permitted pursuant to applicable law.

The selling stockholders may also transfer the securities by gift. We do not know of any arrangements by the selling stockholders for the sale of any of the securities.

The selling stockholders may engage brokers and dealers, and any brokers or dealers may arrange for other brokers or dealers to participate in effecting sales of the Shares. These brokers, dealers or underwriters may act as principals, or as an agent of a selling stockholder. Broker-dealers may agree with a selling stockholder to sell a specified number of the Shares at a stipulated price per Share. If the broker-dealer is unable to sell the Shares acting as agent for a selling stockholder, it may purchase as principal any unsold Shares at the stipulated price. Broker-dealers who acquire the Shares as principals may thereafter resell the Shares from time to time in transactions in any stock exchange or automated interdealer quotation system on which the Shares are then listed, at prices and on terms then prevailing at the time of sale, at prices related to the then-current market price or in negotiated transactions. Broker-dealers may use block transactions and sales to and through broker-dealers, including transactions of the nature described above. The selling stockholders may also sell the Shares in accordance with Rule 144 under the Securities Act rather than pursuant to this prospectus, regardless of whether the Shares are covered by this prospectus.

From time to time, one or more of the selling stockholders may pledge, hypothecate or grant a security interest in some or all of the Shares owned by them. The pledgees, secured parties or persons to whom the Shares have been hypothecated will, upon foreclosure in the event of default, be deemed to be selling stockholders. The number of a selling stockholder's Shares offered under this prospectus will decrease as and when it takes such actions. The plan of distribution for that selling stockholder's Shares will otherwise remain unchanged. In addition, a selling stockholder may, from time to time, sell the Shares short, and, in those instances, this prospectus may be delivered in connection with the short sales and the Shares offered under this prospectus may be used to cover short sales.

To the extent required under the Securities Act, the amount of any selling stockholder's Shares being offered and the terms of the offering, the anticipated date of delivery of the Shares, the names of any agents, brokers, dealers or underwriters and any applicable commission with respect to a particular offer will be set forth in an accompanying prospectus supplement. Any underwriters, dealers, brokers or agents participating in the distribution of the Shares may receive compensation in the form of underwriting discounts, concessions, commissions or fees from a selling stockholder and/or purchasers of a selling stockholder's Shares, for whom they may act (which compensation as to a particular broker-dealer might be in excess of customary commissions).

The selling stockholders and any underwriters, brokers, dealers or agents that participate in the distribution of the Shares may be deemed to be "underwriters" within the meaning of the Securities Act, and any discounts, concessions, commissions or fees received by them and any profit on the resale of the Shares sold by them may be deemed to be underwriting discounts and commissions. Underwriters, dealers, agents and other persons may be entitled, under agreements that may be entered into with us and the selling stockholders, to indemnification by us or the selling stockholders, as applicable, against certain civil liabilities, including liabilities under the Securities Act, or to contribution with respect to payments which they may be required to make in respect thereof. Underwriters and agents may engage in transactions with, or perform services for, us or the selling stockholders, as applicable, in the ordinary course of business.

A selling stockholder may enter into hedging transactions with broker-dealers and the broker-dealers may engage in short sales of the Shares in the course of hedging the positions they assume with that selling stockholder, including, without limitation, in connection with distributions of the Shares by those broker-dealers. A selling stockholder may enter into option or other transactions with broker-dealers that involve the delivery of the Shares offered hereby to the broker-dealers, who may then resell or otherwise transfer those Shares. A selling stockholder may also loan or pledge the Shares offered hereby to a broker-dealer and the broker-dealer may sell the Shares offered hereby so loaned or upon a default may sell or otherwise transfer the pledged Shares offered hereby.

