

# amyris

Dear Shareholders,

In 2018 we simplified our business and deepened our commitment to leadership in sustainable health and beauty while accelerating our growth in direct to consumer sales. Today, we are delivering world leading innovations in clean beauty, zero calorie natural sweetener and cannabinoids. This revenue growth is recurring and predictable, which enables us to create sustainable value for our shareholders. Each of our scientific and technology breakthroughs are currently resulting in commercial success. We are on the right path with the right balance in our goal to improve the health of our planet while delivering profitable growth as measured by our strong gross margin performance.

This year, we introduced a revolutionary, zero calorie sweetener, naturally made from sugarcane. The global response from customers to our ingredient has been remarkable. No country or food or beverage company is immune to the health risks related to added sugar and artificial sweeteners or the financial costs of healthcare for people living with diabetes or obesity-related conditions.

We have found in consumer testing this year, for our soon to be launched consumer brand called Purecane™, that people are genuinely delighted to discover a delicious sweetener with no bitter aftertaste, that is natural, non-GMO, zero calorie and zero glycemic. We are setting a new standard for sugar reduction and we remain committed to the health and wellness of our planet.

At the start of 2019 we signed a cannabinoid development agreement, which is the largest agreement of its kind in the world, that we are aware of. This development program is a deep commitment to replace the need for opioids with a sustainable solution to pain management, anxiety and sleep assistance. We are doubling down on leading the path to making our planet healthier.

Biossance, our clean beauty skincare brand, remains one of the fastest selling clean beauty brands in North America with best in class performing products that are clean, safe, non-toxic and sustainably sourced. From A-list celebrities to social media stars, millions of consumers around the world are buying Biossance and Amyris produced squalane powered beauty products and telling others how happy they are with the best performing, most sustainably produced squalane in the world.

As proud as we are of our successes in 2018, we recognize that the year also brought challenges and, in my view, our financial results did not meet my expectations.

Our shortfall was due to three issues, each of which we have now addressed.

First, after a steep drop in vitamin E pricing and royalty revenue, both of which were outside of our control, we concluded that the volatility and unpredictable profitability of the vitamin E business made the business non-strategic to us, given the better margins and growth we are experiencing with our health and beauty product portfolio. We decided to exit our long-term vitamin E royalty agreement with DSM in exchange for the net present value paid in upfront cash and consideration valued at around \$92 million in total value.

Second, we observed that the timing and nature of our smaller collaboration agreements had led to choppy financial flow and complicated our accounting treatment. We decided to focus our attention on recurring product revenue and larger collaborations.

In 2019, our dependency on future collaboration agreements was largely mitigated with one single large collaboration with LAVVAN for the development of cannabinoids over a 3 – 5-year term. This agreement is expected to deliver up to \$100 million in the first two years assuming continued execution of milestones.

Finally, the demand for our sweetener ingredient which launched in December 2018, outpaced our speed to deliver by about 30 – 45 days, which also impacted our year end revenue results.

As we began the process of preparing our Annual Report on Form 10-K for the fiscal year ended 2018 we discovered the need to review the accounting for our partnership with Ginkgo Bioworks in 2017 and certain material transactions with Royal DSM, a related party, in 2018. This led to a need to restate financial results for both annual periods to correct certain accounting entries associated with these transactions. These adjustments had no impact on the value of the original transactions. In all cases we were paid in full for the items adjusted, and the adjustments were related to movements between P&L entries and the balance sheet. Through this process, we also encountered significant delays from and a lack

of commitment and resources toward completing our filings on an agreed upon timeline by our prior auditor, which we subsequently dismissed. Each of these circumstances on their own would be difficult for our shareholders and Amyris, and in aggregate were more troublesome. With new auditors now in place, we have put these difficulties behind us and we are thankful for our shareholders' patience and support and the unrelenting dedication of our employees.

Even with these challenges, our core products and markets continued to perform very well and today we are displaying best in class revenue performance with annual product revenue growth rates over 100%. In clean beauty, our hero ingredient, squalane, is the world's leading moisturizer. This ingredient is powering solid growth in our ingredients business, Aprinova, with broad-based new customer adoption, including most of the leading world brands. This blockbuster ingredient is also the workhorse behind the success of Biossance products that consumers love. Still at the relatively early stages of broadening our footprint within Sephora stores and executing well on geographic expansion, Biossance products are already seeing solid consumer demand in Canada, Brazil, Mexico, and most recently, Australia and New Zealand.

Similarly, we are successfully attracting the attention of the world with our natural, zero calorie fermented sugarcane Reb M — which we are branding Purecane. We've already garnered the World Food Innovation Award for our best in show manufacturing innovation and many of the major food and beverage companies have engaged their R&D teams to begin reformulating their products to replace or reduce their added sugars with our ingredient.

New product development is where we are really excelling. Global market leaders partner with Amyris to improve their competitive advantage with innovations for their product portfolios. It is Amyris's proven record of success to develop, manufacture at scale and commercialize products that attracted our partner, LAVVAN, with whom we announced our \$300 million partnership to develop cannabinoids this year. Together, we believe we can provide the market with the highest quality, natural cannabinoids at significantly reduced cost for a multitude of consumer product and therapeutic applications. In addition to quickly becoming the leading supplier of the consistently highest purity and highest quality cannabinoids in the world, we also expect to become a leading brand of consumer solutions for chronic pain management, anxiety and sleeplessness. We are excited about the unique position we are now in to be able to build on our strong track record of building leading brands that deliver on the consumer promise of clean, sustainable ingredients and products that make the world healthier.

Delivering real impact is the work that has gained us the reputation as the leading company in Synthetic Biology. We are the leading supplier to the world's best formulators for flavors and fragrances. We are managing a strong pipeline for new, commercialized molecules. We are already the fastest growing company in our sector and expect to continue the current pace of growth while also leading in reducing our cash burn and delivering strong gross margin performance.

The challenges we experienced last year allowed us to reflect on and refocus our business. The result is that we will have a much stronger product portfolio with more predictable revenue growth, allowing us to manage market expectations more conservatively when providing guidance on financial results. We expect that taking this approach will help investors see the true value of our business more clearly and as result will benefit our long-term interests and those of our shareholders.

In closing, we would like to thank our partners, investors and dedicated employees for joining us in the mission of making our planet healthier by developing and making products that are best performing, lowest cost, naturally sourced and sustainable for our planet. This is the power of Synthetic Biology and Amyris is making the technology of this century a reality for our planet. Thank you for your ongoing support of Amyris's efforts to Make Good, No Compromise®.

Regards,

A handwritten signature in black ink, appearing to read "John G. Melo". The signature is stylized and cursive, with the first name "John" being the most prominent part.

John G. Melo  
President and Chief Executive Officer

## FORWARD-LOOKING STATEMENTS

This annual report contains forward-looking statements reflecting our current expectations that involve risks and uncertainties. These forward-looking statements include, but are not limited to, statements concerning our business growth and profitability, revenue and gross margin performance and growth, reduction in cash operating expenses, milestone payments under our cannabinoid development agreement, geographic expansion of our Biossance consumer skincare brand, the development, scaling and commercialization of our product pipeline and introduction of new products, including cannabinoid ingredients, including the cost and quality of such products, our competitive advantage, and similar matters. The words “anticipates,” “believes,” “estimates,” “expects,” “intends,” “may,” “plans,” “projects,” “will,” “would” and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements and you should not place undue reliance on our forward-looking statements. These forward-looking statements involve risks and uncertainties that could cause our actual results to differ materially from those anticipated or implied in the forward-looking statements, including, without limitation, the risks set forth in Part 1, Item 1A, “Risk Factors” of our enclosed Annual Report on Form 10-K for the fiscal year ended December 31, 2018 and in our other filings with the Securities and Exchange Commission. We do not assume any obligation to update any forward-looking statements, except as required by law.



Dear Amyris stockholder:

You are cordially invited to attend our 2019 Annual Meeting of Stockholders to be held on Tuesday, November 19, 2019 at 2:00 p.m. Pacific Time at our headquarters located at 5885 Hollis Street, Suite 100, Emeryville, California 94608. You can find directions to our headquarters on our company website at <https://amyris.com/contact-us/>.

The accompanying Notice of Annual Meeting of Stockholders and Proxy Statement describe the matters to be voted on at the meeting.

We are using the Internet as our primary means of furnishing proxy materials to our stockholders. As a result, most stockholders will not receive paper copies of our proxy materials. We will instead send most stockholders a notice with instructions for accessing the proxy materials and voting over the Internet. The notice also provides information on how stockholders can obtain paper copies of our proxy materials if they wish to do so.

Whether or not you plan to attend the annual meeting, please vote as soon as possible. You may vote over the Internet, by telephone, or, if you receive a paper proxy card or voter instructions form in the mail, by mailing a completed proxy card or voting instruction form. Voting by any of these methods will ensure that you are represented at the annual meeting.

On behalf of the Board of Directors, I want to thank you for your continued support of Amyris. We look forward to seeing you at the meeting.

A handwritten signature in black ink, appearing to read "John Melo".

John Melo  
*President and Chief Executive Officer*

Emeryville, California  
October 10, 2019

**YOUR VOTE IS IMPORTANT**

You are cordially invited to attend the meeting in person. Whether or not you expect to attend the meeting, please vote as soon as possible in order to ensure your representation at the meeting. You may submit your proxy and voting instructions over the Internet, by telephone, or, if you receive a paper proxy card or voter instructions form in the mail, by completing, signing, dating and returning the accompanying proxy card or voting instruction form as promptly as possible. If your shares are held of record by a broker, bank or other custodian, nominee, trustee or fiduciary (an "Intermediary") and you have not given your Intermediary specific voting instructions, your Intermediary will NOT be able to vote your shares with respect to most of the proposals, including the election of directors. If you do not provide voting instructions over the Internet, by telephone, or by returning a completed, signed and dated proxy card or voting instruction form, your shares will not be voted with respect to those matters. Even if you have voted by proxy, you may still vote in person if you attend the meeting. Please note, however, that if your shares are held of record by an Intermediary and you wish to vote at the meeting, you must obtain a proxy issued in your name from that Intermediary.

AMYRIS, INC.  
5885 Hollis Street, Suite 100  
Emeryville, California 94608

**NOTICE OF ANNUAL MEETING OF STOCKHOLDERS**

**To Be Held November 19, 2019**

The 2019 Annual Meeting of Stockholders of Amyris, Inc. will be held on Tuesday, November 19, 2019 at 2:00 p.m. Pacific Time at our headquarters located at 5885 Hollis Street, Suite 100, Emeryville, California 94608 for the following purposes:

1. To elect the four Class III directors nominated by our Board of Directors and named herein to serve on the Board for a three-year term;
2. To ratify the selection of Macias Gini & O'Connell LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2019;
3. To approve the issuance of shares of our common stock issuable upon the exercise of warrants and conversion of preferred stock issued to Foris Ventures, LLC in accordance with Nasdaq Marketplace Rules 5635(b) and 5635(d); and
4. To act upon such other matters as may properly come before the annual meeting or any adjournments or postponements thereof.

These items of business are more fully described in the Proxy Statement accompanying this Notice of Annual Meeting of Stockholders. The Board of Directors has fixed the record date for the annual meeting as September 23, 2019. Only stockholders of record at the close of business on the record date may vote at the meeting or at any adjournment thereof. A list of stockholders eligible to vote at the meeting will be available for review for any purpose relating to the meeting during our regular business hours at our headquarters at 5885 Hollis Street, Suite 100, Emeryville, California 94608 for the ten days prior to the meeting.

You are cordially invited to attend the meeting in person. Whether or not you expect to attend the meeting, please vote as soon as possible in order to ensure your representation at the meeting. You may submit your proxy and voting instructions over the Internet, by telephone, or, if you receive a paper proxy card or voting instruction form in the mail, by completing, signing, dating and returning the accompanying proxy card or voting instruction form as promptly as possible. If your shares are held of record by an Intermediary and you have not given your Intermediary specific voting instructions, your Intermediary will NOT be able to vote your shares with respect to most of the proposals, including the election of directors. If you do not provide voting instructions over the Internet, by telephone, or by returning a completed, signed and dated proxy card or voting instruction form, your shares will not be voted with respect to those matters. Even if you have voted by proxy, you may still vote in person if you attend the meeting. Please note, however, that if your shares are held of record by an Intermediary and you wish to vote at the meeting, you must obtain a proxy issued in your name from that Intermediary.

**BY ORDER OF THE BOARD,**



Nicole Kelsey  
*General Counsel and Secretary*

Emeryville, California  
October 10, 2019

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## AMYRIS, INC.

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### PROXY STATEMENT 2019 ANNUAL MEETING OF STOCKHOLDERS

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These proxy materials are provided in connection with the solicitation of proxies by the Board of Directors (the “Board”) of Amyris, Inc., a Delaware corporation (referred to as “Amyris”, the “Company”, “we”, “us”, or “our”), for our 2019 Annual Meeting of Stockholders to be held at 2:00 p.m. Pacific Time on Tuesday, November 19, 2019, at our principal executive offices, and for any adjournments or postponements of the annual meeting. These proxy materials were first sent on or about October 10, 2019 to stockholders entitled to vote at the annual meeting.

#### INFORMATION REGARDING SOLICITATION AND VOTING

Our principal executive offices are located at 5885 Hollis Street, Suite 100, Emeryville, California 94608, and our telephone number is (510) 450-0761. This Proxy Statement contains important information for you to consider when deciding how to vote on the matters brought before the meeting. Please read it carefully.

In accordance with rules and regulations adopted by the U.S. Securities and Exchange Commission (the “SEC”), we have elected to provide our stockholders with access to our proxy materials over the Internet. Accordingly, we intend to send a Notice of Internet Availability of Proxy Materials (the “Notice”) on or about October 10, 2019 to most of our stockholders who owned our common stock at the close of business on September 23, 2019. The Notice includes instructions on how you can access our annual report and proxy statement and other soliciting materials on the Internet or, if you wish, request a printed set of such materials, a list of the matters to be considered at the 2019 annual meeting, and instructions as to how your shares can be voted. Most stockholders will not receive a printed copy of the proxy materials unless they request one in the manner set forth in the Notice. This permits us to conserve natural resources and reduces our printing costs, while giving stockholders a convenient and efficient way to access our proxy materials and vote their shares.

We will bear the expense of soliciting proxies. In addition to these proxy materials, our directors and employees (who will receive no compensation in addition to their regular salaries) may solicit proxies in person, by telephone or by email. We will reimburse Intermediaries for reasonable charges and expenses incurred in forwarding solicitation materials to their clients.

#### QUESTIONS AND ANSWERS

##### **Who can vote at the meeting?**

The Board set September 23, 2019, as the record date for the meeting. If you owned shares of our common stock as of the close of business on September 23, 2019, you may attend and vote your shares at the meeting. Each stockholder is entitled to one vote for each share of common stock held on all matters to be voted on. As of September 23, 2019, there were 103,400,207 shares of our common stock outstanding and entitled to vote (as reflected in the records of our stock transfer agent).

##### **Why did I receive a Notice of Internet Availability of Proxy Materials in the mail instead of a full set of proxy materials?**

We are pleased to take advantage of the SEC rule that allows companies to furnish their proxy materials over the Internet. Accordingly, we have sent to most of our stockholders of record and beneficial owners a Notice of Internet Availability of Proxy Materials. Instructions on how you can access our annual report and proxy statement and other soliciting materials on the Internet or, if you wish, request a printed set of such materials, a list of the matters to be considered at the 2019 annual meeting, and instructions as to how your shares can be voted may be found in the Notice.

## **Why did I receive a full set of proxy materials in the mail instead of a Notice of Internet Availability of Proxy Materials?**

Some stockholders may have instructed our transfer agent or their Intermediary to deliver stockholder communications, such as proxy materials, in paper form. If you would prefer to receive your proxy materials over the Internet, please follow the instructions provided on your proxy card or voting instruction form to vote using the Internet and, when prompted, indicate that you agree to receive or access stockholder communications electronically in future years.

## **What is the quorum requirement for the meeting?**

The holders of a majority of our outstanding shares of common stock as of the record date must be present in person or represented by proxy at the meeting in order for there to be a quorum, which is required to hold the meeting and conduct business. If there is no quorum, the holders of a majority of the shares present at the meeting may adjourn the meeting to another date.

You will be counted as present at the meeting if you are present and entitled to vote in person at the meeting or you have properly submitted a proxy card or voting instruction form, or voted by telephone or over the Internet. Both abstentions and broker non-votes (as described below) are counted for the purpose of determining the presence of a quorum.

As of the record date of September 23, 2019, there were 103,400,207 shares of our common stock outstanding and entitled to vote (as reflected in the records of our stock transfer agent), which means that holders of 51,700,104 shares of our common stock must be present in person or by proxy for there to be a quorum.

## **What proposals will be voted on at the meeting?**

There are six proposals scheduled to be voted on at the meeting:

- **Proposal 1** — Election of the four Class III directors nominated by the Board and named herein to serve on the Board for a three-year term.
- **Proposal 2** — Ratification of the selection of Macias Gini & O’Connell LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2019.
- **Proposal 3** — Approval of the issuance of shares of our common stock issuable upon the exercise of warrants and conversion of preferred stock issued to Foris Ventures, LLC in accordance with Nasdaq Marketplace Rules 5635(b) and 5635(d).

No appraisal or dissenters’ rights exist for any action proposed to be taken at the meeting. We will also consider any other business that properly comes before the meeting. As of the date of this Proxy Statement, we are not aware of any other matters to be submitted for consideration at the meeting. If any other matters are properly brought before the meeting, the persons named in the enclosed proxy card or voting instruction form will vote the shares they represent using their best judgment.

## **How does the Board recommend I vote on the proposals?**

The Board recommends that you vote:

- FOR each of the director nominees named in this Proxy Statement; and
- FOR the ratification of Macias Gini & O’Connell LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2019.
- FOR the approval of the issuance of shares of our common stock issuable upon the exercise of warrants and conversion of preferred stock issued to Foris Ventures, LLC in accordance with Nasdaq Marketplace Rules 5635(b) and 5635(d).

### **How do I vote my shares in person at the meeting?**

If your shares of Amyris common stock are registered directly in your name with our stock transfer agent, EQ Shareowner Services, you are considered to be the stockholder of record with respect to those shares. As the stockholder of record, you have the right to vote in person at the meeting.

If your shares are held in a brokerage account or by another Intermediary, you are considered the beneficial owner of shares held in street name. As the beneficial owner, you are also invited to attend the meeting. However, since a beneficial owner is not the stockholder of record, you may not vote these shares in person at the meeting unless you obtain a “legal proxy” from the Intermediary (usually your broker) that is the record holder of the shares, giving you the right to vote the shares at the meeting. The meeting will be held on Tuesday, November 19, 2019 at 2:00 p.m. Pacific Time at our headquarters located at 5885 Hollis Street, Suite 100, Emeryville, California 94608. You can find directions to our headquarters on our company website at <https://amyris.com/contact-us/>.

### **How can I vote my shares without attending the meeting?**

Whether you hold shares directly as a registered stockholder of record or beneficially in street name, you may vote without attending the meeting. You may vote by granting a proxy or, for shares held beneficially in street name, by submitting voting instructions to your broker, bank or other Intermediary. In most cases, you will be able to do this by using the Internet, by telephone or by mail.

- **Voting by Internet or telephone.** You may submit your proxy over the Internet or by telephone by following the instructions provided in the Notice, or, if you receive printed proxy materials, by following the instructions for Internet or telephone voting provided with your proxy materials and on your proxy card or voting instruction form.
- **Voting by mail.** If you receive printed proxy materials, you may submit your proxy by mail by completing, signing, dating and returning your proxy card or, for shares held beneficially in street name, by following the voting instructions included by your broker or other Intermediary. If you provide specific voting instructions, your shares will be voted as you have instructed.

### **Can I vote my shares by filling out and returning the Notice?**

No. The Notice will, however, provide instructions on how to vote by Internet, by telephone, by requesting and returning a paper proxy card or voting instruction form, or by submitting a ballot in person at the meeting.

### **What happens if I do not give specific voting instructions?**

If you are a stockholder of record and you either indicate when voting on the Internet or by telephone that you wish to vote as recommended by the Board, or, if you receive printed proxy materials, you sign and return a proxy card without giving specific voting instructions, then the proxy holders will vote your shares in the manner recommended by the Board on all matters presented in this Proxy Statement and as the proxy holders may determine in their discretion with respect to any other matters properly presented for a vote at the meeting.

If you are a beneficial owner of shares held in street name and do not provide the Intermediary that holds your shares with specific voting instructions, under stock market rules, the Intermediary that holds your shares may generally vote at its discretion only on routine matters and cannot vote on non-routine matters. If the Intermediary that holds your shares does not receive specific instructions from you on how to vote your shares on a non-routine matter, the Intermediary will inform the inspector of election that it does not have the authority to vote on this matter with respect to your shares. This is generally referred to as a “broker non-vote.” For purposes of voting on non-routine matters, broker non-votes will not count as votes cast on such matters and, therefore, will not affect the outcome of Proposal 1 (which requires a plurality of votes properly cast in person or by proxy) or Proposal 3 (which requires a majority of votes properly cast in person or by proxy).

### **Which proposals are considered “routine” and which are considered “non-routine”?**

The ratification of the selection of Macias Gini & O’Connell LLP as our independent registered public accounting firm for 2019 (Proposal 2) is considered a “routine” matter under applicable rules. The election of directors (Proposal 1) and the approval of the issuance of shares of our common stock issuable upon the exercise of warrants and conversion of preferred stock issued to Foris Ventures, LLC in accordance with Nasdaq Marketplace Rules 5635(b) and 5635(d) (Proposal 3) are considered “non-routine” matters under applicable rules. An Intermediary cannot vote without instructions on “non-routine” matters, and therefore we expect there to be broker non-votes on Proposal 1 and Proposal 3.

### **How are votes counted?**

Votes will be counted by the inspector of election appointed for the meeting. The inspector of election will separately count “For” and “Withhold” votes and any broker non-votes in the election of directors (Proposal 1). With respect to Proposal 2 and Proposal 3, the inspector of election will separately count “For” and “Against” votes, abstentions and, with respect to Proposal 3, which is considered a “non-routine” matter under applicable rules, any broker non-votes. Abstentions will not count toward the vote total for Proposal 2 or Proposal 3. Broker non-votes will not count toward the vote total for Proposal 1 or Proposal 3.

### **What is the vote required to approve each of the Board’s proposals?**

- **Proposal 1 — Election of the Board’s four nominees for director.** The affirmative vote of a plurality, or the largest number, of the shares of our common stock present in person or by proxy at the annual meeting and entitled to vote is required for the election of the directors. This means that the four director nominees who receive the highest number of “For” votes (among votes properly cast in person or by proxy) will be elected to the board. Broker non-votes will not count toward the vote total for this proposal and therefore will not affect the outcome of this proposal.
- **Proposal 2 — Ratification of the selection of Macias Gini & O’Connell LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2019.** This proposal must receive a “For” vote from the holders of a majority of the shares of our common stock properly casting votes for or against this proposal at the annual meeting in person or by proxy. Abstentions will not count toward the vote total for this proposal and therefore will not affect the outcome of this proposal.
- **Proposal 3 — Approval of the issuance of shares of our common stock issuable upon the exercise of warrants and conversion of preferred stock issued to Foris Ventures, LLC in accordance with Nasdaq Marketplace Rules 5635(b) and 5635(d).** This proposal must receive a “For” vote from (i) the holders of a majority of the shares of common stock properly casting votes for or against this proposal at the annual meeting in person or by proxy (the “Bylaws Standard”) and (ii) a majority of the total votes of shares of our common stock not owned, directly or indirectly, by Foris Ventures, LLC or its affiliates (including director John Doerr and Kleiner Perkins Caufield & Byers), cast in person or by proxy at the annual meeting (the “Disinterested Standard”). Abstentions and broker non-votes will not count toward the vote total for this proposal and therefore will not affect the outcome of this proposal.

### **How can I revoke my proxy and change my vote after I return my proxy card?**

You may revoke your proxy and change your vote at any time before the final vote at the meeting. If you are a stockholder of record, you may do this by signing and submitting a new proxy card with a later date (if you receive printed proxy materials), by using the Internet or voting by telephone (either of which must be completed by 11:59 p.m. Pacific Time on November 18, 2019 — your latest telephone or Internet proxy is counted), or by attending the meeting and voting in person. Attending the meeting alone will not revoke your proxy unless you specifically request that your proxy be revoked. If you hold shares through an Intermediary, you must contact that Intermediary directly to revoke any prior voting instructions.

**How can I find out the voting results of the meeting?**

The preliminary voting results will be announced at the meeting. The final voting results will be reported in a Current Report on Form 8-K, which we expect to file with the SEC within four business days after the meeting. If final voting results are not available within four business days after the meeting, we intend to file a Current Report on Form 8-K reporting the preliminary voting results within that period, and subsequently report the final voting results in an amendment to the Current Report on Form 8-K within four business days after the final voting results are known to us.

## FORWARD-LOOKING STATEMENTS

This Proxy Statement contains “forward-looking statements” within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934. These statements may be identified by their use of such words as “expects,” “anticipates,” “intends,” “hopes,” “believes,” “could,” “may,” “will,” “projects” and “estimates,” and other similar expressions, but these words are not the exclusive means of identifying such statements. We caution that a variety of factors, including but not limited to the following, could cause our results to differ materially from those expressed or implied in our forward-looking statements: our cash position and ability to fund our operations; difficulties in predicting future revenues and financial results; the potential loss of, or inability to secure relationships with, key distributors, customers or partners; our limited operating history and lack of revenues generated from the sale of our renewable products; our inability to decrease costs to enable sales of our products at competitive prices; delays in production and commercialization of products due to technical, operational, cost and counterparty challenges; challenges in developing a customer base in markets with established and sophisticated competitors; currency exchange rate and commodity price fluctuations; changes in regulatory schemes governing genetically modified organisms and renewable chemicals; and other risks detailed from time to time in filings we make with the SEC, including our Annual Reports on Form 10-K, our Quarterly Reports on Form 10-Q and our Current Reports on Form 8-K. Except as required by law, we assume no obligation to update any forward-looking information that is included or incorporated by reference in this Proxy Statement, whether as a result of new information, future events, or otherwise.

**PROPOSAL 1 —  
ELECTION OF DIRECTORS**

**General**

Under our Certificate of Incorporation and Bylaws, the number of authorized Amyris directors has been fixed at 12 and the Board is divided into the following three classes with staggered three-year terms:

- Class I directors, whose term will expire at the annual meeting of stockholders to be held in 2020;
- Class II directors, whose term will expire at the annual meeting of stockholders to be held in 2021; and
- Class III directors, whose term will expire at this annual meeting of stockholders and who are nominated for re-election.

In accordance with our certificate of incorporation, the Board has assigned each member of the Board to one of the three classes, with the number of directors in each class divided as equally as reasonably possible. As of the date of this Proxy Statement, there are four Class I seats, four Class II seats, and four Class III seats constituting the 12 seats on the Board.

Stockholders are being asked to vote for the four Class III nominees listed below to serve until our 2022 Annual Meeting of Stockholders and until each such director's successor has been elected and qualified, or until each such director's earlier death, resignation or removal. The nominees are all current directors of Amyris.

**Vote Required and Board Recommendation**

Directors are elected by a plurality of the votes properly cast in person or by proxy. This means that the four Class III nominees receiving the highest number of affirmative (i.e., "For") votes will be elected. At the annual meeting, proxies cannot be voted for a greater number of persons than the four nominees named in this Proposal 1 and stockholders cannot cumulate votes in the election of directors. Shares represented by executed proxies will be voted by the proxy holders, if authority to do so is not withheld for any or all of the nominees, "For" the election of the four nominees named below. If any nominee is unable or declines to serve as a director at the time of the meeting, the proxies will be voted for a nominee, if any, designated by the Board to fill the vacancy. As of the date of this Proxy Statement, the Board is not aware that any nominee up for election is unable or will decline to serve as a director. If you hold shares through a bank, broker or other Intermediary of record, you must instruct your bank, broker or other Intermediary of record how to vote so that your vote can be counted on this proposal. Broker non-votes will not count toward the vote total for this proposal and therefore will not affect the outcome of this proposal.

**The Board recommends a vote "FOR" each nominee.**

**Business Experience and Qualifications of Directors**

The following tables and biographies set forth information for each nominee for election at the 2019 annual meeting and for each director of Amyris whose term of office will continue after the 2019 annual meeting:

**Nominees for Class III Directors for a Term Expiring in 2022**

<u>Name</u>	<u>Age</u>	<u>Amyris Offices and Positions</u>
John Doerr	68	Director, Chair of Nominating and Governance Committee
Christoph Goppelsroeder	60	Director
Lisa Qi	48	Director
Patrick Yang, Ph.D.	71	Director, Member of Leadership Development and Compensation Committee



**John Doerr** has been a member of the Board since 2006. Mr. Doerr has been Chairman at Kleiner Perkins Caufield & Byers (“KPCB”), a venture capital firm, since 1980. Mr. Doerr currently serves on the board of directors of Alphabet Inc., as well as on the boards of directors of numerous private companies, and previously served as a director of Zynga, Inc. from April 2013 to May 2017. Mr. Doerr holds a Bachelor of Science and a Master of Science in electrical engineering and computer science degrees from Rice University and a Master of Business Administration degree from Harvard University. Mr. Doerr’s global business leadership as general partner of KPCB, as well as his outside board experience as director of several public and private companies, enables him to provide valuable insight and guidance to our management team and the Board.

**Christoph Goppelsroeder** has been a member of the Board since November 2017. Mr. Goppelsroeder has served as the President and CEO of DSM Nutritional Products Ltd., a supplier of vitamins, carotenoids and other nutritional solutions, since 2013 and is a member of the DSM Executive Committee. Mr. Goppelsroeder has previously worked at Boston Consulting, Syngenta in its seed care business unit, and F. Hoffman-La Roche in its fine chemicals and vitamins division until the acquisition of such division by DSM in 2003. Mr. Goppelsroeder holds a degree in engineering from the Swiss Federal Institute of Technology and a Master of Business Administration degree from Insead, Fontainebleau. Mr. Goppelsroeder’s experience in the health and nutrition market enables him to provide the Board with critical insight into a potential growth area of the Company’s business.

**Lisa Qi** has been a member of the Board since May 2019. Ms. Qi is the founder and chief executive officer of Silver Gift Limited and Daling Xinchao (Beijing) Trading Co., Ltd., which operate the Daling Family e-commerce platform in China. Ms. Qi brings deep knowledge and significant experience in the areas of e-commerce, product branding and sales and the management of high-growth companies, which enables her to make a strategic contribution to the Board and provide guidance to the management team in these areas.

**Dr. Patrick Yang** has been a member of the Board since July 2014. Dr. Yang is a biotech industry consultant. He was Executive Vice President of Juno Therapeutics, Inc., a biopharmaceutical company focused on developing innovative cellular immunotherapies for the treatment of cancer, from September 2017 to January 2019. From January 2010 through March 2013, Dr. Yang served as Executive Vice President and Global Head of Technical Operations for F. Hoffmann-La Roche Ltd. (“Roche”), where he was responsible for Roche’s pharmaceutical and biotech manufacturing operations, process development, quality, regulatory, supply management and distribution functions. Before joining Roche, Dr. Yang worked for Genentech Inc., where he most recently served as Executive Vice President of Product Operations, and was responsible for manufacturing, process development, quality, regulatory affairs and distribution functions. Prior to joining Genentech Inc., Dr. Yang worked for Merck & Co., where he held several leadership roles including Vice President of Asia/Pacific Manufacturing Operations and Vice President of Supply Chain Management. He also previously worked at General Electric Co. and Life Systems, Inc. Dr. Yang currently serves on the boards of directors of Codexis, Inc. and PharmaEssentia Corporation, and previously served on the board of directors of Andeavor (formerly Tesoro Corporation) from December 2010 to September 2018, and Celladon Corporation from March 2014 until May 2015. Dr. Yang’s experience with the biotechnology industry and operations has enabled him to provide insight and guidance to our management team and the Board.

**Incumbent Class I Directors with a Term Expiring in 2020**

Name	Age	Amyris Offices and Positions
Geoffrey Duyk, M.D., Ph.D.	60	Director, Interim Chair of the Board and Member of Audit Committee and Operations and Finance Committee
Steven Mills	64	Director, Chair of Operations and Finance Committee and Member of Audit Committee and Leadership Development and Compensation Committee
Carole Piwnica	61	Director, Chair of Leadership Development and Compensation Committee and Member of Nominating and Governance Committee and Operations and Finance Committee
James McCann	68	Director

**Dr. Geoffrey Duyk** has been a member of the Board since May 2012 and has served as the interim Chair of the Board since May 2014. Dr. Duyk previously served on the Board from May 2006 to May 2011. Dr. Duyk is a partner of Circularis Partners LP, a technology focused investment firm. Previously, Dr. Duyk served as a partner and managing director of TPG Alternative & Renewable Technologies, a technology focused investment firm (together with its affiliates, “TPG”), from 2004 to 2017. Prior to TPG, he served on the board of directors and was President of Research and Development at Exelixis, Inc., a biopharmaceutical company focusing on drug discovery, from 1996 to 2003. Prior to Exelixis, Dr. Duyk was Vice President of Genomics and one of the founding scientific staff at Millennium Pharmaceuticals, from 1993 to 1996. Before that, Dr. Duyk was an Assistant Professor at Harvard Medical School in the Department of Genetics and Assistant Investigator of the Howard Hughes Medical Institute. Dr. Duyk currently serves on the boards of directors of: Anuvia Plant Nutrients; Concentric Ag Corporation (formerly Inocucor Technologies, Inc.); and ReGen Holdings Limited as well as on the nonprofit Case Western Reserve University Board of Trustees. Dr. Duyk is also a member of the Institute Board of Directors of the Moffitt Cancer Center where he chairs the Research and Development committee. Dr. Duyk serves as a member of Scientific Advisory Boards for HudsonAlpha, and Lawrence Berkeley National Laboratory (DOE). Previously, Dr. Duyk served as a member of Scientific Advisory Boards for Bayer CropSciences, The Jackson Labs as well as numerous NIH advisory committees. He served on the board of directors of Beta Renewables from 2011 to 2017, Elevance Renewable Sciences from 2007 to 2018, The American Society of Human Genetics (nonprofit) from 2012 to 2018, EPIRUS Biopharmaceuticals, Inc. from July 2014 to July 2016, Galleon Pharmaceuticals, Inc. from 2007 to 2016, Genomatica, Inc. from 2012 to 2017, Karos Pharmaceuticals, Inc. from 2010 to 2015, The Wesleyan University Board of Trustees from 2008 to June 2014, Aerie Pharmaceuticals from August 2005 to June 2017, and DNAnexus, Inc. from 2011 to 2017. Dr. Duyk holds a B.A. in Biology from Wesleyan University and a Ph.D. (Biochemistry) and M.D. from Case Western Reserve University. Dr. Duyk’s experience with the biotechnology industry enables him to provide insight and guidance to our management team and Board.

**Carole Piwnica** has been a member of the Board since September 2009. Ms. Piwnica has been Director of NAXOS S.A.R.L. (Switzerland) (formerly NAXOS UK), a consulting firm advising private investors, since January 2008. Previously, Ms. Piwnica served as a director, from 1996 to 2006, and Vice-Chairman of Governmental Affairs, from 2000 to 2006, of Tate & Lyle Plc, a European food and agricultural ingredients company. She was a chairman of Amylum Group, a European food ingredient company and affiliate of Tate & Lyle Plc, from 1996 to 2000. Ms. Piwnica was a member of the board of directors of Aviva plc, a British insurance company, from May 2003 to December 2011, a member of the Biotech Advisory Council of Monsanto from May 2006 to October 2009, a member of the board of directors of Dairy Crest from 2007 until 2010, a member of the board of directors of Toepfer GmbH from 1996 until 2010 and a member of the board of directors of Louis Delhaize (retail, Belgium) from 2010 until 2013. In 2010, Ms. Piwnica was appointed as a member of the boards of Eutelsat (satellites, France) and Sanofi (pharmaceuticals, France). In 2014, she was appointed as a member of the board of Rothschild (financial services, France). Ms. Piwnica holds a Law degree from the Université Libre de Bruxelles and a Master of Laws degree from New York University. She was also a member of the bar association of the state of New York, USA from 1985 until 2019 and was a member of the bar association of Paris, France from 1988 until 2013. Based on her multinational corporate leadership experience and extensive legal and corporate governance experience, Ms. Piwnica contributes guidance to the management team and the Board in leadership of multinational agricultural processing businesses and on legal and corporate governance obligations and best practices.

**Steven Mills** has been a member of the Board since August 2018. Mr. Mills has 40 years of experience in the fields of accounting, corporate finance, strategic planning, risk management, and mergers and acquisitions. He served as Chief Financial Officer of Amyris from May 2012 to December 2013. Prior to joining Amyris, Mr. Mills had a 33-year career at Archer-Daniels-Midland Company (“ADM”), one of the world’s largest agricultural processors and food ingredient providers. At ADM, he held various senior executive roles, including Chief Financial Officer, Controller, and head of Global Strategic Planning. Since 2013, Mr. Mills has served as a consultant and advisor to clients in the private equity, agribusiness, and financial services fields. Mr. Mills currently serves on the boards of Black Hills Corporation (where he also serves as the chair of the audit committee), Farmers Edge, Inc., Illinois College (where he also serves as the chairman of the board), and First Illinois Corporation (along with its wholly-owned banking subsidiary,

Hickory Point Bank & Trust). Mr. Mills holds a Bachelor of Science degree in Mathematics from Illinois College. Mr. Mills' familiarity with Amyris, as well as his expertise in accounting, finance and management, enables him to assist our management team and Board build and improve on our business and financial processes and management.

**James McCann** has been a member of the Board since May 2019. Mr. McCann is the founder and chairman of the board of directors of 1-800-FLOWERS.COM, Inc., a floral and gourmet foods gift retailer and distribution company founded in 1976, and served as chief executive officer of 1-800-FLOWERS.COM, Inc. from 1976 until June 2016. Mr. McCann also serves on the boards of directors of International Game Technology PLC (formerly GTECH S.p.A. and Lottomatica Group S.p.A.) and The Scotts Miracle-Gro Company. Mr. McCann previously served on the board of directors of Willis Towers Watson PLC (formerly Willis Group Holdings PLC) from 2004 until May 2019. Mr. McCann brings to the Board extensive experience in business leadership and innovation, which enables him to assist in the growth and development of our business.

#### **Incumbent Class II Directors with a Term Expiring in 2021**

Name	Age	Amyris Offices and Positions
Philip Eykerman	50	Director
Frank Kung, Ph.D.	71	Director, Member of Operations and Finance Committee
John Melo	53	Director, President and Chief Executive Officer
R. Neil Williams	66	Director, Chair of Audit Committee and Member of Operations and Finance Committee

**Philip Eykerman** has been a member of the Board since May 2017. Mr. Eykerman has served as the Executive Vice-President, Corporate Strategy & Acquisitions of Koninklijke DSM N.V. (together with its affiliates, "DSM"), a global science-based company in nutrition, health and sustainable living and an entity with which Amyris has a commercial and financial relationship and which is an owner of greater than five percent of the Company's outstanding common stock, since 2011. In this role, he is responsible for corporate and business group strategy development, budgeting and planning, improvement programs, and all M&A activities for DSM. In 2015, he was also appointed as a member of the DSM Executive Committee and at present is also responsible for the DSM Food Specialties as well as DSM Hydrocolloids activities. Next to these roles within DSM, he is also a Supervisory Board member of ChemicalInvest (DSM/CVC JV) and Supervisory Board member of AnQore TopCo B.V., and previously served as a member of the Supervisory Board of Patheon N.V. from March 2014 to August 2017. Before joining DSM, Mr. Eykerman worked for 14 years at McKinsey & Company of which the last 9 years as a Partner and leader of McKinsey's Chemicals Practice in the Benelux and France. Before that, he worked as a process/project engineer for Fluor Daniel. He holds a master degree in Chemical Engineering from the KU Leuven (Belgium) and in Refinery Engineering from the Institut Francais du Pétrole (France). Mr. Eykerman's experience in corporate strategy, mergers and acquisitions and operations enables him to provide insight to the Board regarding potential new opportunities for Amyris.

**Dr. Frank Kung** has been a member of the Board since November 2017. Dr. Kung is a founding member of Vivo Capital LLC ("Vivo"), a healthcare focused investment firm founded in 1996 in Palo Alto, California, which is an owner of greater than five percent of the Company's outstanding common stock. Dr. Kung started his career in the biotechnology industry in 1979 when he joined Cetus Corporation. He later co-founded Cetus Immune Corporation in 1981, which was acquired by its parent company in 1983. In 1984 he co-founded Genelabs Technologies, Inc. where he served as Chairman and CEO until 1995. During his tenure in Genelabs, he brought the company public in 1991, and built it to a 175 employee international biotech company with operations in the United States, Belgium, Singapore, Switzerland and Taiwan. Dr. Kung holds a Bachelor of Science degree in chemistry from the National Tsing Hua University in Taiwan, and a Doctor of Philosophy degree in molecular biology and a Master of Business Administration degree from the University of California, Berkeley. Dr. Kung currently serves on the board of directors of a number of emerging healthcare and biotechnology companies. Dr. Kung's experience in healthcare and biotechnology and investing in companies enables him to provide the Board and management with guidance regarding the Company's business strategy and access to financial markets.

**John Melo** has nearly three decades of combined experience as an entrepreneur and thought leader in the global fuels industry and technology innovation. Mr. Melo has served as our Chief Executive Officer and a director since January 2007 and as our President since June 2008. Before joining Amyris, Mr. Melo served in various senior executive positions at BP Plc (formerly British Petroleum), one of the world's largest energy firms, from 1997 to 2006, most recently as President of U.S. Fuels Operations from 2004 until December 2006, and previously as Chief Information Officer of the refining and marketing segment from 2001 to 2003, Senior Advisor for e-business strategy to Lord Browne, BP Chief Executive, from 2000 to 2001, and Director of Global Brand Development from 1999 to 2000. Before joining BP, Mr. Melo was with Ernst & Young, an accounting firm, from 1996 to 1997, and a member of the management teams of several startup companies, including Computer Aided Services, a management systems integration company, and Alldata Corporation, a provider of automobile repair software to the automotive service industry. Mr. Melo currently serves on the board of directors of Renmatix, Inc., and on the board of the Industrial action of Bio and also on the board of the California Life Sciences Association. Mr. Melo was formerly an appointed member to the U.S. section of the U.S.-Brazil CEO Forum. Mr. Melo's experience as a senior executive at one of the world's largest energy companies provides critical leadership in shaping strategic direction and business transactions, and in building teams to drive innovation.

**R. Neil Williams** has been a member of the Board since 2013. Mr. Williams served as Executive Vice President and Chief Financial Officer of Intuit Inc., a business and financial software company, from January 2008 through January 2018. In such position he was responsible for all financial aspects of Intuit, including corporate strategy and business development, investor relations, financial operations and real estate. Before joining Intuit, Mr. Williams was the Executive Vice President and Chief Financial Officer for Visa U.S.A., Inc. In that role, he led all financial functions for Visa U.S.A., Inc. and its subsidiaries, including financial planning, business planning and financial monitoring. Mr. Williams concurrently served as Chief Financial Officer for Inovant LLC, Visa's global information technology organization, responsible for global transactions processing and technology development. His previous banking experience includes senior financial positions at commercial banks in the Southern and Midwest regions of the United States. Since March 2012, Mr. Williams has also served as a board member and chair of the audit committee of RingCentral, Inc. He joined the board and audit committee of Oportun, Inc. in November 2017. Mr. Williams is a certified public accountant and received his Bachelor's degree in business administration from the University of Southern Mississippi. Mr. Williams' expertise in accounting, finance and management enables him to provide important insight and guidance to our management team and Board and to serve as chair of our Audit Committee.

### **Arrangements Concerning Selection of Directors**

In February 2012, pursuant to a Letter Agreement (the "Letter Agreement") entered into in connection with the sale of our common stock to certain investors including Biolding Investment SA ("Biolding"), Naxyris S.A., an investment vehicle owned by Naxos Capital Partners SCA Sicar ("Naxyris"), and Maxwell (Mauritius) Pte Ltd ("Maxwell"), we agreed to appoint, and to use reasonable efforts consistent with the Board's fiduciary duties to cause the re-nomination by the Board in the future of:

- One person designated by Biolding to serve as a member of the Board. Pursuant to the Letter Agreement, Biolding designated His Highness Sheikh Abdullah bin Khalifa Al Thani ("HH") to serve as the Biolding representative on the Board, and HH was appointed to the Board in March 2012. Pursuant to the Letter Agreement, Biolding's designation rights would terminate upon a sale of Amyris or Biolding holding less than 173,010 shares of our common stock. On May 14, 2019, HH resigned from the Board, and in connection therewith Biolding permanently waived its Board designation right.
- One person designated by Naxyris to serve as a member of the Board. Pursuant to the Letter Agreement, Naxyris designated Ms. Piwnica (who was already on the Board) to serve as the Naxyris representative on the Board. Naxyris' designation rights terminate upon a sale of Amyris or Naxyris holding less than 115,340 shares of our common stock. As of August 30, 2019, Naxyris beneficially owned 3,743,038 shares of our common stock, representing approximately 3.5% of our outstanding common stock (this includes the assumed exercise of certain warrants held by Naxyris). Ms. Piwnica is Director of NAXOS S.A.R.L. (Switzerland), a consulting firm

advising private investors and an affiliate of Naxos Capital Partners SCA Sicar, which owns Naxyris, and receives compensation and benefits from NAXOS S.A.R.L. (Switzerland) pursuant to its standard compensation policies and practices.

- One person designated by Maxwell to serve as a member of the Board. Pursuant to the Letter Agreement, Maxwell initially designated Dr. Nam-Hai Chua to serve as the Maxwell representative on the Board and, following Dr. Chua's resignation from the Board effective June 7, 2015, Maxwell designated Abraham Klaijnsen to serve as the Maxwell representative on the Board and he was appointed on June 7, 2015. Mr. Klaijnsen resigned from the Board on November 2, 2017 and Maxwell did not designate a replacement for Mr. Klaijnsen. Maxwell's designation rights terminate upon a sale of Amyris or Maxwell holding less than 173,010 shares of our common stock. As of December 31, 2018, Maxwell's board designation right had terminated due to Maxwell holding less than 173,010 shares of our common stock.

In June 2010, we issued 7,101,548 shares of our Series D preferred stock to Total that converted into 643,401 shares of our common stock upon the completion of our initial public offering in September 2010. In connection with such equity investment, we entered into a letter agreement with Total, pursuant to which we agreed to appoint a person designated by Total to serve as a member of the Board, and to use reasonable efforts consistent with the Board's fiduciary duties to cause the director designated by Total to be re-nominated by the Board in the future. Pursuant to the letter agreement, Total initially designated Philippe Boisseau to serve as the Total representative on the Board and, following Mr. Boisseau's resignation from the Board in October 2016, Total designated Christophe Vuillez to serve as the Total representative on the Board. Mr. Vuillez resigned from the Board on May 20, 2019 and Total has not designated a replacement for Mr. Vuillez. Total's designation rights terminate upon the earlier of Total holding less than 321,700 shares of our common stock or a sale of Amyris. As of August 30, 2019, Total beneficially owned 10,268,173 shares of our common stock, representing approximately 9.9% of our outstanding common stock (this includes the assumed conversion and exercise of certain convertible promissory notes and warrants, respectively, held by Total, as described below under "Security Ownership of Certain Beneficial Owners and Management").

Pursuant to a Stockholder Agreement entered into in May 2017, and subsequently amended and restated in August 2017, in connection with the sale of our Series B 17.38% Convertible Preferred Stock and warrants to DSM (the "DSM Stockholder Agreement"), we agreed to appoint, and to use reasonable efforts consistent with the Board's fiduciary duties to cause the re-nomination by the Board in the future of, two persons designated by DSM to serve as members of the Board. Pursuant to the DSM Stockholder Agreement, DSM initially designated Mr. Eykerman to serve as a DSM representative on the Board and, following the amendment and restatement of the DSM Stockholder Agreement in August 2017, DSM designated Mr. Goppelsroeder to serve as the second DSM representative on the Board. DSM's designation rights terminate, with respect to one designee, at such time as DSM beneficially owns less than 10% of our outstanding common stock and, with respect to both designees, at such time as DSM beneficially owns less than 4.5% of our outstanding common stock. As of August 30, 2019, DSM beneficially owned 27,001,551 shares of our common stock, representing approximately 23.0% of our outstanding common stock (this includes the assumed exercise of certain warrants held by DSM, as described below under "Security Ownership of Certain Beneficial Owners and Management"). Messrs. Eykerman and Goppelsroeder are employees of DSM and receive compensation and benefits from DSM pursuant to its standard compensation policies and practices.

In August 2017, pursuant to a Stockholder Agreement (the "Vivo Stockholder Agreement") entered into in connection with the sale of our common stock, Series D Convertible Preferred Stock and warrants to Vivo, we agreed to appoint, and to use reasonable efforts consistent with the Board's fiduciary duties to cause the re-nomination by the Board in the future of, one person designated by Vivo to serve as a member of the Board. Pursuant to the Vivo Stockholder Agreement, Vivo designated Dr. Kung to serve as the Vivo representative on the Board. Vivo's designation rights terminate at such time as Vivo beneficially owns less than 4.5% of our outstanding common stock. As of August 30, 2019, Vivo beneficially owned 10,725,235 shares of our common stock, representing approximately 9.98% of our outstanding common stock (this includes the assumed conversion and exercise of certain shares of preferred stock and warrants, respectively,

held by Vivo, as described below under “Security Ownership of Certain Beneficial Owners and Management”). Dr. Kung is a founding member of Vivo and receives compensation and benefits from Vivo pursuant to its standard compensation policies and practices.

Mr. Doerr and Dr. Duyk were initially designated to serve on the Board by KPCB and TPG, respectively, pursuant to a voting agreement as most recently amended and restated on June 21, 2010 (Dr. Duyk resigned from the Board in May 2011 and was re-appointed to the Board in May 2012). As of the date of this Proxy Statement, notwithstanding the expiration of the voting agreement upon completion of our initial public offering in September 2010, Mr. Doerr and Dr. Duyk continue to serve on the Board and we expect each of them to continue to serve as a director until his resignation or until his successor is duly elected by the holders of our common stock. Mr. Doerr receives compensation and benefits from KPCB pursuant to its standard compensation policies and practices, and Dr. Duyk retains a carried interest in certain funds managed by TPG.

### **Independence of Directors**

Under the corporate governance rules of The Nasdaq Stock Market (“Nasdaq”), a majority of the members of the Board must qualify as “independent,” as affirmatively determined by the Board. The Board and the Nominating and Governance Committee of the Board consult with our legal counsel to ensure that the Board’s determinations are consistent with all relevant securities and other laws and regulations regarding the definition of “independent,” including those set forth in the applicable Nasdaq rules. The Nasdaq criteria include various objective standards and a subjective test. A member of the Board is not considered independent under the objective standards if, for example, he or she is, or at any time during the past three years was, employed by Amyris, he or she received compensation (other than standard compensation for Board service) in excess of \$120,000 during a period of twelve months within the past three years, or he or she is an executive officer of any organization to which Amyris made, or from which Amyris received, payments for property or services (other than payments arising solely from investments in our securities or payments under non-discretionary charitable contribution matching programs) in the current or any of the past three fiscal years that exceed 5% of the recipient’s gross revenues for that year, or \$200,000, whichever is more.

The subjective test under the Nasdaq rules for director independence requires that each independent director not have a relationship which, in the opinion of the Board, would interfere with the exercise of independent judgment in carrying out the responsibilities of a director. The subjective evaluation of director independence by the Board was made in the context of the objective standards referenced above. In making independence determinations, the Board generally considers commercial, financial and professional services, and other transactions and relationships between Amyris and each director and his or her family members and affiliated entities.

Based on such criteria, the Board determined that (i) Mr. Melo is not independent because he is an Amyris employee and (ii) Messrs. Eykerman and Goppelsroeder are not independent because they are each employees of DSM (with which we have commercial and financial relationships, as described below under “Transactions with Related Persons”).

For each of the directors other than Messrs. Melo, Eykerman and Goppelsroeder, the Board determined that none of the transactions or other relationships of such directors (and their respective family members and affiliated entities) with Amyris, our executive officers and our independent registered public accounting firm exceeded Nasdaq objective standards and none would otherwise interfere with the exercise of independent judgment in carrying out his or her responsibilities as a director. The following is a description of these relationships:

- Mr. Doerr is a manager of the general partners of entities affiliated with KPCB Holdings, Inc. As of August 30, 2019, KPCB Holdings, Inc., as nominee for entities affiliated with KPCB, held 278,882 shares of our common stock, which represented approximately 0.3% of our outstanding common stock. In addition, Mr. Doerr indirectly owns all of the membership interests in Foris Ventures, LLC (“Foris”), which beneficially owned 21,054,940 shares of our common stock as of August 30, 2019, representing approximately 19.7% of our outstanding common stock (this includes the assumed exercise of certain warrants held by Foris, as described below under

“Security Ownership of Certain Beneficial Owners and Management”). We are asking stockholders to approve the issuance of shares of our common stock issuable upon the exercise of certain warrants and conversion of certain shares of the Company’s Series B 17.38% Convertible Preferred Stock held by Foris; see “Proposal 3 — Approval of the issuance of shares of our common stock issuable upon the exercise of warrants and conversion of preferred stock issued to Foris Ventures, LLC in accordance with Nasdaq Marketplace Rules 5635(b) and 5635(d)” for more information. If Proposal 3 had been approved as of August 30, 2019, the number of shares beneficially owned by Foris would have been 39,705,210 shares, representing approximately 31.7% of our outstanding common stock. See “Security Ownership of Certain Beneficial Owners and Management” below for more information.

- Dr. Kung is a founding member of Vivo and was designated to serve as a director by Vivo. As of August 30, 2019, Vivo beneficially owned 10,725,235 shares of our common stock, representing approximately 9.98% of our outstanding common stock (this includes the assumed conversion and exercise of certain shares of preferred stock and warrants, respectively, held by Vivo, as described below under “Security Ownership of Certain Beneficial Owners and Management”). In addition, Dr. Kung’s daughter is a non-executive employee of Amyris.
- Prior to joining the Board, Mr. Mills served as the Chief Financial Officer of Amyris from May 2012 to December 2013.
- Ms. Piwnica was designated to serve as a director by Naxyris. As of August 30, 2019, Naxyris beneficially owned 3,743,038 shares of our common stock, representing approximately 3.5% of our outstanding common stock (this includes the assumed exercise of certain warrants held by Naxyris).
- Prior to joining the Board, Dr. Yang worked as a consultant to Amyris from September 2013 through July 2014 and received compensation in excess of \$120,000 during such period for his services.

Consistent with these considerations, after a review of all relevant transactions and relationships between each director, any of his or her family members and affiliated entities, Amyris, our executive officers and our independent registered public accounting firm, the Board affirmatively determined that a majority of the Board is comprised of independent directors, and that the following directors are independent: John Doerr, Geoffrey Duyk, Frank Kung, James McCann, Steven Mills, Carole Piwnica, Lisa Qi, R. Neil Williams and Patrick Yang.

### **Board Leadership Structure**

The Board is composed of our Chief Executive Officer, John Melo, and eleven non-management directors. Geoffrey Duyk, one of our independent directors, currently serves the principal Board leadership role as the Board’s interim Chair. The Board expects to appoint an independent director as permanent Chair. The Board does not have any policy that the Chair must necessarily be separate from the Chief Executive Officer, but the Board appointed Dr. Duyk as interim Chairman in May 2014 until a permanent Chair could be identified. Dr. Duyk’s (and his successor’s) responsibilities as Board Chair include working with management to develop agendas for Board meetings, calling special meetings of the Board, presiding at executive sessions of independent Board members, gathering input from Board members on Chief Executive Officer performance and providing feedback to the Chief Executive Officer, gathering input from Board members after meetings and through an annual self-assessment process and communicating feedback to the Board and the Chief Executive Officer, as appropriate, and serving as Chief Executive Officer in the absence of another designated Chief Executive Officer. The Board believes that having an independent Chair helps reinforce the Board’s independence from management in its oversight of our business and affairs. In addition, the Board believes that this structure helps to create an environment that is conducive to objective evaluation and oversight of management’s performance and related compensation, increasing management accountability and improving the ability of the Board to monitor whether management’s actions are in our best interests and those of our stockholders. Further, this structure permits our Chief Executive Officer to focus on the management of our day-to-day operations. Accordingly, we believe our current Board leadership structure contributes to the effectiveness of the Board as a whole and, as a result, is the most appropriate structure for us at the present time.

## **Role of the Board in Risk Oversight**

We consider risk as part of our regular evaluation of business strategy and decisions. Assessing and managing risk is the responsibility of our management, which establishes and maintains risk management processes, including prioritization processes, action plans and mitigation measures, designed to balance the risk and benefit of opportunities and strategies. It is management's responsibility to anticipate, identify and communicate risks to the Board and/or its committees. The Board as a whole oversees our risk management systems and processes, as implemented by management and the Board's committees. As part of its oversight role, the Board has established an enterprise risk management process that involves management discussions with and updates to members of the Audit Committee regarding enterprise risk prioritization and mitigation. In addition, the Board uses its committees to assist in its risk oversight function as follows:

- The Audit Committee has responsibility for overseeing our financial controls and risk and legal and regulatory matters.
- The Leadership Development and Compensation Committee is responsible for oversight of risk associated with our compensation programs and plans.
- The Nominating and Governance Committee is responsible for oversight of Board processes and corporate governance related risks.
- The Operations and Finance Committee is responsible for oversight of risk associated with our business operations and financing activities.

The Board receives regular reports from committee Chairs regarding the committees' activities. In addition, discussions with the Board regarding our strategic plans and objectives, business results, financial condition, compensation programs, strategic transactions, and other matters include discussions of the risks associated with the particular item under consideration.

## **Meetings of the Board and Committees**

During 2018, the Board held five meetings, and its three standing committees during 2018 (the Audit Committee, Leadership Development and Compensation Committee and Nominating and Governance Committee) collectively held 17 meetings. Of such meetings, the Audit Committee held nine meetings, the Leadership Development and Compensation Committee held six meetings and the Nominating and Governance Committee held two meetings. With the exception of Mr. Eykerman and Mr. Goppelsroeder, each incumbent director attended at least 75% of the meetings of the Board and of the committees on which such director served that were held during the period that such director served in 2018. The Board's policy is that directors are encouraged to attend our annual meetings of stockholders. No directors attended our 2018 annual meeting of stockholders.



The following table provides membership and meeting information for the Board and its standing committees in 2018:

<u>Member of the Board in 2018</u>	<u>Board</u>	<u>Audit Committee</u>	<u>Leadership Development and Compensation Committee</u>	<u>Nominating and Governance Committee</u>
John Doerr . . . . .	X			Chair
Geoffrey Duyk . . . . .	Chair	X		
Philip Eykerman <sup>(1)</sup> . . . . .	X			
Christoph Goppelsroeder <sup>(2)</sup> . . . . .	X			
Frank Kung . . . . .	X			
John Melo . . . . .	X			
Steven Mills <sup>(3)</sup> . . . . .	X	X	X	
Carole Piwnica . . . . .	X		Chair	X
Fernando de Castro Reinach <sup>(4)</sup> . . . . .	X	X		
HH Sheikh Abdullah bin Khalifa Al Thani <sup>(5)</sup> . . . . .	X			
Christophe Vuillez <sup>(6)</sup> . . . . .	X			
R. Neil Williams . . . . .	X	Chair		
Patrick Yang . . . . .	X		X	
<b>Total meetings in 2018<sup>(7)</sup></b> . . . . .	<b>5</b>	<b>9</b>	<b>6</b>	<b>2</b>

- (1) Mr. Eykerman attended 3 of 5 Board meetings held during 2018.
- (2) Mr. Goppelsroeder attended 3 of 5 Board meetings held during 2018.
- (3) Mr. Mills was appointed to the Board and the Audit Committee on August 1, 2018, and was appointed to the Leadership Development and Compensation Committee on November 6, 2018.
- (4) Dr. Reinach resigned from the Board effective August 1, 2018.
- (5) HH attended 0 of 5 Board meetings held during 2018. HH resigned from the Board effective May 14, 2019.
- (6) Mr. Vuillez attended 3 of 5 Board meetings held during 2018. Mr. Vuillez resigned from the Board effective May 20, 2019.
- (7) Includes one concurrent meeting of the Board and the Leadership Development and Compensation Committee.

### **Committees of the Board**

The Board has established an Audit Committee, a Leadership Development and Compensation Committee, a Nominating and Governance Committee and an Operations and Finance Committee, each as described below. Members are appointed by the Board to serve on these committees until their resignations or until otherwise determined by the Board.

#### ***Audit Committee***

The Audit Committee was established by the Board in accordance with Section 3(a)(58)(A) of the Securities Exchange Act of 1934 (the “Exchange Act”), and assists the Board in fulfilling the Board’s oversight of our accounting and system of internal controls, the quality and integrity of our financial reports, legal and regulatory matters, and the retention, independence and performance of our independent registered public accounting firm.

Under Nasdaq rules, we must have an audit committee of at least three members, each of whom must be independent as defined under the rules and regulations of Nasdaq and the Securities and Exchange Commission (the “SEC”). Our Audit Committee is currently composed of three directors: Dr. Duyk and Messrs. Mills and Williams. Mr. Williams is the Chair of the Audit Committee. The composition of the Audit Committee meets the requirements for independence under current Nasdaq and SEC rules and regulations. The Board has determined that each member of the Audit Committee is independent (as defined in the relevant Nasdaq and SEC rules and regulations), and is financially literate and able to read and understand fundamental financial statements, including a company’s balance sheet, income statement and cash flow statement. In addition, the Board has determined that Mr. Williams is an “audit committee financial expert” as defined in Item 407(d)(5)(ii) of Regulation S-K promulgated under the Securities Act of 1933, as amended (the “Securities Act”), with employment experience in finance and accounting and other comparable experience that results in his financial sophistication. Being an “audit committee financial expert” does not impose on Mr. Williams any duties, obligations or liabilities that are greater than are generally imposed on him as a member of the Audit Committee and the Board. The Board has adopted a written charter for our Audit Committee that is posted on our company website at <http://investors.amyris.com/corporate-governance>.

The Audit Committee performs, among others, the following functions:

- oversees our accounting and financial reporting processes and audits of our consolidated financial statements;
- oversees our relationship with our independent auditors, including appointing or changing our independent auditors and ensuring their independence;
- oversees IT risk management and cybersecurity matters;
- reviews and approves the audit and permissible non-audit services to be provided to us by our independent auditors;
- facilitates communication among our independent auditors, our financial and senior management, and the Board; and
- monitors the periodic reviews of the adequacy of our accounting and financial reporting processes and systems of internal control that are conducted by our independent auditors and our financial and senior management.

In addition, the Audit Committee generally reviews and approves any proposed transaction between Amyris and any related party, establishes procedures for the receipt, retention and treatment of complaints received by Amyris regarding accounting, internal accounting controls or auditing matters, and for the confidential, anonymous submission by Amyris employees of their concerns regarding suspected violations of laws, governmental rules or regulations, accounting, internal accounting controls or auditing matters, or company policies (including the administration of our whistleblower policy), and oversees the review of any complaints and submissions received through the complaint and anonymous reporting procedures.

#### ***Leadership Development and Compensation Committee***

Under Nasdaq rules, compensation of the executive officers of a company must be determined, or recommended to the Board for determination, either by independent directors constituting a majority of the Board’s independent directors in a vote in which only independent directors participate, or by a compensation committee composed solely of independent directors. Amyris has established the Leadership Development and Compensation Committee for such matters, which is currently composed of three directors: Mr. Mills, Ms. Piwnica and Dr. Yang. Ms. Piwnica is the Chair of the Leadership Development and Compensation Committee. The Board, after consideration of all factors specifically relevant to determining whether any of Mr. Mills, Ms. Piwnica or Dr. Yang has a relationship to Amyris that is material to that director’s ability to be independent from management in connection with the duties of a compensation committee member, including, but not limited to, (i) the source of compensation of such director, including any consulting, advisory or other compensatory fee paid by Amyris to such director and (ii) whether such director is affiliated with Amyris, has determined that each member of the Leadership

Development and Compensation Committee is independent (as defined in the relevant Nasdaq and SEC rules and regulations). The Board has adopted a written charter for our Leadership Development and Compensation Committee that is posted on our company website at <http://investors.amyris.com/corporate-governance>.

The purpose of the Leadership Development and Compensation Committee is to provide guidance and periodic monitoring for all of our compensation, benefit, perquisite and equity programs. The Leadership Development and Compensation Committee, through delegation from the Board, has principal responsibility to evaluate, recommend, approve and review executive officer and director compensation arrangements, plans, policies and programs maintained by Amyris and to administer our cash-based and equity-based compensation plans, and may also make recommendations to the Board regarding the Board's remaining responsibilities relating to executive compensation. The Leadership Development and Compensation Committee discharges the responsibilities of the Board relating to compensation of our executive officers, and, among other things:

- reviews and approves the compensation of our executive officers;
- reviews and recommends to the Board the compensation of our non-employee directors;
- reviews and approves the terms of any compensation agreements with our executive officers;
- administers our stock and equity incentive plans;
- reviews and makes recommendations to the Board with respect to incentive compensation and equity incentive plans;
- establishes and reviews our overall compensation strategy; and
- reviews with the Chief Executive Officer and Board leadership the succession plans for senior management positions.

The Leadership Development and Compensation Committee also reviews the Compensation Discussion and Analysis section of our Proxy Statement and recommends to the Board whether it should be included in the Proxy Statement, has responsibility for the review of our pay ratio disclosure, and prepares a report of the Leadership Development and Compensation Committee for inclusion in our Proxy Statement in accordance with SEC rules. The Leadership Development and Compensation Committee has authority to form and delegate authority to subcommittees, as appropriate.

The Board has established a Management Committee for Employee Equity Awards ("MCEA"), consisting of our Chief People Officer and our Chief Executive Officer. The MCEA may grant equity awards to employees who are not officers (as that term is defined in Section 16 of the Securities Exchange Act of 1934 (the "Exchange Act") and Rule 16a-1 promulgated under the Exchange Act) of Amyris, provided that the MCEA is only authorized to grant equity awards that meet grant guidelines approved by the Board or Leadership Development and Compensation Committee. These guidelines set forth, among other things, any limit imposed by the Board or Leadership Development and Compensation Committee on the total number of shares of our common stock that may be subject to equity awards granted to employees by the MCEA, and any requirements as to the size of an award based on the seniority of an employee or other factors.

Under its charter, the Leadership Development and Compensation Committee has the authority, at Amyris' expense, to retain legal and other consultants, accountants, experts and compensation or other advisors of its choice to assist the Leadership Development and Compensation Committee in connection with its functions. During the past fiscal year, the Leadership Development and Compensation Committee engaged Compensia, Inc. ("Compensia") as its compensation consultant. Compensia also served as the Committee's compensation consultant from 2012 through 2017. Compensia provided the following services during 2018 (or in connection with 2018 compensation):

- reviewed and provided recommendations on the composition of Amyris's compensation peer group, and provided compensation data relating to executives at the selected peer group companies;

- conducted a review of the total compensation arrangements for executive officers of Amyris;
- provided advice on executive officers' compensation, including composition of compensation for base salary, short-term incentive (cash bonus) plan and long-term incentive (equity) plans;
- provided advice on executive officers' cash bonus plan;
- assisted with executive equity program design, including analysis of equity mix, aggregate share usage and target grant levels;
- provided advice and recommendations regarding executive perquisites and Amyris's executive severance plan;
- updated the Leadership Development and Compensation Committee on emerging trends/best practices and regulatory requirements in the area of executive and director compensation, including equity and cash compensation;
- provided advice and recommendations regarding certain non-executive employee compensation arrangements and equity grants; and
- assisted with the analysis related to our pay ratio disclosure.

The Leadership Development and Compensation Committee determined that Compensia did not have any relationships with Amyris or any of its officers or directors or any conflicts of interest that would impair Compensia's independence.

The Human Resources, Finance and Legal departments of Amyris work with our Chief Executive Officer to design and develop new compensation programs applicable to our executive officers and non-employee directors, to recommend changes to existing compensation programs, to recommend financial and other performance targets to be achieved under those programs, to prepare analyses of financial data, to prepare peer group compensation comparisons and other committee briefing materials, and to implement the decisions of the Leadership Development and Compensation Committee. Members of these departments and our Chief Executive Officer also meet separately with Compensia to convey information on proposals that management may make to the Leadership Development and Compensation Committee, as well as to allow Compensia to collect information about Amyris to develop its recommendations. In addition, our Chief Executive Officer conducts reviews of the performance and compensation of our other executive officers, and based on these reviews and input from Compensia and our Human Resources department, makes recommendations regarding compensation for such executive officers directly to the Leadership Development and Compensation Committee.

For the Chief Executive Officer's compensation, Compensia reviews relevant market data with the Chair of the Leadership Development and Compensation Committee, as well as the performance of the Chief Executive Officer, and based on such review makes a recommendation regarding the Chief Executive Officer's compensation, which is then presented to the Leadership Development and Compensation Committee. None of our executive officers participated in the determinations or deliberations of the Leadership Development and Compensation Committee regarding the amount of any component of his or her own 2018 compensation.

### ***Operations and Finance Committee***

On May 14, 2019, the Board established the Operations and Finance Committee, which is currently composed of five directors: Dr. Duyk, Dr. Kung, Mr. Mills, Ms. Piwnica and Mr. Williams. Mr. Mills is the Chair of the Operations and Finance Committee. The Board has determined that each member of the Operations and Finance Committee is independent (as defined in the relevant Nasdaq and SEC rules and regulations). The Board has adopted a written charter for our Operations and Finance Committee that is posted on our company website at <http://investors.amyris.com/corporate-governance>.

The purpose of the Operations and Finance Committee is to assist the Board with respect to financial and operational matters and transactions, including:

- reviewing and approving significant capital expenditures and strategic operational and financing transactions;

- overseeing the Company's capitalization, including the structure and amount of its debt and equity; and
- reviewing the Company's business operations and plans and operational performance.

### ***Nominating and Governance Committee***

Under Nasdaq rules, director nominees must be selected, or recommended for the Board's selection, either by independent directors constituting a majority of the Board's independent directors in a vote in which only independent directors participate, or by a nominations committee composed solely of independent directors. Amyris has established the Nominating and Governance Committee for such matters, which is currently composed of two directors: Mr. Doerr and Ms. Piwnica. Mr. Doerr is the Chair of the Nominating and Governance Committee. The Board has determined that each member of the Nominating and Governance Committee is independent (as defined in the relevant Nasdaq and SEC rules and regulations). The Board has adopted a written charter for our Nominating and Governance Committee that is posted on our company website at <http://investors.amyris.com/corporate-governance>.

The purpose of the Nominating and Governance Committee is to ensure that the Board is properly constituted to meet its fiduciary obligations to stockholders and Amyris, and to assist the Board with respect to corporate governance matters, including:

- identifying, considering and nominating candidates for membership on the Board;
- developing, recommending and periodically reviewing corporate governance guidelines and policies for Amyris (including our Corporate Governance Principles, Code of Business Conduct and Ethics and Insider Trading Policy); and
- advising the Board on corporate governance and Board performance matters, including recommendations regarding the structure and composition of the Board and Board committees.

The Nominating and Governance Committee also monitors the size, leadership and committee structure and composition of the Board and makes any recommendations for changes to the Board, reviews our narrative disclosures in SEC filings regarding the director nomination process, director qualifications, Board leadership structure and risk oversight by the Board, considers and approves requested waivers for our directors or executive officers under our Code of Business Conduct and Ethics, reviews and makes recommendations to the Board regarding formal procedures for stockholder communications with members of the Board, and oversees an annual self-assessment process for the Board.

### ***Director Nomination Process***

In carrying out its duties to consider and nominate candidates for membership on the Board, the Nominating and Governance Committee considers a mix of perspectives, qualities and skills that would contribute to the overall corporate goals and objectives of Amyris and to the effectiveness of the Board. The Nominating and Governance Committee's goal is to nominate directors who will provide a balance of industry, business and technical knowledge, experience and capability. To this end, the Nominating and Governance Committee considers a variety of characteristics for director candidates, including demonstrated ability to exercise sound business judgment, relevant industry or business experience, understanding of and experience with issues and requirements facing public companies, excellence and a record of professional achievement in the candidate's field, relevant technical knowledge or aptitude, having sufficient time and energy to devote to the affairs of Amyris, independence for purposes of compliance with Nasdaq and SEC rules and regulations, as applicable, and commitment to rigorously represent the long-term interests of our stockholders. Although the Nominating and Governance Committee uses these and other criteria to evaluate potential nominees, we have no stated minimum criteria for nominees. While we do not have a formal policy with regard to the consideration of diversity in identifying director nominees, the Nominating and Governance Committee strives to nominate directors with a variety of complementary skills and experience so that, as a group, the Board will possess the appropriate talent, skills and experience to oversee our business.

The Nominating and Governance Committee generally uses the following processes for identifying and evaluating nominees for director:

- In the case of incumbent directors, the Nominating and Governance Committee reviews the director's overall service to Amyris during such director's term, including performance, effectiveness, participation and independence.
- In seeking to identify new director candidates, the Nominating and Governance Committee may use its network of contacts to compile a list of potential candidates and may also engage, if deemed appropriate, a professional search firm. The Nominating and Governance Committee would conduct any appropriate and necessary inquiries into the backgrounds and qualifications of possible candidates after considering the structure and needs of the Board. The Nominating and Governance Committee would then meet to discuss and consider the candidates' qualifications and select nominees for recommendation to the Board by majority vote.

The Nominating and Governance Committee will consider director candidates recommended by stockholders and will use the same criteria to evaluate all candidates. We have not received a recommendation for a director nominee for the 2019 annual meeting from a stockholder or stockholders. Stockholders who wish to recommend individuals for consideration by the Nominating and Governance Committee to become nominees for election to the Board may do so by delivering a written recommendation to the Nominating and Governance Committee at the following address: Chair of the Nominating and Governance Committee c/o Secretary of Amyris, Inc. at 5885 Hollis Street, Suite 100, Emeryville, California 94608. Because we expect to hold our 2020 Annual Meeting of Stockholders (the "2020 Annual Meeting") in May 2020, any proposals for inclusion in next year's proxy materials must be submitted not earlier than the close of business on the 105<sup>th</sup> day prior to the 2020 Annual Meeting and not later than the close of business on the later of (x) the 75<sup>th</sup> day prior to the 2020 Annual Meeting or (y) the 10<sup>th</sup> day following the date on which public announcement of the date of the 2020 Annual Meeting is first made. You are also advised to review our Bylaws, which contain additional requirements about advance notice of stockholder proposals and director nominations. Submissions must include the full name of the proposed nominee, a description of the proposed nominee's business experience and directorships for at least the previous five years, complete biographical information, a description of the proposed nominee's qualifications as a director and a representation that the nominating stockholder is a beneficial or record owner of our common stock. Any such submission must be accompanied by the written consent of the proposed nominee to be named as a nominee and to serve as a director if elected.

### ***Stockholder Nominations***

Stockholders who wish to nominate persons directly for election to the Board at an annual meeting of stockholders must meet the deadlines and other requirements set forth in our Bylaws and the rules and regulations of the SEC. As provided in our certificate of incorporation, subject to the rights of the holders of any series of preferred stock, any vacancy occurring in the Board can generally be filled only by the affirmative vote of a majority of the directors then in office. The director appointed to fill the vacancy will hold office for a term expiring at the annual meeting of stockholders at which the term of office of the class to which the director has been assigned expires and until such director's successor shall have been duly elected and qualified, or until such director's earlier death, resignation or removal.

### **Stockholder Communications with Directors**

The Board has established a process by which stockholders may communicate with the Board or any of its members, including the Chair of the Board, or to the independent directors generally. Stockholders and other interested parties who wish to communicate with the Board or any of the directors may do so by sending written communications addressed to the Secretary of Amyris at 5885 Hollis Street, Suite 100, Emeryville, California 94608. The Board has directed that all communications will be compiled by the Secretary and submitted to the Board or the selected group of directors or individual directors on a periodic basis. These communications will be reviewed by our Secretary, who will determine whether they should be presented to the Board. The purpose of this screening is to allow the Board to avoid having to consider irrelevant or inappropriate communications (such as advertisements and solicitations). The screening procedure has been approved by a majority of the non-management directors of the Board.

Directors may at any time request that we forward to them immediately all communications received by us for the Board. All communications directed to the Audit Committee in accordance with the procedures described above that relate to accounting, internal accounting controls or auditing matters involving Amyris will be promptly and directly forwarded to all members of the Audit Committee.

**PROPOSAL 2 —**  
**RATIFICATION OF SELECTION OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

**General**

On July 2, 2019, the Audit Committee selected Macias Gini & O’Connell LLP (“MGO”) as our independent registered public accounting firm for the fiscal year ending December 31, 2019, and the Board has directed that management submit the selection of such independent registered public accounting firm for ratification by our stockholders at the annual meeting. MGO has been engaged as our independent registered public accounting firm since July 2019. We expect representatives of MGO to be present at the annual meeting. They will have an opportunity to make a statement if they so desire and will be available to respond to appropriate questions.

Neither our Bylaws nor other governing documents or applicable law require stockholder ratification of the selection of our independent registered public accounting firm. However, we are submitting the selection of MGO to our stockholders for ratification as a matter of good corporate practice. If our stockholders fail to ratify the selection, the Audit Committee will reconsider whether or not to retain MGO. Even if the selection is ratified, the Audit Committee in its discretion may direct the selection of a different independent registered public accounting firm at any time during the year if they determine that such a change would be in the best interests of Amyris and our stockholders.

**Background**

On June 9, 2017, PricewaterhouseCoopers LLP (“PwC”) notified us that it declined to stand for re-election as our independent registered public accounting firm for the 2017 fiscal year. The Audit Committee conducted a competitive process to determine our independent registered public accounting firm for the 2017 fiscal year and on June 28, 2017, with the approval of the Audit Committee, we appointed KPMG LLP (“KPMG”) to serve as our independent registered public accounting firm for the 2017 fiscal year.

PwC’s audit reports on our consolidated financial statements for the fiscal years ended December 31, 2016 and 2015 contained no adverse opinion or disclaimer of opinion and were not qualified or modified as to uncertainty, audit scope, or accounting principles, except that PwC’s reports for the fiscal years ended December 31, 2016, and December 31, 2015 included an explanatory paragraph indicating that there was substantial doubt about our ability to continue as a going concern.

During our fiscal years ending December 31, 2016 and December 31, 2015, and the subsequent interim period through June 9, 2017, (i) there were no “disagreements” (within the meaning set forth in Item 304(a)(1)(iv) of Regulation S-K promulgated under the Securities Exchange Act of 1934 (“Regulation S-K”)) with PwC on any matter of accounting principles or practices, financial statement disclosure, or auditing scope or procedure, which disagreements, if not resolved to PwC’s satisfaction, would have caused PwC to make reference to the subject matter of the disagreements in their reports on our consolidated financial statements for such years; and (ii) there were no “reportable events” (within the meaning set forth in Item 304(a)(1)(v) of Regulation S-K).

In addition, during our fiscal years ending December 31, 2016 and December 31, 2015, and the subsequent interim period through June 28, 2017, neither Amyris nor any person on its behalf consulted with KPMG with respect to either (i) the application of accounting principles to a specified transaction, either completed or proposed, or the type of audit opinion that might be rendered on our financial statements, and neither a written report was provided to us nor oral advice was provided that KPMG concluded was an important factor considered by us in reaching a decision as to the accounting, auditing or financial reporting issue; or (ii) any matter that was either the subject of a “disagreement” or a “reportable event” as such terms are described in Items 304(a)(1)(iv) or 304(a)(1)(v), respectively, of Regulation S-K.

On May 15, 2019, we determined, with the approval of the Audit Committee and the Board, to appoint BDO USA, LLP (“BDO”) to serve as our independent registered public accounting firm for the fiscal year ending December 31, 2019, and to dismiss KPMG upon completion of its audit of our consolidated financial statement as of and for the year ended December 31, 2018 and the effectiveness of internal control over financial reporting as of December 31, 2018, and the issuance of its reports thereon as



well as the re-audit of the consolidated financial statements as of and for the year ended December 31, 2017. Subsequently, On July 3, 2019, (i) BDO resigned as our independent registered public accounting firm for the fiscal year ending December 31, 2019, prior to performing any substantive work with respect to the audit work for that year, and (ii) we determined, with the approval of the Audit Committee, to: (A) dismiss KPMG as our independent registered public accounting firm for the fiscal years ended December 31, 2018 and 2017, (B) appoint MGO as our independent registered public accounting firm for the fiscal years ended December 31, 2019 and 2018, and (C) appoint BDO as our independent registered public accounting firm for the re-audit of our consolidated financial statements for the fiscal year ended December 31, 2017. On July 9, 2019, MGO was formally engaged as our independent registered public accounting firm for the fiscal years ended December 31, 2019 and 2018. On July 10, 2019, BDO was formally engaged as our independent registered public accounting firm for the re-audit of our consolidated financial statements for the fiscal year ended December 31, 2017. The Audit Committee authorized KPMG to respond fully to all inquiries from BDO and MGO, and BDO to respond fully to all inquiries from MGO.

The audit report of KPMG on our consolidated financial statements as of and for the year ended December 31, 2017 did not contain any adverse opinion or disclaimer of opinion, nor was it qualified or modified as to audit scope or accounting principles, except as follows: KPMG's report on our consolidated financial statements as of and for the year ended December 31, 2017 contained a separate paragraph stating that "The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 1 to the consolidated financial statements, the Company has suffered recurring losses from operations and has current debt service requirements that raise substantial doubt about its ability to continue as a going concern. Management's plans in regard to these matters are also described in Note 1. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty." On April 5, 2019 and May 14, 2019, the Audit Committee and the Board (upon the recommendation of the Audit Committee), respectively, after consultation with senior management and KPMG, concluded that our consolidated financial statements for the year ended December 31, 2017 and the quarterly and year-to-date periods ended March 31, 2018, June 30, 2018 and September 30, 2018, respectively, should be restated and should no longer be relied upon. Further, our disclosures related to such financial statements and related communications issued by or on behalf of us with respect to such periods, including management's assessment of internal control over financial reporting as of December 31, 2017, should also no longer be relied upon. As of July 3, 2019, KPMG had not completed its audit procedures or issued any reports on our consolidated financial statements as of and for the year ended December 31, 2018 or our internal control over financial reporting and disclosure controls and procedures as of December 31, 2018.

Other than the reportable events disclosed above, during our two most recent fiscal years ended December 31, 2018 and December 31, 2017, respectively, and the subsequent interim period through July 3, 2019, there were no "disagreements" or "reportable events," as such terms are described in Items 304(a)(1)(iv) and 304(a)(1)(v), respectively, of Regulation S-K and the related instructions thereto, with KPMG or BDO on any matter of accounting principles or practices, financial statement disclosure, or auditing scope or procedure, which disagreement(s) or reportable event(s), if not resolved to the satisfaction of KPMG or BDO, as applicable, would have caused KPMG or BDO, as applicable, to make reference to the subject matter of the disagreement(s) or reportable event(s) in connection with its report on our consolidated financial statements for the relevant year.

During our two most recent fiscal years, which ended December 31, 2018 and December 31, 2017, and the subsequent interim period through July 3, 2019, neither we nor any person on our behalf consulted with BDO or MGO with respect to either (i) the application of accounting principles to a specified transaction, either completed or proposed, or the type of audit opinion that might be rendered on our consolidated financial statements, and neither a written report was provided to us nor oral advice was provided that BDO or MGO, as applicable, concluded was an important factor in reaching a decision as to any accounting, auditing or financial reporting issue; or (ii) any matter that was either the subject of a "disagreement" or a "reportable event," as such terms are described in Items 304(a)(1)(iv) and 304(a)(1)(v) of Regulation S-K.

#### **Vote Required and Board Recommendation**

Ratification of the selection of Macias Gini & O'Connell LLP requires the affirmative vote of the holders of a majority of the shares of common stock properly casting votes for or against this proposal at

the annual meeting in person or by proxy. Abstentions will not count toward the vote total for this proposal and therefore will not affect the outcome of this proposal. Shares represented by executed proxies that do not indicate a vote “For,” “Against” or “Abstain” will be voted by the proxy holders “For” this proposal.

**The Board recommends a vote “FOR” this Proposal 2**

**Independent Registered Public Accounting Firm Fee Information**

BDO has served as our independent registered public accounting firm for the fiscal year ended December 31, 2017 since July 10, 2019, and MGO has served as our independent registered public accounting firm for the fiscal year ended December 31, 2018 and the fiscal year ending December 31, 2019 since July 9, 2019. The following tables set forth the aggregate fees billed or to be billed to us by BDO and MGO, respectively, for services performed in or for the fiscal years ended December 31, 2018 and December 31, 2017 (in thousands):

*BDO USA, LLP*

Fee Category	Fiscal Year ended December 31,	
	2018	2017
Audit Fees . . . . .	\$—	\$2,235
Audit-Related Fees . . . . .	—	—
Tax Fees . . . . .	—	—
All Other Fees . . . . .	3	—
Total Fees . . . . .	<u>\$ 3</u>	<u>\$2,235</u>

The “Audit Fees” category includes aggregate fees billed for the relevant fiscal year for professional services rendered for the audit of our annual financial statements and review of our unaudited financial statements included in our Quarterly Reports on Form 10-Q, and for services that are normally provided in connection with statutory and regulatory filings or engagements for those fiscal years. We did not incur any fees in this category with respect to BDO for the fiscal year ended December 31, 2018.

The “Audit-Related Fees” category includes aggregate fees billed in the relevant fiscal year for assurance and related services that are reasonably related to the performance of the audit or review of our financial statements and that are not reported under the “Audit Fees” category. We did not incur any fees in this category with respect to BDO for the fiscal years ended December 31, 2018 and 2017.

The “Tax Fees” category includes aggregate fees billed in the relevant fiscal year for professional services rendered with respect to tax compliance, tax advice and tax planning. We did not incur any fees in this category with respect to BDO for the fiscal years ended December 31, 2018 and 2017.

The “All Other Fees” category includes aggregate fees billed in the relevant fiscal year for products and services other than those reported under the other categories described above. We did not incur any fees in this category with respect to BDO for the fiscal year ended December 31, 2017.

*Macias Gini & O’Connell LLP*

Fee Category	Fiscal Year ended December 31,	
	2018	2017
Audit Fees . . . . .	\$3,150	\$—
Audit-Related Fees . . . . .	—	—
Tax Fees . . . . .	—	—
All Other Fees . . . . .	—	—
Total Fees . . . . .	<u>\$3,150</u>	<u>\$—</u>

The “Audit Fees” category includes aggregate fees billed for the relevant fiscal year for professional services rendered for the audit of our annual financial statements and review of our unaudited financial statements included in our Quarterly Reports on Form 10-Q, and for services that are normally provided in

connection with statutory and regulatory filings or engagements for those fiscal years. We did not incur any fees in this category with respect to MGO for the fiscal year ended December 31, 2017.

The “Audit-Related Fees” category includes aggregate fees billed in the relevant fiscal year for assurance and related services that are reasonably related to the performance of the audit or review of our financial statements and that are not reported under the “Audit Fees” category. We did not incur any fees in this category with respect to MGO for the fiscal years ended December 31, 2018 and 2017.

The “Tax Fees” category includes aggregate fees billed in the relevant fiscal year for professional services rendered with respect to tax compliance, tax advice and tax planning. We did not incur any fees in this category with respect to MGO for the fiscal years ended December 31, 2018 and 2017.

The “All Other Fees” category includes aggregate fees billed in the relevant fiscal year for products and services other than those reported under the other categories described above. We did not incur any fees in this category with respect to MGO for the fiscal years ended December 31, 2018 and 2017.

#### **Audit Committee Pre-Approval of Services Performed by our Independent Registered Public Accounting Firm**

The Audit Committee’s charter requires it to approve all fees and other compensation paid to, and pre-approve all audit and non-audit related services provided by, the Company’s independent registered public accounting firm. The Audit Committee charter permits the Audit Committee to delegate pre-approval authority to one or more members of the Audit Committee, provided that any pre-approval decision is reported to the Audit Committee at its next scheduled meeting. The Audit Committee has delegated such pre-approval authority, for fees of up to \$100,000 in the aggregate, to the Chair of the Audit Committee.

In determining whether to approve audit and non-audit services to be performed by our independent registered public accounting firm, the Audit Committee takes into consideration the fees to be paid for such services and whether such fees would affect the independence of the accounting firm in performing its audit function. In addition, when determining whether to approve non-audit services to be performed by our independent registered public accounting firm, the Audit Committee considers whether the performance of such services is compatible with maintaining the independence of the accounting firm in performing its audit function, and confirms that the non-audit services will not include the prohibited activities set forth in Section 201 of the Sarbanes-Oxley Act of 2002. Except for the services described above under “Audit-Related Fees,” “Tax Fees” and “All Other Fees” (each of which was pre-approved by the Audit Committee in accordance with its policy), no non-audit services were provided by our independent registered public accounting firm in 2018 or 2017.

All fees paid to, and all services provided by, our independent registered public accounting firm during fiscal years 2018 and 2017 were pre-approved by the Audit Committee in accordance with the pre-approval procedures described above.

## REPORT OF THE AUDIT COMMITTEE\*

The Audit Committee has reviewed and discussed with management (i) our restated audited consolidated financial statements for the fiscal year ended December 31, 2017 and (ii) our audited consolidated financial statements for the fiscal year December 31, 2018. The Audit Committee has also discussed with BDO USA, LLP and Macias Gini & O'Connell LLP, our independent registered public accounting firms for the fiscal year ended December 31, 2017 and the fiscal year ended December 31, 2018, respectively, the matters required to be discussed by Public Company Accounting Oversight Board Auditing Standard No. 1301 (Communications with Audit Committees), as amended.

The Audit Committee has received and reviewed the written disclosures and the letters from each of BDO USA, LLP and Macias Gini & O'Connell LLP required by applicable requirements of the Public Company Accounting Oversight Board regarding such firms' respective communications with the Audit Committee concerning independence, and has discussed with such firms their independence.

Based on the review and discussions referred to above, the Audit Committee recommended to the Board that the restated audited consolidated financial statements for the fiscal year ended December 31, 2017 and the audited consolidated financial statements for the fiscal year December 31, 2018 be included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2018 for filing with the Securities and Exchange Commission.

### **Amyris, Inc. Audit Committee of the Board**

R. Neil Williams (Chair)  
Geoffrey Duyk  
Steven Mills

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\* *The material in this report is not "soliciting material," is not deemed "filed" with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of Amyris under the Securities Act or the Exchange Act, whether made before or after the date hereof and irrespective of any general incorporation language in any such filing.*

### PROPOSAL 3 —

#### APPROVAL OF THE ISSUANCE OF SHARES OF OUR COMMON STOCK ISSUABLE UPON THE EXERCISE OF WARRANTS AND CONVERSION OF PREFERRED STOCK ISSUED TO FORIS VENTURES, LLC IN ACCORDANCE WITH NASDAQ MARKETPLACE RULES 5635(B) AND 5635(D)

##### General

We are asking stockholders to approve the issuance of shares of our common stock issuable upon the exercise of warrants and conversion of preferred stock issued to Foris Ventures, LLC in accordance with Nasdaq Marketplace Rules 5635(b) and 5635(d), as described in more detail below.

##### Background

During 2019, we have engaged in the following issuances of equity securities to Foris Ventures, LLC (“Foris”), an entity affiliated with director John Doerr of Kleiner Perkins Caufield & Byers, a current stockholder, and an owner of greater than five percent of our outstanding common stock, par value \$0.0001 per share (the “Common Stock”):

On April 16, 2019, we issued and sold to Foris 6,732,369 shares of Common Stock at a price of \$2.87 per share, the closing bid price of the Common Stock on the Nasdaq Global Select Market on April 12, 2019, as well as a warrant to purchase up to 5,424,804 shares of Common Stock at an exercise price of \$2.87 per share, with an exercise term of two years from issuance, pursuant to a Securities Purchase Agreement, dated April 15, 2019, between us and Foris, for aggregate proceeds to us of \$20.0 million (the “April Investment”). The securities were sold in a private placement pursuant to the exemption from registration under Section 4(a)(2) of the Securities Act of 1933, as amended (the “Securities Act”), and Regulation D promulgated under the Securities Act.

On April 26, 2019, we issued and sold to Foris 2,832,440 shares of Common Stock at a price of \$5.12 per share, the closing price of the Common Stock on the Nasdaq Global Select Market on April 23, 2019, as well as a warrant to purchase up to 3,983,230 shares of Common Stock at an exercise price of \$5.12 per share, with an exercise term of two years from issuance, pursuant to a Security Purchase Agreement, dated April 24, 2019, between us and Foris, for aggregate proceeds to us of \$15.0 million. The securities were sold in a private placement pursuant to the exemption from registration under Section 4(a)(2) of the Securities Act and Regulation D promulgated under the Securities Act.

On May 14, 2019 we issued and sold to Foris 1,122,460 shares of Common Stock at a price of \$4.60 per share, as well as a warrant to purchase 352,638 shares of Common Stock at an exercise price of \$4.56 per share, the closing price of the Common Stock on the Nasdaq Global Select Market on May 9, 2019, with an exercise term of two years from issuance (the “Exchange Warrant”), in exchange for the surrender and cancellation of \$5.0 million principal amount of our 6.50% Convertible Senior Notes due 2019 held by Foris, pursuant to an Exchange Agreement, dated May 10, 2019, between us and Foris. The securities were sold in a private placement pursuant to the exemption from registration under Section 3(a)(9) of the Securities Act.

On August 14, 2019, in connection with the entry by us and Foris into the Amendment No 5 and Waiver to the Loan and Security Agreement, dated June 29, 2018, by and among us, certain of our subsidiaries and Foris, as successor in interest to GACP Finance Co., LLC, we issued to Foris a warrant to purchase up to 1,438,829 shares of Common Stock at an exercise price of \$2.87 per share, with an exercise term of two years from issuance. The warrant was issued in a private placement pursuant to the exemption from registration under Section 4(a)(2) of the Securities Act and Regulation D promulgated under the Securities Act.

On August 28, 2019, in connection with the entry by us and Foris into a credit agreement to make available to us an unsecured credit facility in an aggregate principal amount of \$19.0 million, which we borrowed in full on August 28, 2019, we (i) issued to Foris a warrant to purchase up to 4,871,795 shares of Common Stock at an exercise price of \$3.90 per share, with an exercise term of two years from issuance and (ii) amended the warrants issued to Foris on April 26, 2019 and May 14, 2019 to reduce the exercise price of such warrants to \$3.90 per share.

The exercise price of the warrants described above (collectively, the “Foris Warrants”) is subject to standard adjustments but does not contain any anti-dilution protection, and the Foris Warrants only permit “cashless” or “net” exercise after the six-month anniversary of issuance, and only to the extent that there is not an effective registration statement covering the resale of the applicable shares of Common Stock underlying the Foris Warrant being exercised.

In addition, each Foris Warrant provides that we may not effect any exercise of such Foris Warrant to the extent that, after giving effect to such exercise, Foris, together with its affiliates, would beneficially own in excess of 19.99% of the number of shares of Common Stock outstanding after giving effect to such exercise, unless we have obtained stockholder approval to exceed such limit. In addition, Foris has agreed not to exercise any warrant or any other convertible security to the extent that, after giving effect to such exercise, Foris, together with its affiliates, would beneficially own in excess of 19.99% of the number of shares of Common Stock outstanding after giving effect to such exercise or conversion, unless we have obtained stockholder approval to exceed such limit.

We are asking our stockholders to approve allowing Foris to exercise its outstanding warrants, which would result in Foris beneficially owning in excess of 19.99% of the number of shares of Common Stock outstanding.

For more information regarding these transactions, please see below under “Transactions with Related Persons — Agreements with Foris”.

In addition to the warrants listed above, Foris holds the following warrants to purchase our Common Stock as of August 30, 2019:

Warrant to purchase 4,877,386 shares of Common Stock at an exercise price of \$2.87 per share, exercisable until May 17, 2020

Warrant to purchase 64,103 shares of Common Stock at an exercise price of \$0.15 per share, exercisable until July 29, 2020

Warrant to purchase 152,381 shares of Common Stock at an exercise price of \$0.15 per share, exercisable until February 12, 2021

In addition, as of August 30, 2019, Foris held 6,376.2787 shares of our Series B 17.38% Convertible Preferred Stock (“Series B Preferred Stock”), which are convertible into 1,012,071 shares of Common Stock, the conversion of which is subject to a beneficial ownership limitation of 9.99% of the Company’s outstanding common stock (the “Series B Beneficial Ownership Limitation”). Pursuant to the Certificate of Designation of Preferences, Rights and Limitations relating to the Series B Preferred Stock (the “Series B Certificate of Designation”), the shares of Series B Preferred Stock held by Foris automatically converted to common stock on October 9, 2017, subject to the Series B Beneficial Ownership Limitation. Such automatic conversion of the Series B Preferred Stock will be held in abeyance to the extent such conversion would cause Foris to beneficially own in excess of the Series B Beneficial Ownership Limitation, until Foris is able to receive such shares without exceeding the Series B Beneficial Ownership Limitation. We intend to amend the Series B Certificate of Designation to remove the Series B Beneficial Ownership Limitation; provided, that the conversion of the shares of Series B Preferred Stock held by Foris will continue to be subject to a 19.99% beneficial ownership limitation unless Proposal 3 is approved. All beneficial ownership information contained in this Proxy Statement that assumes that Proposal 3 is approved also assumes that the Series B Beneficial Ownership Limitation is removed.

As of August 30, 2019, Foris held (i) 17,527,973 shares of Common Stock, (ii) warrants to purchase up to an aggregate of 21,165,166 shares of Common Stock at a weighted average exercise price of \$3.29 per share, with expiration dates ranging from July 29, 2020 to August 28, 2021 and (iii) 6,376.2787 shares of Series B Preferred Stock, which are convertible into 1,012,071 shares of Common Stock. Foris is currently our largest shareholder on the basis of shares issued and outstanding, and is our second largest shareholder on a beneficial ownership basis.

In addition, as of August 30, 2019, affiliates of Foris, including director John Doerr and Kleiner Perkins Caufield & Byers, beneficially owned an aggregate of 295,246 shares of Common Stock.

Currently, due to the beneficial ownership limitations described above, Foris beneficially owns 19.99% of the outstanding Common Stock. Assuming the full exercise of all Foris warrants currently outstanding for cash as of August 30, 2019 and the conversion of its shares of Series B Preferred Stock, after giving effect to such exercises and conversion, Foris, together with its affiliates, would beneficially own an aggregate of 39,984,057 shares of Common Stock, representing approximately 31.9% of the Common Stock outstanding after giving effect to such exercise and conversion, and would become our largest shareholder on a beneficial ownership basis. By approving this Proposal 3, stockholders would be approving the exercise by Foris of all of its currently outstanding warrants and the conversion of its outstanding Series B Preferred Stock, which would cause Foris to beneficially own in excess of 20% of our Common Stock outstanding and become our largest shareholder on a beneficial ownership basis. If Proposal 3 is not approved, Foris would continue to beneficially own 19.99% of our Common Stock and would be restricted from exercising its outstanding warrants or outstanding Series B Preferred Stock until such time as the exercise of such warrants or the conversion of such Series B Preferred Stock would not cause Foris to exceed 19.99% of the number of shares of Common Stock outstanding after giving effect to such exercise or conversion.

### **Purpose — Nasdaq Stockholder Approval Requirement**

Our Common Stock is listed on The Nasdaq Stock Market (“Nasdaq”) and trades under the ticker symbol AMRS. Nasdaq Marketplace Rule 5635(b) requires stockholder approval of security issuances when the issuance or potential issuance will result in a change of control of the Company. Nasdaq has generally taken the position that any issuance that results in an investor or group of investors obtaining a 20% or greater interest or a right to acquire that interest on a post-transaction basis, and that ownership position would be the largest position in the Company, would be presumed to be a change of control. Assuming the full exercise of the warrants currently held by Foris and the full exercise of Foris’s shares of Series B Preferred Stock, Foris (and certain of its affiliates, including director John Doerr) would own greater than 20% of the voting power of the Company on a post-transaction basis and be the Company’s largest shareholder. By approving Proposal 3, you are approving the proposal for purposes of the requirements under Nasdaq Marketplace Rule 5635(b), which would result in Foris (and certain of its affiliates, including director John Doerr) obtaining a greater than 20% beneficial ownership interest in the Company on a post-transaction basis, which ownership position will be the largest ownership position (both on an issued and outstanding basis and a beneficial ownership basis) in the Company.

Nasdaq Marketplace Rule 5635(d) requires stockholder approval in connection with a transaction other than a public offering involving the sale or issuance by the issuer of common stock (or securities convertible into or exchangeable for common stock) equal to 20% or more of the common stock or 20% or more of the voting power outstanding before the issuance for a price that is less than the lower of: (i) the closing price of the Common Stock immediately preceding the signing of the binding agreement for the issuance of such securities; or (ii) the average closing price of the Common Stock for the five trading days immediately preceding the signing of the binding agreement for the issuance of such securities (the “Minimum Price”). Based on Nasdaq Marketplace Rule 5635(d), the issuance of the Exchange Warrant, when taken together with other transactions aggregated for such purpose, may be deemed to involve the issuance of securities convertible into more than 20% of our Common Stock at a discount to the Minimum Price.

We are requesting in this Proposal 3 that our stockholders approve the issuance of the Common Stock issuable upon exercise of the warrants, including the Exchange Warrant, and conversion of the Series B Preferred Stock currently held by Foris in accordance with Nasdaq Marketplace Rules 5635(b) and (d). The issuance and sale of the shares of Common Stock underlying such warrants and shares of Series B Preferred Stock are intended to be exempt from the registration requirements of the Securities Act pursuant to the Regulation D “safe harbor” provisions of the Securities Act.

### **Vote Required and Board Recommendation**

This proposal must receive a “For” vote from (i) the holders of a majority of the shares of common stock properly casting votes for or against this proposal at the annual meeting in person or by proxy (the “Bylaws Standard”) and (ii) a majority of the total votes of shares of our common stock not owned,

directly or indirectly, by Foris Ventures, LLC or its affiliates (including director John Doerr and Kleiner Perkins Caufield & Byers), cast in person or by proxy at the annual meeting (the “Disinterested Standard”). Shares represented by executed proxies that do not indicate a vote “For,” “Against” or “Abstain” will be voted by the proxy holders “For” this proposal. If you own shares through a bank, broker or other Intermediary, you must instruct your bank, broker or other Intermediary how to vote in order for them to vote your shares so that your vote can be counted on this proposal. Abstentions and broker non-votes will not count toward the vote total for this proposal and therefore will not affect the outcome of this proposal.

### **The Board recommends a vote “FOR” this Proposal 3**

The Board determined that Proposal 3 is advisable and in the best interest of our stockholders and recommended that our stockholders vote in favor of Proposal 3.

In reaching its determination to approve Proposal 3, the Board, with advice from our management and legal advisors, considered a number of factors, including:

- the fact that the proceeds from the warrant and preferred stock issuances and the relationship with Foris will enable us to advance our strategic direction;
- the warrants were offered as an inducement for Foris to participate in financing transactions with us, and it was the determination of the Board that such financing transactions were important events to strengthen our balance sheet;
- our financial condition, results of operations, cash flow and liquidity, including our outstanding debt obligations, which required us to raise additional capital for ongoing cash needs;
- the fact that our management explored financing options with other potential investors and are not aware of an ability for us to obtain the financing needed for our ongoing cash needs on comparable or better terms to the transactions with Foris, or at all;
- the fact that John Doerr, one of our directors, indirectly owns all of the membership interests in Foris; and
- the fact that our stockholders who did not participate in the financing transactions may be diluted and the value of our Common Stock may be diluted upon the exercise of the warrants and the conversion of the Series B Preferred Stock held by Foris.

In view of the variety of factors considered in connection with the evaluation of Proposal 3, the Board did not find it practicable to, and did not, quantify or otherwise attempt to assign any relative weight to the various factors considered. In addition, in considering the various factors, individual members of the Board may have assigned different weights to different factors.

After evaluating these factors for and against the exercise of the warrants and conversion of shares of Series B Preferred Stock, and the corresponding beneficial ownership of Foris in excess of 19.99% of our Common Stock, and based upon their knowledge of our business, financial condition and prospects, potential financing alternatives (or lack thereof), and the views of our management, the Board concluded that such exercise and conversion, and such corresponding increase in beneficial ownership by Foris, is in our best interest and in the best interests of our stockholders, and recommends that all stockholders vote “FOR” the approval of Proposal 3.

### **Potential Adverse Effects — Dilution and Impact on Existing Stockholders**

The issuance of shares of Common Stock upon exercise of the warrants and conversion of the Series B Preferred Stock currently held by Foris would have a dilutive effect on current stockholders in that the percentage ownership of the Company held by such current stockholders will decline as a result of the issuance of the Common Stock upon such exercise or conversion. This means also that our current stockholders other than Foris will own a smaller interest in us as a result of such issuance and therefore have less ability to influence significant corporate decisions requiring stockholder approval. Issuance of Common Stock upon exercise of the warrants and conversion of the Series B Preferred Stock currently held by Foris could also have a dilutive effect on book value per share and any future earnings per share. Dilution of equity interests could also cause prevailing market prices for our Common Stock to decline.



Due to potential adjustments to the number of shares of Common Stock issuable upon exercise of the warrants and conversion of the Series B Preferred Stock issued to Foris, the exact magnitude of the dilutive effect of the issuance of shares of Common Stock upon exercise of the warrants and conversion of the Series B Preferred Stock currently held by Foris cannot be conclusively determined. However, the dilutive effect may be material to current stockholders of the Company.

As a result of such potential issuance, Foris 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, 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.

### **Interests of Certain Persons**

When you consider the Board's recommendation to vote in favor of Proposal 3, you should be aware that director John Doerr is affiliated with Foris as well as Kleiner Perkins Caufield & Byers, a current stockholder, and may have interests that may be different from, or in addition to, the interests of other of our stockholders. The beneficial ownership of Foris and its affiliates, including Mr. Doerr and Kleiner Perkins Caufield & Byers, is set forth above. Foris currently holds warrants and shares of Series B Preferred Stock that will not be exercisable or convertible, respectively, if Proposal 3 is not approved. Foris will not, as a result of the exercise of its outstanding warrants and conversion of its shares of Series B Preferred Stock, acquire rights to a majority of the voting power of the Company.

The transactions involving the issuance of the warrants and shares of Series B Preferred Stock currently held by Foris were separately approved by the Audit Committee, the Operations and Finance Committee or a Special Committee of the Board, and Mr. Doerr was not a member of, nor participated in, any meetings of such committees.

## CORPORATE GOVERNANCE

### **Corporate Governance Principles**

The Board has adopted written Corporate Governance Principles to provide the Board and its committees with operating principles designed to enhance the effectiveness of the Board and its committees, to establish good Board and committee governance, and to establish the responsibilities of management and the Board in supporting the Board's activities. The Corporate Governance Principles set forth a framework for Amyris's governance practices, including composition of the Board, director nominee selection, Board membership criteria, director compensation, Board education, meeting responsibilities, access to information and employees, executive sessions of independent directors, standing Board committees and their functions, and responsibilities of management.

### **Code of Business Conduct and Ethics**

We have adopted a Code of Business Conduct and Ethics that applies to all directors, officers and employees of Amyris as required by Nasdaq governance rules. Our Code of Business Conduct and Ethics includes a section entitled "Code of Ethics for Chief Executive Officer and Senior Financial Officers," providing additional principles for ethical leadership and a requirement that such individuals foster a culture throughout Amyris that helps ensure the fair and timely reporting of our financial results and condition. Our Code of Business Conduct and Ethics is available on the corporate governance section of our website at <http://investors.amyris.com/corporate-governance>. Stockholders may also obtain a printed copy of our Code of Business Conduct and Ethics and our Corporate Governance Principles by writing to the Secretary of Amyris at 5885 Hollis Street, Suite 100, Emeryville, California 94608. If we make any substantive amendment to a provision of our Code of Business Conduct and Ethics that applies to our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions, or if we grant any waiver from any of such provisions to any such person, we will promptly disclose the nature of the amendment or waiver on the corporate governance section of our website at <http://investors.amyris.com/corporate-governance>.

## SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table sets forth information with respect to the beneficial ownership of our common stock, as of August 30, 2019, by:

- each person, or group of affiliated persons, who is known by us to beneficially own more than 5% of our voting securities;
- each of our directors;
- each of our named executive officers; and
- all of our directors and named executive officers as a group.

Beneficial ownership is determined in accordance with the rules of the Securities and Exchange Commission (the “SEC”) and generally includes any shares over which the individual or entity has sole or shared voting power or investment power. These rules also treat as outstanding all shares of capital stock that a person would receive upon the exercise of any option, warrant or right or through the conversion of a security held by that person that are immediately exercisable or convertible or exercisable or convertible within 60 days of the date as of which beneficial ownership is determined. These shares are deemed to be outstanding and beneficially owned by the person holding those options, warrants or rights or convertible securities for the purpose of computing the number of shares beneficially owned and 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 information does not necessarily indicate beneficial ownership for any other purpose. Except as indicated in the footnotes to the below table and pursuant to applicable community property laws, to our knowledge the persons named in the table below have sole voting and investment power with respect to all shares of common stock attributed to them in the table.

Information with respect to beneficial ownership has been furnished to us by each director and named executive officer and certain stockholders, and derived from publicly-available SEC beneficial ownership reports on Forms 3 and 4 and Schedules 13D and 13G filed by covered beneficial owners of our common stock. Percentage ownership of our common stock in the table is based on 103,185,068 shares of our common stock outstanding on August 30, 2019 (as reflected in the records of our stock transfer agent). Except as otherwise set forth below, the address of the beneficial owner is c/o Amyris, Inc., 5885 Hollis Street, Suite 100, Emeryville, California 94608.

The number and percent of shares owned by Foris Ventures, LLC and director John Doerr do not include any shares issuable upon the exercise of the warrants or conversion of the shares of preferred stock that will be exercisable and convertible, respectively, if Proposal 3 is approved.

Name and Address of Beneficial Owner	Number of Shares Beneficially Owned (#)	Percent of Class (%)
<b>5% Stockholders</b>		
DSM International B.V. <sup>(1)</sup> . . . . .	27,001,551	23.0
Foris Ventures, LLC <sup>(2)</sup> . . . . .	21,054,940	19.7
Vivo Capital LLC <sup>(3)</sup> . . . . .	10,725,235	9.98
Total Raffinage Chimie <sup>(4)</sup> . . . . .	10,268,173	9.9
Loyola Capital Management, LLC <sup>(5)</sup> . . . . .	8,300,000	8.0
<b>Directors and Named Executive Officers</b>		
John Melo <sup>(6)</sup> . . . . .	909,575	*
John Doerr <sup>(2)(7)</sup> . . . . .	21,333,787	19.99
Geoffrey Duyk <sup>(8)</sup> . . . . .	8,932	*
Philip Eykerman <sup>(9)</sup> . . . . .	12,848	*
Christoph Goppelsroeder <sup>(10)</sup> . . . . .	0	*
Frank Kung <sup>(3)(11)</sup> . . . . .	10,731,784	9.99
James McCann <sup>(12)</sup> . . . . .	1,240	*

Name and Address of Beneficial Owner	Number of Shares Beneficially Owned (#)	Percent of Class (%)
Steven Mills <sup>(13)</sup> . . . . .	16,048	*
Carole Piwnica <sup>(14)</sup> . . . . .	15,797	*
Lisa Qi . . . . .	0	*
R. Neil Williams <sup>(15)</sup> . . . . .	14,597	*
Patrick Yang <sup>(16)</sup> . . . . .	68,997	*
Kathleen Valiasek <sup>(17)</sup> . . . . .	275,646	*
Joel Cherry <sup>(18)</sup> . . . . .	323,621	*
Eduardo Alvarez <sup>(19)</sup> . . . . .	366,876	*
Nicole Kelsey <sup>(20)</sup> . . . . .	128,592	*
All Directors and Named Executive Officers as a Group (16 Persons) <sup>(21)</sup> . .	34,208,340	30.4

\* Represents beneficial ownership of less than 1%.

- (1) Includes 13,994,198 shares of common stock issuable upon exercise of certain warrants held by DSM International B.V. (together with its affiliates, “DSM”). 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.
- (2) Includes 3,526,967 shares of common stock issuable upon exercise of certain warrants held by Foris. Foris also holds (i) warrants to purchase 17,638,199 shares of common stock, the exercise of which is subject to (A) a beneficial ownership limitation of 19.99% of the Company’s outstanding common stock and/or (B) the approval of the Company’s stockholders and (ii) shares of the Company’s Series B 17.38% Convertible Preferred Stock (the “Series B Preferred Stock”), which are convertible into 1,012,071 shares of common stock, the conversion of which is subject to a beneficial ownership limitation of 9.99% of the Company’s outstanding common stock (the “Series B Beneficial Ownership Limitation”). Pursuant to the Certificate of Designation of Preferences, Rights and Limitations relating to the Series B Preferred Stock (the “Series B Certificate of Designation”), the shares of Series B Preferred Stock held by Foris automatically converted to common stock on October 9, 2017, subject to the Series B Beneficial Ownership Limitation. Such automatic conversion of the Series B Preferred Stock will be held in abeyance to the extent such conversion would cause Foris to beneficially own in excess of the Series B Beneficial Ownership Limitation, until Foris is able to receive such shares without exceeding the Series B Beneficial Ownership Limitation. We intend to amend the Series B Certificate of Designation to remove the Series B Beneficial Ownership Limitation; provided, that the conversion of the shares of Series B Preferred Stock held by Foris will continue to be subject to a 19.99% beneficial ownership limitation unless Proposal 3 is approved. All beneficial ownership information contained in this Proxy Statement that assumes that Proposal 3 is approved also assumes that the Series B Beneficial Ownership Limitation is removed. We are asking stockholders to approve the issuance of the shares of common stock issuable upon the exercise of such warrants and conversion of such shares of Series B Preferred Stock; see “Proposal 3 — Approval of the issuance of shares of our common stock issuable upon the exercise of warrants and conversion of preferred stock issued to Foris Ventures, LLC in accordance with Nasdaq Marketplace Rules 5635(b) and 5635(d)” for more information. If Proposal 3 had been approved as of August 30, 2019, the number of shares beneficially owned by Foris, and the Percent of Class, would have been 39,705,210 shares and approximately 31.7%, respectively. Foris is indirectly owned by director John Doerr, who shares voting and investment control over the shares held by Foris. The address for Foris is 751 Laurel Street #717, San Carlos, California 94070.
- (3) Includes (i) 793,043 shares of common stock issuable upon conversion of shares of the Company’s Series D Convertible Preferred Stock (the “Series D Preferred Stock”) held by affiliates of Vivo Capital LLC (together with its affiliates, “Vivo”) and (ii) 3,440,612 shares of common stock issuable upon

exercise of certain warrants held by Vivo. Vivo holds additional shares of Series D Preferred Stock, which are currently convertible into 1,150,618 shares of common stock, and additional warrants, which are currently exercisable for 4,991,953 shares of common stock, the conversion and exercise, respectively, of which is subject to a beneficial ownership limitation of 9.99% of the Company's outstanding common stock. For purposes of this table, the shares beneficially owned by Vivo have been allocated between the number of shares issuable upon the conversion of shares of Series D Preferred Stock and the exercise of warrants based on the respective number of shares issuable upon such conversion or exercise. Director Frank Kung is a founding member of Vivo and a voting member of the general partner of Vivo entities that hold our common stock, Series D Preferred Stock and warrants, and may be deemed to share voting and dispositive power over the shares held by such entities. The address for Vivo is 505 Hamilton Avenue, Suite 207, Palo Alto, California 94301.

- (4) Includes (i) 172,820 shares of common stock issuable upon conversion of certain convertible promissory notes held by Total Raffinage Chimie ("Total") and (ii) 141,881 shares of common stock issuable upon exercise of certain warrants held by Total. The address for Total is 2, Place Jean Millier, La Défense 6, 92400 Courbevoie, France.
- (5) The address for Loyola Capital Management, LLC is 222 E. Wisconsin Avenue, Suite 201, Lake Forest, Illinois 60045.
- (6) Shares beneficially owned by Mr. Melo include (i) 559,863 restricted stock units, all of which were unvested as of August 30, 2019, and (ii) 214,693 shares of common stock issuable upon exercise of stock options that were exercisable within 60 days of August 30, 2019.
- (7) Shares beneficially owned by Mr. Doerr include (i) 21,054,940 shares of common stock beneficially owned by Foris, in which Mr. Doerr indirectly owns all of the membership interests, (ii) 567 shares of common stock held by The Vallejo Ventures Trust U/T/A 2/12/96, of which Mr. Doerr is a trustee, (iii) 278,882 shares of common stock held by entities affiliated with Kleiner Perkins Caufield & Byers of which Mr. Doerr is an affiliate, excluding 16,399 shares over which Mr. Doerr has no voting or investment power and (iv) 10,265 shares of common stock issuable upon exercise of stock options that were exercisable within 60 days of August 30, 2019. We are asking stockholders to approve the issuance of shares of common stock issuable upon the exercise of certain warrants and conversion of certain shares of Series B Preferred Stock held by Foris; see "Proposal 3 — Approval of the issuance of shares of our common stock issuable upon the exercise of warrants and conversion of preferred stock issued to Foris Ventures, LLC in accordance with Nasdaq Marketplace Rules 5635(b) and 5635(d)" for more information. If Proposal 3 had been approved as of August 30, 2019, the number of shares beneficially owned by John Doerr, and the Percent of Class, would have been 39,984,057 shares and approximately 31.9%, respectively.
- (8) Shares beneficially owned by Dr. Duyk include 4,666 shares of common stock issuable upon exercise of stock options that were exercisable within 60 days of August 30, 2019.
- (9) Shares beneficially owned by Mr. Eykerman include (i) 666 restricted stock units, all of which were unvested as of August 30, 2019, and (ii) 7,449 shares of common stock issuable upon exercise of stock options that were exercisable within 60 days of August 30, 2019. Mr. Eykerman was appointed to the Board on May 18, 2017 as the designee of DSM. Mr. Eykerman disclaims beneficial ownership of all shares of Amyris common stock that are or may be beneficially owned by DSM or any of its affiliates.
- (10) Mr. Goppelsroeder was appointed to the Board on November 2, 2017 as the designee of DSM. Mr. Goppelsroeder does not beneficially own any shares of Amyris common stock directly and disclaims beneficial ownership of all shares of Amyris common stock that are or may be beneficially owned by DSM or any of its affiliates.
- (11) Shares beneficially owned by Dr. Kung include (i) 10,725,235 shares of common stock beneficially owned by Vivo, over which Dr. Kung may be deemed to share voting and dispositive power, (ii) 1,333 restricted stock units, all of which were unvested as of August 30, 2019 and (iii) 5,216 shares of common stock issuable upon exercise of stock options that were exercisable within 60 days of

August 30, 2019. Dr. Kung was appointed to the Board on November 2, 2017 as the designee of Vivo. Dr. Kung disclaims beneficial ownership over shares of Amyris common stock that are or may be beneficially owned by Vivo except to the extent of his pecuniary interest therein.

- (12) Shares beneficially owned by Mr. McCann include 750 shares of common stock issuable upon exercise of stock options that were exercisable within 60 days of August 30, 2019.
- (13) Shares beneficially owned by Mr. Mills include 3,466 shares of common stock issuable upon exercise of stock options that were exercisable within 60 days of August 30, 2019.
- (14) Shares beneficially owned by Ms. Piwnica include 10,265 of common stock issuable upon exercise of stock options that were exercisable within 60 days of August 30, 2019. Ms. Piwnica is Director of NAXOS S.A.R.L. (Switzerland), a consulting firm advising private investors, and was designated to serve as our director by Naxyris S.A., an investment vehicle owned by Naxos Capital Partners SCA Sicar. NAXOS S.A.R.L. (Switzerland) is affiliated with Naxos Capital Partners SCA Sicar. Ms. Piwnica disclaims beneficial ownership of all shares of Amyris common stock that are or may be beneficially owned by Naxyris S.A.
- (15) Shares beneficially owned by Mr. Williams include 9,465 shares of common stock issuable upon exercise of stock options that were exercisable within 60 days of August 30, 2019.
- (16) Shares beneficially owned by Dr. Yang include 17,065 shares of common stock issuable upon exercise of stock options that were exercisable within 60 days of August 30, 2019.
- (17) Shares beneficially owned by Ms. Valiasek include (i) 138,599 restricted stock units, all of which were unvested as of August 30, 2019, and (ii) 49,123 shares of common stock issuable upon exercise of stock options that were exercisable within 60 days of August 30, 2019.
- (18) Shares beneficially owned by Dr. Cherry include (i) 149,910 restricted stock units, all of which were unvested as of August 30, 2019, and (ii) 81,650 shares of common stock issuable upon exercise of stock options that were exercisable within 60 days of August 30, 2019. Dr. Cherry resigned from the Company effective June 7, 2019. In connection with his termination of employment, Dr. Cherry agreed to provide certain consulting services to the Company for a period of one year following the termination of his employment with the Company (which term may be extended by the mutual agreement of the parties). In exchange for, and as a result of, such services, Dr. Cherry's outstanding equity awards will continue to remain outstanding and vest in accordance with, and subject to, the applicable equity plan and the relevant award agreements during the term of his consulting agreement with the Company.
- (19) Shares beneficially owned by Mr. Alvarez include (i) 285,000 restricted stock units, all of which were unvested as of August 30, 2019, and (ii) 30,000 shares of common stock issuable upon exercise of stock options that were exercisable within 60 days of August 30, 2019.
- (20) Shares beneficially owned by Ms. Kelsey include (i) 73,666 restricted stock units, all of which were unvested as of August 30, 2019, and (ii) 23,958 shares of common stock issuable upon exercise of stock options that were exercisable within 60 days of August 30, 2019.
- (21) Shares beneficially owned by all of our named executive officers and directors as a group include the shares of common stock described in footnotes 6 through 20 above.

## DELINQUENT SECTION 16(A) REPORTS

Section 16(a) of the Exchange Act requires our executive officers and directors, and any person or entity who beneficially owns more than ten percent of a registered class of our common stock or other equity securities, to file with the SEC certain reports of ownership and changes in ownership of our securities. Based solely on review of such filed reports and written representations by our executive officers and directors that no other reports were required, we believe that, during 2018, no reporting person failed to file the forms required by Section 16(a) of the Exchange Act on a timely basis, except that Nicole Kelsey, our General Counsel and Secretary, filed one Form 4 late with respect to the vesting of a restricted stock unit award in August 2018.

## EQUITY COMPENSATION PLAN INFORMATION

The following table shows certain information concerning our common stock reserved for issuance in connection with our 2005 Stock Option/Stock Issuance Plan, our 2010 Equity Incentive Plan and our 2010 Employee Stock Purchase Plan as of December 31, 2018:

Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted-average exercise price of outstanding options, warrants and rights	Number of securities to be issued upon vesting of outstanding restricted stock units	Number of securities remaining available for future issuance under equity compensation plans <sup>(1)(2)</sup>
Equity compensation plans approved by security holders . . . . .	5,390,270	\$11.55	5,294,803	2,559,213
Equity compensation plans not approved by security holders . . . . .	—	\$ —	—	—
Total . . . . .	<u>5,390,270</u>	<u>\$11.55</u>	<u>5,294,803</u>	<u>2,559,213</u>

(1) Includes 2,359,750 shares reserved for future issuance under our 2010 Equity Incentive Plan and 199,463 shares reserved for future issuance under our 2010 Employee Stock Purchase Plan. No shares are reserved for future issuance under our 2005 Stock Option/Stock Issuance Plan other than shares issuable upon exercise of equity awards outstanding under such plan.

(2) Effective January 1, 2019, the number of shares available for future issuance under our 2010 Equity Incentive Plan increased by 3,828,241 shares pursuant to the automatic increase provision contained in the 2010 Equity Incentive Plan and the number of shares available for future issuance under our 2010 Employee Stock Purchase Plan increased by 382,824 shares, in each case pursuant to automatic increase provisions contained in the respective plans, as discussed in more detail below.

Our 2010 Equity Incentive Plan includes all shares of our common stock reserved for issuance under our 2005 Stock Option/Stock Issuance Plan immediately prior to our initial public offering that were not subject to outstanding grants as of the completion of such offering. In addition, any shares of our common stock (i) issuable upon exercise of stock options granted under our 2005 Stock Option/Stock Issuance Plan that cease to be subject to such options and (ii) issued under our 2005 Stock Option/Stock Issuance Plan that are forfeited or repurchased by us at the original issue price, will become part of our 2010 Equity Incentive Plan reserve.

The number of shares available for grant and issuance under our 2010 Equity Incentive Plan is increased on January 1 of each year during the term of the plan by an amount equal to the lesser of (1) five percent (5%) of our shares outstanding on the immediately preceding December 31 and (2) a number of shares as may be determined by the Board or the Leadership Development and Compensation Committee of the Board in their discretion. In addition, shares will again be available for grant and issuance under our 2010 Equity Incentive Plan that are:

- subject to issuance upon exercise of an option or stock appreciation right granted under our 2010 Equity Incentive Plan and that cease to be subject to such award for any reason other than the award's exercise;

- subject to an award granted under our 2010 Equity Incentive Plan and that are subsequently forfeited or repurchased by us at the original issue price;
- surrendered pursuant to an exchange program; or
- subject to an award granted under our 2010 Equity Incentive Plan that otherwise terminates without shares being issued.

The number of shares reserved for issuance under our 2010 Employee Stock Purchase Plan is increased on January 1 of each year during the term of the plan by an amount equal to the lesser of (1) one percent (1%) of our shares outstanding on the immediately preceding December 31 and (2) a number of shares as may be determined by the Board or the Leadership Development and Compensation Committee of the Board in their discretion, provided that the aggregate number of shares issued over the term of our 2010 Employee Stock Purchase Plan shall not exceed 1,666,666 shares.



## EXECUTIVE OFFICERS

The following table provides the names, ages and offices of each of our current executive officers:

<u>Name</u>	<u>Age</u>	<u>Position</u>
John Melo	53	Director, President and Chief Executive Officer
Eduardo Alvarez	55	Chief Operating Officer
Kathleen Valiasek	56	Chief Business Officer
Nicole Kelsey	53	General Counsel and Secretary
Jonathan Wolter	69	Interim Chief Financial Officer

### ***John Melo***

See above under “Proposal 1 — Election of Directors — Business Experience and Qualifications of Directors.”

### ***Eduardo Alvarez***

Eduardo Alvarez has served as our Chief Operating Officer since October 2017. Mr. Alvarez has over 30 years of global operations experience both running and advising growth companies. Previously, he served as Global Operations Strategy Leader for PricewaterhouseCoopers LLP (PwC). During his tenure, Mr. Alvarez co-led the integration of his prior company, Booz & Company, following its acquisition by PwC. In that role, he grew operations into a global practice with \$1.5 billion in revenue and 4,000 employees. Mr. Alvarez’s assignments focused on delivering structural cost improvements while also driving sustained revenue growth. His experience also includes roles at Booz Allen Hamilton, General Electric and AT&T. Alvarez holds a Master of Business Administration from Harvard Business School, a Master of Science in Mechanical Engineering in computer control and manufacturing from the University of California, Berkeley, and a Bachelor of Science degree in mechanical engineering from the University of Michigan. Mr. Alvarez is a board member of The Chicago Council of Global Affairs.

### ***Kathleen Valiasek***

Kathleen Valiasek has served as our Chief Business Officer since June 2019 and previously served as our Chief Financial Officer from January 2017 to June 2019. Prior to joining us, Ms. Valiasek served as Chief Executive Officer of a finance and strategic consulting firm she founded in 1994, and in this capacity she worked closely with the senior management teams of fast-growing companies including start-ups, venture-backed and Fortune 500 companies. Prior to this, she served in key venture capital, real estate development and accounting roles. Ms. Valiasek holds a Bachelor of Business Administration degree from the University of Massachusetts, Amherst.

### ***Nicole Kelsey***

Nicole Kelsey has served as our General Counsel and Secretary since August 2017. Her areas of expertise range from U.S. securities laws, to international M&A and corporate governance. Prior to joining Amyris, she served as General Counsel and Secretary of Criteo, a global leader in commerce marketing based in Paris, for over three years. Prior to joining Criteo, Ms. Kelsey was the senior securities lawyer for Medtronic, a global leader in medical technology; she served as head M&A attorney for CIT Group, Inc.; was the general counsel of a private merchant bank; and worked for the international conglomerate Vivendi. Before going in-house, Ms. Kelsey practiced with the law firms of White & Case and Willkie, Farr & Gallagher, in Paris and New York. A Fulbright scholar, Ms. Kelsey holds a J.D. from Northwestern University and a B.A. from The Ohio State University.

### ***Jonathan Wolter***

Jonathan Wolter has served as our Interim Chief Financial Officer since June 2019. His areas of expertise include financial management, operations, audit, internal controls, SEC reporting and compliance. Since 2004, he has served as a partner with FLG Partners LLC (FLG), where he has been retained as CFO by the boards of multiple public and private companies. Prior to joining FLG, Mr. Wolter was international

controller with KPMG Consulting, where he also served as CFO of the firm's Latin America operations. Previously, Mr. Wolter held CFO and controller roles with public and private companies and also served as senior audit manager with Arthur Andersen & Co. His experience spans the biotechnology, technology, electronics, manufacturing, engineering and banking sectors.

## EXECUTIVE COMPENSATION

### Compensation Discussion and Analysis

The following discussion describes and analyzes the compensation policies, arrangements and decisions for our named executive officers in 2018 and should be read in conjunction with the compensation tables contained elsewhere in this Proxy Statement. We believe our existing compensation policies, arrangements and decisions are consistent with our compensation philosophy and objectives discussed below and align the interests of our named executive officers with our short-term and long-term business objectives. During 2018, our named executive officers were:

- John Melo, our President and Chief Executive Officer (our “CEO”)
- Kathleen Valiasek, our Chief Financial Officer (Ms. Valiasek assumed the newly created role of Chief Business Officer to lead the CBD business and other business development efforts while continuing to lead the financing and investor relation activities effective June 3, 2019.)
- Joel Cherry, our President, Research and Development (Dr. Cherry resigned from the Company effective June 7, 2019.)
- Eduardo Alvarez, our Chief Operating Officer
- Nicole Kelsey, our General Counsel and Secretary

### *Compensation Philosophy and Objectives and Elements of Compensation*

The primary objectives of our executive compensation program in 2018 were to:

- Attract, retain, and motivate highly talented employees that are key to our success;
- Reinforce our core values and foster a sense of ownership, urgency and entrepreneurial spirit;
- Link compensation to individual, team, and company performance (as appropriate by employee level);
- Emphasize performance-based compensation for individuals who can most directly impact stockholder value; and
- Provide exceptional pay for delivering exceptional results.

Our success depends, among other things, on attracting and retaining executive officers with experience and skills in a number of different areas as we continue to drive improvements in our technology platform and production process, pursue and establish key commercial relationships, develop and commercialize products and establish a reliable supply chain and manufacturing organization.

Our business continues to be in an early stage of development, with cash management being one key consideration for our strategy and operations. Accordingly, for 2018, we intended to provide a competitive compensation program that would enable us to attract and retain the top executives and employees necessary to develop our business, while being prudent in the management of our cash and equity. Based on this approach, we continued to aim to balance and reward annual and long-term performance with a total compensation package that included a mix of both cash and equity. Our compensation program was intended to align the interests of our executive officers, key employees and stockholders and to drive the creation of stockholder value by providing long-term incentives through equity-based awards.

Our intent and philosophy in designing compensation packages at the time of hiring of new executives is based on providing compensation that we believe is sufficient to enable us to attract the necessary talent to grow our business, within prudent limitations as discussed above. Compensation of our executive officers after the initial period following their hiring is influenced by the amounts of compensation that we initially agreed to pay them, as well as by our evaluation of their subsequent performance, changes in their levels of responsibility, retention considerations, prevailing market conditions, our financial condition and prospects, and our attempt to maintain an appropriate level of internal pay parity in the compensation of existing executive officers relative to the compensation paid to more recently hired executives.

We compensate our executive officers with a combination of salaries, cash bonuses and equity awards. We believe this combination of cash and equity compensation, subject to strategic allocation among such components, is largely consistent with the forms of compensation provided by other companies with which we compete for executive talent, and, as such, matches the expectations of our executive officers and the market for executive talent. We also believe that this combination provides appropriate incentive levels to retain our executives, reward them for performance in the short term and induce them to contribute to the creation of value in Amyris over the long term. We view the different components of our executive compensation program as distinct, each serving particular functions in furthering our compensation philosophy and objectives, and, together, providing a holistic approach to achieving such philosophy and objectives.

**Base Salary.** We believe that we must maintain base salary levels that are sufficiently competitive to position us to attract and retain the executive officers we need and that it is important for our executive officers to perceive that over time they will continue to have the opportunity to earn a salary that they regard as competitive. The Leadership Development and Compensation Committee of our Board (the “LDCC” or the “Committee”) reviews and adjusts, as appropriate, the base salaries of our executive officers on an annual basis, and makes decisions with respect to the base salaries of new executives at the time of hire. In making such determinations, the Committee considers several factors, including our overall financial performance, the individual performance of the executive officer in question (including, for executives other than our CEO, the recommendation of our CEO based on a performance evaluation of the executive officer in question), the executive officer’s potential to contribute to our annual and longer-term strategic goals, the executive officer’s scope of responsibilities, qualifications and experience, competitive market practices for base salary, prevailing market conditions and internal pay parity.

**Cash Bonuses.** We believe the ability to earn cash bonuses should provide incentives to our executive officers to effectively pursue goals established by our Board and should be regarded by our executive officers as appropriately rewarding effective performance against these goals. For 2018, the LDCC adopted a cash bonus plan for our executive officers, the details of which are described below under “2018 Compensation.” The 2018 cash bonus plan included company performance goals and individual performance goals and was structured to motivate our executive officers to achieve our short-term financial and operational goals and to reward exceptional company and individual performance. In particular, our 2018 cash bonus plan was designed to provide incentives to our executive officers to achieve 2018 company financial and operational targets on a quarterly and annual basis, together with various key individual operational objectives that were considered for annual performance achievement. In general, target bonuses for our executive officers are initially set in their offer letters based on similar factors to those described above with respect to the determination of base salary. For subsequent years, target bonuses for our executive officers may be adjusted by the LDCC based on various factors, including any modifications to base salary, competitive market practices and the other considerations described above with respect to adjustments in base salary. Certain bonuses paid to our executive officers under our 2018 cash bonus plan were granted in the discretion of the Committee notwithstanding the Company’s failure to meet stated performance goals. See “2018 Compensation — Cash Bonuses” below for more information.

**Equity Awards.** Our equity awards are designed to be sufficiently competitive to allow us to attract and retain talented and experienced executives. In 2018, we granted both stock option and restricted stock unit (“RSU”) awards to our executive officers. Stock option awards for executive officers are granted with an exercise price equal to the fair market value of our common stock on the date of grant; accordingly, such stock option awards will have value to our executive officers only if the market price of our common stock increases after the date of grant. RSU awards represent the right to receive full-value shares of our common stock without payment of any exercise or purchase price. In 2018 we continued a practice that began in 2016 to place a greater emphasis on RSU awards, as compared to stock options, to increase the perceived value of equity awards granted to our executive officers. The relative weighting between the stock option and RSU awards granted to our executive officers is based on the LDCC’s review of market practices. In 2018, the LDCC approved special equity awards to our CEO consisting of a stock option subject to performance-based vesting conditions and RSUs with time-based vesting, as described in more detail below under “2018 Compensation — Equity Awards — 2018 CEO Equity Awards.”

We typically grant stock option awards with four-year vesting schedules. Stock option grants include a one year “cliff”, where the stock option award vests as to 25% of the shares of our common stock subject

to the award after one year, and monthly thereafter, subject to continued service through each vesting date. Our RSU awards have generally been granted with three-year vesting schedules, vesting as to 1/3<sup>rd</sup> of the units subject to the award annually, subject to continued service through each vesting date. We believe such vesting schedules are generally consistent with the option and RSU award granting practices of our peer group companies. In 2018, we granted stock option and/or RSU awards with non-standard vesting terms to certain of our executive officers, including our CEO, the details of which are described below under “2018 Compensation — Equity Awards.”

We grant equity awards to our executive officers in connection with their hiring, or, as applicable, their promotion from other roles at the Company. The size of initial equity awards is determined based on the executive’s position with us and takes into consideration the executive’s base salary and other compensation as well as an analysis of the grant and compensation practices of our peer group companies in connection with establishing our overall compensation policies. The initial equity awards are generally intended to provide the executive with an incentive to build value in the Company over an extended period of time, while remaining consistent with our overall compensation philosophy. Insofar as we have to date incurred operating losses and consumed substantial amounts of cash in our operations, and to compensate for cash salaries and cash bonus opportunities that were, in certain cases, lower than those offered by competing employers, we have sought to attract executives to join us by granting equity awards that would have the potential to provide significant value if we are successful.

We grant additional equity awards in recognition of commendable performance, in connection with significant changes in responsibilities, and/or in order to better ensure appropriate retention and incentive opportunities from time to time. Further, equity awards are a component of the annual compensation package of our executive officers. In 2018, the LDCC granted equity awards based on input from management regarding performance, to satisfy our retention objectives and other considerations. In approving such awards, the LDCC took into account various factors, including the responsibilities, past performance and anticipated future contribution of the executive officer, his or her overall compensation package, his or her existing equity holdings and practice at our peer group companies.

**Role of Stockholder Say-on-Pay Votes.** At our 2011, 2014 and 2017 annual meetings of stockholders, our stockholders voted, on an advisory basis, on the compensation of our named executive officers (commonly referred to as a “stockholder say-on-pay vote”). A majority of the votes cast were voted in favor of the non-binding advisory resolutions approving the compensation of our named executive officers as summarized in our 2011, 2014 and 2017 proxy statements. In 2017, 99% of the votes cast on the stockholder say-on-pay proposal approved, on a non-binding advisory basis, the compensation of our named executive officers as summarized in our 2017 proxy statement. The LDCC believes that this affirms our stockholders’ support of our approach to executive compensation, and, accordingly, did not materially change its approach to executive compensation in 2018 and does not intend to do so in 2019. In addition, in 2017 our stockholders approved, and our Board subsequently adopted, a three-year interval for conducting future stockholder say-on-pay votes. Accordingly, our stockholders will again vote, on an advisory basis, on the compensation of our named executive officers at our 2020 annual meeting of stockholders.

### ***Compensation Policies and Practices as They Relate to Risk Management***

The LDCC has determined, through discussions with management and Compensia at Committee meetings held in February 2018 and November 2018, that our policies and practices of compensating our employees, including our executive officers, are not reasonably likely to have a material risk to us. The assessments conducted by the Committee focused on the key terms of our bonus plans and equity compensation programs in 2018, and our plans for such programs in 2019. Among other things, the Committee focused on whether our compensation programs created incentives for risk-taking behavior and whether existing risk mitigation features and policies were sufficient in light of the overall structure and composition of our compensation programs. Among other things, the Committee considered the following aspects of our overall compensation program:

- Our base salaries are generally high enough to provide our employees with sufficient income so that they are not dependent on bonus income to meet their basic cost of living.
- Cash bonus targets are typically 10 – 20% of an employee’s base salary (40 – 100% for our

executive officers), which we believe provides balanced incentives for performance, but does not encourage excessive risk taking to achieve such goals. For 2019, most employees were removed from participation in the Company's 2019 cash bonus plan and received an increase in their base salary in consideration of such removal. Executive officers (including our named executive officers) will continue to participate in the Company's 2019 cash bonus plan.

- For key employees, our 2018 cash bonus plan (as discussed in more detail below under "2018 Compensation — Cash Bonuses") emphasized company performance over individual performance objectives and provided for a maximum total bonus funding available for payout of 165% of target funding, with payouts ranging from 0% to 255% of an individual's annual target bonus depending on company and individual performance. Our 2019 cash bonus plan applies only to certain key employees (including our executive officers) and provides for a maximum total bonus funding available for payout of 150% of target funding, with payouts ranging from 0% to 225% of an individual's annual target bonus depending on company and individual performance.
- Generally, we do not provide commission or similar compensation programs to our employees. However, starting in 2016 we implemented a cash incentive plan for certain employees involved in sales activities. In 2018, we implemented additional incentive plans for certain employees involved in business development activity. The incentive plans in 2018 for these employees provided what we viewed as moderate leverage, in which approximately 60 – 70% of the employee's cash compensation was base salary and approximately 30 – 40% was commission-based, depending on the nature of the role.
- For our executive officers, in 2018 we targeted the 50<sup>th</sup> percentile of our competitive market for total cash compensation and between the 50<sup>th</sup> and 75<sup>th</sup> percentiles of our competitive market (subject to company performance and affordability within dilution constraints) for equity compensation, which typically was to vest over three to four years, providing our executives with significant incentives for our longer-term success. For 2019, we are maintaining the same targets as 2018 for total cash and equity compensation for our executive officers.

Based on these considerations, the Committee determined that our compensation programs, including our executive and non-executive compensation programs, provide an appropriate balance of incentives and do not encourage our executives or other employees to take excessive risks or otherwise create risks that are likely to have a material adverse effect on us.

**Role of Compensation Consultant.** In connection with an annual review of our executive compensation program for 2018, the LDCC retained Compensia, a national compensation consulting firm, to provide advice and guidance on our executive compensation policies and practices and relevant information about the executive compensation practices of similarly situated companies. In 2018, Compensia assisted in the preparation of materials for executive compensation proposals in advance of Committee meetings, including 2018 compensation levels for our executive officers and the design of our cash bonus, equity, severance and change of control programs and other executive benefit programs. Compensia also reviewed and advised the LDCC on materials relating to executive compensation prepared by management for Committee consideration. In addition, in the fourth quarter of 2017, Compensia assisted the LDCC in developing our compensation peer group for 2018 (as discussed below). The LDCC retained Compensia again in the fourth quarter of 2018 to provide assistance with respect to our 2019 compensation planning, including updates to our compensation peer group.

Compensia, under the direction of the LDCC, may continue to periodically conduct a review of the competitiveness of our executive compensation programs, including base salaries, cash bonus opportunities, equity awards and other executive benefits, by analyzing the compensation practices of companies in our compensation peer group, as well as data from third-party compensation surveys. Generally, the LDCC uses the results of such analyses to assess the competitiveness of our executive officers' total compensation, and to determine whether each component of such total compensation is properly aligned with reasonable and responsible practices among our peer companies.

The LDCC also retained Compensia for assistance in reviewing and making recommendations to our Board regarding the compensation program for our non-employee directors when it was originally adopted in late 2010 and again when such program was subsequently amended in December 2015 and November 2016, and to provide market data and materials to the Committee.

In September 2017 and November 2018, the LDCC reviewed the independence of Compensia under applicable compensation consultant independence rules and standards and determined that Compensia had no conflict of interest with Amyris.

### ***Compensation Decision Process***

Under the charter of the LDCC, our Board has delegated to the Committee the authority and responsibility to discharge the responsibilities of the Board relating to the compensation of our executive officers. This includes, among other things, review and approval of the compensation of our executive officers and of the terms of any compensation agreements with our executive officers. For more information regarding the functions and composition of the LDCC, please refer to “Proposal 1 — Election of Directors — Committees of the Board” above.

In general, the LDCC is responsible for the design, implementation and oversight of our executive compensation program. In accordance with its charter, the Committee determines the annual compensation of our CEO and other executive officers and reports its compensation decisions to our Board. The Committee also administers our equity compensation plans, including our 2010 Equity Incentive Plan (the “2010 EIP”) and 2010 Employee Stock Purchase Plan. Generally, our Human Resources, Finance and Legal departments work with our Chief Executive Officer to design and develop new compensation programs applicable to our executive officers and non-employee directors, to recommend changes to existing compensation programs, to recommend financial and other performance targets to be achieved under those programs, to prepare analyses of financial data, to prepare peer compensation comparisons and other committee briefing materials, and to implement the decisions of the Committee. Members of these departments and our Chief Executive Officer also meet separately with Compensia to convey information on proposals that management may make to the LDCC, as well as to allow Compensia to collect information about Amyris to develop its recommendations. In addition, our Chief Executive Officer conducts reviews of the performance and compensation of our other executive officers, and based on these reviews and input from Compensia and our Human Resources department, makes recommendations regarding compensation for such executive officers directly to the Committee. For our CEO’s compensation, Compensia reviews relevant market data with the Chair of the LDCC, as well as the performance of our CEO, and based on such review makes a recommendation regarding our CEO’s compensation, which is then presented to the LDCC. None of our executive officers participated in the determinations or deliberations of the LDCC regarding the amount of any component of his or her own 2018 compensation.

**Use of Competitive Data.** To monitor the competitiveness of our executive officers’ compensation, in November 2017 the LDCC approved a compensation peer group (the “Peer Group”) to be used in connection with its 2018 compensation discussions that analyzed the compensation of executive officers in comparable positions at similarly-situated companies. The data gathered from the Peer Group was used as a reference in setting executive pay levels (including cash and equity compensation), non-employee director compensation, incentive plan practices, severance and change-in-control practices, equity utilization and pay/performance alignment. The Peer Group was composed of a cross-section of publicly-traded, U.S.-based companies of similar size to us (based on revenue, enterprise value, number of employees and R&D expenditures) from related industries (biotechnology, oil, gas and consumable fuels, chemicals, food products, personal products and household products). Based on these criteria, the following companies were included in the Peer Group approved by the LDCC for use in assessing the market position of our executive compensation for 2018:

#### **2018 Peer Group**

- American Vanguard
- Balchem
- BioAmber
- Codexis
- Innospec
- Intrexon

- Kraton Performance Polymers
- Landec
- Renewable Energy Group
- Rentech
- Senomyx
- TerraVia Holdings (formerly Solazyme)
- Yield10 Bioscience (formerly Metabolix)

In November 2018, the LDCC conducted a review of the Peer Group for 2019. Similar to our approach for developing the 2018 Peer Group, we identified potential peers by screening publicly-traded, U.S.-based companies of similar size to us (based on revenue, enterprise value, number of employees and R&D expenditures) from related industries (biotechnology and pharmaceuticals, life sciences tools and services, oil, gas and consumable fuels, chemicals, food products, personal products and household products). Based on such analysis, the LDCC removed BioAmber, Kraton, Renewable Energy Group, Rentech, Senomyx, TerraVia Holdings and Yield10 Bioscience from the Peer Group for 2019 due to their financial profile, relevance and/or recent acquisition, and added Calyxt, Cambrex, e.l.f. Beauty, Hawkins, Innophos Holdings, International Flavors & Fragrances, Medifast, Phibro Animal Health, Sensient Technologies, Trecora Resources and USANA Health Sciences.

In addition to reviewing the compensation practices of the Peer Group, the LDCC looks to the collective experience and judgment of its members and advisors, as well as relevant industry survey data, in determining total compensation and the various compensation components provided to our executive officers. While the LDCC does not believe that the Peer Group data is appropriate as a stand-alone tool for setting executive compensation due to the unique nature of our business, it believes that this information is a valuable reference source during its decision-making process.

**Target Compensation Levels.** For 2018 the LDCC generally targeted the 50<sup>th</sup> percentile of our competitive market for total cash compensation (base salary and target cash bonus), as determined based on the Peer Group, supplemented by data from relevant industry surveys. The Committee chose the 50<sup>th</sup> percentile for total cash compensation in part because we are still in the early stages of product development and therefore need to conserve our cash while we ramp up our operations. Equity has been a critical and prominent component in our overall compensation package and we believe that it will remain an important tool for attracting, retaining and motivating our key talent by providing an opportunity for wealth creation as a result of our long-term success, particularly while we are growing our business. As a result, for 2018 the LDCC targeted equity compensation levels between the 50<sup>th</sup> and the 75<sup>th</sup> percentile (subject to company performance and affordability within dilution constraints) of our competitive market for equity compensation based on the Peer Group, supplemented by data from relevant industry surveys, and taking into consideration the LDCC approved targeted annual burn rate.

To this end, the LDCC approved annual equity awards for Ms. Valiasek, Dr. Cherry and Ms. Kelsey in May 2018 based primarily on the foregoing strategy. In addition, in April 2018 the LDCC approved special equity awards for our CEO, the details of which are described below under “2018 Compensation — Equity Awards — 2018 CEO Equity Awards” and in May 2018 the LDCC approved an equity award for Mr. Alvarez of 250,000 RSUs in accordance with the terms of his employment offer letter with the Company entered into in October 2017. Each of such awards was conditioned on the approval by our stockholders of certain amendments to the 2010 EIP to, among other things, increase the annual per-participant award limit thereunder, which amendments were approved by our stockholders in May 2018. In determining the size of the annual equity grants and the 2018 CEO Equity Awards, the LDCC considered the retention value of existing awards held by our named executive officers (taking into account option exercise prices and the prevailing market value of our common stock), the executives’ overall compensation packages, practice at peer companies and the responsibilities, performance, anticipated future contributions and retention risk of our named executive officers. In 2018, the equity awards granted to certain of our executive officers were larger than in prior years, in part due to the low retention value of existing awards held by such officers.



For 2019, we expect to continue to target the same percentiles for execution compensation as we have in 2018, as determined based on the Peer Group, supplemented by data from relevant industry surveys, which approach the LDCC approved in November 2018.

### *2018 Compensation*

**Background.** In designing the compensation program and making decisions for our executive officers for 2018, the Committee sought to balance achievement of critical operational goals with retention of key personnel, including our executive officers. Accordingly, the Committee focused in particular on providing a strong equity compensation program in order to provide strong retention incentives through challenging periods. It also focused on cash management in setting target total cash compensation (and associated salary and bonus target levels) for our executive officers. Another key theme for 2018 was establishing strong incentives to drive our performance, including continued emphasis on company performance goals over individual goals in the 2018 cash bonus plan and on equity compensation for longer-term upside potential and sharing in company growth.

**Base Salaries.** In February 2018, the LDCC reviewed the base salaries, bonus targets and target total cash compensation of our executive officers against the Peer Group, as supplemented by relevant industry survey data, and, as a result of such analysis, as well as consideration of the factors described above under “Compensation Philosophy and Objectives and Elements of Compensation — Base Salary,” determined that no base salary adjustments were needed to ensure competitive base salaries for our executive officers.

**Cash Bonuses.** The LDCC adopted a 2018 cash bonus plan for our executive officers in February 2018. Under the plan, our executive officers were eligible for bonuses based on the achievement of company metrics for each quarter in 2018, with a portion of their target bonus allocated to annual company and individual performance. The 2018 cash bonus plan was intended to provide a balanced focus on both our long-term strategic goals and shorter-term quarterly operational goals. The 2018 cash bonus plan provided for funding and payout of cash bonus awards based on our quarterly and annual performance during 2018 under pre-established metrics set by the LDCC for each quarter and for the year. Payouts, if any, under the 2018 cash bonus plan were made following a review of our results and performance each quarter and, for the annual component, a review occurred in February 2019 with respect to the annual performance of the Company as well as each individual’s performance. The 2018 cash bonus plan provided for a 50% weighting for quarterly achievement (with each quarter worth 12.5% of the total bonus fund for the year) and 50% for full year 2018 achievement.

The total funding possible under the 2018 cash bonus plan was based on a cash value (or the “target bonus fund”) determined by the executive officers’ target bonus levels. Target bonus levels for our executive officers in 2018 varied by individual, but were generally set between 40% and 100% of their annual base salary. In February and May 2018, the LDCC reviewed our executive officers’ bonus targets as part of its review of target total cash compensation for similar roles among executive officers at companies in the Peer Group, as supplemented by relevant industry survey data, and, as a result of such analysis, as well as consideration of the factors described above under “Compensation Philosophy and Objectives and Elements of Compensation — Cash Bonuses,” approved increases to the target bonus level for one of our executive officers, Ms. Valiasek, from 40% to 50% of annual base salary effective January 1, 2018 and from 50% to 80% of annual base salary effective April 1, 2018.

The quarterly and annual funding of the 2018 cash bonus plan was based on achievement of the following company performance metrics for the applicable quarter and full year 2018, respectively (as determined by the LDCC and, in the case of quarterly funding, as applicable for the quarter based on our operating plan): GAAP revenue (weighted 50%), gross margin (weighted 50%) and earnings before interest, tax, depreciation and amortization (“EBITDA”) (providing an additional valuation metric at +/-20% for the annual bonus funding). For each quarterly period and for the annual period under the 2018 cash bonus plan, “threshold,” “target” and “superior” performance levels were set for each applicable performance metric, which performance levels were intended to capture the relative difficulty of achievement of that metric.

If we did not achieve at least a 70% weighted average achievement level of the applicable performance metrics described above that achieved at least the “threshold” performance level for a given bonus plan period (the “funding threshold”), no funding would occur for such period. If we achieved the funding

threshold level, 70% funding would occur. For a weighted average achievement between the funding threshold level and “target” level, a pro rata increase in funding would occur up to 100% of the target bonus fund allocated to such period. For weighted average achievement above the target level, an increase in funding of 1.67% of the target bonus fund for every 1% above target performance would occur up to 150% of the target bonus fund for the applicable bonus plan period, provided that the annual bonus funding would be subject to further adjustment based on the achievement of an annual EBITDA target, which could increase the annual bonus funding up to 180% of target.

Any payouts for the quarterly bonus periods would be the same as the funded level (provided the recipient meets eligibility requirements), subject to the final discretion of the Committee. Payouts for the annual bonus period would be made from the aggregate funded amount in the discretion of the Committee based on company and individual performance, and could range from 0% to 200% of an individual’s funded amount for the annual bonus period. The Committee chose to emphasize company performance goals for the quarterly and annual bonus plan periods given the critical importance of our short term strategic goals, but also to retain reasonable incentives and rewards for exceptional individual performance, recognizing the value of such incentives and rewards to our operational performance and to individual retention. For 2018, the LDCC set the following target bonus levels for our named executive officers:

Name	Target Bonus (\$)
John Melo . . . . .	600,000
Kathleen Valiasek <sup>(1)</sup> . . . . .	304,500
Joel Cherry . . . . .	187,500
Eduardo Alvarez . . . . .	400,000
Nicole Kelsey . . . . .	158,000

(1) Ms. Valiasek’s target bonus level was increased from 40% to 50% of annual base salary effective January 1, 2018 and from 50% to 80% of annual base salary effective April 1, 2018. Ms. Valiasek assumed the newly created role of Chief Business Officer to lead the CBD business and other business development efforts while continuing to lead the financing and investor relation activities effective June 3, 2019.

Based on the foregoing bonus plan structure, individual bonuses were awarded each quarter based on the LDCC’s assessment of company achievement, and with respect to the annual bonus, the LDCC’s assessment of company achievement as well as each executive officer’s contributions to such achievement, his or her progress toward achieving his or her individual goals, and his or her demonstrating our core values. Actual payment of any bonuses with respect to 2018 remained subject to the final discretion of the Committee. In 2018, the Committee exercised its discretion under the bonus plan to pay awards to certain of our named executive officers with respect to the third quarter and annual period of 2018, notwithstanding the Company’s failure to achieve the funding threshold level under the bonus plan for such periods. The Committee determined that such bonus awards were consistent with the spirit of the bonus plan and were appropriate in light of the Company’s progress towards its goals and objectives.

*Company Performance Goals.* Company performance during 2018 was measured and weighted against quarterly and annual targets established for GAAP revenue and gross margin and an annual target established for EBITDA. The quarterly and annual weighting and achievement for each applicable metric are described below.

These targets were initially discussed with our Board and the LDCC in the second half of 2017. The annual and first quarter targets were adopted in February 2018, and the second, third and fourth quarter targets were adopted at subsequent meetings of the Committee during 2018. The applicable targets were discussed and evaluated each quarter in 2018 and in February 2019 based on quarterly and annual performance (in February 2019, the LDCC discussed and evaluated the fourth quarter as well as the full year 2018 results) and continued development of our business and operating plans for 2018 and beyond. In November 2018, the Committee modified the annual target for GAAP revenue based on a change to our 2018 operating plan. Achievement levels were determined in the discretion of the LDCC following each period under the 2018 cash bonus plan.

*Degree of Difficulty in Achieving Performance Goals.* The LDCC considered the likelihood of achievement when recommending and approving, respectively, the Company and individual performance goals and bonus plan structures for each of the 2018 cash bonus plan periods, but it did not undertake a detailed statistical analysis of the difficulty of achievement of each measure. For 2018, the Committee considered the 70% weighted average achievement level to be attainable with normal effort, 100% to be challenging but achievable with significant effort, requiring circumstances to align as predicted, and any amounts in excess of 100% to be difficult to achieve, requiring additional sources of revenue, breakthroughs in technology, manufacturing operations, process development or business development, and exceptional levels of effort on the part of the executive team, as well as favorable external conditions.

*2018 Quarterly and Annual Bonus Plan Funding and Award Decisions.* In each of May 2018, August 2018, November 2018 and February 2019, the LDCC determined that our quarterly and annual performance goals were achieved as follows:

Company Performance Goal	Weight	Weighted Achievement Level	Funding Level
<b>Q1</b>			
GAAP Revenue . . . . .	50%	62%	
Gross Margin . . . . .	50%	51%	
<b>Total Q1 . . . . .</b>	<b><u>100.0%</u></b>	<b><u>113%</u></b>	<b><u>121.7%</u></b>
<b>Q2</b>			
GAAP Revenue . . . . .	50%	0%	
Gross Margin . . . . .	50%	65%	
<b>Total Q2 . . . . .</b>	<b><u>100.0%</u></b>	<b><u>65%</u></b>	<b><u>0%</u></b>
<b>Q3</b>			
GAAP Revenue . . . . .	50%	0%	
Gross Margin . . . . .	50%	0%	
<b>Total Q3 . . . . .</b>	<b><u>100.0%</u></b>	<b><u>0%</u></b>	<b><u>75.0%<sup>(1)</sup></u></b>
<b>Q4</b>			
GAAP Revenue . . . . .	50%	43%	
Gross Margin . . . . .	50%	57%	
<b>Total Q4 . . . . .</b>	<b><u>100.0%</u></b>	<b><u>100%</u></b>	<b><u>100.0%</u></b>
<b>ANNUAL</b>			
GAAP Revenue . . . . .	50%	0%	
Gross Margin . . . . .	50%	62%	
EBITDA . . . . .	+/-20%	-20%	
<b>Total Annual . . . . .</b>	<b><u>100.0%</u></b>	<b><u>50%</u></b>	<b><u>71.2%<sup>(2)</sup></u></b>

(1) In November 2018, the LDCC approved bonus funding for the third quarter of 2018 at 75% of target for all eligible employees, except our CEO, notwithstanding the Company's failure to meet the funding threshold for such quarter.

(2) In February 2019, the LDCC approved bonus funding for the annual period of 2018 at 71.2% of target for all eligible employees, notwithstanding the Company's failure to meet the funding threshold for such period.

In April 2019, we announced that we would restate our interim condensed consolidated financial statements for the quarterly and year-to-date periods ended March 31, 2018, June 30, 2018 and September 30, 2018, included in our Quarterly Reports on Form 10-Q for the fiscal quarters ended

March 31, 2018, June 30, 2018 and September 30, 2018 (the “2018 10-Qs”), respectively. We have restated such financial statements in our Annual Report on Form 10-K for the fiscal year ended December 31, 2018. The LDCC is in the process of reviewing its determinations regarding the achievement of our quarterly and annual performance goals under the 2018 cash bonus plan in light of such restatement.

*Individual Performance Goals.*

For the annual portion of the 2018 cash bonus plan tied to individual performance, the Committee considered several factors, including the following:

- For our CEO, the achievement of growing GAAP revenue, gross margin and EBITDA, improving employee engagement, maintaining a safe work environment, executive leadership and living our values.
- For Ms. Valiasek, the achievement of meeting quarterly financial targets, developing a corporate tax strategy and debt reduction plan, improving finance department performance, executive leadership and living our values.
- For Dr. Cherry, the achievement of assisting in developing new technology projects, managing operating expenses, growing our technology leadership, improving R&D employee engagement, meeting technical targets, executive leadership and living our values.
- For Mr. Alvarez, the achievement of meeting our production and fulfillment plan, managing costs, overseeing construction of a new production facility in Brazil, taking on additional operational roles and accountabilities, executive leadership and living our values.
- For Ms. Kelsey, the achievement of managing legal elements of global expansion, developing a corporate intellectual property policy, improving board organization and financial disclosure processes, improving legal department performance, executive leadership and living our values.

The Committee considered a variety of factors in determining, in its discretion, to award payouts under the 2018 cash bonus plan. In addition to the levels of company achievement (for the quarterly and annual portions) and individual performance (for the annual portion) categories, the Committee considered our cash needs as well as the level of performance of each named executive officer in achieving company results and their respective assigned individual goals. Based on the foregoing, and taking into account the factors described above, the Committee approved the following cash bonus awards under the 2018 cash bonus plan:

<b>Name</b>	<b>2018 Cumulative Quarterly Bonus Payouts (\$)</b>	<b>2018 Annual Portion Bonus Payout (\$)</b>	<b>2018 Aggregate Annual and Quarterly Bonus Payouts (\$)</b>	<b>Annual Bonus Target (\$)</b>	<b>2018 Actual Bonus Earned as a % of Target Bonus</b>
John Melo . . . . .	166,275	192,240	358,515	600,000	60
Kathleen Valiasek . . . . .	105,447	97,562	203,009	304,500	67
Joel Cherry . . . . .	69,542	73,425	142,967	187,500	76
Eduardo Alvarez . . . . .	148,350	156,640	304,990	400,000	76
Nicole Kelsey . . . . .	58,601	50,624	109,225	158,000	69

We believe that the payment of these awards was appropriate because the 2018 cash bonus plan appropriately held our named executive officers accountable for achievement of company and individual goals, and the payouts were reasonable and appropriate in light of our progress towards our business objectives.

In April 2019, we announced that we would restate our interim condensed consolidated financial statements for the quarterly and year-to-date periods ended March 31, 2018, June 30, 2018 and September 30, 2018, included in the 2018 10-Qs. We have restated such financial statements in our Annual Report on Form 10-K for the fiscal year ended December 31, 2018. The LDCC is in the process of reviewing its determinations regarding the awards paid to our named executive officers under the 2018 cash bonus plan in light of such restatement.

In addition to the payments under our 2018 cash bonus plan noted above, in October 2018 the Company paid a discretionary cash retention bonus to Dr. Cherry in the amount of \$50,000, which bonus payment was ratified and approved by the LDCC in February 2019.

**Equity Awards.** In May 2018, the LDCC approved annual equity awards for Ms. Valiasek, Dr. Cherry and Ms. Kelsey (the “Focal Awards”), as well as an equity award for Mr. Alvarez of 250,000 RSUs in accordance with the terms of his employment offer letter with the Company entered into in October 2017 (the “Alvarez 2018 Award”). In addition, in April 2018 the LDCC approved special equity awards for our CEO, as described below (the “CEO Equity Awards”). The Focal Awards, the Alvarez 2018 Award and the CEO Equity Awards consisted of the stock option and RSU awards set forth in the “Grants of Plan-Based Awards in 2018” table below. Each of such awards was conditioned on the approval by our stockholders of certain amendments to the 2010 EIP to, among other things, increase the annual per-participant award limit thereunder, which amendments were approved by our stockholders in May 2018.

With respect to the Focal Awards, the LDCC determined the allocation of equity awards between stock options and RSUs after consultation with Compensia, in evaluating the practices of our competitive market (including the Peer Group) and in consultation with management, taking into consideration, among other things, the appropriate balance between rewarding previous performance, retention objectives, upside value potential tied to our and the executive officer’s future performance and the mix of the executive officer’s current equity holdings. The size of the Focal Awards varied among the applicable named executive officers based on the value of unvested equity awards already held by him or her, his or her relative contributions during 2017 and anticipated levels of responsibility for key corporate objectives in 2018. Notwithstanding our target of between the 50<sup>th</sup> and the 75<sup>th</sup> percentile of our competitive market for equity compensation, the value of the Focal Awards was above the 75<sup>th</sup> percentile of our competitive market in consideration of the low retention value of existing awards held by such officers.

The allocation and size of the Alvarez 2018 Award was determined by his employment offer letter with the Company entered into in October 2017. Please see “2018 CEO Equity Awards” below for details regarding the determination of the allocation and size of the CEO Equity Awards.

Please see the “Grants of Plan-Based Awards in 2018” table below for more information regarding the award types and sizes, grant dates, exercise prices and vesting schedules of the Focal Awards, the Alvarez 2018 Award and the CEO Equity Awards.

#### *2018 CEO Equity Awards*

Because of the direct relationship between the value of our equity awards and the fair market value of our common stock, and in order to incentivize our CEO in a manner that aligns his interests with our long-term strategic direction and the interests of our stockholders and reduces the possibility of business decisions that favor short-term results at the expense of long-term value creation, in April 2018 the LDCC approved, with the support of the Board, a grant to our CEO of (i) an option to purchase 3,250,000 shares of our common stock, such award being subject to performance-based vesting conditions as described below (the “CEO Performance Option”), and (ii) 700,000 RSUs with the terms described below (the “CEO RSU” and together with the CEO Performance Option, the “CEO Equity Awards”). The grant of the CEO Equity Awards was contingent upon approval by our stockholders of both the CEO Equity Awards and certain amendments to the 2010 EIP to, among other things, increase the annual per-participant award limit thereunder, which approvals were obtained at our 2018 annual meeting of stockholders held on May 22, 2018. In accordance with our policy regarding equity award grant dates, the CEO Equity Awards were granted on May 29, 2018, the first business day of the week following the week in which such awards were approved, with the exercise price of the CEO Performance Option being set at \$5.08 per share, the closing price of our common stock on Nasdaq on such date, in accordance with the terms of the 2010 EIP.

**CEO Performance Option.** The CEO Performance Option is a performance-based nonqualified stock option and therefore the CEO will receive compensation from such stock option only to the extent that the Company achieves the applicable performance milestones.

**Performance Metrics & Vesting.** The CEO Performance Option is divided into four tranches as described in the table below (each a “Tranche”). Each of the four Tranches of the CEO Performance Option will vest on or after the applicable vesting date for the Tranche (the “Earliest Vesting Date”)

provided: (i) the Board or the LDCC certify that both the EBITDA Milestone and the Stock Price Milestone (collectively, the “Milestones”) for such Tranche have been met and (ii) Mr. Melo remains our CEO on the applicable vesting date. Any Milestone may be met before, at or after the applicable Earliest Vesting Date for a Tranche provided that the Milestone is met during its applicable Measurement Period. The EBITDA Measurement Period starts January 1, 2018 and ends December 31, 2021. The Stock Price Measurement Period starts January 1, 2018 and ends December 31, 2022. In the event that either the EBITDA Milestone or the Stock Price Milestone is not yet achieved for a Tranche, no shares attributable to such Tranche will be eligible to vest on such Tranche’s Earliest Vesting Date; provided, however, the Milestones will remain eligible to be achieved during the remaining EBITDA Measurement Period and Stock Price Measurement Period, as applicable. For clarity, upon the achievement of both the applicable EBITDA Milestone and Stock Price Milestone for a Tranche, the shares attributable to such Tranche may not vest until such Tranche’s Earliest Vesting Date, and only if Mr. Melo remains the CEO on such date. More than one Tranche may vest simultaneously provided that: the Earliest Vesting Date for each applicable Tranche has occurred, the requisite EBITDA Milestone and Stock Price Milestone for each applicable Tranche have been met and Mr. Melo continues as the CEO through the applicable date of vesting. The table below sets forth the number of shares, EBITDA Milestone, Stock Price Milestone and Earliest Vesting Date for each Tranche:

Tranche	Number of Shares	EBITDA Milestone (\$M)	Stock Price Milestone	Earliest Vesting Date
1	750,000	\$ 10	\$15	July 1, 2019
2	750,000	\$ 60	\$20	July 1, 2020
3	750,000	\$ 80	\$25	July 1, 2021
4	1,000,000	\$100	\$30	July 1, 2022

*EBITDA Milestone.* The EBITDA Milestone for a Tranche is achieved if Amyris’s EBITDA (as described below) equals or exceeds the EBITDA Milestone set forth in the table above for such Tranche for any fiscal year during the EBITDA Measurement Period. The EBITDA Measurement Period starts January 1, 2018 and ends December 31, 2021. The Board or the LDCC will measure and certify the level of achievement of the EBITDA Milestone as of the end of each fiscal year within the EBITDA Measurement Period.

For purposes of the EBITDA Milestone, “EBITDA” shall mean Amyris’s net (loss) income attributable to common stockholders for the relevant fiscal year during the EBITDA Measurement Period as determined in accordance with U.S. Generally Accepted Accounting Principles (“GAAP”) and as reported by Amyris in its audited financial statements contained in its Annual Report on Form 10-K for the relevant fiscal year filed with the SEC, plus interest expense (benefit), provision for income taxes, depreciation and amortization for the same fiscal year as reflected in the audited financial statements. For the avoidance of doubt, there will be no adjustment to the reported net (loss) income attributable to common stockholders for stock based compensation in determining EBITDA.

In the event of unusual non-recurring events such as acquisition activities or divestitures of significant assets or changes in applicable accounting rules, as a result of which the calculation of Amyris’s EBITDA during the EBITDA Measurement Period is increased or decreased by 10% or more in determining Amyris’s audited financial statements contained in its Annual Report on Form 10-K filed with the SEC for the most recently completed fiscal year, the Board or, if the Board delegates authority to the LDCC, the LDCC may provide for one or more equitable adjustments to the EBITDA Milestones to preserve the original intent regarding the EBITDA Milestones at the time of the initial award grant.

As of the date of this Proxy Statement, none of the EBITDA Milestones for any of the Tranches had been achieved.

*Stock Price Milestone.* The Stock Price Milestone for a Tranche is achieved if each of (i) the average of the daily closing prices of our common stock on the Nasdaq Global Select Market for any one hundred and eighty (180)-consecutive day period starting at any time after the last day of the fiscal year in which the applicable EBITDA Milestone was achieved for the applicable Tranche and ending during the Stock Price Measurement Period and (ii) the average of the daily closing prices of our common stock on the Nasdaq

Global Select Market for a thirty (30)-consecutive day period ending on the date on which the 180-day average stock price set forth in the table is achieved for the applicable Tranche equals or exceeds the Stock Price Milestone for the applicable Tranche during the Stock Price Measurement Period. The Stock Price Measurement Period starts January 1, 2018 and ends December 31, 2022.

The Stock Price Milestone will be adjusted to reflect events such as a stock split or recapitalization in order to prevent diminution or enlargement of the benefits or potential benefits intended to be made available under the CEO Performance Option.

The LDCC considers the Stock Price Milestone to be a challenging hurdle and included the EBITDA Milestone to promote Amyris's continued focus on growth, sustainability and profitability. The LDCC selected EBITDA (as defined above) as the appropriate measure because it believes EBITDA is a metric that is commonly used for companies at this stage of development and because many of Amyris's stockholders use it to evaluate Amyris's performance and viability. It is a measure of cash generation from operations that does not disincentivize Amyris from making additional investments to grow further. The EBITDA Milestone is designed to ensure that Amyris maintains operating discipline but does not represent Amyris's target EBITDA for any future period. The LDCC included the Stock Price Milestone to drive sustained, long-term stockholder returns, and to further align Mr. Melo's compensation opportunity to long-term stockholder interests. In establishing the EBITDA Milestone and Stock Price Milestone, the LDCC carefully considered a variety of factors, including Amyris' growth trajectory and internal growth plans. The LDCC also reviewed special CEO equity awards approved by other public companies as a reference point for setting the magnitude and terms of the CEO Performance Option and CEO RSU.

As of the date of this Proxy Statement, none of the Stock Price Milestones for any of the Tranches had been achieved.

Term. The term of the CEO Performance Option is ten years from the date of the grant, unless Mr. Melo's employment with Amyris is terminated prior to such date. Accordingly, Mr. Melo will have ten years from the date of grant to exercise any portion of the CEO Performance Option that has vested on or prior to such date, provided that he remains employed at Amyris.

Post-Exercise Holding Period. Mr. Melo must hold at least fifty percent (50%) of the shares he acquires upon exercise of the CEO Performance Option (net of any shares sold to pay the exercise price and any tax withholding obligations with respect to the CEO Performance Option) for two years post-exercise.

The LDCC selected a two-year holding period in order to further align Mr. Melo's interests with Amyris stockholders' interests for two years following the exercise of any portion of the CEO Performance Option. Such alignment ensures that Mr. Melo will be focused on sustaining Amyris' success both before and after he exercises his CEO Performance Option.

Employment Requirement for Continued Vesting. Mr. Melo must continue to be employed as Amyris' CEO upon each vesting date in order for the corresponding Tranche to vest under the CEO Performance Option. If Mr. Melo is still employed at Amyris in a role other than CEO, he will no longer be able to vest under the CEO Performance Option but can continue to hold any unexercised, vested portion of the CEO Performance Option for the full term of the CEO Performance Option.

Termination of Employment. Except in the context of a change of control of Amyris, there will be no acceleration of vesting of the CEO Performance Option if the employment of Mr. Melo is terminated, or if he dies or becomes disabled. In other words, termination of Mr. Melo's employment with Amyris will preclude his ability to earn any then-unvested portion of the CEO Performance Option following the date of his termination.

Change of Control of Amyris. If Amyris experiences a change of control, such as a merger with or purchase by another company, vesting under the CEO Performance Option will not automatically accelerate.

In the event of a change of control, the performance under the CEO Performance Option will be determined as of the change of control. For this change of control determination, the EBITDA Milestone will be disregarded and a Stock Price Milestone relating to any Tranche that has not yet vested shall be achieved if the per share price (plus the per share value of any other consideration) received by the

Company's stockholders in the change of control equals or exceeds the applicable Stock Price Milestone. To the extent a Stock Price Milestone for a Tranche is achieved upon a change of control, the shares specified for such Tranche will be subject to time-based vesting (the "COC Time-Based Options"), and such COC Time-Based Options shall vest upon the later of the date of the change of control and the Earliest Vesting Date applicable to such Tranche, subject to Mr. Melo remaining the CEO on each such vesting date. To the extent a Stock Price Milestone for a Tranche is not achieved as a result of the change of control, such Tranche will be forfeited automatically as of the immediately prior to closing of the change of control and never shall become vested. Notwithstanding the foregoing, if Mr. Melo is terminated without cause or resigns for good reason in connection with the change of control, any then unvested COC Time-Based Options will accelerate, subject to Mr. Melo's satisfaction of certain terms and conditions, including, but not limited to delivery of a release of claims, pursuant to the Severance Plan (as defined below), the terms of which are described below under "Severance Plan" and "Potential Payments upon Termination and upon Termination Following a Change in Control."

In addition, if the successor or acquiring corporation (if any) of Amyris refuses to assume, convert, replace or substitute the CEO Performance Option in connection with a change of control, 100% of Mr. Melo's COC Time-Based Options shall accelerate and become vested effective immediately prior to the change of control.

The treatment of the CEO Performance Option upon a change of control is intended to align Mr. Melo's interests with Amyris's other stockholders with respect to evaluating potential change of control offers.

**Clawback.** In the event of a restatement of Amyris's financial statements previously filed with the SEC as a result of material noncompliance with financial reporting requirements ("restated financial results"), Amyris will require forfeiture (or repayment, as applicable) of the portion of the CEO Performance Option in excess of what would have been earned or paid based on the restated financial results.

**CEO RSU.** The CEO RSU will vest in four equal annual installments on July 1 of each of 2019, 2020, 2021 and 2022, subject to Mr. Melo's continued service on each vesting date. This four-year vesting schedule is longer than our typical three-year vesting schedule for RSUs granted to our executive officers and is intended to further align Mr. Melo's compensation opportunity to long-term stockholder interests and to promote retention and continuity in our business. Other than the vesting schedule, the terms of the CEO RSU are identical to other RSU awards granted to our executive officers.

**Severance Plan.** In November 2013, the LDCC adopted the Amyris, Inc. Executive Severance Plan (or the "Severance Plan"). The Severance Plan had an initial term of 36 months and thereafter will be automatically extended for successive additional one-year periods unless we provide six months' notice of non-renewal prior to the end of the applicable term. In May 2016, May 2017 and February 2018, the LDCC reviewed the terms of the Severance Plan and elected to allow it to automatically renew upon the expiration of its initial term in November 2016 and renewal terms in November 2017 and November 2018, respectively. The LDCC adopted the Severance Plan to provide a consistent and updated severance framework for our executive officers that aligns with peer practices. The terms of the Severance Plan, including the potential amounts payable under the Severance Plan and related defined terms, are described in detail below under "Potential Payments upon Termination and upon Termination Following a Change in Control." All of our named executive officers, and all senior level employees of Amyris that are eligible to participate in the Severance Plan (or, collectively, the "participants"), have entered into participation agreements to participate in the Severance Plan. Generally, the benefits under the Severance Plan supersede and replace any rights the participants have in connection with any change of control or severance benefits contained in such participants' employment offer letters, equity award agreements or any other agreement that specifically relates to accelerated vesting of equity awards; provided, that (i) our CEO is entitled to the rights and benefits provided for in the CEO Performance Option in connection with a change of control of Amyris, as described above and (ii) in the event of any conflict between the terms of the CEO Performance Option and Mr. Melo's participation agreement or the Severance Plan relating to accelerated vesting of equity awards, the terms of the CEO Performance Option would govern and control. In addition, Mr. Alvarez's participation agreement provides that in the event that prior to full vesting of Mr. Alvarez's



new hire equity awards, including the Alvarez 2018 Award (collectively, the “Alvarez New Hire Awards”), Mr. Alvarez’s employment with the Company terminates in circumstances entitling him to severance benefits under the Severance Plan, whether or not in connection with a change of control, then upon such termination the vesting and exercisability of each Alvarez New Hire Award will be automatically accelerated in full and the forfeiture provisions and/or company right of repurchase of each Alvarez New Hire Award will automatically lapse accordingly.

We believe that the Severance Plan appropriately balances our need to offer a competitive level of severance protection to our executive officers and to induce them to remain in our employ through the potentially disruptive conditions that may exist around the time of a change of control, while not unduly rewarding executive officers for a termination of their employment.

**Other Executive Benefits and Perquisites.** We provide the following benefits to our executive officers on the same basis as other eligible employees:

- health insurance;
- time off and sick days;
- life insurance and supplemental life insurance;
- short-term and long-term disability; and
- a Section 401(k) plan with an employer matching contribution.

We believe that these benefits are generally consistent with those offered by other companies with which we compete for executive talent.

Some of the executive officers whom we have hired, including Mr. Alvarez and Ms. Kelsey, held positions in locations outside of Northern California at the time they agreed to join us. We have agreed in these instances to pay certain relocation and travel expenses to these executive officers, including housing and rental car expenses. The amounts of relocation and travel expenses paid to our named executive officers are included in the “All Other Compensation” column of the “Summary Compensation Table” below and the related footnotes. Given the high cost of living in the San Francisco Bay Area relative to most other metropolitan areas in the United States, we believe that for us not to be limited to hiring executives located near our headquarters in Emeryville, California, we must be willing to offer to pay an agreed upon amount of relocation costs.

**Other Compensation Practices and Policies.** The following additional compensation practices and policies apply to our executive officers in 2018:

*Timing of Equity Awards.* The timing of equity awards has been determined by our Board or the LDCC based on our Board’s or the LDCC’s view at the time regarding the adequacy of executive equity interests in us for purposes of retention and motivation.

In March 2018 and November 2018, our Board and the LDCC, respectively, ratified our existing policy regarding equity award grant dates, fixing grant dates in an effort to ensure the integrity of the equity award granting process. This policy took effect beginning with equity awards granted after the original adoption of the policy in March 2011. Under the policy, equity awards are generally granted on the following schedule:

- For equity awards to ongoing employees, the grant date is set as the first business day of the week following the week in which the award is approved; and
- For equity awards to new hires, the grant date is set as the first business day of the week following the later of the week in which the award is approved or the week in which the new hire commences his or her employment.

*Tax Considerations.* Generally, Section 162(m) of the U.S. Internal Revenue Code (“Section 162(m)”) disallows a federal income tax deduction for public corporations of remuneration in excess of \$1 million paid for any fiscal year to their chief executive officer and up to three other executive officers (other than the chief financial officer) whose compensation is required to be disclosed to their stockholders under the Securities Exchange Act of 1934 because they are our most highly-compensated executive officers (“covered

employees”). Remuneration in excess of \$1 million is exempt from this deduction limit if it qualifies as “performance-based compensation” within the meaning of Section 162(m) with respect to taxable years beginning on or before December 31, 2017 and payable pursuant to a binding written agreement in effect on November 2, 2017.

To date, the Committee has not taken the deductibility limit imposed by Section 162(m) into consideration in setting compensation. However, the 2010 EIP includes various provisions designed to allow us to qualify stock options and other equity awards as “performance-based compensation” under Section 162(m), including a limitation on the maximum number of shares subject to awards that may be granted to an individual under the 2010 EIP in any one year. Among other requirements, for certain awards granted under the 2010 EIP to qualify as fully deductible performance-based compensation under Section 162(m), our stockholders were required to re-approve the 2010 EIP on or before the first annual meeting of stockholders at which directors were to be elected that occurred after the close of the third calendar year following the calendar year of our initial public offering. We sought and received such approval at our 2012 annual meeting of stockholders. Section 162(m) also requires re-approval of the 2010 EIP by stockholders after five years if the LDCC has retained discretion to select the criteria used to set performance goals under the 2010 EIP from year to year. The 2010 EIP permits the LDCC to choose from among several objective performance measures as the basis for the granting and/or vesting of “performance-based” equity compensation under the 2010 EIP. Accordingly, we sought and received such approval at our 2017 annual meeting of stockholders.

The exemption from Section 162(m)’s deduction limit for “performance-based compensation” has been repealed, effective for taxable years beginning after December 31, 2017, such that compensation paid to our covered employees in excess of \$1 million will not be deductible unless it qualifies for transition relief applicable to certain arrangements in place as of November 2, 2017. The LDCC cannot determine with certainty how the deduction limit of Section 162(m) may impact our executive compensation programs in future years. While the LDCC has not adopted a formal policy regarding tax deductibility of the compensation paid to our executive officers, tax deductibility under Section 162(m) is a factor in its compensation deliberations. However, because of ambiguities and uncertainties as to the application and interpretation of Section 162(m) and the regulations issued thereunder, including the uncertain scope of the transition relief for certain arrangements in place as of November 2, 2017 under the legislation repealing Section 162(m)’s exemption from the deduction limit, no assurance can be given that compensation intended to satisfy the requirements for exemption from Section 162(m) in fact will. The LDCC seeks to balance the cost and benefit of tax deductibility with our executive compensation goals designed to promote long-term stockholder interests, and therefore may, in its discretion, authorize compensation payments that do not consider the deductibility limit imposed by Section 162(m) when it believes that such payments are appropriate to attract and retain executive talent and to be in the best interests of the Company and our stockholders. Accordingly, we expect that a portion of our future cash compensation and equity awards to our executive officers will not be deductible under Section 162(m).

For example, with respect to the CEO Performance Option and CEO RSU described above, we expect that Mr. Melo always will be a covered employee for purposes of Section 162(m) of the Code. Therefore, in any given year in which Mr. Melo exercises all or part of the CEO Performance Option, or vests and is settled in any portion of the CEO RSU, we will be able to take a tax deduction of only \$1,000,000 or less, regardless of the amount of compensation recognized by Mr. Melo from the exercise of the CEO Performance Option or settlement of the CEO RSU.

*Compensation Recovery Policy.* Other than with respect to the CEO Performance Option, as described above, we do not have a formal policy regarding adjustment or recovery of awards or payments if the relevant performance measures upon which they are based are restated or otherwise adjusted in a manner that would reduce the size of the award or payment. Under those circumstances, our Board or the LDCC would evaluate whether adjustments or recoveries of awards or payments were appropriate based upon the facts and circumstances surrounding the restatement or other adjustment. We anticipate that our Board will adopt a policy regarding restatements in the future based on anticipated SEC and Nasdaq regulations requiring listed companies to have a policy that requires repayment of incentive compensation that was paid to current or former executive officers in the three fiscal years preceding any restatement due to material noncompliance with financial reporting requirements. As described above, we have restated our

interim condensed consolidated financial statements for the quarterly and year-to-date periods ended March 31, 2018, June 30, 2018 and September 30, 2018. In addition, we have restated our audited consolidated financial statements for the year ended December 31, 2017, which are contained in our Annual Report on Form 10-K for the fiscal year ended December 31, 2018. The LDCC is in the process of evaluating whether adjustments or recoveries of 2017 or 2018 awards or payments are appropriate based upon the facts and circumstances surrounding such restatements.

*Stock Ownership Policy.* We have not established stock ownership or similar guidelines with regard to our executive officers. All of our executive officers currently have a direct or indirect, through their stock option holdings, equity interest in our company and we believe that they regard the potential returns from these interests as a significant element of their potential compensation for services to us.

*Insider Trading Policy and Hedging Prohibition.* We have adopted an Insider Trading Policy that, among other things, prohibits our employees, officers and directors from trading in our securities while in possession of material, non-public information. In addition, under our Insider Trading Policy, our employees, officers and directors may not acquire, sell or trade in any interest or position relating to the future price of our securities (such as a put option, a call option or a short sale).

#### **Leadership Development and Compensation Committee Report\***

The Leadership Development and Compensation Committee has reviewed and discussed with management the “Compensation Discussion and Analysis” contained in this Proxy Statement. Based on this review and discussion, the Leadership Development and Compensation Committee recommended to the Board that the Compensation Discussion and Analysis be included in this Proxy Statement.

#### **Amyris, Inc. Leadership Development and Compensation Committee of the Board**

Carole Piwnica (Chair)  
Steven Mills  
Patrick Yang

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\* *The material in this report is not “soliciting material,” is not deemed “filed” with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of Amyris under the Securities Act or the Exchange Act, whether made before or after the date hereof and irrespective of any general incorporation language in any such filing.*

## Summary Compensation Table

The following table sets forth information regarding compensation earned by our named executive officers in 2018 and, where the individual was a named executive officer for the relevant prior year, 2017 and 2016.

Name and Principal Position	Year	Salary (\$)	Bonus (\$)	Stock Awards (\$) <sup>(1)</sup>	Option Awards (\$) <sup>(1)</sup>	Non-Equity Incentive Plan Compensation (\$) <sup>(2)</sup>	All Other Compensation (\$)	Total (\$)
<b>John Melo</b> <i>President and Chief Executive Officer</i>	2018	600,000	192,240 <sup>(3)</sup>	3,556,000	5,122,500	166,275	997 <sup>(4)</sup>	9,638,012
	2017	579,167 <sup>(5)</sup>	640,000 <sup>(6)</sup>	147,465	43,930	581,948	934 <sup>(7)</sup>	1,993,444
	2016	550,000	—	250,750	162,350	333,056	468 <sup>(8)</sup>	1,296,624
<b>Kathleen Valiasek</b> <sup>(9)</sup> <i>Chief Financial Officer</i>	2018	420,000	129,062 <sup>(10)</sup>	1,016,000	370,650	73,947	5,500 <sup>(11)</sup>	2,015,159
	2017	398,686 <sup>(12)(13)</sup>	45,000 <sup>(14)</sup>	137,623	126,996	163,085	4,310 <sup>(15)</sup>	875,700
<b>Joel Cherry</b> <sup>(16)</sup> <i>President, Research and Development</i>	2018	375,000	141,004 <sup>(17)</sup>	1,079,500	138,994	51,963	6,520 <sup>(18)</sup>	1,792,981
	2017	370,937 <sup>(19)</sup>	—	118,718	35,489	181,331	7,500 <sup>(20)</sup>	713,975
	2016	358,750	—	118,000	76,400	93,256	7,760 <sup>(21)</sup>	654,166
<b>Eduardo Alvarez</b> <i>Chief Operating Officer</i>	2018	400,000	194,140 <sup>(22)</sup>	1,270,000	—	110,850	2,437 <sup>(23)</sup>	1,977,427
	2017	91,026 <sup>(24)</sup>	—	202,300	62,886	91,026	396 <sup>(25)</sup>	447,634
<b>Nicole Kelsey</b> <i>General Counsel and Secretary</i>	2018	395,000	65,437 <sup>(26)</sup>	508,000	185,325	43,788	5,500 <sup>(27)</sup>	1,203,050
	2017	158,760 <sup>(28)</sup>	—	52,290	17,077	67,465	237,570 <sup>(29)</sup>	533,162

- (1) The amounts in the “Stock Awards” and “Option Awards” columns reflect the aggregate grant date fair value of such awards computed in accordance with FASB ASC Topic 718, excluding the effect of estimated forfeitures. The assumptions made in the valuation of the awards are discussed in Note 12, “Stock-based Compensation” of “Notes to Consolidated Financial Statements” in our Annual Report on Form 10-K for the fiscal year ended December 31, 2018. See the “Grants of Plan-Based Awards in 2018” table for additional information regarding stock and option awards granted to our named executive officers in 2018. These amounts do not correspond to the actual value that may be recognized by our named executive officers.
- (2) As required under applicable rules of the Securities and Exchange Commission, payments under our 2018 cash bonus plan are included in the column entitled “Non-Equity Incentive Plan Compensation,” as they were based upon the satisfaction of pre-established performance targets, the outcome of which was substantially uncertain.
- (3) Includes a cash bonus payment in the amount of \$192,240 under our 2018 cash bonus plan for the annual period approved by the LDCC in its discretion, notwithstanding the Company’s failure to meet the funding threshold for such period. See “Executive Compensation — Compensation Discussion and Analysis — 2018 Compensation — Cash Bonuses” above for more information.
- (4) Includes \$997 for taxes associated with long term disability insurance.
- (5) Mr. Melo’s annual base salary was increased from \$550,000 to \$600,000 effective June 1, 2017.
- (6) Includes certain discretionary cash bonuses paid to Mr. Melo in an aggregate amount of \$500,000 in recognition of exceptional individual performance, as well as a discretionary cash bonus paid to Mr. Melo in the amount of \$140,000 in recognition of the value lost on the voiding of certain equity awards granted to him in November 2015 that, when aggregated with other equity awards granted to him in 2015, inadvertently exceeded the annual per-participant award limit contained in the 2010 EIP.
- (7) Includes \$934 for taxes associated with long term disability insurance premiums.
- (8) Includes \$468 for taxes associated with long term disability insurance premiums.

- (9) Ms. Valiasek assumed the newly created role of Chief Business Officer to lead the CBD business and other business development efforts while continuing to lead the financing and investor relation activities effective June 3, 2019.
- (10) Includes certain cash bonus payments in an aggregate amount of \$129,062 under our 2018 cash bonus plan for the third quarter and annual period approved by the LDCC in its discretion, notwithstanding the Company's failure to meet the funding threshold for such periods. See "Executive Compensation — Compensation Discussion and Analysis — 2018 Compensation — Cash Bonuses" above for more information.
- (11) Includes \$5,500 for Section 401(k) plan employer matching contribution.
- (12) Ms. Valiasek joined us on January 4, 2017. The amount shown in the "Salary" column for 2017 represents a partial year's salary based on her January 4, 2017 start date.
- (13) Ms. Valiasek's annual base salary was increased from \$350,000 to \$420,000 effective April 1, 2017.
- (14) Includes a discretionary cash bonus paid to Ms. Valiasek in the amount of \$45,000 in recognition of exceptional individual performance.
- (15) Includes \$4,310 for Section 401(k) plan employer matching contribution.
- (16) Dr. Cherry resigned from the Company effective June 7, 2019.
- (17) Includes certain cash bonus payments in an aggregate amount of \$91,004 under our 2018 cash bonus plan for the third quarter and annual period approved by the LDCC in its discretion, notwithstanding the Company's failure to meet the funding threshold for such periods, as well as a discretionary cash retention bonus paid to Dr. Cherry in the amount of \$50,000. See "Executive Compensation — Compensation Discussion and Analysis — 2018 Compensation — Cash Bonuses" above for more information.
- (18) Includes \$5,500 for Section 401(k) plan employer matching contribution and \$1,020 reimbursement for commuting expenses.
- (19) Dr. Cherry's annual base salary was increased from \$358,750 to \$375,000 effective April 1, 2017.
- (20) Includes \$5,400 for Section 401(k) plan employer matching contribution, \$1,080 as a stipend for waiving medical benefits and \$1,020 reimbursement for commuting expenses.
- (21) Includes \$5,300 for Section 401(k) plan employer matching contribution, \$1,440 as a stipend for waiving medical benefits and \$1,020 reimbursement for commuting expenses.
- (22) Includes certain cash bonus payments in an aggregate amount of \$194,140 under our 2018 cash bonus plan for the third quarter and annual period approved by the LDCC in its discretion, notwithstanding the Company's failure to meet the funding threshold for such periods. See "Executive Compensation — Compensation Discussion and Analysis — 2018 Compensation — Cash Bonuses" above for more information.
- (23) Includes \$997 as a stipend for waiving medical benefits and \$1,440 for taxes associated with long term disability insurance premiums.
- (24) Mr. Alvarez joined us on October 16, 2017. The amount shown in the "Salary" column for 2017 represents a partial year's salary based on his October 16, 2017 start date.
- (25) Includes \$240 as a stipend for waiving medical benefits and \$156 for taxes associated with long term disability insurance premiums.
- (26) Includes certain cash bonus payments in an aggregate amount of \$65,437 under our 2018 cash bonus plan for the third quarter and annual period approved by the LDCC in its discretion, notwithstanding the Company's failure to meet the funding threshold for such periods. See "Executive Compensation — Compensation Discussion and Analysis — 2018 Compensation — Cash Bonuses" above for more information.
- (27) Includes \$5,500 for Section 401(k) plan employer matching contribution.

(28) Ms. Kelsey joined us on August 7, 2017. The amount shown in the “Salary” column for 2017 represents a partial year’s salary based on her August 7, 2017 start date.

(29) Includes \$178,976 for relocation stipend in connection with Ms. Kelsey’s relocation to our headquarters in Emeryville, California, \$55,961 reimbursement for temporary housing and rental car expenses and \$2,633 for Section 401(k) plan employer matching contribution.

### Grants of Plan-Based Awards in 2018

The following table sets forth information regarding grants of compensation in the form of plan-based awards made during 2018 to our named executive officers.

Name	Grant Date <sup>(1)</sup>	Approval Date of Grant <sup>(1)</sup>	Estimated Possible Payouts Under Non-Equity Incentive Plan Awards			All Other Stock Awards: Number of Shares of Stock or Units (#) <sup>(3)</sup>	All Other Option Awards: Number of Securities Underlying Options (#) <sup>(4)</sup>	Exercise or Base Price of Option Awards (\$/Sh) <sup>(5)</sup>	Grant Date Fair Value of Stock and Option Awards (\$) <sup>(6)</sup>
			Threshold (\$) <sup>(2)</sup>	Target (\$) <sup>(2)</sup>	Maximum (\$) <sup>(2)</sup>				
John Melo . . . . .	—	—	220,500	375,000	1,192,500	—	—	—	—
John Melo . . . . .	5/29/2018	5/22/2018	—	—	—	700,000 <sup>(7)</sup>	—	—	3,556,000
John Melo . . . . .	5/29/2018	5/22/2018	—	—	—	—	3,250,000 <sup>(8)</sup>	5	5,122,500
Kathleen Valiasek . . . . .	—	—	114,660	194,250	611,100	—	—	—	—
Kathleen Valiasek . . . . .	5/29/2018	5/22/2018	—	—	—	200,000 <sup>(9)</sup>	—	—	1,016,000
Kathleen Valiasek . . . . .	5/29/2018	5/22/2018	—	—	—	—	100,000 <sup>(10)</sup>	5	370,650
Joel Cherry . . . . .	—	—	68,906	117,188	372,656	—	—	—	—
Joel Cherry <sup>(11)</sup> . . . . .	5/29/2018	5/22/2018	—	—	—	212,500 <sup>(9)</sup>	—	—	1,079,500
Joel Cherry <sup>(11)</sup> . . . . .	5/29/2018	5/22/2018	—	—	—	—	37,500 <sup>(10)</sup>	5	138,994
Eduardo Alvarez . . . . .	—	—	147,000	250,000	795,000	—	—	—	—
Eduardo Alvarez . . . . .	5/29/2018	5/22/2018	—	—	—	250,000 <sup>(12)</sup>	—	—	1,270,000
Nicole Kelsey . . . . .	—	—	58,065	98,750	314,025	—	—	—	—
Nicole Kelsey . . . . .	5/29/2018	5/22/2018	—	—	—	100,000 <sup>(9)</sup>	—	—	508,000
Nicole Kelsey . . . . .	5/29/2018	5/22/2018	—	—	—	—	50,000 <sup>(10)</sup>	5	185,325

(1) Our Board has adopted a policy regarding the grant date of equity awards under which the grant date of equity awards generally would be, for awards to ongoing employees, the first business day of the week following the week in which the award was approved by the LDCC or, for new hire awards, the first business day of the week following the later of the week in which the award is approved by the LDCC or the week in which the new hire commences his or her employment. Each of the awards listed in the table above was approved by the LDCC in April or May 2018, subject to the approval by our stockholders of such awards and/or certain amendments to the 2010 EIP to, among other things, increase the annual per-participant award limit thereunder, which approvals were obtained at our 2018 annual meeting of stockholders held on May 22, 2018. In accordance with our policy regarding equity award grant dates, the awards were granted on May 29, 2018, the first business day of the week following the week in which such awards were approved.

(2) In February 2018, the LDCC approved a non-equity incentive plan upon which the eligibility amounts reported under “Estimated Possible Payouts Under Non-Equity Incentive Plan Awards” were based. The terms of the plan and actual amounts paid out under the plan are discussed above under “Executive Compensation - Compensation Discussion and Analysis - 2018 Compensation - Cash Bonuses” and the amounts paid out under the plan are included in the “Bonus” and “Non-Equity Incentive Plan Compensation” columns of the “Summary Compensation Table” above. The estimated possible payouts as of December 31, 2018 shown in this table reflect the potential incentive awards that could have been paid for the fourth quarter and annual period of 2018 at the threshold, target and maximum levels for each individual.

(3) Amounts in this column represent RSUs granted under the 2010 EIP.

- (4) Amounts in this column represent stock options granted under the 2010 EIP. Mr. Alvarez was not granted any stock options in 2018.
- (5) The exercise price per share of the stock options listed in the table above is the closing price of our common stock on Nasdaq on the Grant Date, which represents the fair value of our common stock on the same date. RSU awards do not have any exercise price.
- (6) Reflects the grant date fair value of each award computed in accordance with FASB ASC Topic 718, excluding the effect of estimated forfeitures. The assumptions made in the valuation of the awards are discussed in Note 12, “Stock-based Compensation” of “Notes to Consolidated Financial Statements” in our Annual Report on Form 10-K for the fiscal year ended December 31, 2018.
- (7) These RSUs have a four-year vesting schedule from a vesting commencement date of July 1, 2018, with 1/4<sup>th</sup> of the units vesting annually, subject to continued service through each vesting date. Such restricted stock units are subject to acceleration of vesting upon termination of employment in connection with a change of control, as further described below under “Potential Payments upon Termination and upon Termination Following a Change in Control.”
- (8) These stock options are subject to performance-based vesting conditions and to acceleration of vesting in connection with a change of control. For more information regarding these stock options, please see above under “Executive Compensation - Compensation Discussion and Analysis — 2018 Compensation — Equity Awards — 2018 CEO Equity Awards — CEO Performance Option.” Such stock options are also subject to acceleration of vesting upon termination of employment in connection with a change of control, as further described below under “Potential Payments upon Termination and upon Termination Following a Change in Control.”
- (9) These RSUs have a three-year vesting schedule from a vesting commencement date of May 1, 2018, with 1/3<sup>rd</sup> of the units vesting annually, subject to continued service through each vesting date. Such restricted stock units are subject to acceleration of vesting upon termination of employment in connection a change of control, as further described below under “Potential Payments upon Termination and upon Termination Following a Change in Control.”
- (10) These stock options have a four-year vesting schedule from a vesting commencement date of May 1, 2018, with 1/4<sup>th</sup> of the shares subject to the stock options vesting on the first anniversary of the vesting commencement date, and 1/48<sup>th</sup> of the shares subject to the stock options vesting each month thereafter until the fourth anniversary of the vesting commencement date, subject to continued service through each vesting date. Such stock options are subject to acceleration of vesting upon termination of employment in connection with a change of control, as further described below under “Potential Payments upon Termination and upon Termination Following a Change in Control.”
- (11) Dr. Cherry resigned from the Company effective June 7, 2019. In connection with his termination of employment, Dr. Cherry agreed to provide certain consulting services to the Company for a period of one year following the termination of his employment with the Company (which term may be extended by the mutual agreement of the parties). In exchange for, and as a result of, such services, Dr. Cherry’s outstanding equity awards, including his 2018 plan-based equity awards, will continue to remain outstanding and vest in accordance with, and subject to, the applicable equity plan and the relevant award agreements during the term of his consulting agreement with the Company.
- (12) These RSUs, which were granted to Mr. Alvarez pursuant to the terms of his employment offer letter with the Company entered into in October 2017, vest in full on October 1, 2019, subject to continued service through such date. Such RSUs are subject to acceleration of vesting upon termination of employment, as further described below under “Potential Payments upon Termination and upon Termination Following a Change in Control.”

#### **Narrative Disclosure to Summary Compensation and Grants of Plan-Based Awards Tables**

The material terms of our named executive officers’ annual compensation, including base salaries, cash bonuses, our equity award granting practices and severance benefits and explanations of decisions for cash and equity compensation during 2018 are described above under “Executive Compensation — Compensation Discussion and Analysis.” As noted below under “Agreements with Executive Officers,”

except for certain terms contained in their employment offer letters, equity award agreements and participation agreements entered into in connection with our Executive Severance Plan, none of our named executive officers has entered into a written employment agreement with us.

### Outstanding Equity Awards as of December 31, 2018

The following table sets forth information regarding outstanding equity awards held by our named executive officers as of December 31, 2018.

Name	Option Awards				Stock Awards	
	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Option Exercise Price (\$/Sh)	Option Expiration Date	Number of Shares or Units of Stock That Have Not Vested (#)	Market Value of Shares or Units of Stock That Have Not Vested (\$) <sup>(33)</sup>
John Melo . . . . .	19,866 <sup>(1)(12)</sup>	—	306.15	4/20/2020	740,554 <sup>(9)(10)(19)(20)(29)</sup>	2,473,450
	5,600 <sup>(2)(13)</sup>	—	402.60	4/15/2021		
	6,666 <sup>(2)(14)</sup>	—	57.90	4/9/2022		
	24,066 <sup>(3)(15)</sup>	—	43.05	6/3/2023		
	20,000 <sup>(3)(16)</sup>	—	52.65	5/5/2024		
	24,791 <sup>(3)(17)</sup>	3,542 <sup>(3)(17)</sup>	29.40	6/8/2025		
	4,625 <sup>(3)(18)(28)</sup>	1,375 <sup>(3)(18)(28)</sup>	24.45	11/9/2025		
	18,298 <sup>(3)(19)</sup>	10,035 <sup>(3)(19)</sup>	8.85	5/16/2026		
	7,916 <sup>(3)(20)</sup>	12,084 <sup>(3)(20)</sup>	3.16	6/12/2027		
—	3,250,000 <sup>(21)</sup>	5.08	5/29/2028			
Kathleen Valiasek . . . . .	9,722 <sup>(4)(22)</sup>	6,944 <sup>(4)(22)</sup>	10.35	1/17/2027	210,532 <sup>(9)(20)(23)(30)</sup>	703,177
	791 <sup>(3)(20)</sup>	1,209 <sup>(3)(20)</sup>	4.80	5/15/2027		
	—	100,000 <sup>(3)(23)</sup>	5.08	5/29/2028		
Joel Cherry <sup>(34)</sup> . . . . .	10,904 <sup>(5)(6)(24)</sup>	—	64.65	9/14/2019	233,432 <sup>(9)(19)(20)(23)</sup>	8/22/4034
	1,333 <sup>(5)(6)(25)</sup>	—	139.80	1/7/2020		
	1,666 <sup>(2)(13)</sup>	—	402.60	4/15/2021		
	1,666 <sup>(2)(14)</sup>	—	57.90	4/9/2022		
	11,266 <sup>(3)(15)</sup>	—	43.05	6/3/2023		
	6,133 <sup>(3)(16)</sup>	—	52.65	5/5/2024		
	6,416 <sup>(3)(17)</sup>	917 <sup>(3)(17)</sup>	29.40	6/8/2025		
	5,652 <sup>(3)(18)</sup>	1,681 <sup>(3)(18)</sup>	24.45	11/9/2025		
	8,611 <sup>(3)(19)</sup>	4,722 <sup>(3)(19)</sup>	8.85	5/16/2026		
	4,195 <sup>(3)(20)</sup>	6,405 <sup>(3)(20)</sup>	4.80	5/15/2027		
—	37,500 <sup>(3)(23)</sup>	5.08	5/29/2028			
Eduardo Alvarez . . . . .	11,250 <sup>(7)(26)</sup>	18,750 <sup>(7)(26)</sup>	2.89	10/23/2027	285,000 <sup>(11)(31)</sup>	951,900
Nicole Kelsey . . . . .	5,000 <sup>(8)(27)</sup>	4,000 <sup>(8)(27)</sup>	2.49	8/14/2027	114,000 <sup>(9)(23)(32)</sup>	380,760
	—	50,000 <sup>(3)(23)</sup>	5.08	5/29/2028		

(1) These stock options vest as to 1/60<sup>th</sup> of the shares subject to the stock options each month from the vesting commencement date, which is a date fixed by the Board or LDCC when granting equity awards, until the fifth anniversary of the vesting commencement date, subject to continued service through each vesting date.