The selling stockholders and other persons participating in the sale or distribution of the Shares will be subject to applicable provisions of the Exchange Act and the rules and regulations thereunder, including Regulation M. This regulation may limit the timing of purchases and sales of any of the Shares by the selling stockholders and any other person. The anti-manipulation rules under the Exchange Act may apply to sales of securities in the market and to the activities of the selling stockholders and their affiliates. Furthermore, Regulation M may restrict the ability of any person engaged in the distribution of the Shares to engage in market-making activities with respect to the particular Shares being distributed for a period of up to five business days before the distribution. These restrictions may affect

the marketability of the Shares and the ability of any person or entity to engage in market-making activities with respect to the Shares.

Any underwriter may engage in stabilizing and syndicate covering transactions in accordance with Rule 104 under the Exchange Act. Rule 104 permits stabilizing bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum. The underwriters may over-allot shares in connection with an offering of a selling stockholder's Shares, thereby creating a short position in the underwriters' account. Syndicate covering transactions involve purchases of the offered securities in the open market after the distribution has been completed in order to cover syndicate short positions. Stabilizing and syndicate covering transactions may cause the price of the Shares to be higher than it would otherwise be in the absence of such transactions. These transactions, if commenced, may be discontinued at any time.

The Shares offered hereby were issued or are issuable to the selling stockholders pursuant to an exemption from the registration requirements of the Securities Act. We agreed to register the Shares under the Securities Act and to use commercially reasonable efforts to keep the registration statement of which this prospectus is a part effective at all times until the earlier of the date on which no selling stockholder owns any of the Shares (including the securities which are convertible into or exercisable for Shares) or the date that all of the Shares are eligible for resale under Rule 144 promulgated under the Securities Act without regard to volume limitations.

We will not receive any proceeds from sales of any Shares by the selling stockholders. We will pay all of our expenses and specified expenses incurred by the selling stockholders incidental to the registration, offering and sale of the Shares to the public, but each selling stockholder will be responsible for payment of commissions, concessions, fees and discounts of underwriters, broker-dealers and agents.

We cannot assure you that the selling stockholders will sell all or any portion of the Shares offered hereby.

DESCRIPTION OF CAPITAL STOCK

Common Stock

As of October 31, 2017, our authorized capital stock included 250,000,000 shares of common stock, par value $0.0001 per share. A description of the material terms and provisions of our restated certificate of incorporation and restated bylaws affecting the rights of holders of our common stock is set forth below. The description is intended as a summary, and is qualified in its entirety by reference to our restated certificate of incorporation, as amended, and our restated bylaws that are filed as exhibits to the registration statement relating to this prospectus.

Dividend Rights

Subject to preferences that may apply to shares of preferred stock outstanding at the time, the holders of outstanding shares of our common stock are entitled to receive dividends out of funds legally available if our Board of Directors, in its discretion, determines to issue dividends, and only then at the times and in the amounts that our Board of Directors may determine.

Voting Rights

Each holder of common stock is entitled to one vote for each share of common stock held on all matters submitted to a vote of stockholders. Our restated certificate of incorporation eliminates the right of stockholders to cumulate votes for the election of directors and establishes a classified Board of Directors, divided into three classes with staggered three-year terms. Only one class of directors is elected at each annual meeting of our stockholders, with the other classes continuing in office for the remainder of their respective three-year terms.

No Preemptive or Similar Rights

Our common stock is not entitled to preemptive rights and is not subject to conversion, redemption or sinking fund provisions.

Right to Receive Liquidation Distributions

Upon our dissolution, liquidation or winding-up, the assets legally available for distribution to our stockholders are distributable ratably among the holders of our common stock, subject to prior satisfaction of all outstanding debt and liabilities and the preferential rights and payment of liquidation preferences, if any, on any outstanding shares of preferred stock.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Wells Fargo Shareowner Services.

Stock Exchange Listing

Our common stock is listed on the NASDAQ Global Select Market under the symbol “AMRS.”