- (2) These stock options vest as to 1/48<sup>th</sup> of the shares subject to the stock options each month from the vesting commencement date until the fourth anniversary of the vesting commencement date, subject to continued service through each vesting date.
- (3) These stock options vest as to 1/4<sup>th</sup> of the shares subject to the stock options on the first anniversary of the vesting commencement date, and as to an additional 1/48<sup>th</sup> of the shares subject to the stock options each month thereafter until the fourth anniversary of the vesting commencement date, subject to continued service through each vesting date.
- (4) These stock options vest as to 1/5<sup>th</sup> of the shares subject to the stock options on the six-month anniversary of the vesting commencement date, as to an additional 1/5<sup>th</sup> of the shares subject to the stock options vesting on the first anniversary of the vesting commencement date, and as to an additional 1/60<sup>th</sup> of the shares subject to the stock options each month thereafter until the fourth anniversary of the vesting commencement date, subject to continued service through each vesting date.
- (5) These stock options were granted under the 2005 Stock Option/Stock Issuance Plan to certain of our named executive officers and were immediately exercisable, regardless of vesting schedule.
- (6) These stock options vest as to 1/5<sup>th</sup> of the shares subject to the stock options on the first anniversary of the vesting commencement date, and as to an additional 1/60<sup>th</sup> of the shares subject to the stock options each month thereafter until the fifth anniversary of the vesting commencement date, subject to continued service through each vesting date.
- (7) These stock options vest as to 1/4<sup>th</sup> of the shares subject to the stock options on the first anniversary of the vesting commencement date, and as to an additional 1/16<sup>th</sup> of the shares subject to the stock options each month thereafter until the second anniversary of the vesting commencement date, subject to continued service through each vesting date.
- (8) These stock options vest as to 50% of the shares subject to the stock options on the first anniversary of the vesting commencement date, and as to an additional 1/72<sup>nd</sup> of the shares subject to the stock options each month thereafter until the fourth anniversary of the vesting commencement date, subject to continued service through each vesting date.
- (9) These RSUs vest as to 1/3<sup>rd</sup> of the units annually from the vesting commencement date until the third anniversary of the vesting commencement date, subject to continued service through each vesting date.
- (10) These RSUs vest as to 1/4<sup>th</sup> of the units annually from the vesting commencement date until the fourth anniversary of the vesting commencement date, subject to continued service through each vesting date.
- (11) These RSUs fully vest on October 1, 2019, subject to continued service through such date.
- (12) The vesting commencement date of this award was April 20, 2010.
- (13) The vesting commencement date of this award was January 1, 2011.
- (14) The vesting commencement date of this award was April 1, 2012.
- (15) The vesting commencement date of this award was April 1, 2013.
- (16) The vesting commencement date of this award is April 1, 2014.
- (17) The vesting commencement date of this award is June 8, 2015. This award is subject to acceleration of vesting upon termination of employment in connection with a change of control, as further described below under “Potential Payments upon Termination and upon Termination Following a Change in Control.”
- (18) The vesting commencement date of this award is November 1, 2015. This award is subject to acceleration of vesting upon termination of employment in connection with a change of control, as further described below under “Potential Payments upon Termination and upon Termination Following a Change in Control.”

- (19) The vesting commencement date of this award is May 1, 2016. This award is subject to acceleration of vesting upon termination of employment in connection with a change of control, as further described below under “Potential Payments upon Termination and upon Termination Following a Change in Control.”
- (20) The vesting commencement date of this award is May 1, 2017. This award is subject to acceleration of vesting upon termination of employment in connection with a change of control, as further described below under “Potential Payments upon Termination and upon Termination Following a Change in Control.”
- (21) These stock options are subject to performance-based vesting conditions and to acceleration of vesting in connection with a change of control. For more information regarding these stock options, please see above under “Executive Compensation — Compensation Discussion and Analysis — 2018 Compensation — Equity Awards — 2018 CEO Equity Awards — CEO Performance Option.” Such stock options are also subject to acceleration of vesting upon termination of employment in connection with a change of control, as further described below under “Potential Payments upon Termination and upon Termination Following a Change in Control.”
- (22) The vesting commencement date of this award is January 4, 2017. This award is subject to acceleration of vesting upon termination of employment in connection with a change of control, as further described below under “Potential Payments upon Termination and upon Termination Following a Change in Control.”
- (23) The vesting commencement date of this award is May 1, 2018. This award is subject to acceleration of vesting upon termination of employment in connection with a change of control, as further described below under “Potential Payments upon Termination and upon Termination Following a Change in Control.”
- (24) The vesting commencement date of this award was November 3, 2008.
- (25) The vesting commencement date of this award was October 27, 2009.
- (26) The vesting commencement date of this award is October 16, 2017. This award is subject to acceleration of vesting upon termination of employment, as further described below under “Potential Payments upon Termination and upon Termination Following a Change in Control.”
- (27) The vesting commencement date of this award is August 7, 2017. This award is subject to acceleration of vesting upon termination of employment in connection with a change of control, as further described below under “Potential Payments upon Termination and upon Termination Following a Change in Control.”
- (28) A portion of this award, when aggregated with other equity awards granted to Mr. Melo in 2015, inadvertently exceeded the annual per-participant award limit contained in the 2010 EIP (the “Plan Limit”) and accordingly was void. On November 9, 2015, Mr. Melo was granted an award of 30,000 stock options and 20,000 RSUs, of which 24,000 stock options and 16,000 RSUs exceeded the Plan Limit. In June 2017, the LDCC voided the portion of the awards that exceeded the Plan Limit, which included 9,500 vested stock options, 14,500 unvested stock options and 10,666 RSUs. In addition, in June 2017 Mr. Melo returned 3,330 of the 4,162 shares of common stock that he received upon the vesting of one third of the original RSUs subject to the award on November 1, 2016 to the Company, representing the portion of such shares that exceeded the Plan Limit and were void, with the remaining 2,004 shares that exceeded the Plan Limit having been withheld by the Company upon vesting to satisfy Mr. Melo’s tax withholding obligation. In recognition of the value lost on the voiding of these awards, in June 2017 the Company paid a cash bonus of \$140,000 to Mr. Melo.
- (29) The vesting commencement date of this award is July 1, 2018. This award is subject to acceleration of vesting upon termination of employment in connection with a change of control, as further described below under “Potential Payments upon Termination and upon Termination Following a Change in Control.”

- (30) The vesting commencement date of this award is January 1, 2017. This award is subject to acceleration of vesting upon termination of employment in connection with a change of control, as further described below under “Potential Payments upon Termination and upon Termination Following a Change in Control.”
- (31) The vesting commencement date of this award is October 1, 2017. This award is subject to acceleration of vesting upon termination of employment, as further described below under “Potential Payments upon Termination and upon Termination Following a Change in Control.”
- (32) The vesting commencement date of this award is August 1, 2017. This award is subject to acceleration of vesting upon termination of employment in connection with a change of control, as further described below under “Potential Payments upon Termination and upon Termination Following a Change in Control.”
- (33) Calculated by multiplying the number of units that had not vested as of December 31, 2018 by \$3.34, the closing price of our common stock on the Nasdaq Global Select Market on December 31, 2018.
- (34) Dr. Cherry resigned from the Company effective June 7, 2019. In connection with his termination of employment, Dr. Cherry agreed to provide certain consulting services to the Company for a period of one year following the termination of his employment with the Company (which term may be extended by the mutual agreement of the parties). In exchange for, and as a result of, such services, Dr. Cherry’s outstanding equity awards will continue to remain outstanding and vest in accordance with, and subject to, the applicable equity plan and the relevant award agreements during the term of his consulting agreement with the Company.

#### Option Exercises and Stock Vested During 2018

The following table sets forth information regarding the exercise of options and vesting of RSUs held by our named executive officers during 2018.

Name	Option Awards		Stock Awards	
	Number of Shares Acquired on Exercise (#)	Value Realized on Exercise (\$)	Number of Shares Acquired on Vesting (#)	Value Realized on Vesting (\$) <sup>(1)</sup>
John Melo . . . . .	—	—	35,778	226,804
Kathleen Valiasek . . . . .	—	—	5,267	25,406
Joel Cherry . . . . .	—	—	16,783	110,437
Eduardo Alvarez . . . . .	—	—	35,000	262,150
Nicole Kelsey . . . . .	—	—	7,000	48,720

- (1) Value realized on vesting is calculated by multiplying the number of units vesting by the closing price of our common stock on Nasdaq on the date of vesting (or most recent closing price in the event the date of vesting falls on a non-trading day).

#### Pension Benefits

None of our named executive officers participates in, or has an account balance in, a qualified or non-qualified defined benefit plan sponsored by us.

#### Non-Qualified Deferred Compensation

None of our named executive officers participates in, or has an account balance in, a traditional non-qualified deferred compensation plan or any other deferred compensation plan maintained by us.

#### Potential Payments upon Termination and upon Termination Following a Change in Control

In November 2013, the LDCC adopted the Amyris, Inc. Executive Severance Plan (the “Severance Plan”). The Severance Plan had an initial term of 36 months and thereafter will be automatically extended

for successive additional one-year periods unless we provide six months' notice of non-renewal prior to the end of the applicable term. In May 2016, May 2017 and February 2018, the LDCC reviewed the terms of the Severance Plan and elected to allow it to automatically renew upon the expiration of its initial term in November 2016 and renewal terms in November 2017 and November 2018, respectively. The LDCC adopted the Severance Plan to provide a consistent and updated severance framework for our executive officers that aligns with peer practices. All of our named executive officers, and all senior level employees of Amyris that are eligible to participate in the Severance Plan (or, collectively, the "participants"), have entered into participation agreements to participate in the Severance Plan. Generally, the benefits under the Severance Plan supersede and replace any rights the participants have in connection with any change of control or severance benefits contained in such participants' employment offer letters, equity award agreements or any other agreement that specifically relates to accelerated vesting of equity awards; provided, that (i) our CEO is entitled to the rights and benefits provided for in the CEO Performance Option in connection with a change of control of Amyris, as described above and (ii) in the event of any conflict between the terms of the CEO Performance Option and Mr. Melo's participation agreement or the Severance Plan relating to accelerated vesting of equity awards, the terms of the CEO Performance Option would govern and control.

Upon the execution of a participation agreement, the participants are eligible for the following benefits under the Severance Plan.

Upon termination by us of a participant's employment other than for "cause" (as defined below) or the death or disability of the participant, or upon resignation by the participant of such participant's employment for "good reason" (as defined below) (collectively referred to as an "Involuntary Termination"), the participant becomes eligible for the following severance benefits:

- 12 months of base salary continuation (18 months for our CEO)
- 12 months of health benefits continuation (18 months for our CEO)

Upon an Involuntary Termination of a participant at any time within the period beginning three months before and ending 12 months after a change of control (as defined below) of the Company, the participant becomes eligible for the following severance benefits:

- 18 months of base salary continuation (24 months for our CEO)
- 18 months of health benefits continuation (including for our CEO)
- Automatic acceleration of vesting and exercisability of all outstanding equity awards then held by the participant

In addition, as noted in the table below, Mr. Alvarez's participation agreement provides that in the event he undergoes an Involuntary Termination (whether or not in connection with a change of control), the vesting and exercisability of certain of his equity awards will accelerate.

In each case, the benefits are contingent upon the participant complying with various requirements, including non-solicitation and confidentiality obligations to us, and on execution, delivery and non-revocation by the participant of a standard release of claims in favor of the Company within 60 days of the participant's separation from service (as defined in Section 409A of the Code). The benefits are subject to forfeiture if, among other things, the participant breaches any of his or her obligations under the Severance Plan and related agreements. The benefits are also subject to adjustment and deferral based on applicable tax rules relating to change-in-control payments and deferred compensation.

Under the Severance Plan, "cause" generally encompasses the participant's: (i) gross negligence or intentional misconduct; (ii) failure or inability to satisfactorily perform any assigned duties; (iii) commission of any act of fraud or misappropriation of property or material dishonesty; (iv) conviction of a felony or a crime involving moral turpitude; (v) unauthorized use or disclosure of the confidential information or trade secrets of Amyris or any of our affiliates that use causes material harm to Amyris; (vi) material breach of contractual obligations or policies; (vii) failure to cooperate in good faith with investigations; or (viii) failure to comply with confidentiality or intellectual property agreements. Prior to any determination that

“cause” under the Severance Plan has occurred, we are generally required to provide notice to the participant specifying the event or actions giving rise to such determination and a 10-day cure period (30 days in the case of failure or inability to satisfactorily perform any assigned duties).

Under the Severance Plan, “good reason” generally means: (i) a material reduction of the participant’s role at Amyris; (ii) certain reductions of base salary; (iii) a workplace relocation of more than 50 miles; or (iv) our failure to obtain the assumption of the Severance Plan by a successor. In order for a participant to assert good reason for his or her resignation, he or she must provide us written notice within 90 days of the occurrence of the condition and allow us 30 days to cure the condition. Additionally, if we fail to cure the condition within the cure period, the participant must terminate employment with us within 30 days of the end of the cure period.

Under the Severance Plan, a “change of control” will generally be deemed to occur if (i) Amyris completes a merger or consolidation after which Amyris’s stockholders before the merger or consolidation do not own at least a majority of the outstanding voting securities of the acquiring or surviving entity after such merger or consolidation, (ii) Amyris sells all or substantially all of its assets, (iii) any person or entity acquires more than 50% of Amyris’s outstanding voting securities or (iv) a majority of Amyris’s directors cease to be directors over any one-year period.

To the extent any severance benefits to a named executive officer constitute deferred compensation subject to Section 409A of the Code and such officer is deemed a “specified employee” under Section 409A, we will defer payment of such benefits to the extent necessary to avoid adverse tax treatment.

Dr. Cherry was not eligible for and did not receive any benefits under the Plan in connection with his separation from the Company in June 2019.

The following table summarizes the potential amounts payable to each of our named executive officers under the Severance Plan upon an Involuntary Termination (i) other than in connection with a change of control of the Company and (ii) in connection with a change of control of the Company, assuming in each case that such Involuntary Termination occurred on December 31, 2018.

Name	Involuntary Termination Not in Connection with a Change of Control			Involuntary Termination in Connection with a Change of Control		
	Base Salary (\$)	Continuing Health Benefits (\$)	Value of Accelerated Options or Shares (\$ <sup>(1)</sup> )	Base Salary (\$)	Continuing Health Benefits (\$)	Value of Accelerated Options or Shares (\$ <sup>(2)</sup> )
John Melo . . . . .	900,000	35,262	—	1,200,000	35,262	2,475,625
Kathleen Valiasek . . . . .	420,000	16,440	—	630,000	24,660	703,177
Joel Cherry <sup>(3)</sup> . . . . .	375,000	16,440	—	562,500	24,660	779,663
Eduardo Alvarez <sup>(4)</sup> . . . . .	400,000	—	960,338	600,000	—	960,338
Nicole Kelsey . . . . .	395,000	13,733	—	592,500	20,600	384,160

- (1) Other than with respect to certain equity awards granted to Mr. Alvarez, as noted below, accelerated vesting is only applicable in the event of an Involuntary Termination in connection with a change of control.
- (2) With respect to outstanding options as of December 31, 2018, calculated by multiplying the number of shares underlying unvested stock options that would vest as a result of an Involuntary Termination in connection with a change of control by the excess of \$3.34, the closing price of our common stock on Nasdaq on December 31, 2018, over the exercise price of the stock options. Unvested stock options with exercise prices higher than \$3.34 are excluded from the calculation. With respect to outstanding RSUs as of December 31, 2018, calculated by multiplying the number of outstanding unvested RSUs that would vest as a result of an Involuntary Termination in connection with a change of control by \$3.34, the closing price of our common stock on Nasdaq on December 31, 2018.
- (3) Dr. Cherry resigned from the Company effective June 7, 2019. Dr. Cherry was not eligible for and did not receive any benefits under the Plan in connection with his separation from the Company.

- (4) Mr. Alvarez's participation agreement provides that in the event that prior to full vesting of Mr. Alvarez's new hire equity awards, including his 2018 RSU award set forth in the "Grants of Plan-Based Awards in 2018" table above (collectively, the "Alvarez New Hire Awards"), Mr. Alvarez's employment with the Company terminates in circumstances entitling him to severance benefits under the Severance Plan, whether or not in connection with a change of control, then upon such termination the vesting and exercisability of each Alvarez New Hire Award shall be automatically accelerated in full.

### **Pay Ratio Disclosure**

In August 2015, pursuant to a mandate of the Dodd-Frank Wall Street Reform and Consumer Protection Act, the Securities and Exchange Commission adopted a rule requiring annual disclosure of the ratio of the median of the annual total compensation of all employees of the Company, other than its principal executive officer, to the total annual compensation of the Company's principal executive officer. The Company's principal executive officer is Mr. Melo, our CEO.

For 2018:

- the annual total compensation of our median employee was \$121,378; and
- the annual total compensation of Mr. Melo, as reported in the "Summary Compensation Table" above, was \$9,638,012.

Thus, for 2018, the ratio of our CEO's annual total compensation to our median employee's annual total compensation was approximately 79 to 1. This ratio is a reasonable estimate calculated in a manner consistent with Item 402(u) of Regulation S-K.

In accordance with the rule, for purposes of determining the ratio of our CEO's annual total compensation to our median employee's annual total compensation for 2018, we are using the same median employee identified in the proxy statement for our 2018 annual meeting of stockholders because there has been no change in our employee population or our employee compensation arrangements that resulted in a significant change of the pay distribution to our employee population, or would significantly impact the pay ratio disclosure. In determining the median of the annual total compensation of all employees of the Company (other than Mr. Melo), we prepared a list of all employees as of December 31, 2017. We then calculated the annual cash compensation (base salary and actual and target bonus) of our employees as of that date for the 12-month period from January 1, 2017 through December 31, 2017. We did not include any contractors or other non-employee workers in our employee population. Salaries and wages were annualized for permanent employees who were not employed for the full year of 2017. We used exchange rates in effect as of December 31, 2017 to convert the base salaries and other compensation amounts of our non-U.S. employees to U.S. dollars. We did not make any cost-of-living adjustments.

Using this approach, we selected the individual at the median of our employee population. We then calculated total compensation for this individual using the same methodology we use for our named executive officers as set forth in the "Summary Compensation Table" above.

### **Agreements with Executive Officers**

We do not have formal employment agreements with any of our named executive officers. The initial compensation of each named executive officer was set forth in an employment offer or promotion letter that we executed with such executive officer at the time his or her employment with us commenced (or at the time of her or his promotion, as the case may be). Each employment offer letter provides that the named executive officer's employment is "at will."

As a condition to their employment, our named executive officers entered into non-competition, non-solicitation and proprietary information and inventions assignment agreements. Under these agreements, each named executive officer has agreed (i) not to solicit our employees during her or his employment and for a period of 12 months after the termination of his or her employment, (ii) not to compete with us or assist any other person to compete with us during her or his employment, and (iii) to protect our confidential and proprietary information and to assign to us intellectual property developed during the course of his or her employment.

See above under “Executive Compensation — Potential Payments upon Termination and upon Termination Following a Change in Control” for a description of potential payments to our named executive officers upon termination of employment, including in connection with a change of control of the Company.

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

Our Certificate of Incorporation limits the personal liability of directors for breach of fiduciary duty to the maximum extent permitted by the Delaware General Corporation Law (“DGCL”), and provides that no director will have personal liability to us or to our 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 of our directors for:

- any breach of the director’s duty of loyalty to us or our stockholders;
- acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law;
- voting or assenting to unlawful payments of dividends, stock repurchases or other distributions; 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 our directors will be further limited to the greatest extent permitted by the DGCL.

In addition, our Bylaws provide that we must indemnify our directors and officers to the fullest extent permitted by the DGCL, and we must advance expenses, including attorneys’ fees, to our directors and officers, in connection with legal proceedings related to their status or service, subject to very limited exceptions.

We maintain an insurance policy that covers certain liabilities of our directors and officers arising out of claims based on acts or omissions in their capacities as directors or officers.

Certain of our 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 Board.

We have entered into indemnification agreements with each of our directors and executive officers that may be broader than the specific indemnification provisions contained in the DGCL. These indemnification agreements require us, among other things, to indemnify our directors and executive officers against liabilities that may arise by reason of their status or service. These indemnification agreements also require us to advance all expenses incurred by the directors and executive officers in investigating or defending against any such action, suit or proceeding. We believe that these agreements are necessary to attract and retain qualified individuals to serve as directors and executive officers.

As previously disclosed in our filings with the Securities and Exchange Commission, Amyris and our Chief Executive Officer, John Melo, and former CFO (and current Chief Business Officer), Kathleen Valiasek, are named parties to a securities class action complaint filed in April 2019. The complaint seeks unspecified damages on behalf of a purported class that would comprise all persons and entities that purchased or otherwise acquired our securities between March 15, 2018 and March 19, 2019. The complaint alleges securities law violations based on statements and omissions made by Amyris during such period. Subsequent to the filing of the securities class action complaint, two separate purported shareholder derivative complaints were filed based on similar allegations to those made in the securities class action complaint and name Amyris as a nominal defendant and name a number of Amyris’s current and former officers and directors as additional defendants. The lawsuits seek to recover, on the Company’s behalf, unspecified damages purportedly sustained by the Company in connection with allegedly misleading statements and/or omissions made in connection with the Company’s securities filings, as well as a series of changes to the Company’s corporate governance policies, restitution to the Company from the individual

defendants, and an award of attorneys' fees. These cases are in the initial pleadings stage. In the event that liability is found or a financial settlement is reached with respect to such legal proceedings, Mr. Melo, Ms. Valiasek or our other current and former officers or directors named in the complaints could seek indemnification from Amyris. We are not presently aware of any other pending litigation or proceeding involving any person who is or was one of our directors, officers, employees or other agents or is or was serving at our request as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, for which indemnification is sought, and we are not aware of any threatened litigation that may result in claims for indemnification.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers or persons controlling our company pursuant to the foregoing provisions, policies and agreements, we have been informed that, in the opinion of the Securities and Exchange Commission, such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable.



## DIRECTOR COMPENSATION

Mr. Melo did not receive any compensation in connection with his service as a director due to his status as an employee of the company. The compensation that we pay to Mr. Melo is discussed in the “Executive Compensation” section of this Proxy Statement.

### Director Compensation for 2018

During the fiscal year ended December 31, 2018, our non-employee directors who served during 2018 received the compensation set forth below.

Name	Fees Earned or Paid in Cash (\$) <sup>(1)</sup>	Stock Awards (\$) <sup>(2)(12)</sup>	Option Awards (\$) <sup>(2)(12)</sup>	All Other Director Compensation (\$)	Total (\$) <sup>(13)</sup>
John Doerr . . . . .	49,000	15,771	17,579	—	82,351
Geoffrey Duyk <sup>(3)</sup> . . . . .	13,166	—	—	—	13,166
Philip Eykerman <sup>(4)</sup> . . . . .	40,000	15,771	17,579	—	73,351
Christoph Goppelsroeder <sup>(5)</sup> . . . . .	40,000	—	—	—	40,000
Frank Kung <sup>(6)</sup> . . . . .	40,000	15,771	17,579	—	73,351
Steven Mills <sup>(7)(8)</sup> . . . . .	20,510	15,363	17,109	—	52,982
Carole Piwnica . . . . .	54,500	15,771	17,579	—	87,851
Fernando de Castro Reinach <sup>(9)</sup> . . . . .	27,751	—	—	—	27,751
HH Sheikh Abdullah bin Khalifa Al Thani <sup>(10)</sup> . .	40,000	15,771	17,579	—	82,351
Christophe Vuillez <sup>(11)</sup> . . . . .	40,000	—	—	—	40,000
R. Neil Williams . . . . .	70,000	15,771	17,579	—	103,351
Patrick Yang . . . . .	45,000	15,771	17,579	—	78,351

- (1) Reflects board, committee chair and committee member retainer fees earned during 2018.
- (2) The amounts in the “Stock Awards” and “Option Awards” columns reflect the aggregate grant date fair value of such awards computed in accordance with FASB ASC Topic 718. The assumptions made in the valuation of the awards are discussed in Note 12, “Stock-based Compensation” of “Notes to Consolidated Financial Statements” in our Annual Report on Form 10-K for the fiscal year ended December 31, 2018. These amounts do not correspond to the actual value that may be recognized by our non-employee directors.
- (3) In July 2017, Dr. Duyk, notified us that, effective July 1, 2017, he had elected to decline all cash and equity compensation accruing, payable or issuable to him under our non-employee director compensation program until such time as he revoked such election in a signed writing delivered to an officer of the company. On September 21, 2018, Dr. Duyk revoked such election effective as of such date.
- (4) All cash compensation earned by Mr. Eykerman during 2018 was paid directly to DSM, which designated Mr. Eykerman to serve on our Board, and he did not receive any cash benefit from such payments.
- (5) All cash compensation earned by Mr. Goppelsroeder during 2018 was paid directly to DSM, which designated Mr. Goppelsroeder to serve on our Board, and he did not receive any cash benefit from such payments. In addition, Mr. Goppelsroeder has to date declined each equity award granted to him pursuant to our non-employee director compensation program, without prejudice to future awards.
- (6) All cash compensation earned by Dr. Kung during 2018 was paid directly to Vivo, which designated Dr. Kung to serve on our Board, and Dr. Kung did not receive any cash benefit from such payments.

Pursuant to an agreement between Dr. Kung and Vivo, Dr. Kung has agreed, subject to certain conditions and exceptions, to remit the equity compensation he receives under our non-employee director compensation program to Vivo if and when such equity compensation becomes vested and/or exercised.

- (7) Mr. Mills was appointed to our Board and the Audit Committee on August 1, 2018 and the LDCC on November 6, 2018, and the fees earned by him in 2018 represent retainer fees earned for the portions of 2018 that he served on our Board, the Audit Committee and the LDCC, respectively.
- (8) Upon joining our Board in August 2018, Mr. Mills received an initial award under the 2010 EIP of an option to purchase 3,466 shares of our common stock and 2,266 RSUs. This award was contemplated by our non-employee director compensation program (described in “Narrative to Director Compensation Tables” below). The stock option and RSU awards vest in full on August 1, 2019. The grant date fair value for these awards, as calculated under FASB ASC Topic 718, is as shown:

Name	Date of Grant	Number of Shares of Stock or Units (#)	Number of Securities Underlying Options (#)	Exercise Price Per Share (\$)	Stock Awards (\$) <sup>(2)</sup>	Option Awards (\$) <sup>(2)</sup>
Steven Mills . . . . .	8/6/2018	—	3,466	6.78	—	17,109
Steven Mills . . . . .	8/6/2018	2,266	—	—	15,363	—

- (9) Dr. Reinach resigned from our Board and the Audit Committee effective August 1, 2018, and the fees earned by him in 2018 represent retainer fees earned for the portion of 2018 that he served on our Board, the Audit Committee, respectively. Upon resignation from the Board, Dr. Reinach entered into a consulting agreement with Amyris to provide certain consulting and advisory services to the company in exchange for an award of 203,804 RSUs, as described in more detail below under “Transactions with Related Persons — Reinach Consulting Agreement.” As a result of Dr. Reinach’s entry into a consulting agreement with, and continued provision of services to, Amyris, notwithstanding his resignation from the Board, Dr. Reinach’s outstanding equity awards will continue to remain outstanding and vest in accordance with, and subject to, the 2010 EIP and the relevant award agreements.
- (10) HH Sheikh Abdullah bin Khalifa Al Thani resigned from our Board effective May 14, 2019, at which time all of his outstanding equity awards ceased vesting: all of his vested options remained exercisable for a period of three months after May 14, 2019, and all of his unvested options and RSUs were forfeited.
- (11) All cash compensation earned by Mr. Vuillez during 2018 was paid directly to Total, which designated Mr. Vuillez to serve on our Board, and he did not receive any cash benefit from such payments. In addition, Mr. Vuillez has to date declined each equity award granted to him pursuant to our non-employee director compensation program, without prejudice to future awards. Mr. Vuillez resigned from our Board effective May 20, 2019.
- (12) In August 2018, each of our non-employee directors other than Dr. Duyk, Mr. Goppelsroeder and Mr. Vuillez (and excluding Dr. Reinach, who resigned from our Board in August 2018, and Mr. Mills, who joined our Board in August 2018) received an annual award under the 2010 EIP of an option to purchase 3,466 shares of our common stock and 2,266 RSUs. These awards were contemplated by our non-employee director compensation program (described in “Narrative to Director Compensation Tables” below). These option and RSU awards vested in full on August 1, 2019 (subject to continued service through such date). The grant date fair value of these awards, as calculated under FASB ASC Topic 718, is as shown:

Name	Date of Grant	Number of Shares of Stock or Units (#)	Number of Securities Underlying Options (#)	Exercise Price Per Share (\$)	Stock Awards (\$) <sup>(2)</sup>	Option Awards (\$) <sup>(2)</sup>
John Doerr	8/1/2018	—	3,466	6.96	—	17,579
John Doerr	8/1/2018	2,266	—	—	15,771	—
Philip Eykerman	8/1/2018	—	3,466	6.96	—	17,579
Philip Eykerman	8/1/2018	2,266	—	—	15,771	—
Frank Kung <sup>(6)</sup>	8/1/2018	—	3,466	6.96	—	17,579
Frank Kung <sup>(6)</sup>	8/1/2018	2,266	—	—	15,771	—
Carole Piwnica	8/1/2018	—	3,466	6.96	—	17,579
Carole Piwnica	8/1/2018	2,266	—	—	15,771	—
HH Sheikh Abdullah bin Khalifa Al Thani <sup>(10)</sup>	8/1/2018	—	3,466	6.96	—	17,579
HH Sheikh Abdullah bin Khalifa Al Thani <sup>(10)</sup>	8/1/2018	2,266	—	—	15,771	—
R. Neil Williams	8/1/2018	—	3,466	6.96	—	17,579
R. Neil Williams	8/1/2018	2,266	—	—	15,771	—
Patrick Yang	8/1/2018	—	3,466	6.96	—	17,579
Patrick Yang	8/1/2018	2,266	—	—	15,771	—

- (13) As of December 31, 2018, the non-employee directors who served during 2018 held the following outstanding equity awards:

Name	Outstanding Options (Shares)	Outstanding Stock Awards (Units)
John Doerr	10,265	2,266
Geoffrey Duyk <sup>(3)</sup>	4,666	—
Philip Eykerman	8,199	3,599
Christoph Goppelsroeder <sup>(5)</sup>	—	—
Frank Kung <sup>(6)</sup>	6,466	3,599
Steven Mills <sup>(8)</sup>	3,466	2,266
Carole Piwnica	10,265	2,266
Fernando de Castro Reinach <sup>(9)</sup>	6,799	203,804
HH Sheikh Abdullah bin Khalifa Al Thani <sup>(10)</sup>	9,865	2,266
Christophe Vuillez <sup>(11)</sup>	—	—
R. Neil Williams	9,465	2,266
Patrick Yang	17,065 <sup>(14)</sup>	2,266

- (14) Includes an option to purchase 8,000 shares of our common stock, which Dr. Yang received for consulting work provided to us in 2013 – 2014 prior to his appointment to our Board.

#### Narrative to Director Compensation Tables

Under our current non-employee director compensation program, in each case subject to final approval by our Board with respect to equity awards:

- Each non-employee director receives an annual cash retainer of \$40,000 and an annual equity award consisting of an option to purchase 3,466 shares of our common stock and 2,266 RSUs, vesting in full after one year (in each case subject to continued service through the applicable vesting date). Any new Board members will receive a pro-rated annual equity award upon joining our Board, which award will vest in full on the one-year anniversary of the grant of the most recent annual Board equity awards.
- The non-executive Board chair, if any, receives an additional annual award of 7,300 RSUs. The award becomes fully vested after one year (subject to continued service through the applicable vesting date).

- The chair of the Audit Committee receives an additional annual cash retainer of \$30,000.
- The chair of the LDCC receives an additional annual cash retainer of \$10,000.
- The chair of the Nominating and Governance Committee receives an additional annual cash retainer of \$9,000.
- Audit Committee, LDCC and Nominating and Governance Committee members other than the chair receive an additional annual cash retainer of \$7,500, \$5,000 and \$4,500, respectively.

In general, all of the retainers described above are paid quarterly in arrears. In cases where a non-employee director serves for part of the year in a capacity entitling him or her to a retainer payment, the retainer is prorated to reflect his or her period of service in that capacity. Non-employee directors are also eligible for reimbursement of their expenses incurred in attending Board and committee meetings.

## COMPENSATION COMMITTEE INTERLOCKS AND INSIDER PARTICIPATION

The members of the LDCC during 2018 were Steven Mills, Carole Piwnica and Patrick Yang. None of these directors was an officer or employee of Amyris or any of our subsidiaries during 2018, nor are any of these directors former officers of Amyris or any of our subsidiaries, except for Steven Mills, who served as the Chief Financial Officer of Amyris from May 2012 to December 2013. Except as set forth under “Transactions with Related Persons” below, none of these directors has any relationships with us of the type that are required to be disclosed under Item 404 of Regulation S-K. None of our executive officers has served as a member of the board of directors or as a member of the compensation or similar committee of any entity that has one or more executive officers who have served on our Board or the LDCC during 2018.

## TRANSACTIONS WITH RELATED PERSONS

The following is a description of each transaction since the beginning of 2018, and each currently proposed transaction, in which:

- we have been or are to be a participant;
- the amount involved exceeds the lesser of \$120,000 or 1% of the average of our total assets for the last two completed fiscal years; and
- any of our directors, executive officers or holders of more than 5% of any class of our capital stock at the time of the transactions in issue, or any immediate family member of or person sharing the household with any of these individuals, had or will have a direct or indirect material interest.

### Transactions with DSM

#### *Value Sharing Agreement Amendments and Assignment*

In December 2017, in connection with the sale of our production facility located in Brotas, Brazil (the “Brotas Facility”) to an affiliate of Koninklijke DSM N.V. (“DSM”), with which we have commercial and financial relationships and which owns greater than five percent of our outstanding common stock and has the right to designate two members of our Board of Directors, we entered into a value sharing agreement (the “Value Sharing Agreement”) with DSM, pursuant to which DSM agreed to make certain royalty payments to us representing a portion of the profit on the sale of products produced using farnesene purchased under that certain Renewable Farnesene Supply Agreement, dated as of April 26, 2016 (as amended, the “Nenter Supply Agreement”), between us and Nenter & Co., Inc. (“Nenter”), realized by Nenter and paid to DSM in accordance with the Nenter Supply Agreement. In addition, pursuant to the Value Sharing Agreement, DSM agreed to guarantee certain minimum annual royalty payments for the first three calendar years of the Value Sharing Agreement, subject to future offsets in the event that the royalty payments to which we would otherwise have been entitled under the Value Sharing Agreement for such years fall below certain milestones. Under the Value Sharing Agreement, we are required to use certain value share payments received by us with respect to the first three calendar years of the Value Sharing Agreement in excess of the guaranteed minimum annual value share payments for such years, if any, to repay amounts outstanding under the Credit Agreement, dated as of December 28, 2017, between us and DSM.

During 2018, we and DSM amended the Value Sharing Agreement to (i) provide for the use of estimates in calculating quarterly value share payments (subject to true-up), (ii) modify how the guaranteed minimum annual value share payment for 2018 will be offset against value payments accruing during 2018 and (iii) accelerate the minimum annual value share payment for 2019 from December 31, 2018 to June 30, 2018 in exchange for a fee of \$750,000.

On April 16, 2019, the Company assigned to DSM, and DSM assumed, all of the Company’s rights and obligations under the Value Sharing Agreement, for aggregate consideration to the Company of \$57.0 million, \$29.1 million of which was paid to the Company in cash, with the remaining \$27.9 million being used to pay certain existing obligations of the Company to DSM, including certain obligations under the Supply Agreement Amendment (as described below).

### *Supply Agreement Amendments*

In December 2017, in connection with the sale of the Brotas Facility to DSM, we entered into a Supply Agreement (the “Supply Agreement”) with DSM, pursuant to which DSM will supply us with certain products useful in our business that were previously, and are expected to continue to be, manufactured at the Brotas Facility, at prices and on production and delivery terms and specifications set forth in the Supply Agreement, which prices are based upon DSM’s manufacturing cost plus an agreed margin. The Supply Agreement originally was set to expire (i) with respect to non-farnesene related products, on the date that our planned new manufacturing facility in Brazil is fully operational and meets its production targets, but in any event no later than December 31, 2021 and (ii) with respect to farnesene-related products, on December 28, 2037, subject in each case to earlier termination in certain circumstances.

On November 19, 2018, the Company and DSM entered into Amendment No. 1 to the Supply Agreement (the “Supply Agreement Amendment”), pursuant to which (i) the outside expiration date of the Supply Agreement with respect to non-farnesene related products was extended to December 31, 2022, with specified pricing terms added for products manufactured during 2022, (ii) DSM committed to produce certain non-farnesene related products for us for two months of each calendar year during the term of the Supply Agreement and (iii) we agreed to (A) pay DSM a cash reservation fee in the total amount of \$17.3 million, payable in installments during 2018 and 2019, (B) issue 1,643,991 shares of our common stock to DSM (see below under “Securities Purchase Agreement” for more information) and (C) pay DSM a cash fee of \$7.3 million, payable on or before March 29, 2019, plus, if the closing price of our common stock on the trading day immediately preceding the date of such payment is less than \$4.41 per share, an amount equal to such deficiency multiplied by 1,643,991.

On April 16, 2019, the Company and DSM entered into a second amendment to the Supply Agreement, as well as amendments to the Performance Agreement and the Quota Purchase Agreement entered into in connection with the December 2017 sale of the Brotas Facility to DSM, pursuant to which (i) DSM agreed to reduce certain manufacturing costs and fees paid by the Company related to the production of farnesene under the Supply Agreement through 2021, as well as remove the priority of certain customers over the Company with respect to production capacity at the Brotas Facility, (ii) the Company agreed to provide DSM rights to conduct certain process and downstream recovery improvements under the Performance Agreement at facilities other than the Brotas Facility in exchange for DSM providing the Company with a license to such improvements and (iii) the Company released DSM from its obligation to provide manufacturing and support services under the Quota Purchase Agreement in connection with the Company’s planned new manufacturing facility, which is no longer planned to be located at the Brotas, Brazil location.

### *Securities Purchase Agreement*

On November 20, 2018, we issued 1,643,991 shares of our common stock (the “DSM Shares”) to DSM in a private placement pursuant to a securities purchase agreement, dated November 19, 2018, between us and DSM (the “DSM SPA”), in consideration of certain agreements of DSM set forth in the DSM Supply Agreement Amendment. Pursuant to the DSM SPA, we agreed to file a registration statement providing for the resale by DSM of the DSM Shares and to use commercially reasonable efforts to (i) cause such registration statement to become effective within 181 days following the date of the DSM SPA and (ii) keep such registration statement effective until DSM does not own any DSM Shares or the DSM Shares are eligible for resale under Rule 144 without regard to volume limitations.

### *Letter Agreement*

On November 19, 2018, we entered into a letter agreement (the “Letter Agreement”) with DSM, pursuant to which, in consideration of the agreements of DSM set forth in the Supply Agreement Amendment, we agreed (i) to cause the removal of certain existing liens on intellectual property owned by us and licensed to DSM (the “Subject Intellectual Property”) and (ii) if such liens were not removed prior to December 15, 2018, to issue to DSM shares of our common stock with a value equal to \$5,000,000. As a result of the entry into an amendment to our senior secured credit facility on December 14, 2019 to remove the Subject Intellectual Property from the lien granted by us thereunder, we satisfied our obligations under the Letter Agreement, and therefore we were not required to issue shares of our common stock (or otherwise make payment) to DSM pursuant to the Letter Agreement.

### *Brotas Facility Purchase Price Adjustment Letter*

On November 19, 2018, we entered into a letter agreement with DSM, pursuant to which we agreed to make a cash payment to DSM of \$1.8 million in respect of an adjustment to the purchase price for certain assets sold by us to DSM in connection with sale of the Brotas Facility in December 2017 and related transactions pursuant to the terms of the agreements related to such sale.

### *Supply Agreement Payment Letter*

In November 2018, we entered into a letter agreement with DSM, pursuant to which we agreed to make a cash payment to DSM of \$0.6 million in respect of certain agreements by DSM to allocate production capacity at the Brotas Facility in 2018 under the Supply Agreement.

### *Credit Agreement*

On September 17, 2019, the Company and DSM entered into a credit agreement (the “2019 DSM Credit Agreement”) to make available to the Company a secured credit facility in an aggregate principal amount of \$8.0 million, to be issued in separate installments of \$3.0 million, \$3.0 million and \$2.0 million, respectively, with each installment being subject to certain closing conditions, including the payment of certain existing obligations of the Company to DSM. On September 17, 2019, the Company borrowed the first installment of \$3.0 million under the 2019 DSM Credit Agreement, all of which proceeds were used to pay certain existing obligations of the Company to DSM, and issued to DSM a promissory note in the principal amount of \$3.0 million. On September 19, 2019, the Company borrowed the second installment of \$3.0 million under the 2019 DSM Credit Agreement, all of which proceeds were used to pay certain existing obligations of the Company to DSM, and issued to DSM a promissory note in the principal amount of \$3.0 million. On September 23, 2019, the Company borrowed the final installment of \$2.0 million under the 2019 DSM Credit Agreement, \$1.5 million of which proceeds were used to pay certain existing obligations of the Company to DSM, and issued to DSM a promissory note in the principal amount of \$2.0 million. The promissory notes issued under the 2019 DSM Credit Agreement (i) mature on August 7, 2022, (ii) accrue interest at a rate of 12.5% per annum from and including the applicable date of issuance, which interest is payable quarterly in arrears on each January 1, April 1, July 1 and October 1, beginning January 1, 2020, and (iii) are secured by a first-priority lien on certain Company intellectual property licensed to DSM. The Company may at its option repay the amounts outstanding under the 2019 DSM Credit Agreement before the maturity date, in whole or in part, at a price equal to 100% of the amount being repaid plus accrued and unpaid interest on such amount to the date of repayment. In addition, the Company is required to repay the amounts outstanding under the 2019 DSM Credit Agreement (i) in an amount equal to the gross cash proceeds, if any, received by the Company upon the exercise by DSM of certain common stock purchase warrants issued by the Company to DSM in 2017 and (ii) in full upon the request of DSM at any time following the receipt by the Company of at least \$50.0 million of gross cash proceeds from one or more sales of equity securities of the Company on or prior to June 30, 2020.

### *Commercial Transactions*

In July and September 2017, we entered into three separate collaboration agreements with DSM (the “DSM Collaboration Agreements”) to jointly develop three new molecules in the Health and Nutrition field (the “DSM Ingredients”) using our technology, which we would produce and DSM would commercialize. Pursuant to the DSM Collaboration Agreements, DSM will, subject to certain conditions, provide funding for the development of the DSM Ingredients and, upon commercialization, the parties would enter into supply agreements whereby DSM would purchase the applicable DSM Ingredients from us at prices agreed by the parties. The development activities will be directed by a joint steering committee with equal representation by DSM and us. In addition, the parties will share product margin from DSM’s sales of products that incorporate the DSM Ingredients subject to the DSM Collaboration Agreements.

In June 2018, we and DSM amended and restated one of the DSM Collaboration Agreements to more clearly define the research and development funding responsibility, amounts and criteria under the agreement. Pursuant to the amended agreement, DSM agreed to fund additional research and development costs upon the achievement of certain milestones, and would then recoup a portion of such funding through a reduction in the royalty percentage paid by DSM to us (once products subject to the agreement have been commercialized) until such amount is recouped by DSM, at which point the royalty percentage would return to its previous level.

In 2018, we recognized \$10.7 million in revenue relating to agreements and transactions with DSM, including those described above, and held \$1.1 million in accounts receivable as well as \$8.0 million of unbilled receivables and \$4.3 million of contingent consideration receivable from DSM as of December 31, 2018.

## **Transactions with Foris**

### *August 2018 Warrant Transaction*

On August 17, 2018, we entered into warrant exchange agreements (the “Warrant Exchange Agreements”) with Foris Ventures, LLC (“Foris”), an entity affiliated with director John Doerr of Kleiner Perkins Caufield & Byers, a current stockholder, and an owner of greater than five percent of our outstanding common stock, and affiliates of Vivo Capital LLC (collectively, “Vivo”), an entity affiliated with director Frank Kung and which owns greater than five percent of our outstanding common stock and has the right to designate one member of our Board of Directors, pursuant to which Foris and Vivo agrees to exercise certain of their common stock purchase warrants issued in May 2017 and August 2017, respectively (the “Prior Cash Warrants”), representing an aggregate of 10,452,504 shares, in full for cash and (ii) surrender certain other of their common stock purchase warrants issued in May 2017 and August 2017, respectively (the “Prior Dilution Warrants”), in the case of Foris after exercising such warrant in full for 2,106,217 shares, to us for cancellation, and in exchange we agreed to issue to Foris and Vivo new warrants (the “New Warrants”) to purchase an aggregate of 12,097,164 shares of our common stock in a private placement, with the New Warrants having substantially identical terms as the Prior Cash Warrants, except that (A) the expiration date of the New Warrants would be 21 months after issuance (in comparison to the five-year term of the Prior Cash Warrants), (B) the New Warrants would not contain any anti-dilution protection (in comparison to the full-ratchet anti-dilution protection provided in Prior Cash Warrants), other than standard adjustments in the event of any dividends or distributions on our Common Stock, or any stock split, reverse stock split, recapitalization, reorganization or similar transaction, (C) the New Warrants would only permit exercise after the six-month anniversary of issuance, and would only permit “cashless” or “net” exercise after the twelve-month anniversary of issuance to the extent that there is not an effective registration statement covering the resale of the shares of common stock underlying the New Warrants and (D) the exercise price of the New Warrants would be \$7.52 per share (in comparison to \$4.40 per share for the Prior Cash Warrants), subject to adjustment. In connection with the entry into the Warrant Exchange Agreements, we entered into amendments to the Prior Cash Warrants and Prior Dilution Warrants with Foris and Vivo to (i) in the case of Foris, remove a beneficial ownership limitation from such warrants and (ii) in the case of Vivo, remove a beneficial ownership limitation from such warrants and reduce the exercise price of Vivo’s Prior Cash Warrants from \$6.39 per share to \$4.40 per share (the “Warrant Exchange”).

In connection with the Warrant Exchange, on August 17, 2018, we entered into an underwriting agreement (the “Underwriting Agreement”) with B. Riley FBR, Inc. (the “Underwriter”), Foris and Vivo relating to the sale of up to an aggregate of 8,802,270 shares of our common stock by Foris and Vivo, including the shares issuable to the Foris upon the exercise of its Prior Cash Warrants (the “Secondary Offering”). The price to the public in the Secondary Offering was \$6.25 per share, and the Underwriter agreed to purchase the shares of common stock from Vivo and Foris to be sold in the Secondary Offering at a price of \$6.22 per share. The Secondary Offering closed on August 21, 2018; we did not receive any proceeds from the Secondary Offering, but agreed to pay certain offering expenses, as well as a structuring and advisory fee to the Underwriter equal to 4.5% of the gross proceeds of the Secondary Offering. At the closing of the Secondary Offering and the concurrent settlement of the Warrant Exchange, we received proceeds of approximately \$43 million.

### *Loan and Security Agreement*

On April 15, 2019, the Company, GACP Finance Co., LLC (“GACP”) and Foris entered into a Loan Purchase Agreement, pursuant to which Foris agreed to purchase and assume from GACP, and GACP agreed to sell and assign to Foris, the outstanding loans under the Loan and Security Agreement, dated June 29, 2018, as amended (the “LSA”), among the Company, certain subsidiaries of the Company and



GACP, and all documents and assets related thereto. In connection with such purchase and assignment, the Company agreed to repay Foris \$2.5 million of the purchase price paid by Foris to GACP (the “Company LPA Obligation”). The closing of the loan purchase and assignment occurred on April 16, 2019.

On August 14, 2019, the Company and Foris entered into an Amendment No 5 and Waiver to the LSA (the “LSA Amendment and Waiver”), pursuant to which (i) the maturity date of the loans under the LSA was extended from July 1, 2021 to July 1, 2022, (ii) the interest rate for the loans under the LSA was modified from the sum of (A) the greater of (x) the prime rate as reported in the Wall Street Journal or (y) 4.75% plus (B) 9% to the greater of (A) 12% or (B) the rate of interest payable with respect to any indebtedness of the Company, (iii) the amortization of the loans under the LSA was delayed until December 16, 2019, (iv) certain accrued and future interest and agency fee payments under the LSA were delayed until December 16, 2019, (v) certain covenants under the LSA, including related definitions, were amended to provide the Company with greater operational and financial flexibility, including, without limitation, to permit the incurrence of the indebtedness under the Naxyris Loan Facility (as described below) and the granting of liens with respect thereto, subject to the terms of an intercreditor agreement between Foris and Naxyris S.A. (“Naxyris”) governing the respective rights of the parties with respect to, among other things, the assets securing the Naxyris Loan Agreement and the LSA (the “Intercreditor Agreement”), (vi) certain outstanding unsecured promissory notes issued by the Company to Foris on April 8, 2019, June 11, 2019, July 10, 2019 and July 26, 2019 (as described below under “Foris Credit Agreements”), in an aggregate principal amount of \$32.5 million, as well as the Company LPA Obligation, were added to the loans under the LSA, made subject to the LSA and secured by the security interest in the collateral granted to Foris under the LSA, and such promissory notes and contractual obligation were cancelled in connection therewith, and (vii) Foris agreed to waive certain existing defaults under the LSA, including with respect to covenants related to quarterly minimum revenues, minimum liquidity amounts and a minimum asset coverage ratio. After giving effect to the LSA Amendment and Waiver, there is \$71.0 million aggregate principal amount of loans outstanding under the LSA. In connection with the entry into the LSA Amendment and Waiver, on August 14, 2019 the Company issued to Foris a warrant to purchase up to 1,438,829 shares of common stock at an exercise price of \$2.87 per share, with an exercise term of two years from issuance. Pursuant to the terms of the warrant, Foris may not exercise the warrant to the extent that, after giving effect to such exercise, Foris, together with its affiliates, would beneficially own in excess of 19.99% of the number of shares of common stock outstanding after giving effect to such exercise, unless the Company has obtained stockholder approval to exceed such limit in accordance with Nasdaq rules and regulations, which the Company is seeking at the 2019 annual meeting of stockholders; see “Proposal 3 — Approval of the issuance of shares of our common stock issuable upon the exercise of warrants and conversion of preferred stock issued to Foris Ventures, LLC in accordance with Nasdaq Marketplace Rules 5635(b) and 5635(d)” for more information.

#### *Foris Credit Agreements*

On April 8, 2019, the Company and Foris entered into a credit agreement to make available to the Company an unsecured credit facility in an aggregate principal amount of \$8.0 million (the April Foris Credit Agreement), which the Company borrowed in full on April 8, 2019 and issued to Foris a promissory note in the principal amount of \$8.0 million (the April Foris Note). The April Foris Note has a maturity date of October 14, 2019. In connection with the entry into the April Foris Credit Agreement and the issuance of the April Foris Note, which has no stated interest rate, the Company agreed to pay Foris a fee of \$1.0 million, payable on or prior to the maturity date of the April Foris Note (the April Foris Note Fee); provided, that the April Foris Note Fee would be reduced to \$0.5 million if the Company repaid the April Foris Note in full by July 15, 2019.

On June 11, 2019, the Company and Foris entered into a credit agreement to make available to the Company an unsecured credit facility in an aggregate principal amount of \$8.5 million, which the Company borrowed in full on June 11, 2019 and issued to Foris a promissory note in the principal amount of \$8.5 million (the June Foris Note). The June Foris Note (i) accrues interest at a rate of 12.5% per annum from and including June 11, 2019, which interest is payable on the maturity date or the earlier repayment or other satisfaction of the June Foris Note, and (ii) matures on August 28, 2019; provided, that if certain warrants held by DSM are exercised, then the maturity date of the June Foris Note will be the business day immediately following such exercise.

On July 10, 2019, the Company and Foris entered into a credit agreement to make available to the Company an unsecured credit facility in an aggregate principal amount of \$16.0 million (the July Foris Credit Agreement), of which the Company borrowed \$8.0 million on July 10, 2019 and \$8.0 million on July 26, 2019 and issued to Foris promissory notes, each in the principal amount of \$8.0 million, on such dates (the July Foris Notes). The July Foris Notes (i) accrue interest at a rate of 12.5% per annum from and including the respective date of issuance, which interest is payable on the maturity date or the earlier repayment or other satisfaction of the applicable July Foris Note, and (ii) mature on December 31, 2019. In connection with the entry into the July Foris Credit Agreement, the Company and Foris amended the New Warrant issued to Foris on August 17, 2018 (see above under “August 2018 Warrant Transaction”) to reduce the exercise price of such warrant from \$7.52 per share to \$2.87 per share.

The Company may at its option repay the amounts outstanding under the April Foris Note (including the April Foris Note Fee), the June Foris Note and the July Foris Notes before their respective maturity dates, in whole or in part, at a price equal to 100% of the amount being repaid plus, in the case of the June Foris Note and the July Foris Notes, accrued and unpaid interest on such amount to the date of repayment.

On August 14, 2019, the April Foris Note, the June Foris Note and the July Foris Notes were added to the loans under the LSA, made subject to the LSA and secured by the security interest in the collateral granted to Foris under the LSA, and such notes were cancelled in connection therewith. See above under “Loan and Security Agreement” for additional information.

On August 28, 2019, the Company and Foris entered into a credit agreement to make available to the Company an unsecured credit facility in an aggregate principal amount of \$19.0 million (the August Foris Credit Agreement), which the Company borrowed in full on August 28, 2019 and issued to Foris a promissory note in the principal amount of \$19.0 million (the August Foris Note). The August Foris Note (i) accrues interest at a rate of 12% per annum from and including August 28, 2019, which interest is payable quarterly in arrears on each March 31, June 30, September 30 and December 31, beginning December 31, 2019, and (ii) matures on January 1, 2023. The Company may at its option repay the amounts outstanding under the August Foris Note before the maturity date, in whole or in part, at a price equal to 100% of the amount being repaid plus accrued and unpaid interest on such amount to the date of repayment.

In connection with the entry into the August Foris Credit Agreement, on August 14, 2019 the Company issued to Foris a warrant to purchase up to 4,871,795 shares of common stock at an exercise price of \$3.90 per share, with an exercise term of two years from issuance in a private placement pursuant to the exemption from registration under Section 4(a)(2) of the Securities Act and Regulation D promulgated under the Securities Act. The exercise price of the warrant is subject to standard adjustments but does not contain any anti-dilution protection, and the warrants only permit “cashless” or “net” exercise after the six-month anniversary of issuance of the applicable warrant, and only to the extent that there is not an effective registration statement covering the resale of the shares of common stock underlying the applicable warrant. In addition, Foris may not exercise the warrant to the extent that, after giving effect to such exercise, Foris, together with its affiliates, would beneficially own in excess of 19.99% of the number of shares of common stock outstanding after giving effect to such exercise, unless the Company has obtained stockholder approval to exceed such limit in accordance with Nasdaq rules and regulations, which the Company is seeking at the 2019 annual meeting of stockholders; see “Proposal 3 — Approval of the issuance of shares of our common stock issuable upon the exercise of warrants and conversion of preferred stock issued to Foris Ventures, LLC in accordance with Nasdaq Marketplace Rules 5635(b) and 5635(d)” for more information.

#### *Private Placements*

On April 16, 2019, the Company sold and issued to Foris 6,732,369 shares of common stock at a price of \$2.87 per share, as well as a warrant to purchase up to 5,424,804 shares of common stock at an exercise price of \$2.87 per share, with an exercise term of two years from issuance, in a private placement pursuant to the exemption from registration under Section 4(a)(2) of the Securities Act and Regulation D promulgated under the Securities Act, for aggregate cash proceeds to the Company of \$20.0 million.

On April 26, 2019, the Company sold and issued to Foris 2,832,440 shares of common stock at a price of \$5.12 per share, as well as a warrant to purchase up to 3,983,230 shares of common stock at an exercise

price of \$5.12 per share, with an exercise term of two years from issuance, in a private placement pursuant to the exemption from registration under Section 4(a)(2) of the Securities Act and Regulation D promulgated under the Securities Act, for aggregate cash proceeds to the Company of \$15.0 million. On August 28, 2019, in connection with the entry into the August Foris Credit Agreement (as described above under “Foris Credit Agreements”), the Company and Foris amended the warrant issued to Foris on April 26, 2019 to reduce the exercise price of such warrant from \$5.12 per share to \$3.90 per share.

The exercise price of the warrants issued in the foregoing private placements is subject to standard adjustments but does not contain any anti-dilution protection, and the warrants only permit “cashless” or “net” exercise after the six-month anniversary of issuance of the applicable warrant, and only to the extent that there is not an effective registration statement covering the resale of the shares of common stock underlying the applicable warrant. In addition, in connection with the foregoing private placements, the Company agreed not to effect any exercise or conversion of any Company security, and Foris agreed not to exercise or convert any portion of any Company security, to the extent that after giving effect to such exercise or conversion, Foris, together with its affiliates, would beneficially own in excess of 19.99% of the number of shares of common stock outstanding immediately after giving effect to such exercise or conversion, and the warrants contained a similar limitation. The Company intends to seek stockholder approval for Foris to exceed such limitation in accordance with Nasdaq rules and regulations at the 2019 annual meeting of stockholders; see “Proposal 3 — Approval of the issuance of shares of our common stock issuable upon the exercise of warrants and conversion of preferred stock issued to Foris Ventures, LLC in accordance with Nasdaq Marketplace Rules 5635(b) and 5635(d)” for more information.

#### *Convertible Note Exchange*

On May 14, 2019, the Company exchanged \$5.0 million aggregate principal amount of its 6.50% Convertible Senior Notes due 2019 held by Foris, including accrued and unpaid interest thereon up to, but excluding, May 15, 2019, for 1,122,460 shares of common stock and a warrant to purchase up to 352,638 shares of common stock at an exercise price of \$4.56 per share, with an exercise term of two years from issuance, in a private exchange pursuant to the exemption from registration under Section 3(a)(9) of the Securities Act. On August 28, 2019, in connection with the entry into the August Foris Credit Agreement (as described above under “Foris Credit Agreements”), the Company and Foris amended the warrant issued to Foris on May 14, 2019 to reduce the exercise price of such warrant from \$4.56 per share to \$3.90 per share. The exercise price of the warrant issued in the foregoing exchange is subject to standard adjustments but does not contain any anti-dilution protection, and the warrant only permits “cashless” or “net” exercise after the six-month anniversary of the exercisability of such warrant, and only to the extent that there is not an effective registration statement covering the resale of the shares of common stock underlying such warrant. In addition, the exercisability of such warrant is subject to stockholder approval in accordance with Nasdaq rules and regulations, which the Company is seeking at the 2019 annual meeting of stockholders; see “Proposal 3 — Approval of the issuance of shares of our common stock issuable upon the exercise of warrants and conversion of preferred stock issued to Foris Ventures, LLC in accordance with Nasdaq Marketplace Rules 5635(b) and 5635(d)” for more information.

#### **Transactions with Total**

##### *R&D Note Amendments*

On March 21, 2016, in connection with the restructuring of the ownership and rights of Total Amyris BioSolutions B.V. (“TAB”), the joint venture between us and Total Raffinage Chimie (together with its affiliates, “Total”), with which we have a commercial and financial relationship and which owns greater than five percent of our outstanding common stock and has the right to designate one member of our Board of Directors, we issued to Total a 1.5% Senior Unsecured Convertible Note (RS-10) (as amended, the “R&D Note”) in the principal amount of \$3.7 million. The R&D Note was previously amended in February and May 2017.

On March 30, 2018, we entered into a third amendment to the R&D Note with Total, pursuant to which (i) the maturity date of the R&D Note was extended from March 31, 2018 to May 31, 2018 and (ii) accrued and unpaid interest on the amounts outstanding under the R&D Note would be payable on March 31, 2018 and May 31, 2018.

On May 31, 2018, we entered into a fourth amendment to the R&D Note with Total, pursuant to which (i) the maturity date of the R&D Note was extended from May 31, 2018 to July 2, 2018 and (ii) accrued and unpaid interest on the amounts outstanding under the R&D Note would be payable on May 31, 2018 and July 2, 2018.

#### *Tranche II Note Letter Agreement*

In November 2018, Total converted its Tranche II Senior Convertible Note (the “Tranche II Note”), which was issued by us to Total in January 2014, and which was scheduled to mature on January 15, 2019, into shares of common stock in accordance with the terms of the Tranche II Note. In connection with such conversion, we entered into a letter agreement with Total, pursuant to which we agreed to pay Total future interest on the Tranche II Note being converted up to, but excluding, the maturity date for such note, which interest was converted by Total into common stock at the conversion price for the Tranche II Notes.

#### *Convertible Note Exchange and Extensions*

On May 15, 2019, the Company exchanged \$9.7 million aggregate principal amount of its 6.50% Convertible Senior Notes due 2019 held by Total for a new senior convertible note with an equal principal amount and with substantially identical terms, except that the new note had a maturity date of June 14, 2019, in a private exchange pursuant to the exemption from registration under Section 3(a)(9) of the Securities Act. Effective June 14, 2019, the Company and Total agreed to extend the maturity date of the new note from June 14, 2019 to July 18, 2019. Effective July 18, 2019, the Company and Total agreed to (i) further extend the maturity date of the new note from July 18, 2019 to August 28, 2019 and (ii) increase the interest rate on the new note to 10.5% per annum, beginning July 18, 2019. Effective August 28, 2019, the Company and Total agreed to (i) further extend the maturity date of the new note from August 28, 2019 to October 28, 2019 and (ii) increase the interest rate on the new note to 12% per annum, beginning August 28, 2019.

#### *Commercial Transactions*

In October 2016, we entered into an assistance agreement with the United States Department of Energy relating to a research grant award under which we, with the assistance of two specialized subcontractors, including Total, will work to develop a manufacturing-ready process utilizing wood as the cellulosic feedstock to produce farnesene. The program that is the subject of the award is being performed and funded on a milestone basis. Under the award, we and our subcontractors could collectively receive reimbursement for up to \$7.0 million in costs expended by us and our subcontractors over the program’s three year term if all of the program’s milestones are achieved. In April 2017, we entered into a Master Subrecipient Agreement with Total in connection with the grant award (the “Master Subrecipient Agreement”), pursuant to which Total would perform certain services in connection with the program and would be reimbursed for such services, up to a maximum amount of approximately \$350,000. In March 2018, we and Total amended the Master Subrecipient Agreement to reflect the extension of the program through the end of 2018.

In May 2018, we and Total entered into an agreement to terminate, effective April 30, 2018, Total’s sublease of certain space in our pilot plants, which sublease was scheduled to expire in April 2019, pursuant to which Total agreed to pay us \$62,000 to satisfy its remaining obligations under the sublease and we agreed to purchase from Total certain laboratory equipment located in the subleased premises for a purchase price of \$0.5 million.

In July 2018, we and Total entered into an agreement to terminate, effective May 31, 2018, the Pilot Plant Services Agreement, dated April 4, 2014, as amended, between us and Total, pursuant to which we provided Total with fermentation and downstream separation scale-up services and training to Total employees and which was scheduled to expire in April 2019. In accordance with the terms of the Pilot Plant Services Agreement, no payments were due by either party in connection with the termination.

We engage in sales of our products to Total (including TAB) in the ordinary course of our business. In 2018, we made product sales to Total of \$0.3 million and held \$0.1 million in accounts receivable from Total as of December 31, 2018.

### **Transactions with Vivo**

See above under “August 2018 Warrant Transaction”.

On April 29, 2019, the Company sold and issued to Vivo 913,529 shares of common stock at a price of \$4.76 per share, as well as warrants to purchase up to an aggregate of 1,212,787 shares of common stock at an exercise price of \$4.76 per share, with an exercise term of two years from issuance, in a private placement pursuant to the exemption from registration under Section 4(a)(2) of the Securities Act and Regulation D promulgated under the Securities Act, for aggregate cash proceeds to the Company of \$4.5 million. The exercise price of the warrants issued in the foregoing private placement is subject to standard adjustments but does not contain any anti-dilution protection, and the warrants only permit “cashless” or “net” exercise after the six-month anniversary of issuance, and only to the extent that there is not an effective registration statement covering the resale of the shares of common stock underlying the applicable warrant. In addition, in connection with the foregoing private placement, the Company agreed not to effect any exercise or conversion of any Company security, and Vivo agreed not to exercise or convert any portion of any Company security, to the extent that after giving effect to such exercise or conversion, Vivo, together with its affiliates, would beneficially own in excess of 19.99% of the number of shares of common stock outstanding immediately after giving effect to such exercise or conversion, and the warrants contained a similar limitation.

### **Reinach Consulting Agreement**

In November 2018, we entered into a consulting agreement, effective August 1, 2018, with Fernando Reinach, a former director who resigned from our Board effective August 1, 2018 (the “Reinach Consulting Agreement”). Pursuant to the Reinach Consulting Agreement, Dr. Reinach agreed to perform certain consulting services relating to our operations in Brazil for a period of three (3) years, including serving as a member of our advisory panel, and was appointed to a one (1)-year term on such panel by our Board of Directors in November 2018. As compensation for such services, Dr. Reinach was granted an award of 203,804 RSUs under the 2010 EIP, which award vests as to 1/3<sup>rd</sup> of the units annually from August 1, 2018, subject to continued service through each vesting date. The Reinach Consulting Agreement expires on August 1, 2021, subject to the right of either party to earlier terminate the Reinach Consulting Agreement on ten (10) day’s prior written notice to the other party. In the event the Reinach Consulting Agreement is terminated by us prior to its expiration date other than for cause, any unvested RSUs will accelerate and vest in full upon such termination.

### **Cherry Consulting Agreement**

In June 2019, we entered into a consulting agreement with Joel Cherry, our former President, Research and Development who resigned from the Company effective June 7, 2019 (the “Cherry Consulting Agreement”). Pursuant to the Cherry Consulting Agreement, Dr. Cherry agreed to perform certain consulting services for the Company, and as compensation for such services, Dr. Cherry’s outstanding equity awards (see “Executive Compensation” in this Proxy Statement for more information) will continue to remain outstanding and vest in accordance with, and subject to, the 2010 EIP and the relevant award agreements during the term of the Cherry Consulting Agreement. The Cherry Consulting Agreement expires on June 8, 2019, which term may be extended by mutual agreement of the parties, subject to the right of either party to earlier terminate the Cherry Consulting Agreement on thirty (30) day’s prior written notice to the other party or upon a breach of the agreement by the other party.

### **Officer Loans**

In March, April, May and June 2019, Kathleen Valiasek, the Company’s former Chief Financial Officer and current Chief Business Officer, provided loans to the Company in an aggregate principal amount of \$1.2 million. Such amounts were repaid by the Company no later than twelve days after such loans were made and interest was accrued on each loan, while outstanding, at a rate of 12% per annum, for which the total interest accrued was \$2,296.

### **Naxyris Loan and Security Agreement**

On August 14, 2019, the Company, certain of the Company’s subsidiaries (the “Subsidiary Guarantors”) and, as lender, Naxyris, an existing stockholder of the Company and an investment vehicle

owned by Naxos Capital Partners SCA Sicar, which is affiliated with NAXOS S.A.R.L. (Switzerland), for which director Carole Piwnica serves as director, entered into a Loan and Security Agreement (the “Naxyris Loan Agreement”) to make available to the Company a secured term loan facility in an aggregate principal amount of up to \$10,435,000 (the “Naxyris Loan Facility”), which the Company borrowed in full on August 14, 2019. Loans under the Naxyris Loan Facility have a maturity date of July 1, 2022 and accrue interest at a rate per annum equal to the greater of (i) 12% or (ii) the rate of interest payable with respect to any indebtedness of the Company plus 25 basis points, which interest will be payable monthly in arrears, provided that all interest accruing from and after August 14, 2019 through December 1, 2019 shall be due and payable on December 15, 2019.

The obligations of the Company under the Naxyris Loan Facility are (i) guaranteed by the Subsidiary Guarantors and (ii) secured by a perfected security interest in substantially all of the assets of the Company and the Subsidiary Guarantors (the “Collateral”), junior in payment priority to the Company’s obligations under the LSA (see above under “Transactions with Foris — Loan and Security Agreement”), subject to certain limitations and exceptions, as well as the terms of the Intercreditor Agreement (as defined above). Mandatory prepayments of the outstanding amounts under the Naxyris Loan Facility will be required upon the occurrence of certain events, including asset sales, a change in control, and the incurrence of additional indebtedness, subject to certain exceptions and reinvestment rights. Outstanding amounts under the Naxyris Loan Facility must also be prepaid to the extent that the borrowing base exceeds the outstanding principal amount of the loans under the Naxyris Loan Facility. In addition, the Company may at its option prepay the outstanding principal amount of the loans under the Naxyris Loan Facility in full before the maturity date. Any prepayment of the loans under the Naxyris Loan Facility prior to the maturity date, whether pursuant to a mandatory or optional prepayment, is subject to a prepayment charge equal to one year’s interest at the then-current interest rate for the Naxyris Loan Facility. Upon the repayment of the loans under the Naxyris loan facility, whether on the maturity date or earlier pursuant to an optional or mandatory prepayment, the Company will pay Naxyris an end of term fee. In addition, (i) the Company will be required to pay a fee equal to 6% of any amount the Company fails to pay within three business days of its due date and (ii) any interest that is not paid when due will be added to principal and will bear compound interest at the applicable rate. The affirmative and negative covenants in the Naxyris Loan Agreement relate to, among other items: (i) payment of taxes; (ii) financial reporting; (iii) maintenance of insurance; and (iv) limitations on indebtedness, liens, mergers, consolidations and acquisitions, transfers of assets, dividends and other distributions in respect of capital stock, investments, loans and advances, and corporate changes. The Naxyris Loan Agreement also contains financial covenants, including covenants related to minimum revenue, liquidity, and asset coverage.

### **Compensation Arrangements**

Stephanie Kung, the daughter of director Frank Kung, is a non-executive employee of Amyris and received employment compensation in excess of \$120,000 in 2018 and we expect that she will receive employment compensation in excess of \$120,000 in 2019.

### **Indemnification Arrangements**

Please see “Executive Compensation — Limitation of Liability and Indemnification” above for information regarding our indemnification arrangements with our directors and executive officers.

### **Executive Compensation and Employment Arrangements**

Please see “Executive Compensation” above for information regarding our compensation arrangements with our executive officers, including equity awards and employment agreements with our executive officers.

### **Registration Rights Agreements**

Certain of our stockholders, including certain entities affiliated with our directors and/or holders of five percent or more of our outstanding common stock, including DSM, Foris, Vivo and Total, hold registration rights pursuant to (i) the Amended and Restated Letter Agreement, dated May 8, 2014, by and among us and certain of our stockholders, (ii) the letter agreement, dated July 29, 2015, by and among us and certain investors, (iii) the Registration Rights Agreement, dated October 20, 2015, by and among us

and certain purchasers of our 9.50% Convertible Senior Notes due 2019, (iv) the warrant to purchase common stock issued by us to Nenter & Co., Inc. on November 16, 2016, (v) the Securities Purchase Agreement, dated May 8, 2017, by and among us and certain investors, (vi) the Securities Purchase Agreement, dated May 31, 2017, by and between us and the investor named therein, (vii) the Securities Purchase Agreement, dated August 2, 2017, by and between us and DSM International B.V., (viii) the Stockholder Agreement, dated August 3, 2017, by and between us and affiliates of Vivo Capital LLC, (ix) the Amended and Restated Stockholder Agreement, dated August 7, 2017, by and between us and DSM International B.V., (x) the DSM SPA, (xi) the Registration Rights Agreement, dated December 10, 2018, by and among us and the investors party thereto, (xii) the Security Purchase Agreement, dated April 24, 2019, by and between us and ETP BioHealth (I) Fund LP and (xiii) the common stock purchase warrants issued by us to each of Schottenfeld Opportunities Fund II, L.P., Phase Five Partners, LP and Koyote Trading, LLC on September 10, 2017.

### **Related-Party Transactions Policy**

Our Related-Party Transactions Policy adopted by our Board of Directors requires that any transaction with a related party that must be reported under applicable SEC rules, other than certain compensation related matters, must be reviewed and approved or ratified by the Audit Committee of our Board of Directors or another independent body of our Board of Directors. Our Related-Party Transactions Policy contains specific procedures to be followed, and factors to be considered, in connection with the review of such transactions, but does not contain specific standards for approval of such transactions.

## HOUSEHOLDING OF PROXY MATERIALS

The SEC has adopted rules that permit companies and Intermediaries to satisfy the delivery requirements for proxy statements and annual reports, including Notices of Internet Availability of Proxy Materials, with respect to two or more stockholders sharing the same address by delivering a single Notice of Internet Availability of Proxy Materials (the “Notice”) or other proxy materials addressed to those stockholders. This process, which is commonly referred to as “householding,” potentially means extra convenience for stockholders and cost savings for companies.

A number of brokers with account holders who are Amyris stockholders may be “householding” our proxy materials. A single copy of the Notice or other proxy materials may be delivered to multiple stockholders sharing an address unless contrary instructions have been received from the affected stockholders. Once you have received notice from your broker that they will be “householding” communications to your address, “householding” will continue until you are notified otherwise or you submit contrary instructions. If, at any time, you no longer wish to participate in “householding” and would prefer to receive a separate Notice or other proxy materials, you may: (1) notify your broker; (2) direct your written request to Amyris Investor Relations at 5885 Hollis Street, Suite 100, Emeryville, California 94608 or to investor@amyris.com; or (3) contact Amyris Investor Relations at (510) 740-7481. Stockholders who currently receive multiple copies of the Notice or other proxy materials at their addresses and would like to request “householding” of their communications should contact their brokers or Amyris Investor Relations at the address or telephone number above. In addition, we will promptly deliver, upon written or oral request to the address or telephone number above, a separate copy of the Notice or other proxy materials to a stockholder at a shared address to which a single copy of such documents was delivered.

## AVAILABLE INFORMATION

We will provide to any stockholder entitled to vote at our 2019 Annual Meeting of Stockholders, at no charge, a copy of our Annual Report on Form 10-K for the fiscal year ended December 31, 2018 (the “Form 10-K”), including the financial statements and the financial statement schedules contained in the Form 10-K. We make our Annual Reports on Form 10-K, as well as our other SEC filings, available free of charge through the investor relations section of our website located at <http://investors.amyris.com> as soon as reasonably practicable after they are filed with or furnished to the SEC. Information contained on or accessible through our website or contained on other websites is not deemed to be part of this Proxy Statement. In addition, you may request a copy of the Form 10-K by sending an e-mail request to Amyris Investor Relations at investor@amyris.com, calling (510) 740-7481, or writing to Amyris Investor Relations at 5885 Hollis Street, Suite 100, Emeryville, California 94608.

## STOCKHOLDER PROPOSALS TO BE PRESENTED AT NEXT ANNUAL MEETING


Stockholder proposals may be included in our proxy statement for an annual meeting so long as they are provided to us on a timely basis and satisfy the other conditions set forth in SEC regulations under Rule 14a-8 regarding the inclusion of stockholder proposals in company-sponsored proxy materials. Because we expect to hold our 2020 Annual Meeting of Stockholders (the “2020 Annual Meeting”) in May 2020, for a stockholder proposal to be considered for inclusion in our proxy statement for the 2020 Annual Meeting, we must receive the proposal at our principal executive offices, addressed to the Secretary, not earlier than the close of business on the 105<sup>th</sup> day prior to the 2020 Annual Meeting and not later than the close of business on the later of (x) the 75<sup>th</sup> day prior to the 2020 Annual Meeting or (y) the 10<sup>th</sup> day following the date on which public announcement of the date of the 2020 Annual Meeting is first made. You are also advised to review our Bylaws, which contain additional requirements about advance notice of stockholder proposals.



**OTHER MATTERS**

The Board knows of no other matters that will be presented for consideration at the annual meeting. If any other matters are properly brought before the meeting, it is the intention of the persons named in the accompanying proxy to vote on such matters in accordance with their best judgment.

**BY ORDER OF THE BOARD OF DIRECTORS,**

A handwritten signature in black ink, appearing to read "N. Kelsey".

Nicole Kelsey  
*General Counsel and Secretary*

Emeryville, California  
October 10, 2019

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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549**

**FORM 10-K**

(Mark One)

**ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**  
For the fiscal year ended December 31, 2018

OR

**TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**  
For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission File Number: 001-34885

**AMYRIS, INC.**

(Exact name of registrant as specified in its charter)

Delaware  
(State or other jurisdiction of  
incorporation or organization)

55-0856151  
(I.R.S. Employer  
Identification No.)

5885 Hollis Street, Suite 100, Emeryville, California 94608  
(Address of principal executive offices and Zip Code)

(510) 450-0761  
(Registrant's telephone number, including area code)

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

Title of each class	Trading symbol(s)	Name of each exchange on which registered
Common Stock, \$0.0001 par value per share	AMRS	Nasdaq Global Select Market

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes  No

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

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

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes  No

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

Large accelerated filer   
Non-accelerated filer

Accelerated filer   
Smaller reporting company   
Emerging Growth Company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

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

The aggregate market value of the registrant's common stock held by non-affiliates of the registrant as of June 28, 2019, the last business day of the registrant's most recently completed second fiscal quarter, was \$226.5 million based upon the closing price of the registrant's common stock reported for such date on the Nasdaq Global Select Market.

Number of shares of the registrant's common stock outstanding as of September 26, 2019: 103,400,207

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**DOCUMENTS INCORPORATED BY REFERENCE**

None.

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## EXPLANATORY NOTE

This Annual Report on Form 10-K as of and for the year ended December 31, 2018 includes consolidated financial statements for the years ended December 31, 2017 and 2018 and quarterly financial data for fiscal years 2017 and 2018. The consolidated financial statements for the year ended December 31, 2017 and the interim periods ended March 31, 2017, June 30, 2017, September 30, 2017, December 31, 2017, March 31, 2018, June 30, 2018 and September 30, 2018 have been restated in this Annual Report on Form 10-K.

As previously announced on April 5, 2019 and May 14, 2019, the Audit Committee (the Audit Committee) of the Board of Directors of the Company (the Board) and the Board, respectively, determined that the Company will restate its interim condensed consolidated financial statements for the quarterly and year-to-date periods ended March 31, 2018, June 30, 2018 and September 30, 2018 (collectively, the 2018 Non-Reliance Periods) and its audited consolidated financial statements for the year ended December 31, 2017 (the Restated 2017 Financial Statements). The Company also disclosed that investors should no longer rely upon (i) the Company's previously released condensed consolidated financial statements for the 2018 Non-Reliance Periods, (ii) the consolidated financial statements for the Restated 2017 Financial Statements, including management's assessment of internal control over financial reporting as of December 31, 2017, (iii) earnings releases for these periods and (iv) other communications relating to the 2018 Non-Reliance Periods and Restated 2017 Financial Statements.

During the course of the re-audit of the Restated 2017 Financial Statements, in addition to incorrectly accounting for certain payment obligations under the Ginkgo Partnership Agreement as previously disclosed, the Company identified other accounting and financial reporting errors related to (i) the recognition of certain deemed dividends to preferred stock holders, (ii) incorrect accounting treatment for the derecognition of certain debt and derivative liability instruments, (iii) errors in computing tax expense, (iv) incorrect revenue recognition for certain non-cash consideration received under a collaboration agreement, (v) the timing of certain revenue recognition between quarters within 2017, (vi) computation of earnings (loss) per share, (vii) correction of errors in cash flow statements for non-cash adjustments, and (viii) computation of loss on extinguishment of certain debt instruments.

Also, during the preparation and audit of the Company's consolidated financial statements for fiscal 2018 and as previously disclosed, the Company identified material errors impacting the first, second and third quarters of 2018 related to revenue recognition for a sell-through royalty-based contract, the timing of recognition for certain expenses between quarters and unrecorded foreign currency transactions gains. The Company subsequently identified other accounting and financial reporting errors related to (i) the accounting treatment for the derecognition of certain derivative liability instruments, (ii) the timing of expense recognition for an element in the series of transactions with Koninklijke DSM N.V. that closed in November 2018, (iii) computational errors in calculating the gain/loss on the change in the fair value of certain derivative liabilities, (iv) the accounting treatment of deal costs related to certain equity financing transactions and (v) the timing and classification of certain expense reimbursement arrangements.

This Annual Report on Form 10-K (Form 10-K) for the year ended December 31, 2018 reflects changes to the Consolidated Balance Sheet at December 31, 2017 and the Consolidated Statements of Operations, Comprehensive Loss, Stockholders' Deficit, and Cash Flows for the year ended December 31, 2017, and the related notes thereto, and provides restated quarterly data for the quarters ended June 30, 2017, September 30, 2017, December 31, 2017, March 31, 2018, June 30, 2018 and September 30, 2018.

**AMYRIS, INC.**  
**FORM 10-K**  
**FOR THE YEAR ENDED DECEMBER 31, 2018**

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## FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. All statements contained in this Annual Report on Form 10-K other than statements of historical fact, 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, are forward-looking statements. The words “believe,” “may,” “will,” “estimate,” “continue,” “anticipate,” “intend,” “expect,” and similar expressions are intended to identify forward-looking statements, but are not the exclusive means of identifying such statements. We have based these forward-looking statements largely on our current expectations and projections about future events and trends that we believe may affect our financial condition, results of operations, business strategy, short-term and long-term business operations and objectives, and financial needs. These forward-looking statements are subject to a number of risks, uncertainties and assumptions, including those described in Part I, Item 1A, “Risk Factors” in this Annual Report on Form 10-K. Moreover, we operate in a very competitive and rapidly changing environment. New risks emerge from time to time. It is not possible for our management to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. In light of these risks, uncertainties and assumptions, the future events and trends discussed in this Annual Report on Form 10-K may not occur, and actual results could differ materially and adversely from those anticipated or implied in the forward-looking statements contained herein.

We undertake no obligation to revise or publicly release the results of any revision to these forward-looking statements, except as required by law. Given these risks and uncertainties, readers are cautioned not to place undue reliance on such forward-looking statements.

Unless expressly indicated or the context requires otherwise, the terms “Amyris,” the “Company,” “we,” “us,” and “our” in this Annual Report on Form 10-K refer to Amyris, Inc., a Delaware corporation, and, where appropriate, its consolidated entities.

## PART I

### ITEM 1. BUSINESS

#### Overview

We are a leading industrial biotechnology company that applies its technology platform to engineer, manufacture and sell high performance, natural, sustainably-sourced products into the Health & Wellness, Clean Beauty, and Flavor & Fragrance markets. Our proven technology platform enables 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 replace existing complex and expensive manufacturing processes. We have successfully used our technology to develop and produce eight distinct molecules at commercial volumes, leading to more than 15 commercial ingredients used by thousands of leading global brands.

We believe that industrial biotechnology 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-based and traditional animal- or plant-derived ingredients. We continue to build demand for our current portfolio of products through an extensive sales network provided by our collaboration partners that represent the leading companies in the world for our target market sectors. We also have a small group of direct sales and distributors who support our Clean Beauty market. Via our partnership model, our partners invest in the development of each molecule to bring it from the lab to commercial scale and use their extensive sales forces to sell our ingredients and formulations to their customers as part of their core business. We capture long-term revenue both through the production and sale of the molecule to our partners and through royalty revenues from our partners' product sales to their customers.

We were 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, which is a precursor of artemisinin, an effective anti-malarial drug. In 2008, we granted royalty-free licenses to allow Sanofi S.A. 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 thousands of products as nutraceuticals, skincare products, fragrances, solvents, polymers, and lubricant ingredients. The commercialization of farnesene pushed us to create a more cost efficient, faster and accurate development process in the lab and drive manufacturing costs down. 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 Flavor & Fragrance industry. In 2015, we began investing to expand our capabilities to other small molecule chemical classes beyond terpenes, which comprised our initial research efforts, via our collaboration with the Defense Advanced Research Projects Agency (DARPA). In 2016 we expanded into the production of proteins.

We have invested over \$600 million in infrastructure and technology to create microbes that produce molecules from sugar or other feedstocks at commercial scale. This platform has been used to design, build, optimize and upscale strains producing eight distinct molecules at commercial volumes, leading to more than 15 commercial ingredients used by thousands of leading global brands. Our time to market for molecules has decreased from seven years to potentially less than a year, mainly due to our ability to leverage the technology platform we have built.

Our technology platform has been in active use since 2007 and has been integrated with our commercial production since 2011, creating an organism development process that we believe makes us an industry leader in the successful scale-up and commercialization of biotech-produced ingredients. The key performance characteristics of our platform that we believe differentiate us include our proprietary

computational tools, strain construction tools, screening and analytics tools, and advanced lab automation and data integration. Full integration of the platform with our large-scale manufacturing capability enables us to engineer precisely with the end specification and commercial production requirements guiding our developments. Our state-of-the-art infrastructure includes industry-leading strain engineering and lab automation located in Emeryville, California, pilot scale production facilities in Emeryville, California and Campinas, Brazil, a demonstration-scale facility in Campinas, Brazil and a commercial-scale production facility in Leland, North Carolina, which is owned and operated by our Aprinova joint venture to convert our Biofene into squalane and other final products.

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.

Several years ago, we made the strategic decision to transition our business model from developing and commercializing molecules in low margin commodity markets to higher margin specialty markets. We began the transition by commercializing and supplying farnesene-derived squalane as a cosmetic ingredient sold to formulators and distributors. We then entered into collaboration and supply agreements for the development and commercialization of molecules within the Flavor & Fragrance and Clean Beauty markets where we utilize our strain generation technology to develop molecules that meet the customer's rigorous specifications.

During this transition, we solidified the business model of partnering with our customers to create sustainable, high performing, low-cost molecules that replace an ingredient in their supply chain, commercially scale and manufacture those molecules, and share in the profits earned by our customers once our customers sell their products into these specialty markets. These three steps constitute our collaboration revenues, renewable product revenues, and royalty revenues.

In 2017, we decided to monetize the use of one of our lower margin molecules, farnesene, in certain fields of use while retaining any associated royalties. We began discussions with our partners and ultimately made the decision to license farnesene to Koninklijke DSM N.V. (DSM) for use in these fields. We also sold to DSM our subsidiary Amyris Brasil Ltda. (Amyris Brasil), which owned and operated the purpose-built, large-scale manufacturing facility in Brotas, Brazil that manufactures farnesene, a key, biobased intermediate ingredient in certain of our products, in 2017.

The Brotas facility was built to batch manufacture one commodity product at a time (originally for high-volume production of biofuels, a business we have exited), which is an inefficient manufacturing process that is not suited for the high margin specialty markets in which we operate today. The inefficiencies we experienced at the Brotas facility included idling the facility for two weeks at a time to prepare for the next product batch manufacture. These inefficiencies caused a significant increase in our cost of goods sold. We are in the process of constructing a new purpose-built, large-scale production facility in Brazil (see the Manufacturing section below), which we anticipate will allow for the manufacture of five products concurrently and over 10 different products annually. As part of the December 2017 sale of the Brotas facility, we contracted with DSM for the use of the Brotas facility to manufacture products for us to fulfill our product supply commitments to our customers until our new production facility becomes operational. In September 2019, we obtained the necessary permits and broke ground on our Specialty Ingredients Plant (SIP). We expect the facility to be fully operational in Q1 of 2021. This facility will allow us to manufacture five products at once and to produce both our specialty ingredients portfolio and our new sweetener product.

As discussed above, on December 28, 2017, we completed the sale of Amyris Brasil, which operated our Brotas production facility, to DSM and concurrently entered into a series of commercial agreements and a credit agreement with DSM. At closing, we received \$33.0 million in contractual cash consideration for the capital stock of Amyris Brasil, which was subject to certain post-closing working capital adjustments and reimbursements from DSM contingent on DSM's utilization of certain Brazilian tax benefits it acquired with its purchase of Amyris Brasil. We used \$12.6 million of the cash proceeds received to repay certain indebtedness of Amyris Brasil. The total fair value of the contractual consideration received in connection with the sales agreement for Amyris Brasil was \$56.9 million and resulted in a pretax gain of \$5.7 million from continuing operations, recognized in fiscal 2017.

Concurrent with the sale of Amyris Brasil, we entered into a series of commercial agreements with DSM including (i) a license agreement to DSM of our farnesene product for DSM to use in the Vitamin E and Lubricants specialty markets; (ii) a royalty agreement, pursuant to which DSM agreed to pay us specified royalties representing a portion of the profit on the sale of Vitamin E produced from farnesene sold under the supply agreement with Nenter & Co., Inc. (“Nenter”) assigned to DSM; (iii) a performance agreement to perform research and development to optimize farnesene for production and sale of farnesene products; and (iv) a transition services agreement in which we provided finance, legal, logistics, and human resource services to support the Brotas facility under DSM ownership for a six-month period with a DSM option to extend for six additional months. At closing, DSM paid to us a nonrefundable license fee of \$27.5 million and a nonrefundable minimum royalty revenue payment of \$15.0 million. DSM also agreed to pay the Company nonrefundable minimum royalty amounts in 2018 and 2019. The future nonrefundable minimum annual royalty payments were determined to be fixed and determinable with a fair value of \$17.8 million and were included as part of the total arrangement consideration subject to allocation of this overall multiple-element divestiture transaction. In November 2018 and April 2019, we amended the supply agreement with DSM and entered into various other agreements with DSM. See Note 10, “Revenue Recognition”, Note 11, “Related Party Transactions” and Note 16, “Subsequent Events” in Part II, Item 8 of this Annual Report on Form 10-K for a full listing and details of agreements with DSM.

In the second quarter of 2018, we successfully demonstrated our industrial process at full scale to produce a high-purity, zero calorie sweetener derived from sugarcane. We believe that the molecule we are producing from sugarcane, Reb M, is one of the leading natural sweeteners. When derived from the Stevia plant, Reb M is found in very limited quantities along with many impurities that leave an unacceptable taste in the mouth of the consumer. The Reb M that we produce from sugarcane is more sustainable and lower cost than other natural sweeteners, and has a specific technical profile that we believe is advantaged in taste and total process economics for blends and formulations. In December 2018, we received notification from the U.S. Food and Drug Administration (the FDA) that we received its “Generally Regarded As Safe” designation concurrence, and began producing commercial quantities of Reb M at DSM’s Brotas facility during the fourth quarter of 2018.

In June and December 2018, we and our contract manufacturer, Antibióticos de León (ADL), executed amendments to our January 2018 production agreement, thereby providing us additional tank capacity at ADL’s production facility in León, Spain. These amendments provide additional, cost-effective manufacturing capability to meet higher than expected product demand from our partners. The amended agreement includes a commitment to running a certain number of batches at ADL’s production facility from the period September 1, 2018 through December 31, 2019 for up to four of our products.

On June 29, 2018, we closed a \$36 million term loan with Great American Capital Partners, LLC (GACP), a subsidiary of B. Riley Capital Management, LLC, an SEC Registered Investment Advisor and wholly-owned subsidiary of B. Riley Financial, Inc. The term loan matures on July 1, 2021, subject to certain early maturity conditions. The net proceeds from the term loan were used to pay off the Company’s senior secured loan facility with Stegodon Corporation and the related party convertible promissory note issued to Total Raffinage Chimie (as assignee of Total Energies Nouvelles Activités USA) (Total) in March 2016. The term loan also includes an additional \$35 million accordion credit facility that provides us with another option for financing construction of our planned production facility in Brazil, if necessary. See Note 5, “Debt” and Note 16, “Subsequent Events” in Part II, Item 8 of this Annual Report on Form 10-K for more information.

In the second quarter of 2018, we executed an agreement for a significant project consortium in Europe with the Universidade Católica Portuguesa (UCP) Porto Campus and AICEP Portugal Global (AICEP). UCP is a university system, including the leading biotech school in Portugal, and operates 15 research centers. AICEP is an independent public entity of the Government of Portugal, focused in encouraging foreign companies to invest in Portugal. In conjunction with this agreement, we opened a subsidiary in Porto, Portugal. The primary purpose of this subsidiary is to conduct a research and development project together with Escola Superior de Biotecnologia o Universidade Católica Portuguesa. This subsidiary will be the second R&D center of Amyris and will be responsible for certain areas of research, namely valorization of fermentation residues and wastes and the advancement of the Company’s Artificial Intelligence (AI) and Informatics platform. The overall multi-year project is valued up to



approximately \$50 million including investment funding and incentives allotted across the parties involved. We have sole responsibility for commercialization and majority ownership of all intellectual property (IP) generated. We believe this is the largest biotechnology grant ever awarded in Portugal and one of the largest ever approved by the AICEP for commercial applications.

In the third quarter of 2018, we entered into a supply and distribution agreement for our new, sugarcane-derived, zero calorie sweetener with ASR Group, the world's largest cane sugar refiner. Also in the third quarter of 2018, we entered into a license and collaboration agreement with a subsidiary of Yifan Pharmaceutical Co., Ltd., which is one of the leading Chinese pharmaceutical companies. Such license and collaboration agreement was expanded in November 2018.

On December 10, 2018, we closed the offering and sale of an aggregate of \$60 million of convertible notes to two investors in a private placement. The notes mature on December 10, 2021. See Note 5, "Debt" and Note 16, "Subsequent Events" in Part II, Item 8 of this Annual Report on Form 10-K for more information.

On May 2, 2019, we consummated a \$300 million research, collaboration and license agreement (the Cannabinoid Agreement) with LAVVAN, Inc., a newly formed investment-backed company (Lavvan), for the development, manufacture and commercialization of cannabinoids. Under the agreement, the Company will perform research and development activities and Lavvan will be responsible for the commercialization of the cannabinoids developed under the agreement. The Cannabinoid Agreement is being principally funded on a milestone basis, with the Company also entitled to receive certain supplementary research and development funding from Lavvan. The Company could receive aggregate funding of up to \$300 million over the term of the Cannabinoid Agreement if all of the milestones are achieved. Additionally, the agreement provides for royalties to the Company on Lavvan's gross profit margin once products are commercialized; these payments will be due for the next 20 years. Consummation of the transactions contemplated by the Cannabinoid Agreement included the formation of a special purpose entity to hold certain intellectual property created during the collaboration (the Cannabinoid Collaboration IP), the licensing of certain Company intellectual property to Lavvan, the licensing of the Cannabinoid Collaboration IP to the Company and Lavvan, and the granting by the Company to Lavvan of a lien on our background intellectual property being licensed to Lavvan under the Cannabinoid Agreement, which would be subordinated to the lien on such intellectual property under the GACP Term Loan Facility (see Note 5, "Debt").

On May 10, 2019, the Company and Raizen Energia S.A. (Raizen) entered into an agreement relating to the formation and operation of a joint venture relating to the production, sale and commercialization of alternative sweetener products. In connection with the formation of the joint venture, among other things, (i) the joint venture will construct a manufacturing facility on land owned by Raizen and leased to the joint venture (the Sweetener Plant), (ii) the Company will grant to the joint venture an exclusive, royalty-free, worldwide, license to certain technology owned by the Company relevant to the joint venture's business, and (iii) the Company and Raizen will enter into a shareholders agreement setting forth the rights and obligations of the parties with respect to, and the management of, the joint venture. The formation of the joint venture is subject to certain conditions, including certain regulatory approvals and the achievement of certain technological and economic milestones relating to the Company's existing production of its alternative sweetener product. If such conditions are not satisfied by December 31, 2019, the joint venture will automatically terminate. In addition, notwithstanding the satisfaction of the closing conditions, Raizen may elect not to consummate the formation and operation of the joint venture, in which event, the Company will retain the right to construct and operate the Sweetener Plant.

## **Technology**

We have developed innovative microbial engineering and screening technologies that allow us to transform the way microbes metabolize sugars. Specifically, we engineer microbes, such as yeast, and use them as catalysts to convert sugar, through fermentation, into high-value molecules. In 2015, we were awarded an investment by DARPA to expand the capabilities of our technology platform beyond terpenoids. The investment has resulted in us developing an integrated platform with artificial intelligence that will speed up the development and commercialization of small molecules across 15 different chemical classes. We have also developed our technology to be able to produce large molecules, such as proteins.

We devote substantial resources to our research and development efforts. As of December 31, 2018, our research and development organization included 199 employees, 109 of whom held Ph.D.s. We have invested more than \$600 million to date in our research and development capabilities that has resulted in an almost 6x improvement in speed to market and 24x improvement in cost of manufacturing. These achievements are due to the leading strain engineering and upscaling and commercialization capabilities we have developed from our investment.

### ***Strain Engineering***

Companies and researchers around the world are continuously learning how the complex biological processes in organisms work. Because there is so much that is still unknown, the best method for development of commercially viable strains is to test as many hypotheses as accurately and quickly as possible to accelerate the learning curve.

We have developed a high-throughput strain engineering system that is currently capable of producing and screening more than 100,000 yeast strains per month, which enables us to achieve an approximately 90% lower cost per strain than we achieved in 2009. We generated more than 360,000 unique strains in 2018, surpassing 6.3 million unique strains created since our inception, with each strain testing for improved production of the target molecules. In addition, through our lab-scale and pilot-plant fermentation operations, and our proprietary analytical tools, we are now able to predict, with high reliability, the performance of candidate strains at industrial scale.

### ***Upscaling and Commercialization***

The riskiest part of commercializing biotechnology is often the scale up and manufacturing due to the perceived unpredictability of biotechnology at different scales. We have built scale-up and manufacturing capabilities as our advantage by heavily investing in prediction models and analytics to quickly ascertain how a strain's behavior at one scale will translate in another scale. We've successfully scaled up and manufacture eight distinct molecules at commercial volumes to date, leading to more than 15 commercial ingredients used by thousands of leading global brands. The results of our advantage are accelerated speed to market, lower overall development costs, and a significantly lower risk profile for any project we undertake.

A strain must be improved to increase the level of efficiency of production, and tested for performance in larger-volume facilities, before it is implemented at commercial-scale manufacturing facilities. Our unique infrastructure to support this scale-up process includes lab-scale fermenters (0.5 to 2 liter), operating pilot plants in our facilities in Emeryville, California and Campinas, Brazil (300 liters), two 5,000-liter fermenters in our Campinas demonstration facility and five years' experience owning and operating the 1,200,000-liter production facility in Brotas, Brazil that we sold in late 2017. Each of these stages mimic the conditions found in larger scale fermentation so that our findings may translate predictably from lab scale to pilot and ultimately to commercial scale. Our infrastructure is so accurate that we can go straight from lab scale to commercial scale for our fermentations. Typically, the only reason we ever invest in the pilot scale step is to produce enough product to accurately test our downstream processing since our fermentation process is already robust.

The complexities that can arise at industrial scale manufacturing are significant and it takes an experienced team to not only address issues as they arise, but to also have the foresight to prevent issues from arising. With five years of experience operating the production facility in Brotas, Brazil that we designed (prior to selling the facility in late 2017), we have been able to develop a world-class manufacturing team. This team has successfully brought on line a production facility and scaled up and manufactured eight molecules at commercial scale that are currently used in thousands of consumer goods products around the world. Our effort also expands into continued strain and process improvements to ensure our manufacturing is robust and the most cost advantaged.

### **Product Markets and Partnerships**

There are three market areas that are our primary focus and key to our growth: Health & Wellness, Clean Beauty and Flavor & Fragrance. Each of these markets embodies our core competencies of sustainably providing clean ingredients in markets where we can be the most impactful, not only from a growth and revenue standpoint, but also for healthier living.

We believe that our leadership in biotechnology is demonstrated by collaboration partners, who come to us to access our platform and industrial fermentation expertise. Together we seek to reduce environmental impact, enhance performance, reduce supply and price volatility, and improve profit margins. Our partners include Flavor & Fragrance companies such as Firmenich S.A. (Firmenich) and Givaudan International, SA (Givaudan), and nutraceutical companies such as DSM. A portion of our work has also been funded by the U.S. government, including the Department of Energy (DOE) and DARPA, to develop technologies and processes capable of improving the ability to utilize biotechnology for the production of a broader range of molecules.

### ***Health & Wellness***

Our Health & Wellness focus includes alternative sweeteners, nutraceuticals, such as vitamins, and food ingredients. As consumers continue to demand higher nutritional performance, cleaner labels and convenience from their food, the demand for specific ingredients that are often difficult and expensive to procure will continue to grow. Animal farming is also being impacted by the growing demand for protein and the need to change farming practices, such as reducing antibiotic use. Our technology can be employed to provide affordable access to these desired ingredients for both human and animal health. To date, product revenue in this area has been from a derivative made from our Biofene® product by our partner. In late 2018, we began to produce at commercial scale an alternative, non-nutritive sweetener.

During 2015, we announced the signings of our first ingredient supply agreement and collaboration agreement for the global nutraceuticals market. Under the supply agreement, we sourced Biofene to our partner, which was then further processed into a nutraceutical product. In 2016, we made the first large-scale shipments of Biofene to our partner, who successfully produced and sold a nutraceutical product to its customers. In 2017 and 2018, we expanded our collaborations in nutraceuticals to four vitamins and a human nutrition ingredient.

### ***Flavor & Fragrance Markets***

Our technology enables us to cost-effectively produce natural oils and aroma chemicals that are commonly used in the Flavor & Fragrance market. Many of the natural ingredients used in the Flavor & Fragrance market are expensive because there is limited supply and the synthetic alternatives require complex chemical conversions. We offer Flavor & Fragrance companies a natural route to procure these high-value ingredients without sacrificing cost or quality. To date, we have successfully brought four Flavor & Fragrance ingredients to market with our collaboration partners. We also have several other ingredients under development.

In late 2013, we commenced commercial production of our first Flavor & Fragrance ingredient for a range of applications, from perfumes to laundry detergent, which is marketed by a collaboration partner which is a global Flavor & Fragrance leader. In 2014, we completed our first production campaign of this ingredient and shipped it to this collaboration partner. In late 2015, we commenced production and initial sales of our second Flavor & Fragrance ingredient to the same collaboration partner. During 2018, we shipped five compounds destined for the Flavor & Fragrance market (including compounds converted by our partners to Flavor & Fragrance ingredients) to our partners.

We are currently working to develop and commercialize a variety of Flavor & Fragrance ingredients that are either direct fermentation products or derivatives of fermentation products.

### ***Clean Beauty***

Our Clean Beauty focus includes skincare and cosmetic ingredients we develop and commercialize with our partners and our branded Biossance and Neossance product lines. We have several cosmetic ingredients currently under development. Our Biossance and Neossance products are discussed further in the *Amyris-branded Product Markets* section below.

### ***Amyris-branded Product Markets***

Through basic chemical finishing steps, we are able to convert our farnesene into squalane, which is used today as a premium emollient in Clean Skincare products. We believe that our squalane offers performance attributes equal or superior to those of squalane derived from conventional sources. The

ingredient traditionally has been manufactured from olive oil or extracted from deep-sea shark liver oil, which requires that the shark be killed in order to harvest its liver oil. The relatively high price and unstable supply of squalane in the past meant that its use was generally limited to luxury products or small quantities in mass-market product formulations. With our ability to produce a reliable supply of low-cost squalane that eliminates the need to harvest shark liver oil, we offer this ingredient at a price that we believe will drive increasing adoption by formulators. In addition to squalane, we offer a second, lower-cost emollient, hemisqualane, for the cosmetics market. In December 2016, we and Nikko Chemicals Co., Ltd. (Nikko) formed a joint venture, in which we hold a 50% interest, for our business-to-business sales of Neossance squalane and hemisqualane. See below under “Joint Venture” for more information regarding our Aprinova joint venture. The joint venture currently has supply agreements with several regional distributors, including those with locations in Japan, South Korea, Europe, Brazil and North America, and, in some cases, directly with cosmetics formulators, which we transferred to the joint venture during the formation process.

Our consumer skincare products, sold under our Biossance brand, feature our Biofene-derived squalane. Under our Biossance brand, we market and sell our products directly to retailers and consumers. Biossance was initially sold solely through our ecommerce branded website and in 2016, we expanded the product line to include an expansive line of high-performance skincare products and opened up sales through Home Shopping Network (HSN). In October 2016, we announced our Biossance product line would begin to be carried at Sephora in 2017. In February 2017, we launched a full squalane-based consumer cosmetic line at participating Sephora stores and Sephora online. All of the products are based on our commitment to No Compromise<sup>®</sup>. Since the launch of Biossance, sales have grown, and with Sephora’s partnership, we are looking to expand to more stores.

## **Manufacturing**

Until December 2017, we owned and operated a purpose-built, large-scale production facility located in Brotas, Brazil. In December 2017, we sold the facility to a unit of DSM and entered into a supply agreement with DSM for us to purchase output from the facility. See Note 13, “Divestiture” and Note 11, “Related Party Transactions” in Part II, Item 8 of this Annual Report on Form 10-K for additional information regarding our December 2017 transaction with DSM.

In September 2019, we obtained the necessary permits and broke ground on our Specialty Ingredients Plant (SIP). We expect the facility to be fully operational in Q1 of 2021. This facility will allow us to manufacture five products at once and to produce both our specialty ingredients portfolio and our new sweetener product. During construction, we are manufacturing our products at four contract manufacturing sites in Brazil, the U.S. and Spain. In addition, in May 2019 we entered into an agreement with Raizen Energia S.A. (Raizen) for the formation and operation of a joint venture relating to the production, sale and commercialization of alternative sweetener products whereby the parties would construct a manufacturing facility exclusively for sweetener molecules on land owned by Raizen and leased to the joint venture; see Note 16, “Subsequent Events” in Part II, Item 8 of this Annual Report on Form 10-K for more details.

For many of our products, we perform additional distillation or chemical finishing steps to convert initial target molecules into other finished products, such as renewable squalane. We have agreements with several facilities in the U.S. and Brazil to perform these downstream steps for such products. We may enter into additional agreements with other facilities for finishing services and to access flexible production capacity and an array of other services as we develop additional products. In December 2016, we purchased a manufacturing facility in Leland, North Carolina, which had been previously operated by Glycotech Inc. (Glycotech) to convert our Biofene into squalane and other final products. We subsequently contributed that facility to our Aprinova joint venture. See below under “Joint Venture” for more information regarding our Aprinova joint venture.

## **Joint Venture**

### *Aprinova, LLC*

In December 2016, we entered into joint venture agreements with Nikko related to the formation of a joint venture to focus on the worldwide commercialization of our Neossance cosmetic ingredients business.

In December 2016, we formed the joint venture under the name Neossance, LLC, and later changed the name to Aprinova, LLC (the Aprinova JV), which is jointly owned by us and Nikko. Pursuant to the joint venture agreements, we contributed certain assets to the Aprinova JV, including certain intellectual property and other commercial assets relating to our Neossance cosmetic ingredients business, as well as the production facility in Leland, North Carolina and related assets purchased by us from Glycotech in December 2016. We also agreed to provide the Aprinova JV with licenses to certain intellectual property necessary to make and sell products associated with the Neossance business. At the closing of the formation of the joint venture, Nikko purchased a 50% interest in the Aprinova JV in exchange for an initial payment to Amyris of \$10.0 million and payment to Amyris of any profits distributed in cash to Nikko from the Aprinova JV during the three year period following December 12, 2016, up to a maximum of \$10.0 million. In addition, as part of the formation of the Aprinova JV, we and Nikko agreed to make certain working capital loans to the Aprinova JV and we further agreed to execute a supply agreement to supply farnesene to the Aprinova JV, to purchase all of our requirements for the Aprinova JV products from the Aprinova JV, to transfer all of our customers for the Aprinova JV products to the Aprinova JV, to guarantee a maximum production cost for certain Aprinova JV products, and to bear any cost of production above such guaranteed costs.

### Product Distribution and Sales

We distribute and sell our products directly to distributors or collaboration partners, or through joint ventures, depending on the market. For most of our products, we sell directly to our collaboration partners, except for our consumer care products, which we sell to distributors and formulators (other than our Biossance brand, which we sell directly to retailers and consumers). Generally, our collaboration agreements include commercial terms, and sales are contingent upon achievement of technical and commercial milestones.

For the year ended December 31, 2018, revenue from 10%-or-more customers and from all other customers was as follows:

<u>(In thousands)</u>	<u>Renewable Products</u>	<u>Licenses and Royalties</u>	<u>Grants and Collaborations</u>	<u>Total Revenue</u>	<u>% of Total Revenue</u>
Firmenich . . . . .	\$ 3,727	\$1,700	\$ 5,717	\$11,144	17.5%
DSM . . . . .	18	5,958	4,735	10,711	16.8%
DARPA . . . . .	—	—	8,436	8,436	13.3%
Givaudan . . . . .	4,078	—	4,358	8,436	13.3%
All other customers . . . . .	<u>25,775</u>	<u>—</u>	<u>(898)</u>	<u>24,877</u>	<u>39.1%</u>
Total revenue . . . . .	<u>\$33,598</u>	<u>\$7,658</u>	<u>\$22,348</u>	<u>\$63,604</u>	<u>100.0%</u>

### Intellectual Property

Our success depends in large part upon our ability to obtain and maintain proprietary protection for our products and technologies, and to operate without infringing on the proprietary rights of others. We seek to avoid the latter by monitoring patents and publications in our product areas and technologies to be aware of developments that may affect our business, and to the extent we identify such developments, evaluate and take appropriate courses of action. With respect to the former, our policy is to protect our proprietary position by, among other methods, filing for patent applications on inventions that are important to the development and conduct of our business with the U.S. Patent and Trademark Office (the USPTO), and its foreign counterparts.

As of December 31, 2018, we had 512 issued U.S. and foreign patents and 313 pending U.S. and foreign patent applications that are owned or co-owned by or licensed to us. We also use other forms of protection (such as trademark, copyright, and trade secret) to protect our intellectual property, particularly where we do not believe patent protection is appropriate or obtainable. We aim to take advantage of all of the intellectual property rights that are available to us and believe that this comprehensive approach provides us with a strong proprietary position.

Patents extend for varying periods according to the date of patent filing or grant and the legal term of patents in various countries where patent protection is obtained. The actual protection afforded by patents, which can vary from country to country, depends on the type of patent, the scope of its coverage and the availability of legal remedies in the country. See “*Risk Factors — Risks Related to Our Business — Our proprietary rights may not adequately protect our technologies and product candidates.*”

We also protect our proprietary information by requiring our employees, consultants, contractors and other advisers to execute nondisclosure and assignment of invention agreements upon commencement of their respective employment or engagement. Agreements with our employees also prevent them from bringing the proprietary rights of third parties to us. In addition, we also require confidentiality or material transfer agreements from third parties that receive our confidential data or materials.

### ***Trademarks***

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

### **Competition**

We expect that our renewable products will compete with products produced from traditional sources as well as from alternative production methods that established enterprises and new companies are seeking to develop and commercialize.

### ***Health & Wellness***

Many active ingredients in the nutraceutical market are made via chemical synthesis by suppliers that have a deep chemistry knowhow and production facilities, including ingredient suppliers. We may compete directly with these companies with respect to specific ingredients or attempt to provide customers with more cost effective or higher performing alternatives. For food ingredients, we compete with companies that produce products from plant- and animal-derived sources as well as with companies that are also developing biotechnology production solutions to produce specific molecules.

### ***Flavor & Fragrance***

The main competition in the Flavor & Fragrance and cosmetic actives markets is from products derived from plant and animal sources as well as chemical synthesis. The products derived from plant and animal sources are typically produced at a higher cost, lower purity and create a greater impact on the environment compared to our products. Products derived from chemical synthesis are often produced at a low cost but have ramifications on sustainability as well as non-natural sourcing. There are also companies that are working to develop products using similar technology to us.

### ***Clean Beauty***

We develop and sell active cosmetic ingredients and consumer products in the Clean Beauty market, creating a competitive landscape that includes ingredient suppliers as well as consumer goods companies, such as Procter & Gamble and Estee Lauder. Most skincare ingredients are derived from plant and animal sources or created using chemical synthesis. Plant- and animal-sourced ingredients are typically higher in cost, lower in purity and have a greater impact on the environment versus our products. Products derived from chemical synthesis are often produced at a low cost but have ramifications on sustainability as well as non-natural sourcing. There are also companies that are working to develop products using similar technology to us.

### ***Competitive Factors***

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.

We believe that, for our products to succeed in the market, we must demonstrate that our products are comparable or better 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.

## **Regulatory Matters**

### ***Environmental Regulations***

Our development and production processes involve the use, generation, handling, storage, transportation and disposal of hazardous chemicals and radioactive and biological materials. We are subject to a variety of federal, state, local and international laws, regulations and permit requirements governing the use, generation, manufacture, transportation, storage, handling and disposal of these materials in the United States, Brazil and other countries where we operate or may operate or sell our products in the future. These laws, regulations and permits can require expensive fees, pollution control equipment or operational changes to limit actual or potential impact of our technology on the environment and violation of these laws could result in significant fines, civil sanctions, permit revocation or costs from environmental remediation. We believe we are currently in substantial compliance with applicable environmental regulations and permitting. However, future developments including the commencement of or changes in the processes relating to commercial manufacturing of one or more of our products, more stringent environmental regulation, policies and enforcement, the implementation of new laws and regulations or the discovery of unknown environmental conditions may require expenditures that could have a material adverse effect on our business, results of operations or financial condition. See “*Risk Factors — Risks Relating to Our Business — 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.*”

### ***GMM Regulations***

The use of genetically-modified microorganisms (GMMs), such as our yeast strains, is subject to laws and regulations in many countries. In the United States, the Environmental Protection Agency (EPA) regulates the commercial use of GMMs as well as potential products produced from the GMMs. Various states within the United States could choose to regulate products made with GMMs as well. While the strain of genetically modified yeast that we use, *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. In Brazil, GMMs are regulated by the National Biosafety Technical Commission (CTNBio) under its Biosafety Law No. 11.105-2005. We have obtained commercial approvals from CTNBio to use our GMMs in a contained environment in our Brazil facilities for research and development purposes, in manufacturing and at contract manufacturing facilities in Brazil.

We expect to encounter GMM regulations in most if not all of the countries in which we may seek to make our products; however, the scope and nature of these regulations will likely vary from country to country. If we cannot meet the applicable requirements in countries in which we intend to produce our products using our yeast strains, then our business will be adversely affected. See “*Risk Factors — Risks Related to Our Business — 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.*”

### ***Chemical Regulations***

Our renewable products may be subject to government regulations in our target markets. In the United States, the EPA administers the requirements of the Toxic Substances Control Act (TSCA), which regulates the commercial registration, distribution and use of many chemicals. Before an entity can manufacture or distribute significant volumes of a chemical, it needs to determine whether that chemical is listed in the

TSCA inventory. If the substance is listed, then manufacture or distribution can commence immediately. If not, then in most cases a “Chemical Abstracts Service” number registration and pre-manufacture notice must be filed with the EPA, which has 90 days to review the filing. A similar requirement exists in Europe under the Registration, Evaluation, Authorization and Restriction of Chemical Substances (REACH) regulation. See *“Risk Factors — Risks Related to Our Business — We may not be able to obtain regulatory approval for the sale of our renewable products.”* In 2013, the EPA registered farnesane as a new chemical substance under the TSCA, which enables us to manufacture and sell farnesane without restriction in the United States.

### ***Other Regulations***

Certain of our current or proposed products in the Health & Wellness, Clean Beauty, and Flavor & Fragrance markets, including alternative sweeteners, nutraceuticals, Flavor & Fragrance ingredients, skincare ingredients, cosmetic actives, and our proposed cannabinoid products, may be subject to regulation by the FDA, as well as similar agencies of states and foreign jurisdictions where these products are manufactured, sold or proposed to be sold. Pursuant to the Federal Food, Drug, and Cosmetic Act (the FDCA), the FDA regulates the processing, formulation, safety, manufacture, packaging, labeling and distribution of food ingredients, vitamins, and cosmetics. Generally, in order to be marketed and sold in the United States, a relevant product must be generally recognized as safe, approved and not adulterated or misbranded under the FDCA and relevant regulations issued thereunder. The FDA has broad authority to enforce the provisions of the FDCA applicable to food ingredients, vitamins and cosmetics, including powers to issue a public warning letter to a company, to publicize information about illegal products, to request a recall of illegal products from the market, and to request the United States Department of Justice to initiate a seizure action, an injunction action, or a criminal prosecution in the U. S. courts. Failure to obtain requisite approval from, or comply with the laws and regulations of, the FDA or similar agencies of states and applicable foreign jurisdictions could prevent us from fully commercializing certain of our products. See *“Risk Factors — Risks Related to Our Business — We may not be able to obtain regulatory approval for the sale of our renewable products.”* Our proposed cannabinoid products may also be subject to regulation under various federal, state and foreign-controlled substance laws and regulations. See *“Risk Factors — Our cannabinoid initiative is uncertain and may not yield commercial results and is subject to significant regulatory risks.”*

In addition, our end-user products such as our Biossance brand skincare products are subject to the regulations of the United States Federal Trade Commission (FTC) and similar agencies of states and foreign jurisdictions where these products are sold or proposed to be sold regarding the advertising of such products. In recent years, the FTC has instituted numerous enforcement actions against companies for failure to have adequate substantiation for claims made in advertising or for the use of false or misleading advertising claims. The FTC has broad authority to enforce its laws and regulations applicable to cosmetics, including the ability to institute enforcement actions which often result in consent decrees, injunctions, and the payment of civil penalties by the companies involved. Failure to comply with the laws and regulations of the FTC or similar agencies of states and applicable foreign jurisdictions could impair our ability to market our end-user products.

### **Employees**

As of December 31, 2018, we had 503 full-time employees, of whom 410 were in the United States and 93 were in Brazil. Except for labor union representation for Brazil-based employees based on labor code requirements in Brazil, none of our employees is represented by a labor union or is covered by a collective bargaining agreement. We have never experienced any employment-related work stoppages, and we consider relations with our employees to be good.

### **Corporate Information**

We were originally incorporated in California in 2003 under the name Amyris Biotechnologies, Inc. and then reincorporated in Delaware in 2010 and changed our name to Amyris, Inc. Our principal executive offices are located at 5885 Hollis Street, Suite 100, Emeryville, California 94608, and our telephone number is (510) 450-0761. Our common stock is listed on The Nasdaq Global Select Market under the symbol “AMRS”.



**Available Information**

Our website address is [www.amyris.com](http://www.amyris.com). Our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and other reports filed pursuant to Sections 13(a) and 15(d) of the Securities Exchange Act of 1934 (the Exchange Act), as well as amendments thereto, are filed with the U.S. Securities and Exchange Commission (the SEC) and are available free of charge on our website at [investors.amyris.com](http://investors.amyris.com) promptly after such reports are available on the SEC's website. We may use our [investors.amyris.com](http://investors.amyris.com) website as a means of disclosing material non-public information and complying with our disclosure obligations under Regulation FD.

The SEC maintains an Internet site that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC at [www.sec.gov](http://www.sec.gov).

The information contained in or accessible through our website or contained on other websites is not incorporated into this filing. Further, any references to URLs contained in this report are intended to be inactive textual references only.

## ITEM 1A. RISK FACTORS

*Investing in our common stock involves a high degree of risk. You should carefully consider the risks and uncertainties described below, together with all of the other information set forth in this Annual Report on Form 10-K, including the consolidated financial statements and related notes, which could materially affect our business, financial condition or future results. If any of the following risks actually occurs, our business, financial condition, results of operations and future prospects could be materially and adversely harmed. The trading price of our common stock could decline due to any of these risks, and, as a result, you may lose all or part of your investment.*

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

***The restatement of our previously issued financial statements has been time-consuming and expensive and could expose us to additional risks that could materially adversely affect our financial position, results of operations and cash flows.***

On April 5, 2019, our Audit Committee, after consultation with management and KPMG LLP (KPMG), our former independent registered public accounting firm, determined that we would restate our interim condensed consolidated financial statements for the quarterly and year-to-date periods ended March 31, 2018, June 30, 2018 and September 30, 2018, included in our Quarterly Reports on Form 10-Q for the fiscal quarters ended March 31, 2018, June 30, 2018 and September 30, 2018, respectively. In addition, on May 14, 2019, our Board of Directors, upon the recommendation of the Audit Committee after consultation with senior management and KPMG, determined that we would restate our audited consolidated financial statements for the year ended December 31, 2017. During the preparation and audit of our consolidated financial statements for the fiscal year ended December 31, 2018 included in this Annual Report on Form 10-K, we concluded that material errors were made as described in Note 2, “Restatement of Consolidated Financial Statements” to the Consolidated Financial Statements herein. The consolidated financial statements and related information included in our previously filed Annual Report on Form 10-K for the year ended December 31, 2017 and Quarterly Reports on Form 10-Q for the periods ended March 31, 2018, June 30, 2018 and September 30, 2018 and all earnings press releases and similar communications issued by us for such periods should not be relied upon and are superseded in their entirety by this Annual Report on Form 10-K.

Accordingly, this Annual Report on Form 10-K as of and for the year ended December 31, 2018 includes: (1) changes to our consolidated financial statements to reflect the restatement of our audited consolidated financial statements for the year ended December 31, 2017 and our unaudited interim condensed consolidated financial statements for the quarterly and year-to-date periods ended March 31, 2018, June 30, 2018 and September 30, 2018; (2) changes as to reflect the restatement of our unaudited quarterly and year-to-date periods ended March 31, 2017, June 30, 2017 and September 30, 2017 for additional errors identified during the re-audit of our consolidated financial statements for the year ended December 31, 2017; (3) expanded risk factor disclosures within this Part I, Item 1A; and (4) additional disclosures and conclusions regarding our disclosure controls and procedures and internal control over financial reporting in Part II, Item 9A.

As a result of the restatement and associated non-reliance on previously issued financial information, we have become subject to a number of additional expenses and risks, including unanticipated expenses for accounting and legal fees in connection with or related to the restatement. Likewise, the attention of our management team has been diverted by these efforts. In addition, we could also be subject to additional shareholder, governmental, regulatory or other actions or demands in connection with the restatement or other matters. Any such proceedings will, regardless of the outcome, consume a significant amount of management’s time and attention and may result in additional legal, accounting, insurance and other expenses. If we do not prevail in any such proceeding, we could be required to pay damages or settlement costs. In addition, the restatement and related matters could impair our reputation or could cause our customers, shareholders, or other counterparties to lose confidence in us. Any of these occurrences could have a material adverse effect on our business, results of operations, financial condition and stock price.

***We have identified material weaknesses in our internal control over financial reporting which, if not corrected, could affect the reliability of our consolidated financial statements and have other adverse consequences.***

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as defined in Rule 13a-15(f) under the Exchange Act. Section 404 of the Sarbanes-Oxley Act of 2002 (Section 404) and related SEC rules require management to assess the effectiveness of our internal control over financial reporting. Based on the assessment as of December 31, 2018, our management believes that our internal control over financial reporting was not effective at that date due to material weaknesses we identified. A material weakness is a deficiency, or combination of control deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis.

Based on management's assessment, we have identified the following material weaknesses:

- Our control environment is not effective because we lack a sufficient number of trained resources with assigned responsibility and accountability over the application of generally accepted accounting principles and financial reporting and related internal controls over complex, significant non-routine transactions and routine transactions;
- We did not have an effective risk assessment process to identify and analyze necessary changes in business operations resulting from complex significant non-routine transactions and completeness and adequacy of required disclosures;
- We did not have an effective internal and external information and communication process to ensure that relevant and reliable information was communicated timely across the organization, to enable financial personnel to effectively carry out their financial reporting and internal control roles and responsibilities; and
- The Company did not design, implement and operate effective monitoring activities over complex, significant non-routine transactions and the accounting for income taxes to ascertain whether the processes and internal controls were present and functioning.

As a consequence of the ineffective control environment, risk assessment, information and communication and monitoring activities components, we did not design, implement, and maintain effective control activities at the transaction level over all significant accounts to mitigate the risk of material misstatement in financial reporting, specifically:

- We did not retain the required documentation to demonstrate the consistent and timely operation of the controls at a sufficient level of precision to prevent and detect potential misstatements; and
- We did not design and operate effective controls over account reconciliations, review and approval of manual journal entries, complex, significant non-routine transactions related to licenses and royalty revenue recognition, derivative liabilities, currency translation adjustments and the completeness and accuracy and timely preparation of financial statement presentation and disclosures, including earnings per share.

The control deficiencies contributed to the restatement of our audited consolidated financial statements for the year ended December 31, 2017 and resulted in material errors to our interim condensed consolidated financial statements for the quarterly and year-to-date periods ended March 31, 2017, June 30, 2017, September 30, 2017, March 31, 2018, June 30, 2018 and September 30, 2018, as described above, and material and immaterial misstatements to the preliminary consolidated financial statements as of and for the year ended December 31, 2018. Material misstatements were corrected prior to the issuance of the consolidated financial statements as of and for the year ended December 31, 2018. However, the control deficiencies resulted in the restatement discussed above and create a reasonable possibility that a further material misstatement of our annual or interim consolidated financial statements would not be prevented or detected on a timely basis. Furthermore, the control deficiencies contributed to a delay in the timely filing of our periodic reports. Therefore, we concluded that these control deficiencies are material weaknesses and our internal control over financial reporting is not effective as of December 31, 2018.

See Part II, Item 9A “Controls and Procedures” of this Annual Report on Form 10-K for additional information. If not remediated, the material weaknesses could result in further material misstatements to our annual or interim consolidated financial statements that would not be prevented or detected on a timely basis, or in delayed filing of required periodic reports. Our management has developed, and begun to implement, a plan to remediate the material weaknesses. We cannot, however, assure you that we will be able to implement the plan, or to remediate the material weaknesses in a timely manner. Furthermore, during the course of re-design of existing processes and controls, implementation of additional processes and controls and testing of the operating effectiveness of such re-designed and additional processes and controls, we may identify additional control deficiencies that could give rise to other material weaknesses, in addition to the currently identified material weaknesses. We expect the remediation plan to extend over multiple financial reporting periods in 2019 and 2020. If our remedial measures are insufficient to address the material weakness, or if additional material weaknesses or significant deficiencies in our internal controls are discovered or occur in the future, we may be unable to report our financial results accurately or on a timely basis, which could cause our reported financial results to be materially misstated and result in the loss of investor confidence and adversely affect the market price of our common stock and our ability to access the capital markets, and we could be subject to sanctions or investigations by the Nasdaq Stock Market (Nasdaq), the SEC or other regulatory authorities.

***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 help us to prevent fraud. In addition, Section 404 of the Sarbanes-Oxley Act of 2002 (Section 404) requires us and our independent registered public accounting firm 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 continuous 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 to those operations and increase the difficulty of implementing and maintaining adequate internal control over our financial processes and reporting in the future, which could lead to delays in our external reporting. In particular, this may occur in instances in which 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 in the future, and our independent registered public accounting firm concurs, 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, which 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, 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 the Company’s common stock, which could further reduce our stock price and could harm 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 operating losses since our inception, and we expect to continue to incur losses and negative cash flows from operations for at least the next 12 months following the issuance of this Annual Report on Form 10-K. As of December 31, 2018, we had negative working capital of \$119.5 million and an accumulated deficit of \$1.5 billion.

As of December 31, 2018, our debt (including related party debt), net of deferred discount and issuance costs of \$17.1 million and a fair value adjustment of \$2.1 million, totaled \$209.7 million, of which \$147.7 million is classified as current. Our debt agreements contain various covenants, including certain restrictions on our business that could cause us to be at risk of contractual defaults, such as restrictions on additional indebtedness, material adverse effect and cross default clauses. 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 a substantial portion 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 a substantial portion of such other outstanding indebtedness. We have in the past, including in July 2019, had certain of our debt instruments accelerated for failure to make a payment when due. While we have been able to cure these defaults to date to avoid additional cross-acceleration, we may not be able to cure such a default promptly in the future. See Note 16, “Subsequent Events” in Part II, Item 8 of this Annual Report on Form 10-K for additional information.

Our cash and cash equivalents of \$45.4 million as of December 31, 2018 will not be sufficient to fund expected future negative cash flows from operations and cash debt service obligations through September 30, 2020. These factors raise substantial doubt about our ability to continue as a going concern within one year after the date that these financial statements are issued. The financial statements do not include any adjustments that might result from the outcome of this uncertainty. Our ability to continue as a going concern will depend, in large part, on our ability to achieve positive cash flows from operations during the 12 months from the date of this filing, and refinance or extend other existing debt maturities occurring later in 2019, all of which is uncertain and outside our control. Further, our operating plan for 2019 contemplates a significant reduction in our net operating cash outflows as compared to the year ended December 31, 2018, resulting from (i) revenue growth from sales of existing and new products with positive gross margins, (ii) reduced production costs as a result of manufacturing and technical developments, and (iii) cash inflows from collaborations and grants. If we are unable to complete these actions, we expect to be unable to meet our operating cash flow needs and our obligations under our existing debt facilities. This could result in an acceleration of our obligation to repay all amounts outstanding under those facilities, and the Company may be forced to obtain additional equity or debt financing, which may not occur timely or on reasonable terms, if at all, and/or liquidate our assets. In such a scenario, the value received for assets in liquidation or dissolution could be significantly lower than the value reflected in these financial statements.

Our consolidated financial statements 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 will require significant cash inflows from the sales of renewable products, licenses and royalties, and grants 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 and operating and capital expenditures for 2019, and our ability to service our outstanding debt obligations, are dependent on significant inflows of cash from grants and collaborations, licenses and royalties, and product sales and, if needed, additional financing arrangements. We will continue to need to fund our research and development and related activities and to provide working capital to fund production, procurement, storage, distribution and other aspects of our business. Some of our anticipated funding sources, such as research and development collaborations, are subject to the risks that we may not be able to meet milestones, or that 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). 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:

- Shift focus to existing products and customers with significantly reduced investment in new product and commercial development efforts;
- Reduce expenditures for third party contractors, including consultants, professional advisors and other vendors;
- Reduce or delay uncommitted capital expenditures, including expenditures related the construction and commissioning of the new production facility in Brazil, nonessential facilities and lab equipment, and information technology projects; and
- Closely monitor our 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 and increase the severity of the consequences described above.

***Our existing financing arrangements provide our secured lenders with liens on substantially all of our assets, including our intellectual property, and contain financial covenants and other restrictions on our actions, which may cause significant risks to our stockholders and may impact our ability to pursue certain transactions and operate our business.***

As of December 31, 2018, our debt totaled \$209.7 million, net of discount and issuance costs of \$17.1 million and a fair value adjustment of \$2.1 million, of which \$147.7 million 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 granted liens on substantially all of our assets, including our intellectual property, as collateral in connection with certain financing arrangements with a current aggregate principal amount outstanding of \$81.5 million, and have agreed to significant covenants in connection with such transactions (see Note 5, "Debt" and Note 16, "Subsequent Events" in Part II, Item 8 of this Annual Report on Form 10-K), including covenants that materially limit our ability to take certain actions, including our ability to pay dividends, make certain investments and other payments, incur additional indebtedness, undertake certain mergers and consolidations, and encumber and dispose of assets, and customary events of default, including failure to pay amounts due, breaches of covenants and warranties, material adverse effect events, certain cross defaults and judgements, and insolvency. For example, the loan and security agreements relating to our secured term loan credit facilities that closed in June 2018 and August 2019 prevent us from incurring additional indebtedness, making investments, encumbering our assets, engaging in certain corporate transactions, such as mergers and consolidations, and transferring or otherwise disposing of assets, subject in each case to certain exceptions, and also require us to maintain certain liquidity and asset coverage levels and meet certain revenue requirements. 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 a substantial portion of our 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. If we are unable to make payment on our secured debt instruments when due, the lenders under such instruments may foreclose on and sell the assets securing such indebtedness to satisfy our payment obligations, which could prevent us from accessing those assets for our business and conducting our business as planned, which could materially harm our financial condition and results of operations.

In addition, certain of our outstanding securities contain anti-dilution adjustment provisions that 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 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;
- our secured loan agreements restrict our ability to grant additional liens on our assets, which may make it more difficult to secure additional financing in the future; and
- our substantial leverage may make it difficult for us to attract additional financing when needed.

***We are currently ineligible to use a registration statement on Form S-3 to register the offer and sale of securities, which could adversely affect our ability to raise future capital.***

As a result of the delayed filing of this Annual Report on Form 10-K, our Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2019 and our Quarterly Report on Form 10-Q for the fiscal quarter ended June 30, 2019 with the SEC, we will not be eligible to register the offer and sale of our securities using a registration statement on Form S-3 until one year from the date we regain and maintain status as a current filer. Should we wish to register the offer and sale of our securities to the public prior to the time we are eligible to use Form S-3, both our transaction costs and the amount of time required to complete the transaction could increase, potentially harming our financial condition.

***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, licenses and royalties revenues, and grants and collaborations revenues. We generate the substantial majority of our product revenues from sales to collaboration partners 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. Also, under revenue recognition rules, we are required to estimate royalties. These estimates could be subject to material adjustment in subsequent periods.

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 collaboration partners 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. 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, 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. 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.

Further, 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 collaboration partners. 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. 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. 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. Our collaboration arrangements may also include future royalty payments upon commercialization of the products subject to the collaboration arrangements, which is uncertain and depends in part on the success of the counterparty in commercializing the relevant product. As a result, our receipt of royalty revenues and the timing thereof is difficult to predict with certainty.

Furthermore, we have begun to market and sell some of our products directly to end-consumers, initially in the cosmetics market. Because we have limited 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. 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.

***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 or obtain milestone-related payments from collaboration partners;
- 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 at a new production facility or the transition (including ramp up) to producing new molecules at existing facilities or with a new 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 as a result of feedstock availability, contamination, safety or other technical difficulties, or scheduled downtime as a result of transitioning 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;
- change in the fair value of derivative instruments;
- fluctuations in the price of and demand for sugar, ethanol, 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;
- 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.

***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, collaboration partners or distributors, our revenues could decline if we are unable to replace the lost revenues with revenues from other sources. Further, since our business depends in part on such collaboration agreement, it may be difficult for us to replace any such lost revenues through additional collaborations in any period, as revenue from such new collaborations will often be recognized over multiple quarters or years.

***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 development of certain of our products and, in some cases, for ultimate sale of certain products to the customer under the agreement. Most of these agreements do not affirmatively obligate 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 collaboration partners, which we cannot be certain we will achieve. If we do not achieve these contractual milestones or specifications, our revenues and financial results will be adversely affected.

***We face challenges producing our products at commercial scale or at reduced cost and may not be able to commercialize our products to the extent necessary to make a profit or 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 products business.

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. 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 and contract manufacturing costs.

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.

***If we are not able to successfully commence, scale up or sustain operations at 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 commenced operations at our first purpose-built, large-scale production facility located in Brotas, Brazil in 2012. In December 2016, we acquired a production facility in Leland, North Carolina, which facility had been previously operated by our partner Glycotech Inc. to perform chemical conversion and production of certain of our end-products, and which facility was subsequently transferred to our newly-formed joint venture with Nikko, as further described in Note 11, “Related Party Transactions” in Part II, Item 8 of this Annual Report on Form 10-K. In December 2017, we sold the Brotas facility to DSM and concurrently entered into a supply agreement with DSM for us to purchase output from the facility, which represents a significant portion of our expected supply needs (see Note 13, “Divestiture”, Note 10, “Revenue Recognition” and Note 11, “Related Party Transactions” in Part II, Item 8 of this Annual Report on Form 10-K for more information). We are building a new purpose-built, large-scale specialty ingredients plant in Brazil, which we anticipate will allow for the manufacture of five products concurrently and over 10 different products annually. We currently anticipate completing construction of the facility by the end of 2020; however, there can be no assurances that we will be able to complete such facility on our expected timeline, if at all. In addition, in May 2019 we entered into a joint venture agreement with Raizen for the production, sale and commercialization of alternative sweetener products, pursuant to which the parties would construct a manufacturing facility exclusively for alternative sweetener products on land owned by Raizen and leased to the joint venture; see Note 16, “Subsequent Events” in Part II, Item 8 of this Annual Report on Form 10-K for more details. The consummation of the transactions contemplated by the joint venture agreement, including the construction of a manufacturing facility for the production of alternative sweetener products, is subject to conditions, including certain regulatory approvals and the achievement of certain technological and economic milestones relating to the production of our alternative sweetener product, and there can be no assurances that the construction of such facility will occur on our expected timeline, if at all. Delays or problems in the construction, start-up or operation of such facilities could 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.

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. It is difficult to predict the effects of scaling up production of industrial fermentation to commercial scale, as it involves various risks to the quality and consistency of our molecules. In addition, in order to produce molecules at 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 may not be available on terms acceptable to us, if at all, and 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.

In addition, the production of our products at our planned purpose-built, large-scale production facilities will require large volumes of feedstock. For our planned large-scale production facilities in Brazil, we plan to rely primarily on Brazilian sugarcane. While in certain cases we have entered into feedstock agreements with suppliers, including Raizen, which we expect to supply the sugarcane feedstock necessary to produce our products at our planned large-scale production facilities in Brazil, that specify the pricing, quantity and product specifications for our feedstocks, we cannot predict the future availability or price of these various feedstocks, nor can we be sure that our mill partners, including Raizen, will be able to supply it in sufficient quantities or in a timely manner. 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.

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

In addition to our existing and planned production facilities discussed above, we must commercially produce, process and manufacture our products through the use of contract manufacturers, including DSM, and we anticipate that we will continue to use contract manufacturers for the foreseeable future. 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. Further, 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, delivery and other terms with them for the provision of their production services.

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.

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

As discussed above, we rely on contract manufacturers, including DSM, to produce and/or provide downstream processing of our products, and we anticipate that we will need to use contract manufacturers for the foreseeable future. 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. 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, reliance on external sources for our 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, creating risk of loss of sales and profitability. 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 operations at new contract 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 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, including customers of our branded products, or that we will be able to sell our products profitably at prices and with features sufficient to establish demand. The potential customers for our products 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. Similarly, customers of our branded products may have a resistance to accept our alternative compositions for such products. 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, the consumers who purchase end-products containing our products and the customers of our direct to consumer products 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. Moreover, in order to successfully market our direct to consumer products, we must continue to build our sales, marketing, managerial, compliance, and related capabilities or make arrangements with third parties to perform these services. If we are unable to establish adequate sales, marketing, and distribution capabilities, whether independently or with third parties, we may not be able to appropriately commercialize such products.

***The price and availability 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-de-Açúcar, Açúcar e Etanol do Estado de São Paulo (Council of Sugarcane, Sugar and Ethanol Producers in the State of São Paulo, 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. In addition, if the availability of sugarcane juice or syrup or other feedstocks is restricted or limited due to weather conditions, land conditions or any other reason, we may not be able to manufacture our products in a timely or cost-effective manner, or at all, which would have a material adverse effect on our business.

***We expect to face competition for our products from existing suppliers, including from price declines in petroleum and petroleum-based products, and if we cannot compete effectively against these companies, products or prices, we may not be successful in bringing our products to market, demand for some of our renewable products may decline, or we may be unable to further grow our business.***

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 have entered, 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 health and nutrition companies, large international chemical companies and companies specializing in specific products, such as flavor or fragrance ingredients, 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 renewable 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;
- sustainability; and
- dependability of supply.

The global health and nutrition companies, large international chemical companies and companies specializing in specific products 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.

While most 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. We believe that for our renewable products to succeed in the market, we must demonstrate that our products are comparable or better 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.

***We are subject to risks related to our reliance on collaboration arrangements to fund development and commercialization of our products, and our financial results may be adversely impacted if we fail to meet technical, development or commercial milestones in such agreements.***

For most product markets we are seeking to enter, we have 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 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, most of these agreements do not affirmatively obligate 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 programs and milestones, and technical specifications that must be achieved to the satisfaction of our collaboration partners. We may focus our efforts and resources on potential discovery efforts, product targets or candidates that require substantial technical, financial and human resources which we cannot be certain we will achieve.

In addition, we may encounter numerous uncertainties and difficulties in developing, manufacturing and commercializing any new products subject to these collaboration arrangements that may delay or prevent us from realizing their expected benefits or enhancing our business, including uncertainties on the feasibility of taking new molecules to commercial scale. Any failure to successfully develop, produce and commercialize products under our existing and future collaboration arrangements could have a material adverse effect on our business, financial conditions, earnings and prospects.

Revenues from these types of relationships are a key part of our cash plan for 2019 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 obliged to enter into agreements that contain less favorable terms. Historically, the process of negotiating and finalizing collaboration arrangements with our partners has at times been lengthy and unpredictable. Furthermore, as part of our current and future collaboration arrangements, we may be required to make significant capital investments at our existing or planned production facilities in order to develop, produce and commercialize molecules or other products. Any failure or difficulties in maintaining existing collaboration arrangements or establishing new collaboration arrangements, or building up or retooling our operations to meet the demands of our collaboration partners 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 or divert capital, personnel and other resources from our organization which could adversely affect our business and reputation.

***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 royalty arrangements. These rights may 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 or influence our strategic focus, and may lead to an inefficient allocation of capital resources.

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 products, 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 affected.

***Third parties may misappropriate our yeast strains.***

Third parties, including collaboration partners, contract manufacturers, 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.

***Certain rights we have granted to Total S.A., DSM and other existing stockholders, including in relation to our future securities offerings, could substantially impact our company.***

In connection with certain investments of Total S.A. (Total) in our company, our Certificate of Incorporation includes a provision that excludes Total from prohibitions on business combinations between us and an “interested stockholder.” This provision 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, each of Total, DSM, Vivo Capital LLC and Naxyris S.A. has 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, which was amended and restated in August 2017, 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, and (ii) to provide DSM with certain exclusive negotiating rights in connection with certain future commercial projects and arrangements. 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 their investments in Amyris, we granted certain investors, including 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.

***Our relationship with DSM exposes us to financial and commercial risks.***

In May 2017, DSM made an investment in our company and, in connection therewith, we entered into a stockholder agreement with DSM (subsequently amended) which provides DSM with certain rights, including the right to designate two members of our board of directors as well as exclusive negotiating rights in connection with certain future commercial projects and arrangements. Subsequently, in July and September 2017, we entered into collaboration agreements (and related license agreements) with DSM to jointly develop three new molecules in the Health and Nutrition field using the Company’s technology, which the Company would produce and DSM would commercialize. In December 2017, we completed the sale of our Brotas, Brazil production facility to DSM and, in connection therewith, entered into several commercial agreements with DSM, including a supply agreement to procure a substantial portion of our product supply requirements, and borrowed \$25 million from DSM. For more information regarding these and other transactions and arrangements with DSM, please see Note 5, “Debt,” Note 7, “Stockholders’ Deficit,” Note 10, “Revenue Recognition”, Note 11, “Related Party Transactions,” Note 13, “Divestiture” and Note 16, “Subsequent Events” in Part II, Item 8 of this Annual Report on Form 10-K.

There can be no assurance that our partnership with DSM will be successful, and the partnership may prevent us from pursuing other business opportunities in the future. If the partnership is unsuccessful, our ability to continue with our business plans could be adversely affected. In addition, negative developments in one aspect of our relationship with DSM could negatively affect other aspects of our relationship with DSM. In such event, our financial condition and business operations could be adversely affected.

In addition, DSM, due to the presence of its representatives on our board of directors, equity ownership in our company, and commercial relationships with us, may be able to control or significantly influence our management, operations and affairs, as well as 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. Due to its various relationships with the Company, DSM may have interests different than, and may not act in the best interests of, our other



stockholders. Consequently, our relationship with DSM may have the effect of delaying or preventing a change of control, 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.

***A significant portion of our operations are 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 involved interest rate adjustments. 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 privacy, anti-corruption and anti-bribery laws, including certain anti-corruption and privacy 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, through 2018, experienced high inflation and a growing fiscal deficit of its federal government accounts. Although recent data has shown signs of an economic recovery in Brazil, there is no assurance that such recovery will continue. 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.

***We are subject to the risks of doing business globally.***

We maintain operations in foreign jurisdictions other than Brazil, and may in the future expand, or seek to expand, our operations to additional foreign jurisdictions. For example, in 2018 we announced plans to increase our commercial activities in China. Operating in China exposes us to political, legal and economic risks. In particular, the political, legal and economic climate in China, both nationally and regionally, is fluid and unpredictable. Our ability to operate in China may be adversely affected by changes in U.S. and Chinese laws and regulations such as those related to taxation, import and export tariffs, environmental regulations, land use rights, intellectual property, currency controls, network security and other matters. In addition, we may not obtain or retain the requisite permits to operate in China, and costs or operational limitations may be imposed in connection with obtaining and complying with such permits. In addition, Chinese trade regulations are in a state of flux, and we may become subject to other forms of taxation, tariffs and duties in China. Furthermore, our counterparties in China may use or disclose our confidential information or intellectual property to competitors or third parties, which could result in the illegal distribution and sale of counterfeit versions of our products. If any of these events occur, our business, financial condition and results of operations could be materially and adversely affected.

In addition, a significant percentage of the production, downstream processing and sales of our products occurs outside the United States or with vendors, suppliers or customers located outside the United States. If tariffs or other restrictions are placed by the United States on foreign imports from Brazil or other countries where we operate or seek to operate, or any related counter-measures are taken, our business, financial condition and results of operations may be harmed. In 2018, President Trump imposed tariffs on steel and aluminum imports and additional tariffs on goods imported from certain specified countries, including China, and has indicated potential future tariffs on a range of goods from certain countries. In response, certain countries, including China, have imposed retaliatory tariffs on U.S. goods imported into such countries. If further tariffs are imposed on a broader range of imports, or if further retaliatory trade measures are taken by other countries in response to additional tariffs, our operating performance could be harmed. Tariffs may increase our cost of goods, which could result in lower gross margin on certain of our products. If we raise prices to account for any such increase in costs of goods, the competitiveness of the affected products could potentially be reduced. In either case, increased tariffs on imports from Brazil or other countries where we operate or seek to operate could materially and adversely affect our business, financial condition and results of operations. Furthermore, in retaliation for any tariffs imposed by the United States, other countries may implement tariffs on a wide range of American products, which could increase the cost of our products for non-U.S. customers located in such countries. Any increase in the cost of our products for non-U.S. customers, which represent a substantial portion of our sales, could result in a decrease in demand for our products by such customers. Trade restrictions implemented by the United States or other countries could materially and adversely affect our business, financial condition and results of operations.

Many, if not all of the above-mentioned risks also apply to our operations in other foreign jurisdictions where we operate or seek to operate. If any of these risks were to occur, our operations and business would be adversely affected.

***We are subject to new U.S. foreign investment regulations which may impose additional burdens on or may limit certain investors' ability to purchase our common stock, potentially making our common stock less attractive to investors.***

In October 2018, the U.S. Department of Treasury announced a pilot program to implement part of the Foreign Investment Risk Review Modernization Act (FIRRMA), effective November 10, 2018. The pilot program expands the jurisdiction of the Committee on Foreign Investment in the United States (CFIUS), to include certain direct or indirect foreign investments in a defined category of U.S. companies, including companies involved in critical infrastructure and critical technologies. Among other things, FIRRMA empowers CFIUS to require certain mandatory filings in connection with certain foreign

investments in U.S. companies and permits CFIUS to charge filing fees related to such filings. Such filings are subject to review by CFIUS, which will have the authority to recommend that the President block or impose conditions on certain foreign investments in companies subject to CFIUS's oversight. Any such restrictions on the ability of foreign investors to invest in our company could limit our ability to engage in strategic transactions that may benefit our stockholders, including a change of control, and may prevent our stockholders from receiving a premium for their shares of our common stock in connection with a change of control, and could also affect the price that some investors are willing to pay for our common stock.

***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 (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. 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 (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 for industrial scale production of target products. In addition, we have obtained initial commercial approvals from CTNBio for five of our yeast strains, with two of these strains being approved for feed purposes. 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 industrial scale commercial production in Brazil. We may not be able to obtain such approvals on a timely basis, or at all, and if we do not, our ability to produce our products in Brazil could 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 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 regulatory requirements in the countries in which we produce or sell, or intend to produce or sell, products using our yeast strains, or if it takes longer than

anticipated to obtain the necessary regulatory approvals, our business could be adversely affected. Furthermore, there are various governmental, 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 governmental organizations, and verification from non-governmental and quasi-governmental organizations are generally not mandatory, some of our current or prospective customers, collaboration partners 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 (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 180 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. Also, certain of our current or proposed products in the Flavor & Fragrance, Clean Beauty and Health & Wellness markets, including alternative sweeteners, nutraceuticals, Flavor & Fragrance ingredients, skincare ingredients and cosmetic actives, may be subject to the approval of and regulation by the FDA, the European Food Safety Authority, as well as similar agencies of states and foreign jurisdictions where these products are sold or proposed to be sold.

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. In addition, any enforcement action taken by regulators against us or our products could cause us to suffer adverse publicity, which could harm our reputation and our relationship with our customers and vendors.

In addition, many of our products are intended to be a component of our collaboration partners 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, the FDA, or the European Food Safety Authority. If our company or our collaboration partners 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 markets where we sell our products are 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 products may harm

our business. The uncertainty regarding future standards and policies may also affect our ability to develop our 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.

***Our cannabinoid initiative is uncertain and may not yield commercial results and is subject to significant regulatory risks.***

In 2019, we announced a new collaboration arrangement aimed at developing, producing and commercializing fermentation-derived cannabinoids. While we believe there are substantial business opportunities for us in this field, there can be no assurance that our activities will be successful, or that any research and development and product testing efforts will result in commercially saleable products, or that the market will accept or respond positively to our products.

In addition, the market for cannabinoids is heavily regulated. Cannabinoids may be viewed as qualifying as controlled substances under the federal Controlled Substances Act of 1970 (CSA), and may be subject to a high degree of regulation including, among other things, certain registration, licensing, manufacturing, security, record keeping, reporting, import, export, insurance and other requirements administered by the U.S. Drug Enforcement Administration (DEA) and/or the FDA.

Individual states and countries have also established controlled substance laws and regulations, which may differ from U.S. federal law. We or our partner may be required to obtain separate state or country registrations, permits or licenses in order to be able to develop produce, sell, store and transport cannabinoids.

Complying with laws and regulations relating to cannabinoids is evolving, complex and expensive, and may divert management's attention and resources from other aspects of our business. Failure to maintain compliance with such laws and regulations may result in regulatory action that could have a material adverse effect on our business, results of operations and financial condition. The DEA, FDA or state agencies may seek civil penalties, refuse to renew necessary registrations, or initiate proceedings to revoke those registrations. In certain circumstances, violations could lead to criminal proceedings.

***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 intermediate substances, 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, European Union and 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 and those of our contractors 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.

***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 September 23, 2019, we had 621 issued United States and foreign patents and 243 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 be able to identify when others are infringing our (or our licensed) valid patent claims;
- 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.

Moreover, we have granted certain of our lenders liens on substantially all of our assets, including our intellectual property, as collateral. If we default on our payment obligations under these secured loans, such lenders have the right to foreclose upon and control the disposition of our assets, including our intellectual property assets, to satisfy our payment obligations under such instruments. If such default occurs, and our intellectual property assets are sold or licensed, our business could be materially adversely affected.

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. Moreover, in some cases our ability to determine if our intellectual property is being unlawfully used by a competitor may be limited. 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 Givaudan, Firmenich, DSM and Yifan, require us to share certain confidential information. 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 lawfully obtain or 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 collaboration partners, outside scientific collaboration partners 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 be 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.

***If we or one of our collaboration partners is 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 collaboration partners 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 remain unpublished and confidential for eighteen months and 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. There may be 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 collaboration partners 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 may need to obtain a license from the owner, develop or obtain alternative technologies, 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 collaboration partners may be enjoined from pursuing 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 prevent or 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;
- the International Trade Commission (ITC) prohibiting us from importing our products into the United States; 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 and patent agency procedures 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. In addition, third parties may be able to challenge the validity of one or more of our patents using available post-grant procedures including oppositions and *inter partes* reviews (IPR). These proceedings could result in substantial cost to us even if the outcome is favorable. Even if successful, an interference or post-grant 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 DOE, 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 DOE. 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.

***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. 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 2019 and beyond. If we are unable to secure such government contracts, it could harm 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 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, 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 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. For more

information regarding our current legal proceedings, please refer to the section entitled “Legal Proceedings” in Part I, Item 3 of this Annual Report on Form 10-K.

***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.

***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, can be 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. 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. Furthermore, any reductions to our workforce as part of potential cost-saving measures, such as those discussed above with respect to our 2019 operating plan, 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 collaboration partners 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 U.S. employees are “at-will” employees, which means that either the employee or we may terminate their employment at any time.

***Our operations rely on sophisticated information technology and equipment systems, 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 research and development activities, procurement and inventory management, transaction processing, financial, commercial and operational data, partner and joint venture activities, human resources management, legal and tax compliance and other 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 contained therein 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.

***Increased information systems security threats and more sophisticated and targeted computer invasions could pose a risk to our technology platform and operations.***

Increased information systems security threats, cyber- or phishing-attacks and more sophisticated, targeted computer invasions pose a risk to the security of our systems and networks, and the confidentiality, availability, and integrity of our data, operations, and communications. Cyber-attacks against our technology platform and infrastructure could result in exposure of confidential information, the modification of critical data, and/or the failure of critical operations. Likewise, improper or inadvertent employee behavior, including data privacy breaches by employees and others with permitted access to our systems may pose a risk that sensitive data may be exposed to unauthorized persons or to the public. While we attempt to mitigate these risks by employing a number of measures, including security measures, employee training, incident response procedures, comprehensive monitoring of our networks and systems, and maintenance of backup and protective systems, if these measures prove inadequate, we could be adversely affected by, among other things, loss or damage of intellectual property, proprietary and confidential information, data integrity, and communications or customer data, having our business operations interrupted and increased costs to prevent, respond to, or mitigate these cyber security threats.

***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 503 full-time employees at December 31, 2018. 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 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.***

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 foreign currencies mostly because of political and economic conditions. 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.

***Our U.S. GAAP operating results could fluctuate substantially due to the accounting for embedded derivatives in our convertible debt and equity instruments, and debt that we measure at fair value.***

Features in several of our outstanding convertible debt and equity instruments are accounted for under Accounting Standards Codification 815, Derivatives and Hedging (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 current 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) in the statement of operations. We have determined that we must bifurcate and account for certain features of our convertible debt and equity 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 discount at the date of issuance that is netted against the principal amount of the applicable instrument. 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 expenses. 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 would result in an increase in the estimated fair value of the embedded derivative liabilities, if in this example, each of the other elements of the valuation model remained substantially unchanged from the last measurement date. 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 statement of operations 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. See Note 4, “Fair Value Measurement” in Part II, Item 8 of this Annual Report on Form 10-K for more information regarding the valuation of embedded derivatives in certain of our outstanding debt and equity instruments.

In addition, we account for one of our outstanding debt instruments at fair value. That instrument is remeasured to fair value at each balance sheet date, with a resulting non-cash gain or loss related to the change in fair value recorded in other income or expense.

***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 (the Code), a corporation that undergoes an “ownership change”, as defined in the Code, is subject to limitations on its ability to utilize its pre-ownership change net operating loss carryforwards (NOLs) to offset future taxable income. During the three years ended December 31, 2017, changes in our share ownership resulted in a significant reduction in our NOLs pursuant to 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; if that occurs,

our ability to utilize NOLs could be further limited. 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 reported NOLs as of December 31, 2018, even if we attain profitability, which could adversely affect our results of operations.

***Our headquarters and other facilities are located in active earthquake and tsunami or in active hurricane zones, and an earthquake, hurricane 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 hurricane or associated flooding in the Wilmington, North Carolina area could cause damage to our facility located in Leland or result in localized extended outages of utilities or transportation systems. The occurrence of a natural disaster, such as an earthquake, hurricane, 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. Our facilities undergo annual loss control audits and both our Emeryville and Leland facilities have emergency actions plans outlining emergency response practices for these and other emergency scenarios. Training on emergency response is provided to all employees at hire and annually thereafter as a refresh.

***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 December 31, 2018, the reported closing price of our common stock on Nasdaq 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 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, were involved in five such lawsuits that were dismissed in September 2017, July 2018 and September 2018, respectively, are currently involved in two such lawsuits, as described in more detail below under “Legal Proceedings,” 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 Nasdaq, 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 April 3, 2019, we received a letter from Nasdaq notifying us that we were not in compliance with the requirement of Nasdaq Listing Rule 5250(c)(1) for continued listing on Nasdaq as a result of our failure to timely file this Annual Report on Form 10-K. In accordance with the notice, we were required to submit to Nasdaq a plan to regain compliance with Nasdaq’s requirements for continued listing within 60 calendar days of the date of the notice, or by June 3, 2019. On May 14 and August 16, 2019, we received further letters from Nasdaq notifying us that we were not in compliance with the requirement of Nasdaq Listing Rule 5250(c)(1) for continued listing on Nasdaq as a result of our failure to timely file our Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2019 and Quarterly Report on Form 10-Q for the fiscal quarter ended June 30, 2019, respectively, as well as our continued delinquency in filing this Annual Report on Form 10-K. On June 3, 2019, we submitted to Nasdaq a plan to regain compliance with Nasdaq’s requirements for continued listing. On June 12, 2019, Nasdaq granted us an exception until August 15, 2019 to regain compliance with Nasdaq’s requirements for continued listing and on July 25, 2019, Nasdaq extended the exception to September 30, 2019. There can be no assurance, however, that we will regain compliance with Nasdaq’s rules for continued listing by such deadline, or at all, or that, if we regain compliance, we will maintain compliance with Nasdaq’s rules for continued listing, including the requirements that we timely file our periodic reports with the SEC and maintain a stock price of at least \$1.00 per share, or that our common stock will remain listed on Nasdaq.

Any delisting of our common stock from Nasdaq 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 Nasdaq 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 Nasdaq 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 August 30, 2019, significant stockholders held an aggregate total of 45.5% of the Company’s total common shares outstanding, as follows: Foris Ventures, LLC (Foris) (17.0%), DSM (12.6%), Total (9.6%), and Vivo Capital LLC (Vivo) (6.3%). Furthermore, each of these parties holds convertible preferred

stock, convertible promissory notes and/or warrants, pursuant to which they may acquire additional shares of our common stock and thereby increase their ownership interest in our company. Additionally, each of DSM, Total and Vivo have the right to designate one or more directors to serve on our Board of Directors pursuant to agreements between us and such stockholders, and Foris is indirectly owned by John Doerr, one of our current directors. 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, 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 significant stockholders are also our commercial partners 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 our company's commercial transactions. 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.

***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.

These and other provisions in our Certificate of Incorporation and our Bylaws 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.

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

Not applicable.

## **ITEM 2. PROPERTIES**

The following is a summary of our principal facilities as of December 31, 2018. We lease our principal office and research and development facilities located in Emeryville, California. We hold a 50% ownership interest in a manufacturing facility and related land located in Leland, North Carolina and lease a pilot plant and demonstration facility and related office and laboratory space located in Campinas, Brazil. Our lease agreements expire at various dates through the year 2031.

<b>Location</b>	<b>Approximate Square Feet</b>	<b>Operations</b>
<i>U.S.</i>		
Emeryville, California	136,000	Executive offices; research and development, administrative and pilot plant
Leland, North Carolina	19,400	Manufacturing (joint venture with Nikko)
<i>BRAZIL</i>		
Campinas, Brazil	44,000	Pilot plant, research and development and administrative

We have a dormant lease of approximately 500,000 square feet of land in Pradópolis, Brazil, on which we previously began construction of a manufacturing facility with our joint venture partner São Martinho, which was approximately 50% complete when we halted construction in 2013. We have no future plans for this site. See Note 3, “Balance Sheet Details” for additional information.

We believe that our current facilities are suitable and adequate to meet our needs and that suitable additional space will be available to accommodate the foreseeable expansion of our operations. Based on our anticipated volume requirements for 2019 and beyond, we will likely need to identify and secure access to additional production capacity in 2019 and beyond, which we plan to obtain by constructing new facilities and by increasing our use of contract manufacturers, including our collaboration partner, DSM. We are currently making plans to secure such additional capacity.

### **ITEM 3. LEGAL PROCEEDINGS**

On April 3, 2019, a securities class action complaint was filed against Amyris and our CEO, John G. Melo, and former CFO (and current Chief Business Officer), Kathleen Valiasek, in the U.S. District Court for the Northern District of California. The complaint seeks unspecified damages on behalf of a purported class that would comprise all persons and entities that purchased or otherwise acquired our securities between March 15, 2018 and March 19, 2019. The complaint alleges securities law violations based on statements and omissions made by the Company during such period. Subsequent to the filing of the securities class action complaint described above, on June 21, 2019, a purported shareholder derivative complaint was filed in the U.S. District Court for the Northern District of California (*Bonner v. Doerr, et al.*, Case No. 4:19-cv-03621) based on similar allegations to those made in the securities class action complaint described above. The derivative complaint names Amyris, Inc. as a nominal defendant and names a number of the Company’s current and former officers and directors as additional defendants. The lawsuit seeks to recover, on the Company’s behalf, unspecified damages purportedly sustained by the Company in connection with allegedly misleading statements and/or omissions made in connection with the Company’s securities filings. The derivative complaint also seeks a series of changes to the Company’s corporate governance policies, restitution to the Company from the individual defendants, and an award of attorneys’ fees. These cases are in the initial pleadings stage. We believe the complaints lack merit, and intend to defend ourselves vigorously. Given the early stage of these proceedings, it is not yet possible to reliably determine any potential liability that could result from these matters.

We may be involved, from time to time, in legal proceedings and claims arising in the ordinary course of our business. Such matters are subject to many uncertainties and there can be no assurance that legal proceedings arising in the ordinary course of business or otherwise will not have a material adverse effect on our business, results of operations, financial position or cash flows. For additional information, see “Other Matters” in Note 9, “Commitments and Contingencies” in Part II, Item 8 of this Annual Report on Form 10-K.

### **ITEM 4. MINE SAFETY DISCLOSURES**

Not applicable.

## PART II

### ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY AND RELATED STOCKHOLDER MATTERS

#### Market Information for Common Stock

Our common stock is traded on the Nasdaq Global Select Market under the symbol AMRS.

At September 26, 2019, there were 70 holders of record (not including beneficial holders of stock held in street names) of our common stock.

#### Dividend Policy

We have never declared or paid any cash dividend on our common stock. We intend to retain any future earnings and do not expect to pay cash dividends in the foreseeable future.

#### Recent Sales of Unregistered Equity Securities and Use of Proceeds

For information regarding unregistered sales of our equity securities for prior periods within the two years ended December 31, 2018, see the financial statements included in Part II, Item 8 of this Annual Report on Form 10-K previously filed with the SEC.

On November 20, 2018, we issued 1,643,991 shares of common stock (the DSM Shares) to DSM pursuant to a securities purchase agreement, dated November 19, 2018, between us and DSM, in consideration of certain agreements of DSM set forth in the Supply Agreement Amendment (see Note 7, "Stockholders' Deficit" and Note 10, "Revenue Recognition" in Part II, Item 8 of this Annual Report on Form 10-K for more information regarding the issuance of the DSM Shares and the Supply Agreement Amendment).

On December 10, 2018, we issued \$60 million in aggregate principal amount of senior convertible notes (the December 2018 Notes), with an initial conversion price of \$6.32 per share, pursuant to a securities purchase agreement, dated December 6, 2018, among us and the investors named therein. See Note 5, "Debt" in Part II, Item 8 of this Annual Report on Form 10-K for more information regarding the December 2018 Notes, including the conversion terms thereof.

No underwriters or agents were involved in the issuance of the DSM Shares. Oppenheimer & Co. Inc. acted as placement agent and B. Riley FBR, Inc. acted as our advisor in connection with the issuance of the December 2018 Notes, and we paid an aggregate of \$3.8 million in fees to such agent and advisor in connection with the offering and sale of the December 2018 Notes. The DSM Shares and December 2018 Notes were issued in separate private placements pursuant to the exemption from registration under Section 4(a)(2) of the Securities Act of 1933, as amended (the Securities Act), and Regulation D promulgated under the Securities Act (Regulation D), without general solicitation, made only to and with "accredited investors" as defined in Regulation D. DSM is an existing stockholder and is affiliated with members of our Board of Directors. The holders acquired the DSM Shares and December 2018 Notes for investment purposes only and without intent to resell, were able to fend for themselves in these transactions, and are accredited investors as defined in Rule 501 of Regulation D promulgated under Section 3(b) of the Securities Act, and appropriate restrictions were set forth in the securities purchase agreements and securities relating to the transactions. These holders had adequate access, through their relationships with us, to information about us.

See Note 16, "Subsequent Events" in Part II, Item 8 of this Annual Report on Form 10-K for information regarding unregistered sales of our equity securities subsequent to December 31, 2018.

## Securities Authorized for Issuance under Equity Compensation Plans

The following table shows certain information concerning our common stock reserved for issuance in connection with our 2005 Stock Option/Stock Issuance Plan, our 2010 Equity Incentive Plan and our 2010 Employee Stock Purchase Plan, all as of December 31, 2018:

Plan category	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted-average exercise price of outstanding options, warrants and rights	Number of securities to be issued upon vesting of outstanding restricted stock units	Number of securities remaining available for future issuance under equity compensation plans <sup>(1)(2)</sup>
Equity compensation plans approved by security holders . . . . .	5,390,270	\$11.55	5,294,803	2,559,213
Equity compensation plans not approved by security holders . . . . .	—	—	—	—
Total . . . . .	<u>5,390,270</u>	<u>\$11.55</u>	<u>5,294,803</u>	<u>2,559,213</u>

(1) Includes 2,359,750 shares reserved for future issuance under our 2010 Equity Incentive Plan and 382,824 shares reserved for future issuance under our 2010 Employee Stock Purchase Plan. No shares are reserved for future issuance under our 2005 Stock Option/Stock Issuance Plan other than shares issuable upon exercise of equity awards outstanding under such plan.

(2) Effective January 1, 2019, the number of shares available for future issuance under our 2010 Equity Incentive Plan increased by 3,828,241 shares pursuant to the automatic increase provision contained in the 2010 Equity Incentive Plan and the number of shares available for future issuance under our 2010 Employee Stock Purchase Plan increased by 382,824 shares, in each case pursuant to automatic increase provisions contained in the respective plans, as discussed in more detail below.

Our 2010 Equity Incentive Plan includes all shares of our common stock reserved for issuance under our 2005 Stock Option/Stock Issuance Plan immediately prior to our initial public offering that were not subject to outstanding grants as of the completion of such offering. In addition, any shares of our common stock (i) issuable upon exercise of stock options granted under our 2005 Stock Option/Stock Issuance Plan that cease to be subject to such options and (ii) issued under our 2005 Stock Option/Stock Issuance Plan that are forfeited or repurchased by us at the original issue price, will become part of our 2010 Equity Incentive Plan reserve.

The number of shares available for grant and issuance under our 2010 Equity Incentive Plan is increased on January 1 of each year during the term of the plan by an amount equal to the lesser of (1) five percent (5%) of our shares outstanding on the immediately preceding December 31 and (2) a number of shares as may be determined by our Board of Directors or the Leadership Development and Compensation Committee in their discretion. In addition, shares will again be available for grant and issuance under our 2010 Equity Incentive Plan that are:

- subject to issuance upon exercise of an option or stock appreciation right granted under our 2010 Equity Incentive Plan and that cease to be subject to such award for any reason other than the award's exercise;
- subject to an award granted under our 2010 Equity Incentive Plan and that are subsequently forfeited or repurchased by us at the original issue price;
- surrendered pursuant to an exchange program; or
- subject to an award granted under our 2010 Equity Incentive Plan that otherwise terminates without shares being issued.

The number of shares reserved for issuance under our 2010 Employee Stock Purchase Plan is increased on January 1 of each year during the term of the plan by an amount equal to the lesser of (1) one percent (1%) of our shares outstanding on the immediately preceding December 31 and (2) a number of shares as may be determined by our Board of Directors or the Leadership Development and Compensation Committee of the Board in their discretion, provided that the aggregate number of shares issued over the term of our 2010 Employee Stock Purchase Plan shall not exceed 1,666,666 shares.

For more information regarding our 2010 Equity Incentive Plan and 2010 Employee Stock Purchase Plan, see Note 12, “Stock-based Compensation” in Part II, Item 8 of this Annual Report on Form 10-K.

### **Stock Performance Graph**

Not required — Smaller Reporting Company scaled disclosure accommodation.

### **ITEM 6. SELECTED FINANCIAL DATA**

Not required — Smaller Reporting Company scaled disclosure accommodation.

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

#### **Restatement of 2017 Financial Information**

The accompanying Management’s Discussion and Analysis of Financial Condition and Results of Operations gives effect to the restatement adjustments made to the previously reported Consolidated Financial Statements for the year ended December 31, 2017. For additional information and a detailed discussion of the restatement, see the Explanatory Note to this Annual Report on Form 10-K and Note 2, “Restatement of Consolidated Financial Statements” to our consolidated financial statements included in Part II, Item 8 of this Annual Report on Form 10-K.

#### **Overview**

As a leading industrial biotechnology company, we apply our technology platform to engineer, manufacture and sell high performance, natural, sustainably-sourced products into the Health & Wellness, Clean Beauty, and Flavor & Fragrance markets. Our proven technology platform enables 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 replace existing complex and expensive manufacturing processes. We have successfully used our technology to develop and produce eight distinct molecules at commercial volumes, leading to more than 15 commercial ingredients used by thousands of leading global brands.

We believe that 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-based and traditional animal- or plant-derived ingredients. We continue to build demand for our current portfolio of products through an extensive sales network provided by our collaboration partners that represent leading companies for our target market sectors. We also have a small group of direct sales and distributors who support our Clean Beauty market. Via our partnership model, our partners invest in the development of each molecule to bring it from the lab to commercial scale and use their extensive sales force to sell our ingredients and formulations to their customers as part of their core business. We capture long-term revenue both through the production and sale of the molecule to our partners and through royalty revenues from our partners’ product sales to their customers.

We were 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, which is 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, skincare products, fragrances, solvents, polymers, and lubricant ingredients. The commercialization of farnesene pushed us to create a more cost efficient, faster and accurate development process in the lab and drive manufacturing costs down. 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 Flavor & 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 Projects Agency (DARPA); and in 2016 we expanded into proteins.

We have invested over \$600 million in infrastructure and technology to create microbes that produce molecules from sugar or other feedstocks at commercial scale. This platform has been used to design, build, optimize and upscale strains producing eight distinct molecules at commercial volumes, leading to more than 15 commercial ingredients used by thousands of leading global brands. Our time to market for molecules has decreased from seven 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 2007 and has been integrated with our commercial production since 2011, creating an organism development process that we believe makes us an industry leader in the successful scale-up and commercialization of biotech-produced ingredients. The key performance characteristics of our platform that we believe differentiate us include our proprietary computational tools, strain construction tools, screening and analytics tools, and advanced lab automation and data integration. Having this fully integrated with our large scale manufacturing process and capability enables us to always engineer with the end specification and requirements guiding our technology. Our state-of-the-art infrastructure includes industry-leading strain engineering and lab automation located in Emeryville, California, pilot scale production facilities in Emeryville, California and Campinas, Brazil, a demonstration-scale facility in Campinas, Brazil and a commercial-scale production facility in Leland, North Carolina, which is owned and operated by our Aprinova joint venture to convert our Biofene into squalane and other final products.

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.

Several years ago, we made the strategic decision to transition our business model from collaborating and commercializing molecules in low margin commodity markets to higher margin specialty markets. We began the transition by first commercializing and supplying farnesene-derived squalane as a cosmetic ingredient sold to formulators and distributors. We also entered into collaboration and supply agreements for the development and commercialization of molecules within the Flavor & Fragrance and Clean Beauty markets where we utilize our strain generation technology to develop molecules that meet the customer's rigorous specifications.

During this transition, we solidified the business model of partnering with our customers to create sustainable, high performing, low-cost molecules that replace an ingredient in their supply chain, commercially scale and manufacture those molecules, and share in the profits earned by our customers once our customer sells its product into these specialty markets. These three steps constitute our collaboration revenues, renewable product revenues, and royalty revenues.

During 2017, we completed several development agreements with DSM and others for new products such as Vitamin A, a human nutrition molecule and others, and in late 2018 we began commercial production and shipment of a new sweetener product developed from the Reb M molecule, which is a superior sweetener and sugar replacement. Our goal is to bring two to three new molecules per year to commercial production in the future.

In 2017, we decided to monetize the use of one of our lower margin molecules, farnesene, in the Vitamin E and Lubricants specialty markets while retaining any associated royalties, and licensed farnesene to Koninklijke DSM N.V. (DSM) for use in these fields. Also in 2017, we sold to DSM our subsidiary Amyris Brasil Ltda. (Amyris Brasil), which operated our purpose-built, large-scale manufacturing facility located in Brotas, Brazil.

The Brotas facility was built to batch manufacture one commodity product at a time (originally for high-volume production of biofuels, a business Amyris has exited), which is an inefficient manufacturing process that is not suited for the high margin specialty markets in which we operate today. We currently manufacture nine specialty products and expect to increase the number of specialty products we manufacture by two to three products a year. The inefficiencies we experienced included having to idle the facility for two weeks at a time to prepare for the next product batch manufacture. These inefficiencies caused our cost of goods sold to be significantly higher. We are building a new purpose-built, large-scale specialty ingredients plant in Brazil, which we anticipate will allow for the manufacture of five products concurrently and over 10 different products annually. As part of the December 2017 sale of Brotas, we contracted with DSM for the use of Brotas to manufacture products for us to fulfill our product supply commitments to our customers until our new production facility becomes operational, which we expect to occur in 2021. We have expanded the new facility's design to produce both our specialty ingredients portfolio and our new sweetener product.

As discussed above, on December 28, 2017, we completed the sale of Amyris Brasil, which operated our Brotas production facility, to DSM and concurrently entered into a series of commercial agreements and a credit agreement with DSM. At closing, we received \$33.0 million in contractual cash consideration for the capital stock of Amyris Brasil, which was subject to certain post-closing working capital adjustments and reimbursements from DSM contingent on DSM's utilization of certain Brazilian tax benefits it acquired with its purchase of Amyris Brasil. We used \$12.6 million of the cash proceeds received to repay certain indebtedness of Amyris Brasil. The total fair value of the contractual consideration received in connection with the sales agreement for Amyris Brasil was \$56.9 million and resulted in a pretax gain of \$5.7 million from continuing operations, which was revised downward by \$1.8 million in 2018 as a result of finalizing the working capital adjustment, and as a result, we recognized a \$1.8 million loss as an adjustment to previously recorded 2017 pretax gain.

Concurrent with the sale of Amyris Brasil, we entered into a series of commercial agreements with DSM including (i) a license agreement to DSM of our farnesene product for DSM to use in the Vitamin E and lubricant specialty markets; (ii) a royalty agreement, pursuant to which DSM agreed to pay us specified royalties representing a portion of the profit on the sale of Vitamin E produced from farnesene sold under the supply agreement with Nenter & Co., Inc. ("Nenter") assigned to DSM; (iii) a performance agreement to perform research and development to optimize farnesene for production and sale of farnesene products; and (iv) a transition services agreement where we provide finance, legal, logistics, and human resource services to support the Brotas facility under DSM ownership for a six-month period with a DSM option to extend for six additional months. At closing, DSM paid to us a nonrefundable license fee of \$27.5 million and a nonrefundable minimum royalty revenue payment of \$15.0 million. In June 2018, DSM paid us a nonrefundable minimum royalty revenue payment of \$9.3 million and will also pay us a nonrefundable minimum royalty amount in 2019. The future nonrefundable minimum annual royalty payments were determined to be fixed and determinable at December 31, 2017 with a fair value of \$17.8 million and were included as part of the total arrangement consideration subject to allocation of this overall multiple-element divestiture transaction. In November 2018 and April 2019, we amended the supply agreement with DSM to secure capacity at the Brotas facility for Reb M production through 2022. Under the amended supply agreement, we paid DSM \$1.7 million in cash and \$7.3 million in common stock as of December 31, 2018 and will pay an additional \$21.0 million in cash installments over the next 12 months for a total of \$30.0 million to secure the manufacturing capacity. We also entered into other agreements with DSM in November 2018 that resulted in our (i) evaluating the series of fourth quarter transactions including the amended supply agreement and other transactions with DSM in 2018 as a combined arrangement, and then (ii) determining and allocating the fair value to each element transferred. See Note 10, "Revenue Recognition", Note 11, "Related Party Transactions" and Note 16, "Subsequent Events" in Part II, Item 8 of this Annual Report on Form 10-K for information regarding the accounting treatment of this combined arrangement and for a full listing of our agreements with DSM.

## ***Sales and Revenue***

We recognize revenue from product sales, license fees and royalties, and grants and collaborations.

We have research and development collaboration arrangements for which we receive payments from our collaboration partners, which include DARPA, DSM, Firmenich SA (Firmenich), Givaudan International SA (Givaudan), and others. Some of our collaboration arrangements provide for advance payments to us in consideration for grants of exclusivity or research efforts that we will perform. In 2017 we signed collaboration agreements for an infant nutrition ingredient, and in 2018 we signed a collaboration agreement for two vitamins that we expect will contribute to our collaboration revenue and ultimately product sales. Our collaboration agreements, which may require us to achieve milestones prior to receiving payments, are expected to contribute revenues from product sales and royalties if and when they are commercialized. See Note 10, “Revenue Recognition” in Part II, Item 8 of this Annual Report on Form 10-K for additional information.

All of our non-government partnerships include commercial terms for the supply of molecules we successfully upscale and produce at commercial volumes. The first molecule to generate revenue for us outside of farnesene was a fragrance molecule launched in 2015. Since the launch, the product has continued to grow in sales year over year. In 2016, we launched our second fragrance molecule and in 2017, we launched our third fragrance molecule as well as our first cosmetic active ingredient. Our partners for these molecules are indicating continued strong growth due to their cost advantaged position, high purity and sustainable production method. We are continuing to identify new opportunities to apply our technology and deliver sustainable access to key molecules. As a result, we have a pipeline that we believe can deliver two to three new molecules each year over the coming years with a flavor ingredient, a cosmetic active ingredient and a fragrance molecule. In 2019, we are commercially producing and shipping our Reb M product that is a sweetener and sugar replacement for food and beverages.

As part of the DSM acquisition in 2017 of our farnesene for Vitamin E business, we would receive a royalty payment on certain sales by Nenter & Co., Inc. of Vitamin E utilizing farnesene produced and sold by DSM from our technology. In addition, DSM would be obligated to pay us minimum royalties totaling \$18.1 million for 2019 and 2020, of which we received \$9.3 million as a discounted accelerated payment (from an original payment amount of \$10.0 million) during 2018. In April 2019, we assigned the right to receive such royalty payments to DSM; see Note 16, “Subsequent Events” in Part II, Item 8 of this 2018 Form 10-K for additional information.

We have several other collaboration molecules in our development pipeline with partners including DSM, Givaudan and Firmenich that we expect will contribute revenues from product sales and royalties if and when they are commercialized.

## **Critical Accounting Policies and Estimates**

Management’s discussion and analysis of results of operations and financial condition are based on our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the U.S. (U.S. GAAP). We believe that the critical accounting policies described in this section are those that significantly impact our financial condition and results of operations and require the most difficult, subjective or complex judgements, often as a result of the need to make estimates about the effects of matters that are inherently uncertain. Because of this uncertainty, actual results may vary from these estimates.

Our most critical accounting estimates include:

- Recognition of revenue including arrangements with multiple performance obligations;
- Valuation and allocation of fair value to various elements of complex related party transactions;
- The valuation of freestanding and embedded derivatives, which impacts gains or losses on such derivatives, the carrying value of debt, preferred stock, interest expense and deemed dividends; and
- The valuation of debt for which we have elected fair value accounting.



For a more detailed discussion of our critical accounting estimates and policies, see Note 1, “Basis of Presentation and Summary of Significant Accounting Policies” in Part II, Item 8 of this 2018 Form 10-K.

## Results of Operations

### Revenue

Years Ended December 31, (In thousands)	2018	2017 (As Restated)	2018 vs 2017 % Change
Revenue:			
Renewable products . . . . .	\$33,598	\$ 42,370	(21)%
Licenses and royalties . . . . .	7,658	48,703	(84)%
Grants and collaborations . . . . .	22,348	36,598	(39)%
Total revenue . . . . .	<u>\$63,604</u>	<u>\$127,671</u>	(50)%

*2018 Compared to 2017:* Total revenue decreased by 50% to \$63.6 million in 2018. Renewable products revenue decreased by 21% to \$33.6 million in 2018, primarily due to (i) no product revenue from Nenter in 2018 as compared to \$12.1 million in 2017, as the result of our late-2017 assignment of a farnesene supply agreement to DSM, and (ii) a \$5.9 million decrease in product revenue from Firmenich, partly offset by increases of \$5.1 million and \$5.0 million in Clean Beauty and Health & Wellness products, respectively. Licenses and royalties revenue decreased by 84% to \$7.7 million in 2018, primarily due to \$58.0 million of one-time license revenue in 2017 upon the license of farnesene for use in certain fields to DSM that did not recur in 2018, and a \$13.1 million revenue offset in 2017 in connection with a Ginkgo partnership agreement, partly offset by an additional \$7.4 million of new Vitamin E-related royalty revenue in 2018 from DSM. Grants and collaborations revenue decreased by 39% to \$22.3 million in 2018, primarily due to no collaboration revenue from Manufacture Francaise de Pneumatiques Michelin (Michelin) and Braskem S.A. (Braskem) in 2018 as compared to \$6.2 million in 2017, and a \$3.9 million decrease in collaboration revenue from DARPA as the project approaches completion. Our revenues are dependent on the timing and nature of arrangements entered into with our customers, which may include multiple performance obligations for which revenue accounting requires significant judgement and estimates. Based on the nature of our customer arrangements, our revenues may vary significantly from one period to the next.

### Cost and Operating Expenses

Years Ended December 31, (In thousands)	2018	2017 (As Restated)	2018 vs 2017 % Change
Cost of products sold . . . . .	\$ 36,698	\$ 62,307	(41)%
Research and development . . . . .	68,722	57,562	19%
Sales, general and administrative . . . . .	90,902	63,853	42%
Impairment of other assets . . . . .	3,865	—	nm
Total cost and operating expenses . . . . .	<u>\$200,187</u>	<u>\$183,722</u>	9%

nm = not meaningful

### Cost of Products Sold

Cost of products sold includes the costs of raw materials, labor and overhead, amounts paid to contract manufacturers, inventory write-downs resulting from applying lower of cost or net realizable value inventory adjustments, and costs related to production scale-up. Because of our product mix, our cost of products sold does not change proportionately with changes in renewable product revenue.

*2018 Compared to 2017:* Cost of products sold decreased by 41% to \$36.7 million in 2018, primarily due to a 21% proportional decrease in renewable products revenue and the late-2017 sale of our production facility in Brotas, Brazil to DSM, which improved our manufacturing cost efficiency.

*Research and Development Expenses*

*2018 Compared to 2017:* Research and development expenses increased by 19% to \$68.7 million in 2018, primarily due to an 18% headcount increase in research and development to accelerate development of new products, and a \$3.8 million increase in spending on laboratory equipment rentals to automate testing and expand laboratory capacity.

*Sales, General and Administrative Expenses*

*2018 Compared to 2017:* Sales, general and administrative expenses increased by 42% to \$90.9 million in 2018, primarily due to increases in outside services, wages and benefits and non-cash stock-based compensation. The increase in outside services was due to audit fees, costs to implement new accounting standards and related internal controls, and sales and marketing expenses to support Biossance growth. The increase in wages and benefits was due to headcount growth, primarily in Biossance. The \$2.9 million increase in stock-based compensation was due to new grants to existing employees and a 28% headcount increase.

*Impairment of Other Assets*

*2018 Compared to 2017:* In 2018, we impaired \$3.9 million of contingent consideration that had been recorded in 2017 in connection with the December 2017 sale of Amyris Brasil. In 2017, there were no impairments.

***Other Income (Expense), Net***

Years Ended December 31, (In thousands)	2018	2017	2018 vs 2017 % Change
		(As Restated)	
(Loss) gain on divestiture . . . . .	\$ (1,778)	\$ 5,732	(131)%
Interest expense . . . . .	(42,703)	(37,081)	15%
Loss from change in fair value of derivative instruments . . . . .	(30,880)	(48,852)	(37)%
Gain from change in fair value of debt . . . . .	2,082	—	nm
Loss upon extinguishment of debt . . . . .	(17,424)	(11,897)	46%
Other income (expense), net . . . . .	(2,949)	(956)	208%
Total other expense, net . . . . .	<u>\$ (93,652)</u>	<u>\$ (93,054)</u>	1%

nm = not meaningful

*2018 Compared to 2017:* Total other expense, net was \$93.7 million in 2018, compared to \$93.1 million in 2017. The \$0.6 million increase was primarily comprised of a \$5.5 million increase in loss upon extinguishment of debt, an \$18.0 million decrease in loss from change in fair value of derivative instruments, a \$5.6 million increase in interest expense, and a \$1.8 million loss in 2018 related to working capital sales price adjustments in connection with the 2017 divestiture of our Brotas, Brazil manufacturing facility, as compared to a \$5.7 million gain in 2017. See Note 13, “Divestiture” in Part II, Item 8 of this Annual Report on Form 10-K for more information. Also, see Note 1, “Basis of Presentation and Summary of Significant Accounting Policies — Fair Value Measures” in Part II, Item 8 of this Annual Report on Form 10-K for a discussion regarding how our closing stock price at the end of the period or immediately prior to the extinguishment of an embedded derivative or debt or warrant instrument can impact the gain/loss measurement or change in fair value of our derivative liabilities in any given period.

## *Income Taxes*

For 2018, we recorded \$0 income tax expense as a result of recording a full valuation allowance against our net deferred tax assets due to our history of losses and the unlikelihood of timely recovery of these tax assets. For 2017, we recorded \$6.9 million of income tax expense primarily related to an unrecognized tax benefit. In addition, there were some current foreign taxes. However, a full valuation allowance has been recorded against all other net deferred tax assets.

See Note 14, “Income Taxes” in Part II, Item 8 of this Annual Report on Form 10-K for additional information.

## **Liquidity and Capital Resources**

Years Ended December 31,  
(In thousands)

	2018	2017
		(As Restated)
Net cash (used in) provided by:		
Operating activities . . . . .	\$(109,366)	\$(101,179)
Investing activities . . . . .	\$ (12,472)	\$ 51,708
Financing activities . . . . .	\$ 107,957	\$ 77,864

**Liquidity.** We have incurred significant operating losses since our inception, and we expect to continue to incur losses and negative cash flows from operations through at least the next 12 months following the issuance of this Annual Report on Form 10-K. As of December 31, 2018, we had negative working capital of \$119.5 million, an accumulated deficit of \$1.5 billion, and cash and cash equivalents of \$45.4 million.

As of December 31, 2018, our debt (including amounts owed to related parties), net of \$17.1 million of discount and a fair value adjustment of \$2.1 million, totaled \$209.7 million, of which \$147.7 million is classified as current. Our debt agreements contain various covenants, including certain restrictions on our business that could cause us to be at risk of defaults, such as restrictions on additional indebtedness, material adverse effect and cross default clauses. 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 a substantial portion of such indebtedness. If such indebtedness is accelerated, it would generally also constitute an event of default under our other outstanding indebtedness, which could permit acceleration of a substantial portion of such other outstanding indebtedness. At December 31, 2018, we failed to meet certain covenants in connection with the GACP Term Loan Facility (see Note 5, “Debt” in Part II, Item 8 of this Annual Report on Form 10-K), including those associated with minimum revenue and minimum liquidity requirements. In April 2019, (i) GACP provided a waiver to us for breaches of all covenant violations under the GACP loan and security agreement (LSA) occurring prior to, as of and after December 31, 2018 through April 8, 2019, and (ii) GACP sold and assigned the loans under the LSA and all documents and assets related thereto to Foris Ventures, LLC (Foris). Subsequently, Foris provided a waiver to us for breaches of certain covenants under the LSA through June 30, 2020 and amended the financial covenants to provide more favorable compliance terms and conditions.

See Note 5, “Debt” and Note 16, “Subsequent Events” in Part II, Item 8 of this Annual Report on Form 10-K for additional information.

During the year ended December 31, 2018, we executed the following transactions in order to improve our liquidity:

- In April 2018, warrant holders exercised warrants to purchase an aggregate of 3.6 million shares of common stock at an exercise price of \$4.40 per share, resulting in net proceeds of \$14.4 million;
- In June and July 2018, we issued new debt for net proceeds of \$34.4 million, and repaid \$31.0 million of debt that was coming due;

- In August 2018, warrant-holders exercised warrants to purchase an aggregate of 12.6 million shares of common stock at an exercise price of \$4.40 per share, resulting in net proceeds of \$43.0 million; and
- In December 2018, we issued new debt for net proceeds of \$56.2 million.

See Note 5, “Debt” and Note 7, “Stockholders’ Deficit” in Part II, Item 8 of this Annual Report on Form 10-K for more information regarding these transactions.

On September 16, 2019, the Company failed to pay an aggregate of \$63.6 million of outstanding principal and accrued interest on the Second Exchange Note when due. The failure resulted in an event of default under the Second Exchange Note and also triggered cross-defaults under other debt instruments of the Company which permitted the holders of such indebtedness to accelerate the amounts owing under such instruments. The Company subsequently received waivers from substantially all holders of such other debt instruments to waive the right to accelerate. As a result, the indebtedness with respect to which the Company has obtained such waivers continues to be classified as long-term on the Company’s balance sheet. The indebtedness reflected by the Second Exchange Note continues to be classified as a current liability on the Company’s balance sheet. In addition, as a result of the payment default, the conversion price of the Second Exchange Note is subject to adjustment in accordance with the terms of the Second Exchange Note.

The Company does not currently have sufficient funds to repay the amounts outstanding under the Second Exchange Note. To date, negotiations with the holder of the Second Exchange Note have not been successful, and there can be no assurance that a favorable outcome for the Company will be reached. The Company has executed a term sheet with an existing investor for a term loan, the proceeds of which would be used to repay a portion of the Second Exchange Note. However, there can be no assurance that the Company will be able to obtain such financing on its expected timeline, or on acceptable terms, if at all. Even if the Company does obtain such financing, it will not have sufficient funds to repay the Second Exchange Note in full without obtaining additional financing, which the Company is attempting to source. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Our consolidated financial statements as of and for the year ended December 31, 2018 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. Due to the factors described above, there is substantial doubt about our ability to continue as a going concern within one year after the date that the financial statements included in this Annual Report on Form 10-K are issued. Our ability to continue as a going concern will depend, in large part, on our ability to achieve positive cash flows from operations during the 12 months from the date of this filing, and refinance or extend other existing debt maturities occurring later in 2019, which is uncertain. The financial statements 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. 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 values we receive for our assets in liquidation or dissolution could be significantly lower than the values reflected in our financial statements.

Our operating plan for 2019 contemplates a significant reduction in our net cash outflows, resulting from (i) revenue growth from sales of existing and new products with positive gross margins, (ii) reduced production costs as a result of manufacturing and technical developments, and (iii) cash inflows from collaborations and grants. These factors are expected to improve our liquidity.

If we are unable to generate sufficient cash contributions from product sales, payments from existing and new collaboration partners, and draw sufficient funds from certain financing commitments due to contractual restrictions and covenants, we will need to obtain additional funding from equity or other debt financings, which may not occur timely or on reasonable terms, if at all, and 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.

If we do not achieve our planned operating results, our ability to continue as a going concern would be jeopardized and we may need to take the following actions to support our liquidity needs in 2019:

- Shift focus to existing products and customers with significantly reduced investment in new product and commercial development efforts;
- Reduce expenditures for third party contractors, including consultants, professional advisors and other vendors;
- Reduce or delay uncommitted capital expenditures, including expenditures related the construction and commissioning of the new production facility in Brazil, nonessential facilities and lab equipment, and information technology projects; and
- Closely monitor our 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.

We expect to fund operations for the foreseeable future with cash currently on hand, cash inflows from collaborations, grants, product sales, licenses and royalties and equity and debt financings, to the extent necessary. Some of our research and development collaborations are subject to risk that we may not meet milestones. Future equity and debt financings, if needed, are subject to the risk that we may not be able to secure financing in a timely manner or on reasonable terms, if at all. Our planned working capital and capital expenditure needs for 2019 are dependent on significant inflows of cash from renewable product sales, new collaborations, and licenses and royalties from existing collaboration partners.

For details, see the following Notes in Part II, Item 8 of this Annual Report on Form 10-K:

- Note 5, “Debt”
- Note 6, “Mezzanine Equity”
- Note 7, “Stockholders’ Deficit”

### ***Cash Flows during the Years Ended December 31, 2018 and 2017***

#### *Cash Flows from Operating Activities*

Our primary uses of cash from operating activities are for personnel costs and costs related to the production and sales of our products, offset by cash received from sales to customers.

For the year ended December 31, 2018, net cash used in operating activities was \$109.4 million, which was primarily comprised of our \$230.2 million net loss, partly offset by \$96.3 million of non-cash charges and a \$24.6 million decrease in working capital. Non-cash charges consisted primarily of a \$30.9 million loss from change in fair value of derivative liabilities, \$16.6 million of debt discount amortization, a \$17.4 million loss upon extinguishment of debt, and \$9.2 million of stock-based compensation. The decrease in working capital was primarily comprised of a \$20.1 million increase in accounts payable and other accrued liabilities, partly offset by a \$6.4 million increase in prepaid expenses and other assets and a \$4.4 million increase in inventories.

For the year ended December 31, 2017, net cash used in operating activities was \$101.2 million, which was comprised of our \$156.0 million net loss and a \$24.1 million increase in working capital, partly offset by \$72.6 million of non-cash charges. Non-cash charges consisted primarily of a \$48.9 million loss from change in fair value of derivative liabilities, \$15.2 million of debt discount amortization, \$11.4 million of depreciation and amortization and \$6.3 million of stock-based compensation, partly offset by \$8.0 million of noncash consideration received in connection with license revenue, and a \$5.7 million gain in connection

with our divestiture of Amyris Brasil. The decrease in working capital was primarily comprised of a \$19.6 million increase in accounts receivable, a \$18.7 million increase in prepaid expenses and other assets, a \$7.9 million increase in contract assets and a \$7.2 million decrease in contract liabilities, partly offset by a \$19.3 million increase in accounts payable and accrued liabilities.

*Cash Flows from Investing Activities*

For the year ended December 31, 2018, net cash used in investing activities was \$12.5 million and was comprised of property, plant and equipment purchases.

For the year ended December 31, 2017, net cash provided by investing activities was \$51.7 million, primarily due to \$54.8 million of net proceeds from the sale of Amyris Brasil to DSM and other elements of the December 2017 transactions with DSM that were accounting for as a combined arrangement, partly offset by \$4.4 million of property, plant and equipment purchases.

*Cash Flows from Financing Activities*

For the year ended December 31, 2018, net cash provided by financing activities was \$108.0 million, primarily comprised of \$94.4 million of net proceeds from debt issued and \$60.0 million from the exercises of warrants and sales of common stock, partly offset by \$41.7 million of debt principal payments.

For the year ended December 31, 2017, net cash provided by financing activities was \$77.9 million, primarily comprised of \$98.2 million of proceeds from the sales of preferred stock and \$18.9 million from debt issued, partly offset by \$37.5 million of debt principal payments.

*Off-Balance Sheet Arrangements*

None.

*Contractual Obligations*

The following is a summary of our contractual obligations as of December 31, 2018:

<b>Payable by Year Ended December 31, (In thousands)</b>	<b>Total</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>Thereafter</b>
Principal payments on debt . . . . .	\$229,615	\$155,534	\$ 3,828	\$55,839	\$12,252	\$ 265	\$1,897
Interest payments on debt <sup>(1)</sup> . . . . .	33,706	17,061	8,653	6,422	1,165	102	303
Operating leases . . . . .	36,007	10,416	7,932	7,226	7,399	3,034	—
Manufacturing capacity reservation fee . . . . .	21,036	21,036	—	—	—	—	—
Partnership payment obligation . . . . .	12,700	3,969	3,175	3,175	2,381	—	—
Other . . . . .	5,297	3,258	2,038	1	—	—	—
<b>Total . . . . .</b>	<b>\$338,361</b>	<b>\$211,274</b>	<b>\$25,626</b>	<b>\$72,663</b>	<b>\$23,197</b>	<b>\$3,401</b>	<b>\$2,200</b>

(1) Does not include any obligations related to make-whole interest or down-round provisions. Fixed and variable interest rates are described in Note 5, “Debt” in Part II, Item 8 of this Annual Report on Form 10-K. Future interest payments shown above for variable-rate debt instruments are measured on the basis of interest rates for such instruments as of December 31, 2018.

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

Not required — Smaller Reporting Company scaled disclosure accommodation.

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

**AMYRIS, INC.**

**INDEX TO CONSOLIDATED FINANCIAL STATEMENTS**

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## Report of Independent Registered Public Accounting Firm



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

### *Opinion on the Consolidated Financial Statements*

We have audited the accompanying consolidated balance sheet of Amyris, Inc. and subsidiaries (the Company) as of December 31, 2018, the related consolidated statements of operations, comprehensive loss, stockholders' deficit and mezzanine equity, and cash flows for the year then ended, and the related notes (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2018, and the results of their operations and their cash flows for the year then ended, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control — Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO") and our report dated September 30, 2019 expressed an adverse opinion thereon.

### *Going Concern*

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 1 to the consolidated financial statements, the Company has suffered recurring losses from operations and has current debt service requirements that raise substantial doubt about its ability to continue as a going concern. Management's plans in regard to these matters are also described in Note 1. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

### *Changes in Accounting Principles*

As discussed in Notes 1 and 10 to the consolidated financial statements, the Company has changed its accounting method for recognizing revenue from contracts with customers in fiscal year 2018 due to the adoption of Topic 606, Revenue from Contracts with Customers, and all related amendments.

### *Basis for Opinion*

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audit. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud.

Our audit included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audit also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audit provides a reasonable basis for our opinion.

/s/ Macias Gini & O'Connell LLP

We have served as the Company's auditor since 2019.

San Francisco, California  
October 1, 2019



## **Report of Independent Registered Public Accounting Firm**

To the Board of Directors and Stockholders  
Amyris, Inc.  
Emeryville, CA

### **Opinion on the Consolidated Financial Statements**

We have audited the accompanying consolidated balance sheet of Amyris, Inc. as of December 31, 2017, the related consolidated statements of operations, comprehensive loss, stockholders' deficit and mezzanine equity, and cash flows for the year then ended and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2017 and the results of its operations and its cash flows for the year ended December 31, 2017, in conformity with accounting principles generally accepted in the United States of America.

### **Restatement to Correct 2017 Misstatements**

As discussed in Note 2 to the consolidated financial statements, the 2017 financial statements have been restated to correct several misstatements.

### **Going Concern Uncertainty**

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 1 to the consolidated financial statements, the Company has suffered recurring losses from operations and has a net capital deficiency and these factors, among others, raise substantial doubt about its ability to continue as a going concern. Management's plans in regard to these matters are also described in Note 1. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

### **Basis for Opinion**

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's consolidated financial statements based on our audit. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) ("PCAOB") and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud.

Our audit included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audit also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audit provides a reasonable basis for our opinion.

/s/ BDO USA, LLP

We have served as the Company's auditor since 2019.

San Jose, California

September 30, 2019

**AMYRIS, INC.**  
**CONSOLIDATED BALANCE SHEETS**

<b>December 31,</b> <b>(In thousands, except shares and per share amounts)</b>	<b>2018</b>	<b>2017</b> <b>(As Restated, Note 2)</b>
<b>Assets</b>		
Current assets:		
Cash and cash equivalents . . . . .	\$ 45,353	\$ 57,059
Restricted cash . . . . .	741	2,994
Accounts receivable, net of allowance of \$642 and \$619, respectively . . . . .	16,003	18,953
Accounts receivable – related party, net of allowance of \$0 and \$23, respectively . . . . .	1,349	4,767
Contract assets Accounts receivable, unbilled – related party . . . . .	8,021	9,901
Inventories . . . . .	9,693	5,408
Deferred cost of products sold, current – related party . . . . .	489	—
Prepaid expenses and other current assets . . . . .	10,566	4,919
Total current assets . . . . .	92,215	104,001
Property, plant and equipment, net . . . . .	19,756	13,892
Accounts receivable, unbilled, noncurrent – related party . . . . .	1,203	7,940
Deferred cost of products sold, noncurrent – related party . . . . .	2,828	—
Restricted cash, noncurrent . . . . .	960	959
Recoverable taxes from Brazilian government entities . . . . .	3,005	1,445
Other assets . . . . .	7,958	12,559
Total assets . . . . .	\$ 127,925	\$ 140,796
<b>Liabilities, Mezzanine Equity and Stockholders' Deficit</b>		
Current liabilities:		
Accounts payable . . . . .	\$ 26,844	\$ 15,515
Accrued and other current liabilities . . . . .	28,979	29,202
Contract liabilities <sup>(1)</sup> . . . . .	8,236	4,308
Debt, current portion (includes instrument measured at fair value of \$57,918 and \$0, respectively) . . . . .	124,010	36,924
Related party debt, current portion . . . . .	23,667	20,019
Total current liabilities . . . . .	211,736	105,968
Long-term debt, net of current portion . . . . .	43,331	60,220
Related party debt, net of current portion . . . . .	18,689	46,541
Derivative liabilities . . . . .	42,796	116,497
Other noncurrent liabilities . . . . .	23,192	23,658
Total liabilities . . . . .	339,744	352,884
Commitments and contingencies (Note 9)		
Mezzanine equity:		
Contingently redeemable common stock (Note 6) . . . . .	5,000	5,000
Stockholders' deficit:		
Preferred stock – \$0.0001 par value, 5,000,000 shares authorized as of December 31, 2018 and 2017, and 14,656 and 22,171 shares issued and outstanding as of December 31, 2018 and 2017, respectively . . . . .	—	—
Common stock – \$0.0001 par value, 250,000,000 shares authorized as of December 31, 2018 and 2017, respectively; 76,564,829 and 45,637,433 shares issued and outstanding as of December 31, 2018 and 2017, respectively . . . . .	8	5
Additional paid-in capital . . . . .	1,346,996	1,114,546
Accumulated other comprehensive loss . . . . .	(43,343)	(42,156)
Accumulated deficit . . . . .	(1,521,417)	(1,290,420)
Total Amyris, Inc. stockholders' deficit . . . . .	(217,756)	(218,025)
Noncontrolling interest . . . . .	937	937
Total stockholders' deficit . . . . .	(216,819)	(217,088)
Total liabilities, mezzanine equity and stockholders' deficit . . . . .	\$ 127,925	\$ 140,796

(1) The balance in contract liabilities at December 31, 2017 represents deferred revenue, current prior to the Company's adoption of ASC 606, "Revenue".

See accompanying notes to consolidated financial statements.

AMYRIS, INC.

CONSOLIDATED STATEMENTS OF OPERATIONS

Years Ended December 31,

(In thousands, except shares and per share amounts)

	2018	2017 (As Restated, Note 2)
Revenue		
Renewable products (includes related party revenue of \$360 and \$1,291, respectively) . . . . .	\$ 33,598	\$ 42,370
Licenses and royalties, net (includes related party revenue of \$5,958 and \$57,972, respectively) . . . . .	7,658	48,703
Grants and collaborations (includes related party revenue of \$4,735 and \$1,679, respectively) . . . . .	22,348	36,598
Total revenue (includes related party revenue of \$11,053 and \$60,942, respectively) . . . . .	<u>63,604</u>	<u>127,671</u>
Cost and operating expenses		
Cost of products sold . . . . .	36,698	62,307
Research and development . . . . .	68,722	57,562
Sales, general and administrative . . . . .	90,902	63,853
Impairment of other assets . . . . .	3,865	—
Total cost and operating expenses . . . . .	<u>200,187</u>	<u>183,722</u>
Loss from operations . . . . .	<u>(136,583)</u>	<u>(56,051)</u>
Other income (expense)		
(Loss) gain on divestiture . . . . .	(1,778)	5,732
Interest expense . . . . .	(42,703)	(37,081)
Loss from change in fair value of derivative instruments . . . . .	(30,880)	(48,852)
Gain from change in fair value of debt . . . . .	2,082	—
Loss upon extinguishment of debt . . . . .	(17,424)	(11,897)
Other income (expense), net . . . . .	(2,949)	(956)
Total other expense, net . . . . .	<u>(93,652)</u>	<u>(93,054)</u>
Loss before income taxes . . . . .	<u>(230,235)</u>	<u>(149,105)</u>
Provision for income taxes . . . . .	—	(6,877)
Net loss attributable to Amyris, Inc. . . . .	<u>(230,235)</u>	<u>(155,982)</u>
Less deemed dividend related to beneficial conversion feature on Series A preferred stock . . . . .	—	(562)
Less deemed dividend related to beneficial conversion feature on Series B preferred stock . . . . .	—	(634)
Less deemed dividend related to beneficial conversion feature on Series D preferred stock . . . . .	—	(5,757)
Less deemed dividend upon settlement of make-whole provision on Series A preferred stock . . . . .	—	(10,505)
Less deemed dividend upon settlement of make-whole provision on Series B preferred stock . . . . .	—	(22,632)
Less deemed dividend related to the recognition of discounts on Series A preferred . . . . .	—	(21,578)
Less deemed dividend related to the recognition of discounts on Series B preferred . . . . .	—	(24,366)
Less deemed dividend related to proceeds discount upon conversion of Series D preferred stock . . . . .	(6,852)	—
Add: losses allocated to participating securities . . . . .	13,991	40,159
Net loss attributable to Amyris, Inc. common stockholders, basic . . . . .	<u>\$ (223,096)</u>	<u>\$ (201,857)</u>
Weighted-average shares of common stock outstanding used in computing net loss per share of common stock, basic . . . . .	<u>60,405,910</u>	<u>32,253,570</u>
Basic and diluted loss per share . . . . .	<u>\$ (3.69)</u>	<u>\$ (6.26)</u>

See accompanying notes to consolidated financial statements.

AMYRIS, INC.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS

Years Ended December 31, (In thousands)	2018	2017
		(As Restated, Note 2)
Comprehensive loss:		
Net loss . . . . .	\$(230,235)	\$(155,982)
Foreign currency translation adjustment . . . . .	(1,187)	(1,252)
Comprehensive loss attributable to Amyris, Inc. . . . .	\$(231,422)	\$(157,234)

See accompanying notes to consolidated financial statements.

AMYRIS, INC.

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' DEFICIT AND MEZZANINE EQUITY

(In thousands, except number of shares)	Preferred Stock		Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Noncontrolling Interest	Total Stockholders' Deficit	Mezzanine Equity – Common Stock
	Shares	Amount	Shares	Amount						
<b>December 31, 2016</b>			18,273,921	\$ 2	\$ 990,895	\$(40,904)	\$(1,134,438)	\$937	\$(183,508)	\$5,000
Issuance of Series A preferred stock for cash	22,140	—	—	—	562	—	—	—	562	—
Issuance of Series B preferred stock upon conversion of debt, net of issuance costs of \$0	40,204	—	—	—	11,530	—	—	—	11,530	—
Issuance of Series B preferred stock for cash, net of issuance costs of \$860	55,700	—	—	—	16,675	—	—	—	16,675	—
Issuance of Series D preferred stock for cash, net of issuance costs of \$176	12,958	—	—	—	6,197	—	—	—	6,197	—
Issuance of common stock due to rounding from reverse stock split	—	—	6,473	—	—	—	—	—	—	—
Issuance of common stock for cash	—	—	2,826,711	—	5,527	—	—	—	5,527	—
Issuance of common stock upon conversion of preferred stock	(108,831)	—	17,274,017	3	—	—	—	—	3	—
Issuance of common stock upon conversion of debt	—	—	2,257,786	—	12,687	—	—	—	12,687	—
Issuance of common stock for settlement of debt principal payments	—	—	1,246,165	—	10,707	—	—	—	10,707	—
Issuance of common stock for settlement of debt interest payments	—	—	400,967	—	3,436	—	—	—	3,436	—
Issuance of common stock upon exercise of warrants	—	—	3,148,097	—	50,449	—	—	—	50,449	—
Issuance of common stock upon restricted stock settlement	—	—	156,104	—	(385)	—	—	—	(385)	—
Issuance of common stock upon ESPP purchase	—	—	47,058	—	—	—	—	—	—	—
Issuance of common stock upon exercise of stock options	—	—	134	—	1	—	—	—	1	—
Beneficial conversion feature of Series A preferred stock	—	—	—	—	562	—	—	—	562	—
Deemed dividend on beneficial conversion feature of Series A preferred stock	—	—	—	—	(562)	—	—	—	(562)	—
Beneficial conversion feature to related party of Series B preferred stock	—	—	—	—	634	—	—	—	634	—
Deemed dividend to related party on beneficial conversion feature of Series B preferred stock	—	—	—	—	(634)	—	—	—	(634)	—
Beneficial conversion feature of Series D preferred stock	—	—	—	—	5,757	—	—	—	5,757	—
Deemed dividend on beneficial conversion feature of Series D preferred stock	—	—	—	—	(5,757)	—	—	—	(5,757)	—
Deemed dividend on preferred stock discounts upon conversion of Series A preferred stock	—	—	—	—	21,578	—	—	—	21,578	—
Deemed dividend on preferred stock discounts upon conversion of Series A preferred stock	—	—	—	—	(21,578)	—	—	—	(21,578)	—
Deemed dividend on preferred stock discounts upon conversion of Series B preferred stock	—	—	—	—	24,366	—	—	—	24,366	—
Deemed dividend on preferred stock discounts upon conversion of Series B preferred stock	—	—	—	—	(24,366)	—	—	—	(24,366)	—
Settlement of make-whole provision on Series A preferred stock	—	—	—	—	10,505	—	—	—	10,505	—
Deemed dividend upon settlement of make-whole provision on Series A preferred stock	—	—	—	—	(10,505)	—	—	—	(10,505)	—
Settlement of make-whole provision on Series B preferred stock	—	—	—	—	22,632	—	—	—	22,632	—
Deemed dividend upon settlement of make-whole provision on Series B preferred stock	—	—	—	—	(22,632)	—	—	—	(22,632)	—
Stock-based compensation	—	—	—	—	6,265	—	—	—	6,265	—
Foreign currency translation adjustment	—	—	—	—	—	(1,252)	—	—	(1,252)	—
Net loss (As Restated, Note 2)	—	—	—	—	—	—	(155,982)	—	(155,982)	—
<b>December 31, 2017 (As restated, Note 2)</b>	<b>22,171</b>	<b>—</b>	<b>45,637,433</b>	<b>\$ 5</b>	<b>\$1,114,546</b>	<b>\$(42,156)</b>	<b>\$(1,290,420)</b>	<b>\$937</b>	<b>\$(217,088)</b>	<b>\$5,000</b>

See accompanying notes to consolidated financial statements.