Registration Rights

Certain of our stockholders hold registration rights pursuant to (i) the Registration Rights Agreement dated July 30, 2012, by and between us and Total, (ii) the Amended and Restated Letter Agreement dated May 8, 2014, by and among us and certain of our stockholders, (iii) the Registration Rights Agreement dated February 24, 2015, by and between us and Nomis Bay Ltd., (iv) the letter agreement dated as of July 29, 2015, by and among us and certain investors, (v) the Registration Rights Agreement dated October 20, 2015, by and among us and certain purchasers of our 9.50% Convertible Senior Notes due 2019, (vi) the warrant to purchase common stock issued to Nenter & Co., Inc. on November 16, 2016, (vii) the Securities Purchase Agreement, dated as of May 8, 2017, by and among us and certain investors, (viii) the Securities Purchase Agreement, dated as of May 31, 2017, by and between us and the investor named therein, (ix) the DSM Purchase Agreement, (x) the Stockholder Agreement, dated as of August 3, 2017, by and between us and Vivo (the “Vivo Stockholder Agreement”), and (xi) the Amended and Restated Stockholder Agreement, dated as of August 7, 2017, by and between us and DSM International B.V. (the “DSM Stockholder Agreement” and, together with the Vivo Stockholder Agreement, the “Stockholder Agreements”).

This prospectus is a part of the registration statement we have filed in order to satisfy our obligations under the DSM Purchase Agreement and the Stockholder Agreements, pursuant to which we agreed to use commercially reasonable efforts to register the Shares under the Securities Act and to use commercially reasonable efforts to keep such registration effective at all times until the earlier of the date on which no selling stockholder owns any of the Shares (including the securities which are convertible into or exercisable for Shares) or the date that all of the Shares are eligible for resale under Rule 144 promulgated under the Securities Act without regard to volume limitations.

Anti-Takeover Provisions

The provisions of Delaware law, our restated certificate of incorporation and our restated bylaws may have the effect of delaying, deferring or discouraging another person from acquiring control of our company.

Delaware Law

Section 203 of the Delaware General Corporation Law prevents some Delaware corporations from engaging, under some circumstances, in a business combination, which includes a merger or sale of at least 10% of the corporation's assets with any interested stockholder, meaning a stockholder who, together with affiliates and associates, owns or, within three years prior to the determination of interested stockholder status, did own 15% or more of the corporation's outstanding voting stock, unless:

- the transaction is approved by the Board of Directors prior to the time that the interested stockholder became an interested stockholder;
- upon consummation of the transaction which resulted in the stockholder's 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; or
- at or subsequent to such time that the stockholder became an interested stockholder the business combination is approved by the Board of Directors and authorized at an annual or special meeting of stockholders by at least two-thirds of the outstanding voting stock which is not owned by the interested stockholder.

If Section 203 applied to us, the restrictions could prohibit or delay mergers or other takeover or change in control attempts and, accordingly, could discourage attempts to acquire us.

A Delaware corporation may "opt out" of the restrictions on business combinations contained in Section 203 with an express provision in its original certificate of incorporation or an express provision in its certificate of incorporation or bylaws resulting from a stockholders' amendment approved by at least a majority of the outstanding voting shares. We have agreed to opt out of Section 203 through our certificate of incorporation, but our certificate of incorporation contains substantially similar protections to our company and stockholders as those afforded under Section 203, except that we have agreed with Total that it and its affiliates will not be deemed to be "interested stockholders" for purposes of such protections.

Restated Certificate of Incorporation and Restated Bylaw Provisions

Our restated certificate of incorporation and our restated bylaws include a number of provisions that may have the effect of deterring hostile takeovers or delaying or preventing changes in control of our company or management team, including the following:

- *Board of Directors Vacancies*. Our restated certificate of incorporation and restated bylaws authorize only our Board of Directors to fill vacant directorships. In addition, the number of directors constituting our Board of Directors will be set only by resolution adopted by a majority vote of our entire Board of Directors. These provisions prevent a stockholder from increasing the size of our Board of Directors and gaining control of our Board of Directors by filling the resulting vacancies with its own nominees.

- *Classified Board*. Our restated certificate of incorporation and restated bylaws provide that our Board of Directors is classified into three classes of directors. The existence of a classified board could delay a successful tender offeror from obtaining majority control of our Board of Directors, and the prospect of that delay might deter a potential offeror. Pursuant to Delaware law, the directors of a corporation having a classified board may be removed by the stockholders only for cause. In addition, stockholders will not be permitted to cumulate their votes for the election of directors.

- *Stockholder Action; Special Meeting of Stockholders*. Our restated certificate of incorporation provides that our stockholders may not take action by written consent, but may only take action at annual or special meetings of our stockholders. Our restated bylaws further provide that special meetings of our stockholders may be called only by a majority of our Board of Directors, the chairman of our Board of Directors, our chief executive officer or our president.

- *Advance Notice Requirements for Stockholder Proposals and Director Nominations*. Our restated bylaws provide advance notice procedures for stockholders seeking to bring business before our annual meeting of stockholders, or to nominate candidates for election as directors at our annual meeting of stockholders. Our restated bylaws also specify certain requirements regarding the form and content of a stockholder's notice. These provisions may preclude our stockholders from bringing matters before our annual meeting of stockholders or from making nominations for directors at our annual meeting of stockholders.

- *Issuance of Undesignated Preferred Stock*. Under our restated certificate of incorporation, our Board of Directors has the authority, without further action by the stockholders, to issue up to 5,000,000 shares of undesignated preferred stock with rights and preferences, including voting rights, designated from time to time by the Board of Directors. The existence of authorized but unissued shares of preferred stock enables 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.

In addition, we have an agreement with Total that, so long as Total holds at least 10% of our voting securities, we are required to notify Total if our Board of Directors seeks to cause the sale of our company or if we receive an offer to acquire us. In the event of such decision or offer, we are required to provide Total with all information given to an offering party and provide Total with an exclusive negotiating period of 15 business days in the event the Board of Directors authorizes us to solicit offers to buy our company, or five business days in the event that we receive an unsolicited offer to purchase us. This exclusive negotiation period will be followed by an additional restricted negotiation period of ten business days, during which we are obligated to continue to negotiate with Total and will be prohibited from entering into an agreement with any other potential acquirer. These rights of Total may have the effect of delaying, deferring or discouraging another person from acquiring our company.

LEGAL MATTERS

The validity of the issuance of the Shares offered hereby will be passed upon for us by Fenwick & West LLP, Mountain View, California. The validity of the Shares will be passed upon for any underwriters or agents by counsel that we will name in the applicable prospectus supplement.

EXPERTS

The consolidated financial statements incorporated in this Prospectus by reference to the Annual Report on Form 10-K for the year ended December 31, 2016 have been so incorporated in reliance on the report (which contains an explanatory paragraph relating to the Company's ability to continue as a going concern as described in Note 1 to the financial statements) of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

The audited financial statements of Novvi LLC for the year ended December 31, 2014, incorporated herein by reference to Amyris, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2016, have been so incorporated in reliance on the report of Pannell Kerr Forster of Texas, P.C., an independent auditor, given on the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

We are subject to the filing requirements of the Securities Exchange Act of 1934, or the Exchange Act. Therefore, we file periodic reports, proxy statements and other information with the SEC. Such reports, proxy statements and other information may be obtained by visiting the Public Reference Room of the SEC at 100 F Street, NE, Washington, D.C. 20549. You may obtain information regarding the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. In addition, the SEC maintains a website (www.sec.gov) that contains reports, proxy and information statements, and other information regarding issuers that file electronically.