AMYRIS, INC.

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' DEFICIT AND MEZZANINE EQUITY — (Continued)

(In thousands, except number of shares)	Preferred Stock		Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Noncontrolling Interest	Total Stockholders' Deficit	Mezzanine Equity – Common Stock
	Shares	Amount	Shares	Amount						
Cumulative effect of change in accounting principle for ASC 606 (see "Significant Accounting Policies" in Note 1)	—	—	—	—	—	—	(762)	—	(762)	—
Issuance of common stock upon exercise of warrants	—	—	20,891,038	2	62,152	—	—	—	62,154	—
Settlement of derivatives liability upon exercise of warrants	—	—	—	—	108,670	—	—	—	108,670	—
Issuance of common stock in private placement, net of issuance costs of \$0	—	—	205,168	—	1,415	—	—	—	1,415	—
Issuance of common stock in private placement – related party, net of issuance costs of \$0	—	—	1,643,991	—	6,050	—	—	—	6,050	—
Issuance of common stock upon conversion of preferred stock	(7,515)	—	1,548,480	—	—	—	—	—	—	—
Deemed dividend on preferred stock discounts upon conversion of Series D preferred stock	—	—	—	—	6,852	—	—	—	6,852	—
Deemed dividend on preferred stock discounts upon conversion of Series D preferred stock	—	—	—	—	(6,852)	—	—	—	(6,852)	—
Issuance of common stock upon conversion of convertible notes	—	—	5,674,926	1	42,368	—	—	—	42,369	—
Issuance of common stock for settlement of debt interest payments	—	—	238,898	—	1,800	—	—	—	1,800	—
Issuance of common stock upon exercise of stock options	—	—	70,807	—	288	—	—	—	288	—
Issuance of common stock upon ESPP purchase	—	—	246,230	—	777	—	—	—	777	—
Issuance of common stock and payment of minimum employee taxes withheld upon net share settlement of restricted stock	—	—	407,858	—	(260)	—	—	—	(260)	—
Stock-based compensation	—	—	—	—	9,190	—	—	—	9,190	—
Foreign currency translation adjustment	—	—	—	—	—	(1,187)	—	—	(1,187)	—
Net loss	—	—	—	—	—	—	(230,235)	—	(230,235)	—
<b>December 31, 2018</b>	<u>14,656</u>	<u>—</u>	<u>76,564,829</u>	<u>\$ 8</u>	<u>\$1,346,996</u>	<u>\$(43,343)</u>	<u>\$(1,521,417)</u>	<u>\$937</u>	<u>\$(216,819)</u>	<u>\$5,000</u>

See accompanying notes to consolidated financial statements.

**AMYRIS, INC.**  
**CONSOLIDATED STATEMENTS OF CASH FLOWS**

Years Ended December 31,  
(In thousands)

	2018	2017 (As Restated, Note 2)
<b>Operating activities</b>		
Net loss	\$(230,235)	\$(155,982)
Adjustments to reconcile net loss to net cash used in operating activities:		
Loss from change in fair value of derivative liabilities	30,880	48,852
Loss upon conversion or extinguishment of debt	17,424	11,897
Amortization of debt discount	16,602	15,239
Stock-based compensation	9,190	6,265
Modification of warrants recorded as legal expense	6,764	—
Depreciation and amortization	4,921	11,358
Issuance costs on warrant exercises for cash	4,389	—
Loss on impairment of other assets	3,865	—
Debt issuance costs expensed due to fair value option	3,810	—
Loss (gain) on divestiture	1,778	(5,732)
Loss on disposal of property, plant and equipment	941	142
Gain on foreign currency exchange rates	(2,223)	(1,230)
Gain from change in fair value of debt	(2,082)	—
Noncash revenue reduction related to issuance of debt obligations under Ginkgo Partnership Agreement	—	13,413
Receipt of noncash consideration in connection with license revenue	—	(8,046)
Changes in assets and liabilities:		
Accounts receivable	7,448	(19,647)
Contract assets	8,056	(7,940)
Inventories	(4,416)	(3,126)
Deferred cost of products sold	(3,317)	—
Prepaid expenses and other assets	(6,383)	(18,730)
Accounts payable	11,603	5,452
Accrued and other liabilities	8,461	13,877
Contract liabilities	3,158	(7,241)
Net cash used in operating activities	<u>(109,366)</u>	<u>(101,179)</u>
<b>Investing activities</b>		
Purchases of property, plant and equipment	(12,472)	(4,412)
Proceeds from divestiture, net of cash transferred	—	54,827
Maturities of short-term investments	—	12,403
Sale of short-term investments	—	676
Purchase of short-term investments	—	(11,786)
Net cash (used in) provided by investing activities	<u>(12,472)</u>	<u>51,708</u>
<b>Financing activities</b>		
Proceeds from issuance of debt, net of issuance costs	94,371	18,925
Proceeds from exercise of warrants, net of issuance costs	57,767	—
Proceeds from issuance of common stock in private placements, net of issuance costs	1,415	—
Proceeds from ESPP purchases	777	—
Proceeds from exercises of common stock options	288	—
Principal payments on debt	(41,668)	(37,500)
Debt issuance costs incurred in connection with debt instrument accounted at fair value	(3,752)	—
Principal payments on capital leases	(981)	—
Payment of minimum employee taxes withheld upon net share settlement of restricted stock units	(260)	(385)
Proceeds from issuance of convertible preferred stock	—	98,246
Proceeds from issuance of common stock in August 2017 offering	—	5,759
Issuance costs incurred	—	(2,159)
Payment of swap termination	—	(3,113)
Payment on early redemption of debt	—	(1,909)
Net cash provided by financing activities	<u>107,957</u>	<u>77,864</u>
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(77)	186
Net (decrease) increase in cash, cash equivalents and restricted cash	<u>(13,958)</u>	<u>28,579</u>
Cash, cash equivalents and restricted cash at beginning of year	61,012	32,433
Cash, cash equivalents and restricted cash at end of year	<u>\$ 47,054</u>	<u>\$ 61,012</u>
<b>Reconciliation of cash, cash equivalents and restricted cash to the consolidated balance sheets</b>		
Cash and cash equivalents	\$ 45,353	\$ 57,059
Restricted cash, current	741	2,994
Restricted cash, noncurrent	960	959
Total cash, cash equivalents and restricted cash	<u>\$ 47,054</u>	<u>\$ 61,012</u>

See accompanying notes to consolidated financial statements.

**AMYRIS, INC.**  
**CONSOLIDATED STATEMENTS OF CASH FLOWS — (Continued)**

Years Ended December 31, (In thousands)	2018	2017 (As Restated, Note 2)
<b>Supplemental disclosures of cash flow information:</b>		
Cash paid for interest . . . . .	\$ 18,524	\$11,539
<b>Supplemental disclosures of non-cash investing and financing activities:</b>		
Derecognition of derivative liabilities upon exercise of warrants . . . . .	\$108,670	\$ —
Issuance of common stock upon conversion of convertible notes . . . . .	\$ 24,970	\$28,702
Issuance of common stock – related party . . . . .	\$ 6,050	\$ —
Accrued interest added to debt principal . . . . .	\$ 3,664	\$ 2,816
Issuance of common stock for settlement of debt principal and interest payments . . . . .	\$ 1,800	\$ 3,436
Cumulative effect adjustment of ASC 606 . . . . .	\$ 762	\$ —
Financing of insurance premium under note payable . . . . .	\$ 495	\$ 467
Financing of equipment under financing leases . . . . .	\$ 271	\$ —
Proceeds from Issuance of preferred stock attributed to derivative liabilities . . . . .	\$ —	\$72,725
Issuance of convertible preferred stock upon conversion of debt . . . . .	\$ —	\$40,204
Settlement of debt principal by a related party . . . . .	\$ —	\$25,000
Issuance of note payable in exchange for debt extinguishment with third party . . . . .	\$ —	\$16,954
Issuance of common stock for settlement of debt . . . . .	\$ —	\$10,708

See accompanying notes to consolidated financial statements.



## AMYRIS, INC.

### Notes to Consolidated Financial Statements

#### 1. Basis of Presentation and Summary of Significant Accounting Policies

##### Business Description

Amyris, Inc. (Amyris or the Company) is a leading industrial biotechnology company that applies its technology platform to engineer, manufacture and sell high performance, natural, sustainably-sourced products into the Health & Wellness, Clean Beauty, and Flavor & Fragrance markets. The Company's proven technology platform enables the Company to rapidly engineer microbes and use them as catalysts to metabolize renewable, plant-sourced sugars into large volume, high-value ingredients. The Company's biotechnology platform and industrial fermentation process replace existing complex and expensive manufacturing processes. The Company has successfully used its technology to develop and produce several distinct molecules at commercial volumes.

##### *Going Concern*

The Company has incurred significant operating losses since its inception and expects to continue to incur losses and negative cash flows from operations for at least the next 12 months following the issuance of the financial statements. As of December 31, 2018, the Company had negative working capital of \$119.5 million and an accumulated deficit of \$1.5 billion.

As of December 31, 2018, the Company's debt (including related party debt), net of deferred discount and issuance costs of \$17.1 million and a change in fair value of \$2.1 million, totaled \$209.7 million, of which \$147.7 million is classified as current. The Company's debt agreements contain various covenants, including certain restrictions on the Company's business that could cause the Company to be at risk of defaults, such as restrictions on additional indebtedness, material adverse effect and cross default clauses. A failure to comply with the covenants and other provisions of the Company's 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 a substantial portion of such indebtedness. If such indebtedness is accelerated, it would generally also constitute an event of default under the Company's other outstanding indebtedness, permitting acceleration of a substantial portion of such other outstanding indebtedness. At December 31, 2018, the Company failed to meet certain covenants in connection with the GACP Term Loan Facility (see Note 5, "Debt"), including those associated with minimum revenue and minimum liquidity requirements. In April 2019, (i) GACP provided a waiver to the Company for breaches of all covenant violations under the GACP loan and security agreement (LSA) occurring prior to, as of and after December 31, 2018 through April 8, 2019, and (ii) GACP sold and assigned the loans under the LSA and all documents and assets related thereto to Foris Ventures, LLC (Foris). Subsequently, Foris provided a waiver to the Company for breaches of certain covenants under the LSA through June 30, 2020 and amended the financial covenants under the LSA to provide more favorable compliance terms and conditions. See Note 16, "Subsequent Events" for additional information.

Cash and cash equivalents of \$45.4 million as of December 31, 2018 are not sufficient to fund expected future negative cash flows from operations and cash debt service obligations through September 30, 2020. These factors raise substantial doubt about the Company's ability to continue as a going concern within one year after the date that these financial statements are issued. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty. The Company's ability to continue as a going concern will depend, in large part, on its ability to achieve positive cash flows from operations during the 12 months from the date of this filing, and refinance or extend other existing debt maturities occurring later in 2019, all of which are uncertain and outside the control of the Company. Further, the Company's operating plan for 2019 contemplates a significant reduction in its net operating cash outflows as compared to the year ended December 31, 2018, resulting from (i) revenue growth from sales of existing and new products with positive gross margins, (ii) reduced production costs as a result of manufacturing and technical developments, and (iii) an increase in cash inflows from collaborations and grants. If the Company is unable to complete these actions, it expects to be unable to meet its operating cash flow needs and its obligations under its existing debt facilities. This could result in an acceleration of

its obligation to repay all amounts outstanding under those facilities, and the Company may be forced to obtain additional equity or debt financing, which may not occur timely or on reasonable terms, if at all, and/or liquidate its assets. In such a scenario, the value received for assets in liquidation or dissolution could be significantly lower than the value reflected in these financial statements. The Company has in the past, including in July 2019, had certain of its debt instruments accelerated for failure to make a payment when due. While we have been able to cure these defaults to date to avoid additional cross-acceleration, we may not be able to cure such a default promptly in the future.

On September 16, 2019, the Company failed to pay an aggregate of \$63.6 million of outstanding principal and accrued interest on the Second Exchange Note when due. The failure resulted in an event of default under the Second Exchange Note and also triggered cross-defaults under other debt instruments of the Company which permitted the holders of such indebtedness to accelerate the amounts owing under such instruments. The Company subsequently received waivers from substantially all holders of such other debt instruments to waive the right to accelerate. As a result, the indebtedness with respect to which the Company has obtained such waivers continues to be classified as long-term on the Company's balance sheet. The indebtedness reflected by the Second Exchange Note continues to be classified as a current liability on the Company's balance sheet. In addition, as a result of the payment default, the conversion price of the Second Exchange Note is subject to adjustment in accordance with the terms of the Second Exchange Note.

The Company does not currently have sufficient funds to repay the amounts outstanding under the Second Exchange Note. To date, negotiations with the holder of the Second Exchange Note have not been successful, and there can be no assurance that a favorable outcome for the Company will be reached. The Company has executed a term sheet with an existing investor for a term loan, the proceeds of which would be used to repay a portion of the Second Exchange Note. However, there can be no assurance that the Company will be able to obtain such financing on its expected timeline, or on acceptable terms, if at all. Even if the Company does obtain such financing, it will not have sufficient funds to repay the Second Exchange Note in full without obtaining additional financing, which the Company is attempting to source. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

### ***Basis of Consolidation***

The accompanying consolidated financial statements have been prepared in accordance with the accounting principles generally accepted in the United States (U.S. GAAP). The consolidated financial statements include the accounts of Amyris, Inc. and its wholly-owned and partially-owned subsidiaries in which the Company has a controlling interest after elimination of all significant intercompany accounts and transactions.

Investments and joint venture arrangements are assessed to determine whether the terms provide economic or other control over the entity requiring consolidation of the entity. Entities controlled by means other than a majority voting interest are referred to as variable-interest entities (VIEs) and are consolidated when Amyris has both the power to direct the activities of the VIE that most significantly impact its economic performance and the obligation to absorb losses or the right to receive benefits that could potentially be significant to the entity. For any investment or joint venture in which (i) the Company does not have a majority ownership interest, (ii) the Company possesses the ability to exert significant influence and (iii) the entity is not a VIE for which the Company is considered the primary beneficiary, the Company accounts for the investment or joint venture using the equity method. Following the adoption of ASU 2016-01 on January 1, 2018 described in more detail below (which was applicable to the Company on a prospective basis), equity investments in which the Company does not exert significant influence and that do not have readily determinable fair values are measured at cost, adjusted for changes from observable market transactions, less impairment ("adjusted cost basis"). The Company evaluates its investments for impairment by considering a variety of factors, including the earnings capacity of the related investments. Fair value measurements for the Company's equity investments are classified within Level 3 of the fair value hierarchy based on the nature of the fair value inputs. Realized and unrealized gains or losses are recognized in other income or expense.

## **Sale of Subsidiary and Entry into Commercial Agreements**

On December 28, 2017, the Company completed the sale of all of the capital stock of its subsidiary Amyris Brasil, a wholly-owned subsidiary, to DSM Produtos Nutricionais Brasil S.A (DSM), a related party. Amyris Brasil owned and operated the Company's production facility in Brotas, Brazil. The transaction resulted in a pretax gain of \$5.7 million from continuing operations in 2017, which was further adjusted by a \$1.8 million loss in 2018 related to the final working capital adjustments between the Company and DSM. The transaction did not result in presenting Amyris Brasil as a discontinued operation in the consolidated financial statements, as the sale did not represent a strategic shift that will have a major effect on the Company's operations and financial results due to the Company's continuing commercial presence and reinvestment in a new production facility under construction in Brazil and its continuing Brazilian operation through Amyris Biotecnologia do Brasil Ltda. (formerly SMA Indústria Química Ltda.). The Company and DSM also entered into a series of commercial agreements and a credit agreement concurrently with the sale of Amyris Brasil. See Note 10, "Revenue Recognition", Note 11, "Related Party Transactions", Note 13, "Divestiture" and Note 16, "Subsequent Events" for further information.

## **Use of Estimates and Judgements**

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates, judgements and assumptions that affect the reported amounts of assets and liabilities, disclosures of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates, and such differences may be material to the consolidated financial statements.

## **Significant Accounting Policies**

### ***Cash and Cash Equivalents***

The Company considers all highly liquid investments purchased with an original or remaining maturity of three months or less at the date of purchase to be cash equivalents. Cash and cash equivalents are maintained with various financial institutions.

### ***Inventories***

Inventories, which consist of farnesene-derived products, flavors and fragrances ingredients and clean beauty products, are stated at the lower of actual cost or net realizable value and are categorized as finished goods, work in process or raw material inventories. The Company evaluates the recoverability of its inventories based on assumptions about expected demand and net realizable value. If the Company determines that the cost of inventories exceeds their estimated net realizable value, the Company records a write-down equal to the difference between the cost of inventories and the estimated net realizable value. If actual net realizable values are less favorable than those projected by management, additional inventory write-downs may be required that could negatively impact the Company's operating results. If actual net realizable values are more favorable, the Company may have favorable operating results when products that have been previously written down are sold in the normal course of business. The Company also evaluates the terms of its agreements with its suppliers and establishes accruals for estimated losses on adverse purchase commitments as necessary, applying the same lower of cost or net realizable value approach that is used to value inventory. Cost is computed on a weighted-average basis.

### ***Property, Plant and Equipment, Net***

Property, plant and equipment are recorded at cost. Depreciation and amortization are computed straight-line based on the estimated useful lives of the related assets, ranging from 3 to 15 years for machinery, equipment and fixtures, and 15 years for buildings. Leasehold improvements are amortized over their estimated useful lives or the period of the related lease, whichever is shorter.

The Company expenses costs for maintenance and repairs and capitalizes major replacements, renewals and betterments. For assets retired or otherwise disposed, both cost and accumulated depreciation are eliminated from the asset and accumulated depreciation accounts, and gains or losses related to the disposal are recorded in the statement of operations for the period.

### ***Impairment***

Long-lived assets that are held and used by the Company are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of such assets may not be recoverable. Determination of recoverability of long-lived assets is based on an estimate of the undiscounted future cash flows resulting from the use of the asset and its eventual disposition. Measurement of an impairment loss for long-lived assets that management expects to hold and use is based on the difference between the fair value of the asset and its carrying value. Long-lived assets to be disposed of are reported at the lower of carrying amount or fair value less costs to sell.

### ***Recoverable Taxes from Brazilian Government Entities***

Recoverable taxes from Brazilian government entities represent value-added taxes paid on purchases in Brazil, which are reclaimable from the Brazilian tax authorities, net of reserves for amounts estimated not to be recoverable.

### ***Fair Value Measurements***

The carrying amounts of certain financial instruments, such as cash equivalents, short-term investments, accounts receivable, accounts payable and accrued liabilities, approximate fair value due to their relatively short maturities.

The Company measures the following financial assets and liabilities at fair value:

- Freestanding and bifurcated derivatives in connection with certain debt and equity financings; and
- 6% Convertible Notes Due 2021 (see Note 4, “Fair Value Measurement”, Note 5, “Debt” and Note 16, “Subsequent Events”), for which the Company has elected fair value accounting

Fair value is based on the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants. Where available, fair value is based on or derived from observable market prices or other observable inputs. Where observable prices or inputs are not available, valuation techniques are applied. These valuation techniques involve some level of management estimation and judgement, the degree of which is dependent on the price transparency for the instruments or market and the instruments’ complexity.

Changes to the inputs used in these valuation models have a significant impact on the estimated fair value of the 6% Convertible Notes Due 2021 and the Company’s embedded and freestanding derivatives. For example, a decrease (increase) in the estimated credit spread for the Company results in an increase (decrease) in estimated fair value. Conversely, a decrease (increase) in the stock price results in a decrease (increase) in estimated fair value.

The changes during 2018 and 2017 in the fair values of the bifurcated compound embedded derivatives are primarily related to the change in price of the Company’s common stock and are reflected in the consolidated statements of operations as “Gain (loss) from change in fair value of derivative instruments”.

For debt instruments for which the Company has not elected fair value accounting, fair value is based on the present value of expected future cash flows and assumptions about the then-current market interest rates as of the reporting period and the creditworthiness of the Company. Most of the Company’s debt is carried on the consolidated balance sheet on a historical cost basis net of unamortized discounts and premiums, because the Company has not elected the fair value option of accounting. However, for the 6% Notes Due 2021, the Company elected fair value accounting, so that balances reported for that debt instrument represent fair value as of each balance sheet date; see Note 4, “Fair Value Measurement”, for additional information. Changes in fair value of the 6% Convertible Notes Due 2021 are reflected in the consolidated statements of operations as “Gain (loss) from change in fair value of debt”.

For all debt instruments, including any for which the Company has elected fair value accounting, the Company classifies interest that has been accrued during each period as Interest expense on the consolidated statements of operations.

### ***Derivatives***

Embedded derivatives that are required to be bifurcated from the underlying debt instrument (i.e., host) are accounted for and valued as separate financial instruments. The Company has evaluated the terms and features of its convertible notes payable and convertible preferred stock and identified compound embedded derivatives requiring bifurcation and accounting at fair value, using the valuation techniques mentioned in the *Fair Value Measurements* section of this Note, because the economic and contractual characteristics of the embedded derivatives met the criteria for bifurcation and separate accounting due to the instruments containing conversion options, certain “make-whole interest” provisions, down-round conversion price adjustment provisions and/or conversion rate adjustments.

Cash warrants and anti-dilution warrants issued in conjunction with the convertible debt and equity financings are freestanding financial instruments which are also classified as derivative liabilities.

### ***Noncontrolling Interest***

Noncontrolling interests represent the portion of net income (loss), net assets and comprehensive income (loss) that is not allocable to the Company, in situations where the Company consolidates its equity investment in a joint venture for which there are other owners. The amount of noncontrolling interest is comprised of the amount of such interests at the date of the Company’s original acquisition of an equity interest in a joint venture, plus the other shareholders’ share of changes in equity since the date the Company made an investment in the joint venture.

### ***Concentration of Credit Risk***

Financial instruments that potentially subject the Company to a concentration of credit risk consist primarily of cash and cash equivalents, short-term investments and accounts receivable. The Company places its cash equivalents and investments (primarily certificates of deposits) with high credit quality financial institutions and, by policy, limits the amount of credit exposure with any one financial institution. Deposits held with banks may exceed the amount of insurance provided on such deposits. The Company has not experienced any losses on its deposits of cash and cash equivalents and short-term investments.

The Company performs ongoing credit evaluation of its customers, does not require collateral, and maintains allowances for potential credit losses on customer accounts when deemed necessary.

Customers representing 10% or greater of accounts receivable were as follows:

<b>As of December 31,</b>	<b>2018</b>	<b>2017</b>
Customer B . . . . .	24%	10%
Customer C . . . . .	19%	15%
Customer G . . . . .	11%	**
Customer A (related party) . . . . .	**	38%

\*\* Less than 10%

Customers representing 10% or greater of revenue were as follows:

<b>Years Ended December 31,</b>	<b>2018</b>	<b>2017</b>
		<b>(As Restated, Note 2)</b>
Customer A (related party) . . . . .	17%	46%
Customer B . . . . .	18%	13%
Customer C . . . . .	13%	**
Customer D . . . . .	13%	**
Customer E . . . . .	**	11%
Customer F . . . . .	**	**

\*\* Less than 10%

## ***Revenue Recognition***

### Year ended December 31, 2017

For the year ended December 31, 2017, the Company recognized revenue from the sale of renewable products, licenses of and royalties from intellectual property, and grants and collaborative research and development services. Revenue was recognized when all of the following criteria were met: persuasive evidence of an arrangement existed, delivery has occurred or services have been rendered, the fee was fixed or determinable, and collectability was reasonably assured. If sales arrangements contained multiple elements, the Company evaluated whether the components of each arrangement represent separate units of accounting.

### *Renewable Product Sales*

The Company's renewable product sales do not include rights of return, except for sales of Biossance products. Returns are only accepted if the product does not meet product specifications and such nonconformity is communicated to the Company within a set number of days of delivery. The Company offers a two-year standard warranty provision for squalane products, if the products do not meet Company-established criteria as set forth in the Company's trade terms. The Company bases its return reserve on a historical rate of return for the Company's squalane products. Revenues are recognized, net of discounts and allowances, once passage of title and risk of loss has occurred and contractually specified acceptance criteria have been met, provided all other revenue recognition criteria have also been met.

### *Licenses and Royalties*

License fees for intellectual property transferred to other parties, representing non-refundable payments received at the time of signature of license agreements, are recognized as revenue upon signature of the license agreements when the Company has no significant future performance obligations and collectability of the fees is assured. Upfront payments received at the beginning of licensing agreements with future service obligations are deferred and recognized as revenue on a systematic basis over the period during which the related services are rendered and all obligations are performed.

Royalties from intellectual property licenses that allow Amyris's customers to use the Company's intellectual property to produce and sell their products in which the Company shares in the profits are recognized in the period the royalty report is received.

### *Grants and Collaborative Research and Development Services*

Revenues from collaborative research and development services are recognized as the services are performed consistent with the performance requirements of the contract. In cases where the planned levels of research and development services fluctuate over the research term, the Company recognizes revenues using the proportional performance method based upon actual efforts to date relative to the amount of expected effort to be incurred by us. When up-front payments are received and the planned levels of research and development services do not fluctuate over the research term, revenues are recorded on a ratable basis over the arrangement term, up to the amount of cash received. When up-front payments are received and the planned levels of research and development services fluctuate over the research term, revenues are recorded using the proportional performance method, up to the amount of cash received. Where arrangements include milestones that are determined to be substantive and at risk at the inception of the arrangement, revenues are recognized upon achievement of the milestone and is limited to those amounts whereby collectability is reasonably assured.

Grants are agreements that generally provide cost reimbursement for certain types of expenditures in return for research and development activities over a contractually defined period. Revenues from grants are recognized in the period during which the related costs are incurred, provided that the conditions under which the grants were provided have been met and only perfunctory obligations are outstanding.

### Year ended December 31, 2018

In accordance with a new revenue recognition standard that the Company adopted January 1, 2018, the Company recognizes revenue from the sale of renewable products, licenses of and royalties from

intellectual property, and grants and collaborative research and development services. Revenue is measured based on the consideration specified in a contract with a customer, and transaction price is allocated utilizing stand-alone selling price. Revenue is recognized when, or as, the Company satisfies a performance obligation by transferring control over a product or service to a customer. The Company generally does not incur costs to obtain new contracts. The costs to fulfill a contract are expensed as incurred.

The Company accounts for a contract when it has approval and commitment to perform from both parties, the rights of the parties are identified, payment terms are established, the contract has commercial substance and collectability of the consideration is probable. Changes to contracts are assessed for whether they represent a modification or should be accounted for as a new contract. The Company considers the following indicators, among others, when determining if it is acting as a principal in the transaction and recording revenue on a gross basis: (i) the Company is primarily responsible for fulfilling the promise to provide the specified goods or service, (ii) the Company has inventory risk before the specified good or service has been transferred to a customer or after transfer of control to the customer and (iii) the Company has discretion in establishing the price for the specified good or service. If a transaction does not meet the Company's indicators of being a principal in the transaction, then the Company is acting as an agent in the transaction and the associated revenues are recognized on a net basis.

The Company's significant contracts and contractual terms with its customers are presented in Note 10, "Revenue Recognition".

The Company recognizes revenue when control has passed to the customer. The following indicators are evaluated in determining when control has passed to the customer: (i) the Company has a right to receive payment for the product or service, (ii) the customer has legal title to the product, (iii) the Company has transferred physical possession of the product to the customer, (iv) the customer has the significant risk and rewards of ownership of the product and (v) the customer has accepted the product. For most of the Company's renewable products customers, supply agreements between the Company and each customer indicate when transfer of title occurs.

In some cases, the Company may make a payment to a customer. When that occurs, the Company evaluates whether the payment is for a distinct good or service receivable from the customer. If the fair value of the goods or services receivable is greater than or equal to the amount paid to the customer, then the entire payment is treated as a purchase. If, on the other hand, the fair value of goods or services is less than the amount paid, then the difference is treated as a reduction in transaction price of the Company's sales to the customer.

#### *Performance Obligations*

A performance obligation is a promise in a contract to transfer a distinct good or service to the customer. A contract's transaction price is allocated to each distinct performance obligation and recognized as revenue when, or as, the performance obligation is satisfied. The Company's contracts may contain multiple performance obligations if a promise to transfer the individual goods or services is separately identifiable from other promises in the contracts and, therefore, is considered distinct. For contracts with multiple performance obligations, the Company determines the standalone selling price of each performance obligation and allocates the total transaction price using the relative selling price basis.

The following is a description of the principal goods and services from which the Company generates revenue.

#### *Renewable Product Sales*

Revenues from renewable product sales are recognized as a distinct performance obligation on a gross basis as the Company is acting as a principal in these transactions, with the selling price to the customer recorded net of discounts and allowances. Revenues are recognized at a point in time when control has passed to the customer, which typically is upon the renewable products leaving the Company's facilities with the first transportation carrier. The Company, on occasion, may recognize revenue under a bill and hold arrangement, whereby the customer requests and agrees to purchase product but requests delivery at a later date. Under these arrangements, control transfers to the customer when the product is ready for delivery, which occurs when the product is identified separately as belonging to the customer, the product is ready for

shipment to the customer in its current form, and the Company does not have the ability to direct the product to a different customer. It is at this point that the Company has the right to receive payment, the customer obtains legal title, and the customer has the significant risks and rewards of ownership. The Company's renewable product sales do not include rights of return, except for Biossance products, for which the Company estimates sales returns subsequent to sale and reduces revenue accordingly. For renewable products other than Biossance, returns are accepted only if the product does not meet product specifications and such nonconformity is communicated to the Company within a set number of days of delivery. The Company offers a two-year assurance-type warranty to replace squalane products that do not meet Company-established criteria as set forth in the Company's trade terms. An estimate of the cost to replace the squalane products sold is made based on a historical rate of experience and recognized as a liability and related expense when the renewable product sale is consummated.

#### *Licenses and Royalties*

*Licensing of Intellectual Property:* When the Company's intellectual property licenses are determined to be distinct from the other performance obligations identified in the arrangement, revenue is recognized from non-refundable, up-front fees allocated to the license at a point in time when the license is transferred to the licensee and the licensee is able to use and benefit from the license. For intellectual property licenses that are combined with other promises, the Company utilizes judgment to assess the nature of the combined performance obligation to determine whether the combined performance obligation is satisfied over time or at a point in time and, if over time, the appropriate method of measuring progress for purposes of recognizing revenue from non-refundable, up-front-fees. The Company evaluates the measure of progress each reporting period and, if necessary, adjusts the measure of performance and related revenue recognized.

*Royalties from Licensing of Intellectual Property:* The Company earns royalties from the licensing of its intellectual property whereby the licensee uses the intellectual property to produce and sell its products to its customers and the Company shares in the profits.

When the Company's intellectual property license is the only performance obligation, or it is the predominant performance obligation in arrangements with multiple performance obligations, the Company applies the sales-based royalty exception which requires the Company to estimate the revenue that is recognized at a point in time when the licensee's product sales occur. Estimates of sales-based royalty revenues are made using the most likely outcome method, which is the single amount in a range of possible amounts, using the best evidence available at the time, derived from the licensee's historical sales volumes and sales prices of its products and recent commodity market pricing data and trends. Estimates are adjusted to actual or as new information becomes available.

When the Company's intellectual property license is not the predominant performance obligation in arrangements with multiple performance obligations, the royalty represents variable consideration and is allocated to the transaction price of the predominant performance obligation which generally is the supply of renewable products to the Company's customers. Revenue is estimated and recognized at a point in time when the renewable products are delivered to the customer. Estimates of the amount of variable consideration to include in the transaction price are made using the expected value method, which is the sum of probability-weighted amounts in a range of possible amounts determined based on the cost to produce the renewable product plus a reasonable margin for the profit share. The Company only includes an amount of variable consideration in the transaction price to the extent it is probable that a significant reversal in the cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is subsequently resolved. Also, the transaction price is reduced for estimates of customer incentive payments payable by the Company for certain customer contracts.

#### *Grants and Collaborative Research and Development Services*

*Collaborative Research and Development Services:* The Company earns revenues from collaboration agreements with customers to perform research and development services to develop new molecules using the Company's technology and to scale production of the molecules for commercialization and use in the collaborator's products. The collaboration agreements generally include providing the Company's collaboration partners with research and development services and with licenses to the Company's intellectual property to use the technology underlying the development of the molecules and to sell its



products that incorporate the technology. The terms of the Company's collaboration agreements typically include one or more of the following: advance payments for the research and development services that will be performed, nonrefundable upfront license payments, milestone payments to be received upon the achievement of the milestone events defined in the agreements, and royalty payments upon the commercialization of the molecules in which the Company shares in the customer's profits.

Collaboration agreements are evaluated at inception to determine whether the intellectual property licenses represent distinct performance obligations separate from the research and development services. If the licenses are determined to be distinct, the non-refundable upfront license fee is recognized as revenue at a point in time when the license is transferred to the licensee and the licensee is able to use and benefit from the license while the research and development service fees are recognized over time as the performance obligations are satisfied. The research and development service fees represent variable consideration. Estimates of the amount of variable consideration to include in the transaction price are made using the expected value method, which is the sum of probability-weighted amounts in a range of possible amounts. The Company only includes an amount of variable consideration in the transaction price to the extent it is probable that a significant reversal in the cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is subsequently resolved. Revenue is recognized over time using either an input-based measure of labor hours expended or a time-based measure of progress towards the satisfaction of the performance obligations. The measure of progress is evaluated each reporting period and, if necessary, adjustments are made to the measure of progress and the related revenue recognized.

Collaboration agreements that include milestone payments are evaluated at inception to determine whether the milestone events are considered probable of achievement, and estimates are made of the amount of the milestone payments to include in the transaction price using the most likely amount method which is the single amount in a range of possible amounts. If it is probable that a significant revenue reversal will not occur, the estimated milestone payment amount is included in the transaction price. Each reporting period, the Company re-evaluates the probability of achievement of the milestone events and any related constraint and, if necessary, adjusts its estimate of the overall transaction price. Any such adjustments are recorded on a cumulative basis, which would affect collaboration revenues in the period of adjustment. Generally, revenue is recognized using an input-based measure of progress towards the satisfaction of the performance obligations which can be labor hours expended or time-based in proportion to the estimated total project effort or total projected time to complete. The measure of progress is evaluated each reporting period and, if necessary, adjustments are made to the measure of progress and the related revenue recognized. Certain performance obligations are associated with milestones agreed between the Company and its customer. Revenue generated from the performance of services in accordance with these milestones is recognized upon confirmation from the customer that the milestone has been achieved. In these cases, amounts recognized are constrained to the amount of consideration received upon achievement of the milestone.

The Company generally invoices its collaboration partners on a monthly or quarterly basis, or upon the completion of the effort or achievement of a milestone, based on the terms of each agreement. Deferred revenue arises from amounts received in advance of performing the research and development activities and is recognized as revenue in future periods as the performance obligations are satisfied.

*Grants:* The Company earns revenues from grants with government agencies to, among other things, provide research and development services to develop molecules using the Company's technology, and create research and development tools to improve the timeline and predictability for scaling molecules from proof of concept to market by reducing time and costs. Grants typically consist of research and development milestone payments to be received upon the achievement of the milestone events defined in the agreements.

The milestone payments are evaluated at inception to determine whether the milestone events are considered probable of achievement and estimates are made of the amount of the milestone payments to include in the transaction price using the most likely amount method which is the single amount in a range of possible amounts. If it is probable that a significant revenue reversal will not occur, the estimated milestone payment amount is included in the transaction price. Each reporting period, the Company re-evaluates the probability of achievement of the milestone events and any related constraint and, if

necessary, adjusts its estimate of the overall transaction price. Any such adjustments are recorded on a cumulative basis, which would affect grant revenues in the period of adjustment. Revenue is recognized over time using a time-based measure of progress towards the satisfaction of the performance obligations. The measure of progress is evaluated each reporting period and, if necessary, adjustments are made to the measure of progress and the related revenue recognized.

### ***Cost of Products Sold***

Cost of products sold includes the production costs of renewable products, which include the cost of raw materials, in-house manufacturing labor and overhead, amounts paid to contract manufacturers, including amortization of tolling fees, and period costs including inventory write-downs resulting from applying lower of cost or net realizable value inventory adjustments. Cost of products sold also includes certain costs related to the scale-up of production. Shipping and handling costs charged to customers are recorded as revenues. Outbound shipping costs incurred are included in cost of products sold. Such charges were not material for any of the periods presented.

The Company recognizes deferred cost of products sold as an asset on the balance sheet when a cost is incurred in connection with a revenue performance obligation that will not be fulfilled until a future period.

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

Research and development costs are expensed as incurred and include costs associated with research performed pursuant to collaborative agreements and government grants, including internal research. Research and development costs consist of direct and indirect internal costs related to specific projects, as well as fees paid to others that conduct certain research activities on the Company's behalf.

### ***Debt Extinguishment***

The Company accounts for the income or loss from extinguishment of debt in accordance with ASC 470, *Debt*, which indicates that for all extinguishment of debt, the difference between the reacquisition consideration and the net carrying amount of the debt being extinguished should be recognized as gain or loss when the debt is extinguished. Losses from debt extinguishment are shown in the consolidated statements of operations under "Other income (expense)" as "Loss upon extinguishment of debt".

### ***Stock-based Compensation***

The Company accounts for stock-based employee compensation plans under the fair value recognition and measurement provisions of U.S. GAAP. Those provisions require all stock-based payments to employees, including grants of stock options and restricted stock units (RSUs), to be measured using the grant-date fair value of each award. The Company recognizes stock-based compensation expense net of expected forfeitures over each award's requisite service period, which is generally the vesting term. Expected forfeiture rates are estimated based on the Company's historical experience. Stock-based compensation plans are described more fully in Note 12, "Stock-based Compensation".

### ***Income Taxes***

The Company is subject to income taxes in the United States and foreign jurisdictions and uses estimates to determine its provisions for income taxes. The Company uses the asset and liability method of accounting for income taxes, whereby deferred tax asset or liability account balances are calculated at the balance sheet date using current tax laws and rates in effect for the year in which the differences are expected to affect taxable income.

Recognition of deferred tax assets is appropriate when realization of such assets is more likely than not. The Company recognizes a valuation allowance against its net deferred tax assets unless it is more likely than not that such deferred tax assets will be realized. This assessment requires judgement as to the likelihood and amounts of future taxable income by tax jurisdiction.

The Company applies the provisions of Financial Accounting Standards Board (FASB) guidance on accounting for uncertainty in income taxes. The Company assesses all material positions taken in any income tax return, including all significant uncertain positions, in all tax years that are still subject to

assessment or challenge by relevant taxing authorities. Assessing an uncertain tax position begins with the initial determination of the position's sustainability, and the tax benefit to be recognized is measured at the largest amount of benefit that is greater than 50 percent likely of being realized upon ultimate settlement. As of each balance sheet date, unresolved uncertain tax positions must be reassessed, and the Company will determine whether (i) the factors underlying the sustainability assertion have changed and (ii) the amount of the recognized tax benefit is still appropriate. The recognition and measurement of tax benefits requires significant judgement, and such judgements may change as new information becomes available.

### ***Foreign Currency Translation***

The assets and liabilities of foreign subsidiaries, where the local currency is the functional currency, are translated from their respective functional currencies into U.S. dollars at the rates in effect at each balance sheet date, and revenue and expense amounts are translated at average rates during each period, with resulting foreign currency translation adjustments recorded in other comprehensive loss, net of tax, in the consolidated statements of stockholders' deficit. As of December 31, 2018 and 2017, cumulative translation adjustment, net of tax, were \$43.3 million and \$42.2 million, respectively.

Where the U.S. dollar is the functional currency, remeasurement adjustments are recorded in other income (expense), net in the accompanying consolidated statements of operations. Net losses resulting from foreign exchange transactions were \$1.6 million and \$0.4 million for the years ended December 31, 2018 and 2017, respectively and are recorded in other income (expense), net in the consolidated statements of operations.

### **New Accounting Standards or Updates Recently Adopted**

During the year ended December 31, 2018 the Company adopted the following Accounting Standards Updates (ASUs):

***Revenue Recognition*** The Company adopted ASC 606, *Revenue from Contracts with Customers*, with a date of initial application of January 1, 2018. As a result, the Company has changed its accounting policy for revenue recognition as detailed above in "Significant Accounting Policies". The Company applied ASC 606 using the modified retrospective approach by recognizing the cumulative effect of initially applying ASC 606 to all contracts not completed as of the date of adoption as an adjustment to the opening balance of accumulated deficit at January 1, 2018. Therefore, the comparative information has not been adjusted and continues to be reported under the legacy revenue recognition guidance of ASC 605, "Revenue Recognition".

The Company applied ASC 606 using a practical expedient for contracts that were modified before the application date, which allowed the Company to determine an aggregate effect of all modifications that occurred before January 1, 2018, when determining the satisfied and unsatisfied performance obligations, the transaction price, and allocating that transaction price to the performance obligations instead of retrospectively restating the contracts for such contract modifications.

The cumulative effect of initially applying ASC 606 resulted in an increase to accumulated deficit at January 1, 2018 of approximately \$0.8 million. The most significant change in accounting policy is the Company is now required to estimate royalty revenues from licenses of the Company's intellectual property and recognize estimated royalty revenues at a point in time when the Company sells its renewable products to its customers (if the sales-based royalty exception does not apply) or when the licensee sells its products to its customer (if the sales-based royalty exception does apply).

The following table presents the amounts by which revenue is affected in the current reporting period by the application of ASC 606 as compared with the legacy guidance that was in effect before the accounting change.

(In thousands)	Year Ended December 31, 2018		
	As Reported	Adjustments	Amounts Without the Adoption of ASC 606
Renewable products . . . . .	\$33,598	\$ —	\$33,598
Licenses and royalties . . . . .	7,658	5,094	12,752
Grants and collaborations . . . . .	22,348	(5,786)	16,562
Total revenue from all customers . . . . .	<u>\$63,604</u>	<u>\$ (692)</u>	<u>\$62,912</u>

*Financial Instruments* In January 2016, the Financial Accounting Standards Board (FASB) issued ASU 2016-01, *Financial Instruments — Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities*, which changes the accounting for equity investments, financial liabilities under the fair value option, and the presentation and disclosure requirements for financial instruments. The Company adopted ASU 2016-01 on January 1, 2018. Adoption of this ASU did not impact the Company's consolidated financial position, results of operations or cash flows.

*Classification of Cash Flow Elements* In August 2016, the FASB issued ASU 2016-15, *Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments*, which affects the classification of certain cash receipts and cash payments on the statement of cash flows. ASU 2016-15 results in a change in cash flow classification of debt prepayment or extinguishment costs. ASU 2016-15 became effective January 1, 2018 on a retrospective basis. Adoption of this ASU did not impact the Company's consolidated financial position, results of operations or cash flows.

*Income Taxes Related to Intra-entity Asset Transfers* In October 2016, FASB issued ASU 2016-16, *Intra-Entity Transfers of Assets Other Than Inventory* on simplifying the accounting for income taxes related to intra-entity asset transfers. The new guidance allows an entity to recognize the tax expense from the sale of an asset in the seller's tax jurisdiction when the transfers occurs, even though the pre-tax effects of that transaction are eliminated in consolidation. ASU 2016-16 became effective January 1, 2018, which the Company adopted on a modified retrospective basis.

*Restricted Cash in Statement of Cash Flows* In November 2016, the FASB issued ASU 2016-18, *Statement of Cash Flows (Topic 230): Restricted Cash*, which requires that a statement of cash flows explain the change during the period in the total of cash, cash equivalents, and amounts generally described as restricted cash or restricted cash equivalents. Therefore, amounts generally described as restricted cash and restricted cash equivalents should be included with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on the statement of cash flows. The accounting standard update became effective January 1, 2018 using a retrospective transition method for each period presented. Upon adoption, ASU 2016-18 resulted in a change in the presentation of restricted cash in the statement of cash flows for current and prior periods presented.

*Derecognition of Nonfinancial Assets* In February 2017, the FASB issued ASU 2017-05, *Other Income — Gains and Losses from the Derecognition of Nonfinancial Assets (Subtopic 610-20): Clarifying the Scope of Asset Derecognition Guidance and Accounting for Partial Sales of Nonfinancial Assets*, which requires entities to apply certain recognition and measurement principles in ASC 606 when they derecognize nonfinancial assets, and in substance, nonfinancial assets, and the counterparty is not a customer. The guidance applies to: (1) contracts to transfer to a noncustomer a nonfinancial asset or group of nonfinancial assets, or an ownership interest in a consolidated subsidiary that does not meet the definition of a business and is not a not-for-profit activity; and (2) contributions of nonfinancial assets that are not a business to a joint venture or other noncontrolled investee. The accounting standard update became effective January 1, 2018 on a modified retrospective basis. Adoption of this ASU did not impact the Company's consolidated financial position, results of operations or cash flows.

*Income Taxes* In March 2018, FASB issued ASU 2018-05, *Amendments to SEC Paragraphs Pursuant to SEC Staff Accounting Bulletin No. 118* to address the application of GAAP in situations when a registrant

does not have the necessary information available, prepared or analyzed (including computations) in reasonable detail to complete the accounting for certain income tax effects of the Tax Act. As of December 31, 2018, the Company's analysis for the Transition Tax has been filed with its December 31, 2017 tax return and the Company considered its accounting for this area of the Tax Act to be complete as of such date and did not make any measurement-period adjustments related to it. In addition, the Company considered its accounting for changes in the U.S. federal rate and deferred tax impact for the rate change to be complete. The Company also accounted for the tax impact related to other areas of the Tax Act and believe its analysis to be completed consistent with the guidance in ASU 2018-05. The Company recognizes that the IRS is continuing to publish and finalize ongoing guidance with respect to the Act which may modify accounting interpretation for the Tax Act, the Company would look to account for these impacts in the period of such change is enacted.

*Non-employee Stock-based Compensation* In June 2018, the FASB issued ASU 2018-07, *Improvements to Nonemployee Share-Based Payment Accounting*, which more closely aligns the accounting for employee and nonemployee stock-based compensation. Under the new standard, companies are no longer required to value non-employee awards differently from employee awards. The Company adopted this accounting standard update on January 1, 2018 using a modified retrospective approach. Adoption of this ASU did not impact the Company's consolidated financial position, results of operations or cash flows.

#### **Recent Accounting Standards or Updates Not Yet Effective**

*Leases* In February 2016, the FASB issued ASU 2016-02, *Leases (Topic 842)*, as subsequently updated, with fundamental changes as to how entities account for leases. Lessees will need to recognize a right-of-use asset and a lease liability for virtually all of their leases (other than leases that meet the definition of a short-term lease). The liability will be equal to the present value of lease payments. The asset will be based on the liability, subject to adjustment, such as for initial direct costs. Additional disclosures for leases will also be required.

The Company is adopting the new standard effective January 1, 2019 using a modified retrospective method, and will not restate comparative periods. The modified retrospective transition approach requires lessees and lessors to recognize and measure existing leases at the date of initial application. The new standard provides a number of optional practical expedients in transition. The Company expects to elect the "package of practical expedients", which permits it not to reassess under the new standard prior conclusions about lease identification, lease classification and initial direct costs.

The adoption of this standard on January 1, 2019 is expected to have the effect of increasing assets and liabilities on the consolidated balance sheet by \$25.7 million, but is not expected to have a material impact on the consolidated statements of operations or cash flows. The most significant impact relates to (i) the recognition of new Right of Use (ROU) assets and lease liabilities on the balance sheet for operating leases; and (ii) providing significant new disclosures about leasing activities. Upon adoption, the Company will recognize operating lease liabilities of \$33.6 million, based on the present value of the remaining minimum rental payments under current leasing standards for existing operating leases. The Company will also recognize ROU assets of \$29.7 million, which represents the operating lease liability adjusted for accrued rent.

*Financial Instruments with "Down Round" Features* In July 2017, the FASB issued ASU 2017-11, *Earnings Per Share (Topic 260); Distinguishing Liabilities from Equity (Topic 480); Derivatives and Hedging (Topic 815): Accounting for Certain Financial Instruments with Down Round Features*. The amendments of this ASU update the classification analysis of certain equity-linked financial instruments, or embedded features, with down round features, as well as clarify existing disclosure requirements for equity-classified instruments. When determining whether certain financial instruments should be classified as liabilities or equity instruments, a down round feature no longer precludes equity classification when assessing whether the instrument is indexed to an entity's own stock. The accounting standard update will be effective beginning in the first quarter of fiscal year 2019 using a modified retrospective approach. The Company completed its assessment of the new standard and determined the impact to the consolidated balance sheet would be material. The Company anticipates recording a \$41.0 million reduction to derivative liabilities and a corresponding \$41.0 million increase to equity on January 1, 2019.

*Fair Value Measurement* In August 2018, the FASB issued ASU 2018-13, *Fair Value Measurement (Topic 820): Disclosure Framework — Changes to the Disclosure Requirements for Fair Value Measurement*, which amends ASC 820, *Fair Value Measurement*. ASU 2018-13 modifies the disclosure requirements for fair value measurements by removing, modifying or adding certain disclosures. The accounting standard update will be effective beginning in the first quarter of fiscal year 2020, with removed and modified disclosures to be adopted on a retrospective basis, and new disclosures to be adopted on a prospective basis. The Company is in the initial stages of evaluating the impact of the new standard on its consolidated financial statements.

*Collaborative Revenue Arrangements* In November 2018, the FASB issued ASU 2018-18, *Clarifying the Interaction between Topic 808 and Topic 606*, that clarifies the interaction between the guidance for certain collaborative arrangements and Topic 606, the new revenue recognition standard. A collaborative arrangement is a contractual arrangement under which two or more parties actively participate in a joint operating activity and are exposed to significant risks and rewards that depend on the activity's commercial success. The ASU provides guidance on how to assess whether certain transactions between collaborative arrangement participants should be accounted for within the revenue recognition standard. The accounting standard update will be effective beginning in the first quarter of fiscal year 2020 retroactively. The Company does not believe that the impact of the new standard on its consolidated financial statements will be material.

*Credit Losses* In June 2016, the FASB issued ASU 2016-13, *Financial Instruments — Credit Losses (Topic 326), Measurement of Credit Losses on Financial Instruments*. ASU 2016-13 requires entities to measure all expected credit losses for most financial assets held at the reporting date based on an expected loss model which includes historical experience, current conditions, and reasonable and supportable forecasts. Entities will now use forward-looking information to better form their credit loss estimates. ASU 2016-13 also requires enhanced disclosures to help financial statement users better understand significant estimates and judgments used in estimating credit losses, as well as the credit quality and underwriting standards of an entity's portfolio. ASU 2016-13 will become effective for the Company beginning in the first quarter of fiscal year 2020. The Company does not believe that the impact of the new standard on its consolidated financial statements will be material.

## **2. Restatement of Consolidated Financial Statements**

### *Restatement Background*

Subsequent to the issuance of the Company's unaudited condensed consolidated financial statements as of September 30, 2018 and as previously announced on April 5, 2019 and May 14, 2019, the Audit Committee (the Audit Committee) of the Board of Directors of the Company (the Board) and the Board, respectively, concluded that the Company will restate its interim condensed consolidated financial statements for the quarterly and year-to-date periods ended March 31, 2018, June 30, 2018 and September 30, 2018 (collectively, the Restated 2018 Non-Reliance Periods) and its audited consolidated financial statements for the year ended December 31, 2017 (the Restated 2017 Non-Reliance Consolidated Financial Statements).

### *Restated 2017 Non-Reliance Consolidated Financial Statements*

During the course of the re-audit of the Restated 2017 Financial Statements, in addition to incorrectly accounting for certain payment obligations under the Ginkgo Partnership Agreement as previously disclosed, the Company identified other accounting and financial reporting errors related to (i) the recognition of certain deemed dividends to preferred stock holders, (ii) incorrect accounting treatment for the derecognition of certain debt and derivative liability instruments, (iii) errors in computing tax expense, (iv) incorrect revenue recognition for certain non-cash consideration received under a collaboration agreement, (v) the timing of certain revenue recognition between quarters within 2017, (vi) computation of earnings (loss) per share, (vii) correction of errors in cash flow statements for non-cash adjustments, and (viii) computation of loss on extinguishment of certain debt instruments.

The error corrections for the year to date audited 2017 consolidated financial statements have been reflected throughout these consolidated financial statements and accompanying notes. Also, the tables below show the impact of each adjustment by the individual financial statement line item caption and provide a brief description of the adjustment.

## Consolidated Balance Sheet

The following table presents the Company's consolidated balance sheet at December 31, 2017 as previously reported, restatement adjustments and as restated (in thousands):

(In thousands)	December 31, 2017			
	As Previously Reported	Corrections	Ref.	As Restated
<b>Assets</b>				
Current assets:				
Cash and cash equivalents	\$ 57,059	\$ —		\$ 57,059
Restricted cash	2,994	—		2,994
Accounts receivable, net	24,281	(5,328)	a	18,953
Accounts receivable – related party, net	9,340	(4,573)	a	4,767
Accounts receivable, unbilled – related party		9,901		9,901
Inventories	5,408	—		5,408
Prepaid expenses and other current assets	5,525	(606)	b	4,919
Total current assets	104,607	(606)		104,001
Property, plant and equipment, net	13,892	—		13,892
Contract assets, noncurrent	7,940	—		7,940
Restricted cash, noncurrent	959	—		959
Recoverable taxes from Brazilian government entities	1,445	—		1,445
Other assets	22,640	(10,081)	c	12,559
Total assets	\$ 151,483	\$ (10,687)		\$ 140,796
<b>Liabilities, Mezzanine Equity and Stockholders' Deficit</b>				
Current liabilities:				
Accounts payable	\$ 15,921	\$ (406)	d	\$ 15,515
Accrued and other current liabilities	29,402	(200)	e	29,202
Contract liabilities	4,880	(572)	f	4,308
Debt, current portion	36,924	—		36,924
Related party debt, current portion	20,019	—		20,019
Total current liabilities	107,146	(1,178)		105,968
Long-term debt, net of current portion	61,893	(1,673)	g	60,220
Related party debt, net of current portion	46,541	—		46,541
Derivative liabilities	119,978	(3,481)	h	116,497
Other noncurrent liabilities	10,632	13,026	i	23,658
Total liabilities	346,190	6,694		352,884
Commitments and contingencies				
Mezzanine equity:				
Contingently redeemable common stock	5,000	—		5,000
Stockholders' deficit:				
Preferred stock	—	—		—
Common stock – \$0.0001 par value	5	—		5
Additional paid-in capital	1,048,274	66,272	j	1,114,546
Accumulated other comprehensive loss	(42,156)	—		(42,156)
Accumulated deficit	(1,206,767)	(83,653)	k	(1,290,420)
Total Amyris, Inc. stockholders' deficit	(200,644)	(17,381)		(218,025)
Noncontrolling interest	937	—		937
Total stockholders' deficit	(199,707)	(17,381)		(217,088)
Total liabilities, mezzanine equity and stockholders' deficit	\$ 151,483	\$ (10,687)		\$ 140,796

Restatement adjustments:

- a. Reclassification of related party accounts receivable to a separate line on the balance sheet.
- b. Write-off of unrecoverable receivable in connection with facilities subleased to a related party.
- c. Correction of error in recording amounts payable under Ginkgo Partnership Agreement as prepaid royalties instead of reduction in revenue.
- d. Adjustment to uninvoiced receipts liability.
- e. Adjustment to accrued liability.
- f. Revision to accounting for equity received in satisfaction of a customer receivable.
- g. Adjustment to issuance-date fair value of a debt instrument.
- h. Make-whole derivative liabilities adjustment.
- i. Accrual of the Ginkgo Partnership Payments obligation, net of reduction to deferred revenue liability.
- j. Correction to the accounting for a make-whole equity instrument in connection with May 2017 equity offering.
- k. Sum of adjustments to net loss for the year ended December 31, 2017 as result of corrections.



## Consolidated Statement of Operations

The following table presents the Company's consolidated statements of operations for the year ended December 31, 2017 as previously reported, restatement adjustments and as restated (in thousands, except per share amounts):

Three Months Ended (In thousands, except shares and per share amounts)	Year Ended December 31, 2017				
	As Previously Reported	Reclassifications <sup>(1)</sup>	Corrections	Ref	As Restated
Renewable products	\$ 45,781	\$(3,411)	\$ —		\$ 42,370
Licenses and royalties	57,703	6,774	(15,774)	ab	48,703
Grants and collaborations	39,960	(3,363)	1	ac	36,598
Total revenue	<u>143,444</u>	<u>—</u>	<u>(15,773)</u>		<u>127,671</u>
Cost and operating expenses					
Cost of products sold	62,713	—	(406)	ad	62,307
Research and development	57,027	(72)	607	ae	57,562
Sales, general and administrative	63,219	72	562	af	63,853
Total cost and operating expenses	<u>182,959</u>	<u>—</u>	<u>763</u>		<u>183,722</u>
Loss from operations	<u>(39,515)</u>	<u>—</u>	<u>(16,536)</u>		<u>(56,051)</u>
Other income (expense)					
(Loss) gain on divestiture	5,732	—	—		5,732
Interest expense	(34,033)	—	(3,048)	ah	(37,081)
(Loss) gain from change in fair value of derivative instruments	(1,742)	—	(47,110)	ai	(48,852)
Loss upon extinguishment of debt	(1,521)	—	(10,376)	ak	(11,897)
Other income (expense), net	(955)	—	(1)		(956)
Total other expense, net	<u>(32,519)</u>	<u>—</u>	<u>(60,535)</u>		<u>(93,054)</u>
Loss before income taxes	<u>(72,034)</u>	<u>—</u>	<u>(77,071)</u>		<u>(149,105)</u>
Provision for income taxes	(295)	—	(6,582)	am	(6,877)
Net loss attributable to Amyris, Inc.	<u>(72,329)</u>	<u>—</u>	<u>(83,653)</u>		<u>(155,982)</u>
Less deemed dividend on capital distribution to related parties	(8,648)	—	8,648	an	—
Less deemed dividend related to beneficial conversion feature on Series A preferred stock	(562)	—	—		(562)
Less deemed dividend related to beneficial conversion feature on Series B preferred stock	(634)	—	—		(634)
Less deemed dividend related to beneficial conversion feature on Series D preferred stock	(5,757)	—	—		(5,757)
Less deemed dividend upon settlement of make-whole provision on Series A preferred stock	—	—	(10,505)	ap	(10,505)
Less deemed dividend upon settlement of make-whole provision on Series B preferred stock	—	—	(22,632)	aq	(22,632)
Less deemed dividend related to proceeds discount and issuance costs upon conversion of Series A preferred stock	—	—	(21,578)	ar	(21,578)
Less deemed dividend related to proceeds discount and issuance costs upon conversion of Series B preferred stock	—	—	(24,366)	as	(24,366)
Less cumulative dividends on Series A and Series B preferred stock	(5,439)	—	5,439	aw	—
Add: losses allocated to participating securities	—	—	40,159	au	40,159
Net loss attributable to Amyris, Inc. common stockholders	<u>\$ (93,369)</u>	<u>—</u>	<u>\$(108,488)</u>		<u>\$ (201,857)</u>
Basic and diluted loss per share attributable to common stockholders					
Basic and diluted	<u>\$ (2.89)</u>				<u>\$ (6.26)</u>
Weighted-average shares of common stock outstanding used in computing loss per share of common stock:					
Basic and diluted	<u>32,253,570</u>				<u>32,253,570</u>

(1) Reclassification of revenue and operating expense by type to conform to the Company's current presentation.

Restatement adjustments:

- aa. Reclassification of revenue by type to conform to the Company's current presentation.
- ab. Ginkgo partnership obligation and promissory note issuance recorded as reduction to revenue and correction of errors in recording revenue from non-cash consideration.
- ac. Reclassification of revenue by type to conform to the Company's current presentation.
- ad. Correction in connection with a sales return, and adjustment to uninvoiced receipts liability.
- ae. Write-off of unrecoverable receivable in connection with facilities subleased to a related party, and reclassification of operating expense by classification to conform to the Company's current presentation.
- af. Expense incurred in connection with May 2017 equity offering.
- ah. Correction to amortization of debt discounts, and interest expense in connection with partnership payments obligation.
- ai. Correction to accounting for make-whole liability in connection with May 2017 Offering.
- ak. Loss on extinguishment of related and unrelated party debt.
- am. Tax provision to accrue liability for unrecognized tax benefit.
- an. Loss on extinguishment of related and unrelated party debt.
- ap. Correction to record deemed dividend in connection with discounts and freestanding instruments related to preferred stock offerings.
- aq. Correction to record deemed dividend in connection with discounts and freestanding instruments related to preferred stock offerings.
- ar. Correction to record deemed dividend in connection with discounts and freestanding instruments related to preferred stock offerings.
- as. Correction to record deemed dividend in connection with discounts and freestanding instruments related to preferred stock offerings.
- au. Correction in the computation of loss per share to reflect participating securities.
- av. Correction to weighted-average shares outstanding.
- aw. Correction in the computation of net loss per share related to make-whole deemed dividends.

## Consolidated Statement of Cash Flows

The following table presents the Company's consolidated statements of cash flows for the year ended December 31, 2017 as previously reported, restatement adjustments and as restated (in thousands). In this table, As Restated amounts reflect the impact of corrections to the consolidated balance sheet as of December 31, 2017 and the statement of operations for the year ended December 31, 2017, as well as the Company's adoption of ASU 2016-18, which changes how restricted cash is reported in statements of cash flows.

(In thousands)	Year Ended December 31, 2017		
	As Previously Reported	Corrections <sup>(1)</sup>	As Restated
<b>Operating activities</b>			
Net loss	\$ (72,329)	(83,653)	\$(155,982)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	11,358	—	11,358
(Gain) loss on disposal of property, plant and equipment	142	—	142
Stock-based compensation	6,265	—	6,265
Amortization of debt discount	12,490	2,749	15,239
(Gain) loss upon extinguishment of debt	1,521	10,376	11,897
Receipt of equity in connection with collaboration arrangements revenue	(2,661)	2,661	—
(Gain) loss from change in fair value of derivative liabilities	1,742	47,110	48,852
(Gain) loss on foreign currency exchange rates	(1,230)	—	(1,230)
Noncash revenue reduction related to issuance of debt obligations	—	13,413	13,413
Non-cash gain on divestiture	(5,732)	—	(5,732)
Receipt of noncash consideration in connection with license revenue	(8,046)	—	(8,046)
Changes in assets and liabilities:			
Accounts receivable	(19,647)	—	(19,647)
Contract assets	(7,940)	—	(7,940)
Inventories	(3,126)	—	(3,126)
Prepaid expenses and other assets	(19,336)	606	(18,730)
Accounts payable	5,858	(406)	5,452
Accrued and other liabilities	7,295	6,582	13,877
Contract liabilities	(7,241)	—	(7,241)
Net cash used in operating activities	(100,617)	(562)	(101,179)
<b>Investing activities</b>			
Proceeds from divestiture	54,827	—	54,827
Change in short-term investments	712	581	1,293
Change in restricted cash	865	(865)	—
Purchases of property, plant and equipment	(4,412)	—	(4,412)
Net cash (used in) provided by investing activities	51,992	(284)	51,708
<b>Financing activities</b>			
Proceeds from issuance of convertible preferred stock	101,124	(2,878)	98,246
Proceeds from exercises of common stock options	160	(160)	—

(In thousands)	Year Ended December 31, 2017		
	As Previously Reported	Corrections <sup>(1)</sup>	As Restated
Payment of minimum employee taxes withheld upon net share settlement of restricted stock units . . . . .	(385)	—	(385)
Proceeds from issuance of common stock in August 2017 offering . . . . .	—	5,759	5,759
Issuance costs incurred . . . . .	—	(2,159)	(2,159)
Change in restricted cash related to contingently redeemable common stock . . . . .	1,046	(1,046)	—
Proceeds from issuance of debt, net of issuance costs . . . . .	18,925	—	18,925
Principal payments on debt . . . . .	(37,500)	—	(37,500)
Payment of swap termination . . . . .	(3,113)	—	(3,113)
Payment on early redemption of debt . . . . .	(1,909)	—	(1,909)
Net cash provided by financing activities . . . . .	78,348	(484)	77,864
Effect of exchange rate changes on cash, cash equivalents and restricted cash . . . . .	186	—	186
Net (decrease) increase in cash, cash equivalents and restricted cash . . . . .	29,909	(1,330)	28,579
Cash, cash equivalents and restricted cash at beginning of year . . . . .	27,150	5,283	32,433
Cash, cash equivalents and restricted cash at end of year . . . . .	<u>\$ 57,059</u>	<u>3,953</u>	<u>61,012</u>

**Reconciliation of cash, cash equivalents and restricted cash to the consolidated balance sheets**

Cash and cash equivalents . . . . .	\$ 57,059
Restricted cash, current . . . . .	2,994
Restricted cash, noncurrent . . . . .	959
Total cash, cash equivalents and restricted cash . . . . .	<u>\$ 61,012</u>

**Supplemental disclosures of cash flow information:**

Cash paid for interest . . . . .	<u>\$ 11,539</u>	<u>\$ —</u>	<u>\$ 11,539</u>
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**Supplemental disclosures of non-cash investing and financing activities:**

Issuance of common stock upon conversion of debt . . . . .	<u>\$ 28,702</u>	<u>\$ —</u>	<u>\$ 28,702</u>
Accrued interest added to debt principal . . . . .	<u>\$ 2,816</u>	<u>\$ —</u>	<u>\$ 2,816</u>
Issuance of common stock for settlement of debt principal and interest payments . . . . .	<u>\$ 3,436</u>	<u>\$ —</u>	<u>\$ 3,436</u>
Financing of insurance premium under note payable . . . . .	<u>\$ 467</u>	<u>\$ —</u>	<u>\$ 467</u>
Issuance of convertible preferred stock upon conversion of debt . . . . .	<u>\$ 40,204</u>	<u>\$ —</u>	<u>\$ 40,204</u>
Settlement of debt principal by a related party . . . . .	<u>\$ 25,000</u>	<u>\$ —</u>	<u>\$ 25,000</u>
Issuance of note payable in exchange for debt extinguishment with third party . . . . .	<u>\$ 16,954</u>	<u>\$ —</u>	<u>\$ 16,954</u>
Issuance of common stock for settlement of debt . . . . .	<u>\$ 10,708</u>	<u>\$ —</u>	<u>\$ 10,708</u>
Issuance of preferred stock attributed to derivative liabilities . . . . .	<u>\$ —</u>	<u>\$ 72,725</u>	<u>\$ 72,725</u>

### 3. Balance Sheet Details

#### *Allowance for Doubtful Accounts*

Allowance for doubtful accounts activity and balances were as follows:

(In thousands)	Balance at Beginning of Year	Provisions	Recoveries (Write-offs), Net	Balance at End of Year
Allowance for doubtful accounts:				
Year Ended December 31, 2018 . . . . .	\$642	\$ —	\$—	\$642
Year Ended December 31, 2017 (as restated, Note 2) . . . .	\$501	\$141	\$—	\$642

#### *Inventories*

December 31, (In thousands)	2018	2017 (As Restated, Note 2)
Raw materials . . . . .	\$3,901	\$ 819
Work in process . . . . .	539	364
Finished goods . . . . .	5,253	4,225
Total inventories . . . . .	<u>\$9,693</u>	<u>\$5,408</u>

#### *Prepaid expenses and other current assets*

December 31, (In thousands)	2018	2017 (As Restated, Note 2)
Prepayments, advances and deposits . . . . .	\$ 5,644	\$3,599
Recoverable taxes from Brazilian government entities . . . . .	631	87
Other . . . . .	4,291	1,233
Total prepaid expenses and other current assets . . . . .	<u>\$10,566</u>	<u>\$4,919</u>

#### *Property, plant and equipment, net*

December 31, (In thousands)	2018	2017 (As Restated, Note 2)
Machinery and equipment . . . . .	\$ 43,713	\$ 46,317
Leasehold improvements . . . . .	39,922	40,036
Computers and software . . . . .	9,987	9,555
Furniture and office equipment, vehicles and land . . . . .	3,016	3,415
Construction in progress . . . . .	1,749	2,838
Total property, plant and equipment, gross . . . . .	98,387	102,161
Less: accumulated depreciation and amortization . . . . .	(78,631)	(88,269)
Total property, plant and equipment, net . . . . .	<u>\$ 19,756</u>	<u>\$ 13,892</u>

Property, plant and equipment, net includes \$5.0 million and \$4.2 million of machinery and equipment under capital leases as of December 31, 2018 and 2017, respectively. Accumulated amortization of assets under capital lease totaled \$2.3 million and \$1.6 million as of December 31, 2018 and 2017, respectively.

Depreciation and amortization expense, including amortization of assets under capital leases, was \$4.9 million and \$11.4 million for the years ended December 31, 2018 and 2017, respectively.

Losses on disposal of property, plant and equipment were \$0.9 million and \$0.1 million for the years ended December 31, 2018 and 2017, respectively. Such losses or gains were included in “Research and development” expense in the consolidated statements of operations.

In December 2017, the Company’s sold its Brotas production plant in Brazil to a unit of DSM Nutritional Products Ltd (together with its affiliates, DSM); see Note 13, “Divestiture” and Note 11, “Related Party Transactions” for details.

***Other assets***

December 31, (In thousands)	2018	2017 (As Restated, Note 2)
Contingent consideration . . . . .	\$4,286	\$ 8,150
Deposits . . . . .	2,465	2,462
Other . . . . .	1,207	1,947
Total other assets . . . . .	<u>\$7,958</u>	<u>\$12,559</u>

***Accrued and other current liabilities***

December 31, (In thousands)	2018	2017 (As Restated, Note 2)
Payroll and related expenses . . . . .	\$ 9,220	\$ 7,238
Contract termination fees . . . . .	4,092	—
Accrued interest . . . . .	3,853	8,213
Asset retirement obligation <sup>(1)</sup> . . . . .	3,063	3,587
Ginkgo partnership payments obligation . . . . .	2,155	—
Tax-related liabilities . . . . .	2,139	5,837
Professional services . . . . .	1,173	1,694
Other . . . . .	3,284	2,633
Total accrued and other current liabilities . . . . .	<u>\$28,979</u>	<u>\$29,202</u>

(1) The asset retirement obligation represents liabilities incurred but not yet discharged in connection with our 2013 abandonment of a partially constructed facility in Pradópolis, Brazil.

### *Other noncurrent liabilities*

December 31, (In thousands)	2018	2017 (As Restated, Note 2)
Liability for unrecognized tax benefit . . . . .	\$ 6,582	\$ 6,582
Deferred rent, net of current portion . . . . .	6,440	7,818
Ginkgo partnership payments obligation, net of current portion . . . . .	6,185	6,444
Contract liabilities, net of current portion . . . . .	1,587	383
Contract termination fees, net of current portion <sup>(1)</sup> . . . . .	1,530	—
Capital leases, net of current portion . . . . .	195	217
Other . . . . .	673	2,214
Total other noncurrent liabilities . . . . .	<u>\$23,192</u>	<u>\$23,658</u>

(1) Contract liabilities, net of current portion at December 31, 2018 and 2017 includes \$1,204 and \$383 in connection with DSM, which is a related party.

In November 2017, the Company entered into a partnership agreement with one of its former collaboration partners, Ginkgo Bioworks, Inc. and has an obligation to make quarterly payments of \$0.8 million from December 31, 2018 through September 2022. At December 31, 2018, total future minimum payments under the agreement totaled \$12.7 million. The Company recorded this liability at its discounted present value of \$6.1 million and is accreting the \$6.6 million discount to interest expense over the five-year repayment period. Also, in conjunction with the partnership agreement, the Company issued a \$12.0 million promissory note, which is included in long-term debt at a \$8.0 million carrying value, net of unamortized discount. See Note 10, “Revenue Recognition” for information regarding the Ginkgo Partnership Agreement and the related accounting treatment for the partnership payments.

In September 2019, the Company was notified by DSM that certain contingent consideration payable to the Company upon the realization of certain NOL tax benefits transferred to DSM with the sale of the Brotas facility in December 2017 would not be realized due to changes in DSM’s Brazilian legal entity structure. The Company considered this information in conjunction with the probability and timing of DSM’s realization of the underlying NOL tax benefits and determined that \$3.9 million of the contingent consideration receivable was not recoverable as of December 31, 2018.

#### **4. Fair Value Measurement**

Assets and liabilities are measured and reported at fair value per related accounting standards that define fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The fair value hierarchy prioritizes the inputs to valuation techniques used to measure fair value. An asset’s or liability’s level is based on the lowest level of input that is significant to the fair value measurement. Assets and liabilities carried at fair value are valued and disclosed in one of the following three levels of the valuation hierarchy:

- Level 1: Quoted market prices in active markets for identical assets or liabilities.
- Level 2: Observable market-based inputs or unobservable inputs that are corroborated by market data.
- Level 3: Unobservable inputs that are not corroborated by market data.

***Assets and Liabilities Measured and Recorded at Fair Value on a Recurring Basis***

As of December 31, 2018 and 2017, the Company's financial assets and financial liabilities measured at fair value on a recurring basis were classified within the fair value hierarchy as follows:

December 31, (In thousands)	2018				2017 (As Restated, Note 2)			
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
<b>Assets</b>								
Money market funds . . . . .	\$—	—	\$ —	\$ —	\$53,199	\$ —	\$ —	\$ 53,199
Certificates of deposit . . . . .	—	—	—	—	—	4,153	—	4,153
Total assets measured and recorded at fair value . . . . .	\$—	—	\$ —	\$ —	\$53,199	\$4,153	\$ —	\$ 57,352
<b>Liabilities</b>								
6% Convertible Notes Due 2021 . .	\$—	—	\$ 57,918	\$ 57,918	\$ —	\$ —	\$ —	\$ —
Embedded derivatives in connection with the issuance of debt and equity instruments . . .	—	—	—	—	—	—	723	723
Freestanding derivative instruments in connection with the issuance of equity instruments . . . . .	—	—	42,796	42,796	—	—	115,774	115,774
Total liabilities measured and recorded at fair value . . . . .	\$—	\$—	\$100,714	\$100,714	\$ —	\$ —	\$116,497	\$116,497

There were no transfers between the levels during 2018 or 2017.

The Company's assessment of the significance of a particular input to the fair value measurement in its entirety requires management to make judgements and consider factors specific to the asset or liability. The fair values of money market funds and certificates of deposit are based on fair values of identical assets. The method of determining the fair value of compound embedded derivative liabilities is described subsequently in this note. Market risk associated with compound embedded derivative liabilities relates to the potential reduction in fair value and negative impact to future earnings from a decrease in interest rates.

At December 31, 2018 and December 31, 2017, the carrying value of certain financial instruments, such as cash equivalents, accounts receivable, prepaid expenses and other current assets, accounts payable and other current accrued liabilities, approximate fair value due to their relatively short maturities and low market interest rates, if applicable.

Changes in fair value of derivative liabilities are presented as gains or losses in the consolidated statements of operations in the line captioned "Gain (loss) from change in fair value of derivative instruments".

Changes in the fair value of debt that is accounted for at fair value are presented as gains or losses in the consolidated statements of operations in the line captioned "Gain (loss) from change in fair value of debt".

***6% Convertible Notes Due 2021***

The Company issued \$60.0 million of 6% Convertible Notes Due 2021 on December 10, 2018 (see Note 5, "Debt" and "Subsequent Events" for details) and elected the fair value option of accounting for this instrument. At December 31, 2018, outstanding principal was \$60.0 million, and the fair value was \$57.9 million, which was measured using a binomial lattice model and assuming a 25.2% discount yield, 45% equity volatility, 50% / 50% probability of principal repayment in cash / stock, and 5% probability of change in control. The Company assumed that if a change of control event were to occur, it would occur at



the end of the calendar year. See Note 5, “Debt” and Part II, Item 8, “Subsequent Events” for further information related to this debt instrument. For the year ended December 31, 2018, the Company recorded a \$2.1 million gain from change in fair value of debt in connection with the 6% Convertible Notes Due 2021, as follows:

<b>In thousands</b>	
Fair value at issuance on December 10, 2018	\$60,000
Change in fair value	<u>(2,082)</u>
Fair value at December 31, 2018	<u>\$57,918</u>

#### *Derivative Instruments*

Derivative instruments measured at fair value on a recurring basis as of December 31, 2018 and 2017 are as follows:

<b>December 31, (In thousands)</b>	<b>2018</b>	<b>2017</b> <b>(As Restated, Note 2)</b>
Equity-related derivative liabilities	\$41,272	\$108,887
Debt-related derivative liabilities	1,524	7,610
Total derivative liabilities	<u>\$42,796</u>	<u>\$116,497</u>

The following table provides a reconciliation of the beginning and ending liability balances associated with derivative liabilities — either freestanding or compound embedded — measured at fair value using significant unobservable inputs (Level 3):

<b>(in thousands)</b>	<b>2018</b>	<b>2017</b> <b>(As Restated, Note 2)</b>
Balance at January 1	\$ 116,497	\$ 4,135
Additions	4,089	133,517
Loss from change in fair value of derivative liabilities	30,880	48,852
Derecognition to additional paid-in capital upon conversion or extinguishment	<u>(108,670)</u>	<u>(70,007)</u>
Balance at December 31	<u>\$ 42,796</u>	<u>\$116,497</u>

The liabilities associated with freestanding and compound embedded derivatives represent the fair value of the equity conversion options, make-whole provisions, down round conversion price or conversion rate adjustment provisions and antidilution provisions in some of the Company’s debt, preferred stock, cash warrants and antidilution warrants; see Note 5, “Debt”, and Note 7, “Stockholders’ Deficit”. There is no current observable market for these types of derivatives and, as such, the Company determined the fair value of the freestanding or embedded derivatives using the Monte Carlo or binomial lattice models.

A binomial lattice model was used to determine if a convertible note or share of convertible preferred stock would be converted, called or held at each decision point. Within the lattice model, the following assumptions are made: (i) the convertible note or share of convertible preferred stock will be converted early if the conversion value is greater than the holding value and (ii) the convertible note or share of convertible preferred stock will be called if the holding value is greater than both (a) redemption price and (b) the conversion value at the time. If the convertible note or share of convertible preferred stock is called, the holder will maximize their value by finding the optimal decision between (1) redeeming at the redemption price and (2) converting the convertible note or share of convertible preferred stock. Using this lattice method, the Company valued the embedded and freestanding derivatives using the “with-and-without method”, where the fair value of each related convertible note or share of convertible preferred stock including the embedded derivative is defined as the “with”, and the fair value of the

convertible note excluding the embedded derivatives is defined as the “without”. This method estimates the fair value of the embedded and freestanding derivatives by looking at the difference in the values between each convertible note or share of convertible preferred stock with the embedded and freestanding derivatives and the fair value of such convertible note or share of convertible preferred stock without the embedded and freestanding derivatives. The lattice model uses the stock price, conversion price, maturity date, risk-free interest rate, estimated stock volatility and estimated credit spread. The Company marks the compound embedded derivatives to market due to the conversion price not being indexed to the Company’s own stock.

The Company used a Monte Carlo simulation valuation model to determine the fair value of the May 2017 and August 2017 Cash and Dilution Warrants. Monte Carlo simulation combines a random number generator based on a probability distribution and additional inputs of volatility, time to expiration to generate a stock price and other uncertainties. The generated stock price at the time of expiration is then used to calculate the value of the option. The model then calculates results tens of thousands of times, each time using a different set of random values from the probability functions. The resulting Monte Carlo simulation valuation is based on the average of all the calculated results.

The market-based assumptions and estimates used in valuing the compound embedded and freestanding derivative liabilities include amounts in the following ranges/amounts:

<u>December 31,</u>	<u>2018</u>	<u>2017</u>
Risk-free interest rate . . . . .	2.5% – 3.0%	1.7% – 2.4%
Risk-adjusted discount yield . . . . .	17.2% – 27.3%	18.4% – 28.5%
Stock price volatility . . . . .	45.0% – 85.0%	45.0% – 80.0%
Probability of change in control . . . . .	0.0%	5.0%
Stock price . . . . .	\$3.34	\$3.75
Credit spread . . . . .	14.6% – 24.9%	16.6% – 26.7%
Estimated conversion dates . . . . .	2019 – 2025	2018 – 2025

Changes in valuation assumptions can have a significant impact on the valuation of the embedded and freestanding derivative liabilities and debt that the Company elects to account for at fair value. For example, all other things being equal, a decrease/increase in the Company’s stock price, probability of change of control, credit spread, term to maturity/conversion or stock price volatility decreases/increases the valuation of the liabilities, whereas a decrease/increase in risk adjusted yields or risk-free interest rates increases/decreases the valuation of the liabilities. Certain of the convertible notes, shares of convertible preferred stock and warrants also include conversion or exercise price adjustment features and, for example, certain issuances of common stock by the Company at prices lower than the current conversion or exercise price result in a reduction of the conversion price of such notes or convertible preferred stock, or a reduction in the exercise price of, or an increase in the number of shares subject to, such warrants, which increases the value of the embedded and freestanding derivative liabilities and debt measured at fair value; see Note 5, “Debt” for details.

The Series A Preferred Stock issued in May 2017 and Series B Preferred Stock issued in May 2017 (see Note 7, “Stockholder’s Deficit”) included make-whole provisions, which are accounted for as embedded derivatives through the July 2017 Shareholder Approval date at which time the make-whole provision became settleable for a fixed number of common stock shares and ceased to be accounted for as a derivative liability. Cash and antidilution warrants, classified as freestanding financial instruments, were also issued in conjunction with the May 2017 Offering, August 2017 DSM Offering and August 2017 Vivo Offering and are classified as derivative liabilities. The total derivative liability recorded for the securities issued in connection with the May 2017 Offering, August 2017 DSM Offering and August 2017 Vivo Offering was \$113.1 million.

In June 2012, the Company entered into a cross-currency interest rate swap arrangement with Banco Pine with respect to the repayment of R\$22.0 million (approximately U.S. \$6.6 million based on the exchange rate as of December 31, 2017) of the Banco Pine Note. The swap arrangement exchanged the principal and interest payments under the Banco Pine Note (see Note 4, “Debt”) for alternative principal and interest payments that are subject to adjustment based on fluctuations in the foreign currency exchange rate between the U.S. dollar and Brazilian real. The swap had a fixed interest rate of 3.94%. Changes in the fair value of the swap were recognized in the consolidated statements of operations, in “Gain (loss) from

change in fair value of derivative instruments”. As of December 31, 2017, the balances of the loan and the associated cross-currency interest rate swap were zero.

### ***Assets and Liabilities Recorded at Carrying Value***

#### ***Financial Assets and Liabilities***

The carrying amounts of certain financial instruments, such as cash equivalents, accounts receivable, accounts payable and accrued liabilities, approximate fair value due to their relatively short maturities and low market interest rates, if applicable. Loans payable, credit facilities and convertible notes are recorded at carrying value (except for the 6% Convertible Notes Due 2021, which are recorded at fair value), which is representative of fair value at the date of acquisition. For loans payable and credit facilities recorded at carrying value, the Company estimates fair value using observable market-based inputs (Level 2); for convertible notes, the Company estimates fair value based on rates currently offered for instruments with similar maturities and terms (Level 3). The carrying amount (the total amount of net debt presented on the balance sheet) of the Company’s debt at December 31, 2018, excluding the 6% Convertible Notes that the Company records at fair value, and at December 31, 2017, was \$151.7 million and \$165.4 million, respectively. The fair value of such debt at December 31, 2018 and at December 31, 2017 was \$149.3 million and \$156.9 million, respectively, and was determined by (i) discounting expected cash flows using current market discount rates estimated for certain of the debt instruments and (ii) using third-party fair value estimates for the remaining debt instruments.

### ***Assets and Liabilities Measured and Recorded at Fair Value on a Non-Recurring Basis***

On November 19, 2018, the Company amended its supply agreement with DSM, as discussed in Note 10, “Revenue Recognition” to secure production capacity at the Brotas facility in exchange for future cash payments totaling \$22.7 million, the issuance of 1,643,991 million shares common stock valued at \$6.1 million on the date of issuance and a further cash payment for the difference between the fair value of the common stock and \$7.3 million on March 29, 2019. In addition, the Company modified certain warrants held by DSM which resulted in the transfer of \$2.9 million of value to DSM and paid \$1.8 million to settle certain obligations to DSM related to the 2017 sale of the Brotas facility. The Company also entered into other transactions contemporaneously with the amended supply agreement as discussed in Note 11, “Related Party Transactions” and Note 16, “Subsequent Events”. This series of transactions with DSM in November 2018 was accounted for as a combined transaction in which the Company determined and allocated the fair value of the consideration to each element. The fair value of the consideration transferred to DSM under the combined arrangement totaled \$33.3 million and was allocated as follows (in thousands):

<b>Element</b>	<b>Fair Value Allocation</b>
Manufacturing capacity reservation fee . . . . .	\$24,395
Legal settlement and consent waiver . . . . .	6,764
Working capital adjustment . . . . .	2,145
Total fair value of consideration transferred . . . . .	<u>\$33,304</u>

The fair value of these elements is based on Level 3 inputs, which considered the lowest level of input that is significant to the fair value measurement of these elements. To determine the fair value of the manufacturing capacity reservation fee, the Company used a discounted cash flow model under a cost savings valuation approach based on a competing manufacturing quote for similar capacity, location and timing. The Company used a discount rate of 22.5% and a tax rate of 0% to discount the gross cash flows. The fair value of the legal settlement for failure to obtain consent from DSM prior to executing the August 2018 Vivo Warrant transaction and was determined by calculating the difference between the fair values of the warrants held by Vivo prior to and after the August 2018 Vivo Warrant transaction using a combination of a Monte Carlo simulation and the Black-Scholes-Merton option pricing model. The fair value of the working capital adjustment was determined to equal the difference between the preliminary estimate for working capital upon closing the Brotas facility sale and the final working capital amounts transferred.

## 5. Debt

December 31, (In thousands)	2018				2017		
	Principal	Unamortized Debt (Discount) Premium	Change in Fair Value	Net	Principal	Unamortized Debt (Discount) Premium	Net
						(As Restated, Note 2)	
<i>Convertible notes payable</i>							
6% convertible notes due 2021 . . . . .	\$ 60,000	\$ —	\$(2,082)	\$ 57,918	\$ —	\$ —	\$ —
2015 Rule 144A convertible notes . . . . .	37,887	(2,413)	—	35,474	37,887	(9,458)	28,429
2014 Rule 144A convertible notes . . . . .	24,004	(867)	—	23,137	24,004	(3,170)	20,834
August 2013 financing convertible notes . .	4,415	(70)	—	4,345	4,009	(2,126)	1,883
December 2017 convertible notes . . . . .	—	—	—	—	5,000	(25)	4,975
	<u>126,306</u>	<u>(3,350)</u>	<u>(2,082)</u>	<u>120,874</u>	<u>70,900</u>	<u>(14,779)</u>	<u>56,121</u>
<i>Related party convertible notes payable</i>							
2014 Rule 144A convertible notes . . . . .	24,705	(1,038)	—	23,667	24,705	(3,784)	20,921
August 2013 financing convertible notes . .	—	—	—	—	21,711	897	22,608
R&D note . . . . .	—	—	—	—	3,700	(18)	3,682
	<u>24,705</u>	<u>(1,038)</u>	<u>—</u>	<u>23,667</u>	<u>50,116</u>	<u>(2,905)</u>	<u>47,211</u>
<i>Loans payable and credit facilities</i>							
GACP term loan facility . . . . .	36,000	(1,349)	—	34,651	—	—	—
Ginkgo note . . . . .	12,000	(4,047)	—	7,953	12,000	(4,862)	7,138
Other loans payable . . . . .	4,910	(1,047)	—	3,863	6,463	(1,277)	5,186
Senior secured loan facility . . . . .	—	—	—	—	28,566	(253)	28,313
Other credit facilities . . . . .	—	—	—	—	381	—	381
	<u>52,910</u>	<u>(6,443)</u>	<u>—</u>	<u>46,467</u>	<u>47,410</u>	<u>(6,392)</u>	<u>41,018</u>
<i>Related party loans payable</i>							
DSM note . . . . .	25,000	(6,311)	—	18,689	25,000	(8,039)	16,961
February 2016 private placement . . . . .	—	—	—	—	2,000	—	2,000
Other DSM loan . . . . .	—	—	—	—	393	—	393
	<u>25,000</u>	<u>(6,311)</u>	<u>—</u>	<u>18,689</u>	<u>27,393</u>	<u>(8,039)</u>	<u>19,354</u>
Total debt . . . . .	<u>\$228,921</u>	<u>\$(17,142)</u>	<u>\$(2,082)</u>	<u>209,697</u>	<u>\$195,819</u>	<u>\$(32,115)</u>	<u>163,704</u>
Less: current portion . . . . .				<u>(147,677)</u>			<u>(56,943)</u>
Long-term debt, net of current portion . . .				<u>\$ 62,020</u>			<u>\$106,761</u>

Future minimum payments under the debt agreements as of December 31, 2018 are as follows:

Years ending December 31 (In thousands)	Convertible Notes	Loans Payable and Credit Facilities	Related Party Convertible Notes	Related Party Loans Payable and Credit Facilities	Total
2019	\$ 134,368	\$ 10,219	\$ 25,508	\$ 2,500	\$ 172,595
2020	—	9,981	—	2,500	12,481
2021	—	34,740	—	27,521	62,261
2022	—	13,417	—	—	13,417
2023	—	367	—	—	367
Thereafter	—	2,200	—	—	2,200
Total future minimum payments	134,368	70,924	25,508	32,521	263,321
Less: amount representing interest <sup>(1)</sup>	(7,368)	(18,014)	(803)	(7,521)	(33,706)
Less: future conversion of accrued interest to principal	(694)	—	—	—	(694)
Present value of minimum debt payments	126,306	52,910	24,705	25,000	228,921
Less: current portion of debt principal	(126,306)	(3,829)	(24,705)	—	(154,840)
Noncurrent portion of debt principal	\$ —	\$ 49,081	\$ —	\$25,000	\$ 74,081

- (1) Excluding net debt discount of \$17.1 million that will be amortized to interest expense over the term of the debt.

### ***Convertible Notes Payable***

#### *6% Convertible Notes Due 2021*

On December 6, 2018, the Company entered into a securities purchase agreement to issue and sell \$60.0 million in aggregate principal amount of senior convertible notes (the 6% Convertible Notes Due 2021) that are convertible into shares of the Company's common stock. The securities purchase agreement prohibits the Company, subject to certain exceptions, from (i) disposing of any common stock or securities convertible into or exchangeable for shares of common stock during the period commencing on December 6, 2018 and continuing through the later of (A) the date 90 days after December 10, 2018 and (B) the date 30 days after the Registration Statement (as defined below) is declared effective and (ii) effecting or entering into an agreement to effect any issuance involving a variable rate transaction for so long as the 6% Convertible Notes Due 2021 remain outstanding.

The closing of the issuance and sale of the 6% Convertible Notes Due 2021 occurred on December 10, 2018, for net proceeds, after deducting offering expenses payable by the Company and placement agent and advisory fees, of \$56.2 million.

The 6% Convertible Notes Due 2021 are general unsecured obligations of the Company. Unless earlier converted or redeemed, the 6% Convertible Notes Due 2021 will mature on the third anniversary of issuance, subject to the rights of the holders to extend the maturity date in certain circumstances. The 6% Convertible Notes Due 2021 are convertible from time to time, at the election of the holders, into shares of common stock at an initial conversion price of \$6.32 per share. The conversion price is subject to adjustment in the event of any stock split, reverse stock split, recapitalization, reorganization or similar transaction. The Company has the option, upon prior notice to the holders, to settle any conversion of the 6% Convertible Notes Due 2021 in cash.

The 6% Convertible Notes Due 2021 are payable in equal monthly installments beginning April 1, 2019 (each, an Installment Date), in either cash at 108% of such installment amount or, at the Company's option, subject to the satisfaction of certain equity conditions (the Equity Conditions), in shares of common stock at a discount to the then-current market price, subject to a price floor (the Installment Conversion Price). The holders have the right, upon notice to the Company, to defer all or any portion of any installment

amount to a future Installment Date. In addition, if the Company elects to pay any installments in shares of common stock, the holders of the 6% Convertible Notes Due 2021 have the right to accelerate amounts outstanding under their 6% Convertible Notes Due 2021 during such month up to an aggregate of three times the relevant installment amount.

The 6% Convertible Notes Due 2021 bear interest at a rate of 6% per annum, payable quarterly until the first Installment Date, and then at each Installment Date thereafter. Interest on the 6% Convertible Notes Due 2021 may be paid in either cash or, at the Company's option, subject to the satisfaction of the Equity Conditions, shares of common stock at the Installment Conversion Price. The Company elected to make the interest payment due January 1, 2019 in cash.

The 6% Convertible Notes Due 2021 contain customary terms and covenants, including (i) a restriction on the Company's ability to incur additional indebtedness, (ii) certain events of default, after which the holders may require the Company to redeem all or any portion of their 6% Convertible Notes Due 2021 in cash at a price equal to the greater of (A) 125% of the amount being redeemed and (B) the intrinsic value of the shares of common stock underlying the amount being redeemed, and (iii) certain other events, after which the holders may convert all or any portion of the 6% Convertible Notes Due 2021 at a discount to the Installment Conversion Price.

In the event of a Fundamental Transaction (as defined in the 6% Convertible Notes Due 2021), holders of the 6% Convertible Notes Due 2021 may require the Company to redeem all or any portion of their 6% Convertible Notes Due 2021 at a price equal to the greater of (i) 125% of the amount being redeemed and (ii) a premium to the intrinsic value of the shares of Common Stock underlying the amount being redeemed.

Notwithstanding the foregoing, the holders will not have the right to convert any portion of a 6% Convertible Note Due 2021, and the Company will not have the option to pay any amount in shares of common stock, if (a) the holder, together with its affiliates, would beneficially own in excess of 4.99% (or such other percentage as determined by the holder and notified to the Company in writing, not to exceed 9.99%, provided that any increase of such percentage will not be effective until 61 days after notice thereof) of the number of shares of common stock outstanding immediately after giving effect to such conversion or payment, as applicable (the Ownership Limitation), or (b) the aggregate number of shares issued with respect to the 6% Convertible Notes Due 2021 (and any other transaction aggregated for such purpose) after giving effect to such conversion or payment, as applicable, would exceed 15,271,047 shares of common stock (the Exchange Cap), unless the Company has obtained prior stockholder approval to issue shares in excess of the Exchange Cap. In the event that (i) the Company is prohibited from issuing any shares of common stock under the 6% Convertible Notes Due 2021 as a result of the Ownership Limitation (other than in connection with a conversion of 6% Convertible Notes Due 2021), such shares shall be held in abeyance (and the related principal amount of the 6% Convertible Notes Due 2021 reinstated) until the holder shall notify the Company and elect to receive such shares without exceeding the Ownership Limitation, and (ii) the Company is prohibited from issuing any shares of common stock under the 6% Convertible Notes Due 2021 as a result of the Exchange Cap, the Company will pay cash in lieu of any shares that would otherwise be deliverable in excess of the Exchange Cap.

In connection with the offering of the 6% Convertible Notes Due 2021, the Company entered into a registration rights agreement, dated December 10, 2018, with the purchasers of the 6% Convertible Notes Due 2021, pursuant to which the Company agreed to file a registration statement (the Registration Statement) with the Securities and Exchange Commission (the SEC) registering the resale of all of the shares of common stock issuable pursuant to the terms of the 6% Convertible Notes Due 2021 (the Registrable Securities) under the Securities Act of 1933, as amended (the Securities Act), within 30 days following December 10, 2018, and to have the Registration Statement declared effective by the SEC by the date that is 60 days after December 10, 2018. In the event that the Registration Statement is not filed or declared effective within the foregoing time frames, or if thereafter, subject to certain exceptions, the Registration Statement is not effective for any reason or the prospectus contained therein is not available for use by the holders, Company shall pay to each holder an amount in cash equal to 2% of such holder's original principal amount of Notes on the date of such failure and thereafter on every 30 day anniversary thereof until such failure is cured or no longer prevents the holders from freely disposing of their Registrable Securities. The Company filed the Registration Statement on January 8, 2019, and it went effective on February 7, 2019.

The Company has elected to account for the 6% Convertible Notes Due 2021 at fair value pursuant to U.S. GAAP, as of the issuance date. Management believes that the fair value option better reflects the underlying economics of the 6% Convertible Notes Due 2021, which contain multiple embedded derivatives. Under the fair value election, changes in fair value will be reported in the consolidated statements of operations as “Gain (loss) from change in fair value of debt” in each reporting period subsequent to the issuance of the 6% Convertible Notes Due 2021. For the year ended December 31, 2018, the Company recorded a gain of \$2.1 million, which is shown as Change in Fair Value in the table at the beginning of this Note 4. See Note 4, “Fair Value Measurement” for information about the assumptions that the Company used to measure the fair value of the 6% Convertible Notes Due 2021.

In May, June and July 2019, the Company exchanged the 6% Convertible Notes Due 2021 for new senior convertible notes and warrants to purchase common stock. See Note 16, “Subsequent Events” for additional information.

#### *2015 Rule 144A Convertible Notes*

In October 2015, the Company sold \$57.6 million aggregate principal amount of 9.50% convertible senior notes due 2019 (the 2015 Rule 144A Convertible Notes) to certain qualified institutional buyers in a private placement. Net proceeds from the offering were \$54.4 million after payment of offering expenses and placement agent fees, which together are treated as a debt discount and are being amortized over the remaining loan term using the effective interest method. The Company used \$18.3 million of the net proceeds to repurchase \$22.9 million aggregate principal amount of outstanding 2014 Rule 144A Convertible Notes as discussed below. The 2015 Rule 144A Convertible Notes bear interest at a rate of 9.50% per year, payable semiannually in arrears on April 15 and October 15 of each year. Interest on the 2015 Rule 144A Convertible Notes is payable, at the Company’s option, entirely in cash or entirely in common stock valued at 92.5% of a market-based price. The Company elected to make the April 15, 2016 and 2017 and October 15, 2018 interest payments in shares of common stock and the October 15, 2016 and 2017 and April 15, 2018 interest payments in cash. The 2015 Rule 144A Convertible Notes matured on April 15, 2019. See Note 16, “Subsequent Events”.

The 2015 Rule 144A Convertible Notes are convertible into shares of the Company’s common stock at a conversion rate of 61.7246 shares per \$1,000 principal amount of 2015 Rule 144A Convertible Notes (which conversion rate is subject to adjustment in certain circumstances), representing an effective conversion price of approximately \$16.20 per share as of December 31, 2018. If converted prior to maturity, noteholders are entitled to receive a payment (the Early Conversion Payment) equal to the present value of the remaining scheduled payments of interest on the 2015 Rule 144A Convertible Notes being converted through April 15, 2019, computed using a discount rate of 0.75%. The Company may make the Early Conversion Payment, at its election, either in cash or, subject to certain conditions, in common stock valued at 92.5% of a market-based price. Through December 31, 2018, the Company has elected to make each Early Conversion Payment in shares of common stock.

In January 2017, the Company issued an additional \$19.1 million in aggregate principal amount of 2015 Rule 144A Convertible Notes (the Additional 2015 Rule 144A Convertible Notes) in exchange for the cancellation of \$15.3 million in aggregate principal amount of other outstanding convertible promissory notes of the Company, with the same terms as the 2015 Rule 144A Convertible Notes; provided, that the aggregate number of shares issued with respect to the Additional 2015 Rule 144A Convertible Notes (and any other transaction aggregated for such purpose) cannot exceed 3,652,935 shares of common stock without prior stockholder approval. The exchange was accounted for as an extinguishment of debt, resulting in a \$0.1 million gain in the year ended December 31, 2017.

In May 2017, the Company exchanged \$3.7 million in aggregate principal amount of 2015 Rule 144A Convertible Notes for shares of its Series B 17.38% Convertible Preferred Stock and warrants to purchase common stock, as described in more detail in Note 7, “Stockholders’ Deficit”. The exchange was accounted for as an extinguishment of debt, resulting in a \$2.0 million loss in the year ended December 31, 2017.

On April 16, 2019, the Company repaid the 2015 Rule 144A Convertible Notes in full in cash. See Note 16, “Subsequent Events”.

### *2014 Rule 144A Convertible Notes*

In May 2014, the Company sold \$75.0 million in aggregate principal amount of 6.50% Convertible Senior Notes due 2019 (the 2014 Rule 144A Convertible Notes) to qualified institutional buyers in a private placement. The net proceeds from the offering were \$72.0 million after payment of initial purchaser discounts and offering expenses, which together are treated as a debt discount and are being amortized over the remaining loan term. The Company used \$9.7 million of the net proceeds to repay convertible notes previously issued to an affiliate of Total S.A. (together with its affiliates, Total), representing the amount of 2014 Rule 144A Convertible Notes purchased by Total. Certain of the Company's affiliated entities (including Total) purchased \$24.7 million in aggregate principal amount of 2014 Rule 144A Convertible Notes. The 2014 Rule 144A Convertible Notes bear interest at an annual rate of 6.5%, payable semiannually in arrears on May 15 and November 15 of each year in cash. The 2014 Rule 144A Convertible Notes mature on May 15, 2019, unless earlier converted or repurchased.

The 2014 Rule 144A Convertible Notes are convertible into shares of the Company's common stock at a conversion rate of 17.8073 shares per \$1,000 principal amount of 2014 Rule 144A Convertible Notes (which conversion rate is subject to adjustment in certain circumstances), representing an effective conversion price of approximately \$56.16 per share as of December 31, 2018.

In May 2017, the Company exchanged \$3.4 million in aggregate principal amount of 2014 Rule 144A Convertible Notes for shares of its Series B 17.38% Convertible Preferred Stock and warrants to purchase common stock, as described in more detail in Note 7, "Stockholders' Deficit". The exchange was accounted for as an extinguishment, resulting in a \$1.8 million loss for the year ended December 31, 2017.

In May 2019, the Company exchanged a portion of the 2014 Rule 144A Convertible Notes, representing \$38.2 million aggregate principal amount of 2014 Rule 144A Convertible Notes, for shares of common stock, warrants to purchase common stock and a new senior convertible note (see Note 16, "Subsequent Events" for additional information) and repaid the remaining portion of the 2014 Rule 144A Convertible Notes in cash at maturity.