We make our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and all amendments to such reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act available free of charge through a link on the Investors section of our website located at www.amyris.com (under "Financial Information—SEC Filings") as soon as reasonably practicable after they are filed with or furnished to the SEC. The information contained in or accessible through our website or contained on other websites is not a part of, and not incorporated into, this prospectus.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to "incorporate by reference" into this prospectus the information we file with it, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this prospectus, and information in documents that we subsequently file with the SEC will automatically update and supersede information in this prospectus. We incorporate by reference into this prospectus the documents listed below and any future filings made by us with the SEC under Section 13(a), 13(c), 14 or 15(d) of the Exchange Act (other than those documents or the portions of those documents furnished and not filed in accordance with SEC rules) prior to the termination of this offering, including all filings made after the date of the initial registration statement and prior to the effectiveness of the registration statement. We hereby incorporate by reference the following documents (other than the portions of those documents furnished and not filed in accordance with SEC rules):

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Our Annual Report on Form 10-K for the fiscal year ended December 31, 2016, filed with the SEC on April 17, 2017 (including the information incorporated therein from our Definitive Proxy Statement on Schedule 14A filed with the SEC on April 27, 2017);

- Our Quarterly Reports on Form 10-Q for the fiscal quarters ended March 31, 2017 and June 30, 2017, filed with the SEC on May 15, 2017 and August 14, 2017, respectively;

- Our Current Reports on Form 8-K or Form 8-K/A, as applicable, filed with the SEC on January 5, 2017, January 6, 2017, January 13, 2017, January 18, 2017, March 3, 2017, March 10, 2017, March 17, 2017, April 17, 2017, May 8, 2017 (two filings), May 11, 2017, May 17, 2017, May 18, 2017, May 22, 2017, May 25, 2017, June 6, 2017 (two filings), June 15, 2017, June 21, 2017, June 29, 2017, July 7, 2017, July 10, 2017, August 3, 2017, August 4, 2017, August 9, 2017 and October 13, 2017; and

- The description of our common stock contained in our registration statement on Form 8-A filed with the SEC on September 24, 2010, including any amendment or report filed for the purpose of updating such description.

We will provide to each person, including any beneficial holder, to whom a prospectus is delivered, at no cost, upon written or oral request, a copy of any or all information that has been incorporated by reference in this prospectus but not delivered with this prospectus, including any exhibits that are specifically incorporated by reference in that information. You may request a copy of these filings by writing or telephoning us at the following address and number:

Amyris, Inc.

5885 Hollis Street, Suite 100

Emeryville, California 94608

Attention: Investor Relations

+1 (510) 450-0761

Copies of these filings are also available free of charge through a link on the Investors section of our website located at www.amyris.com (under “Financial Information—SEC Filings”) as soon as reasonably practicable after they are filed with or furnished to the SEC. The information contained in or accessible through our website or contained on other websites is not a part of, and not incorporated into, this prospectus.

PROSPECTUS

26,209,764 Shares

AMYRIS, INC.

Common Stock

November 3, 2017

You should rely only on the information contained or incorporated by reference in this prospectus. We have not authorized any dealer, salesperson or other person to give any information or represent anything not contained or incorporated by reference in this prospectus. You must not rely on any unauthorized information. If anyone provides you with different or inconsistent information, you should not rely on it. This prospectus does not offer to sell any shares in any jurisdiction where it is unlawful. Neither the delivery of this prospectus, nor any sale made hereunder, shall create any implication that the information in this prospectus is correct after the date hereof.

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PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

ITEM 14. OTHER EXPENSES OF ISSUANCE AND DISTRIBUTION

The following table sets forth all expenses to be paid by the registrant, other than estimated underwriting discounts and commissions, if any, in connection with this offering. All amounts shown are estimates except for the SEC registration fee:

SEC registration fee	$9,887.24
Legal fees and expenses	*
Accounting fees and expenses	*
Transfer agent and registrar fees	*
Miscellaneous	*
Total	$*

*Estimated expenses not presently known.

ITEM 15. INDEMNIFICATION OF DIRECTORS AND OFFICERS

Section 145 of the Delaware General Corporation Law, or the DGCL, authorizes a court to award, or a corporation's Board of Directors to grant, indemnity to directors and officers under certain circumstances and subject to certain limitations. The terms of Section 145 of the DGCL are sufficiently broad to permit indemnification under certain circumstances for liabilities, including reimbursement of expenses incurred, arising under the Securities Act of 1933, as amended.

The registrant's certificate of incorporation limits the personal liability of directors for breach of fiduciary duty to the maximum extent permitted by the DGCL, and provides that no director will have personal liability to the registrant or to its stockholders for monetary damages for breach of fiduciary duty or other duty as a director. However, these provisions do not eliminate or limit the liability of any director for:

- any breach of the director's duty of loyalty to the registrant or its stockholders;

- acts or omissions not in good faith or that involve intentional misconduct or a knowing violation of law;

- under Section 174 of the DGCL (regarding unlawful dividends and stock purchases); or

- any transaction from which the director derived an improper personal benefit.

Any amendment to or repeal of these provisions will not eliminate or reduce the effect of these provisions in respect of any act, omission or claim that occurred or arose prior to such amendment or repeal. If the DGCL is amended to provide for further limitations on the personal liability of directors of corporations, then the personal liability of the registrant's directors will be further limited to the greatest extent permitted by the DGCL.

As permitted by the DGCL, the registrant's restated bylaws provide that:

- the registrant is required to indemnify its directors and executive officers to the fullest extent permitted by the DGCL, subject to very limited exceptions;

- the registrant may indemnify its other employees and agents as set forth in the DGCL;

- the registrant is required to advance expenses, as incurred, to its directors and executive officers in connection with a legal proceeding to the fullest extent permitted by the DGCL, subject to very limited exceptions; and

- the rights conferred in the bylaws are not exclusive.

In addition, the registrant has entered into indemnification agreements with each of its directors and executive officers that may be broader than the specific indemnification provisions contained in the DGCL. These indemnification agreements require the registrant, among other things, to indemnify its directors and executive officers against liabilities that may arise by reason of their status or service. These indemnification agreements also require the registrant to advance all expenses incurred by the directors and executive officers in investigating or defending any such action, suit or proceeding. The indemnification provisions in the registrant's restated certificate of incorporation and restated bylaws and the indemnification agreements entered into between the registrant and each of its directors and executive officers may be sufficiently broad to permit indemnification of the registrant's directors and executive officers for liabilities arising under the Securities Act.

The registrant maintains an insurance policy that covers certain liabilities of its directors and officers arising out of claims based on acts or omissions in their capacities as directors or officers of the registrant.

Certain of the registrant's non-employee directors may, through their relationships with their employers, be insured and/or indemnified against certain liabilities incurred in their capacity as members of the registrant's board of directors.

Reference is made to the following documents filed as exhibits to this registration statement regarding relevant indemnification provisions described above:

Exhibit Number	Description
3.01	Restated Certificate of Incorporation
3.08	Restated Bylaws
10.05	Form of Indemnity Agreement between registrant and its directors and officers

ITEM 16. EXHIBITS

Please see the Exhibit Index beginning on page II-6 of this registration statement.

ITEM 17. UNDERTAKINGS

(a) The undersigned registrant hereby undertakes:

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

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933, as amended;

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

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

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

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

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

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

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

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

(b) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, as amended, each filing of the registrant's annual report pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

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

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Emeryville, State of California, on November 3rd, 2017.

AMYRIS, INC.

/s/ JOHN G. MELO
John G. Melo
President and Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below hereby constitutes and appoints John G. Melo, Kathleen Valiasek and Nicole Kelsey, and each of them, as his or her true and lawful attorney-in-fact and agent with full power of substitution, for him or her in any and all capacities, to sign any and all amendments to this registration statement (including post-effective amendments or any abbreviated registration statement and any amendments thereto filed pursuant to Rule 462(b) increasing the number of securities for which registration is sought), and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agent full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully for all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent, or his substitute, may lawfully do or cause to be done by virtue hereof.