### *August 2013 Financing Convertible Notes*

In August 2013, the Company entered into a Securities Purchase Agreement (the August 2013 SPA) with Total and Temasek to sell up to \$73.0 million in convertible notes in private placements (the August 2013 Financing or the Tranche Notes). The August 2013 SPA provided for the August 2013 Financing to be divided into two tranches, each with differing closing conditions. The Tranche I Notes were due sixty months from the date of issuance (October 16, 2018). Interest accrued on the Tranche I Notes at 5% per six months, compounded semiannually, and was payable in kind by adding to the principal or in cash. Through maturity, the Company elected to pay interest on the Tranche I Notes in kind. The Tranche I Notes totaling \$15.2 million of principal and accrued interest matured and were repaid in full by conversion into shares of common stock on October 16, 2018 pursuant to the Maturity Treatment Agreement terms (see "Related Party Convertible Notes Payable — August 2013 Financing Convertible Notes" below). Upon conversion of the Tranche I Notes, the Company recognized a \$10.9 million loss upon extinguishment of debt in 2018. See the "Maturity Treatment Agreement" section below for details of the impact of that agreement on the Tranche Notes.

The Tranche II Notes are due sixty months from the date of issuance (January 15, 2019). Interest accrues on the Tranche II Notes at 10% per annum, compounded annually, and is payable in kind by adding to the principal or in cash. Through December 31, 2018, the Company has elected to repay interest on the Tranche II Notes in kind. On November 8, 2018, the Company repaid in full the Tranche II Notes held by Total totaling \$9.8 million of principal and accrued interest by conversion into shares of common stock pursuant to the Maturity Treatment Agreement terms (see "Related Party Convertible Notes Payable — August 2013 Financing Convertible Notes" below). Upon conversion of the Tranche II Notes held by Total, the Company recognized a \$6.5 million loss upon extinguishment of debt.

In August 2018, in connection with certain amendments to the August 2017 Vivo Cash Warrants (see Note 7, "Stockholders' Deficit"), the conversion price of the Tranche Notes I and II was reduced from \$5.2977 per share to \$4.40 per share. As of December 31, 2018, the conversion price of the remaining Tranche II Notes held by Wolverine Flagship Fund Trading Limited (Wolverine) is \$4.40 per share (which



conversion price is subject to adjustment in certain circumstances, including certain price-based anti-dilution adjustments). The August 2013 SPA and the Tranche Notes contain customary terms, covenants and restrictions, including a limit on the Company's debt, subject to certain exceptions and waivers, of the greater of \$200 million or 50% of its consolidated total assets and the Company's secured debt of the greater of \$125 million or 30% of its consolidated total assets. The August 2013 SPA also requires the Company 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 in a series of related transactions in an amount greater than \$20.0 million, in each case while any Tranche Notes are outstanding. In addition, the Tranche Notes contain certain events of default after which the Tranche Notes may become due and payable immediately.

On January 14, 2019, Wolverine agreed to waive payment of the Tranche II Note held by Wolverine at maturity until July 15, 2019 in exchange for a cash waiver fee, payable on or prior to July 15, 2019, of \$0.6 million. On July 2, 2019, the Company and Wolverine entered into an exchange agreement whereby the parties agreed to extinguish the Tranche II Note held by Wolverine in exchange for 1,767,632 shares of common stock and a warrant to purchase 1,080,000 shares of common stock. See Note 16, "Subsequent Events" for additional information.

#### *Maturity Treatment Agreement*

In July 2015, the Company entered into an Exchange Agreement (the 2015 Exchange Agreement) with Total and Temasek pursuant to which Temasek exchanged \$71.0 million in principal amount of outstanding Tranche Notes and Total exchanged \$70.0 million in principal amount of outstanding convertible notes for shares of the Company's common stock at a price of \$34.50 per share (2015 Exchange). At the closing of the 2015 Exchange, the Company, Total and Temasek also entered into a Maturity Treatment Agreement dated July 29, 2015, pursuant to which Total and Temasek agreed to convert any Tranche Notes or 2014 144A Notes held by them that were not canceled in the 2015 Exchange (Remaining Notes) into shares of the Company's common stock in accordance with the terms of such Remaining Notes at or prior to maturity, provided that certain events of default had not occurred with respect to the applicable Remaining Notes. In May 2017, the Company entered into separate letter agreements with each of Total and Temasek, pursuant to which the Company agreed that the Remaining Notes consisting of 2014 144A Notes held by Total (\$9.7 million in principal amount as of December 31, 2017) and Temasek (\$10.0 million in principal amount as of December 31, 2017) would no longer be subject to mandatory conversion at or prior to the maturity of such Remaining Notes. Accordingly, the Company will be required to pay any portion of such Remaining Notes that remain outstanding at maturity in cash in accordance with the terms of such Remaining Notes. As of December 31, 2017, after giving effect to such letter agreements, Temasek did not hold any Remaining Notes and Total held \$21.8 million in principal amount of Remaining Notes (consisting of Tranche Notes), which Remaining Notes were converted to common stock in October and November 2018 pursuant to the terms of the Maturity Treatment Agreement (see below under "Related Party Convertible Notes Payable — August 2013 Financing Convertible Notes" for more information). The 2015 Exchange Agreement contains customary terms, covenants and restrictions, including a limit on the Company's debt of the greater of \$200 million or 50% of its consolidated total assets and the Company's secured debt of the greater of \$125 million or 30% of its consolidated total assets, subject to certain exceptions.

#### *December 2017 Convertible Note*

In December 2017, the Company issued and sold a convertible note under an April 2017 securities purchase agreement in the principal amount of \$5.0 million with a maturity date of June 1, 2018, for proceeds to the Company of \$5.0 million. The Company identified certain embedded feature that required bifurcation, but the fair value of these derivative features was \$0, due primarily to the short-term maturity of the note and a significant out of the money conversion price at issuance and through the maturity date. The Company elected to pay each installment in cash, and the note was repaid in full in May 2018.

#### *Related Party Convertible Notes Payable*

##### *August 2013 Financing Convertible Notes*

Certain of the August 2013 Financing Convertible Notes were held by related parties; see Note 11, "Related Party Transactions" for details.

On October 16, 2018, the Tranche I Notes held by Total totaling \$15.2 million of principal and accrued interest reached maturity and were converted into 3,448,821 shares of common stock. Upon conversion of the Tranche I Notes, the Company recognized a \$10.9 million loss upon extinguishment of debt.

On November 8, 2018, Total converted its Tranche II Notes totaling \$9.8 million of principal and accrued interest, which were scheduled to mature on January 15, 2019, into shares of common stock. In connection with such conversion, the Company agreed to pay Total future interest on the Tranche II Notes being converted up to, but excluding, the maturity date for such notes, which interest was converted by Total into common stock at the conversion price for the Tranche II Notes. As a result of such conversion, the Tranche II Notes held by Total converted into 2,226,105 shares of common stock. Upon conversion of the Tranche II Notes held by Total, the Company recognized a \$6.5 million loss upon extinguishment of debt.

#### *2014 Rule 144A Convertible Notes*

Certain of the 2014 Rule 144A Convertible Notes are held by related parties. See Note 11, “Related Party Transactions” for details.

#### *R&D Note*

In March 2016, as a result of the restructuring of the Company’s fuels joint venture with Total, Total Amyris BioSolutions B.V., the Company issued to Total an unsecured convertible note (the R&D Note) in the principal amount of \$3.7 million, representing the remaining portion of the \$105.0 million convertible note facility between the Company and Total initially established in 2012. In March and May 2018, the Company and Total amended the R&D Note to extend the maturity to May 31, 2018 and July 2, 2018, respectively, with accrued and unpaid interest payable on March 31, 2018, May 31, 2018 and July 2, 2018. On July 2, 2018, the Company repaid the R&D Note in full.

#### *Loans Payable and Credit Facilities*

##### *GACP Term Loan Facility*

On June 29, 2018, the Company, certain of the Company’s subsidiaries and GACP Finance Co., LLC (GACP) entered into a Loan and Security Agreement (the LSA) to borrow a \$36.0 million secured term loan (the GACP Term Loan Facility). The LSA also provides for an incremental secured term loan facility in an aggregate principal amount of up to \$35.0 million (the Incremental GACP Term Loan Facility and, together with the GACP Term Loan Facility, the GACP Term Loan Facilities), subject to certain conditions and approvals, to fund the construction of a custom-built manufacturing facility in Brazil. The majority of the net proceeds from the GACP Term Loan Facility were used to repay all amounts outstanding under the Senior Secured Loan Facility between the Company and Stegodon described below. The remaining net proceeds were used on July 2, 2018 to repay amounts outstanding under the R&D Note at maturity, as described above.

Loans under the GACP Term Loan Facilities have a maturity date of July 1, 2021; provided, that if the Company has not (i) met certain financial conditions on or prior to January 7, 2019 or (ii) refinanced the 2015 Rule 144A Convertible Notes and 2014 Rule 144A Convertible Notes with indebtedness that has a maturity date which is later than July 1, 2021 or converted such notes into equity prior to January 12, 2019, then the maturity date will be January 12, 2019. See Note 16, “Subsequent Events” for additional information about the waiver of this provision. The GACP Term Loan Facilities will amortize beginning on July 1, 2019 in quarterly installments equal to 2.5% of the original loan amounts, with the remaining principal balance payable on the maturity date. Loans under the GACP Term Loan Facilities initially accrued interest at a rate per annum equal to the sum of (i) the greater of (A) the U.S. prime rate as reported in the Wall Street Journal and (B) 4.0%, plus (ii) 6.25%, payable monthly. The GACP Term Loan Facilities are guaranteed by the subsidiaries of the Company party to the LSA and collateralized by first-priority liens on substantially all the Company’s and such subsidiaries’ assets, including intellectual property, subject to certain exceptions. The LSA includes customary terms, covenants and restrictions, including mandatory prepayments upon the occurrence of certain events, including asset sales, casualty

events, incurrence of additional indebtedness and borrowing base deficiencies, subject to certain exceptions and reinvestment rights. The LSA contains certain financial covenants that include quarterly minimum revenues, minimum liquidity amounts and a minimum asset coverage ratio.

The Company paid origination fees at closing equal to 4%, or \$1.4 million, of the funded amount of the GACP Term Loan Facility and other closing costs totaling \$0.2 million, plus an agency fee of \$25,000 per quarter during the term of the GACP Term Loan Facilities. The \$1.6 million of issuance costs will be amortized using the effective interest method over the expected 3-year loan term.

In November 2018, the Company and GACP amended the LSA to reduce the minimum revenue requirement for the two fiscal quarters ending December 31, 2018 in exchange for an increase in optional prepayment fees, an increase in the minimum liquidity amount and an increase in the base interest rate per annum, from the sum of (i) the greater of (A) the prime rate as reported in the Wall Street Journal or (B) 4.0% plus (ii) 6.25% to the sum of (i) the greater of (A) the prime rate as reported in the Wall Street Journal or (B) 4.0% plus (ii) 8.25%. In December 2018, the Company and GACP further amended the LSA to exclude certain intellectual property licensed to DSM from the loan collateral (see Note 10, "Revenue Recognition" for more information) in exchange for a further increase in the base interest rate per annum, from the sum of (i) the greater of (A) the prime rate as reported in the Wall Street Journal or (B) 4.0% plus (ii) 8.25% to the sum of (i) the greater of (A) the prime rate as reported in the Wall Street Journal or (B) 4.75% plus (ii) 9.00%.

In April 2019, (i) GACP provided a waiver to the Company for breaches of all covenant violations under the GACP loan and security agreement (LSA) occurring prior to, as of and after December 31, 2018 through April 8, 2019, and (ii) GACP sold and assigned the loans under the LSA and all documents and assets related thereto to Foris Ventures, LLC (Foris). Subsequently, Foris provided a waiver to the Company for breaches of certain covenants under the LSA through June 30, 2020 and amended the financial covenants under the LSA to provide more favorable compliance terms and conditions. See Note 16, "Subsequent Events" for additional information.

#### *Senior Secured Loan Facility*

In March 2014, the Company entered into a Loan and Security Agreement (the LSA) with Hercules Technology Growth Capital, Inc. to make available to the Company a secured loan facility (the Senior Secured Loan Facility) in an initial aggregate principal amount of up to \$25.0 million. The LSA was subsequently amended in June 2014, March 2015 and November 2015 to (i) extend additional credit facilities to the Company in an aggregate amount of up to \$31.0 million, of which \$16.0 million was drawn by the Company, (ii) extend the maturity date of the loans, and (iii) remove, add and/or modify certain covenants and agreements under the LSA.

In June 2016, Hercules transferred and assigned its rights and obligations under the Senior Secured Loan Facility to Stegodon Corporation (Stegodon), an affiliate of Ginkgo Bioworks, Inc. (Ginkgo).

In March and May 2018, the Company and Stegodon amended the LSA to extend the date for a \$5.5 million principal payment to May 31, 2018 and July 2, 2018, respectively. Under the amendments, the interest rate from April 1, 2018 through the date of such \$5.5 million principal payment would be the previously agreed interest rate plus 5.0%.

On June 29, 2018, the Company repaid the Senior Secured Loan Facility in full.

#### *Ginkgo Note*

In November 2017, the Company issued an unsecured promissory note in the principal amount of \$12.0 million to Ginkgo (the November 2017 Ginkgo Note) in connection with the termination of the Ginkgo Collaboration Agreement and the execution of a new partnership agreement (the Ginkgo Partnership Agreement), which is described in Note 10, "Revenue Recognition". The November 2017 Ginkgo Note bears interest at 10.5% per annum, payable monthly, and has a maturity date of October 19, 2022. The November 2017 Ginkgo Note may be prepaid in full without penalty or premium at any time, provided that certain payments have been made under the Company's partnership agreement with Ginkgo. The November 2017 Ginkgo Note also contains customary terms, covenants and restrictions, including

certain events of default after which the note may become due and payable immediately. The Company recorded the \$7.0 million present value of the November 2017 Ginkgo Note as a note payable liability, and the remaining \$5.0 million was recorded as a debt discount which is being accreted to interest expense over the loan term using the effective interest method. Also, the Company concluded that while no cash was received from Ginkgo under the November 2017 Ginkgo Note, the transaction represents consideration payable to a former customer and the present value of the note payable obligation should be recorded as a reduction of cumulative revenue recognized to date from Ginkgo in the period the November 2017 Ginkgo Note was executed. As a result, the Company recorded a \$7.0 million reduction of license revenues as of December 31, 2017. See Note 10, "Revenue Recognition" for additional information.

#### *Other Loans Payable*

*Nikko Note:* In December 2016, in connection with the Company's formation of its cosmetics joint venture (the Aprinnova JV) with Nikko Chemicals Co., Ltd. (Nikko) made a loan to the Company in the principal amount of \$3.9 million and the Company issued a promissory note (the Nikko Note) to Nikko in an equal principal amount. The proceeds of the Nikko Note were used to satisfy the Company's remaining liabilities related to the Company's purchase of a manufacturing facility in Leland, North Carolina and related assets in December 2016, including liabilities under a promissory note in the principal amount of \$3.5 million issued in connection therewith. The Nikko Note (i) bears interest at 5% per year, (ii) has a term of 13 years, (iii) is payable in equal monthly installments of principal and interest beginning on January 1, 2017 and (iv) is secured by a first-priority lien on 10% of the Aprinnova JV interests owned by the Company. In addition, (i) the Company repaid \$400,000 of the Nikko Note in equal monthly installments of \$100,000 as required on January 1, 2017, February 1, 2017, March 1, 2017 and April 1, 2017 and (ii) the Company is required to repay the Nikko Note with any profits distributed to the Company by the Aprinnova JV, beginning with the distributions for the fourth fiscal year of the Aprinnova JV, until the Nikko Note is fully repaid. The Nikko Note may be prepaid in full or in part at any time without penalty or premium. The Nikko Note contains customary terms and provisions, including certain events of default after which the Nikko Note may become due and payable immediately.

*Aprinnova Working Capital Loans:* In February 2017, in connection with the formation of the Aprinnova JV in December 2016, Nikko made a working capital loan to the Aprinnova JV in the principal amount of \$1.5 million and received a promissory note from the Aprinnova JV in an equal amount (the First Aprinnova Note). The First Aprinnova Note was repayable in \$375,000 installments plus accrued interest on May 1, 2017, August 1, 2017, November 1, 2017 and February 1, 2018. The First Aprinnova Note was fully repaid in January 2018. In August 2017, Nikko made a second working capital loan to the Aprinnova JV in the principal amount of \$1.5 million and received a promissory note from the Aprinnova JV in an equal amount (the Second Aprinnova Note). The Second Aprinnova Note is payable in full on August 1, 2019, with interest payable quarterly. Both notes bear interest at 2.75% per annum. Effective July 31, 2019, the Company and Nikko agreed to extend the term of the Second Aprinnova Note to August 1, 2020. See Note 16, "Subsequent Events".

#### *Related Party Loans Payable*

##### *DSM Note*

In December 2017, the Company and DSM entered into a credit agreement (the DSM Credit Agreement) to make available to the Company an unsecured credit facility of \$25.0 million. On December 28, 2017, the Company borrowed \$25.0 million under the DSM Credit Agreement, representing the entire amount available thereunder, and issued a promissory note to DSM in an equal principal amount (the DSM Note). The Company used the proceeds of the amounts borrowed under the DSM Credit Agreement to repay all outstanding principal under a promissory note in the principal amount of \$25 million issued to Guanfu Holding Co., Ltd. in December 2016 (the Guanfu Note). Given multiple elements in the arrangements with DSM, the Company fair valued the DSM Note to determine the arrangement consideration that should be allocated to the DSM Note. The fair value of the DSM Note was discounted using a Company specific weighted average cost of capital rate that resulted in a debt discount of \$8.0 million. The debt discount is being amortized over the loan term using the effective interest method.

The DSM Note (i) is an unsecured obligation of the Company, (ii) matures on December 31, 2021 and (iii) accrues interest from and including December 28, 2017 at 10% per annum, payable quarterly. The DSM Note may be prepaid in full or in part at any time without penalty or premium. In addition, the Company is required to use certain payments received by the Company from DSM under the Value Sharing Agreement (see Note 10, "Revenue Recognition") to repay amounts outstanding under the DSM Credit Agreement. The DSM Credit Agreement and the DSM Note contain customary terms, covenants and restrictions, including certain events of default after which the DSM Note may become due and payable immediately.

#### *February 2016 Private Placement*

In February 2016, the Company issued and sold \$20.0 million in aggregate principal amount of promissory notes (the February 2016 Notes), as well as warrants to purchase an aggregate of 190,477 shares of the Company's common stock, exercisable at a price of \$0.15 per share as of December 31, 2018 (the February 2016 Warrants), resulting in aggregate proceeds to the Company of \$20.0 million, in a private placement to certain existing stockholders of the Company that are affiliated with members of the Company's Board of Directors (the Board): Foris Ventures, LLC (Foris, an entity affiliated with director John Doerr of Kleiner Perkins Caufield & Byers, a current stockholder, and an owner of greater than five percent of the Company's outstanding common stock), which purchased \$16.0 million aggregate principal amount of the February 2016 Notes and warrants to purchase 152,381 shares of the Company's common stock; Naxyris S.A. (Naxyris, an investment vehicle owned by Naxos Capital Partners SCA Sicar; director Carole Pivnica is Director of NAXOS UK, which is affiliated with Naxos Capital Partners SCA Sicar, and was designated as a director of the Company by Naxyris), which purchased \$2.0 million aggregate principal amount of the February 2016 Notes and warrants to purchase 19,048 shares of the Company's common stock; and Biolding Investment SA (Biolding, a fund affiliated with director HH Sheikh Abdullah bin Khalifa Al Thani, who was designated as a director of the Company by Biolding), which purchased \$2.0 million aggregate principal amount of the February 2016 Notes and warrants to purchase 19,048 shares of the Company's common stock.

The February 2016 Notes bore interest at 13.50% per annum and had an initial maturity date of May 15, 2017. In May 2017, the February 2016 Notes purchased by Foris and Naxyris were exchanged for shares of the Company's Series B 17.38% Convertible Preferred Stock and warrants to purchase common stock; see Note 7, "Stockholders' Deficit".

In May 2017, the Company and Biolding amended the February 2016 Note issued to Biolding (the Biolding Note) to extend the maturity of the Biolding Note to November 15, 2017, and on November 13, 2017, the Company and Biolding further amended the Biolding Note to extend the maturity to December 31, 2017. The Company paid the Biolding Note in full on January 2, 2018.

The February 2016 Warrants each have five-year terms. The February 2016 Warrants purchased by Naxyris were fully exercised in the year ended December 31, 2017, and a gain of \$0.1 million was recorded in earnings. As of December 31, 2018, none of the 171,429 February 2016 Warrants purchased by Foris or Biolding have been exercised.

For information regarding related party loans payable subsequent to December 31, 2018, see Note 16, "Subsequent Events".

#### *Letters of Credit*

In June 2012, the Company entered into a letter of credit agreement for \$1.0 million under which it provided a letter of credit to the landlord for its headquarters in Emeryville, California in order to cover the security deposit on the lease. This letter of credit is secured by a certificate of deposit. Accordingly, the Company has \$1.0 million of restricted cash, noncurrent in connection with this arrangement as of December 31, 2018 and 2017.

## **6. Mezzanine Equity**

Mezzanine equity at December 31, 2018 and 2017 is comprised of proceeds from common shares sold on May 10, 2016 to the Bill & Melinda Gates Foundation (the Gates Foundation). On April 8, 2016, the Company entered into a Securities Purchase Agreement with the Gates Foundation, pursuant to which the

Company agreed to sell and issue 292,398 shares of its common stock to the Gates Foundation in a private placement at a purchase price per share of \$17.10, the average of the daily closing price per share of the Company's common stock on the Nasdaq Stock Market for the twenty consecutive trading days ending on April 7, 2016, for aggregate proceeds to the Company of approximately \$5.0 million (the Gates Foundation Investment). The Securities Purchase Agreement includes customary representations, warranties and covenants of the parties.

In connection with the entry into the Securities Purchase Agreement, on April 8, 2016, the Company and the Gates Foundation entered into a Charitable Purposes Letter Agreement, pursuant to which the Company agreed to expend an aggregate amount not less than the amount of the Gates Foundation Investment to develop a yeast strain that produces artemisinic acid and/or amorphadiene at a low cost and to supply such artemisinic acid and amorphadiene to companies qualified to convert artemisinic acid and amorphadiene to artemisinin for inclusion in artemisinin combination therapies used to treat malaria commencing in 2017. The Company is currently conducting the project. If the Company defaults in its obligation to use the proceeds from the Gates Foundation Investment as set forth above or defaults under certain other commitments in the Charitable Purposes Letter Agreement, the Gates Foundation will have the right to request that the Company redeem, or facilitate the purchase by a third party of, the Gates Foundation Investment shares then held by the Gates Foundation at a price per share equal to the greater of (i) the closing price of the Company's common stock on the trading day prior to the redemption or purchase, as applicable, or (ii) an amount equal to \$17.10 plus a compounded annual return of 10%. As of December 31, 2018, the Company's remaining research and development obligation under this arrangement was \$0.7 million.

## 7. Stockholders' Deficit

### *Warrants*

The Company issues warrants in certain debt and equity transactions in order to facilitate raising equity capital or reduce borrowing costs. In connection with various debt and equity transactions (see Note 5, "Debt" and below), the Company has issued warrants exercisable for shares of common stock. The May 2017 and August 2017 cash and dilution warrants, and the July 2015 related party debt exchange warrants are accounted for as derivative liabilities. See the Temasek Funding Warrant and Series A and B sections below for more information. The following table summarizes warrant activity for the year ended December 31, 2018:

Transaction	Number Outstanding as of December 31, 2017	Additional Warrants Issued	Exercises	Number Outstanding as of December 31, 2018
August 2018 warrant exercise agreements . . . . .	—	12,097,164	—	12,097,164
May 2017 cash and dilution warrants . . .	18,042,568	—	(11,749,770)	6,292,798
August 2017 cash and dilution warrants . . . . .	9,543,234	1,713,565	(7,288,683)	3,968,116
April 2018 warrant exercise agreements . .	—	3,616,174	—	3,616,174
July 2015 related party debt exchange . . .	2,082,010	471,204	(1,889,986)	663,228
February 2016 related party private placement . . . . .	171,429	—	—	171,429
July 2015 private placement . . . . .	81,197	—	—	81,197
Other . . . . .	1,406	—	—	1,406
	29,921,844	17,898,107	(20,928,439)	26,891,512

For information regarding warrants issued subsequent to December 31, 2018, see Note 16, "Subsequent Events".

### *Shares Issuable under Convertible Notes*

In connection with various debt transactions (see Note 5, “Debt”), the Company issued certain convertible notes that are convertible into shares of common stock as follows as of December 31, 2018, at any time at the election of each debtholder:

<u>Debt Instrument</u>	<u>Number of Shares into Which Debt Instrument Is Convertible as of December 31, 2018</u>
6% convertible notes due 2021 . . . . .	9,493,672
2015 Rule 144A convertible notes . . . . .	2,338,560
August 2013 financing convertible notes . . . . .	1,003,554
2014 Rule 144A convertible notes . . . . .	867,376
	<u>13,703,162</u>

### *2018 Warrant Exercises and New Warrant Issuances*

#### *April 2018 Warrant Transactions*

On April 12, 2018, in accordance with the terms of the Warrant Exercise Agreement, certain holders of the May 2017 Warrants (see below under “May 2017 Offerings”) exercised their May 2017 Cash Warrants in full to purchase an aggregate of 3,616,174 shares of common stock for net proceeds to the Company of \$14.5 million and surrendered their May 2017 Dilution Warrants for cancellation. Upon exercise of the May 2017 Cash Warrants and surrender of such May 2017 Dilution Warrants, certain derivative liabilities representing certain anti-dilution rights contained in the May 2017 Warrants were effectively settled. Under the terms of the Warrant Exercise Agreements, the exercise of such May 2017 Cash Warrants and surrender of such May 2017 Dilution Warrants was required on the date of the Warrant Exercise Agreement in order for the Company to issue new warrants to these same holders to purchase an aggregate of 3,616,174 shares of common stock, exercisable at a price of \$7.00 per share. The new warrants were fully exercisable upon issuance, with an expiration date of July 12, 2019. The new warrants do not provide the holders with anti-dilution protection and only permit “cashless” exercise after the six-month anniversary of issuance, and only to the extent that there is not an effective registration statement covering the resale of the shares of common stock underlying the new warrants; on September 26, 2018, the Company filed such a registration statement, which was declared effective on October 11, 2018. The new warrants were evaluated for liability classification, and while meeting the definition of a derivative, the freestanding instruments met the indexation and equity classification criteria to be accounted for as equity.

#### *August 2018 Warrant Transactions*

In August 2018 in accordance with the terms of the Warrant Exercise Agreements, Foris Ventures, LLC (Foris) and entities affiliated with Vivo Capital LLC (Vivo), related parties and holders of the May 2017 Warrants and August 2017 Warrants (see below under “August 2017 Vivo Offering”), respectively, exercised their Cash Warrants and, in the case of Foris, Dilution Warrants in full and in accordance with the terms of the Warrant Exercise Agreements, to purchase an aggregate of approximately 12.6 million shares of common stock for \$43.0 million in proceeds to the Company, and Vivo subsequently surrendered their Dilution Warrants for cancellation. In connection with the entry by the Company and Vivo into Warrant Exercise Agreement, the Company and Vivo amended the August 2017 Vivo Cash Warrants to (i) reduce the exercise price of such warrants from \$6.39 per share to \$4.40 per share and (ii) remove the August 2017 Vivo Offering Beneficial Ownership Limitation from such warrants. Upon exercise and surrender of such Cash Warrants and Dilution Warrants, certain derivative liabilities representing certain anti-dilution rights contained in the May 2017 Warrants and August 2017 Warrants were effectively settled. Under the terms of the Warrants Exercise Agreement, the exercise of the Cash Warrants and Dilution Warrants and subsequent surrender of the Vivo Dilution Warrants was required on the date of the Warrants Exercise Agreement in order for the Company to issue a series of new warrants to these same holders to purchase an aggregate of 12.1 million shares of common stock, exercisable at \$7.52 per share. The new warrants are exercisable any time after the six-month anniversary of issuance and for

15 months thereafter, with an expiration date in May 2020. The new warrants do not provide the holders with anti-dilution protection and only permit “cashless” exercise after the twelve-month anniversary of issuance, and only to the extent that there is not an effective registration statement covering the resale of the shares of common stock underlying the new warrants. The new warrants were evaluated for liability classification, and while meeting the definition of a derivative, the freestanding instruments met the indexation and equity classification criteria to be accounted for as equity.

#### *Temasek Funding Warrant — Related Party*

Following amendments to certain common stock purchase warrants in August 2018 (see below under “May 2017 Offerings” and “August 2017 Vivo Offering”), and a corresponding adjustment to the conversion price of the August 2013 financing convertible notes from \$5.2977 per share to \$4.40 per share (see Note 5, “Debt”), the Temasek Funding Warrant became exercisable for an additional 471,204 shares of common stock in accordance with its terms. On October 19, 2018, Temasek exercised the Temasek Funding Warrant with respect to 1,889,986 shares of common stock underlying the Temasek Funding Warrant by means of a cashless exercise, resulting in the issuance of 1,852,585 shares of common stock to Temasek. As of December 31, 2018, there were 471,204 shares underlying the Temasek Funding Warrant. As a result of this exercise, the derivative liability related to the Temasek Funding Warrant decreased by \$14.0 million.

#### *November 2018 DSM Securities Purchase Agreement — Related Party*

On November 20, 2018, the Company issued 1,643,991 shares of common stock (the DSM Shares) at \$3.68 per share to DSM in a private placement pursuant to a securities purchase agreement, dated November 19, 2018, between the Company and DSM (the DSM SPA), in consideration of certain agreements of DSM set forth in the Supply Agreement Amendment described in Note 10, “Revenue Recognition”. The Company also agreed to pay DSM the difference between the DSM SPA purchase price of \$4.41 and the closing share price of the Company’s common stock on March 28, 2019, multiplied by 1,643,991. At inception, the Company recorded a \$1.2 million derivative liability for the difference between \$4.41 and the Company’s closing stock price on November 20, 2018. At December 31, 2018 fair value based on the Company’s closing stock price was \$1.8 million, resulting in a \$0.6 million loss on change in fair value for the year ended December 31, 2018. At March 28, 2019, the Company’s stock price was \$2.10, and the Company owed DSM \$3.8 million in connection with this agreement. Pursuant to the DSM SPA, the Company agreed to file a registration statement providing for the resale by DSM of the DSM Shares and to use commercially reasonable efforts to (i) cause such registration statement to become effective within 181 days following the date of the DSM SPA and (ii) keep such registration statement effective until DSM does not own any DSM Shares or the DSM Shares are eligible for resale under Rule 144 without regard to volume limitations. See Note 11, “Related Party Transactions” for additional information about the accounting for this transaction and other November 2018 transactions with DSM. In April 2019, in connection with the assignment by the Company of its rights under the Value Sharing Agreement (see Note 10, “Revenue Recognition”), the Company satisfied its obligation under the Supply Agreement Amendment relating to the difference between \$4.41 and the price of the Company’s common stock on March 28, 2019. See Note 16, “Subsequent Events” for additional information.

#### *At Market Issuance Sales Agreement*

On March 8, 2016, the Company entered into an At Market Issuance Sales Agreement (ATM Sales Agreement) with FBR Capital Markets & Co. and MLV & Co. LLC (Agents) under which the Company would be able to issue and sell shares of its common stock having an aggregate offering price of up to \$50.0 million (ATM Shares) from time to time through the Agents, acting as its sales agents, under the Company’s Registration Statement on Form S-3 (File No. 333-203216), effective April 15, 2015. Sales of the ATM Shares through the Agents would be made by any method that is deemed an “at the market offering” as defined in Rule 415 under the Securities Act of 1933, as amended, including by means of ordinary brokers’ transactions at market prices, in block transactions, or as otherwise agreed by the Company and the Agents. The Company agreed to pay the applicable Agent a commission rate of up to 3.0% of the gross proceeds from the sale of any ATM Shares sold through such Agent under the ATM Sales Agreement. The ATM Sales Agreement included no commitment by other parties to purchase ATM Shares the Company offers for sale.



During the year ended December 31, 2018, the Company issued and sold 205,168 shares of common stock under the ATM Sales Agreement, at an average price of \$6.90 per share, resulting in total net proceeds to the Company of \$1.4 million. During the year ended December 31, 2017, the Company did not sell any shares of common stock under the ATM Sales Agreement. The ATM Sales Agreement expired on April 15, 2018, and as a result, zero remained available for issuance under the ATM Sales Agreement as of December 31, 2018.

### ***May 2017 Offerings***

In May 2017, the Company issued and sold an aggregate of 22,140 shares of Series A 17.38% Convertible Preferred Stock (Series A Preferred Stock), 70,904 shares of Series B 17.38% Convertible Preferred Stock (Series B Preferred Stock), and warrants to purchase an aggregate of 7,384,190 shares of common stock at an initial exercise price of \$7.80 per share, warrants to purchase an aggregate of 7,384,190 shares of common stock at an initial exercise price of \$9.30 per share, and warrants to purchase a number of shares of common stock sufficient to provide full-ratchet anti-dilution protection with respect to the effective price paid for the common stock underlying the Series A Preferred Stock and Series B Preferred Stock (collectively, the May 2017 Warrants) in separate offerings, certain of which were registered under the Securities Act or others of which were private placements (collectively, the May 2017 Offerings).

The net proceeds to the Company from the May 2017 Offerings were \$50.7 million after payment of offering expenses and placement agent fees. The Series A Preferred Stock and May 2017 Warrants relating thereto were sold to the purchasers thereof in exchange for aggregate cash consideration of \$22.1 million, and the Series B Preferred Stock and May 2017 Warrants relating thereto were sold to the purchasers thereof in exchange for (i) aggregate cash consideration of \$30.7 million and (ii) the cancellation of \$40.2 million of outstanding indebtedness (including accrued interest thereon) owed by the Company to certain purchasers, of which \$33.1 million was from related parties, as further described below.

### ***Series A and B Preferred Stock***

#### ***Series A Preferred Stock***

Each share of Series A Preferred Stock has a stated value of \$1,000 and is convertible at any time, at the option of the holder, into common stock at a conversion price of \$17.25 per share (Preferred Stock Conversion Rate). The Preferred Stock Conversion Rate is subject to adjustment in the event of any dividends or distributions of common stock, or any stock split, reverse stock split, recapitalization, reorganization or similar transaction. If not previously converted at the option of the holder, each share of Series A Preferred Stock automatically converted on October 9, 2017, the 90<sup>th</sup> day following the date that the July 2017 Stockholder Approval (as defined below) was obtained and effected, subject to the May 2017 Offerings Beneficial Ownership Limitation (as defined below).

Dividends, at a rate per year equal to 17.38% of the stated value of the Series A Preferred Stock, will be payable semiannually from the issuance of the Series A Preferred Stock until the tenth anniversary of the date of issuance, on each October 15 and April 15, beginning October 15, 2017, on a cumulative basis, at the Company's option, in cash, out of any funds legally available for the payment of dividends, or, subject to the satisfaction of certain conditions, in Common Stock at the Preferred Stock Conversion Rate, or a combination thereof. Upon the conversion of the Series A Preferred Stock prior to the tenth anniversary of the date of issuance, the holders of the Series Preferred A Stock shall be entitled to a payment equal to \$1,738 per \$1,000 of stated value of the Series A Preferred Stock, less the amount of all prior semiannual dividends paid on such converted Series A Preferred Stock prior to the relevant conversion date (Make-Whole Payment), at the Company's option, in cash, out of any funds legally available for the payment of dividends, or, subject to the satisfaction of certain conditions, in common stock at the Preferred Stock Conversion Rate, or a combination thereof. If the Company elects to pay any dividend in the form of cash, it shall provide each holder with notice of such election not later than the first day of the month of prior to the applicable dividend payment date.

Unless and until converted into common stock in accordance with its terms, the Series A Preferred Stock has no voting rights, other than as required by law or with respect to matters specifically affecting the Series A Preferred Stock.

Upon any liquidation, dissolution or winding-up of the Company, the holders of the Series A Preferred Stock shall be entitled to receive out of the assets of the Company the same amount that a holder of Common Stock would receive if the Series A Preferred Stock were fully converted to common stock immediately prior to such liquidation, dissolution or winding-up (without regard to whether such Series A Preferred Stock is convertible at such time), which amount shall be paid *pari passu* with all holders of Common Stock.

The conversion of the Series A Preferred Stock is subject to a beneficial ownership limitation of 4.99% (or such other percentage not to exceed 9.99%, provided that any increase will not be effective until 61 days after notice thereof by the holder) of the number of shares of common stock outstanding immediately after giving effect to the issuance of shares of common stock issuable upon conversion of such Series A Preferred Stock (May 2017 Offerings Beneficial Ownership Limitation). In addition, prior to obtaining the July 2017 Stockholder Approval (as defined below), the aggregate number of shares issued with respect to the Series A Preferred Stock (and any other transaction aggregated for such purpose) could not exceed 3,792,778 shares of common stock (May 2017 Exchange Cap).

The Series A Preferred Stock is classified as permanent equity, as the Company controls all actions or events required to settle the optional and mandatory conversion feature in shares. The Make-Whole Payment was determined to be an embedded derivative requiring bifurcation and separate recognition as a derivative liability recognized at its fair value as of the issuance date with subsequent changes in fair value recorded in earnings until the earlier of (i) July 7, 2017 when the Make-Whole shares became fixed and certain, (ii) the Series A Preferred Stock is converted into common stock, (iii) the Make-Whole Payment is voluntarily converted, or (iv) the Make-Whole Payment is paid through declared dividends or cash. A derivative liability was recognized at fair value on the date of issuance for the Make-Whole Payment in the amount of \$11.0 million. The value of the remaining Make-Whole derivative liability at July 7, 2017 was extinguished to equity. All Make-Whole Payment conversions into common stock before and after July 7, 2017, were accounted for as a deemed dividend in the period converted. A derivative liability was also recognized at fair value on the date of issuance for the May 2017 Warrants issued to the Series A holders (discussed more fully below) in the amount of \$10.6 million. The Series A Preferred Stock also contained a beneficial conversion feature which was recognized up to the amount of \$0.6 million of proceeds allocated to the preferred stock. Net proceeds allocated to the Series A Preferred Stock were \$0.6 million.

As of December 31, 2017, all 22,140 shares of Series A Preferred Stock had been converted into common stock (with the Make-Whole Payment in each case being made in the form of common stock) and zero shares of Series A Preferred Stock were outstanding. Upon conversion of the Series A Preferred Shares, the Company recognized a deemed dividend for the unamortized discount related to the allocation of proceeds to the May 2017 Warrants derivatives totaling \$21.6 million, and deemed dividends upon settlement of the Series A Make-Whole Payment totaling \$10.5 million, all as a reduction to Additional Paid-in Capital and an increase to net loss attributable to Amyris, Inc. common stockholders.

#### *Series B Preferred Stock*

The Series B Preferred Stock has substantially identical terms to the Series A Preferred Stock, except that (i) the conversion of the Series B Preferred Stock was subject to the July 2017 Stockholder Approval and (ii) the May 2017 Offerings Beneficial Ownership Limitation does not apply to DSM. The Series B Preferred Stock was classified as permanent equity at issuance due to the lack of a cash redemption feature and because the holder's only recourse to affect conversion was to require the Company to continually seek shareholder approval, thus effectively giving the Company control over the actions or events necessary to settle an optional or mandatory conversion feature in shares. As described in more detail below under "July 2017 Stockholder Approval," in July 2017 the Company's stockholders approved removing a restriction preventing the Series B Preferred Stock issued in the May 2017 Offerings from being convertible into common stock.

The investors that purchased shares of the Series B Preferred Stock included related parties affiliated with members of the Board: Foris exchanged an aggregate principal amount of \$27.0 million of indebtedness, plus accrued interest thereon, for 30,729 shares of Series B Preferred Stock and May 2017 Warrants to purchase 4,877,386 shares of Common Stock and Naxyris exchanged an aggregate principal amount of \$2.0 million of indebtedness, plus accrued interest thereon, for 2,333 shares of Series B Preferred

Stock and May 2017 Warrants to purchase 370,404 shares of common stock. The fair value of the Series B Preferred Stock, the embedded Make-Whole payment and the related warrants exceeded the carrying value of the related party debt and accrued interest exchanged by \$8.6 million which was recorded as a loss upon extinguishment of debt as the Company determined that the related parties were acting in their interests as debt holders.

The investors that purchased shares of the Series B Preferred Stock also included non-related party holders of the Company's 2014 Rule 144A Convertible Notes and 2015 Rule 144A Convertible Notes. These investors exchanged all or a portion of their holding of such indebtedness, including accrued interest thereon, representing an aggregate of \$3.4 million of 2014 Rule 144A Convertible Notes and \$3.7 million of 2015 Rule 144A Convertible Notes, for Series B Preferred Stock and May 2017 Warrants in the May 2017 Offerings. The fair value of the Series B Preferred Stock, the embedded Make-Whole payment and the related warrants exceeded the carrying value of the debt and accrued interest exchanged by \$1.9 million, which was recognized as a loss on extinguishment of debt in other income (expense).

Issuance costs of \$1.2 million were netted against the proceeds. Additional issuance costs of \$0.2 million were expensed as debt extinguishment costs for debt that was exchanged in the May 2017 Offerings.

Upon the closing of the May 2017 Offerings, all such exchanged indebtedness was canceled and the agreements relating thereto, including any note purchase agreements or unsecured or secured promissory notes (including any security interest relating thereto), were terminated, except to the extent such investors or other investors retain a portion of such indebtedness.

A derivative liability was recognized at fair value on the date of issuance for the May 2017 DSM Series B Make-Whole Payment in the amount of \$12.4 million. A derivative liability was also recognized at fair value on the date of issuance for the May 2017 Warrants issued to DSM (discussed more fully below) in the amount of \$11.9 million. Upon conversion of the DSM Series B Preferred Shares, the Company recognized a deemed dividend for the unamortized discounts related to the allocation of proceeds to the May 2017 DSM Make-Whole Payment and May 2017 Warrants derivatives totaling \$24.4 million, and a deemed dividend upon settlement of all May 2017 Series B Make-Whole Payments totaling \$22.6 million, all as a reduction to Additional Paid in Capital and an increase to net loss attributable to Amyris, Inc. common stockholders. The Series B Preferred Stock issued to DSM in the May 2017 Offerings also contained a contingent beneficial conversion feature that was recognized in the three months ending September 30, 2017 upon the July 2017 Stockholder Approval, which eliminated the contingency. As a result, \$0.6 million was recorded as a reduction to Additional Paid in Capital and was considered a deemed dividend, increasing net loss attributable to Amyris, Inc. common stockholders.

As of December 31, 2018, 89,528 shares of Series B Preferred Stock (including the Series B Preferred Stock issued in the August 2017 DSM Offering) have been converted into common stock (with the Make-Whole Payment in each case being made in the form of common stock) and 6,376 shares of Series B Preferred Stock were outstanding. At December 31, 2017, 9,213 shares of Series B Preferred Stock were outstanding.

#### *May 2017 Warrants*

The Company issued to each investor in the May 2017 Offerings warrants to purchase a number of shares of common stock equal to 100% of the shares of common stock into which such investor's shares of Series A Preferred Stock or Series B Preferred Stock were initially convertible (including shares of common stock issuable as payment of dividends or the Make-Whole Payment, assuming that all such dividends and the Make-Whole Payment are made in common stock), representing warrants to purchase 14,768,380 shares of common stock in the aggregate for all investors (collectively, the May 2017 Cash Warrants). The exercise price of the May 2017 Cash Warrants is subject to standard adjustments as well as full-ratchet anti-dilution protection for any issuance by the Company of equity or equity-linked securities during the three-year period following the issuance of such warrants (May 2017 Dilution Period) at a per share price less than the then-current exercise price of the May 2017 Cash Warrants, subject to certain exceptions. As of December 31, 2017, the exercise prices of the May 2017 Cash Warrants were \$4.40 per share and no

May 2017 Cash Warrants had been exercised. As of December 31, 2018, the exercise prices of the May 2017 Cash Warrants were \$4.40 per share and 8,523,560 May 2017 Cash Warrants had been exercised (see “April 2018 Warrant Transactions” and “August 2018 Warrant Transactions” above).

In addition, the Company issued to each investor a warrant, with an exercise price of \$0.0015 per share as of December 31, 2018 (collectively, the May 2017 Dilution Warrants), to purchase a number of shares of common stock sufficient to provide the investor with full-ratchet anti-dilution protection for any issuance by the Company of equity or equity-linked securities during the May 2017 Dilution Period at a per share price less than \$6.30, the effective per share price paid by the investors for the shares of common stock issuable upon conversion of their Series A Preferred Stock or Series B Preferred Stock (including shares of common stock issuable as payment of dividends or the Make-Whole Payment, assuming that all such dividends and the Make-Whole Payment are made in common stock) subject to certain exceptions. As of December 31, 2018, the May 2017 Dilution Warrants were exercisable for an aggregate of 6,377,466 shares based on an effective per share price of \$4.40 per share, of which 6,329,488 warrants had been exercised, resulting in a \$64.1 million reduction in derivative liability. See “April 2018 Warrant Transactions” and “August 2018 Warrant Transactions” above regarding the cancellation of certain May 2017 Dilution Warrants.

The May 2017 Warrants each have a term of five years from the date such warrants initially became exercisable upon the receipt and effectiveness of the July 2017 Stockholder Approval. The exercise of the May 2017 Warrants (other than the May 2017 Warrants held by DSM) is subject to the May 2017 Offerings Beneficial Ownership Limitation. In connection with the entry by the Company and Foris into a warrant exercise agreement in August 2018 and related transactions (see “August 2018 Warrant Transactions” above), the Company and Foris amended Foris’s May 2017 Cash Warrants and May 2017 Dilution Warrant to remove the May 2017 Offerings Beneficial Ownership Limitation from such warrants. The May 2017 Cash Warrants are freestanding financial instruments that are accounted for as derivative liabilities and recognized at their fair value on the date of issuance of \$39.5 million. As of December 31, 2018, the fair value of the May 2017 Cash Warrants was \$24.1 million, as determined with the assistance of an independent third-party appraisal.

For the years ended December 31, 2018 and 2017, the Company recorded a loss of \$13.5 million and \$40.4 million, respectively, to reflect change in fair value of the May 2017 Cash Warrants (including the anti-dilution protection feature). Subsequent changes to the fair value of the May 2017 Cash Warrants will continue to be recorded in earnings until the warrants are exercised or expire in July 2022.

#### *July 2017 Stockholder Approval*

In connection with the May 2017 Offerings, the Company agreed to solicit from its stockholders (i) any approval required by the rules and regulations of the NASDAQ Stock Market, including without limitation for the issuance of common stock upon conversion of the Series A Preferred Stock in excess of the May 2017 Exchange Cap, upon conversion of the Series B Preferred Stock and upon exercise of the May 2017 Warrants (the NASDAQ Approval) and (ii) approval to effect the Reverse Stock Split (collectively, the July 2017 Stockholder Approval) at an annual or special meeting of stockholders to be held on or prior to July 10, 2017, and to use commercially reasonable efforts to secure the July 2017 Stockholder Approval. The Reverse Stock Split was approved by the Company’s stockholders in May 2017 and the NASDAQ Approval was obtained on July 7, 2017.

#### *August 2017 DSM Offering — Related Party*

On August 7, 2017, the Company issued and sold the following securities to DSM in a private placement (August 2017 DSM Offering):

- 25,000 shares of Series B Preferred Stock (August 2017 DSM Series B Preferred Stock) at a price of \$1,000 per share;
- a warrant to purchase 3,968,116 shares of common stock at an initial exercise price of \$6.30 per share expiring in five years (August 2017 DSM Cash Warrant); and
- the August 2017 DSM Dilution Warrant (as described below).

Net proceeds to the Company were \$25.9 million after payment of offering expenses and the allocation of total fair value received to the elements in the arrangement.

The exercise price of the August 2017 DSM Cash Warrant is subject to standard adjustments as well as full-ratchet anti-dilution protection for any issuance by the Company of equity or equity-linked securities during the three-year period following August 7, 2017 (DSM Dilution Period) at a per share price less than the then-current exercise price of the August 2017 DSM Cash Warrant, subject to certain exceptions. As of December 31, 2018, the exercise price of the August 2017 DSM Cash Warrant was \$4.40 per share.

The August 2017 DSM Dilution Warrant allows DSM to purchase a number of shares of common stock sufficient to provide DSM with full-ratchet anti-dilution protection for any issuance by the Company of equity or equity-linked securities during the DSM Dilution Period at a per share price less than \$6.30, the effective per share price paid by DSM for the shares of common stock issuable upon conversion of its Series B Preferred Stock (including shares of common stock issuable as payment of dividends or the Make-Whole Payment (as defined below), assuming that all such dividends and the Make-Whole Payment are made in common stock), subject to certain exceptions and subject to a price floor of \$0.10 per share (Dilution Floor). The August 2017 DSM Dilution Warrant expires five years from the date it is initially exercisable.

In connection with the August 2017 DSM Offering, the Company also agreed that, subject to certain exceptions, it would not (i) issue any shares of common stock or securities convertible into or exercisable or exchangeable for common stock prior to October 31, 2017, (ii) effect any issuance of securities involving a variable rate transaction until May 11, 2018 or (iii) issue any shares of common stock or securities convertible into or exercisable or exchangeable for common stock at a price below the Dilution Floor without DSM's consent. On November 19, 2018, the Company entered into an agreement to reduce the exercise price of the August 2017 DSM Cash Warrant from \$6.30 to \$4.40 to compensate DSM for failure to obtain its consent to reduce the exercise price of the Vivo Warrant discussed in the "August 2018 Warrant Transactions" section of this Note 7 "Stockholders' Deficit". The Company determined the fair value of this agreement to be \$6.8 million and recorded a legal settlement expense for the period ended December 31, 2018 in that amount. See Note 4, "Fair Value Measurement" for additional information. The accounting treatment for this transaction was evaluated in conjunction with the other November 2018 transactions discussed in Note 11, "Related Party Transactions". Also, upon execution of this agreement the August 2017 DSM Dilution Warrant became exercisable for 1,713,565 shares based on an effective per share price of \$0.0001 per share, all of which were exercised in November 2018.

In connection with the August 2017 DSM Offering, the Company and DSM also entered into an amendment to the stockholder agreement dated May 11, 2017 (DSM Stockholder Agreement) between the Company and DSM (Amended and Restated DSM Stockholder Agreement). Under the DSM Stockholder Agreement, DSM was granted the right to designate one director selected by DSM, subject to certain restrictions and a minimum beneficial ownership level of 4.5%, to the Board. Furthermore, DSM has the right to purchase additional shares of capital stock of the Company in connection with a sale of equity or equity-linked securities by the Company in a capital raising transaction for cash, subject to certain exceptions, to maintain its proportionate ownership percentage in the Company. Pursuant to the DSM Stockholder Agreement, DSM agreed not to sell or transfer any of the Series B Preferred Stock or warrants purchased by DSM in the May 2017 Offerings (as defined below), or any shares of common stock issuable upon conversion or exercise thereof, other than to its affiliates, without the consent of the Company through May 2018 and to any competitor of the Company thereafter. DSM also agreed that, subject to certain exceptions, until three months after there is no DSM director on the Board, DSM will not, without the prior consent of the Board, acquire common stock or rights to acquire common stock that would result in DSM beneficially owning more than 33% of the Company's outstanding voting securities at the time of acquisition. Under the DSM Stockholder Agreement, the Company agreed to use its commercially reasonable efforts to register, via one or more registration statements filed with the Securities and Exchange Commission (SEC) under the Securities Act of 1933, as amended (Securities Act), the shares of common stock issuable upon conversion or exercise of the securities purchased by DSM in the May 2017 Offerings. The Amended and Restated DSM Stockholder Agreement provides that (i) DSM has the right to designate a second director to the Board, subject to certain restrictions and a minimum beneficial ownership level of

10%, and (ii) the shares of common stock issuable upon conversion or exercise of the securities purchased by DSM in the August 2017 DSM Offering are (a) entitled to the registration rights provided for in the DSM Stockholder Agreement and (b) subject to the transfer restrictions set forth in the DSM Stockholder Agreement.

In addition, pursuant to the Amended and Restated DSM Stockholder Agreement, the Company and DSM agreed to negotiate in good faith regarding an agreement concerning the development of certain products in the Health & Wellness field and, in the event that the parties did not reach such agreement prior to 90 days after the closing of the August 2017 DSM Offering (August 2017 DSM Closing), (a) certain exclusive negotiating rights granted to DSM in connection with the entry into the DSM Stockholder Agreement would expire and (b) on the first anniversary of the August 2017 DSM Closing and each subsequent anniversary thereof, the Company would make a \$5.0 million cash payment to DSM, provided that the aggregate amount of such payments would not exceed \$25.0 million. In September 2017, the Company and DSM entered into such agreement, and in connection therewith an intellectual property escrow agreement relating to certain intellectual property licenses granted by the Company to DSM upon the August 2017 DSM Closing became effective.

In connection with the August 2017 DSM Offering and its \$25.9 million in net proceeds, the Company also entered into a separate intellectual property license with DSM for consideration of \$9.0 million in cash, which DSM remitted to the Company on October 28, 2017, and a credit letter (DSM Credit Letter) to be applied against future collaboration and royalty payments owed by DSM to the Company beginning in 2018. The DSM Credit Letter had a fair value of \$7.1 million and was recorded as deferred revenue on the transaction date. The total fixed consideration of \$34.0 million was allocated to each of the August 2017 DSM Series B Preferred Stock, August 2017 DSM Cash Warrant, August 2017 DSM Dilution Warrant and DSM Credit Letter at fair value based on level 3 inputs. The August 2017 DSM Series B Preferred Stock was recognized at its fair value on the date of issuance of \$15.6 million, net of issuance costs of \$0.2 million. The August 2017 Make-Whole Payment met the criteria to be classified in permanent equity and was not bifurcated from the preferred stock but will be recognized as a deemed dividend upon conversion, increasing the net loss attributable to Amyris, Inc. common stockholders. The August 2017 DSM Cash Warrant and August 2017 DSM Dilution Warrant are freestanding financial instruments and were initially recognized at their fair value of \$10.6 million. The August 2017 DSM Cash Warrant and August 2017 DSM Dilution Warrant have been reported together as derivative liabilities. Changes in the fair value of the warrant derivatives for the years ended December 31, 2018 and 2017 have been recorded in earnings as a \$7.5 million loss and \$4.0 million loss, respectively.

As of December 31, 2018, all the August 2017 Series B Preferred Shares have been converted into common stock.

The DSM Credit Letter was initially recorded as deferred revenue at its \$7.1 million fair value, which was determined based on the assumptions that DSM would realize its credit over the next 18 months to 4 years with a 50% to 90% likelihood the credit will be utilized, fully discounted at the Company's 8.6% average cost of debt. After allocating the \$34.0 million in fixed consideration to the financial instruments noted above and the DSM Credit Letter, \$7.8 million was available for recognition as revenue related to the intellectual property licenses delivered to DSM, of which \$3.3 million was recognized as license revenue during the year ended December 31, 2017. The DSM Credit Letter was terminated in December 2017, resulting in the reversal of the remaining unrecognized \$4.5 million deferred revenue liability previously recorded as consideration for the DSM License and Collaboration transaction. See Note 10, "Revenue Recognition" for additional information.

#### ***August 2017 Vivo Offering — Related Party***

On August 3, 2017, the Company issued and sold the following securities to Vivo in a private placement (August 2017 Vivo Offering), resulting in net proceeds to the Company of \$24.8 million after payment of offering expenses.

- 2,826,711 shares of common stock at a price of \$4.26 per share;
- 12,958 shares of Series D Preferred Stock at a price of \$1,000 per share;

- warrants to purchase an aggregate of 5,575,118 shares of common stock at an initial exercise price of \$6.39 per share, expiring in five years (August 2017 Vivo Cash Warrants); and
- the August 2017 Vivo Dilution Warrants (as described below).

Each share of Series D Preferred Stock has a stated value of \$1,000 and, subject to the August 2017 Vivo Offering Beneficial Ownership Limitation (as defined below), is convertible at any time, at the option of the holders, into common stock at a conversion price of \$4.26 per share. The Series D Conversion Rate is subject to adjustment in the event of any dividends or distributions of the common stock, or any stock split, reverse stock split, recapitalization, reorganization or similar transaction.

Prior to declaring any dividend or other distribution of its assets to holders of common stock, the Company shall first declare a dividend per share on the Series D Preferred Stock equal to \$0.0001 per share. In addition, the Series D Preferred Stock will be entitled to participate with the common stock on an as-converted basis with respect to any dividends or other distributions to holders of common stock. There were no dividends declared as of December 31, 2018 or 2017.

Unless and until converted into common stock in accordance with its terms, the Series D Preferred Stock has no voting rights, other than as required by law or with respect to matters specifically affecting the Series D Preferred Stock. The Series D Preferred Stock is classified as permanent equity, as the Company controls all actions or events required to settle the optional conversion feature in shares.

The August 2017 Vivo Cash Warrants and August 2017 Vivo Dilution Warrants are freestanding derivative instruments in connection with the issuance of equity instruments, which have been recorded as derivative liabilities. These warrants were recognized at their initial fair value upon issuance of \$13.0 million as determined by management with the assistance of an independent third party appraisal based on level 3 inputs. Changes in the fair value of these derivative liabilities from the date of issuance through December 31, 2018 have been recorded in earnings, with losses of \$7.7 million and \$3.0 million recorded for the years ended December 31, 2018 and 2017, respectively. The remaining \$12.0 million of the \$25.0 million in gross proceeds received was allocated on a relative fair value basis, resulting in \$5.6 million of proceeds, net of \$0.2 million in issuance costs being allocated to the common stock sold in the August 2017 Vivo Offering and \$6.2 million allocated to the Series D Preferred Stock. The Series D Preferred Stock includes a beneficial conversion feature of \$5.8 million as the full fair value of the Series D Preferred Stock of \$12.0 million was greater than the \$6.2 million allocated to the Series D Preferred Stock. The \$5.8 million beneficial conversation feature was recorded as a reduction to Additional Paid in Capital and a deemed dividend increasing net loss attributable to Amyris, Inc. common stockholders upon conversion in the third quarter of 2017.

At December 31, 2018 and 2017, 8,280 and 12,958 shares, respectively of Series D Preferred Stock were outstanding. In the third quarter of 2018 Vivo converted 4,678 shares of August 2017 Offerings Series D Preferred Stock and the Company recognized a \$6.8 million deemed dividend for the unamortized discounts created from the allocation of proceeds, as a reduction to Additional Paid in Capital and increasing net loss attributable to Amyris, Inc. common stockholders.

In the event of a Fundamental Transaction, the holders of the Series D Preferred Stock will have the right to receive the consideration receivable as a result of such Fundamental Transaction by a holder of the number of shares of common stock for which the Series D Preferred Stock is convertible immediately prior to such Fundamental Transaction (without regard to whether such Series D Preferred Stock is convertible at such time), which amount shall be paid *pari passu* with all holders of common stock. A Fundamental Transaction is defined in the Certificate of Designation of Preferences, Rights and Limitations relating to the Series D Preferred Stock as any of the following: (i) merger with or consolidation into another legal entity; (ii) sale, lease, license, assignment, transfer or other disposition of all or substantially all of the Company's assets in one or a series of related transactions; (iii) purchase offer, tender offer or exchange offer of the Company's common stock pursuant to which holders of the Company's common stock are permitted to sell, tender or exchange their shares for other securities, cash or property and has been accepted by the holders of 50% or more of the outstanding common stock; (iv) reclassification, reorganization or recapitalization of the Company's stock; or (v) stock or share purchase agreement that results in another party acquiring more than 50% of the Company's outstanding shares of common stock.

Upon any liquidation, dissolution or winding-up of the Company, the holders of the Series D Preferred Stock shall be entitled to receive out of the assets of the Company the same amount that a holder of common stock would receive if the Series D Preferred Stock were fully converted to common stock immediately prior to such liquidation, dissolution or winding-up (without regard to whether such Series D Preferred Stock is convertible at such time), which amount shall be paid *pari passu* with all holders of common stock.

The conversion of the Series D Preferred Stock is subject to a beneficial ownership limitation of 9.99% (August 2017 Vivo Offering Beneficial Ownership Limitation), which limitation may be waived by the holders on 61 days' prior notice.

The exercise price of the August 2017 Vivo Cash Warrants is subject to standard adjustments as well as full-ratchet anti-dilution protection for any issuance by the Company of equity or equity-linked securities during the three-year period following August 3, 2017 (Vivo Dilution Period) at a per share price less than the then-current exercise price of the August 2017 Vivo Cash Warrants, subject to certain exceptions. In connection with the entry by the Company and Vivo into warrant exercise agreements in August 2018 and related transactions (see "August 2018 Warrant Transactions" above), the Company and Vivo amended the August 2017 Vivo Cash Warrants to (i) reduce the exercise price of such warrants from \$6.39 per share to \$4.40 per share and (ii) remove the August 2017 Vivo Offering Beneficial Ownership Limitation from such warrants.

The August 2017 Vivo Dilution Warrants allow Vivo to purchase a number of shares of common stock sufficient to provide Vivo with full-ratchet anti-dilution protection for any issuance by the Company of equity or equity-linked securities during the Vivo Dilution Period at a per share price less than \$4.26, the effective per share price paid by Vivo for the shares of common stock issuable upon conversion of the Series D Preferred Stock, subject to certain exceptions and subject to the Dilution Floor. The August 2017 Vivo Dilution Warrants expire five years from the date they are initially exercisable.

As of December 31, 2017, none of the August 2017 Vivo Warrants were exercised. As of December 31, 2018, 5,575,118 of the August 2017 Vivo Cash Warrants had been exercised and the August 2017 Vivo Dilution Warrants were not exercisable for any shares upon cancellation as part of the August 2018 transaction. See "August 2018 Warrant Transactions" above regarding the exercise of the August 2017 Vivo Cash Warrants and the cancellation of the August 2017 Vivo Dilution Warrants.

In connection with the August 2017 Vivo Offering, the Company agreed that it would not issue any shares of common stock or securities convertible into or exercisable or exchangeable for common stock at a price below the Dilution Floor without Vivo's consent.

In connection with the August 2017 Vivo Offering, the Company and Vivo also entered into a Stockholder Agreement (Vivo Stockholder Agreement) setting forth certain rights and obligations of Vivo and the Company. Pursuant to the Vivo Stockholder Agreement, Vivo will have the right, subject to certain restrictions and a minimum beneficial ownership level of 4.5%, to (i) designate one director selected by Vivo to the Board and (ii) appoint a representative to attend all Board meetings in a nonvoting observer capacity and to receive copies of all materials provided to directors, subject to certain exceptions. Furthermore, Vivo will have the right to purchase additional shares of capital stock of the Company in connection with a sale of equity or equity-linked securities by the Company in a capital raising transaction for cash, subject to certain exceptions, to maintain its proportionate ownership percentage in the Company. Vivo agreed not to sell or transfer any of the shares of common stock, Series D Preferred Stock or warrants purchased by Vivo in the August 2017 Vivo Offering, or any shares of common stock issuable upon conversion or exercise thereof, other than to its affiliates, without the consent of the Company through August 2018 and to any competitor of the Company thereafter. Vivo also agreed that, subject to certain exceptions, until the later of (i) three years from the closing of the August 2017 Vivo Offering and (ii) three months after there is no Vivo director on the Board, Vivo will not, without the prior consent of the Board, acquire common stock or rights to acquire common stock that would result in Vivo beneficially owning more than 33% of the Company's outstanding voting securities at the time of acquisition. Under the Vivo Stockholder Agreement, the Company agreed to use its commercially reasonable efforts to register, via one or more registration statements filed with the SEC under the Securities Act, the shares of common stock purchased in the August 2017 Vivo Offering as well as the shares of common stock issuable upon conversion or exercise of the Series D Preferred Stock and warrants purchased by Vivo in the August 2017 Vivo Offering.



### ***May 2017 Exchange of Common Stock for Series C Convertible Preferred Stock — Related Party***

In May 2017, Foris and Naxyris agreed to exchange (May 2017 Exchange) their outstanding shares of common stock, representing a total of 1,394,706 shares, for 20,921 shares of the Company's Series C Convertible Preferred Stock, par value \$0.0001 per share (Series C Preferred Stock) in a private exchange.

Each share of Series C Preferred Stock had a stated value of \$1,000 and would automatically convert into common stock, at a conversion price of \$15.00 per share (Series C Conversion Rate), upon the approval by the Company's stockholders and implementation of a reverse stock split.

The shares of Series C Preferred Stock automatically converted to common stock on June 6, 2017 in connection with the effectiveness of the Reverse Stock Split. The Company accounted for the Series C Preferred Stock and the May 2017 Exchange as a non-monetary transaction that had no impact on the consolidated financial statements.

### ***July 2015 PIPE Warrants***

In July 2015, the Company entered into a securities purchase agreement with certain purchasers, including entities affiliated with members of the Board, under which the Company agreed to sell 1,068,379 shares of common stock at a price of \$23.40 per share, for aggregate proceeds to the Company of \$25.0 million. In connection with the sale, the Company granted to each of the purchasers a warrant, exercisable at a price of \$0.15 per share, to purchase of a number of shares of common stock equal to 10% of the shares of common stock purchased by such investor. As of December 31, 2018 and 2017, such warrants had been exercised with respect to 25,643 shares of common stock and warrants with respect to 81,197 shares of common stock were outstanding.

For information regarding issuances of equity securities subsequent to December 31, 2018, see Part II, Item 8, "Subsequent Events".

### ***Right of First Investment to Certain Investors***

In connection with investments in the Company has granted certain investors, including Vivo and DSM, a right of first investment if the Company proposes to sell securities in certain financing transactions. With these rights, such investors may subscribe for a portion of any such new financing and require the Company to comply with certain notice periods, which could discourage other investors from participating in, or cause delays in its ability to close, such a financing.

## **8. Net Loss per Share Attributable to Common Stockholders**

The Company computes net loss per share in accordance with ASC 260, "Earnings per Share." Basic net loss per share of common stock is computed by dividing the Company's net loss attributable to Amyris, Inc. common stockholders by the weighted-average number of shares of common stock outstanding during the period. Diluted net loss per share of common stock is computed by giving effect to all potentially dilutive securities, including stock options, restricted stock units, convertible preferred stock, convertible promissory notes and common stock warrants, using the treasury stock method or the as converted method, as applicable. For the years ended December 31, 2018 and 2017, basic net loss per share was the same as diluted net loss per share because the inclusion of all potentially dilutive securities outstanding was anti-dilutive. As such, the numerator and the denominator used in computing both basic and diluted net loss were the same for those years.

The Company follows the two-class method when computing net loss per common share when shares are issued that meet the definition of participating securities. The two-class method requires income available to common stockholders for the period to be allocated between common stock and participating securities based upon their respective rights to receive dividends as if all income for the period had been distributed. The two-class method also requires losses for the period to be allocated between common stock and participating securities based on their respective rights if the participating security contractually participates in losses. The Company's convertible preferred stock are participating securities as they contractually entitle the holders of such shares to participate in dividends and contractually require the holders of such shares to participate in the Company's losses.

The following table presents the calculation of basic and diluted net loss per share of common stock attributable to Amyris, Inc. common stockholders:

Years Ended December 31, (In thousands, except shares and per share amounts)	2018	2017 (As Restated, Note 2)
Net loss attributable to Amyris, Inc. . . . .	(230,235)	(155,982)
Less deemed dividend related to beneficial conversion feature on Series A preferred stock . . . . .	—	(562)
Less deemed dividend related to beneficial conversion feature on Series B preferred stock . . . . .	—	(634)
Less deemed dividend related to beneficial conversion feature on Series D preferred stock . . . . .	—	(5,757)
Less deemed dividend upon settlement of make-whole provision on Series A preferred stock . . . . .	—	(10,505)
Less deemed dividend upon settlement of make-whole provision on Series B preferred stock . . . . .	—	(22,632)
Less deemed dividend related to the recognition of discounts on Series A preferred stock upon conversion . . . . .	—	(21,578)
Less deemed dividend related to the recognition of discounts on Series B preferred stock upon conversion . . . . .	—	(24,366)
Less deemed dividend related to proceeds discount upon conversion of Series D preferred stock . . . . .	(6,852)	—
Add: losses allocated to participating securities . . . . .	13,991	40,159
Net loss attributable to Amyris, Inc. common stockholders, basic . . . . .	\$ (223,096)	\$ (201,857)
Adjustment for losses allocated to participating securities . . . . .	(13,991)	(40,159)
Net loss attributable to Amyris, Inc. common stockholders, diluted . . . . .	<u>\$ (237,087)</u>	<u>\$ (242,016)</u>
<i>Denominator:</i>		
Weighted-average shares of common stock outstanding used in computing net loss per share of common stock, basic and diluted . . . . .	60,405,910	32,253,570
Basic and diluted loss per share . . . . .	<u>\$ (3.69)</u>	<u>\$ (6.26)</u>

The following outstanding shares of potentially dilutive securities were excluded from the computation of diluted net loss per share of common stock for the periods presented because including them would have been anti-dilutive:

Years Ended December 31,	2018	2017 (As Restated, Note 2)
Period-end common stock warrants . . . . .	25,986,370	29,921,844
Convertible promissory notes <sup>(1)</sup> . . . . .	13,703,162	8,203,821
Period-end stock options to purchase common stock . . . . .	5,392,269	1,338,367
Period-end restricted stock units . . . . .	5,294,848	685,007
Period-end preferred shares on an as-converted basis . . . . .	2,955,732	4,504,212
Total potentially dilutive securities excluded from computation of diluted net loss per share . . . . .	<u>53,332,381</u>	<u>44,653,251</u>

(1) The potentially dilutive effect of convertible promissory notes was computed based on conversion ratios in effect at the respective year-end. A portion of the convertible promissory notes issued carries a

provision for a reduction in conversion price under certain circumstances, which could potentially increase the dilutive shares outstanding. Another portion of the convertible promissory notes issued carries a provision for an increase in the conversion rate under certain circumstances, which could also potentially increase the dilutive shares outstanding.

## 9. Commitments and Contingencies

### *Lease Obligations*

The Company leases certain facilities and finances certain equipment under operating and capital leases, respectively. Operating leases include leased facilities, and capital leases include leased equipment (see Note 3, “Balance Sheet Details”). The Company recognizes rent expense on a straight-line basis over the noncancelable lease term and records the difference between cash rent payments and the recognition of rent expense as a deferred rent liability. Where leases contain escalation clauses, rent abatements, and/or concessions, such as rent holidays and landlord or tenant incentives or allowances, the Company applies them as straight-line rent expense over the lease term. The Company has noncancelable operating lease agreements for office, research and development, and manufacturing space that expire at various dates, with the latest expiration in May 2023. Rent expense under operating leases was \$5.8 million and \$5.1 million for the years ended December 31, 2018 and 2017, respectively.

Future minimum payments under the Company’s lease obligations as of December 31, 2018, are as follows:

Years Ending December 31 (In thousands)	Capital Leases	Operating Leases	Total Lease Obligations
2019 . . . . .	\$ 513	\$10,416	\$10,929
2020 . . . . .	198	7,932	8,130
2021 . . . . .	1	7,226	7,227
2022 . . . . .	—	7,399	7,399
2023 . . . . .	—	3,034	3,034
Thereafter . . . . .	—	—	—
Total future minimum payments . . . . .	712	\$36,007	\$36,719
Less: amount representing interest . . . . .	(33)		
Present value of minimum lease payments . . . . .	679		
Less: current portion . . . . .	(484)		
Long-term portion . . . . .	\$ 195		

### *Guarantor Arrangements*

The Company has agreements whereby it indemnifies its executive officers and directors for certain events or occurrences while the executive officer or director is serving in his or her official capacity. The indemnification period remains enforceable for the executive officer’s or director’s lifetime. The maximum potential amount of future payments the Company could be required to make under these indemnification agreements is unlimited; however, the Company has a director and officer insurance policy that limits its exposure and enables the Company to recover a portion of any future payments. As a result of its insurance policy coverage, the Company believes the estimated fair value of these indemnification agreements is minimal. Accordingly, the Company had no liabilities recorded for these agreements as of December 31, 2018 and 2017.

The GACP Term Loan Facility (see Note 5, “Debt” and Note 16, “Subsequent Events”) is collateralized by first-priority liens on substantially all of the Company’s assets, including Company intellectual property. Certain of the Company’s subsidiaries have guaranteed the Company’s obligations under the GACP Term Loan Facility.

The Nikko Note is collateralized by a first-priority lien on 10% of the Aprinova JV interests owned by the Company, as discussed in Note 5, “Debt”.

### *Other Matters*

Certain conditions may exist as of the date the financial statements are issued, which may result in a loss to the Company but will only be recorded when one or more future events occur or fail to occur. The Company's management assesses such contingent liabilities, and such assessment inherently involves an exercise of judgement. In assessing loss contingencies related to legal proceedings that are pending against and by the Company or unasserted claims that may result in such proceedings, the Company's management evaluates the perceived merits of any legal proceedings or unasserted claims as well as the perceived merits of the amount of relief sought or expected to be sought.

If the assessment of a contingency indicates that it is probable that a material loss has been incurred and the amount of the liability can be estimated, then the estimated liability would be accrued in the Company's financial statements. If the assessment indicates that a potential material loss contingency is not probable but is reasonably possible, or is probable but cannot be reasonably estimated, then the nature of the contingent liability, together with an estimate of the range of possible loss if determinable and material would be disclosed. Loss contingencies considered to be remote by management are generally not disclosed unless they involve guarantees, in which case the guarantee would be disclosed.

On April 3, 2019, a securities class action complaint was filed against Amyris and our CEO, John G. Melo, and former CFO (and current Chief Business Officer), Kathleen Valiasek, in the U.S. District Court for the Northern District of California. The complaint seeks unspecified damages on behalf of a purported class that would comprise all persons and entities that purchased or otherwise acquired our securities between March 15, 2018 and March 19, 2019. The complaint alleges securities law violations based on statements and omissions made by the Company during such period. Subsequent to the filing of the securities class action complaint described above, on June 21, 2019, a purported shareholder derivative complaint was filed in the U.S. District Court for the Northern District of California (*Bonner v. Doerr, et al.*, Case No. 4:19-cv-03621) based on similar allegations to those made in the securities class action complaint described above. The derivative complaint names Amyris, Inc. as a nominal defendant and names a number of the Company's current and former officers and directors as additional defendants. The lawsuit seeks to recover, on the Company's behalf, unspecified damages purportedly sustained by the Company in connection with allegedly misleading statements and/or omissions made in connection with the Company's securities filings. The derivative complaint also seeks a series of changes to the Company's corporate governance policies, restitution to the Company from the individual defendants, and an award of attorneys' fees. These cases are in the initial pleadings stage. We believe the complaints lack merit, and intend to defend ourselves vigorously. Given the early stage of these proceedings, it is not yet possible to reliably determine any potential liability that could result from these matters.

The Company is subject to disputes and claims that arise or have arisen in the ordinary course of business and that have not resulted in legal proceedings or have not been fully adjudicated. Such matters that may arise in the ordinary course of business are subject to many uncertainties and outcomes are not predictable with reasonable assurance and therefore an estimate of all the reasonably possible losses cannot be determined at this time. Therefore, if one or more of these legal disputes or claims resulted in settlements or legal proceedings that were resolved against the Company for amounts in excess of management's expectations, the Company's consolidated financial statements for the relevant reporting period could be materially adversely affected.

## 10. Revenue Recognition

### *Disaggregation of Revenue*

The following tables present revenue by primary geographical market, based on the location of the customer, as well as by major product and service:

Years Ended December 31, (In thousands)	2018	2017 (As Restated, Note 2)
Europe . . . . .	\$29,405	\$ 23,823
United States . . . . .	26,241	78,286
Asia . . . . .	6,331	23,290
Brazil . . . . .	942	2,159
Other . . . . .	685	113
	<u>\$63,604</u>	<u>\$127,671</u>

### *Significant Revenue Agreements*

For the years ended December 31, 2018 and 2017, the Company recognized revenue in connection with significant revenue agreements and from all other customers as follows:

Years Ended December 31, (In thousands)	2018				2017 (As Restated, Note 2)			
	Renewable Products	Licenses and Royalties	Grants and Collaborations	TOTAL	Renewable Products	Licenses and Royalties	Grants and Collaborations	TOTAL
Revenue from significant revenue agreements with:								
DSM (related party) . . . . .	\$ 18	\$5,958	\$ 4,735	\$10,711	\$ —	\$ 57,972	\$ 1,679	\$ 59,651
Firmenich . . . . .	3,727	1,700	5,717	11,144	9,621	1,199	5,803	16,623
DARPA . . . . .	—	—	8,436	8,436	—	—	12,333	12,333
Givaudan . . . . .	4,078	—	4,358	8,436	1,950	—	6,000	7,950
Nenter . . . . .	—	—	—	—	12,057	2,633	—	14,690
Ginkgo . . . . .	—	—	—	—	—	(13,113)	—	(13,113)
Subtotal revenue from significant revenue agreements . . . . .	<u>7,823</u>	<u>7,658</u>	<u>23,246</u>	<u>38,727</u>	<u>23,628</u>	<u>48,691</u>	<u>25,815</u>	<u>98,134</u>
Revenue from all other customers . . .	<u>25,775</u>	<u>—</u>	<u>(898)</u>	<u>24,877</u>	<u>18,742</u>	<u>12</u>	<u>10,783</u>	<u>29,537</u>
Total revenue from all customers . . .	<u>\$33,598</u>	<u>\$7,658</u>	<u>\$22,348</u>	<u>\$63,604</u>	<u>\$42,370</u>	<u>\$ 48,703</u>	<u>\$36,598</u>	<u>\$127,671</u>

### *Renewable Products*

#### *Firmenich Agreements*

In 2013, the Company entered into a collaboration agreement with Firmenich SA (Firmenich) (as amended, the Firmenich Collaboration Agreement), for the development and commercialization of multiple renewable flavors and fragrances compounds. In 2014, the Company entered into a supply agreement with Firmenich (Firmenich Supply Agreement) for compounds developed under the Firmenich Collaboration Agreement. The Firmenich Collaboration Agreement and Firmenich Supply Agreement (Firmenich Agreements) are considered for revenue recognition purposes to comprise a single multiple-element arrangement.

In July 2017, the Company and Firmenich entered into an amendment of the Firmenich Collaboration Agreement, pursuant to which the parties agreed to exclude certain compounds from the scope of the agreement and to amend certain terms connected with the supply and use of such compounds when

commercially produced. In addition, the parties agreed to (i) fix at a 70/30 basis (70% for Firmenich) the ratio at which the parties will share profit margins from sales of two compounds; (ii) set at a 70/30 basis (70% for Firmenich) the ratio at which the parties will share profit margins from sales of a distinct form of compound until Firmenich receives \$15.0 million more than the Company in the aggregate from such sales, after which time the parties will share the profit margins 50/50 and (iii) a maximum Company cost of a compound where a specified purchase volume is satisfied, and alternative production and margin share arrangements in the event such Company cost cap is not achieved.

In August 2018, the Company and Firmenich entered into a second supply agreement (Firmenich Amended and Restated Supply Agreement), which incorporates all previous amendments and new changes and supersedes the September 2014 supply agreement. With this Amended and Restated Supply Agreement, the parties agreed on the compounds to be supplied under the agreement and the commercial specifications of these products, and made some adjustments to the pricing of the compounds.

Pursuant to the Firmenich Collaboration Agreement, the Company agreed to pay a one-time success bonus to Firmenich of up to \$2.5 million if certain commercialization targets are met. Such targets have not yet been met as of December 31, 2018. The one-time success bonus will expire upon termination of the Firmenich Collaboration Agreement, which has an initial term of 10 years and will automatically renew at the end of such term (and at the end of any extension) for an additional 3-year term unless otherwise terminated. At December 31, 2018, the Company had a \$0.5 million liability associated with this one-time success bonus that has been recorded as a reduction to the associated collaboration revenue.

#### *Nenter Agreements*

In April 2016, the Company and Nenter & Co., Inc. (Nenter) entered into a renewable farnesene supply agreement (Nenter Supply Agreement) under which the Company agreed to supply farnesene and provide certain exclusive purchase rights, and Nenter committed to purchase minimum quantities and make quarterly royalty payments to the Company representing a portion of Nenter's profit on the sale of products produced using farnesene purchased under the agreement. The agreement expires December 31, 2020 and will automatically renew for an additional five years unless otherwise terminated. In December 2017, the Company assigned the Nenter Supply Agreement to DSM in connection with the Company's sale of its subsidiary Amyris Brasil Ltda., which owned and operated the Brotas, Brazil production facility; see Note 13, "Divestiture" and Note 11, "Related Party Transactions" for additional information.

#### *Licenses and Royalties*

##### *DSM Agreements*

##### *DSM July and September 2017 Collaboration and Licensing Agreements*

In July and September 2017, the Company entered into three separate collaboration agreements with DSM (DSM Collaboration Agreements) to jointly develop three new molecules in the Health & Wellness (DSM Ingredients) market using the Company's technology, which the Company would produce and DSM would commercialize. Pursuant to the DSM Collaboration Agreements, DSM will, subject to certain conditions, provide funding for the development of the DSM Ingredients and, upon commercialization, the parties would enter into supply agreements whereby DSM would purchase the applicable DSM Ingredients from the Company at prices agreed by the parties. The development services will be directed by a joint steering committee with equal representation by DSM and the Company. In addition, the parties will share profit margin from DSM's sales of products that incorporate the DSM Ingredients subject to the DSM Collaboration Agreements.

In connection with the entry into the DSM Collaboration Agreements, the Company and DSM also entered into certain license arrangements (DSM License Agreements) providing DSM with certain rights to use the technology underlying the development of the DSM Ingredients to produce and sell products incorporating the DSM Ingredients. Under the DSM License Agreements, DSM agreed to pay the Company \$9.0 million for a worldwide, exclusive, perpetual, royalty-free license to produce and sell products incorporating one of the DSM Ingredients in the Health & Wellness field.

As discussed in Note 7, “Stockholders’ Deficit”, the Company received \$34.0 million of fixed consideration resulting from the August 2017 DSM Offering and the DSM License Agreements, discussed above, and allocated this consideration to the various elements identified. The Company first allocated \$10.6 million to the August 2017 DSM Cash Warrants and DSM Dilution Warrants liabilities and \$15.6 million of the proceeds to the August 2017 DSM Series B Preferred Stock. The remaining proceeds in excess of the fair value the equity awards and warrants of \$7.8 million was available for recognition as revenue generated from the delivery of the intellectual property licenses to DSM.

In connection with the entry into the DSM Agreements, the Company and DSM entered into the DSM Credit Letter, pursuant to which the Company granted a credit to DSM in an aggregate amount of \$12.0 million to be offset against future collaboration payments (in an amount not to exceed \$6.0 million) and royalties receivable from DSM beginning in 2018. The \$7.8 million available for revenue recognition was reduced by an apportionment of the credit and allocated between delivered license revenue and future revenues associated with the collaboration agreements. This resulted in the recognition of \$3.3 million in licenses revenue under the DSM License Agreements and the remaining amount of \$4.5 million being recorded as deferred revenue. During the three months ended December 31, 2017, the Company and DSM terminated the DSM Credit Letter, eliminating the \$12.0 million credit from the DSM Collaboration Agreements. As a result of the cancellation of the Credit Letter, the \$4.5 million of deferred revenue was included as an element of consideration in the series of December 2017 DSM agreements described below, which were evaluated as a combined transaction for accounting purposes in conjunction with the sales of the Brotas 1 facility discussed more fully in Note 11, “Related Party Transactions” and Note 13, “Divestiture”.

#### *DSM Value Sharing Agreement*

In December 2017, in conjunction with the Company’s divestiture of its Brotas, Brazil production facility (see Note 13, “Divestiture” and Note 11, “Related Party Transactions”), the Company and DSM entered into a value sharing agreement (Value Sharing Agreement), pursuant to which DSM agreed to make certain royalty payments to the Company representing a portion of the profit on the sale of products produced using farnesene purchased under the Nenter Supply Agreement realized by Nenter and paid to DSM in accordance with the Nenter Supply Agreement. In addition, pursuant to the Value Sharing Agreement, DSM agreed to guarantee certain minimum annual royalty payments for the first three calendar years of the Value Sharing Agreement, subject to future offsets in the event that the royalty payments to which the Company would otherwise have been entitled under the Value Sharing Agreement for such years fall below certain milestones. The fair value of the nonrefundable minimum annual royalty payments were determined to be fixed and determinable, and were included as part of the total arrangement consideration subject to allocation of the overall multiple-element transaction that occurred in December 2017 with DSM. Under the Value Sharing Agreement, the Company is required to use certain royalty payments received by the Company with respect to the first three calendar years of the Value Sharing Agreement in excess of the guaranteed minimum annual royalty payments for such years, if any, to repay amounts outstanding under the DSM Credit Agreement; however, in 2018, the Company did not receive royalty payments in excess of the guaranteed minimum annual amount. See Note 5, “Debt”. The Value Sharing Agreement will expire in December 2027, subject to the right of each of the parties to terminate for uncured material breach by the other party or in the event the other party is subject to bankruptcy proceedings, liquidation, dissolution or similar proceedings or other specified events. During 2018, the Company and DSM amended the Value Sharing Agreement to (i) provide for the use of estimates in calculating quarterly royalty payments (subject to true-up), (ii) modify how the guaranteed minimum annual royalty payment for 2018 will be offset against value payments accruing during 2018 and (iii) accelerate the minimum annual royalty payment for 2019 from December 31, 2018 to June 30, 2018 in exchange for a fee of \$750,000. For the year ended December 31, 2018, the Company recognized \$7.9 million of revenue in connection with the DSM Value Sharing Agreement.

In April 2019, the Company assigned to DSM all the Company’s rights and obligations under the Value Sharing Agreement. See Note 16, “Subsequent Events” for additional information.

#### *DSM Performance Agreement*

In December 2017, in connection with the Company’s divestiture of its Brotas, Brazil production facility (see Note 13, “Divestiture”), the Company and DSM entered into a performance agreement

(Performance Agreement), pursuant to which the Company will provide certain research and development services to DSM relating to the development of the technology underlying the farnesene-related products to be manufactured at the Brotas facility in exchange for related funding, including certain bonus payments in the event that specific performance metrics are achieved. The Company will record the bonus payments as earned revenue upon the transfer of the developed technology to DSM. If the Company does not meet the established metrics under the Performance Agreement, the Company will be required to pay \$1.8 million to DSM. The Performance Agreement will expire in December 2020, subject to the right of each of the parties to terminate for uncured material breach by the other party or in the event the other party is subject to bankruptcy proceedings, liquidation, dissolution or similar proceedings or other specified events.

In April 2019, the Company and DSM amended the Performance Agreement. See Note 16, “Subsequent Events” for additional information.

#### *DSM November 2017 Intellectual Property License Agreement*

In November 2017, in connection with the Company’s divestiture of its Brotas, Brazil production facility (see Note 13, “Divestiture”), the Company and DSM entered into a license agreement covering certain intellectual property of the Company useful in the performance of certain commercial supply agreements assigned by the Company to DSM relating to products currently manufactured at the Brotas facility (DSM November 2017 Intellectual Property License Agreement). In December 2017, DSM paid the Company an upfront license fee of \$27.5 million. In accounting for the Divestiture with DSM, a multiple-element arrangement, the license of intellectual property to DSM was identified as revenue deliverable with standalone value and qualified as a separate unit of accounting. The Company performed an analysis to determine the fair value for of the license, and allocated the non-contingent consideration based on the relative fair value. The Company determined that the license had been fully delivered, and, as such, license revenue of \$54.6 million was recognized for the period ended December 31, 2017.

#### *DSM December 2017 Supply Agreement and November 2018 Supply Agreement Amendment*

On November 19, 2018, the Company and DSM entered into an amendment (Supply Agreement Amendment) to the supply agreement, dated December 28, 2017 (Supply Agreement), by and between the Company and DSM. Under the Supply Agreement, DSM agreed to manufacture and supply to the Company certain products useful in the Company’s business, at prices and on production and delivery terms and specifications set forth in the Supply Agreement, which prices are based upon DSM’s manufacturing cost plus an agreed margin. The Supply Agreement originally provided that it would expire (i) with respect to non-farnesene related products, on the date that the Company’s planned new specialty ingredients manufacturing facility in Brazil is fully operational and meets its production targets, but in any event no later than December 31, 2021 and (ii) with respect to farnesene related products, on December 28, 2037, subject in each case to earlier termination in certain circumstances. Pursuant to the Supply Agreement Amendment, (i) the outside expiration date of the Supply Agreement with respect to non-farnesene related products was extended to December 31, 2022, with specified pricing terms added for products manufactured during 2022, (ii) DSM committed to produce certain non-farnesene related products for the Company for two months of each calendar year during the term of the Supply Agreement and (iii) the Company agreed to (A) pay DSM a cash fee totaling \$15.5 million, payable in installments during 2018 and 2019, (B) issue 1,643,991 shares of the Company’s common stock to DSM, and (C) pay DSM a cash fee of \$7.3 million, payable on or before March 29, 2019, plus, if the closing price of the Common Stock on the trading day immediately preceding the date of such payment is less than \$4.41 per share, an amount equal to such deficiency multiplied by 1,643,991.

The Company also entered into other transactions with DSM in November 2018 which resulted in the Company (i) accounting for this series of transactions, including the Supply Agreement Amendment, and certain other transactions with DSM in 2018 as a combined arrangement, and (ii) determining and allocating the fair value to each element. See Note 11, “Related Party Transactions” for additional information.

In April 2019, the Company and DSM further amended the Supply Agreement. See Note 16, “Subsequent Events” for additional information.



### *DSM November 2018 Letter Agreement*

On November 19, 2018, the Company and DSM entered into a letter agreement (November 2018 DSM Letter Agreement), pursuant to which the Company agreed (i) to cause the removal of certain existing liens on intellectual property owned by the Company and licensed to DSM and (ii) if such liens were not removed prior to December 15, 2018, to issue to DSM shares of the Company's common stock with a value equal to \$5.0 million. On December 14, 2018, the Company entered into an amendment to the GACP Term Loan Facility to remove such lien, and the November 2018 DSM Letter Agreement was thereby terminated.

### *Ginkgo Agreements*

#### *Ginkgo Initial Strategic Partnership Agreement and Collaboration Agreement*

In June 2016, the Company entered into a collaboration agreement (Initial Ginkgo Agreement) with Ginkgo Bioworks, Inc. (Ginkgo), pursuant to which the Company licensed certain intellectual property to Ginkgo in exchange for a fee of \$20.0 million to be paid by Ginkgo to the Company in two installments, and a 10% royalty on net revenue, including without limitation net sales, royalties, fees and any other amounts received by Ginkgo related directly to the license. The Company received the first installment of \$15.0 million in July 2016, which the Company recognized as revenue in 2016. However, the Company did not receive the second installment of \$5.0 million, as the Company did not meet the milestone criteria for the receipt of such payment.

In September 2016, the Company and Ginkgo entered into a collaboration agreement (Ginkgo Collaboration Agreement) setting forth the terms of the Ginkgo Collaboration, under which the parties would collaborate to develop, manufacture and sell commercial products, and Ginkgo would pay royalties to the Company. The Ginkgo Collaboration Agreement provided that, subject to certain exceptions, all third-party contracts for the development of chemical small molecule compounds whose manufacture is enabled by the use of microbial strains and fermentation technologies that are entered into by the Company or Ginkgo during the term of the Ginkgo Collaboration Agreement would be subject to the Ginkgo Collaboration and the approval of the other party (not to be unreasonably withheld). Responsibility for the engineering and small-scale process development of the newly developed products would be allocated between the parties on a project-by-project basis, and the Company would be principally responsible for the commercial scale-up and production of such products, with each party generally bearing its own respective costs and expenses relating to the Ginkgo Collaboration, including capital expenditures.

Under the Ginkgo Collaboration Agreement, subject to certain exceptions, including excluded or refused products and cost savings initiatives, the profit on the sale of products subject to the Ginkgo Collaboration Agreement as well as cost-sharing, milestone and "value-creation" payments associated with the development and production of such products would be shared equally between the parties. The parties also agreed to provide each other with a license and other rights to certain intellectual property necessary to support the development and manufacture of the products under the Ginkgo Collaboration, and also to provide each other with access to certain other intellectual property useful in connection with the activities to be undertaken under the Ginkgo Collaboration Agreement, subject to certain carve-outs.

#### *Ginkgo Partnership Agreement*

In November 2017, the Company and Ginkgo entered into a partnership agreement (Ginkgo Partnership Agreement) to replace and supersede the Ginkgo Collaboration Agreement. Under the Ginkgo Partnership Agreement, the Company and Ginkgo agreed:

- to continue to collaborate on limited research and development;
- to provide each other licenses (with royalties) to specified intellectual property for limited purposes;
- for the Company to pay Ginkgo quarterly fees of \$0.8 million (Partnership Payments) for a total of \$12.7 million, beginning on December 31, 2018 and ending on September 30, 2022;
- to share profit margins from sales of a certain product to be developed under the Ginkgo Partnership Agreement on a 50/50 basis, subject to certain conditions, provided that net profits

will be payable to Ginkgo for any quarterly period to the extent that such net profits exceed the sum of (a) quarterly interest payments due under the November 2017 Ginkgo Note (see Note 5, “Debt”) and (b) Partnership Payments due in such quarter;

- for the Company to issue the \$12 million Ginkgo Note which effectively guarantees Ginkgo \$12 million minimum future royalties under the profit margin sharing provisions noted above; and
- for the Company to pay Ginkgo \$0.5 million in connection with certain fees previously owed to Ginkgo under the Ginkgo Collaboration Agreement.

The Ginkgo Partnership Agreement provides for an initial term of two years and will automatically renew for successive one-year terms thereafter unless otherwise terminated. The Company does not expect to recognize any future revenue under this arrangement.

The Company recorded the \$6.1 million present value of the \$12.7 million partnership payments as an other liability (see Note 3, “Balance Sheet Details”), with the remaining \$6.6 million recorded as a debt discount to be recognized as interest expense under the effective interest method over the five-year payment term. The Company also concluded the partnership payment obligation under the Ginkgo Partnership Agreement represents consideration payable to a former customer; and consequently, the present value of the partnership payments should be recorded as a reduction of cumulative revenue recognized to date from Ginkgo in the period the partnership agreement was executed. As a result, the Company recorded a \$6.1 million reduction in license revenues for the year ended December 31, 2017. The Company reached a similar conclusion regarding the \$12.0 million Ginkgo Note (see Note 5, “Debt” under the “Ginkgo Note” section for further discussion regarding the accounting treatment of the Ginkgo Note) and recorded an additional \$7.0 million reduction in license revenue for the year ended December 31, 2017 related to the present value of the Ginkgo Note. In total, the Company recorded a \$13.1 million reduction in licenses and royalties revenue and \$13.1 million in notes payable and other liabilities as of and for the year ended December 31, 2017 upon execution of the Ginkgo Partnership Agreement.

### ***Collaborations***

#### ***DARPA Technology Investment Agreement***

In September 2015, the Company entered into a technology investment agreement (TIA) with The Defense Advanced Research Projects Agency (DARPA), under which the Company, with the assistance of specialized subcontractors, is working to create new research and development tools and technologies for strain engineering and scale-up activities. The agreement is being funded by DARPA on a milestone basis. Under the TIA, the Company and its subcontractors could collectively receive DARPA funding of up to \$35.0 million over the program’s four year term if all of the program’s milestones are achieved. In conjunction with DARPA’s funding, the Company and its subcontractors are obligated to collectively contribute approximately \$15.5 million toward the program over its four year term (primarily by providing specified labor and/or purchasing certain equipment). For the DARPA agreement, the Company recognizes revenue using an output-based measure of progress of the milestones completed relative to remaining milestones, once acknowledged by DARPA.

#### ***Contract Assets and Liabilities***

When a contract results in revenue being recognized in excess of the amount the Company has invoiced or has the right to invoice to the customer, a contract asset is recognized. Contract assets are transferred to accounts receivable, net when the rights to the consideration become unconditional. Contract assets are presented as Unbilled Receivables on the consolidated balance sheets.

Contract liabilities consist of payments received from customers, or such consideration that is contractually due, in advance of providing the product or performing services such that control has not passed to the customer.

Trade receivables related to revenue from contracts with customers are included in accounts receivable on the consolidated balance sheets, net of the allowance for doubtful accounts. Trade receivables are recorded at the point of renewable product sale or in accordance with the contractual payment terms for

licenses and royalties, and grants and collaborative research and development services for the amount payable by the customer to the Company for sale of goods or the performance of services, and for which the Company has the unconditional right to receive payment.

*Contract Balances*

The following table provides information about accounts receivable and contract liabilities from contracts with customers:

December 31, (In thousands)	2018	2017
Accounts receivable, net . . . . .	\$16,003	\$18,953
Accounts receivable – related party, net . . . . .	\$ 1,349	\$ 4,767
Accounts receivable, unbilled – related party . . . . .	\$ 8,021	\$ 9,901
Contract liabilities <sup>(1)</sup> . . . . .	\$ 8,236	\$ 4,308
Contract liabilities, noncurrent <sup>(2)</sup> . . . . .	\$ 1,587	\$ —

(1) The balance in contract liabilities, current at December 31, 2017 represents deferred revenue, current prior to the Company’s adoption of ASC 606, “Revenue”.

(2) The balances in contract liabilities, noncurrent are included in other noncurrent liabilities on the consolidated balance sheets.

Unbilled receivables relate to the Company’s right to consideration from DSM for (i) minimum future royalties and (ii) a material right arising from a customer option for a future transfer of technology. The Company’s right to cash receipt for these minimum royalty amounts occurs on or before December 31, 2019, and the right to cash receipt for the customer option occurs on or before December 31, 2020.

Contract liabilities, current increased by \$3.9 million at December 31, 2018 resulting from a \$0.8 million increase upon adoption of ASC 606 on January 1, 2018 plus the net amount of collaboration and royalty revenues invoiced in excess of amounts recognized as revenue, less \$3.3 million of revenue recognized during the year ended December 31, 2018 that was included in deferred revenue at the beginning of the period.

*Remaining Performance Obligations*

The following table provides information regarding the estimated revenue expected to be recognized in the future related to performance obligations that are unsatisfied (or partially unsatisfied) based on the Company’s existing agreements with customers as of December 31, 2018.

(In thousands)	As of December 31, 2018
2019 . . . . .	\$14,131
2020 . . . . .	7,925
2021 . . . . .	—
2022 and thereafter . . . . .	—
Total from all customers . . . . .	<u>\$22,056</u>

In accordance with the disclosure provisions of ASC 606, the table above excludes estimated future revenues for performance obligations that are part of a contract that has an original expected duration of one year or less or a performance obligation with variable consideration that is recognized using the sales-based royalty exception for licenses of intellectual property. Additionally, \$21.4 million of estimated future revenue is excluded from the table above, as that amount represents constrained variable consideration.

**11. Related Party Transactions**

*Related Party Divestiture*

See Note 13, “Divestiture” for details regarding the sale of Amyris Brasil to DSM in December 2017.

### Related Party Equity

See Note 7, “Stockholders’ Deficit” for details of these related party equity transactions:

- November 2018 DSM Securities Purchase Agreement
- August 2018 Warrant Transactions
- August 2017 DSM Offering
- May 2017 Offerings
- May 2017 Exchange of Common Stock for Series C Convertible Preferred Stock
- July 2015 PIPE Warrants
- Temasek Funding Warrant

### Related Party Debt

See Note 5, “Debt” for details of these related party debt transactions:

- DSM Note (also see Note 13, “Divestiture”)
- February 2016 Private Placement
- 2014 Rule 144A Convertible Notes
- August 2013 Financing Convertible Notes
- R&D Note

Related party debt was as follows:

December 31, (in thousands)	2018			2017		
	Principal	Unamortized Debt (Discount) Premium	Net	Principal	Unamortized Debt (Discount) Premium	Net
Total						
2014 Rule 144A convertible notes . .	\$ 9,705	\$ (422)	\$ 9,283	\$ 9,705	\$ (1,538)	\$ 8,167
August 2013 financing convertible notes . . . . .	—	—	—	21,711	897	22,608
R&D note . . . . .	—	—	—	3,700	(18)	3,682
	<u>9,705</u>	<u>(422)</u>	<u>9,283</u>	<u>35,116</u>	<u>(659)</u>	<u>34,457</u>
DSM						
DSM note . . . . .	25,000	(6,311)	18,689	25,000	(8,039)	16,961
Other DSM loan . . . . .	—	—	—	393	—	393
	<u>25,000</u>	<u>(6,311)</u>	<u>18,689</u>	<u>25,393</u>	<u>(8,039)</u>	<u>17,354</u>
Biolding						
February 2016 private placement . . .	—	—	—	2,000	—	2,000
Foris						
2014 Rule 144A convertible notes . .	5,000	(181)	4,819	5,000	(660)	4,340
Temasek						
2014 Rule 144A convertible notes . .	<u>10,000</u>	<u>(435)</u>	<u>9,565</u>	<u>10,000</u>	<u>(1,591)</u>	<u>8,409</u>
	<u>\$49,705</u>	<u>\$(7,349)</u>	<u>\$42,356</u>	<u>\$77,509</u>	<u>\$(10,949)</u>	<u>\$66,560</u>

The fair value of the derivative liabilities related to the related party R&D Note, related party August 2013 Financing Convertible Notes (Tranche Notes) and related party 2014 Rule 144A Convertible Notes as of December 31, 2018 and 2017 was \$0 and \$0.2 million, respectively. The Company recognized (losses) gains from change in the fair value of these derivative liabilities of (\$8.5) million and \$0.6 million for the years ended December 31, 2018 and 2017, respectively; see Note 4, “Fair Value Measurement”.

At December 31, 2018, Temasek was no longer a related party. However, the Company and Temasek were related parties when they entered into the 2014 Rule 144A convertible notes transaction, for which terms have remained unchanged since the borrowing date.

#### *Related Party Revenue*

The Company recognized revenue from related parties and from all other customers as follows:

Years Ended December 31, (In thousands)	2018				2017 (As restated, Note 2)			
	Renewable Products	Licenses and Royalties	Grants and Collaborations	TOTAL	Renewable Products	Licenses and Royalties	Grants and Collaborations	TOTAL
Revenue from related parties:								
DSM . . . . .	\$ 18	\$5,958	\$ 4,735	\$10,711	\$ —	\$57,972	\$ 1,679	\$ 59,651
Total . . . . .	342	—	—	342	(200)	—	—	(200)
Novvi . . . . .	—	—	—	—	1,491	—	—	1,491
Subtotal revenue from related parties . .	360	5,958	4,735	11,053	1,291	57,972	1,679	60,942
Revenue from all other customers <sup>(1)</sup> . . .	33,238	1,700	17,613	52,551	41,079	(9,269)	34,919	66,729
Total revenue from all customers . . . . .	<u>\$33,598</u>	<u>\$7,658</u>	<u>\$22,348</u>	<u>\$63,604</u>	<u>\$42,370</u>	<u>\$48,703</u>	<u>\$36,598</u>	<u>\$127,671</u>

(1) Licenses and royalties revenue is negative for 2017 due to the \$13.1 million reversal of cumulative to date revenue as a result of entering into the 2017 Ginkgo Partnership Agreement. See Note 10. Revenue Recognition.

See Note 10, “Revenue Recognition” for details of the Company’s revenue agreements with DSM.