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

Signature	Title	Date
/s/ John G. Melo **John G. Melo**	Director, President and Chief Executive Officer (Principal Executive Officer)	November 3, 2017
/s/ Kathleen Valiasek **Kathleen Valiasek**	Chief Financial Officer (Principal Financial Officer)	November 3, 2017
/s/ Karen Weaver **Karen Weaver**	Vice President, Finance (Principal Accounting Officer)	November 3, 2017
/s/ Geoffrey Duyk **Geoffrey Duyk, M.D., Ph.D.**	Director	November 2, 2017
/s/ Philip Eykerman **Philip Eykerman**	Director	November 3, 2017
/s/ Christoph Goppelsroeder **Christoph Goppelsroeder**	Director	November 3, 2017

/s/ Frank Kung **Frank Kung, Ph.D.**	Director	November 3, 2017
/s/ Carole Piwnica **Carole Piwnica**	Director	November 3, 2017
/s/ Fernando Reinach **Fernando Reinach, Ph.D.**	Director	November 3, 2017
/s/ Christophe Vuillez **Christophe Vuillez**	Director	November 3, 2017
/s/ R. Neil Williams **R. Neil Williams**	Director	November 3, 2017

EXHIBIT INDEX

Exhibit Number	Description
3.01	Restated Certificate of Incorporation
3.02	Certificate of Amendment of the Restated Certificate of Incorporation dated May 9, 2013
3.03	Certificate of Amendment of the Restated Certificate of Incorporation dated May 12, 2014
3.04	Certificate of Amendment of the Restated Certificate of Incorporation dated September 18, 2015
3.05	Certificate of Amendment of the Restated Certificate of Incorporation dated May 18, 2016
3.06	Certificate of Amendment of the Restated Certificate of Incorporation dated June 5, 2017
3.07	Form of Certificate of Designation of Preferences, Rights and Limitations of Series D Convertible Preferred Stock (included in Exhibit 10.03)
3.08	Restated Bylaws
4.01	Specimen of Common Stock Certificate
4.02	Registration Rights Agreement dated July 30, 2012 between registrant and Total Gas & Power USA, SAS
4.03	Amended and Restated Letter Agreement re: Certain Registration Rights dated May 8, 2014 between registrant and the purchasers listed therein
4.04	Registration Rights Agreement dated February 24, 2015 between the registrant and Nomis Bay Ltd.
4.05	Letter Agreement dated as of July 29, 2015 among the registrant and the registrant's security holders listed therein
4.06	Registration Rights Agreement dated October 20, 2015 among the registrant and the registrant's security holders listed therein
4.07	Warrant to Purchase Stock, issued November 16, 2016, by the registrant to Nenter & Co., Inc.
4.08	Form of Certificate representing the Series D Convertible Preferred Stock
4.09	Form of Vivo Cash Warrant (included in Exhibit 10.03)
4.10	Form of Vivo Dilution Warrant (included in Exhibit 10.03)
4.11	Form of Vivo Stockholder Agreement (included in Exhibit 10.03)
4.12	Form of DSM Cash Warrant (included in Exhibit 10.04)
4.13	Form of DSM Dilution Warrant (included in Exhibit 10.04)
5.01	Opinion of Fenwick & West LLP regarding the Shares

10.01	Form of Securities Purchase Agreement dated as of May 8, 2017 among the registrant and the investors named therein
10.02	Securities Purchase Agreement dated as of May 31, 2017 between the registrant and the investor named therein
10.03	Securities Purchase Agreement dated as of August 2, 2017 between the registrant, on the one hand, and Vivo Capital Fund VIII, L.P. and Vivo Capital Surplus Fund VIII, L.P., on the other hand
10.04	Securities Purchase Agreement dated as of August 2, 2017 between the registrant and DSM International B.V.
10.05	Form of Indemnity Agreement between registrant and its directors and officers
23.01	Consent of Fenwick & West LLP (included in Exhibit 5.01)
23.02	Consent of PricewaterhouseCoopers LLP, Independent Registered Public Accounting Firm
23.03	Consent of Pannell Kerr Forster of Texas, P.C.
24.01	Power of attorney (included on signature page)