#### *Related Party Accounts Receivable*

Related party accounts receivable was as follows:

December 31, (In thousands)	2018	2017
DSM . . . . .	\$1,071	\$12,823
Novvi . . . . .	188	1,607
Total . . . . .	90	238
Related party accounts receivable, net . . . . .	<u>\$1,349</u>	<u>\$14,668</u>

In addition to the amounts shown above, there were the following amounts on the consolidated balance sheet at December 31, 2018:

- a total of \$8.0 million of unbilled receivables from DSM, in the lines captioned “Contract assets-related party” and “Contract assets, noncurrent-related party”; and
- \$4.3 million of contingent consideration receivable from DSM in the line captioned “Other assets”.

#### *Related Party Accounts Payable*

Amounts due to DSM that were included in Accounts payable and Accrued and other current liabilities at December 31, 2018 were \$2.1 million and \$0.6 million, respectively.

### Related Party DSM Transactions

The Company is party to the following significant agreements (and related amendments) with related party DSM:

Related to	Agreement	For Additional Information, See the Note Indicated
Debt	DSM Credit Agreement	5. Debt 10. Revenue Recognition
Debt	DSM Note	5. Debt
Debt	November 2018 DSM Letter Agreement	5. Debt
Divestiture	November 2017 Quota Purchase Agreement	13. Divestiture
Divestiture	December 2017 DSM Transition Services Agreement	13. Divestiture
Equity	May 2017 Offerings	7. Stockholders' Deficit
Equity	August 2017 DSM Offering	7. Stockholders' Deficit
Equity	November 2018 DSM Securities Purchase Agreement	7. Stockholders' Deficit
Revenue	July and September 2017 Collaboration and Licensing Agreements	10. Revenue Recognition
Revenue	December 2017 DSM Supply Agreement	10. Revenue Recognition
Revenue	December 2017 DSM Value Sharing Agreement, as amended	10. Revenue Recognition
Revenue	December 2017 DSM Performance Agreement	10. Revenue Recognition
Revenue	November 2017 Intellectual Property License Agreement	10. Revenue Recognition
Revenue	November 2018 Supply Agreement Amendment	10. Revenue Recognition

Concurrent with the sale of Amyris Brasil in December 2017, the Company and DSM entered into a series of commercial agreements including (i) a license agreement to DSM of its farnesene product for DSM to use in the Vitamin E and lubricant markets; (ii) a royalty agreement that DSM will pay the Company specified royalties representing a portion of the profit on the sale of Vitamin E produced from farnesene under the Nenter Supply Agreement assigned to DSM; (iii) a performance agreement, which provides an option for DSM to elect a technology transfer upon the achievement of certain development milestones associated with the optimization of farnesene strains; and (iv) a transition services agreement for the Company to provide finance, legal, logistics, and human resource services to support the Brotas facility under DSM ownership for a six-month period with a DSM option to extend for six additional months. At closing, DSM paid the Company a nonrefundable license fee of \$27.5 million and a nonrefundable royalty payment of \$15.0 million. In addition, in December 2017 the Company entered into a credit agreement with DSM under which the Company borrowed \$25 million; see Note 5, "Debt" for additional information.

In June 2018, DSM paid the Company a non-refundable minimum royalty payment of \$9.3 million (net of a \$0.7 million early payment discount) and will also owe the Company a final payment of \$8.1 million in 2019. The future nonrefundable minimum annual royalty payments were determined to be fixed and determinable with a fair value of \$17.8 million and were included as part of the total arrangement consideration subject to allocation of this overall multiple-element divestiture transaction.

In November 2018, the Company amended the supply agreement with DSM to secure capacity at the Brotas 1 facility for Reb M production thru 2022. See Note 10, "Revenue Recognition" for information regarding the November 2018 Supply Agreement Amendment and the November 2018 DSM Securities Purchase Agreement. The Company also entered into other transactions with DSM in November 2018 which resulted in the Company (i) evaluating this series of November 2018 transactions and considering other certain transactions with DSM in 2018 as a combined arrangement, and (ii) determining and allocating the fair value to each element. The other transactions entered into concurrently with the November 2018 Supply Agreement Amendment and November 2018 DSM Securities Purchase Agreement included an agreement to finalize the working capital adjustments related to the Brotas 1 facility sale in

December 2017 and an amendment to reduce the exercise price of the Cash Warrant issued to DSM in the August 2017 DSM Offering and to provide a waiver for any potential claims arising from failure to obtain consent prior to amending the exercise price of the August 2017 Vivo Cash Warrant in the August 2017 Warrant transaction.

The contractual consideration transferred to DSM under the combined arrangement was \$34.7 million. The Company performed an analysis to determine the fair value of the elements and allocated (i) \$24.4 million to the manufacturing capacity, (ii) \$6.8 million to the legal settlement and related consent waiver and (iii) \$2.1 million to the working capital adjustment. Of the \$24.4 million fair value allocated to the manufacturing capacity, \$3.3 million was recorded as deferred cost of revenue during the period ended December 31, 2018 and the remaining \$21.0 million will be recorded as deferred cost of revenue in the period the additional payments are due and payable to DSM. The deferred cost of revenue asset will be expensed on a units of production basis as products are sold over the five-year term of the supply agreement and evaluated for recoverability at each period end. The \$6.8 million of fair value allocated to the legal settlement and related consent waiver was recorded as legal settlement expense for the year ended December 31, 2018. The \$2.1 million of fair value allocated to the working capital adjustment was recorded as a loss on divestiture for the year ended December 31, 2018. The contractual consideration transferred to DSM exceeded the fair value of the elements received by \$1.4 million and this excess was recorded as a reduction of licenses and royalties revenues in the three months ended December 31, 2018.

#### *Related Party Joint Venture*

In December 2016, the Company, Nikko Chemicals Co., Ltd. an existing commercial partner of the Company, and Nippon Surfactant Industries Co., Ltd., an affiliate of Nikko (collectively, Nikko) entered into a joint venture (the Aprinova JV Agreement) pursuant to which the Company contributed certain assets, including certain intellectual property and other commercial assets relating to its business-to-business cosmetic ingredients business (the Aprinova JV Business), as well as its Leland production facility. The Company also agreed to provide the Aprinova JV with exclusive (to the extent not already granted to a third party), royalty-free licenses to certain of the Company's intellectual property necessary to make and sell products associated with the Aprinova JV Business (the Aprinova JV Products). Nikko purchased their 50% interest in the Aprinova JV in exchange for the following payments to the Company: (i) an initial payment of \$10.0 million and (ii) the profits, if any, distributed to Nikko in cash as members of the Aprinova JV during the three-year period from 2017 to 2019, up to a maximum of \$10.0 million.

The Aprinova JV operates in accordance with the Aprinova Operating Agreement under which the Aprinova JV is managed by a Board of Directors consisting of four directors: two appointed by the Company and two appointed by Nikko. In addition, Nikko has the right to designate the Chief Executive Officer of the Aprinova JV from among the directors and the Company has the right to designate the Chief Financial Officer. The Company determined that it has the power to direct the activities of the Aprinova JV that most significantly impact its economic performance because of its (i) significant control and ongoing involvement in operational decision making, (ii) guarantee of production costs for certain Aprinova JV products, as discussed below, and (iii) control over key supply agreements, operational and administrative personnel and other production inputs. The Company has concluded that the Aprinova JV is a variable-interest entity (VIE) under the provisions of ASC 810, Consolidation, and that the Company has a controlling financial interest and is the VIE's primary beneficiary. As a result, the Company accounts for its investment in the Aprinova JV on a consolidation basis in accordance with ASC 810.

Under the Aprinova Operating Agreement, profits from the operations of the Aprinova JV, if any, are distributed as follows: (i) first, to the Company and Nikko (the Members) in proportion to their respective unreturned capital contribution balances, until each Member's unreturned capital contribution balance equals zero and (ii) second, to the Members in proportion to their respective interests. In addition, any future capital contributions will be made by the Company and Nikko on an equal (50%/50%) basis each time, unless otherwise mutually agreed.

Pursuant to the Aprinova JV Agreement, the Company and Nikko agreed to make working capital loans to the Aprinova JV in the amounts of \$0.5 million and \$1.5 million, respectively, as described in more detail in Note 5, "Debt" under "Aprinova Working Capital Loans". In addition, the Company agreed to guarantee a maximum production cost for squalane and hemisqualane to be produced by the Aprinova JV and to bear any cost of production above such guaranteed costs.

In connection with the contribution of the Leland Facility by the Company to the Aprinnova JV, at the closing of the formation of the Aprinnova JV, Nikko made a loan to the Company in the principal amount of \$3.9 million, and the Company in consideration therefore issued a promissory note to Nikko in an equal principal amount, as described in more detail in Note 5, “Debt” under “Nikko Note.”

The following presents the carrying amounts of the Aprinnova JV’s assets and liabilities included in the accompanying consolidated balance sheets. Assets presented below are restricted for settlement of the Aprinnova JV’s obligations and all liabilities presented below can only be settled using the Aprinnova JV resources.

December 31, (In thousands)	2018	2017
Assets . . . . .	\$12,904	\$7,635
Liabilities . . . . .	\$ 2,364	\$3,187

The Aprinnova JV’s assets and liabilities are primarily comprised of inventory, property, plant and equipment, accounts payable and debt, which are classified in the same categories in the Company’s consolidated balance sheets.

There was no change in noncontrolling interest for the Aprinnova JV for the years ended December 31, 2018 and 2017, due to profit sharing provisions whereby the Company retains 100% of the profits from 2017 to 2020.

*Office Sublease*

The Company subleases certain office space to Novvi, for which the Company charged Novvi \$0.6 million and \$0.5 million for the years ended December 31, 2018 and 2017, respectively.

See Note 16, “Subsequent Events” for information regarding related party transactions subsequent to December 31, 2018.

**12. Stock-based Compensation**

*Stock-based Compensation Expense Related to All Plans*

Stock-based compensation expense related to all employee stock compensation plans, including options, restricted stock units and ESPP, was as follows:

Years Ended December 31, (In thousands)	2018	2017
Research and development . . . . .	\$1,797	\$2,204
Sales, general and administrative . . . . .	7,393	4,061
Total stock-based compensation expense . . . . .	<u>\$9,190</u>	<u>\$6,265</u>

*Plans*

*2010 Equity Incentive Plan*

The Company’s 2010 Equity Incentive Plan (2010 Equity Plan) became effective on September 27, 2010 and will terminate in 2020. The 2010 Equity Plan provides for the granting of common stock options, restricted stock awards, stock bonuses, stock appreciation rights, restricted stock units (RSUs) and performance awards. It allows for time-based or performance-based vesting for the awards. Options granted under the 2010 Equity Plan may be either incentive stock options (ISOs) or non-statutory stock options (NSOs). ISOs may be granted only to Company employees (including officers and directors who are also employees). NSOs may be granted to Company employees, non-employee directors and consultants. The Company will be able to issue no more than 2,000,000 shares pursuant to the grant of ISOs under the 2010 Equity Plan. Options under the 2010 Equity Plan may be granted for periods of up to ten years. All options issued to date have had a ten-year life. Under the plan, the exercise price of any ISOs and NSOs may not be



less than 100% of the fair market value of the shares on the date of grant. The exercise price of any ISOs and NSOs granted to a 10% stockholder may not be less than 110% of the fair value of the underlying stock on the date of grant. The options and RSUs granted to-date generally vest over three to five years.

As of December 31, 2018 and 2017, options were outstanding to purchase 5,339,214 and 1,255,045 shares, respectively, of the Company's common stock granted under the 2010 Equity Plan, with weighted-average exercise prices per share of \$33.40 and \$26.29, respectively. In addition, as of December 31, 2018 and 2017, restricted stock units representing the right to receive 5,294,803 and 683,554 shares, respectively, of the Company's common stock granted under the 2010 Equity Plan were outstanding. As of December 31, 2018 and 2017, 2,359,750 and 252,107 shares, respectively, of the Company's common stock remained available for future awards that may be granted under the 2010 Equity Plan.

The number of shares reserved for issuance under the 2010 Equity Plan increases automatically on January 1 of each year starting with January 1, 2011, by a number of shares equal to 5% of the Company's total outstanding shares as of the immediately preceding December 31. However, the Company's Board of Directors or the Leadership Development and Compensation Committee of the Board of Directors retains the discretion to reduce the amount of the increase in any particular year.

In May 2018, shareholders approved amendments to the 2010 Equity Plan to (i) increase the number of shares of common stock available for grant and issuance thereunder by 9.0 million shares and (ii) increase the annual per-participant award limit thereunder to 4.0 million shares. Subsequent to the amendments, the total number of shares available for grant was 9,280,000, not including the annual evergreen increases.

#### *2005 Stock Option/Stock Issuance Plan*

In 2005, the Company established its 2005 Stock Option/Stock Issuance Plan (2005 Plan) which provided for the granting of common stock options, restricted stock units, restricted stock and stock purchase rights awards to employees and consultants of the Company. The 2005 Plan allowed for time-based or performance-based vesting for the awards. Options granted under the 2005 Plan were ISOs or NSOs. ISOs were granted only to Company employees (including officers and directors who are also employees). NSOs were granted to Company employees, non-employee directors, and consultants.

All options issued under the 2005 Plan had a ten-year life. The exercise prices of ISOs and NSOs granted under the 2005 Plan were not less than 100% of the estimated fair value of the shares on the date of grant, as determined by the Board of Directors. The exercise price of an ISO and NSO granted to a 10% stockholder could not be less than 110% of the estimated fair value of the underlying stock on the date of grant as determined by the Board. The options generally vested over 5 years.

As of December 31, 2018 and 2017, options to purchase 52,389 and 79,322 shares, respectively, of the Company's common stock granted under the 2005 Plan remained outstanding, and as a result of the adoption of the 2010 Equity Plan discussed above, zero shares of the Company's common stock remained available for future awards issuance under the 2005 Plan. The options outstanding under the 2005 Plan as of December 31, 2018 and 2017 had a weighted-average exercise price per share of \$185.93 and \$144.58, respectively.

#### *2010 Employee Stock Purchase Plan*

The 2010 Employee Stock Purchase Plan (2010 ESPP) became effective on September 27, 2010. The 2010 ESPP is designed to enable eligible employees to purchase shares of the Company's common stock at a discount. Offering periods under the 2010 ESPP generally commence on each May 16 and November 16, with each offering period lasting for one year and consisting of two six-month purchase periods. The purchase price for shares of common stock under the 2010 ESPP is the lesser of 85% of the fair market value of the Company's common stock on the first day of the applicable offering period or the last day of each purchase period. During the life of the 2010 ESPP, the number of shares reserved for issuance increases automatically on January 1 of each year, starting with January 1, 2011, by a number of shares equal to 1% of the Company's total outstanding shares as of the immediately preceding December 31. However, the Company's Board of Directors or the Leadership Development and Compensation Committee of the Board of Directors retains the discretion to reduce the amount of the increase in any particular year. In May 2018, shareholders approved an amendment to the 2010 ESPP to increase the

maximum number of shares of common stock that may be issued over the term of the ESPP by 1 million shares. No more than 1,666,666 shares of the Company's common stock may be issued under the 2010 ESPP and no other shares may be added to this plan without the approval of the Company's stockholders.

*2018 CEO Performance-based Stock Options*

In May 2018, the Company granted its chief executive officer performance-based stock options (PSOs) to purchase 3,250,000 shares. PSOs are equity awards with the final number of PSOs that may vest determined based on the Company's performance against pre-established EBITDA milestones and Amyris stock price milestones. The EBITDA milestones are measured from the grant date through December 31, 2021, and the stock price milestones are measured from the grant date through December 31, 2022. The PSOs vest in four tranches contingent upon the achievement of both the EBITDA milestones and stock price milestones for each respective tranche, and the chief executive officer's continued employment with the Company. Over the measurement periods, the number of PSOs that may be issued and the related stock-based compensation expense that is recognized is adjusted upward or downward based upon the probability of achieving the EBITDA milestones. Depending on the probability of achieving the EBITDA milestones and stock price milestones and certification of achievement of those milestones for each vesting tranche by the Company's Board of Directors or Compensation Committee, the PSOs issued could be from zero to 3,250,000 stock options, with an exercise price of \$5.08 per share.

Stock-based compensation expense for this award is recognized using a graded-vesting approach over the service period beginning at the grant date through December 31, 2022, as the Company's management has determined that certain EBITDA milestones are probable of achievement over the next four years as of December 31, 2018. The Company utilized a Monte Carlo simulation to estimate the grant date fair value of each tranche of the award which totaled \$5.1 million. For the year ended December 31, 2018, the Company recognized \$0.7 million of compensation expense for this award. The assumptions used to estimate the fair value of this award with performance and market vesting conditions were as follows:

**Stock Option Award with Performance and Market Vesting Conditions:**

Fair value of the Company's common stock on grant date . . . . .	\$5.08
Expected volatility . . . . .	70%
Risk-free interest rate . . . . .	2.75%
Dividend yield . . . . .	0.0%

***Stock Option Activity***

Stock option activity is summarized as follows:

Year ended December 31,	2018	2017
Options granted . . . . .	4,337,119	661,094
Weighted-average grant-date fair value per share . . . . .	\$ 5.18	\$ 3.26
Compensation expense related to stock options (in millions) . . . . .	\$ 2.6	\$ 3.3
Unrecognized compensation costs as of December 31 (in millions) . . . . .	\$ 8.5	\$ 2.7

The Company expects to recognize the December 31, 2018 balance of unrecognized costs over a weighted-average period of 3.8 years. Future option grants will increase the amount of compensation expense to be recorded in these periods.

Stock-based compensation expense for stock options and employee stock purchase plan rights is estimated at the grant date and offering date, respectively, based on the fair-value using the Black-Scholes option pricing model. The fair value of employee stock options is amortized on a ratable basis over the requisite service period of the awards. The fair value of employee stock options and employee stock purchase plan rights was estimated using the following weighted-average assumptions:

Years Ended December 31,	2018	2017
Expected dividend yield . . . . .	—%	—%
Risk-free interest rate . . . . .	2.8%	2.1%
Expected term (in years) . . . . .	6.90	6.12
Expected volatility . . . . .	80%	84%

The expected life of options is based primarily on historical share option exercise experience of the employees for options granted by the Company. All options are treated as a single group in the determination of expected life, as the Company does not currently expect substantially different exercise or post-vesting termination behavior among the employee population. The risk-free interest rate is based on the U.S. Treasury yield for a term consistent with the expected life of the awards in effect at the time of grant. Expected volatility is based on the historical volatility of the Company's common stock. The Company has no history or expectation of paying dividends on common stock.

Stock-based compensation expense associated with options is based on awards ultimately expected to vest. At the time of an option grant, the Company estimates the expected future rate of forfeitures based on historical experience. These estimates are revised, if necessary, in subsequent periods if actual forfeiture rates differ from those estimates. If the actual forfeiture rate is lower than estimated the Company will record additional expense and if the actual forfeiture is higher than estimated the Company will record a recovery of prior expense.

The Company's stock option activity and related information for the year ended December 31, 2018 was as follows:

	Number of Stock Options	Weighted- average Exercise Price	Weighted- average Remaining Contractual Life (in years)	Aggregate Intrinsic Value (in thousands)
Outstanding – December 31, 2017 . . . . .	1,338,367	\$33.40	7.7	\$97
Options granted . . . . .	4,337,119	\$ 5.18		
Options exercised . . . . .	(70,807)	\$ 3.68		
Options forfeited or expired . . . . .	(214,409)	\$19.61		
Outstanding – December 31, 2018 . . . . .	5,390,270	\$11.55	8.5	\$29
Vested or expected to vest after December 31, 2018 . . . . .	4,833,615	\$12.28	8.4	\$28
Exercisable at December 31, 2018 . . . . .	972,229	\$39.73	5.8	\$12

The aggregate intrinsic value of options exercised under all option plans was \$0.2 million and \$0 for the years ended December 31, 2018 and 2017, respectively, determined as of the date of option exercise.

#### ***Restricted Stock Units Activity and Expense***

During the years ended December 31, 2018 and 2017, 5,452,664 and 523,167 RSUs, respectively, were granted with weighted-average service-inception date fair value per unit of \$5.36 and \$5.51, respectively. The Company recognized RSU-related stock-based compensation expense of \$6.4 million and \$2.8 million, respectively, for the years ended December 31, 2018 and 2017. As of December 31, 2018 and 2017, unrecognized RSU-related compensation costs totaled \$23.8 million and \$5.0 million, respectively.

Stock-based compensation expense for RSUs is measured based on the closing fair market value of the Company's common stock on the date of grant.

The Company's RSU and restricted stock activity and related information for the year ended December 31, 2018 was as follows:

	Number of Restricted Stock Units	Weighted- average Grant-date Fair Value	Weighted- average Remaining Contractual Life (in years)
Outstanding – December 31, 2017	683,554	\$8.66	1.4
Awarded	5,452,664	\$5.36	
Vested	(445,828)	\$8.43	
Forfeited	(395,587)	\$5.64	
Outstanding – December 31, 2018	<u>5,294,803</u>	\$5.50	1.7
Vested or expected to vest after December 31, 2018	<u>4,953,264</u>	\$5.50	1.6

### *ESPP Activity and Expense*

During the years ended December 31, 2018 and 2017, 246,230 and 47,058 shares, respectively, of the Company's common stock were purchased under the 2010 ESPP. At December 31, 2018 and 2017, 382,824 and 80,594 shares, respectively, of the Company's common stock remained reserved for issuance under the 2010 ESPP.

During the years ended December 31, 2018 and 2017, the Company also recognized ESPP-related stock-based compensation expense of \$0.2 million and \$0.1 million, respectively.

### **13. Divestiture**

On December 28, 2017, the Company completed the sale of its subsidiary Amyris Brasil Ltda. (Amyris Brasil), which operated the Company's production facility located in Brotas, Brazil, to DSM and concurrently entered into a series of commercial agreements and a credit agreement with DSM. At closing, the Company received \$33.0 million in contractual cash consideration for the capital stock of Amyris Brasil, which was subject to certain post-closing working capital adjustments; and reimbursements contingent upon DSM's utilization of certain Brazilian tax benefits it acquired with its purchase of Amyris Brasil. The Company used \$12.6 million of the cash proceeds received to repay certain indebtedness of Amyris Brasil. The total fair value of the contractual consideration received by the Company for Amyris Brasil was \$56.9 million and resulted in a pretax gain of \$5.7 million from continuing operations. In November 2018, the Company paid DSM \$1.8 million related to the final post-closing working capital adjustment. In connection with the payment, \$1.8 million was recorded as a loss on divestiture in the 2018 consolidated statement of operations, in the line captioned "(Loss) gain on divestiture".

Concurrent with the sale of Amyris Brasil, the Company and DSM entered into a series of commercial agreements including (i) a license agreement to DSM of its farnesene product for DSM to use in the Vitamin E and lubricant markets; (ii) a royalty agreement, pursuant to which DSM agreed to pay the Company specified royalties representing a portion of the profit on the sale of Vitamin E produced from farnesene sold under the Nenter Supply Agreement assigned to DSM; (iii) a performance agreement for the Company to perform research and development to optimize farnesene for production and sale of farnesene products; and (iv) a transition services agreement for the Company to provide finance, legal, logistics, and human resource services to support the Brotas facility under DSM ownership for a six-month period with a DSM option to extend for six additional months (see Note 10, "Revenue Recognition" and Note 16, "Subsequent Events" for additional information). At closing, DSM paid the Company a nonrefundable license fee of \$27.5 million and a nonrefundable royalty payment of \$15.0 million. DSM also paid the Company a nonrefundable minimum annual royalty payment in 2018 and will pay a nonrefundable minimum annual royalty payment in 2019. The future nonrefundable minimum annual royalty payments were determined to be fixed and determinable with a fair value of \$17.8 million and were included as part of the total arrangement consideration subject to allocation of this overall multiple-element divestiture transaction. See Note 10, "Revenue Recognition" and Note 11, "Related Party Transactions" for a full

listing and details of agreements entered into with DSM. Additionally, the Company and DSM entered into a \$25.0 million credit agreement that the Company used to repay all outstanding amounts under the Guanfu Note; see Note 5, “Debt” for additional information.

The Company accounted for the sale of Amyris Brasil as a sale of a business for proceeds of \$54.8 million. The agreements entered into concurrently with the sale of Amyris Brasil including the license agreement, royalty agreement, performance agreement, transition services agreement, and credit agreement contain various elements and, as such, are deemed to be an arrangement with multiple deliverables as defined under U.S. GAAP. The Company performed an analysis to determine the fair value for all elements in the agreements with DSM and separated the elements between the non-revenue and revenue elements. After allocating the total fair value of the non-revenue elements from the fixed and determinable consideration received, the Company allocated the remaining fixed and determinable consideration to the revenue elements based on relative fair value. As such, the Company recognized \$54.7 million of license revenue and \$2.1 million of deferred revenue related to the performance option and transition services agreements with DSM as of December 31, 2017.

Results from the operations of Amyris Brasil are included in the Company’s Consolidated Statements of Operations for 2017, and the Company has not segregated the results of operations or net assets of Amyris Brasil on the Company’s consolidated financial statements for any period presented. The disposition of the assets and liabilities of Amyris Brasil did not qualify for classification as a discontinued operation as it did not represent a strategic shift that will have a major effect on the Company’s operations and financial results.

#### 14. Income Taxes

The components of loss before income taxes are as follows:

Years Ended December 31, (In thousands)	2018	2017 (As Restated, Note 2)
United States . . . . .	\$(218,109)	\$(156,020)
Foreign . . . . .	(12,125)	6,915
Loss before income taxes . . . . .	<u>\$(230,234)</u>	<u>\$(149,105)</u>

The components of the provision for income taxes are as follows:

Years Ended December 31, (In thousands)	2018	2017 (As Restated, Note 2)
Current:		
Federal . . . . .	\$—	\$6,564
State . . . . .	—	18
Foreign . . . . .	—	964
Total current provision . . . . .	<u>—</u>	<u>7,546</u>
Deferred:		
Federal . . . . .	—	(669)
State . . . . .	—	—
Foreign . . . . .	—	—
Total deferred benefit . . . . .	<u>—</u>	<u>(669)</u>
Total provision for income taxes\$ . . . . .	<u>\$—</u>	<u>\$6,877</u>

A reconciliation between the statutory federal income tax and the Company's effective tax rates as a percentage of loss before income taxes is as follows:

Years Ended December 31,	2018	2017
		(As Restated, Note 2)
Statutory tax rate . . . . .	(21.0)%	(34.0)%
State taxes, net of federal tax benefit . . . . .	—%	—%
Stock-based compensation . . . . .	—%	—%
Federal R&D credit . . . . .	(0.6)%	(0.2)%
Derivative liability . . . . .	4.3%	13.9%
Nondeductible interest . . . . .	1.0%	3.0%
Other . . . . .	(0.1)%	(0.2)%
Foreign losses . . . . .	0.9%	8.5%
Change in U.S. federal tax rate . . . . .	—%	25.1%
IRC Section 382 limitation . . . . .	—%	7.2%
Change in valuation allowance . . . . .	15.5%	(18.6)%
Effective income tax rate . . . . .	<u>—%</u>	<u>4.7%</u>

Temporary differences and carryforwards that gave rise to significant portions of deferred taxes are as follows:

December 31, (In thousands)	2018	2017
		(As Restated, Note 2)
Net operating loss carryforwards . . . . .	\$ 57,921	\$ 20,066
Property, plant and equipment . . . . .	9,269	9,653
Research and development credits . . . . .	12,046	9,480
Foreign tax credit . . . . .	—	—
Accruals and reserves . . . . .	8,526	7,286
Stock-based compensation . . . . .	6,496	5,471
Disallowed interest carryforward . . . . .	2,359	—
Capitalized start-up costs . . . . .	—	—
Capitalized research and development costs . . . . .	27,888	32,085
Intangible and others . . . . .	3,114	3,584
Equity investments . . . . .	156	—
Total deferred tax assets . . . . .	<u>127,775</u>	<u>87,625</u>
Debt discount and derivatives . . . . .	(3,750)	(6,539)
Total deferred tax liabilities . . . . .	<u>(3,750)</u>	<u>(6,539)</u>
Net deferred tax assets prior to valuation allowance . . . . .	124,025	81,086
Less: valuation allowance . . . . .	(124,025)	(81,086)
Net deferred tax assets . . . . .	<u>\$ —</u>	<u>\$ —</u>

Activity in the deferred tax assets valuation allowance is summarized as follows:

(In thousands)	Balance at Beginning of Year	Additions	Reductions / Charges	Balance at End of Year
Deferred tax assets valuation allowance:				
Year Ended December 31, 2018 . . . . .	\$ 81,086	\$42,939	\$ —	\$124,025
Year Ended December 31, 2017 (As Restated, Note 2) . . . .	\$386,867	\$ —	\$(305,781)	\$ 81,086

Recognition of deferred tax assets is appropriate when realization of such assets is more likely than not. Based on the weight of available evidence, especially the uncertainties surrounding the realization of deferred tax assets through future taxable income, the Company believes that it is more likely than not that the net deferred tax assets will not be fully realizable. Accordingly, the Company has provided a full valuation allowance against its net deferred tax assets as of December 31, 2018 and 2017. The valuation allowance decreased by \$305.8 million during the year ended December 31, 2017 and increased by \$42.9 million during the year ended December 31, 2018. The valuation allowance decreased by \$305.8 million during the year ended December 31, 2017 due to the partial write-off of federal net operating loss (NOL) carryforwards due to the IRC Section 382 limitation further described below and due to tax reform that changed deferred tax asset rate from 35% down to 21%.

On December 22, 2017, the U.S. government enacted comprehensive tax legislation, commonly referred to as the Tax Cuts and Jobs Act (Tax Act). The Tax Act makes broad and complex changes to the U.S. tax code, including, but not limited to, (1) reducing the U.S. federal corporate tax rate from 35 percent to 21 percent; (2) requiring companies to pay a one-time transition tax on certain unrepatriated earnings of foreign subsidiaries; (3) generally eliminating U.S. federal income taxes on dividends from foreign subsidiaries; (4) requiring a current inclusion in U.S. federal taxable income of certain earnings of controlled foreign corporations; (5) eliminating the corporate alternative minimum tax (AMT) and changing how existing AMT credits can be realized; (6) creating the base erosion anti-abuse tax, a new minimum tax; (7) creating a new limitation on deductible interest expense; and (8) changing the rules related to uses and limitations of NOL carryforwards created in tax years beginning after December 31, 2017.

On December 22, 2017, Staff Accounting Bulletin No. 118 (SAB 118) was issued to address the application of GAAP in situations when a registrant does not have the necessary information available, prepared or analyzed (including computations) in reasonable detail to complete the accounting for certain income tax effects of the Tax Act. In accordance with SAB 118, the Company recorded a provisional amount related to the remeasurement of certain deferred tax assets and liabilities based on the rates at which they are expected to reverse in the future, which resulted in a \$37.7 million net decrease related to deferred tax assets and deferred tax liabilities, with a corresponding and fully offsetting adjustment to our valuation allowance for the year ended December 31, 2017. As of December 22, 2018, the Company completed its accounting for the remeasurement of certain deferred tax assets and liabilities based on the rates at which they are expected to reverse in the future. There have been no net benefit changes to the provisional estimates disclosed in the period of enactment under SAB 118. The Tax Act also created a new requirement that certain income (i.e., GILTI) earned by controlled foreign corporations (CFCs) must be included currently in the gross income of the CFCs' U.S. shareholder. The Company has elected to treat GILTI as a period cost in its income tax provision computations.

As of December 31, 2018, the Company had federal net operating loss carryforwards of approximately \$290.7 million and state net operating loss carryforwards \$154.3 million, available to reduce future taxable income, if any. The Internal Revenue Code of 1986, as amended, imposes restrictions on the utilization of net operating losses in the event of an "ownership change" of a corporation. Accordingly, a company's ability to use net operating losses may be limited as prescribed under Internal Revenue Code Section 382 (IRC Section 382). Events that may cause limitations in the amount of the net operating losses that the Company may use in any one year include, but are not limited to, a cumulative ownership change of more than 50% over a three-year period. During the year ended December 31, 2017, the Company experienced a cumulative ownership change of greater than 50%. As such, net operating losses generated prior to that change are subject to an annual limitation on their use. Due to the limitations imposed, the Company wrote-off \$452.1 million and \$92.9 million of federal NOL and state NOL carryovers that are expected to

expire before they can be utilized. Additionally, the Company wrote-off \$14.7 million of its historical federal research and development credit carryovers as a result of the limitations. As of December 31, 2018, the Company had foreign net operating loss carryovers of \$7.3 million.

As of December 31, 2018, the Company had federal research and development credit carryforwards of \$1.6 million and California research and development credit carryforwards of \$13.5 million.

If not utilized, the federal net operating loss carryforward will begin expiring in 2025, and the California net operating loss carryforward will begin expiring in 2028. The federal research and development credit carryforwards will expire starting in 2038 if not utilized. The California research and development credit carryforwards can be carried forward indefinitely.

A reconciliation of the beginning and ending amounts of unrecognized tax benefits is as follows:

<u>(In thousands)</u>	
Balance at December 31, 2016 . . . . .	\$ 9,101
Increases in tax positions for prior period . . . . .	50
Increases in tax positions during current period . . . . .	<u>19,682</u>
Balance at December 31, 2017 . . . . .	28,833
Increases in tax positions for prior period . . . . .	55
Increases in tax positions during current period . . . . .	<u>1,239</u>
Balance at December 31, 2018 . . . . .	<u>\$30,127</u>

The Company’s policy is to include interest and penalties related to unrecognized tax benefits within the provision for taxes. The Company determined that accrual for interest and penalties was not material as of December 31, 2018 or 2017.

None of the unrecognized tax benefits, if recognized, would affect the effective income tax rate for any of the above years due to the valuation allowance that currently offsets deferred tax assets. The Company does not anticipate that the total amount of unrecognized income tax benefits will significantly increase or decrease in the next 12 months.

The Company’s primary tax jurisdiction is the United States. For United States federal and state tax purposes, returns for tax years 2005 and forward remain open and subject to tax examination by the appropriate federal or state taxing authorities. Brazil tax years 2010 and forward remain open and subject to examination.

As of December 31, 2018, the U.S. Internal Revenue Service (the IRS) has completed its audit of the Company for tax year 2008 and concluded that there were no adjustments resulting from the audit. While the statutes are closed for tax year 2008, the U.S. federal tax carryforwards (net operating losses and tax credits) may be adjusted by the IRS in the year in which the carryforward is utilized.

**15. Geographical Information**

The chief operating decision maker is the Company’s Chief Executive Officer, who makes resource allocation decisions and assesses performance based on financial information presented on a consolidated basis. There are no segment managers who are held accountable by the chief operating decision maker, or anyone else, for operations, operating results, and planning for levels or components below the consolidated unit level. Accordingly, the Company has determined that it has a single reportable segment and operating segment structure.

*Revenue*

Revenue by geography, based on each customer’s location, is shown in Note 10, “Revenue Recognition”.



*Property, Plant and Equipment*

<b>December 31, (In thousands)</b>	<b>2018</b>	<b>2017</b>
		<b>(As Restated, Note 2)</b>
United States . . . . .	\$13,111	\$10,357
Brazil . . . . .	6,447	3,357
Europe . . . . .	198	178
	<u>\$19,756</u>	<u>\$13,892</u>

**16. Subsequent Events**

*Extension and Exchange of Tranche II Note*

On January 14, 2019, Wolverine Flagship Fund Trading Limited (Wolverine) agreed to waive payment of the Tranche II Note held by Wolverine (see Note 5, “Debt”) at maturity until July 15, 2019 in exchange for a fee, payable on or prior to July 15, 2019, of \$0.6 million. Effective July 15, 2019, the due date of the waiver fee was extended to October 13, 2019 and will bear interest at a rate of 1.75% per month, compounded, from July 16, 2019 to the date of payment.

*Evergreen Shares for 2010 Equity Incentive Plan and 2010 Employee Stock Purchase Plan*

In February 2019, the Company’s Board of Directors (the Board) approved increases to the number of shares available for issuance under the Company’s 2010 Equity Incentive Plan (the Equity Plan) and 2010 Employee Stock Purchase Plan (the Purchase Plan). These shares in connection with the Equity Plan represented an automatic annual increase in the number of shares available for grant and issuance under the Equity Plan of 3,828,241 shares. This increase is equal to approximately 5.0% of the 76,564,829 total outstanding shares of the Company’s common stock as of December 31, 2018. This automatic increase was effective as of January 1, 2019. These shares in connection with the Purchase Plan represented an automatic annual increase in the number of shares reserved for issuance under the Purchase Plan of 382,824 shares. This increase is equal to approximately 0.5% of the 76,564,829 total outstanding shares of the Company’s common stock as of December 31, 2018. This automatic increase was effective as of January 1, 2019.

*Cannabinoid Agreement*

On March 18, 2019, the Company entered into a \$300 million research, collaboration and license agreement (the Cannabinoid Agreement) with LAVVAN, Inc., a newly formed investment-backed company (Lavvan), for the development, manufacture and commercialization of cannabinoids. Under the agreement, the Company would perform research and development activities and Lavvan would be responsible for the commercialization of the cannabinoids developed under the agreement. The Cannabinoid Agreement is being principally funded on a milestone basis, with the Company also entitled to receive certain supplementary research and development funding from Lavvan. The Company could receive aggregate funding of up to \$300 million over the term of the Cannabinoid Agreement if all of the milestones are achieved. Additionally, the agreement provides for profit share to the Company on Lavvan’s gross profit margin once products are commercialized; these payments will be due for the next 20 years. The consummation of the transactions contemplated by the Cannabinoid Agreement is subject to certain conditions, including obtaining certain third party consents and releases and the repayment or refinancing of the 2014 Rule 144A Convertible Notes and the 2015 Rule 144A Convertible Notes (see Note 5, “Debt”). On May 2, 2019, the parties consummated the transactions contemplated by the Cannabinoid Agreement, including the formation of a special purpose entity to hold certain intellectual property created during the collaboration (the Cannabinoid Collaboration IP), the licensing of certain Company intellectual property to Lavvan, the licensing of the Cannabinoid Collaboration IP to the Company and Lavvan, and the granting by the Company to Lavvan of a lien on the Company background intellectual property being licensed to Lavvan under the Cannabinoid Agreement, which lien would be subordinated to the lien on such intellectual property under the GACP Term Loan Facility (see Note 5, “Debt”).

### *LSA Amendments, Assignment and Waivers*

On April 4, 2019, the Company and GACP amended the LSA (see Note 5, “Debt”) to (i) effective December 31, 2018, eliminate the conditions giving rise to the early maturity date, so that loans under the GACP Term Loan Facilities would have a maturity date of July 1, 2021, (ii) remove certain Company intellectual property related to the Cannabinoid Agreement from the lien granted by the Company to GACP under the LSA, (iii) eliminate the Company’s ability to obtain the Incremental GACP Term Loan Facility, (iv) eliminate the Company’s reinvestment rights with respect to mandatory prepayments upon asset sales, (v) restrict the Company’s ability to pay interest and principal on other indebtedness without the consent of GACP, and (vi) provide that the Company must have at all times at least \$15 million of unrestricted, unencumbered cash subject to a control agreement in favor of GACP.

On April 4, 2019, the Company and GACP entered into a waiver agreement, pursuant to which GACP agreed to waive breaches of certain covenants under the LSA occurring prior to, as of and after December 31, 2018 through April 8, 2019, including covenants related to quarterly minimum revenues, minimum liquidity amounts and a minimum asset coverage ratio. In connection with such waiver, the Company agreed to pay GACP fees of \$0.8 million.

On April 15, 2019, the Company, GACP and Foris Ventures, LLC (Foris, an entity affiliated with director John Doerr of Kleiner Perkins Caufield & Byers, a current stockholder, and an owner of greater than five percent of the Company’s outstanding common stock) entered into a Loan Purchase Agreement, pursuant to which Foris agreed to purchase and assume from GACP, and GACP agreed to sell and assign to Foris, the outstanding loans under the LSA and all documents and assets related thereto. In connection with such purchase and assignment, the Company agreed to repay Foris \$2.5 million of the purchase price paid by Foris to GACP (the Company LPA Obligation). The closing of the loan purchase and assignment occurred on April 16, 2019.

On August 14, 2019, the Company and Foris entered into an Amendment No 5 and Waiver to the LSA (the LSA Amendment and Waiver), pursuant to which (i) the maturity date of the loans under the LSA was extended from July 1, 2021 to July 1, 2022, (ii) the interest rate for the loans under the LSA was modified from the sum of (A) the greater of (x) the prime rate as reported in the Wall Street Journal or (y) 4.75% plus (B) 9% to the greater of (A) 12% or (B) the rate of interest payable with respect to any indebtedness of the Company, (iii) the amortization of the loans under the LSA was delayed until December 16, 2019, (iv) certain accrued and future interest and agency fee payments under the LSA were delayed until December 16, 2019, (v) certain covenants under the LSA, including related definitions, were amended to provide the Company with greater operational and financial flexibility, including, without limitation, to permit the incurrence of the indebtedness under the Naxyris Loan Facility (as described below) and the granting of liens with respect thereto, subject to the terms of an intercreditor agreement between Foris and Naxyris S.A. (Naxyris) governing the respective rights of the parties with respect to, among other things, the assets securing the Naxyris Loan Agreement and the LSA (the Intercreditor Agreement), (vi) certain outstanding unsecured promissory notes issued by the Company to Foris on April 8, 2019, June 11, 2019, July 10, 2019 and July 26, 2019 (as described below under “Foris Credit Agreements”), in an aggregate principal amount of \$32.5 million, as well as the Company LPA Obligation, were added to the loans under the LSA, made subject to the LSA and secured by the security interest in the collateral granted to Foris under the LSA, and such promissory notes and contractual obligation were cancelled in connection therewith, and (vii) Foris agreed to waive certain existing defaults under the LSA. After giving effect to the LSA Amendment and Waiver, there is \$71.0 million aggregate principal amount of loans outstanding under the LSA, including with respect to covenants related to quarterly minimum revenues, minimum liquidity amounts and a minimum asset coverage ratio. In connection with the entry into the LSA Amendment and Waiver, on August 14, 2019 the Company issued to Foris a warrant to purchase up to 1,438,829 shares of Common Stock at an exercise price of \$2.87 per share, with an exercise term of two years from issuance. Pursuant to the terms of the warrant, Foris may not exercise the Foris Warrant to the extent that, after giving effect to such exercise, Foris, together with its affiliates, would beneficially own in excess of 19.99% of the number of shares of common stock outstanding after giving effect to such exercise, unless the Company has obtained stockholder approval to exceed such limit in accordance with Nasdaq rules and regulations, which the Company intends to seek at its 2019 annual meeting of stockholders.

### *Foris Credit Agreements*

On April 8, 2019, the Company and Foris entered into an agreement to make available to the Company an unsecured credit facility in an aggregate principal amount of \$8.0 million, which the Company borrowed in full on April 8, 2019 and issued to Foris a promissory note in the principal amount of \$8.0 million (the April Foris Note). The April Foris Note has a maturity date of October 14, 2019. In connection with the entry into the April Foris Credit Agreement and the issuance of the April Foris Note, which has no stated interest rate, the Company agreed to pay Foris a fee of \$1.0 million, payable on or prior to the maturity date of the April Foris Note (the April Foris Note Fee); provided, that the April Foris Note Fee would be reduced to \$0.5 million if the Company repaid the April Foris Note in full by July 15, 2019. The April Foris Note is subordinated in right of payment to the Tranche II Note held by Wolverine (see Note 5, “Debt” and above in this Note 16, “Subsequent Events”).

On June 11, 2019, the Company and Foris entered into an agreement to make available to the Company an unsecured credit facility in an aggregate principal amount of \$8.5 million, which the Company borrowed in full on June 11, 2019 and issued to Foris a promissory note in the principal amount of \$8.5 million (the June Foris Note). The June Foris Note (i) accrues interest at a rate of 12.5% per annum from and including June 11, 2019, which interest is payable on the maturity date or the earlier repayment or other satisfaction of the June Foris Note, and (ii) matures on August 28, 2019; provided, that if the May 2017 Cash Warrant held by DSM and the August 2017 DSM Cash Warrant (see Note 7, “Stockholders’ Deficit”) are exercised, then the maturity date of the June Foris Note will be the business day immediately following such exercise.

On July 10, 2019, the Company and Foris entered into a credit agreement to make available to the Company an unsecured credit facility in an aggregate principal amount of \$16.0 million (the July Foris Credit Agreement), of which the Company borrowed \$8.0 million on July 10, 2019 and \$8.0 million on July 26, 2019 and issued to Foris promissory notes, each in the principal amount of \$8.0 million, on such dates (the July Foris Notes). The July Foris Notes (i) accrue interest at a rate of 12.5% per annum from and including the respective date of issuance, which interest is payable on the maturity date or the earlier repayment or other satisfaction of the applicable July Foris Note, and (ii) mature on December 31, 2019. In connection with the entry into the July Foris Credit Agreement, the Company and Foris amended the warrant issued to Foris on August 17, 2018 (see Note 7, “Stockholders’ Deficit”) to reduce the exercise price of such warrant from \$7.52 per share to \$2.87 per share.

The Company may at its option repay the amounts outstanding under the April Foris Note (including the April Foris Note Fee), the June Foris Note and the July Foris Notes before their respective maturity dates, in whole or in part, at a price equal to 100% of the amount being repaid plus, in the case of the June Foris Note and the July Foris Notes, accrued and unpaid interest on such amount to the date of repayment.

On August 14, 2019, the April Foris Note, the June Foris Note and the July Foris Notes were added to the loans under the LSA, made subject to the LSA and secured by the security interest in the collateral granted to Foris under the LSA, and such notes were cancelled in connection therewith. See above under “LSA Amendments, Assignment and Waivers” for additional information.

On August 28, 2019, the Company and Foris entered into a credit agreement to make available to the Company an unsecured credit facility in an aggregate principal amount of \$19.0 million (the August Foris Credit Agreement), which the Company borrowed in full on August 28, 2019 and issued to Foris a promissory note in the principal amount of \$19.0 million (the August Foris Note). The August Foris Note (i) accrues interest at a rate of 12% per annum from and including August 28, 2019, which interest is payable quarterly in arrears on each March 31, June 30, September 30 and December 31, beginning December 31, 2019, and (ii) matures on January 1, 2023. The Company may at its option repay the amounts outstanding under the August Foris Note before the maturity date, in whole or in part, at a price equal to 100% of the amount being repaid plus accrued and unpaid interest on such amount to the date of repayment.

In connection with the entry into the August Foris Credit Agreement, on August 28, 2019 the Company issued to Foris a warrant to purchase up to 4,871,795 shares of Common Stock at an exercise price of \$3.90 per share, with an exercise term of two years from issuance in a private placement pursuant to the exemption from registration under Section 4(a)(2) of the Securities Act of 1933, as amended (the

Securities Act), and Regulation D promulgated under the Securities Act. The exercise price of the warrant is subject to standard adjustments but does not contain any anti-dilution protection, and the warrants only permit “cashless” or “net” exercise after the six-month anniversary of issuance of the applicable warrant, and only to the extent that there is not an effective registration statement covering the resale of the shares of common stock underlying the applicable warrant. In addition, Foris may not exercise the warrant to the extent that, after giving effect to such exercise, Foris, together with its affiliates, would beneficially own in excess of 19.99% of the number of shares of common stock outstanding after giving effect to such exercise, unless the Company has obtained stockholder approval to exceed such limit in accordance with Nasdaq rules and regulations, which the Company intends to seek at its 2019 annual meeting of stockholders.

#### *Private Placements*

On April 16, 2019, the Company sold and issued to Foris 6,732,369 shares of common stock at a price of \$2.87 per share, as well as a warrant to purchase up to 5,424,804 shares of common stock at an exercise price of \$2.87 per share, with an exercise term of two years from issuance, in a private placement pursuant to the exemption from registration under Section 4(a)(2) of the Securities Act and Regulation D promulgated under the Securities Act, for aggregate cash proceeds to the Company of \$20.0 million (the Foris Investment). The Company used the proceeds from the Foris Investment to repay a portion of the 2015 Rule 144A Convertible Notes (see Note 5, “Debt”).

On April 26, 2019, the Company sold and issued (i) 2,832,440 shares of common stock at a price of \$5.12 per share, as well as a warrant to purchase up to 3,983,230 shares of common stock at an exercise price of \$5.12 per share, with an exercise term of two years from issuance, to Foris and (ii) an aggregate of 2,043,781 shares of common stock at a price of \$4.02 per share, as well as warrants to purchase up to an aggregate of 1,635,025 shares of common stock at an exercise price of \$5.02 per share, with an exercise term of two years from issuance, to certain other non-affiliated investors, in each case in private placements pursuant to the exemption from registration under Section 4(a)(2) of the Securities Act and Regulation D promulgated under the Securities Act, for aggregate cash proceeds to the Company of \$23.2 million. On August 28, 2019, in connection with the entry into the August Foris Credit Agreement (as described above under “Foris Credit Agreements”), the Company and Foris amended the warrant issued to Foris on April 26, 2019 to reduce the exercise price of such warrant from \$5.12 per share to \$3.90 per share.

On April 29, 2019, the Company sold and issued (i) 913,529 shares of common stock at a price of \$4.76 per share, as well as a warrant to purchase up to 1,212,787 shares of common stock at an exercise price of \$4.76 per share, with an exercise term of two years from issuance, to Vivo and (ii) an aggregate of 323,382 shares of common stock at a price of \$4.02 per share, as well as warrants to purchase up to an aggregate of 258,704 shares of common stock at an exercise price of \$5.02 per share, with an exercise term of two years from issuance, to certain other non-affiliated investors, in each case in private placements pursuant to the exemption from registration under Section 4(a)(2) of the Securities Act and Regulation D promulgated under the Securities Act, for aggregate cash proceeds to the Company of \$5.8 million.

On May 3, 2019, the Company sold and issued 1,243,781 shares of common stock at a price of \$4.02 per share, as well as a warrant to purchase up to 995,024 shares of common stock at an exercise price of \$5.02 per share, with an exercise term of two years from issuance, to a non-affiliated investor in a private placement pursuant to the exemption from registration under Section 4(a)(2) of the Securities Act and Regulation D promulgated under the Securities Act, for aggregate cash proceeds to the Company of \$5 million.

The exercise price of the warrants issued in the foregoing private placements is subject to standard adjustments but does not contain any anti-dilution protection, and the warrants only permit “cashless” or “net” exercise after the six-month anniversary of issuance of the applicable warrant, and only to the extent that there is not an effective registration statement covering the resale of the shares of common stock underlying the applicable warrant. In addition, in connection with the foregoing private placements, the Company agreed not to effect any exercise or conversion of any Company security, and the investors agreed not to exercise or convert any portion of any Company security, to the extent that after giving effect to such exercise or conversion, the applicable investor, together with its affiliates, would beneficially own in excess of 19.99% of the number of shares of common stock outstanding immediately after giving effect to such exercise or conversion, and the warrants contained a similar limitation. The Company intends to seek

stockholder approval for Foris to exceed such limitation in accordance with Nasdaq rules and regulations at its 2019 annual meeting of stockholders.

#### *DSM Agreements*

On April 16, 2019, the Company assigned to DSM, and DSM assumed, all of the Company's rights and obligations under the Value Sharing Agreement (see Note 10, "Revenue Recognition"), for aggregate consideration to the Company of \$57.0 million, \$29.1 million of which was paid to the Company in cash, with the remaining \$27.9 million being used to pay certain existing obligations of the Company to DSM, including certain obligations under the Supply Agreement Amendment (see Note 10, "Revenue Recognition"). The Company used a majority of the cash proceeds to repay a portion of the 2015 Rule 144A Convertible Notes (see Note 5, "Debt").

In addition, on April 16, 2019 the Company and DSM entered into amendments to the Supply Agreement and the Performance Agreement (see Note 10, "Revenue Recognition"), as well as the Quota Purchase Agreement relating to the December 2017 sale of Amyris Brasil to DSM (see Note 13, "Divestiture" and Note 11, "Related Party Transactions"), pursuant to which (i) DSM agreed to reduce certain manufacturing costs and fees paid by the Company related to the production of farnesene under the Supply Agreement through 2021, as well as remove the priority of certain customers over the Company with respect to production capacity at the Brotas, Brazil facility, (ii) the Company agreed to provide DSM rights to conduct certain process and downstream recovery improvements under the Performance Agreement at facilities other than the Brotas, Brazil facility in exchange for DSM providing the Company with a license to such improvements and (iii) the Company released DSM from its obligation to provide manufacturing and support services under the Quota Purchase Agreement in connection with the Company's planned new manufacturing facility, which is no longer planned to be located at the Brotas, Brazil location.

On September 17, 2019, the Company and DSM entered into a credit agreement (the "2019 DSM Credit Agreement") to make available to the Company a secured credit facility in an aggregate principal amount of \$8.0 million, to be issued in separate installments of \$3.0 million, \$3.0 million and \$2.0 million, respectively, with each installment being subject to certain closing conditions, including the payment of certain existing obligations of the Company to DSM. On September 17, 2019, the Company borrowed the first installment of \$3.0 million under the 2019 DSM Credit Agreement, all of which proceeds were used to pay certain existing obligations of the Company to DSM, and issued to DSM a promissory note in the principal amount of \$3.0 million. On September 19, 2019, the Company borrowed the second installment of \$3.0 million under the 2019 DSM Credit Agreement, all of which proceeds were used to pay certain existing obligations of the Company to DSM, and issued to DSM a promissory note in the principal amount of \$3.0 million. On September 23, 2019, the Company borrowed the final installment of \$2.0 million under the 2019 DSM Credit Agreement, \$1.5 million of which proceeds were used to pay certain existing obligations of the Company to DSM, and issued to DSM a promissory note in the principal amount of \$2.0 million. The promissory notes issued under the 2019 DSM Credit Agreement (i) mature on August 7, 2022, (ii) accrue interest at a rate of 12.5% per annum from and including the applicable date of issuance, which interest is payable quarterly in arrears on each January 1, April 1, July 1 and October 1, beginning January 1, 2020, and (iii) are secured by a first-priority lien on certain Company intellectual property licensed to DSM. The Company may at its option repay the amounts outstanding under the 2019 DSM Credit Agreement before the maturity date, in whole or in part, at a price equal to 100% of the amount being repaid plus accrued and unpaid interest on such amount to the date of repayment. In addition, the Company is required to repay the amounts outstanding under the 2019 DSM Credit Agreement (i) in an amount equal to the gross cash proceeds, if any, received by the Company upon the exercise by DSM of any of the common stock purchase warrants issued by the Company to DSM on May 11, 2017 or August 7, 2017 (see Note 7, "Stockholders' Deficit") and (ii) in full upon the request of DSM at any time following the receipt by the Company of at least \$50.0 million of gross cash proceeds from one or more sales of equity securities of the Company on or prior to June 30, 2020.

#### *Raizen Joint Venture Agreement*

On May 10, 2019, the Company and Raizen Energia S.A. (Raizen) entered into an agreement relating to the formation and operation of a joint venture relating to the production, sale and commercialization of

alternative sweetener products. In connection with the formation of the joint venture, among other things, (i) the joint venture will construct a manufacturing facility on land owned by Raizen and leased to the joint venture (the Sweetener Plant), (ii) the Company will grant to the joint venture an exclusive, royalty-free, worldwide, license to certain technology owned by the Company relevant to the joint venture's business, and (iii) the Company and Raizen will enter into a shareholders agreement setting forth the rights and obligations of the parties with respect to, and the management of, the joint venture. The formation of the joint venture is subject to certain conditions, including certain regulatory approvals and the achievement of certain technological and economic milestones relating to the Company's existing production of its alternative sweetener product. If such conditions are not satisfied by December 31, 2019, the joint venture will automatically terminate. In addition, notwithstanding the satisfaction of the closing conditions, Raizen may elect not to consummate the formation and operation of the joint venture, in which event, the Company will retain the right to construct and operate the Sweetener Plant.

Upon the closing of the joint venture, each party will make an initial capital contribution to the joint venture of 2,500,000 Brazilian Real (R\$2,500,000) and the joint venture will be owned 50% by the Company and 50% by Raizen. Within 60 days of the formation, the parties will make an aggregate cash contribution to the joint venture of U.S.\$9,000,000 to purchase certain fixed assets currently owned by the Company and located at the site of the Company's former joint venture with Sao Martinho S.A. in Pradopolis, Brazil for U.S.\$3,000,000. In addition, within six months of the formation, the Company will contribute to the joint venture its existing supply agreements related to its alternative sweetener product, subject to certain exceptions, in exchange for shares of dividend-bearing preferred stock in the joint venture, which will be entitled, for a period of 10 years commencing from the initial date of operation of the Sweetener Plant, to certain priority fixed cumulative dividends including, in the event that certain technological and economic milestones are met in any fiscal quarter, a percentage of the operating cash flow of the joint venture in such quarter.

After the formation of the joint venture, the parties will not conduct activities similar or identical to the joint venture. In the event that certain technological and economic milestones are not met in any fiscal year beginning with the third fiscal year after formation of the joint venture and ending with the seventh fiscal year after formation of the joint venture, Raizen shall have the right to sell all of its shares in the joint venture to the Company at a price per share equal to the higher of the book value and the amount of Raizen's investments in the joint venture, as adjusted for Raizen's cost of capital.

#### *2014 Rule 144A Convertible Notes Exchanges*

On May 10, 2019, the Company exchanged \$13.5 million aggregate principal amount of the 2014 Rule 144A Convertible Notes (see Note 5, "Debt") held by certain non-affiliated investors, including accrued and unpaid interest thereon up to, but excluding, May 15, 2019, for an aggregate of 3,479,008 shares of common stock and warrants to purchase an aggregate of 1,391,603 shares of common stock at an exercise price of \$5.02 per share, with an exercise term of two years from issuance, in a private exchange pursuant to the exemption from registration under Section 3(a)(9) of the Securities Act.

On May 14, 2019, the Company exchanged \$5.0 million aggregate principal amount of the 2014 Rule 144A Convertible Notes held by Foris, including accrued and unpaid interest thereon up to, but excluding, May 15, 2019, for 1,122,460 shares of common stock and a warrant to purchase up to 352,638 shares of common stock at an exercise price of \$4.56 per share, with an exercise term of two years from issuance, in a private exchange pursuant to the exemption from registration under Section 3(a)(9) of the Securities Act. On August 28, 2019, in connection with the entry into the August Foris Credit Agreement (as described above under "Foris Credit Agreements"), the Company and Foris amended the warrant issued to Foris on May 14, 2019 to reduce the exercise price of such warrant from \$4.56 per share to \$3.90 per share.

On May 15, 2019, the Company exchanged \$10.0 million aggregate principal amount of the 2014 Rule 144A Convertible Notes held by Maxwell (Mauritius) Pte Ltd for 2,500,000 shares of common stock in a private exchange pursuant to the exemption from registration under Section 3(a)(9) of the Securities Act.

On May 15, 2019, the Company exchanged \$9.7 million aggregate principal amount of the 2014 Rule 144A Convertible Notes held by Total for a new senior convertible note with an equal principal

amount and with substantially identical terms, except that the new note had a maturity date of June 14, 2019, in a private exchange pursuant to the exemption from registration under Section 3(a)(9) of the Securities Act. Effective June 14, 2019, the Company and Total agreed to extend the maturity date of the new note from June 14, 2019 to July 18, 2019. Effective July 18, 2019, the Company and Total agreed to (i) further extend the maturity date of the new note from July 18, 2019 to August 28, 2019 and (ii) increase the interest rate on the new note to 10.5% per annum, beginning July 18, 2019. Effective August 28, 2019, the Company and Total agreed to (i) further extend the maturity date of the new note from August 28, 2019 to October 28, 2019 and (ii) increase the interest rate on the new note to 12% per annum, beginning August 28, 2019.

The exercise price of the warrants issued in the foregoing exchanges is subject to standard adjustments but does not contain any anti-dilution protection, and the warrants only permit “cashless” or “net” exercise after the six-month anniversary of the exercisability of the applicable warrant, and only to the extent that there is not an effective registration statement covering the resale of the shares of common stock underlying the applicable warrant. In addition, (i) the exercisability of the warrant issued to Foris is subject to stockholder approval in accordance with Nasdaq rules and regulations, which the Company intends to seek at its 2019 annual meeting of stockholders, and (ii) each other warrant provides that the Company may not effect any exercise of such warrant to the extent that, after giving effect to such exercise, the applicable holder, together with its affiliates, would beneficially own in excess of 4.99% of the number of shares of common stock outstanding after giving effect to such exercise.

#### *6% Convertible Notes due 2021 Exchanges*

On May 15, 2019 and June 24, 2019, the Company exchanged \$53.3 million and \$4.7 million principal amount, respectively, of the 6% Convertible Notes due 2021 (see Note 5, “Debt”), including accrued and unpaid interest thereon, representing all then-outstanding 6% Convertible Notes due 2021, for new senior convertible notes with an equal principal amount and warrants to purchase up to 2,000,000 and 181,818 shares of common stock, respectively, at an exercise price of \$5.12 per share, with an exercise term of two years from issuance, in private exchanges pursuant to the exemption from registration under Section 3(a)(9) of the Securities Act. The new notes have substantially identical terms as the 6% Convertible Notes due 2021 being exchanged, except that (i) the holders agreed to waive, until July 22, 2019, certain covenants relating to the effectiveness of the registration statement covering the shares of common stock issuable upon conversion of, or otherwise pursuant to, the new notes and the filing by the Company of reports with the SEC and (ii) during the period from July 22, 2019 to July 29, 2019, inclusive, the holders have the right to require the Company to redeem the new notes, in whole or in part, at a price equal to 125% of the principal amount being redeemed. The exercise price of the warrants is subject to standard adjustments but does not contain any anti-dilution protection, and the warrants only permit “cashless” or “net” exercise after the six-month anniversary of issuance, and only to the extent that there is not an effective registration statement covering the resale of the shares of common stock underlying the applicable warrant. In addition, the holders may not exercise the warrants, and the Company may not effect any exercise of the warrants, to the extent that, after giving effect to such exercise, the applicable holder, together with its affiliates, would beneficially own in excess of 4.99% of the number of shares of common stock outstanding after giving effect to such exercise.

On July 26, 2019, one of the holders of the senior convertibles notes issued in exchange for the 6% Convertible Notes due 2021, holding a senior convertible note in the principal amount of \$4.7 million, exercised its right to require the Company to redeem such note in whole at a price equal to 125% of the principal amount being redeemed, plus accrued and unpaid interest on such note to the date of repayment. Redemption of such note was initially due on July 30, 2019 and subsequently extended to August 30, 2019. The Company redeemed such note in full on August 30, 2019.

On July 24, 2019, Company further exchanged \$53.3 million principal amount of the previously-exchanged 6% Convertible Senior Notes due 2021 as well as the warrant to purchase up to 2,000,000 shares of common stock issued on May 15, 2019, for a new senior convertible note with a principal amount of \$68.3 million (the Second Exchange Note) and a new warrant to purchase up to 2,000,000 shares of common stock at an exercise price of \$2.87 per share, with an exercise term of two years from May 15, 2019 (the Second Exchange Warrant) in a private exchange pursuant to the

exemption from registration under Section 3(a)(9) of the Securities Act. The Second Exchange Note and Second Exchange Warrant have substantially similar terms as the note and warrant, respectively, issued on May 15, 2019, except that (i) the principal amount of the Second Exchange Note would be \$68.3 million, reflecting accrued and unpaid interest and late charges under the exchanged note and a 25% premium accruing as a result of the Company's failure to make an installment payment on the exchanged note due July 1, 2019 in the amount of \$6.4 million, provided that upon an event of default under the Second Exchange Note, the Company would not be required to redeem the Second Exchange Note in cash at a price greater than the intrinsic value of the shares of common stock underlying the Second Exchange Note, (ii) the Second Exchange Note bears interest at a rate of 18% per annum, (iii) the holder agreed to extend its waiver of certain covenant breaches relating to the failure by the Company to timely file periodic reports with the SEC from July 22, 2019 to September 16, 2019, (iv) the first installment date under the Second Exchange Note will occur on October 1, 2019, (v) the Company is required to (A) make principal payments on the Second Exchange Note in the amount of \$3.2 million on each of August 2, 2019 and August 22, 2019, and (B) pay all remaining amounts then outstanding under the Second Exchange Note on September 16, 2019, and if the Company fails to make any such payment on the applicable payment date, the conversion price of the Second Exchange Note will be reset to the volume-weighted average price of the common stock on the trading day immediately following the Company's filing of a Current Report on Form 8-K with respect to its failure to make the payment due on September 16, 2019, if such volume-weighted average price is lower than the conversion price of the Second Exchange Note then in effect, subject to a price floor and (vi) the Second Exchange Warrant has an exercise price of \$2.87 per share.

On September 16, 2019, the Company failed to pay an aggregate of \$63.6 million of outstanding principal and accrued interest on the Second Exchange Note when due. The failure resulted in an event of default under the Second Exchange Note and also triggered cross-defaults under other debt instruments of the Company which permitted the holders of such indebtedness to accelerate the amounts owing under such instruments. The Company subsequently received waivers from substantially all holders of such other debt instruments to waive the right to accelerate. As a result, the indebtedness with respect to which the Company has obtained such waivers continues to be classified as long-term on the Company's balance sheet. The indebtedness reflected by the Second Exchange Note continues to be classified as a current liability on the Company's balance sheet. In addition, as a result of the payment default, the conversion price of the Second Exchange Note is subject to adjustment in accordance with the terms of the Second Exchange Note.

The Company does not currently have sufficient funds to repay the amounts outstanding under the Second Exchange Note. To date, negotiations with the holder of the Second Exchange Note have not been successful, and there can be no assurance that a favorable outcome for the Company will be reached. The Company has executed a term sheet with an existing investor for a term loan, the proceeds of which would be used to repay a portion of the Second Exchange Note. However, there can be no assurance that the Company will be able to obtain such financing on its expected timeline, or on acceptable terms, if at all. Even if the Company does obtain such financing, it will not have sufficient funds to repay the Second Exchange Note in full without obtaining additional financing, which the Company is attempting to source.

The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

#### *Exchange of August 2013 Financing Convertible Note*

On July 8, 2019, the August 2013 Financing Convertible Note held by Wolverine (see Note 4, "Debt") was exchanged for 1,767,632 shares of common stock and a warrant to purchase 1,080,000 shares of common stock in a private exchange pursuant to the exemption from registration under Section 3(a)(9) of the Securities Act. The exercise price of the warrant is subject to standard adjustments but does not contain any anti-dilution protection, and the warrant only permits "cashless" or "net" exercise after the six-month anniversary of issuance, and only to the extent that there is not an effective registration statement covering the resale of the shares of common stock underlying the warrant. In addition, Wolverine may not exercise the warrant to the extent that, after giving effect to such exercise, Wolverine, together with its affiliates, would beneficially own in excess of 4.99% of the number of shares of common stock outstanding after giving effect to such exercise.



### *Nikko Loan Agreement*

On July 29, 2019, the Company and Nikko Chemicals Co., Ltd. (Nikko) entered into a loan agreement (the Nikko Loan Agreement) to make available to the Company secured loans in an aggregate principal amount of \$5.0 million, to be issued in separate installments of \$3.0 million and \$2.0 million, respectively, with each installment being subject to certain closing conditions, including the entry into certain commercial agreements and other arrangements relating to the Aprinova JV (see Note 11, “Related Party Transactions”). On July 30, 2019, the Company borrowed the first installment of \$3.0 million under the Nikko Loan Agreement and received net cash proceeds of \$2.8 million, with the remaining \$0.2 million being withheld by Nikko as prepayment of the interest payable on such loan through the maturity date. On August 8, 2019, the Company borrowed the remaining \$2.0 million available under the Nikko Loan Agreement and received net cash proceeds of \$1.9 million, with the remaining \$0.1 million being withheld by Nikko as prepayment of the interest payable on such loan through the maturity date. The loans (i) mature on December 18, 2020, (ii) accrue interest at a rate of 5% per annum from and including the applicable loan date through the maturity date, which interest is required to be prepaid in full on the date of the applicable loan, and (iii) are secured by a first-priority lien on 12.8% of the Aprinova JV interests owned by the Company.

### *Aprinova Working Capital Loan*

Effective July 31, 2019, the Company and Nikko agreed to extend the term of the Second Aprinova Note (see Note 5, “Debt”) from August 1, 2019 to August 1, 2020.

### *Naxyris Loan and Security Agreement*

On August 14, 2019, the Company, certain of the Company’s subsidiaries (the Subsidiary Guarantors) and, as lender, Naxyris, an existing stockholder of the Company and an investment vehicle owned by Naxos Capital Partners SCA Sicar, which is affiliated with NAXOS S.A.R.L. (Switzerland), for which director Carole Piwnica serves as director, entered into a Loan and Security Agreement (the Naxyris Loan Agreement) to make available to the Company a secured term loan facility in an aggregate principal amount of up to \$10,435,000 (the Naxyris Loan Facility), which the Company borrowed in full on August 14, 2019.

Loans under the Naxyris Loan Facility have a maturity date of July 1, 2022 and accrue interest at a rate per annum equal to the greater of (i) 12% or (ii) the rate of interest payable with respect to any indebtedness of the Company plus 25 basis points, which interest will be payable monthly in arrears, provided that all interest accruing from and after August 14, 2019 through December 1, 2019 shall be due and payable on December 15, 2019.

The obligations of the Company under the Naxyris Loan Facility are (i) guaranteed by the Subsidiary Guarantors and (ii) secured by a perfected security interest in substantially all of the assets of the Company and the Subsidiary Guarantors (the Collateral), junior in payment priority to Foris Ventures subject to certain limitations and exceptions, as well as the terms of the Intercreditor Agreement (as defined above).

Mandatory prepayments of the outstanding amounts under the Naxyris Loan Facility will be required upon the occurrence of certain events, including asset sales, a change in control, and the incurrence of additional indebtedness, subject to certain exceptions and reinvestment rights. Outstanding amounts under the Naxyris Loan Facility must also be prepaid to the extent that the borrowing base exceeds the outstanding principal amount of the loans under the Naxyris Loan Facility. In addition, the Company may at its option prepay the outstanding principal amount of the loans under the Naxyris Loan Facility in full before the maturity date. Any prepayment of the loans under the Naxyris Loan Facility prior to the maturity date, whether pursuant to a mandatory or optional prepayment, is subject to a prepayment charge equal to one year’s interest at the then-current interest rate for the Naxyris Loan Facility. Upon the repayment of the loans under the Naxyris loan facility, whether on the maturity date or earlier pursuant to an optional or mandatory prepayment, the Company will pay Naxyris an end of term fee. In addition, (i) the Company will be required to pay a fee equal to 6% of any amount the Company fails to pay within three business days of its due date and (ii) any interest that is not paid when due will be added to principal and will bear compound interest at the applicable rate.

The affirmative and negative covenants in the Naxyris Loan Agreement relate to, among other items: (i) payment of taxes; (ii) financial reporting; (iii) maintenance of insurance; and (iv) limitations on indebtedness, liens, mergers, consolidations and acquisitions, transfers of assets, dividends and other distributions in respect of capital stock, investments, loans and advances, and corporate changes. The Naxyris Loan Agreement also contains financial covenants, including covenants related to minimum revenue, liquidity, and asset coverage.

#### *September 2019 Credit Agreements*

On September 10, 2019, the Company entered into separate credit agreements (the “Investor Credit Agreements”) with each of Schottenfeld Opportunities Fund II, L.P., Phase Five Partners, LP and Koyote Trading, LLC (the “Investors”) to make available to the Company unsecured credit facilities in an aggregate principal amount of \$12.5 million, which the Company borrowed in full on September 10, 2019 and issued to the Investors separate promissory notes in the aggregate principal amount of \$12.5 million (the “Investor Notes”). Each Investor Note (i) accrues interest at a rate of 12% per annum from and including September 10, 2019, which interest is payable quarterly in arrears on each March 31, June 30, September 30 and December 31, beginning December 31, 2019, and (ii) matures on January 1, 2023. The Company may at its option repay the amounts outstanding under the Investor Notes before the maturity date, in whole or in part, at a price equal to 100% of the amount being repaid plus accrued and unpaid interest on such amount to the date of repayment.

In connection with the entry into the Investor Credit Agreements, on September 10, 2019, the Company issued to the Investors warrants to purchase up to an aggregate of 3,205,128 shares of Common Stock at an exercise price of \$3.90 per share, with an exercise term of two years from issuance in a private placement pursuant to the exemption from registration under Section 4(a)(2) of the Securities Act and Regulation D promulgated under the Securities Act. The exercise price of the warrants is subject to standard adjustments but does not contain any anti-dilution protection, and the warrants only permit “cashless” or “net” exercise after the six-month anniversary of issuance of the applicable warrant, and only to the extent that there is not an effective registration statement covering the resale of the shares of common stock underlying the applicable warrant. In addition, no Investor may exercise its warrant to the extent that, after giving effect to such exercise, such Investor, together with its affiliates, would beneficially own in excess of 9.99% of the number of shares of common stock outstanding after giving effect to such exercise. In addition, the Company agreed to file a registration statement providing for the resale by the Investors of the shares of Common Stock underlying the warrants with the SEC within 60 days following the date of the issuance of the warrants and to use commercially reasonable efforts to (i) cause such registration statement to become effective within 120 days following the date of the issuance of the warrants and (ii) keep such registration statement effective until the Investors no longer beneficially own any such shares of Common Stock or such shares of Common Stock are eligible for resale under Rule 144 under the Securities Act without regard to volume limitations. If the Company fails to file the registration statement by the filing deadline or the registration statement is not declared effective by the effectiveness deadline, or the Company fails to maintain the effectiveness of the registration statement as required by the warrants, then the exercise price of the warrants will be reduced by 10%, and by an additional 5% if such failure continues for longer than 90 days, subject to an exercise price floor of \$3.31 per share, provided that upon the cure by the Company of such failure, the exercise price of the warrants will revert to \$3.90 per share.

In connection with the entry into the Investor Credit Agreements and the issuance of the warrants, on September 10, 2019, the Company and the Investors entered into a Standstill Agreement (the “Investor Standstill Agreement”), pursuant to which the Investors agreed that, until the earliest to occur of (i) the Investors no longer beneficially owning any shares underlying the warrants, (ii) the Company entering into a definitive agreement involving the direct or indirect acquisition of all or a majority of the Company’s equity securities or all or substantially all of the Company’s assets or (iii) a person or group, with the prior approval of the Company’s Board of Directors (the “Board”), commencing a tender offer for all or a majority of the Company’s equity securities, neither the Investors nor any of their respective affiliates will (without the prior written consent of the Board), among other things, (i) acquire any loans, debt securities, equity securities, or assets of the Company or any of its subsidiaries, or rights or options with respect thereto, except that the Investors shall be permitted to (a) purchase the shares underlying the warrants pursuant to the exercise of the warrants and (b) acquire beneficial ownership of up to 6.99% of the

Common Stock, or (ii) make any proposal, public announcement, solicitation or offer with respect to, or otherwise solicit, seek or offer to effect, or instigate, encourage, or assist any third party with respect to: (a) any business combination, merger, tender offer, exchange offer, or similar transaction involving the Company or any of its subsidiaries; (b) any restructuring, recapitalization, liquidation, or similar transaction involving the Company or any of its subsidiaries; (c) any acquisition of any of the Company's loans, debt securities, equity securities or assets, or rights or options with respect thereto; or (d) any proposal to seek representation on the Board or otherwise seek to control or influence the management, Board, or policies of the Company, in each case subject to certain exceptions.

## Selected Quarterly Financial Data (Unaudited)

### Summary of Quarterly Results of Operations

(In thousands)	2017				2018			
	Three Months Ended March 31, 2017	Three Months Ended June 30, 2017	Three Months Ended September 30, 2017	Three Months Ended December 31, 2017	Three Months Ended March 31, 2018	Three Months Ended June 30, 2018	Three Months Ended September 30, 2018	Three Months Ended December 31, 2018
	As Restated	As Restated	As Restated	As Restated	As Restated	As Restated	As Restated	
Revenue								
Renewable products . . . . .	\$ 8,037	\$ 9,892	\$ 10,996	\$ 13,445	\$ 5,195	\$ 6,633	\$ 9,639	\$ 12,131
Licenses and royalties . . . . .	255	1,236	4,483	42,729	7,955	(513)	142	74
Grants and collaborations . . . . .	4,688	10,291	12,179	9,440	4,709	8,939	4,534	4,166
Revenue . . . . .	\$ 12,980	\$ 21,419	\$ 27,658	\$ 65,614	\$ 17,859	\$ 15,059	\$ 14,315	\$ 16,371
Gross profit (loss) from product sales . . . . .	\$ (4,731)	\$ (6,305)	\$ (6,641)	\$ (2,260)	\$ (120)	\$ 99	\$ 1,065	\$ (4,144)
Net income (loss) . . . . .	\$ (38,037)	\$ (23,621)	\$ (58,235)	\$ (36,089)	\$ (92,802)	\$ (14,381)	\$ (74,453)	\$ (48,599)
Net loss attributable to Amryis, Inc. common stockholders:								
Basic and diluted . . . . .	\$ (38,037)	\$ (39,784)	\$ (85,691)	\$ (33,191)	\$ (85,298)	\$ (13,411)	\$ (76,814)	\$ (46,738)
Net loss per share attributable to common stockholders:								
Basic and diluted . . . . .	\$ (1.97)	\$ (1.71)	\$ (2.34)	\$ (0.69)	\$ (1.67)	\$ (0.24)	\$ (1.26)	\$ (0.63)
Weighted-average shares of common stock outstanding used in computing net loss per share of common stock:								
Basic and diluted . . . . .	19,268,060	23,200,460	36,643,901	47,895,238	51,200,922	54,932,411	60,966,071	74,265,076

### 2017 AND 2018 QUARTERLY DATA — RESTATED CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

In lieu of filing amended Quarterly Reports on Form 10-Q/A for the periods ended March 31, 2017, June 30, 2017 and September 30, 2017, and March 31, 2018, June 30, 2018 and September 30, 2018, quarterly financial data as restated is included in this Annual Report on Form 10-K in the tables that follow. Amounts are computed independently each quarter, therefore, the sum of the quarterly amounts may not equal the total amount for the respective year due to rounding.

2017 and 2018 Quarterly Data — Restated Condensed Consolidated Balance Sheets

(In thousands)	March 31, 2017	June 30, 2017	September 30, 2017	December 31, 2017	March 31, 2018	June 30, 2018	September 30, 2018
	Restated	Restated	Restated	Restated	Restated	Restated	Restated
<b>Assets</b>							
Current assets:							
Cash and cash equivalents	\$ 1,297	\$ 5,078	\$ 15,865	\$ 57,059	\$ 24,084	\$ 14,050	\$ 19,045
Restricted cash	301	3,815	4,078	2,994	2,454	1,846	1,258
Short-term investments	1,188	1,556	1,743	—	—	130	—
Accounts receivable, net	8,122	15,958	14,843	18,953	6,035	9,567	15,001
Accounts receivable – related party, net	416	1,431	10,079	4,767	18,695	4,265	7,581
Accounts receivable, unbilled – related party	—	—	—	—	9,247	12,683	56
Inventories	7,077	5,729	6,410	5,408	4,998	6,632	6,260
Prepaid expenses and other current assets	5,652	7,440	9,244	4,919	7,340	4,687	5,541
Total current assets	24,053	41,007	62,262	104,001	72,853	53,860	54,742
Property, plant and equipment, net	53,045	49,303	50,130	13,892	13,262	15,300	16,622
Accounts receivable, unbilled – related party, noncurrent	—	—	—	7,940	7,940	9,747	9,767
Restricted cash, noncurrent	958	958	958	959	959	959	959
Recoverable taxes from Brazilian government entities	—	—	—	1,445	1,226	1,057	1,053
Other assets	17,388	18,204	21,998	12,559	12,287	14,329	14,396
Total assets	\$ 95,444	\$ 109,472	\$ 135,348	\$ 140,796	\$ 108,527	\$ 95,252	\$ 97,539
<b>Liabilities, Mezzanine Equity and Stockholders' Deficit</b>							
Current liabilities:							
Accounts payable	\$ 16,453	\$ 13,575	\$ 19,314	\$ 15,515	\$ 15,648	\$ 19,206	\$ 11,380
Accrued and other current liabilities	32,211	29,873	28,883	29,202	27,702	22,746	37,711
Contract liabilities	3,487	6,029	4,594	4,308	9,376	6,971	4,026
Debt, current portion	15,290	7,954	6,070	36,924	35,950	60,105	62,056
Related party debt, current portion	34,165	5,331	5,634	20,019	27,171	49,669	47,020
Total current liabilities	101,606	62,762	64,495	105,968	115,847	158,697	162,193
Long-term debt, net of current portion	132,425	107,906	106,699	60,220	60,462	43,763	43,788
Related party debt, net of current portion	39,724	40,920	43,736	46,541	39,147	17,834	18,256
Derivative liabilities	5,144	58,606	75,767	116,497	174,152	133,845	93,561
Other noncurrent liabilities	23,462	20,767	18,271	23,658	22,436	22,073	21,293
Total liabilities	302,361	290,961	308,968	352,884	412,044	376,212	339,091
Commitments and contingencies							
Mezzanine equity:							
Contingently redeemable common stock	5,000	5,000	5,000	5,000	5,000	5,000	5,000
Convertible preferred stock	—	12,830	—	—	—	—	—
Stockholders' deficit:							
Common stock – \$0.0001 par value	28	3	4	5	5	5	6
Additional paid-in capital	1,000,174	1,037,840	1,115,371	1,114,546	1,116,859	1,154,625	1,268,679
Accumulated other comprehensive loss	(40,581)	(42,003)	(40,601)	(42,156)	(42,293)	(43,120)	(43,314)
Accumulated deficit	(1,172,475)	(1,196,096)	(1,254,331)	(1,290,420)	(1,384,025)	(1,398,407)	(1,472,860)
Total Amyris, Inc. stockholders' deficit	(212,854)	(200,256)	(179,557)	(218,025)	(309,454)	(286,897)	(247,489)
Noncontrolling interest	937	937	937	937	937	937	937
Total stockholders' deficit	(211,917)	(199,319)	(178,620)	(217,088)	(308,517)	(285,960)	(246,552)
Total liabilities, mezzanine equity and stockholders' deficit	\$ 95,444	\$ 109,472	\$ 135,348	\$ 140,796	\$ 108,527	\$ 95,252	\$ 97,539

2017 and 2018 Quarterly Data — Restated Condensed Consolidated Statements of Operations

2017

(In thousands, except shares and per share amounts)	Three Months Ended March 31, 2017	Three Months Ended June 30, 2017	Six Months Ended June 30, 2017	Three Months Ended September 30, 2017	Nine Months Ended September 30, 2017	Three Months Ended December 31, 2017	Year Ended December 31, 2017
	Restated	Restated	Restated	Restated	Restated	Restated	Restated
Renewable products . . . . .	\$ 8,037	\$ 9,892	\$ 17,929	\$ 10,996	\$ 28,925	\$ 13,445	\$ 42,370
Licenses and royalties . . . . .	255	1,236	1,491	4,483	5,974	42,729	48,703
Grants and collaborations . . . . .	4,688	10,291	14,979	12,179	27,158	9,440	36,598
Total revenue . . . . .	<u>12,980</u>	<u>21,419</u>	<u>34,399</u>	<u>27,658</u>	<u>62,057</u>	<u>65,614</u>	<u>127,671</u>
Cost and operating expenses							
Cost of products sold . . . . .	12,768	16,197	28,965	17,637	46,602	15,705	62,307
Research and development . . . . .	14,778	14,178	28,956	15,185	44,141	13,421	57,562
Sales, general and administrative . . . . .	12,778	16,583	29,361	15,454	44,815	19,038	63,853
Total cost and operating expenses . . . . .	<u>40,324</u>	<u>46,958</u>	<u>87,282</u>	<u>48,276</u>	<u>135,558</u>	<u>48,164</u>	<u>183,722</u>
Loss from operations . . . . .	<u>(27,344)</u>	<u>(25,539)</u>	<u>(52,883)</u>	<u>(20,618)</u>	<u>(73,501)</u>	<u>17,450</u>	<u>(56,051)</u>
Other income (expense)							
(Loss) gain on divestiture . . . . .	—	—	—	—	—	5,732	5,732
Interest expense . . . . .	(12,850)	(9,973)	(22,823)	(8,433)	(31,256)	(5,825)	(37,081)
(Loss) gain from change in fair value of derivative instruments . . . . .	2,339	26,322	28,661	(29,827)	(1,166)	(47,686)	(48,852)
Loss upon extinguishment of debt . . . . .	96	(14,000)	(13,904)	461	(13,443)	1,546	(11,897)
Other income (expense), net . . . . .	(319)	(121)	(440)	(136)	(576)	(380)	(956)
Total other expense, net . . . . .	<u>(10,734)</u>	<u>2,228</u>	<u>(8,506)</u>	<u>(37,935)</u>	<u>(46,441)</u>	<u>(46,613)</u>	<u>(93,054)</u>
Loss before income taxes . . . . .	<u>(38,078)</u>	<u>(23,311)</u>	<u>(61,389)</u>	<u>(58,553)</u>	<u>(119,942)</u>	<u>(29,163)</u>	<u>(149,105)</u>
Provision for income taxes . . . . .	41	(310)	(269)	318	49	(6,926)	(6,877)
Net loss attributable to Amyris, Inc. . . . .	<u>(38,037)</u>	<u>(23,621)</u>	<u>(61,658)</u>	<u>(58,235)</u>	<u>(119,893)</u>	<u>(36,089)</u>	<u>(155,982)</u>
Less deemed dividend related to beneficial conversion feature on Series A preferred stock . . . . .	—	(562)	(562)	—	(562)	—	(562)
Less deemed dividend related to beneficial conversion feature on Series B preferred stock . . . . .	—	—	—	(634)	(634)	—	(634)
Less deemed dividend related to beneficial conversion feature on Series D preferred stock . . . . .	—	—	—	(5,757)	(5,757)	—	(5,757)
Less deemed dividend upon settlement of make-whole provision on Series A preferred stock . . . . .	—	(9,453)	(9,453)	(1,026)	(10,479)	(26)	(10,505)
Less deemed dividend upon settlement of make-whole provision on Series B preferred stock . . . . .	—	—	—	(21,992)	(21,992)	(640)	(22,632)
Less deemed dividend related to proceeds discount and issuance costs upon conversion of Series A preferred stock . . . . .	—	(18,362)	(18,362)	(1,784)	(20,146)	(1,432)	(21,578)
Less deemed dividend related to proceeds discount and issuance costs upon conversion of Series B preferred stock . . . . .	—	—	—	(24,366)	(24,366)	—	(24,366)
Add: losses allocated to participating securities . . . . .	—	12,214	12,985	28,103	38,813	4,996	40,159
Net loss attributable to Amyris, Inc. common stockholders . . . . .	<u>\$ (38,037)</u>	<u>\$ (39,784)</u>	<u>\$ (77,050)</u>	<u>\$ (85,691)</u>	<u>\$ (165,016)</u>	<u>\$ (33,191)</u>	<u>\$ (201,857)</u>
Loss per share attributable to common stockholders:							
Basic and diluted . . . . .	<u>\$ (1.97)</u>	<u>\$ (1.71)</u>	<u>\$ (3.63)</u>	<u>\$ (2.54)</u>	<u>\$ (6.12)</u>	<u>\$ (0.69)</u>	<u>\$ (6.26)</u>
Weighted-average shares of common stock outstanding used in computing loss per share of common stock:							
Basic and diluted . . . . .	<u>19,268,060</u>	<u>23,200,460</u>	<u>21,248,306</u>	<u>36,643,901</u>	<u>26,982,385</u>	<u>47,895,238</u>	<u>32,253,570</u>

2018

*Results of Operations*

(In thousands, except shares and per share amounts)	Three Months Ended March 31, 2018	Three Months Ended June 30, 2018	Six Months Ended June 30, 2018	Three Months Ended September 30, 2018	Nine Months Ended September 30, 2018
	Restated	Restated	Restated	Restated	Restated
Renewable products . . . . .	\$ 5,195	\$ 6,633	\$ 11,828	\$ 9,639	\$ 21,467
Licenses and royalties . . . . .	7,955	(513)	7,442	142	7,584
Grants and collaborations . . . . .	4,709	8,939	13,648	4,534	18,182
Total revenue . . . . .	<u>17,859</u>	<u>15,059</u>	<u>32,918</u>	<u>14,315</u>	<u>47,233</u>
Cost and operating expenses					
Cost of products sold . . . . .	5,315	6,534	11,849	8,574	20,423
Research and development . . . . .	17,825	15,669	33,494	16,445	49,939
Sales, general and administrative . . . . .	18,100	19,454	37,554	27,239	64,793
Total cost and operating expenses . . . . .	<u>41,240</u>	<u>41,657</u>	<u>82,897</u>	<u>52,258</u>	<u>135,155</u>
Loss from operations . . . . .	<u>(23,381)</u>	<u>(26,598)</u>	<u>(49,979)</u>	<u>(37,943)</u>	<u>(87,922)</u>
Other income (expense)					
(Loss) gain on divestiture . . . . .	(1,778)	—	(1,778)	—	(1,778)
Interest expense . . . . .	(9,978)	(9,580)	(19,558)	(9,180)	(28,738)
(Loss) gain from change in fair value of derivative instruments . . . . .	(58,357)	21,990	(36,367)	(24,797)	(61,164)
Loss upon extinguishment of debt . . . . .	—	(26)	(26)	—	(26)
Other income (expense), net . . . . .	692	(168)	524	(2,533)	(2,009)
Total other expense, net . . . . .	<u>(69,421)</u>	<u>12,216</u>	<u>(57,205)</u>	<u>(36,510)</u>	<u>(93,715)</u>
Loss before income taxes . . . . .	<u>(92,802)</u>	<u>(14,382)</u>	<u>(107,184)</u>	<u>(74,453)</u>	<u>(181,637)</u>
Provision for income taxes . . . . .	—	—	—	—	—
Net loss attributable to Amyris, Inc. . . . .	<u>(92,802)</u>	<u>(14,382)</u>	<u>(107,184)</u>	<u>(74,453)</u>	<u>(181,637)</u>
Less deemed dividend related to proceeds discount and issuance costs upon conversion of Series D preferred stock . . . . .	—	—	—	(6,852)	(6,852)
Add: losses allocated to participating securities . . . . .	7,504	970	7,932	4,491	12,824
Net loss attributable to Amyris, Inc. common stockholders . . . . .	<u>\$ (85,298)</u>	<u>\$ (13,412)</u>	<u>\$ (99,252)</u>	<u>\$ (76,814)</u>	<u>\$ (175,665)</u>
Loss per share attributable to common stockholders:					
Basic and diluted . . . . .	<u>\$ (1.67)</u>	<u>\$ (0.24)</u>	<u>\$ (1.87)</u>	<u>\$ (1.26)</u>	<u>\$ (3.15)</u>
Weighted-average shares of common stock outstanding used in computing loss per share of common stock:					
Basic and diluted . . . . .	<u>51,200,922</u>	<u>54,932,411</u>	<u>53,076,975</u>	<u>60,966,071</u>	<u>55,735,571</u>

## Revenue

*Three Months Ended September 30, 2018 Compared with Three Months Ended September 30, 2017.* Total revenue decreased by 48%. Renewable products revenue decreased by 12% primarily due to the assignment of certain farnesene supply agreements to DSM and discontinuing the sales of low-margin products, partially offset by a \$1.6 million increase in revenue from Biossance products. Licenses and royalties revenue decreased by 97% due to a license fee in 2017 from DSM for which there was no comparable revenue in 2018. Grants and collaborations revenue decreased by 63% mainly due to one-time revenue in 2017 upon the termination of the Braskem/Michelin agreement and lower grant revenue from DARPA.

*Three Months Ended June 30, 2018 Compared with Three Months Ended June 30, 2017.* Total revenue decreased by 30%. Renewable products revenue decreased by 33% to \$6.6 million due to the assignment of certain farnesene supply agreements to DSM and discontinuing low margin product sales, partly offset by increases in sales of our Biossance and Neossance products. Licenses and royalties revenue decreased by 141% due to no royalty revenue in the June 30, 2018 period combined with early payment discounts taken in the 2018 period. Grants and collaborations revenue decreased by 13% primarily due to decreases from Biogen, Firmenich and DARPA totaling \$2.5 million, partly offset by a \$1.6 million increase from DSM.

*Three Months Ended March 31, 2018 Compared with Three Months Ended March 31, 2017.* Total revenue increased by 38% primarily due to a \$7.7 million increase in license and royalty revenue related to royalty revenue from DSM. Renewable products revenue decreased by 37% as a result of the assignment of certain farnesene supply agreements to DSM and discontinuing low margin product sales, partially offset by increases in Biossance and Aprinnova revenue streams. Licenses and royalties revenue increased significantly due to royalty revenues from DSM, primarily due to the adoption of ASC 606, discussed elsewhere in this document. Grants and collaborations revenue was unchanged for the comparative period.

## Costs and Operating Expenses

*Three Months Ended September 30, 2018 Compared with Three Months Ended September 30, 2017.* Costs of products sold decreased by 51%, primarily due to (i) the December 2017 sale of our Brotas production facility to DSM, which substantially reduced our fixed production costs, (ii) the assignment of certain farnesene supply agreements to DSM with a resulting 12% decrease in renewable products revenue, and (iii) our discontinuing manufacturing of low-margin products. Research and development expenses increased by 8% due to increases in headcount to support new product development and one-time costs related to product development. Sales, general and administrative expenses increase by 76%, primarily due to increases in headcount to support our growth and expansion, professional services costs, one-time costs associated with a contract termination, and a \$6.8 million charge for legal expense in connection to the August warrants exercise transaction.

*Three Months Ended June 30, 2018 Compared with Three Months Ended June 30, 2017.* Costs of products sold decreased 62%, primarily due to (i) the December 2017 sale of our Brotas production facility to DSM, which substantially reduced our fixed production costs, (ii) the assignment of certain farnesene supply agreements to DSM with a resulting 33% decrease in renewable products revenue, and (iii) our discontinuing manufacturing of low-margin products. Research and development expenses increased by 11% due to increases in headcount to support new product development and one-time costs related to product development. Sales, general and administrative expenses increased by 17% primarily due to increases in headcount to support our growth and expansion, and professional services costs, partially offset by a \$0.7 million credit for services provided to a related party.

*Three Months Ended March 31, 2018 Compared with Three Months Ended March 31, 2017.* Costs of products sold decreased by 58% to \$7.4 million primarily due to the December 2017 sale of our Brotas 1 production facility to DSM, which substantially reduced our fixed production costs, and due to the assignment of certain farnesene supply agreements to DSM and our discontinuing manufacturing of low-margin products. Research and development expenses increased by 21% to \$17.8 million due to increases in headcount to support new product development and one-time costs related by product development. Sales, general and administrative expenses increased by 42% as a result of increases in headcount to support our growth, professional services costs, and costs related to the Amyris Brasil Ltda. transaction.



## **Other Expense, Net**

*Three Months Ended September 30, 2018 Compared with Three Months Ended September 30, 2017.* Total other expense, net was \$36.5 million for the three months ended September 30, 2018, compared to total other expense, net of \$37.9 million for the same period in 2017. The \$1.4 million decrease was primarily due to a \$5.0 million decrease in the loss from change in fair value of derivative instruments, partially offset by a \$2.4 million increase in other expense, which was primarily comprised of issuance costs incurred in connection with our August 2018 secondary offering in which existing shareholders sold approximately 7.7 million shares, and an additional \$0.7 million increase related to an increase in interest expense.

*Three Months Ended June 30, 2018 Compared with Three Months Ended June 30, 2017.* The \$8.2 million increase in total other income, net, was primarily due to a decrease in expense of \$12.2 million associated with certain May 2017 warrant exercise, partially offset by the decrease in gain in fair value of derivative instruments.

*Three Months Ended March 31, 2018 Compared with Three Months Ended March 31, 2017.* The \$59.3 million change in total other expense, net, was primarily due to a \$58.3 million loss on the change in fair value of derivative instruments, partially offset by a \$2.2 million decrease in interest expense. The loss from change in fair value of derivative instruments for the three months ended March 31, 2018 was the result of a significant increase in derivative instruments issued subsequent to March 31, 2017, and a 78% increase to our stock price during the first quarter of 2018. The \$1.8 million loss on divestiture was the result of a working capital adjustment to the sale price of the Brotas 1 facility, which we sold to a related party in December 2017.

**Q1 2017 Operating Highlights**

*Condensed Consolidated Balance Sheet*

	March 31, 2017			
(In thousands)	As Previously Reported	Adjustments	Ref.	As Restated
<b>Assets</b>				
Current assets:				
Cash and cash equivalents . . . . .	\$ 1,297	\$ —		\$ 1,297
Restricted cash . . . . .	301	—		301
Short-term investments . . . . .	1,188	—		1,188
Accounts receivable, net . . . . .	8,122	—		8,122
Accounts receivable – related party, net . . . . .	416	—		416
Inventories . . . . .	7,077	—		7,077
Prepaid expenses and other current assets . . . . .	5,652	—		5,652
Total current assets . . . . .	<u>24,053</u>	<u>—</u>		<u>24,053</u>
Property, plant and equipment, net . . . . .	53,045	—		53,045
Restricted cash, noncurrent . . . . .	958	—		958
Other assets . . . . .	17,388	—		17,388
Total assets . . . . .	<u>\$ 95,444</u>	<u>\$ —</u>		<u>\$ 95,444</u>
<b>Liabilities, Mezzanine Equity and Stockholders' Deficit</b>				
Current liabilities:				
Accounts payable . . . . .	\$ 16,453	\$ —		\$ 16,453
Accrued and other current liabilities . . . . .	32,211	—		32,211
Contract liabilities . . . . .	3,487	—		3,487
Debt, current portion . . . . .	15,290	—		15,290
Related party debt, current portion . . . . .	34,165	—		34,165
Total current liabilities . . . . .	<u>101,606</u>	<u>—</u>		<u>101,606</u>
Long-term debt, net of current portion . . . . .	131,759	666	j	132,425
Related party debt, net of current portion . . . . .	39,724	—		39,724
Derivative liabilities . . . . .	5,144	—		5,144
Other noncurrent liabilities . . . . .	23,462	—		23,462
Total liabilities . . . . .	<u>301,695</u>	<u>666</u>		<u>302,361</u>
Commitments and contingencies				
Mezzanine equity:				
Contingently redeemable common stock . . . . .	5,000	—		5,000
Stockholders' deficit:				
Common stock – \$0.0001 par value . . . . .	28	—		28
Additional paid-in capital . . . . .	1,000,174	—		1,000,174
Accumulated other comprehensive loss . . . . .	(40,581)	—		(40,581)
Accumulated deficit . . . . .	<u>(1,171,809)</u>	<u>(666)</u>	p	<u>(1,172,475)</u>
Total Amyris, Inc. stockholders' deficit . . . . .	<u>(212,188)</u>	<u>(666)</u>		<u>(212,854)</u>
Noncontrolling interest . . . . .	937	—		937
Total stockholders' deficit . . . . .	<u>(211,251)</u>	<u>(666)</u>		<u>(211,917)</u>
Total liabilities, mezzanine equity and stockholders' deficit . . . . .	<u>\$ 95,444</u>	<u>\$ —</u>		<u>\$ 95,444</u>

Restatement adjustments:

- j. Correction to amortization of debt discounts.
- p. Impact to net loss of correction to amortization of debt discounts.

*Condensed Consolidated Statements of Operations*

(In thousands, except shares and per share amounts)	Three Months Ended March 31, 2017				
	As Previously Reported	Reclassifications <sup>(1)</sup>	Corrections	Ref	As Restated
<b>Revenue</b>					
Renewable products . . . . .	\$ 8,292	\$(255)	\$ —		\$ 8,037
Licenses and royalties . . . . .	—	255	—		255
Grants and collaborations . . . . .	4,688	—	—		4,688
Total revenue . . . . .	<u>12,980</u>	<u>—</u>	<u>—</u>		<u>12,980</u>
<b>Cost and operating expenses</b>					
Cost of products sold . . . . .	12,768	—	—		12,768
Research and development . . . . .	14,778	—	—		14,778
Sales, general and administrative . . . . .	12,778	—	—		12,778
Total cost and operating expenses . . . . .	<u>40,324</u>	<u>—</u>	<u>—</u>		<u>40,324</u>
Loss from operations . . . . .	<u>(27,344)</u>	<u>—</u>	<u>—</u>		<u>(27,344)</u>
<b>Other income (expense)</b>					
Interest expense . . . . .	(12,184)	—	(666)	ah	(12,850)
(Loss) gain from change in fair value of derivative instruments . . . . .	2,339	—	—		2,339
Loss upon extinguishment of debt . . . . .	96	—	—		96
Other income (expense), net . . . . .	(319)	—	—		(319)
Total other expense, net . . . . .	<u>(10,068)</u>	<u>—</u>	<u>(666)</u>		<u>(10,734)</u>
Loss before income taxes . . . . .	<u>(37,412)</u>	<u>—</u>	<u>(666)</u>		<u>(38,078)</u>
Provision for income taxes . . . . .	41	—	—		41
Net loss attributable to Amyris, Inc. . . . .	<u>(37,371)</u>	<u>—</u>	<u>(666)</u>		<u>(38,037)</u>
Add: losses allocated to participating securities . . . . .	—	—	—		—
Net loss attributable to Amyris, Inc. common stockholders . . . . .	<u>\$ (37,371)</u>	<u>\$ —</u>	<u>\$(666)</u>		<u>\$ (38,037)</u>
<b>Loss per share attributable to common stockholders:</b>					
Basic and diluted . . . . .	<u>\$ (1.93)</u>				<u>\$ (1.97)</u>
<b>Weighted-average shares of common stock outstanding used in computing loss per share of common stock:</b>					
Basic and diluted . . . . .	<u>19,335,948</u>			av	<u>19,268,060</u>

(1) Reclassification of revenue by type to conform to the Company's current presentation.

Restatement adjustments:

- ah. Correction to amortization of debt discounts.
- av. Correction to weighted-average shares outstanding.

Condensed Consolidated Statements of Cash Flows

(In thousands)	Three Months Ended March 31, 2017		
	As Previously Reported	Corrections <sup>(1)</sup>	As Restated
<b>Operating activities</b>			
Net loss	\$(37,371)	(666)	\$(38,037)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	2,715	—	2,715
(Gain) loss on disposal of property, plant and equipment	(55)	—	(55)
Stock-based compensation	1,646	—	1,646
Amortization of debt discount	4,473	666	5,139
(Gain) loss upon extinguishment of debt	(96)	—	(96)
(Gain) loss from change in fair value of derivative liabilities	(2,339)	—	(2,339)
(Gain) loss on foreign currency exchange rates	(295)	—	(295)
Changes in assets and liabilities:			
Accounts receivable	5,388	—	5,388
Inventories	(867)	—	(867)
Prepaid expenses and other assets	(713)	—	(713)
Accounts payable	450	—	450
Accrued and other liabilities	3,515	—	3,515
Contract liabilities	(1,844)	—	(1,844)
Net cash used in operating activities	(25,393)	—	(25,393)
<b>Investing activities</b>			
Change in short-term investments	329	—	329
Purchases of property, plant and equipment	(457)	—	(457)
Net cash (used in) provided by investing activities	(128)	—	(128)
<b>Financing activities</b>			
Payment of minimum employee taxes withheld upon net share settlement of restricted stock units	(22)	—	(22)
Principal payments on capital leases	(627)	—	(627)
Proceeds from issuance of debt, net of issuance costs	1,500	—	1,500
Principal payments on debt	(5,124)	—	(5,124)
Net cash provided by financing activities	(4,273)	—	(4,273)
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(83)	—	(83)
Net (decrease) increase in cash, cash equivalents and restricted cash	(29,877)	—	(29,877)
Cash, cash equivalents and restricted cash at beginning of year	32,433	—	32,433
Cash, cash equivalents and restricted cash at end of year	<u>\$ 2,556</u>	<u>\$ —</u>	<u>\$ 2,556</u>
<b>Reconciliation of cash, cash equivalents and restricted cash to the consolidated balance sheets</b>			
Cash and cash equivalents	\$ 1,297		\$ 1,297
Restricted cash, current	301		301
Restricted cash, noncurrent	958		958
Total cash, cash equivalents and restricted cash	<u>\$ 2,556</u>		<u>\$ 2,556</u>

(1) To reflect the impact of restatement corrections on the statement of cash flows.

Q2 2017

Condensed Consolidated Balance Sheet

(In thousands)	June 30, 2017			
	As Previously Reported	Corrections	Ref.	As Restated
<b>Assets</b>				
Current assets:				
Cash and cash equivalents . . . . .	\$ 5,078	—		\$ 5,078
Restricted cash . . . . .	3,815	—		3,815
Short-term investments . . . . .	1,556	—		1,556
Accounts receivable, net . . . . .	15,958	—		15,958
Accounts receivable – related party, net . . . . .	1,431	—		1,431
Inventories . . . . .	5,729	—		5,729
Prepaid expenses and other current assets . . . . .	7,440	—		7,440
Total current assets . . . . .	41,007	—		41,007
Property, plant and equipment, net . . . . .	49,303	—		49,303
Restricted cash, noncurrent . . . . .	958	—		958
Other assets . . . . .	21,437	(3,233)	d	18,204
Total assets . . . . .	<u>\$ 112,705</u>	<u>\$ (3,233)</u>		<u>\$ 109,472</u>
<b>Liabilities, Mezzanine Equity and Stockholders' Deficit</b>				
Current liabilities:				
Accounts payable . . . . .	\$ 14,657	\$ (1,082)	e	\$ 13,575
Accrued and other current liabilities . . . . .	29,873	—		29,873
Contract liabilities . . . . .	5,001	1,028	g	6,029
Debt, current portion . . . . .	7,954	—		7,954
Related party debt, current portion . . . . .	5,331	—		5,331
Total current liabilities . . . . .	62,816	(54)		62,762
Long-term debt, net of current portion . . . . .	111,112	(3,206)	j	107,906
Related party debt, net of current portion . . . . .	40,920	—		40,920
Derivative liabilities . . . . .	58,606	—		58,606
Other noncurrent liabilities . . . . .	20,767	—		20,767
Total liabilities . . . . .	<u>294,221</u>	<u>(3,260)</u>		<u>290,961</u>
Commitments and contingencies				
Mezzanine equity:				
Contingently redeemable common stock . . . . .	5,000	—		5,000
Convertible preferred stock . . . . .	12,830	—		12,830
Stockholders' deficit:				
Common stock - \$0.0001 par value . . . . .	3	—		3
Additional paid-in capital . . . . .	1,012,906	24,934	n	1,037,840
Accumulated other comprehensive loss . . . . .	(42,003)	—		(42,003)
Accumulated deficit . . . . .	(1,171,189)	(24,907)	p	(1,196,096)
Total Amyris, Inc. stockholders' deficit . . . . .	(200,283)	27		(200,256)
Noncontrolling interest . . . . .	937	—		937
Total stockholders' deficit . . . . .	<u>(199,346)</u>	<u>27</u>		<u>(199,319)</u>
Total liabilities, mezzanine equity and stockholders' deficit . .	<u>\$ 112,705</u>	<u>\$ (3,233)</u>		<u>\$ 109,472</u>

Restatement adjustments:

d. Revision to accounting for a license sale to a customer for which the customer paid the Company in equity.

- e. Correction to uninvoiced receipts liability.
- g. Revision to accounting for a license sale to a customer for which the customer paid the Company in equity, and shift in timing of royalty revenue recognition.
- j. Correction to debt discount in connection with Fidelity 2015 144A Note.
- n. Correction to the settlement of a make-whole provision, and loss on extinguishment of related party debt in connection with May 2017 equity offering and correction to debt discount related to 2015 144A Notes.
- p. Cumulative impact of restatement corrections on accumulated deficit.

Condensed Consolidated Statements of Operations

Three Months Ended	Three Months Ended June 30, 2017					Six Months Ended June 30, 2017					
	(In thousands, except shares and per share amounts)	As Previously Reported	Reclassifications <sup>(1)</sup>	Corrections	Ref	As Restated	As Previously Reported	Reclassifications <sup>(1)</sup>	Corrections	Ref	As Restated
Revenue											
Renewable products . . . . .	\$ 12,729	\$ (2,837)	\$ —		\$ 9,892	\$ 21,021	\$ (3,092)	\$ —		\$ 17,929	
Licenses and royalties . . . . .	—	5,497	(4,261)	ab	1,236	—	5,752	(4,261)	ab	1,491	
Grants and collaborations . . . . .	12,950	(2,660)	1	ac	10,291	17,638	(2,660)	1	ac	14,979	
Total revenue . . . . .	25,679	—	(4,260)		21,419	38,659	—	(4,260)		34,399	
Cost and operating expenses											
Cost of products sold . . . . .	17,279	—	(1,082)	ad	16,197	30,047	—	(1,082)	ad	28,965	
Research and development . . . . .	14,249	(72)	1	ae	14,178	29,027	(72)	1	ae	28,956	
Sales, general and administrative . . . . .	15,949	72	562	af	16,583	28,727	72	562	af	29,361	
Total cost and operating expenses . . . . .	47,477	—	(519)		46,958	87,801	—	(519)		87,282	
Loss from operations . . . . .	(21,798)	—	(3,741)		(25,539)	(49,142)	—	(3,741)		(52,883)	
Other income (expense)											
(Loss) gain on divestiture . . . . .	—	—	—		—	—	—	—		—	
Interest expense . . . . .	(9,303)	—	(670)	ah	(9,973)	(21,487)	—	(1,336)	ah	(22,823)	
(Loss) gain from change in fair value of derivative instruments . . . . .	35,775	—	(9,453)	ai	26,322	38,114	—	(9,453)	ai	28,661	
Loss upon extinguishment of debt . . . . .	(3,624)	—	(10,376)	ak	(14,000)	(3,528)	—	(10,376)	ak	(13,904)	
Other income (expense), net . . . . .	(120)	—	(1)	al	(121)	(439)	—	(1)	al	(440)	
Total other expense, net . . . . .	22,728	—	(20,500)		2,228	12,660	—	(21,166)		(8,506)	
Loss before income taxes . . . . .	930	—	(24,241)		(23,311)	(36,482)	—	(24,907)		(61,389)	
Provision for income taxes . . . . .	(310)	—	—		(310)	(269)	—	—		(269)	
Net loss attributable to Amyris, Inc. . . . .	620	—	(24,241)		(23,621)	(36,751)	—	(24,907)		(61,658)	
Less deemed dividend on capital distribution to related parties . . . . .	(8,648)	—	8,648	an	—	(8,648)	—	8,648	an	—	
Less deemed dividend related to beneficial conversion feature on Series A preferred stock . . . . .	(562)	—	—		(562)	(562)	—	—		(562)	
Less deemed dividend upon settlement of make-whole provision on Series A preferred stock . . . . .	—	—	(9,453)	ap	(9,453)	—	—	(9,453)	ap	(9,453)	
Less deemed dividend related to proceeds discount and issuance costs upon conversion of Series A preferred stock . . . . .	—	—	(18,362)	ar	(18,362)	—	—	(18,362)	ar	(18,362)	
Less cumulative dividends on Series A and Series B preferred stock . . . . .	(1,675)	—	1,675	aw	—	(1,675)	—	1,675	aw	—	
Add: losses allocated to participating securities . . . . .	—	—	12,214	au	12,214	—	—	12,985	au	12,985	
Net loss attributable to Amyris, Inc. common stockholders . . . . .	\$ (10,265)	—	\$(29,519)		\$ (39,784)	\$ (47,636)	—	\$(29,414)		\$ (77,050)	
Loss per share attributable to common stockholders:											
Basic and diluted . . . . .	\$ (0.44)				\$ (1.71)	\$ (2.24)				\$ (3.63)	
Weighted-average shares of common stock outstanding used in computing loss per share of common stock:											
Basic and diluted . . . . .	23,155,874			av	23,200,460	21,226,013			av	21,248,306	

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- (1) Reclassification of revenue and operating expense by type to conform to the Company's current presentation.

Restatement adjustments:

- ab. Adjustment for revenue reversal related to non-cash consideration and timing of revenue recognition between quarters.
- ad. Correction in connection with a sales return.
- ae. Reclassification of operating expense by classification to conform to the Company's current presentation.
- af. Correction to accounting for expenses incurred in connection with May 2017 Offering, and reclassification of operating expense by classification to conform to the Company's current presentation.
- ah. Correction to amortization of debt discounts.
- ai. Correction to accounting for make-whole liability in connection with May 2017 Offering.
- ak. Correction to accounting for debt exchanges.
- an. Correction to record deemed dividend in connection with discounts and freestanding instruments related to preferred stock offerings
- ap. Correction to record deemed dividend in connection with discounts and freestanding instruments related to preferred stock offerings.
- ar. Correction to record deemed dividend in connection with discounts and freestanding instruments related to preferred stock offerings
- au. Correction in the computation of net loss per share to reflect participating securities.
- av. Correction to weighted-average shares outstanding.
- aw. Correction in the computation of net loss per share related to make-whole deemed dividends.



Condensed Consolidated Statements of Cash Flows

(In thousands)	Six Months Ended June 30, 2017		
	As Previously Reported	Corrections <sup>(1)</sup>	As Restated
<b>Operating activities</b>			
Net loss	\$(36,751)	\$(24,907)	\$(61,658)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	5,550	—	5,550
(Gain) loss on disposal of property, plant and equipment	(161)	—	(161)
Stock-based compensation	2,684	—	2,684
Amortization of debt discount	7,637	4,042	11,679
(Gain) loss upon extinguishment of debt	3,528	10,376	13,904
Receipt of equity in connection with collaboration arrangements revenue	(2,660)	2,660	—
(Gain) loss from change in fair value of derivative liabilities	(38,114)	9,453	(28,661)
(Gain) loss on foreign currency exchange rates	63	—	63
Changes in assets and liabilities:			
Accounts receivable	(3,509)	—	(3,509)
Inventories	409	—	409
Prepaid expenses and other assets	(4,220)	3,233	(987)
Accounts payable	(1,739)	657	(1,082)
Accrued and other liabilities	7,105	(7,105)	—
Contract liabilities	—	1,028	1,028
Net cash used in operating activities	<u>(60,178)</u>	<u>(563)</u>	<u>(60,741)</u>
<b>Investing activities</b>			
Change in short-term investments	(85)	—	(85)
Purchases of property, plant and equipment	(264)	—	(264)
Net cash (used in) provided by investing activities	<u>(349)</u>	<u>—</u>	<u>(349)</u>
<b>Financing activities</b>			
Proceeds from issuance of convertible preferred stock	50,661	562	51,223
Proceeds from exercises of common stock options	69	—	69
Payment of minimum employee taxes withheld upon net share settlement of restricted stock units	(110)	—	(110)
Principal payments on capital leases	(764)	—	(764)
Proceeds from issuance of debt, net of issuance costs	12,455	—	12,455
Principal payments on debt	(24,372)	—	(24,372)
Net cash provided by financing activities	<u>37,939</u>	<u>562</u>	<u>38,501</u>
Effect of exchange rate changes on cash, cash equivalents and restricted cash	<u>7</u>	<u>—</u>	<u>7</u>
Net (decrease) increase in cash, cash equivalents and restricted cash	(22,581)	(1)	(22,582)
Cash, cash equivalents and restricted cash at beginning of year	<u>32,433</u>	<u>—</u>	<u>32,433</u>
Cash, cash equivalents and restricted cash at end of year	<u>\$ 9,852</u>	<u>\$ (1)</u>	<u>\$ 9,851</u>
<b>Reconciliation of cash, cash equivalents and restricted cash to the consolidated balance sheets</b>			
Cash and cash equivalents	\$ 5,078		\$ 5,078
Restricted cash, current	3,815		3,815
Restricted cash, noncurrent	958		958
Total cash, cash equivalents and restricted cash	<u>\$ 9,851</u>		<u>\$ 9,851</u>

(1) To reflect the impact of restatement corrections on the statement of cash flows.

**Q3 2017 Quarterly Data Restatement Adjustments**

*Condensed Consolidated Balance Sheet*

(In thousands)	September 30, 2017			
	As Previously Reported	Corrections	Ref.	As Restated
<b>Assets</b>				
Current assets:				
Cash and cash equivalents . . . . .	\$ 15,865	\$ —		\$ 15,865
Restricted cash . . . . .	4,078	—		4,078
Short-term investments . . . . .	1,743	—		1,743
Accounts receivable, net . . . . .	24,922	(10,079)	a	14,843
Accounts receivable – related party, net . . . . .	—	10,079	a	10,079
Inventories . . . . .	6,410	—		6,410
Prepaid expenses and other current assets . . . . .	9,244	—		9,244
Total current assets . . . . .	<u>62,262</u>	<u>—</u>		<u>62,262</u>
Property, plant and equipment, net . . . . .	50,130	—		50,130
Restricted cash, noncurrent . . . . .	958	—		958
Other assets . . . . .	25,231	(3,233)	d	21,998
Total assets . . . . .	<u>\$ 138,581</u>	<u>\$ (3,233)</u>		<u>\$ 135,348</u>
<b>Liabilities, Mezzanine Equity and Stockholders' Deficit</b>				
Current liabilities:				
Accounts payable . . . . .	\$ 20,396	\$ (1,082)	e	\$ 19,314
Accrued and other current liabilities . . . . .	28,883	—		28,883
Contract liabilities . . . . .	7,027	(2,433)	g	4,594
Debt, current portion . . . . .	6,070	—		6,070
Related party debt, current portion . . . . .	5,634	—		5,634
Total current liabilities . . . . .	<u>68,010</u>	<u>(3,515)</u>		<u>64,495</u>
Long-term debt, net of current portion . . . . .	109,205	(2,506)	j	106,699
Related party debt, net of current portion . . . . .	43,736	—		43,736
Derivative liabilities . . . . .	89,770	(14,003)	l	75,767
Other noncurrent liabilities . . . . .	18,271	—		18,271
Total liabilities . . . . .	<u>328,992</u>	<u>(20,024)</u>		<u>308,968</u>
Commitments and contingencies				
Mezzanine equity:				
Contingently redeemable common stock . . . . .	5,000	—		5,000
Stockholders' deficit:				
Common stock – \$0.0001 par value . . . . .	4	—		4
Additional paid-in capital . . . . .	1,049,299	66,072	n	1,115,371
Accumulated other comprehensive loss . . . . .	(40,601)	—		(40,601)
Accumulated deficit . . . . .	(1,205,050)	(49,281)	p	(1,254,331)
Total Amyris, Inc. stockholders' deficit . . . . .	<u>(196,348)</u>	<u>16,791</u>		<u>(179,557)</u>
Noncontrolling interest . . . . .	937	—		937
Total stockholders' deficit . . . . .	<u>(195,411)</u>	<u>16,791</u>		<u>(178,620)</u>
Total liabilities, mezzanine equity and stockholders' deficit . . . . .	<u>\$ 138,581</u>	<u>\$ (3,233)</u>		<u>\$ 135,348</u>

Restatement adjustments:

- a. Reclassification of related party accounts receivable to a separate line on the balance sheet.
- d. Reversal of revenue for non-cash consideration.
- e. Correction to uninvoiced receipts liability.
- g. Revision to accounting for a license sale to a customer for which the customer paid the Company in equity, and shift in timing of royalty revenue recognition.
- j. Correction to debt discount in connection with Fidelity 2015 144A Note.
- l. Correction to extinguishment accounting for a make-whole equity instrument, and loss on extinguishment of related party debt in connection with May 2017 equity offering.
- n. Correction to the settlement of a make-whole equity instrument, and loss on extinguishment of related party debt in connection with May 2017 equity offering.
- p. Cumulative impact of restatement corrections on accumulated deficit.

Condensed Consolidated Statements of Operations

Three Months Ended (In thousands, except shares and per share amounts)	Three Months Ended September 30, 2017					Nine Months Ended September 30, 2017				
	As Previously Reported	Reclassifications <sup>(1)</sup>	Corrections	Ref	As Restated	As Previously Reported	Reclassifications <sup>(1)</sup>	Corrections	Ref	As Restated
Renewable products . . . . .	\$ 11,315	\$ (319)	\$ —		\$ 10,996	\$ 32,336	\$(3,411)	\$ —		\$ 28,925
Licenses and royalties . . . . .	—	1,022	3,461	ab	4,483	—	6,774	(800)	ab	5,974
Grants and collaborations . . . . .	12,882	(703)	—		12,179	30,520	(3,363)	1	ac	27,158
Total revenue . . . . .	24,197	—	3,461		27,658	62,856	—	(799)		62,057
Cost and operating expenses										
Cost of products sold . . . . .	17,637	—	—		17,637	47,684	—	(1,082)	ad	46,602
Research and development . . . . .	15,185	—	—		15,185	44,212	(72)	1	ae	44,141
Sales, general and administrative . . . . .	15,454	—	—		15,454	44,181	72	562	af	44,815
Total cost and operating expenses . . . . .	48,276	—	—		48,276	136,077	—	(519)		135,558
Loss from operations . . . . .	(24,079)	—	3,461		(20,618)	(73,221)	—	(280)		(73,501)
Other income (expense)										
Interest expense . . . . .	(7,733)	—	(700)	ah	(8,433)	(29,220)	—	(2,036)	ah	(31,256)
(Loss) gain from change in fair value of derivative instruments . . . . .	(2,692)	—	(27,135)	ai	(29,827)	35,422	—	(36,588)	ai	(1,166)
Loss upon extinguishment of debt . . . . .	461	—	—		461	(3,067)	—	(10,376)	ak	(13,443)
Other income (expense), net . . . . .	(136)	—	—		(136)	(575)	—	(1)	al	(576)
Total other expense, net . . . . .	(10,100)	—	(27,835)		(37,935)	2,560	—	(49,001)		(46,441)
Loss before income taxes . . . . .	(34,179)	—	(24,374)		(58,553)	(70,661)	—	(49,281)		(119,942)
Provision for income taxes . . . . .	318	—	—		318	49	—	—		49
Net loss attributable to Amyris, Inc. . . . .	(33,861)	—	(24,374)		(58,235)	(70,612)	—	(49,281)		(119,893)
Less deemed dividend on capital distribution to related parties . . . . .	—	—	—		—	(8,648)	—	8,648	an	—
Less deemed dividend related to beneficial conversion feature on Series A preferred stock . . . . .	—	—	—		—	(562)	—	—		(562)
Less deemed dividend related to beneficial conversion feature on Series B preferred stock . . . . .	(634)	—	—		(634)	(634)	—	—		(634)
Less deemed dividend related to beneficial conversion feature on Series D preferred stock . . . . .	(5,757)	—	—		(5,757)	(5,757)	—	—		(5,757)
Less deemed dividend upon settlement of make-whole provision on Series A preferred stock . . . . .	—	—	(1,026)	ap	(1,026)	—	—	(10,479)	ap	(10,479)
Less deemed dividend upon settlement of make-whole provision on Series B preferred stock . . . . .	—	—	(21,992)	aq	(21,992)	—	—	(21,992)	aq	(21,992)
Less deemed dividend related to proceeds discount and issuance costs upon conversion of Series A preferred stock . . . . .	—	—	(1,784)	ar	(1,784)	—	—	(20,146)	ar	(20,146)
Less deemed dividend related to proceeds discount and issuance costs upon conversion of Series B preferred stock . . . . .	—	—	(24,366)	as	(24,366)	—	—	(24,366)	as	(24,366)
Less cumulative dividends on Series A and Series B preferred stock . . . . .	(2,567)	—	2,567	aw	—	(4,242)	—	4,242	aw	—
Add: losses allocated to participating securities . . . . .	—	—	28,103	au	28,103	—	—	38,813	au	38,813
Net loss attributable to Amyris, Inc. common stockholders . . . . .	\$ (42,819)	—	\$(42,872)		\$ (85,691)	\$ (90,455)	—	\$(74,561)		\$ (165,016)

Three Months Ended (In thousands, except shares and per share amounts)	Three Months Ended September 30, 2017					Nine Months Ended September 30, 2017				
	As Previously Reported	Reclassifications <sup>(1)</sup>	Corrections	Ref	As Restated	As Previously Reported	Reclassifications <sup>(1)</sup>	Corrections	Ref	As Restated
Loss per share attributable to common stockholders:										
Basic and diluted . . . . .	\$ (1.14)				\$ (2.34)	\$ (3.32)				\$ (6.12)
Weighted-average shares of common stock outstanding used in computing loss per share of common stock:										
Basic and diluted . . . . .	<u>37,529,694</u>			av	<u>36,643,901</u>	<u>27,280,894</u>			av	<u>26,982,385</u>

(1) Reclassification of revenue by type to conform to the Company's current presentation.

Restatement adjustments:

- ab. Revision to accounting for license revenue for non-cash consideration and change in timing of recognition from a customer, and reclassification of revenue by type to conform to the Company's current presentation.
- ad. Correction in connection with a sales return.
- ae. Reclassification of operating expense by classification to conform to the Company's current presentation.
- af. Correction to accounting for expenses incurred in connection with May 2017 Offering, and reclassification of operating expense by classification to conform to the Company's current presentation.
- ah. Correction to amortization of debt discounts.
- ai. Correction to accounting for make-whole liability in connection with May 2017 Offering.
- ak. Correction to accounting for certain debt exchanges.
- an. Correction to record deemed dividend in connection with discounts and freestanding instruments related to preferred stock offerings
- ap. Correction to record deemed dividend in connection with discounts and freestanding instruments related to preferred stock offerings
- aq. Correction to record deemed dividend in connection with discounts and freestanding instruments related to preferred stock offerings
- ar. Correction to record deemed dividend in connection with discounts and freestanding instruments related to preferred stock offerings
- as. Correction to record deemed dividend in connection with discounts and freestanding instruments related to preferred stock offerings
- au. Correction in the computation of net loss per share to reflect participating securities.
- av. Correction to weighted-average shares outstanding.
- aw. Correction in the computation of net loss per share related to make-whole deemed dividends.

Condensed Consolidated Statements of Cash Flows

(In thousands)	Nine Months Ended September 30, 2017		
	As Previously Reported	Corrections <sup>(1)</sup>	As Restated
<b>Operating activities</b>			
Net loss	\$ (70,612)	(49,281)	\$(119,893)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	8,124	—	8,124
(Gain) loss on disposal of property, plant and equipment	37	—	37
Stock-based compensation	3,942	—	3,942
Amortization of debt discount	10,108	4,327	14,435
(Gain) loss upon extinguishment of debt	3,067	10,376	13,443
Receipt of equity in connection with collaboration arrangements revenue	(2,660)	2,660	—
(Gain) loss from change in fair value of derivative liabilities	(35,054)	36,220	1,166
(Gain) loss on foreign currency exchange rates	(205)	—	(205)
Changes in assets and liabilities:			
Accounts receivable	(10,947)	—	(10,947)
Inventories	(126)	—	(126)
Prepaid expenses and other assets	(12,962)	3,233	(9,729)
Accounts payable	3,119	(1,082)	2,037
Accrued and other liabilities	404	—	404
Contract liabilities	1,113	(2,433)	(1,320)
Net cash used in operating activities	(102,652)	4,020	(98,632)
<b>Investing activities</b>			
Change in short-term investments	2,999	—	2,999
Purchases of property, plant and equipment	(487)	—	(487)
Net cash (used in) provided by investing activities	2,512	—	2,512
<b>Financing activities</b>			
Proceeds from issuance of convertible preferred stock	101,427	562	101,989
Proceeds from exercises of common stock options	147	—	147
Payment of minimum employee taxes withheld upon net share settlement of restricted stock units	(87)	—	(87)
Proceeds from issuance of debt, net of issuance costs	13,965	—	13,965
Principal payments on debt	(26,708)	—	(26,708)
Net cash provided by financing activities	88,744	562	89,306
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(136)	—	(136)
Net (decrease) increase in cash, cash equivalents and restricted cash	(11,532)	4,582	(6,950)
Cash, cash equivalents and restricted cash at beginning of year	32,433	—	32,433
Cash, cash equivalents and restricted cash at end of year	\$ 20,901	\$ 4,582	\$ 25,483
<b>Reconciliation of cash, cash equivalents and restricted cash to the consolidated balance sheets</b>			
Cash and cash equivalents	\$ 15,865		\$ 15,865
Restricted cash, current	4,078		4,078
Restricted cash, noncurrent	958		958
Total cash, cash equivalents and restricted cash	\$ 20,901		\$ 20,901

(1) To reflect the impact of restatement corrections on the statement of cash flows.

## Q4 2017 Quarterly Data Restatement Adjustments

### Condensed Consolidated Balance Sheet

Consolidated balance sheet as of December 31, 2017 is shown in Note 2, “Restatement of 2017 Consolidated Financial Statements”.

### Condensed Consolidated Statements of Operations

Three Months Ended	Three Months Ended December 31, 2017				Year Ended December 31, 2017				
	As Previously Reported	Corrections	Ref	As Restated	As Previously Reported	Reclassifications <sup>(1)</sup>	Corrections	Ref	As Restated
<b>(In thousands, except shares and per share amounts)</b>									
Renewable products . . . . .	\$ 13,445	\$ —		\$ 13,445	\$ 45,781	\$ (3,411)	\$ —		\$ 42,370
Licenses and royalties . . . . .	57,703	(14,974)	ab	42,729	57,703	6,774	(15,774)	ab	48,703
Grants and collaborations . . . . .	9,440	—		9,440	39,960	(3,363)	1	ac	36,598
Total revenue . . . . .	<u>80,588</u>	<u>(14,974)</u>		<u>65,614</u>	<u>143,444</u>	<u>—</u>	<u>(15,773)</u>		<u>127,671</u>
Cost and operating expenses									
Cost of products sold . . . . .	15,029	676	ad	15,705	62,713	—	(406)	ad	62,307
Research and development . . . . .	12,815	606	ae	13,421	57,027	(72)	607	ae	57,562
Sales, general and administrative . . . . .	19,038	—		19,038	63,219	72	562	af	63,853
Impairment . . . . .	—	—		—	—	—	—		—
Total cost and operating expenses . . . . .	<u>46,882</u>	<u>1,282</u>		<u>48,164</u>	<u>182,959</u>	<u>—</u>	<u>763</u>		<u>183,722</u>
Loss from operations . . . . .	<u>33,706</u>	<u>(16,256)</u>		<u>17,450</u>	<u>(39,515)</u>	<u>—</u>	<u>(16,536)</u>		<u>(56,051)</u>
Other income (expense)									
(Loss) gain on divestiture . . . . .	5,732	—		5,732	5,732	—	—		5,732
Interest expense . . . . .	(4,813)	(1,012)	ah	(5,825)	(34,033)	—	(3,048)	ah	(37,081)
(Loss) gain from change in fair value of derivative instruments . . . . .	(37,164)	(10,522)	ai	(47,686)	(1,742)	—	(47,110)	ai	(48,852)
Loss upon extinguishment of debt . . . . .	1,546	—		1,546	(1,521)	—	(10,376)	ak	(11,897)
Other income (expense), net . . . . .	(380)	—		(380)	(955)	—	(1)	al	(956)
Total other expense, net . . . . .	<u>(35,079)</u>	<u>(11,534)</u>		<u>(46,613)</u>	<u>(32,519)</u>	<u>—</u>	<u>(60,535)</u>		<u>(93,054)</u>
Loss before income taxes . . . . .	<u>(1,373)</u>	<u>(27,790)</u>		<u>(29,163)</u>	<u>(72,034)</u>	<u>—</u>	<u>(77,071)</u>		<u>(149,105)</u>
Provision for income taxes . . . . .	(344)	(6,582)	am	(6,926)	(295)	—	(6,582)	am	(6,877)
Net loss attributable to Amyris, Inc. . . . .	<u>(1,717)</u>	<u>(34,372)</u>		<u>(36,089)</u>	<u>(72,329)</u>	<u>—</u>	<u>(83,653)</u>		<u>(155,982)</u>
Less deemed dividend on capital distribution to related parties . . . . .	—	—		—	(8,648)	—	8,648	an	—
Less deemed dividend related to beneficial conversion feature on Series A preferred stock . . . . .	—	—		—	(562)	—	—		(562)
Less deemed dividend related to beneficial conversion feature on Series B preferred stock . . . . .	—	—		—	(634)	—	—		(634)
Less deemed dividend related to beneficial conversion feature on Series D preferred stock . . . . .	—	—		—	(5,757)	—	—		(5,757)
Less deemed dividend upon settlement of make-whole provision on Series A preferred stock . . . . .	—	(26)	ap	(26)	—	—	(10,505)	ap	(10,505)
Less deemed dividend upon settlement of make-whole provision on Series B preferred stock . . . . .	—	(640)	aq	(640)	—	—	(22,632)	aq	(22,632)
Less deemed dividend related to proceeds discount and issuance costs upon conversion of Series A preferred stock . . . . .	—	(1,432)	ar	(1,432)	—	—	(21,578)	ar	(21,578)
Less deemed dividend related to proceeds discount and issuance costs upon conversion of Series B preferred stock . . . . .	—	—		—	—	—	(24,366)	as	(24,366)
Less cumulative dividends on Series A and Series B preferred stock . . . . .	(1,197)	1,197	aw	—	(5,439)	—	5,439	aw	—
Add: losses allocated to participating securities . . . . .	—	4,996	au	4,996	—	—	40,159	au	40,159
Net loss attributable to Amyris, Inc. common stockholders . . . . .	<u>\$ (2,914)</u>	<u>\$ (30,277)</u>		<u>\$ (33,191)</u>	<u>\$ (93,369)</u>	<u>\$ —</u>	<u>\$ (108,488)</u>		<u>\$ (201,857)</u>
Loss per share attributable to common stockholders:									
Basic and diluted . . . . .	<u>\$ (0.06)</u>			<u>\$ (0.69)</u>	<u>\$ (2.89)</u>				<u>\$ (6.26)</u>
Weighted-average shares of common stock outstanding used in computing loss per share of common stock:									
Basic and diluted . . . . .	<u>47,895,238</u>			<u>47,895,238</u>	<u>32,253,570</u>				<u>32,253,570</u>

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- (1) Reclassification of revenue and operating expense by type to conform to the Company's current presentation.

Restatement adjustments:

- ab. Ginkgo partnership obligation and promissory note issuance recorded as reduction in revenue, reversal of revenue in connection with non-cash consideration.
- ad. Correction in connection with a sales return, and adjustment to uninvoiced receipts liability.
- ae. Write-off of unrecoverable receivable in connection with facilities subleased to a related party, and reclassification of operating expense by classification to conform to the Company's current presentation.
- af. (i) Expense incurred in connection with May 2017 equity offering, and (ii) reclassification of amounts from related party services revenue to expense offset, and reclassification of operating expense by classification to conform to the Company's current presentation.
- ah. Correction to amortization of debt discounts, and interest expense in connection with Ginkgo partnership obligation.
- ai. Correction to accounting for make-whole liability in connection with May 2017 Offering.
- ak. Correction to accounting for certain debt exchanges.
- am. Tax provision to accrue liability for uncertain tax benefit.
- an. Correction to record deemed dividend in connection with discounts and freestanding instruments related to preferred stock offerings.
- ap. Correction to record deemed dividend in connection with discounts and freestanding instruments related to preferred stock offerings.
- aq. Correction to record deemed dividend in connection with discounts and freestanding instruments related to preferred stock offerings.
- ar. Correction to record deemed dividend in connection with discounts and freestanding instruments related to preferred stock offerings.
- as. Correction to record deemed dividend in connection with discounts and freestanding instruments related to preferred stock offerings.
- au. Correction in the computation of net loss per share to reflect participating securities.
- av. Correction to weighted-average shares outstanding.
- aw. Correction in the computation of net loss per share related to make-whole deemed dividends.

*Condensed Consolidated Statements of Cash Flows*

Consolidated statement of cash flows for the year ended December 31, 2017 is shown in Note 2, "Restatement of 2017 Consolidated Financial Statements".



**Q1 2018 Quarterly Data Restatement Adjustments**

*Condensed Consolidated Balance Sheet*

(In thousands)	March 31, 2018			
	As Previously Reported	Corrections	Ref.	As Restated
<b>Assets</b>				
Current assets:				
Cash and cash equivalents . . . . .	\$ 24,084	\$ —		\$ 24,084
Restricted cash . . . . .	2,454	—		2,454
Accounts receivable, net . . . . .	25,730	(19,695)	a	6,035
Accounts receivable – related party, net . . . . .	—	18,695	a	18,695
Accounts receivable, unbilled – related party . . . . .	9,247	—		9,247
Inventories . . . . .	4,998	—		4,998
Prepaid expenses and other current assets . . . . .	7,340	—		7,340
Total current assets . . . . .	<u>73,853</u>	<u>(1,000)</u>		<u>72,853</u>
Property, plant and equipment, net . . . . .	12,880	382		13,262
Accounts receivable, unbilled – related party, noncurrent . . . . .	7,940	—		7,940
Restricted cash, noncurrent . . . . .	959	—		959
Recoverable taxes from Brazilian government entities . . . . .	1,226	—		1,226
Other assets . . . . .	21,302	(9,015)	d	12,287
Total assets . . . . .	<u>\$ 118,160</u>	<u>\$ (9,633)</u>		<u>\$ 108,527</u>
<b>Liabilities, Mezzanine Equity and Stockholders' Deficit</b>				
Current liabilities:				
Accounts payable . . . . .	\$ 16,054	\$ (406)	e	\$ 15,648
Accrued and other current liabilities . . . . .	26,622	1,080	f	27,702
Contract liabilities . . . . .	6,466	2,910	g	9,376
Debt, current portion . . . . .	34,252	1,698	h	35,950
Related party debt, current portion . . . . .	27,171	—		27,171
Total current liabilities . . . . .	<u>110,565</u>	<u>5,282</u>		<u>115,847</u>
Long-term debt, net of current portion . . . . .	62,489	(2,027)	j	60,462
Related party debt, net of current portion . . . . .	39,147	—		39,147
Derivative liabilities . . . . .	183,189	(9,037)	l	174,152
Other noncurrent liabilities . . . . .	8,981	13,455	m	22,436
Total liabilities . . . . .	<u>404,371</u>	<u>7,673</u>		<u>412,044</u>
Commitments and contingencies				
Mezzanine equity:				
Contingently redeemable common stock . . . . .	5,000	—		5,000
Stockholders' deficit:				
Common stock – \$0.0001 par value . . . . .	5	—		5
Additional paid-in capital . . . . .	1,050,587	66,272	n	1,116,859
Accumulated other comprehensive loss . . . . .	(42,293)	—		(42,293)
Accumulated deficit . . . . .	(1,300,447)	(83,578)	p	(1,384,025)
Total Amyris, Inc. stockholders' deficit . . . . .	<u>(292,148)</u>	<u>(17,306)</u>		<u>(309,454)</u>
Noncontrolling interest . . . . .	937	—		937
Total stockholders' deficit . . . . .	<u>(291,211)</u>	<u>(17,306)</u>		<u>(308,517)</u>
Total liabilities, mezzanine equity and stockholders' deficit . . . . .	<u>\$ 118,160</u>	<u>\$ (9,633)</u>		<u>\$ 108,527</u>

Restatement adjustments:

- a. Reclassification of related party accounts receivable to a separate line on the balance sheet.

- c. Write-off of unrecoverable receivable in connection with facilities subleased to a related party.
- d. Reversal of revenue and the fair value of an equity instrument received as consideration in a revenue arrangement.
- e. Correction to uninvoiced receipts liability.
- f. March 31, 2018 liability in connection with December 2017 divestiture of Amyris Brasil Ltda.
- g. Revision to accounting for a license sale to a customer for which the customer paid the Company in equity, and shift in timing of royalty revenue recognition.
- h. Correction to debt discount amortization.
- i. Correction to extinguishment accounting for a make-whole equity instrument, and loss on extinguishment of related party debt in connection with May 2017 equity offering.
- m. Income tax liability, and Ginkgo partnership liability.
- n. Correction to the settlement of a make-whole equity instrument, and loss on extinguishment of related party debt in connection with May 2017 equity offering.
- p. Cumulative impact of restatement corrections on accumulated deficit.

*Condensed Consolidated Statements of Operations*

Three Months Ended	Three Months Ended March 31, 2018			
(In thousands, except shares and per share amounts)	As Previously Reported	Corrections	Ref	As Restated
Renewable products . . . . .	\$ 5,195	\$ —		\$ 5,195
Licenses and royalties . . . . .	11,437	(3,482)	ab	7,955
Grants and collaborations . . . . .	6,366	(1,657)	ac	4,709
Total revenue . . . . .	<u>22,998</u>	<u>(5,139)</u>		<u>17,859</u>
Cost and operating expenses				
Cost of products sold . . . . .	5,315	—		5,315
Research and development . . . . .	18,813	(988)	ae	17,825
Sales, general and administrative . . . . .	18,757	(657)	af	18,100
Total cost and operating expenses . . . . .	<u>42,885</u>	<u>(1,645)</u>		<u>41,240</u>
Loss from operations . . . . .	<u>(19,887)</u>	<u>(3,494)</u>		<u>(23,381)</u>
Other income (expense)				
(Loss) gain on divestiture . . . . .	—	(1,778)	ag	(1,778)
Interest expense . . . . .	(8,205)	(1,773)	ah	(9,978)
(Loss) gain from change in fair value of derivative instruments . . . . .	(63,913)	5,556	ai	(58,357)
Other income (expense), net . . . . .	509	183	al	692
Total other expense, net . . . . .	<u>(71,609)</u>	<u>2,188</u>		<u>(69,421)</u>
Loss before income taxes . . . . .	<u>(91,496)</u>	<u>(1,306)</u>		<u>(92,802)</u>
Provision for income taxes . . . . .	—	—		—
Net loss attributable to Amyris, Inc. . . . .	<u>(91,496)</u>	<u>(1,306)</u>		<u>(92,802)</u>
Less deemed dividend related to proceeds discount and issuance costs upon conversion of Series A preferred stock . . . . .	(395)	395	aw	—
Add: losses allocated to participating securities . . . . .	—	7,504	au	7,504
Net loss attributable to Amyris, Inc. common stockholders . . . .	<u>\$ (91,891)</u>	<u>\$ 6,593</u>		<u>\$ (85,298)</u>
Loss per share attributable to common stockholders:				
Basic and diluted . . . . .	<u>\$ (1.79)</u>			<u>\$ (1.67)</u>
Weighted-average shares of common stock outstanding used in computing loss per share of common stock:				
Basic and diluted . . . . .	<u>51,200,922</u>			<u>51,200,922</u>

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Restatement adjustments:

- ab. Reduction to revenue previously recognized in connection with DSM royalty revenue arrangement.
- ac. Reclassification of a related party transaction from collaboration revenue to expense offset.
- ae. Write-off of unrecoverable receivable in connection with facilities subleased to a related party, and revision to capitalization of internally-developed software.
- af. Expense incurred in connection with May 2017 equity offering, and reclassification of amounts from related party services revenue to expense offset.
- ag. Loss incurred in 2018 on December 2017 divestiture of Amyris Brasil Ltda.
- ah. Correction to amortization of debt discounts, and interest expense in connection with Ginkgo partnership obligation.
- ai. Adjustments to change in fair value of derivative liabilities in connection with May and August 2017 equity offerings.
- al. Revision to accounting for shares received in satisfaction of a 2017 revenue arrangement, equity issuance costs recorded as expense, and adjustment to gain (loss) on change in accumulated other comprehensive income.
- au. Correction in the computation of net loss per share to reflect participating securities.
- aw. Correction in the computation of net loss per share related to make-whole deemed dividends.

Condensed Consolidated Statements of Cash Flows

(In thousands)	Three Months Ended March 31, 2018		
	As Previously Reported	Corrections <sup>(1)</sup>	As Restated
<b>Operating activities</b>			
Net loss	\$(91,496)	(1,306)	\$(92,802)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	1,561	—	1,561
Gain on change in fair value of equity investment	(315)	315	—
(Gain) loss on disposal of property, plant and equipment	1,035	—	1,035
Stock-based compensation	1,278	—	1,278
Amortization of debt discount	3,016	1,773	4,789
(Gain) loss from change in fair value of derivative liabilities	63,913	(5,556)	58,357
(Gain) loss on foreign currency exchange rates	243	—	243
Changes in assets and liabilities:			
Accounts receivable	(926)	1,000	74
Contract assets	93	—	93
Inventories	420	—	420
Prepaid expenses and other assets	(2,268)	9,015	6,747
Accounts payable	(108)	—	(108)
Accrued and other liabilities	(2,779)	(8,341)	(11,120)
Contract liabilities	782	3,482	4,264
Net cash used in operating activities	(25,551)	382	(25,169)
<b>Investing activities</b>			
Purchases of property, plant and equipment	(1,202)	(382)	(1,584)
Net cash (used in) provided by investing activities	(1,202)	(382)	(1,584)
<b>Financing activities</b>			
Proceeds from exercises of common stock options	81	—	81
Payment of minimum employee taxes withheld upon net share settlement of restricted stock units	(66)	—	(66)
Principal payments on capital leases	(400)	—	(400)
Principal payments on debt	(6,534)	—	(6,534)
Proceeds from exercise of warrants	133	—	133
Proceeds from issuance of common stock in private placements, net of issuance costs	92	—	92
Net cash provided by financing activities	(6,694)	—	(6,694)
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(68)	—	(68)
Net (decrease) increase in cash, cash equivalents and restricted cash	(33,515)	—	(33,515)
Cash, cash equivalents and restricted cash at beginning of year	61,012	—	61,012
Cash, cash equivalents and restricted cash at end of year	<u>\$ 27,497</u>	<u>\$ —</u>	<u>\$ 27,497</u>
<b>Reconciliation of cash, cash equivalents and restricted cash to the consolidated balance sheets</b>			
Cash and cash equivalents	\$ 24,084		\$ 24,084
Restricted cash, current	2,454		2,454
Restricted cash, noncurrent	959		959
Total cash, cash equivalents and restricted cash	<u>\$ 27,497</u>		<u>\$ 27,497</u>

(1) To reflect the impact of restatement corrections on the statement of cash flows.

**Q2 2018 Quarterly Data Restatement Adjustments**

*Condensed Consolidated Balance Sheet*

(In thousands)	June 30, 2018			
	As Previously Reported	Corrections	Ref.	As Restated
<b>Assets</b>				
Current assets:				
Cash and cash equivalents	\$ 14,050	\$ —		\$ 14,050
Restricted cash	1,846	—		1,846
Short-term investments	130	—		130
Accounts receivable, net	26,814	(17,247)	a	9,567
Accounts receivable – related party, net	—	4,265	a	4,265
Accounts receivable, unbilled – related party	12,683	—		12,683
Inventories	6,632	—		6,632
Prepaid expenses and other current assets	4,687	—		4,687
Total current assets	<u>66,842</u>	<u>(12,982)</u>		<u>53,860</u>
Property, plant and equipment, net	15,300	—		15,300
Contract assets, noncurrent	9,747	—		9,747
Deferred cost of products sold, noncurrent – related party	—	—		—
Restricted cash, noncurrent	959	—		959
Recoverable taxes from Brazilian government entities	1,057	—		1,057
Other assets	24,747	(10,418)	d	14,329
Total assets	<u>\$ 118,652</u>	<u>\$(23,400)</u>		<u>\$ 95,252</u>
<b>Liabilities, Mezzanine Equity and Stockholders' Deficit</b>				
Current liabilities:				
Accounts payable	\$ 19,206	\$ —		\$ 19,206
Accrued and other current liabilities	20,101	2,645	f	22,746
Contract liabilities	9,643	(2,672)	g	6,971
Debt, current portion	59,987	118	h	60,105
Related party debt, current portion	49,669	—		49,669
Total current liabilities	<u>158,606</u>	<u>91</u>		<u>158,697</u>
Long-term debt, net of current portion	43,642	121	j	43,763
Related party debt, net of current portion	18,104	(270)	k	17,834
Derivative liabilities	138,695	(4,850)	l	133,845
Other noncurrent liabilities	8,581	13,492	m	22,073
Total liabilities	<u>367,628</u>	<u>8,584</u>		<u>376,212</u>
Commitments and contingencies				
Mezzanine equity:				
Contingently redeemable common stock	5,000	—		5,000
Stockholders' deficit:				
Common stock – \$0.0001 par value	5	—		5
Additional paid-in capital	1,086,814	67,811	n	1,154,625
Accumulated other comprehensive loss	(42,818)	(302)	o	(43,120)
Accumulated deficit	(1,298,914)	(99,493)	p	(1,398,407)
Total Amyris, Inc. stockholders' deficit	<u>(254,913)</u>	<u>(31,984)</u>		<u>(286,897)</u>
Noncontrolling interest	937	—		937
Total stockholders' deficit	<u>(253,976)</u>	<u>(31,984)</u>		<u>(285,960)</u>
Total liabilities, mezzanine equity and stockholders' deficit	<u>\$ 118,652</u>	<u>\$(23,400)</u>		<u>\$ 95,252</u>

Restatement adjustments:

- a. Reclassification of related party accounts receivable to a separate line on the balance sheet.
- c. Write-off of unrecoverable receivable in connection with facilities subleased to a related party.

- d. Reversal of revenue and the fair value of an equity instrument received as consideration in a revenue arrangement.
- e. Correction to uninvoiced receipts liability.
- f. March 31, 2018 liability in connection with December 2017 divestiture of Amyris Brasil Ltda.
- g. Revision to accounting for a license sale to a customer for which the customer paid the Company in equity, and shift in timing of royalty revenue recognition.
- h. Correction to debt discount amortization.
- l. Correction to extinguishment accounting for a make-whole equity instrument, and loss on extinguishment of related party debt in connection with May 2017 equity offering.
- m. Income tax and Ginkgo partnership obligation liabilities.
- n. Correction to the settlement of a make-whole equity instrument, and loss on extinguishment of related party debt in connection with May 2017 equity offering.
- o. Correction to accumulated other comprehensive loss.
- p. Cumulative impact of restatement corrections on accumulated deficit.

Condensed Consolidated Statements of Operations

Three Months Ended (In thousands, except shares and per share amounts)	Three Months Ended June 30, 2018			Six Months Ended June 30, 2018				
	As Previously Reported	Corrections	Ref	As Restated	As Previously Reported	Corrections	Ref	As Restated
Renewable products . . . . .	\$ 6,633	\$ —		\$ 6,633	\$ 11,828	\$ —		\$ 11,828
Licenses and royalties . . . . .	6,887	(7,400)	ab	(513)	18,324	(10,882)	ab	7,442
Grants and collaborations . . . . .	9,674	(735)	ac	8,939	16,040	(2,392)	ac	13,648
Total revenue . . . . .	<u>23,194</u>	<u>(8,135)</u>		<u>15,059</u>	<u>46,192</u>	<u>(13,274)</u>		<u>32,918</u>
Cost and operating expenses								
Cost of products sold . . . . .	5,984	550	ad	6,534	11,299	550	ad	11,849
Research and development . . . . .	15,287	382	ae	15,669	34,100	(606)	ae	33,494
Sales, general and administrative . . . . .	20,189	(735)	af	19,454	38,946	(1,392)	af	37,554
Total cost and operating expenses . . . . .	<u>41,460</u>	<u>197</u>		<u>41,657</u>	<u>84,345</u>	<u>(1,448)</u>		<u>82,897</u>
Loss from operations . . . . .	<u>(18,266)</u>	<u>(8,332)</u>		<u>(26,598)</u>	<u>(38,153)</u>	<u>(11,826)</u>		<u>(49,979)</u>
Other income (expense)								
(Loss) gain on divestiture . . . . .	—	—		—	—	(1,778)	ag	(1,778)
Interest expense . . . . .	(8,824)	(756)	ah	(9,580)	(17,029)	(2,529)	ah	(19,558)
(Loss) gain from change in fair value of derivative instruments . . . . .	24,365	(2,375)	ai	21,990	(39,548)	3,181	ai	(36,367)
Gain upon extinguishment of derivative liability . . . . .	1,857	(1,857)	aj	—	1,857	(1,857)	aj	—
Loss upon extinguishment of debt . . . . .	(26)	—		(26)	(26)	—		(26)
Other income (expense), net . . . . .	2,427	(2,595)	al	(168)	2,936	(2,412)	al	524
Total other expense, net . . . . .	<u>19,799</u>	<u>(7,583)</u>		<u>12,216</u>	<u>(51,810)</u>	<u>(5,395)</u>		<u>(57,205)</u>
Loss before income taxes . . . . .	1,533	(15,915)		(14,382)	(89,963)	(17,221)		(107,184)
Provision for income taxes . . . . .	—	—		—	—	—		—
Net loss attributable to Amyris, Inc. . . . .	1,533	(15,915)		(14,382)	(89,963)	(17,221)		(107,184)
Less cumulative dividends on Series A and Series B preferred stock . . . . .	(399)	399	aw	—	(794)	794	aw	—
Add: losses allocated to participating securities . . . . .	(67)	1,037	au	970	(67)	7,999	au	7,932
Net loss attributable to Amyris, Inc. common stockholders . . . . .	\$ 1,067	\$(14,479)		\$ (13,412)	\$ (90,824)	\$ (8,428)		\$ (99,252)
Loss per share attributable to common stockholders:								
Basic and diluted . . . . .	<u>\$ 0.02</u>			<u>\$ (0.24)</u>	<u>\$ (1.71)</u>			<u>\$ (1.87)</u>
Weighted-average shares of common stock outstanding used in computing loss per share of common stock:								
Basic and diluted . . . . .	<u>54,932,411</u>			<u>54,932,411</u>	<u>53,076,975</u>			<u>53,076,975</u>

Restatement adjustments:

- ab. Shift in timing of revenue recognized in connection with a royalty arrangement, reduction to revenue previously recognized in connection with DSM royalty revenue arrangement, and reclassification of a related party transaction from collaboration revenue to expense offset.
- ac. Reclassification of a related party transaction from collaboration revenue to expense offset.
- ad. Adjustment to uninvoiced receipts liability, and revision in connection with change in timing of revenue recognition.

- ae. Write-off of unrecoverable receivable in connection with facilities subleased to a related party, and revision to capitalization of internally-developed software.
- af. Expense incurred in connection with May 2017 equity offering, and reclassification of amounts from related party services revenue to expense offset.
- ag. Loss incurred in 2018 on December 2017 divestiture of Amyris Brasil Ltda.
- ah. Correction to amortization of debt discounts, and interest expense in connection with Ginkgo partnership obligation.
- ai. Correction to accounting for settlement of a make-whole equity instrument in connection with May 2017 equity offering.
- aj. Reclassification to (loss) gain from change in fair value of derivative instruments.
- al. Revision to accounting for shares received in satisfaction of a 2017 revenue arrangement, equity issuance costs recorded as expense, and adjustment to gain (loss) on change in accumulated other comprehensive income.
- au. Correction in the computation of net loss per share to reflect participating securities.
- aw. Correction in the computation of net loss per share related to make-whole deemed dividends.



Condensed Consolidated Statements of Cash Flows

(In thousands)	Six Months Ended June 30, 2018		
	As Previously Reported	Corrections <sup>(1)</sup>	As Restated
<b>Operating activities</b>			
Net loss	\$(89,963)	(17,221)	\$(107,184)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	2,944	—	2,944
Gain on change in fair value of equity investment	(1,717)	1,717	—
(Gain) loss on disposal of property, plant and equipment	942	—	942
Stock-based compensation	3,178	—	3,178
Amortization of debt discount	6,587	1,642	8,229
(Gain) loss upon extinguishment of debt	26	—	26
Receipt of equity in connection with collaboration arrangements revenue	—	—	—
(Gain) loss from change in fair value of derivative liabilities	39,548	(3,181)	36,367
(Gain) loss from extinguishment of derivative liabilities	(1,857)	1,857	—
(Gain) loss on foreign currency exchange rates	271	(302)	(31)
Changes in assets and liabilities:			
Accounts receivable	(2,027)	12,983	10,956
Contract assets	(5,150)	—	(5,150)
Inventories	(1,313)	—	(1,313)
Deferred cost of products sold	—	—	—
Prepaid expenses and other assets	(1,072)	(606)	(1,678)
Accounts payable	2,681	406	3,087
Accrued and other liabilities	(10,031)	3,311	(6,720)
Contract liabilities	3,959	(2,100)	1,859
Net cash used in operating activities	(52,994)	(1,494)	(54,488)
<b>Investing activities</b>			
Change in short-term investments	(157)	—	(157)
Purchases of property, plant and equipment	(4,207)	—	(4,207)
Net cash (used in) provided by investing activities	(4,364)	—	(4,364)
<b>Financing activities</b>			
Proceeds from exercises of common stock options	248	—	248
Payment of minimum employee taxes withheld upon net share settlement of restricted stock units	(185)	—	(185)
Principal payments on capital leases	(593)	—	(593)
Proceeds from issuance of debt, net of issuance costs	34,611	1,494	36,105
Principal payments on debt	(37,037)	—	(37,037)
Proceeds from exercise of warrants	14,549	—	14,549
Proceeds from issuance of common stock in private placements, net of issuance costs	1,416	—	1,416
Proceeds from ESPP purchases	270	—	270
Net cash provided by financing activities	13,279	1,494	14,773
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(78)	—	(78)
Net (decrease) increase in cash, cash equivalents and restricted cash	(44,157)	—	(44,157)
Cash, cash equivalents and restricted cash at beginning of year	61,012	—	61,012
Cash, cash equivalents and restricted cash at end of year	<u>\$ 16,855</u>	<u>\$ —</u>	<u>\$ 16,855</u>
<b>Reconciliation of cash, cash equivalents and restricted cash to the consolidated balance sheets</b>			
Cash and cash equivalents	\$ 14,050		\$ 14,050
Restricted cash, current	1,846		1,846
Restricted cash, noncurrent	959		959
Total cash, cash equivalents and restricted cash	<u>\$ 16,855</u>		<u>\$ 16,855</u>

(1) To reflect the impact of restatement corrections on the statement of cash flows.

**Q3 018 Quarterly Data Restatement Adjustments**

*Condensed Consolidated Balance Sheet*

(In thousands)	September 30, 2018			
	As Previously Reported	Corrections	Ref.	As Restated
<b>Assets</b>				
Current assets:				
Cash and cash equivalents . . . . .	\$ 19,045	\$ —		\$ 19,045
Restricted cash . . . . .	1,258	—		1,258
Accounts receivable, net . . . . .	35,564	(20,563)	a	15,001
Accounts receivable – related party, net . . . . .	—	7,581	a	7,581
Accounts receivable, unbilled – related party . . . . .	56	—		56
Inventories . . . . .	6,260	—		6,260
Prepaid expenses and other current assets . . . . .	5,541	—		5,541
Total current assets . . . . .	<u>67,724</u>	<u>(12,982)</u>		<u>54,742</u>
Property, plant and equipment, net . . . . .	16,622	—		16,622
Accounts receivable, unbilled – related party, . . . . .	9,767	—		9,767
Restricted cash, noncurrent . . . . .	959	—		959
Recoverable taxes from Brazilian government entities . . . . .	1,053	—		1,053
Other assets . . . . .	26,557	(12,161)	d	14,396
Total assets . . . . .	<u>\$ 122,682</u>	<u>\$ (25,143)</u>		<u>\$ 97,539</u>
<b>Liabilities, Mezzanine Equity and Stockholders' Deficit</b>				
Current liabilities:				
Accounts payable . . . . .	\$ 11,380	\$ —		\$ 11,380
Accrued and other current liabilities . . . . .	27,263	10,448	f	37,711
Contract liabilities . . . . .	6,698	(2,672)	g	4,026
Debt, current portion . . . . .	61,904	152	h	62,056
Related party debt, current portion . . . . .	47,020	—		47,020
Total current liabilities . . . . .	<u>154,265</u>	<u>7,928</u>		<u>162,193</u>
Long-term debt, net of current portion . . . . .	43,667	121	j	43,788
Related party debt, net of current portion . . . . .	18,526	(270)	k	18,256
Derivative liabilities . . . . .	98,662	(5,101)	l	93,561
Other noncurrent liabilities . . . . .	8,152	13,141	m	21,293
Total liabilities . . . . .	<u>323,272</u>	<u>15,819</u>		<u>339,091</u>
Commitments and contingencies				
Mezzanine equity:				
Contingently redeemable common stock . . . . .	5,000	—		5,000
Stockholders' deficit:				
Common stock – \$.0001 par value . . . . .	6	—		6
Additional paid – in capital . . . . .	1,202,850	65,829	n	1,268,679
Accumulated other comprehensive loss . . . . .	(42,148)	(1,166)	o	(43,314)
Accumulated deficit . . . . .	(1,367,235)	(105,625)	p	(1,472,860)
Total Amyris, Inc. stockholders' deficit . . . . .	<u>(206,527)</u>	<u>(40,962)</u>		<u>(247,489)</u>
Noncontrolling interest . . . . .	937	—		937
Total stockholders' deficit . . . . .	<u>(205,590)</u>	<u>(40,962)</u>		<u>(246,552)</u>
Total liabilities, mezzanine equity and stockholders' deficit . . . . .	<u>\$ 122,682</u>	<u>\$ (25,143)</u>		<u>\$ 97,539</u>

Restatement adjustments:

- a. Reclassification of related party accounts receivable to a separate line on the balance sheet, and revision to accounting for a related party royalties arrangement.

- d. Reversal of revenue and the fair value of an equity instrument received as consideration in a revenue arrangement.
- e. Correction to uninvoiced receipts liability.
- f. Liability related to modification of warrants recorded as legal expense, and liability in connection with December 2017 divestiture of Amyris Brasil Ltda.
- g. Revision to accounting for a related party royalties arrangement, and revision to accounting for a license sale to a customer for which the customer paid the Company in equity.
- h. Correction to debt discount amortization.
- j. Correction to debt discount amortization.
- l. Correction to extinguishment accounting for a make-whole equity instrument.
- m. Income tax and Ginkgo partnership obligation liabilities.
- n. Correction to the settlement of a make-whole equity instrument, and loss on extinguishment of related party debt in connection with May 2017 equity offering.
- o. Correction to accumulated other comprehensive loss.
- p. Cumulative impact of restatement corrections on accumulated deficit.

Condensed Consolidated Statements of Operations

Three Months Ended	Three Months Ended September 30, 2018				Nine Months Ended September 30, 2018			
	As Previously Reported	Corrections	Ref	As Restated	As Previously Reported	Corrections	Ref	As Restated
(In thousands, except shares and per share amounts)								
Renewable products . . . . .	\$ 9,639	\$ —		\$ 9,639	\$ 21,467	\$ —		\$ 21,467
Licenses and royalties . . . . .	142	—		142	18,466	(10,882)	ab	7,584
Grants and collaborations . . . . .	5,085	(551)	ac	4,534	21,125	(2,943)	ac	18,182
Total revenue . . . . .	14,866	(551)		14,315	61,058	(13,825)		47,233
Cost and operating expenses								
Cost of products sold . . . . .	8,574	—		8,574	19,873	550	ad	20,423
Research and development . . . . .	16,445	—		16,445	50,545	(606)	ae	49,939
Sales, general and administrative . . . . .	21,026	6,213	af	27,239	59,972	4,821	af	64,793
Total cost and operating expenses . . . . .	46,045	6,213		52,258	130,390	4,765		135,155
Loss from operations . . . . .	(31,179)	(6,764)		(37,943)	(69,332)	(18,590)		(87,922)
Other income (expense)								
(Loss) gain on divestiture . . . . .	—	—		—	—	(1,778)	ag	(1,778)
Interest expense . . . . .	(8,658)	(522)	ah	(9,180)	(25,687)	(3,051)	ah	(28,738)
(Loss) gain from change in fair value of derivative instruments . . . . .	(25,048)	251	ai	(24,797)	(64,596)	3,432	ai	(61,164)
Gain upon extinguishment of derivative liability . . . . .	(1,782)	1,782	aj	—	75	(75)	aj	—
Loss upon extinguishment of debt . . . . .	—	—		—	(26)	—		(26)
Other income (expense), net . . . . .	(1,654)	(879)	al	(2,533)	1,282	(3,291)	al	(2,009)
Total other expense, net . . . . .	(37,142)	632		(36,510)	(88,952)	(4,763)		(93,715)
Loss before income taxes . . . . .	(68,321)	(6,132)		(74,453)	(158,284)	(23,353)		(181,637)
Provision for income taxes . . . . .	—	—		—	—	—		—
Net loss attributable to Amyris, Inc. . . . .	(68,321)	(6,132)		(74,453)	(158,284)	(23,353)		(181,637)
Less deemed dividend related to proceeds discount and issuance costs upon conversion of Series D preferred stock . . . . .	—	(6,852)	at	(6,852)	—	(6,852)	at	(6,852)
Less cumulative dividends on Series A and Series B preferred stock . . . . .	(279)	279	aw	—	(1,073)	1,073	aw	—
Add: losses allocated to participating securities . . . . .	—	4,491	au	4,491	(67)	12,891	au	12,824
Net loss attributable to Amyris, Inc. common stockholders . . . . .	\$ (68,600)	\$ (8,214)		\$ (76,814)	\$ (159,424)	\$ (16,241)		\$ (175,665)
Loss per share attributable to common stockholders:								
Basic and diluted . . . . .	\$ (1.13)	\$ (0.13)		\$ (1.26)	\$ (2.86)	\$ (0.29)		\$ (3.15)
Weighted-average shares of common stock outstanding used in computing loss per share of common stock:								
Basic and diluted . . . . .	60,966,071			60,966,071	55,735,571			55,735,571

Restatement adjustments:

- ab. (i) Ginkgo partnership obligation and promissory note issuance recorded as reduction to revenue, (ii) reversal of revenue in connection with shares received in satisfaction of customer invoice, and (iii) shift in timing of revenue recognized in connection with a royalty arrangement, (iv) partly offset by a revenue increase as the result of reclassification of revenue by type to conform to the Company's current presentation.

- ad. Adjustment to uninvoiced receipts liability.
- ae. Write-off of unrecoverable receivable in connection with facilities subleased to a related party.
- af. Expense incurred in connection with May 2017 equity offering, and reclassification of amounts from related party services revenue to expense offset.
- ag. Loss incurred in 2018 on December 2017 divestiture of Amyris Brasil Ltda.
- ah. Interest expense in connection with Ginkgo partnership obligation.
- ai. Adjustments to change in fair value of derivative liabilities in connection with May and August 2017 equity offerings.
- aj. Correction to extinguishment accounting for a make-whole equity instrument, and loss on extinguishment of related party debt in connection with May 2017 equity offering.
- al. Revision to accounting for shares received in satisfaction of a 2017 revenue arrangement, equity issuance costs recorded as expense, and adjustment to gain (loss) on change in accumulated other comprehensive income.
- at. Correction to record deemed dividend in connection with discounts and freestanding instruments related to preferred stock offerings.
- au. Correction in the computation of net loss per share to reflect participating securities.
- aw. Correction in the computation of net loss per share related to make-whole deemed dividends.

Condensed Consolidated Statements of Cash Flows

(In thousands)	Nine Months Ended September 30, 2018		
	As Previously Reported	Corrections <sup>(1)</sup>	As Restated
<b>Operating activities</b>			
Net loss	\$(158,284)	(23,353)	\$(181,637)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	3,957	—	3,957
Gain on change in fair value of equity investment	(3,460)	3,460	—
(Gain) loss on disposal of property, plant and equipment	943	—	943
Stock-based compensation	6,115	—	6,115
Amortization of debt discount	10,568	1,676	12,244
(Gain) loss upon extinguishment of debt	26	—	26
(Gain) loss from change in fair value of derivative liabilities	64,596	(3,432)	61,164
(Gain) loss from extinguishment of derivative liabilities	(75)	75	—
(Gain) loss on foreign currency exchange rates	34	(1,166)	(1,132)
Changes in assets and liabilities:			
Accounts receivable	(10,756)	12,982	2,226
Contract assets	7,457	—	7,457
Inventories	(890)	—	(890)
Prepaid expenses and other assets	(1,781)	(606)	(2,387)
Accounts payable	(5,201)	406	(4,795)
Accrued and other liabilities	(2,216)	10,564	8,348
Contract liabilities	1,014	(2,100)	(1,086)
Net cash used in operating activities	(87,953)	(1,494)	(89,447)
<b>Investing activities</b>			
Purchases of property, plant and equipment	(6,362)	—	(6,362)
Net cash (used in) provided by investing activities	(6,362)	—	(6,362)
<b>Financing activities</b>			
Proceeds from exercises of common stock options	301	—	301
Payment of minimum employee taxes withheld upon net share settlement of restricted stock units	(196)	—	(196)
Principal payments on capital leases	(848)	—	(848)
Proceeds from issuance of debt, net of issuance costs	35,149	1,494	36,643
Principal payments on debt	(41,970)	—	(41,970)
Proceeds from exercise of warrants	60,544	—	60,544
Proceeds from issuance of common stock in private placements, net of issuance costs	1,416	—	1,416
Proceeds from ESPP purchases	270	—	270
Net cash provided by financing activities	54,666	1,494	56,160
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(101)	—	(101)
Net (decrease) increase in cash, cash equivalents and restricted cash	(39,750)	—	(39,750)
Cash, cash equivalents and restricted cash at beginning of year	61,012	—	61,012
Cash, cash equivalents and restricted cash at end of year	<u>\$ 21,262</u>	<u>\$ —</u>	<u>\$ 21,262</u>
<b>Reconciliation of cash, cash equivalents and restricted cash to the consolidated balance sheets</b>			
Cash and cash equivalents	\$ 19,045		\$ 19,045
Restricted cash, current	1,258		1,258
Restricted cash, noncurrent	959		959
Total cash, cash equivalents and restricted cash	<u>\$ 21,262</u>		<u>\$ 21,262</u>

(1) To reflect the impact of restatement corrections on the statement of cash flows.

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

None.

### **ITEM 9A. CONTROLS AND PROCEDURES**

As described in additional detail in the *Explanatory Note* to this Annual Report on Form 10-K, in May 2019, our Board, upon the recommendation of the Audit Committee after consultation with senior management, concluded that there were material misstatements in our audited consolidated financial statements for the year ended December 31, 2017. Accordingly, our Board and senior management concluded that our audited consolidated financial statements for the year ended December 31, 2017 should no longer be relied upon and required restatement. The restated audited consolidated financial statements for year ended December 31, 2017 are provided in this Annual Report on Form 10-K.

#### **(a) *Evaluation of Disclosure Controls and Procedures***

We maintain disclosure controls and procedures (as that term is defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934 (the Exchange Act) that are designed to provide reasonable assurance that information required to be disclosed in our reports under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the U.S. Securities and Exchange Commission's rules and forms, and that such information is accumulated and communicated to our management, including our principal executive officer (CEO) and interim chief financial officer (CFO) and, as appropriate, to allow timely decisions regarding required disclosures.

In connection with the preparation of this Annual Report on Form 10-K, we carried out an evaluation under the supervision of and with the participation of management, including our CEO and CFO, as of December 31, 2018, of the effectiveness of the design and operation of our disclosure controls and procedures. Based upon this evaluation, our CEO and CFO concluded that as of December 31, 2018, our disclosure controls and procedures were not effective because of the material weaknesses in our internal control over financial reporting described below.

Notwithstanding the existence of the material weaknesses described below, management performed additional analysis and other procedures to ensure that our consolidated financial statements were prepared in accordance with U.S. GAAP. Accordingly, management believes that the consolidated financial statements and disclosures included in this Annual Report on Form 10-K fairly present, in all material respects, in accordance with U.S. GAAP, our financial position, results of operations and cash flows for the periods presented.

#### **(b) *Management's Annual Report on Internal Control over Financial Reporting***

Our management is responsible for establishing and maintaining adequate internal control over financial reporting and for the assessment of the effectiveness of internal control over financial reporting as defined in Rule 13a-15(f) under the Exchange Act. Our internal control over financial reporting is a process designed by and under the supervision of our CEO and CFO and effected by our board of directors, management, and other personnel, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of our consolidated financial statements for external purposes in accordance with U.S. GAAP. Our internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of the assets of the Company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of the financial statements in accordance with U.S. GAAP, and that receipts and expenditures of the Company are being made only in accordance with authorizations of management and directors of company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the Company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies and procedures may deteriorate.

A “material weakness” is a deficiency, or combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis.

Management, under the supervision of our CEO and CFO, and oversight of the board of directors, conducted an assessment of the effectiveness of our internal control over financial reporting as of December 31, 2018, based on the criteria set forth in Internal Control — Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO 2013 Framework). Based on this assessment, management has identified deficiencies in our internal controls over financial reporting that contributed to the identified material weaknesses described below:

- The Company’s control environment is not effective because the Company lacked a sufficient number of trained resources with assigned responsibility and accountability over the application of generally accepted accounting principles and financial reporting and related internal controls over complex, significant non-routine transactions and routine transactions;
- The Company did not have an effective risk assessment process to identify and analyze necessary changes in business operations resulting from complex significant non-routine transactions and completeness and adequacy of required disclosures;
- The Company did not have an effective internal and external information and communication process to ensure that relevant and reliable information was communicated timely across the organization, to enable financial personnel to effectively carry out their financial reporting and internal control roles and responsibilities; and
- The Company did not design, implement and operate effective monitoring activities over complex, significant non-routine transactions and the accounting for income taxes to ascertain whether the processes and internal controls were present and functioning.

As a consequence of the ineffective control environment, risk assessment, information and communication and monitoring activities components, the Company did not design, implement, and maintain effective control activities at the transaction level over all significant accounts to mitigate the risk of material misstatement in financial reporting, specifically:

- The Company did not retain the required documentation to demonstrate the consistent and timely operation of the controls at a sufficient level of precision to prevent and detect potential misstatements; and
- The Company did not design and operate effective controls over account reconciliations, review and approval of manual journal entries, complex, significant non-routine transactions related to licenses and royalty revenue recognition, derivative liabilities, NOL carryforward limitations, currency translation adjustments and the completeness and accuracy and timely preparation of financial statement presentation and disclosures, including earnings per share.

The control deficiencies create a reasonable possibility that a material misstatement of our annual or interim consolidated financial statements would not be prevented or detected on a timely basis. Therefore, we concluded that these control deficiencies are material weaknesses and our internal control over financial reporting is not effective as of December 31, 2018.

The Company’s independent registered public accounting firm, Macias, Gini & O’Connell LLP, who audited the December 31, 2018 consolidated financial statements included in this annual report, has issued an adverse audit report on the effectiveness of the Company’s internal control over financial reporting as of December 31, 2018. Macias, Gini & O’Connell LLP’s report appears under Part II, Item 8 of this Annual Report on Form 10-K.

**(c) *Changes in Internal Control over Financial Reporting***

Except for the material weaknesses discussed above in this Item 9A that were identified in the fourth quarter (and that arose in an earlier period), there were no changes in our internal control over financial reporting during the fourth quarter of 2018 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.



**(d) Remediation Plan**

Management has begun implementing the plan to assess risks of material misstatement over financial reporting, including the enhancement of internal control activities, and training of key process owners. The plan will be accomplished by the execution of the following:

- Management will augment the finance and accounting function with qualified personnel commensurate with the complexity of our processes and financial reporting requirements. Management will review the assignment of roles and responsibilities to qualified personnel to ensure our financial reporting objectives are met.
- Management will ensure key process owners and other relevant personnel are adequately trained on our financial reporting processes and internal controls to ensure such processes and controls are performed timely and supported with adequate documentation evidencing control performance.
- Management will enhance internal communication processes through the formalization of internal control documentation and related documentation standards.
- Management will formalize and strengthen our oversight and monitoring controls to assess the effective functioning of controls over all components and functional areas of the organization and to monitor compliance with policies and procedures.
- Management will document and augment key policies and internal control procedures to strengthen our identification of and accounting for complex, significant non-routine transactions and routine transactions.

We believe these activities will remediate the control deficiencies identified above and strengthen our internal controls over financial reporting. Management, with the oversight of the Audit Committee, has dedicated incremental resources to successfully implement and test effectiveness of the enhanced controls throughout 2019 and into 2020.

As we continue to evaluate and work to improve our internal control over financial reporting, management may determine to take additional measures to address control deficiencies or determine to modify the remediation plan described above. We cannot be certain, however, that we will effectively remediate such material weaknesses or when we will do so, nor can we be certain of whether additional actions will be required or the costs of any such actions. In designing and evaluating disclosure controls and procedures and internal control over financial reporting, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives. In addition, the design of disclosure controls and procedures and internal control over financial reporting must reflect the fact that there are resource constraints and that management is required to apply judgement in evaluating the benefits of possible controls and procedures relative to their costs.

**Report of Independent Registered Public Accounting Firm**

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

**Opinion on Internal Control over Financial Reporting**

We have audited the internal control over financial reporting of Amyris, Inc. and Subsidiaries (the “Company”) as of December 31, 2018, based on criteria established in Internal Control — Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (the “COSO criteria”). In our opinion, the Company did not maintain, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on the COSO criteria.

We do not express an opinion or any other form of assurance on management’s statements referring to any corrective actions taken by the Company after the date of management’s assessment.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (“PCAOB”), the consolidated balance sheet as of December 31, 2018 and the related consolidated statement of operations, comprehensive loss, stockholders’ deficit and mezzanine equity and cash flow for the year end December 31, 2018, and the related notes (collectively referred to as the “consolidated financial statements”) and our report dated September 30, 2019 expressed an unqualified opinion thereon.

### **Basis for Opinion**

The Company’s management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Item 9A, management’s annual report on internal control over financial reporting. Our responsibility is to express an opinion on the Company’s internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit of internal control over financial reporting in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the Company’s annual or interim financial statements will not be prevented or detected on a timely basis. Several material weaknesses regarding management’s failure to design, implement and maintain internal control over financial reporting have been identified and described in management’s assessment in Item 9A. The material weaknesses related to 1) control environment, due to material weaknesses related to lack of a sufficient number of trained resources with assigned responsibility and accountability over the application of generally accepted accounting principles and financial reporting and related internal controls over complex, significant non-routine transactions and routine transactions; 2) risk assessment, as to the lack of processes to identify and analyze necessary changes in business operations resulting from complex significant non-routine transactions and completeness and adequacy of required disclosures; 3) information and communication, as to the lack of processes to ensure that relevant and reliable information was communicated timely across the organization, to enable financial personnel to effectively carry out their financial reporting and internal control roles and responsibilities and 4) monitoring, given the lack of control activities over complex, significant non-routine transactions and accounting for income taxes to ascertain whether the processes and internal controls were present and functioning. These material weaknesses contributed to additional material weaknesses with the Company not retaining the required documentation to demonstrate the consistent and timely operation of the controls at a sufficient level of precision to prevent and detect potential misstatements and did not design and operate effective controls over account reconciliations, review and approval of manual journal entries, complex, significant non-routine transactions related to licenses and royalty revenue recognition, derivative liabilities, NOL carryforward limitations, currency translation adjustments and the completeness and accuracy and timely preparation of financial statement presentation and disclosures, including earnings per share.

These material weaknesses were considered in determining the nature, timing, and extent of audit tests applied in our audit of the 2018 consolidated financial statements, and this report does not affect our report dated September 30, 2019 on those consolidated financial statements.

### **Definition and Limitations of Internal Control over Financial Reporting**

A company’s internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company’s internal

control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the Company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the Company are being made only in accordance with authorizations of management and directors of the Company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the Company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Macias Gini & O'Connell LLP

San Francisco, California

October 1, 2019

**ITEM 9B. OTHER INFORMATION**

None.

## PART III

### ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

#### Business Experience and Qualifications of Directors

The following tables and biographies set forth information for each director of Amyris:

#### Incumbent Class III Directors with a Term Expiring in 2019

Name	Age	Amyris Offices and Positions
John Doerr	68	Director, Chair of Nominating and Governance Committee
Christoph Goppelsroeder	60	Director
Lisa Qi	48	Director
Patrick Yang, Ph.D.	71	Director, Member of Leadership Development and Compensation Committee

*John Doerr* has been a member of the Board since 2006. Mr. Doerr has been Chairman at Kleiner Perkins Caufield & Byers (“KPCB”), a venture capital firm, since 1980. Mr. Doerr currently serves on the board of directors of Alphabet Inc., as well as on the boards of directors of numerous private companies, and previously served as a director of Zynga, Inc. from April 2013 to May 2017. Mr. Doerr holds a Bachelor of Science and a Master of Science in electrical engineering and computer science degrees from Rice University and a Master of Business Administration degree from Harvard University. Mr. Doerr’s global business leadership as general partner of KPCB, as well as his outside board experience as director of several public and private companies, enables him to provide valuable insight and guidance to our management team and the Board.

*Christoph Goppelsroeder* has been a member of the Board since November 2017. Mr. Goppelsroeder has served as the President and CEO of DSM Nutritional Products Ltd., a supplier of vitamins, carotenoids and other nutritional solutions, since 2013 and is a member of the DSM Executive Committee. Mr. Goppelsroeder has previously worked at Boston Consulting, Syngenta in its seed care business unit, and F. Hoffman-La Roche in its fine chemicals and vitamins division until the acquisition of such division by DSM in 2003. Mr. Goppelsroeder holds a degree in engineering from the Swiss Federal Institute of Technology and a Master of Business Administration degree from Insead, Fontainebleau. Mr. Goppelsroeder’s experience in the health and nutrition market enables him to provide the Board with critical insight into a potential growth area of the Company’s business.

*Lisa Qi* has been a member of the Board since May 2019. Ms. Qi is the founder and chief executive officer of Silver Gift Limited and Daling Xinchao (Beijing) Trading Co., Ltd., which operate the Daling Family e-commerce platform in China. Ms. Qi brings deep knowledge and significant experience in the areas of e-commerce, product branding and sales and the management of high-growth companies, which enables her to make a strategic contribution to the Board and provide guidance to the management team in these areas.

*Dr. Patrick Yang* has been a member of the Board since July 2014. Dr. Yang is a biotech industry consultant. He was Executive Vice President of Juno Therapeutics, Inc., a biopharmaceutical company focused on developing innovative cellular immunotherapies for the treatment of cancer, from September 2017 to January 2019. From January 2010 through March 2013, Dr. Yang served as Executive Vice President and Global Head of Technical Operations for F. Hoffmann-La Roche Ltd. (“Roche”), where he was responsible for Roche’s pharmaceutical and biotech manufacturing operations, process development, quality, regulatory, supply management and distribution functions. Before joining Roche, Dr. Yang worked for Genentech Inc., where he most recently served as Executive Vice President of Product Operations, and was responsible for manufacturing, process development, quality, regulatory affairs and distribution functions. Prior to joining Genentech Inc., Dr. Yang worked for Merck & Co., where he held several leadership roles including Vice President of Asia/Pacific Manufacturing Operations and Vice President of Supply Chain Management. He also previously worked at General Electric Co. and Life Systems, Inc. Dr. Yang currently serves on the boards of directors of Codexis, Inc. and PharmaEssentia Corporation,

and previously served on the board of directors of Andeavor (formerly Tesoro Corporation) from December 2010 to September 2018, and Celladon Corporation from March 2014 until May 2015. Dr. Yang's experience with the biotechnology industry and operations has enabled him to provide insight and guidance to our management team and the Board.

#### Incumbent Class I Directors with a Term Expiring in 2020

Name	Age	Amyris Offices and Positions
Geoffrey Duyk, M.D., Ph.D.	60	Director, Interim Chair of the Board and Member of Audit Committee and Operations and Finance Committee
Steven Mills	64	Director, Chair of Operations and Finance Committee and Member of Audit Committee and Leadership Development and Compensation Committee
Carole Piwnica	61	Director, Chair of Leadership Development and Compensation Committee and Member of Nominating and Governance Committee and Operations and Finance Committee
James McCann	68	Director

*Dr. Geoffrey Duyk* has been a member of the Board since May 2012 and has served as the interim Chair of the Board since May 2014. Dr. Duyk previously served on the Board from May 2006 to May 2011. Dr. Duyk is a partner of Circularis Partners LP, a technology focused investment firm. Previously, Dr. Duyk served as a partner and managing director of TPG Alternative & Renewable Technologies, a technology focused investment firm (together with its affiliates, "TPG"), from 2004 to 2017. Prior to TPG, he served on the board of directors and was President of Research and Development at Exelixis, Inc., a biopharmaceutical company focusing on drug discovery, from 1996 to 2003. Prior to Exelixis, Dr. Duyk was Vice President of Genomics and one of the founding scientific staff at Millennium Pharmaceuticals, from 1993 to 1996. Before that, Dr. Duyk was an Assistant Professor at Harvard Medical School in the Department of Genetics and Assistant Investigator of the Howard Hughes Medical Institute. Dr. Duyk currently serves on the boards of directors of: Anuvia Plant Nutrients; Concentric Ag Corporation (formerly Inocucor Technologies, Inc.); and ReGen Holdings Limited as well as on the nonprofit Case Western Reserve University Board of Trustees. Dr. Duyk is also a member of the Institute Board of Directors of the Moffitt Cancer Center where he chairs the Research and Development committee. Dr. Duyk serves as a member of Scientific Advisory Boards for HudsonAlpha, and Lawrence Berkeley National Laboratory (DOE). Previously, Dr. Duyk served as a member of Scientific Advisory Boards for Bayer CropSciences, The Jackson Labs as well as numerous NIH advisory committees. He served on the board of directors of Beta Renewables from 2011 to 2017, Elevance Renewable Sciences from 2007 to 2018, The American Society of Human Genetics (nonprofit) from 2012 to 2018, EPIRUS Biopharmaceuticals, Inc. from July 2014 to July 2016, Galleon Pharmaceuticals, Inc. from 2007 to 2016, Genomatica, Inc. from 2012 to 2017, Karos Pharmaceuticals, Inc. from 2010 to 2015, The Wesleyan University Board of Trustees from 2008 to June 2014, Aerie Pharmaceuticals from August 2005 to June 2017, and DNAnexus, Inc. from 2011 to 2017. Dr. Duyk holds a B.A. in Biology from Wesleyan University and a Ph.D. (Biochemistry) and M.D. from Case Western Reserve University. Dr. Duyk's experience with the biotechnology industry enables him to provide insight and guidance to our management team and Board.

*Carole Piwnica* has been a member of the Board since September 2009. Ms. Piwnica has been Director of NAXOS S.A.R.L. (Switzerland) (formerly NAXOS UK), a consulting firm advising private investors, since January 2008. Previously, Ms. Piwnica served as a director, from 1996 to 2006, and Vice-Chairman of Governmental Affairs, from 2000 to 2006, of Tate & Lyle Plc, a European food and agricultural ingredients company. She was a chairman of Amylum Group, a European food ingredient company and affiliate of Tate & Lyle Plc, from 1996 to 2000. Ms. Piwnica was a member of the board of directors of Aviva plc, a British insurance company, from May 2003 to December 2011, a member of the Biotech Advisory Council of Monsanto from May 2006 to October 2009, a member of the board of directors of Dairy Crest from 2007 until 2010, a member of the board of directors of Toepfer GmbH from 1996 until 2010 and a member of the board of directors of Louis Delhaize (retail, Belgium) from 2010 until 2013. In 2010, Ms. Piwnica was appointed as a member of the boards of Eutelsat (satellites, France) and Sanofi (pharmaceuticals, France). In 2014, she was appointed as a member of the board of Rothschild (financial services, France).

Ms. Piwnica holds a Law degree from the Université Libre de Bruxelles and a Master of Laws degree from New York University. She was also a member of the bar association of the state of New York, USA from 1985 until 2019 and was a member of the bar association of Paris, France from 1988 until 2013. Based on her multinational corporate leadership experience and extensive legal and corporate governance experience, Ms. Piwnica contributes guidance to the management team and the Board in leadership of multinational agricultural processing businesses and on legal and corporate governance obligations and best practices.

**Steven Mills** has been a member of the Board since August 2018. Mr. Mills has 40 years of experience in the fields of accounting, corporate finance, strategic planning, risk management, and mergers and acquisitions. He served as Chief Financial Officer of Amyris from May 2012 to December 2013. Prior to joining Amyris, Mr. Mills had a 33-year career at Archer-Daniels-Midland Company (“ADM”), one of the world’s largest agricultural processors and food ingredient providers. At ADM, he held various senior executive roles, including Chief Financial Officer, Controller, and head of Global Strategic Planning. Since 2013, Mr. Mills has served as a consultant and advisor to clients in the private equity, agribusiness, and financial services fields. Mr. Mills currently serves on the boards of Black Hills Corporation (where he also serves as the chair of the audit committee), Farmers Edge, Inc., Illinois College (where he also serves as the chairman of the board), and First Illinois Corporation (along with its wholly-owned banking subsidiary, Hickory Point Bank & Trust). Mr. Mills holds a Bachelor of Science degree in Mathematics from Illinois College. Mr. Mills’ familiarity with Amyris, as well as his expertise in accounting, finance and management, enables him to assist our management team and Board build and improve on our business and financial processes and management.

**James McCann** has been a member of the Board since May 2019. Mr. McCann is the founder and chairman of the board of directors of 1-800-FLOWERS.COM, Inc., a floral and gourmet foods gift retailer and distribution company founded in 1976, and served as chief executive officer of 1-800-FLOWERS.COM, Inc. from 1976 until June 2016. Mr. McCann also serves on the boards of directors of International Game Technology PLC (formerly GTECH S.p.A. and Lottomatica Group S.p.A.) and The Scotts Miracle-Gro Company. Mr. McCann previously served on the board of directors of Willis Towers Watson PLC (formerly Willis Group Holdings PLC) from 2004 until May 2019. Mr. McCann brings to the Board extensive experience in business leadership and innovation, which enables him to assist in the growth and development of our business.

**Incumbent Class II Directors with a Term Expiring in 2021**

Name	Age	Amyris Offices and Positions
Philip Eykerman	50	Director
Frank Kung, Ph.D.	71	Director, Member of Operations and Finance Committee
John Melo	53	Director, President and Chief Executive Officer
R. Neil Williams	66	Director, Chair of Audit Committee and Member of Operations and Finance Committee

**Philip Eykerman** has been a member of the Board since May 2017. Mr. Eykerman has served as the Executive Vice-President, Corporate Strategy & Acquisitions of Koninklijke DSM N.V. (together with its affiliates, “DSM”), a global science-based company in nutrition, health and sustainable living and an entity with which Amyris has a commercial and financial relationship and which is an owner of greater than five percent of the Company’s outstanding common stock, since 2011. In this role, he is responsible for corporate and business group strategy development, budgeting and planning, improvement programs, and all M&A activities for DSM. In 2015, he was also appointed as a member of the DSM Executive Committee and at present is also responsible for the DSM Food Specialties as well as DSM Hydrocolloids activities. Next to these roles within DSM, he is also a Supervisory Board member of ChemicalInvest (DSM/ CVC JV) and Supervisory Board member of AnQore TopCo B.V., and previously served as a member of the Supervisory Board of Patheon N.V. from March 2014 to August 2017. Before joining DSM, Mr. Eykerman worked for 14 years at McKinsey & Company of which the last 9 years as a Partner and leader of McKinsey’s Chemicals Practice in the Benelux and France. Before that, he worked as a process/project engineer for Fluor Daniel. He holds a master degree in Chemical Engineering from the KU Leuven

(Belgium) and in Refinery Engineering from the Institut Francais du Pétrole (France). Mr. Eykerman's experience in corporate strategy, mergers and acquisitions and operations enables him to provide insight to the Board regarding potential new opportunities for Amyris.

**Dr. Frank Kung** has been a member of the Board since November 2017. Dr. Kung is a founding member of Vivo Capital LLC ("Vivo"), a healthcare focused investment firm founded in 1996 in Palo Alto, California, which is an owner of greater than five percent of the Company's outstanding common stock. Dr. Kung started his career in the biotechnology industry in 1979 when he joined Cetus Corporation. He later co-founded Cetus Immune Corporation in 1981, which was acquired by its parent company in 1983. In 1984 he co-founded Genelabs Technologies, Inc. where he served as Chairman and CEO until 1995. During his tenure in Genelabs, he brought the Company public in 1991, and built it to a 175 employee international biotech company with operations in the United States, Belgium, Singapore, Switzerland and Taiwan. Dr. Kung holds a Bachelor of Science degree in chemistry from the National Tsing Hua University in Taiwan, and a Doctor of Philosophy degree in molecular biology and a Master of Business Administration degree from the University of California, Berkeley. Dr. Kung currently serves on the board of directors of a number of emerging healthcare and biotechnology companies. Dr. Kung's experience in healthcare and biotechnology and investing in companies enables him to provide the Board and management with guidance regarding the Company's business strategy and access to financial markets.

**John Melo** has nearly three decades of combined experience as an entrepreneur and thought leader in the global fuels industry and technology innovation. Mr. Melo has served as our Chief Executive Officer and a director since January 2007 and as our President since June 2008. Before joining Amyris, Mr. Melo served in various senior executive positions at BP Plc (formerly British Petroleum), one of the world's largest energy firms, from 1997 to 2006, most recently as President of U.S. Fuels Operations from 2004 until December 2006, and previously as Chief Information Officer of the refining and marketing segment from 2001 to 2003, Senior Advisor for e-business strategy to Lord Browne, BP Chief Executive, from 2000 to 2001, and Director of Global Brand Development from 1999 to 2000. Before joining BP, Mr. Melo was with Ernst & Young, an accounting firm, from 1996 to 1997, and a member of the management teams of several startup companies, including Computer Aided Services, a management systems integration company, and Alldata Corporation, a provider of automobile repair software to the automotive service industry. Mr. Melo currently serves on the board of directors of Renmatix, Inc., and on the board of the Industrial action of Bio and also on the board of the California Life Sciences Association. Mr. Melo was formerly an appointed member to the U.S. section of the U.S.-Brazil CEO Forum. Mr. Melo's experience as a senior executive at one of the world's largest energy companies provides critical leadership in shaping strategic direction and business transactions, and in building teams to drive innovation.

**R. Neil Williams** has been a member of the Board since 2013. Mr. Williams served as Executive Vice President and Chief Financial Officer of Intuit Inc., a business and financial software company, from January 2008 through January 2018. In such position he was responsible for all financial aspects of Intuit, including corporate strategy and business development, investor relations, financial operations and real estate. Before joining Intuit, Mr. Williams was the Executive Vice President and Chief Financial Officer for Visa U.S.A., Inc. In that role, he led all financial functions for Visa U.S.A., Inc. and its subsidiaries, including financial planning, business planning and financial monitoring. Mr. Williams concurrently served as Chief Financial Officer for Inovant LLC, Visa's global information technology organization, responsible for global transactions processing and technology development. His previous banking experience includes senior financial positions at commercial banks in the Southern and Midwest regions of the United States. Since March 2012, Mr. Williams has also served as a board member and chair of the audit committee of RingCentral, Inc. He joined the board and audit committee of Oportun, Inc. in November 2017. Mr. Williams is a certified public accountant and received his Bachelor's degree in business administration from the University of Southern Mississippi. Mr. Williams' expertise in accounting, finance and management enables him to provide important insight and guidance to our management team and Board and to serve as chair of our Audit Committee.

#### **Arrangements Concerning Selection of Directors**

In February 2012, pursuant to a Letter Agreement (the "Letter Agreement") entered into in connection with the sale of our common stock to certain investors including Biolding Investment SA ("Biolding"), Naxyris S.A., an investment vehicle owned by Naxos Capital Partners SCA Sicar ("Naxyris"),

and Maxwell (Mauritius) Pte Ltd (“Maxwell”), we agreed to appoint, and to use reasonable efforts consistent with the Board’s fiduciary duties to cause the re-nomination by the Board in the future of:

- One person designated by Biolding to serve as a member of the Board. Pursuant to the Letter Agreement, Biolding designated His Highness Sheikh Abdullah bin Khalifa Al Thani (“HH”) to serve as the Biolding representative on the Board, and HH was appointed to the Board in March 2012. Pursuant to the Letter Agreement, Biolding’s designation rights would terminate upon a sale of Amyris or Biolding holding less than 173,010 shares of our common stock. On May 14, 2019, HH resigned from the Board, and in connection therewith Biolding permanently waived its Board designation right.
- One person designated by Naxyris to serve as a member of the Board. Pursuant to the Letter Agreement, Naxyris designated Ms. Piwnica (who was already on the Board) to serve as the Naxyris representative on the Board. Naxyris’ designation rights terminate upon a sale of Amyris or Naxyris holding less than 115,340 shares of our common stock. As of August 30, 2019, Naxyris beneficially owned 3,743,038 shares of our common stock, representing approximately 3.5% of our outstanding common stock (this includes the assumed exercise of certain warrants held by Naxyris). Ms. Piwnica is Director of NAXOS S.A.R.L. (Switzerland), a consulting firm advising private investors and an affiliate of Naxos Capital Partners SCA Sicar, which owns Naxyris, and receives compensation and benefits from NAXOS S.A.R.L. (Switzerland) pursuant to its standard compensation policies and practices.
- One person designated by Maxwell to serve as a member of the Board. Pursuant to the Letter Agreement, Maxwell initially designated Dr. Nam-Hai Chua to serve as the Maxwell representative on the Board and, following Dr. Chua’s resignation from the Board effective June 7, 2015, Maxwell designated Abraham Klaijnsen to serve as the Maxwell representative on the Board and he was appointed on June 7, 2015. Mr. Klaijnsen resigned from the Board on November 2, 2017 and Maxwell did not designate a replacement for Mr. Klaijnsen. Maxwell’s designation rights terminate upon a sale of Amyris or Maxwell holding less than 173,010 shares of our common stock. As of December 31, 2018, Maxwell’s board designation right had terminated due to Maxwell holding less than 173,010 shares of our common stock.

In June 2010, we issued 7,101,548 shares of our Series D preferred stock to Total that converted into 643,401 shares of our common stock upon the completion of our initial public offering in September 2010. In connection with such equity investment, we entered into a letter agreement with Total, pursuant to which we agreed to appoint a person designated by Total to serve as a member of the Board, and to use reasonable efforts consistent with the Board’s fiduciary duties to cause the director designated by Total to be re-nominated by the Board in the future. Pursuant to the letter agreement, Total initially designated Philippe Boisseau to serve as the Total representative on the Board and, following Mr. Boisseau’s resignation from the Board in October 2016, Total designated Christophe Vuillez to serve as the Total representative on the Board. Mr. Vuillez resigned from the Board on May 20, 2019 and Total has not designated a replacement for Mr. Vuillez. Total’s designation rights terminate upon the earlier of Total holding less than 321,700 shares of our common stock or a sale of Amyris. As of August 30, 2019, Total beneficially owned 10,268,173 shares of our common stock, representing approximately 9.9% of our outstanding common stock (this includes the assumed conversion and exercise of certain convertible promissory notes and warrants, respectively, held by Total, as described below in Part III, Item 12 of this Annual Report on Form 10-K).

Pursuant to a Stockholder Agreement entered into in May 2017, and subsequently amended and restated in August 2017, in connection with the sale of our Series B 17.38% Convertible Preferred Stock and warrants to DSM (the “DSM Stockholder Agreement”), we agreed to appoint, and to use reasonable efforts consistent with the Board’s fiduciary duties to cause the re-nomination by the Board in the future of, two persons designated by DSM to serve as members of the Board. Pursuant to the DSM Stockholder Agreement, DSM initially designated Mr. Eykerman to serve as a DSM representative on the Board and, following the amendment and restatement of the DSM Stockholder Agreement in August 2017, DSM designated Mr. Goppelsroeder to serve as the second DSM representative on the Board. DSM’s designation rights terminate, with respect to one designee, at such time as DSM beneficially owns less than 10% of our



outstanding common stock and, with respect to both designees, at such time as DSM beneficially owns less than 4.5% of our outstanding common stock. As of August 30, 2019, DSM beneficially owned 27,001,551 shares of our common stock, representing approximately 23.0% of our outstanding common stock (this includes the assumed exercise of certain warrants held by DSM, as described below in Part III, Item 12 of this Annual Report on Form 10-K). Messrs. Eykerman and Goppelsroeder are employees of DSM and receive compensation and benefits from DSM pursuant to its standard compensation policies and practices.

In August 2017, pursuant to a Stockholder Agreement (the “Vivo Stockholder Agreement”) entered into in connection with the sale of our common stock, Series D Convertible Preferred Stock and warrants to Vivo, we agreed to appoint, and to use reasonable efforts consistent with the Board’s fiduciary duties to cause the re-nomination by the Board in the future of, one person designated by Vivo to serve as a member of the Board. Pursuant to the Vivo Stockholder Agreement, Vivo designated Dr. Kung to serve as the Vivo representative on the Board. Vivo’s designation rights terminate at such time as Vivo beneficially owns less than 4.5% of our outstanding common stock. As of August 30, 2019, Vivo beneficially owned 10,725,235 shares of our common stock, representing approximately 9.98% of our outstanding common stock (this includes the assumed conversion and exercise of certain shares of preferred stock and warrants, respectively, held by Vivo, as described below under Part III, Item 12 of this Annual Report on Form 10-K). Dr. Kung is a founding member of Vivo and receives compensation and benefits from Vivo pursuant to its standard compensation policies and practices.

Mr. Doerr and Dr. Duyk were initially designated to serve on the Board by KPCB and TPG, respectively, pursuant to a voting agreement as most recently amended and restated on June 21, 2010 (Dr. Duyk resigned from the Board in May 2011 and was re-appointed to the Board in May 2012). As of the date of this Annual Report on Form 10-K, notwithstanding the expiration of the voting agreement upon completion of our initial public offering in September 2010, Mr. Doerr and Dr. Duyk continue to serve on the Board and we expect each of them to continue to serve as a director until his resignation or until his successor is duly elected by the holders of our common stock. Mr. Doerr receives compensation and benefits from KPCB pursuant to its standard compensation policies and practices, and Dr. Duyk retains a carried interest in certain funds managed by TPG.

### **Executive Officers of the Registrant**

The following table provides the names, ages and offices of each of our executive officers as of October 1, 2019:

<b>Name</b>	<b>Age</b>	<b>Position</b>
John Melo	53	Director, President and Chief Executive Officer
Eduardo Alvarez	55	Chief Operating Officer
Kathleen Valiasek	56	Chief Business Officer
Nicole Kelsey	53	General Counsel and Secretary
Jonathan Wolter	69	Interim Chief Financial Officer

#### ***John Melo***

See above under “Business Experience and Qualifications of Directors.”

#### ***Eduardo Alvarez***

Eduardo Alvarez has served as our Chief Operating Officer since October 2017. Mr. Alvarez has over 30 years of global operations experience both running and advising growth companies. Previously, he served as Global Operations Strategy Leader for PricewaterhouseCoopers LLP (PwC). During his tenure, Mr. Alvarez co-led the integration of his prior company, Booz & Company, following its acquisition by PwC. In that role, he grew operations into a global practice with \$1.5 billion in revenue and 4,000 employees. Mr. Alvarez’s assignments focused on delivering structural cost improvements while also driving sustained revenue growth. His experience also includes roles at Booz Allen Hamilton, General Electric and AT&T. Alvarez holds a Master of Business Administration from Harvard Business School, a Master of

Science in Mechanical Engineering in computer control and manufacturing from the University of California, Berkeley, and a Bachelor of Science degree in mechanical engineering from the University of Michigan. Mr. Alvarez is a board member of The Chicago Council of Global Affairs.

#### ***Kathleen Valiasek***

Kathleen Valiasek has served as our Chief Business Officer since June 2019 and previously served as our Chief Financial Officer from January 2017 to June 2019. Prior to joining us, Ms. Valiasek served as Chief Executive Officer of a finance and strategic consulting firm she founded in 1994, and in this capacity she worked closely with the senior management teams of fast-growing companies including start-ups, venture-backed and Fortune 500 companies. Prior to this, she served in key venture capital, real estate development and accounting roles. Ms. Valiasek holds a Bachelor of Business Administration degree from the University of Massachusetts, Amherst.

#### ***Nicole Kelsey***

Nicole Kelsey has served as our General Counsel and Secretary since August 2017. Her areas of expertise range from U.S. securities laws, to international M&A and corporate governance. Prior to joining Amyris, she served as General Counsel and Secretary of Criteo, a global leader in commerce marketing based in Paris, for over three years. Prior to joining Criteo, Ms. Kelsey was the senior securities lawyer for Medtronic, a global leader in medical technology; she served as head M&A attorney for CIT Group, Inc.; was the general counsel of a private merchant bank; and worked for the international conglomerate Vivendi. Before going in-house, Ms. Kelsey practiced with the law firms of White & Case and Willkie, Farr & Gallagher, in Paris and New York. A Fulbright scholar, Ms. Kelsey holds a J.D. from Northwestern University and a B.A. from The Ohio State University.

#### ***Jonathan Wolter***

Jonathan Wolter has served as our Interim Chief Financial Officer since June 2019. His areas of expertise include financial management, operations, audit, internal controls, SEC reporting and compliance. Since 2004, he has served as a partner with FLG Partners LLC (FLG), where he has been retained as CFO by the boards of multiple public and private companies. Prior to joining FLG, Mr. Wolter was international controller with KPMG Consulting, where he also served as CFO of the firm's Latin America operations. Previously, Mr. Wolter held CFO and controller roles with public and private companies and also served as senior audit manager with Arthur Andersen & Co. His experience spans the biotechnology, technology, electronics, manufacturing, engineering and banking sectors.

#### **Audit Committee of the Board**

The Audit Committee was established by the Board in accordance with Section 3(a)(58)(A) of the Securities Exchange Act of 1934 (the "Exchange Act"), and assists the Board in fulfilling the Board's oversight of our accounting and system of internal controls, the quality and integrity of our financial reports, legal and regulatory matters, and the retention, independence and performance of our independent registered public accounting firm.

Under Nasdaq rules, we must have an audit committee of at least three members, each of whom must be independent as defined under the rules and regulations of Nasdaq and the Securities and Exchange Commission (the "SEC"). Our Audit Committee is currently composed of three directors: Dr. Duyk and Messrs. Mills and Williams. Mr. Williams is the Chair of the Audit Committee. The composition of the Audit Committee meets the requirements for independence under current Nasdaq and SEC rules and regulations. The Board has determined that each member of the Audit Committee is independent (as defined in the relevant Nasdaq and SEC rules and regulations), and is financially literate and able to read and understand fundamental financial statements, including a company's balance sheet, income statement and cash flow statement. In addition, the Board has determined that Mr. Williams is an "audit committee financial expert" as defined in Item 407(d)(5)(ii) of Regulation S-K promulgated under the Securities Act of 1933, as amended (the "Securities Act"), with employment experience in finance and accounting and other

comparable experience (as described above) that results in his financial sophistication. Being an “audit committee financial expert” does not impose on Mr. Williams any duties, obligations or liabilities that are greater than are generally imposed on him as a member of the Audit Committee and the Board.

### **Code of Business Conduct and Ethics**

We have adopted a Code of Business Conduct and Ethics that applies to all directors, officers and employees of Amyris as required by Nasdaq governance rules. Our Code of Business Conduct and Ethics includes a section entitled “Code of Ethics for Chief Executive Officer and Senior Financial Officers,” providing additional principles for ethical leadership and a requirement that such individuals foster a culture throughout Amyris that helps ensure the fair and timely reporting of our financial results and condition. Our Code of Business Conduct and Ethics is available on the corporate governance section of our website at <http://investors.amyris.com/corporate-governance>. Stockholders may also obtain a printed copy of our Code of Business Conduct and Ethics and our Corporate Governance Principles by writing to the Secretary of Amyris at 5885 Hollis Street, Suite 100, Emeryville, California 94608. If we make any substantive amendment to a provision of our Code of Business Conduct and Ethics that applies to our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions, or if we grant any waiver from any of such provisions to any such person, we will promptly disclose the nature of the amendment or waiver on the corporate governance section of our website at <http://investors.amyris.com/corporate-governance>.

### **Delinquent Section 16(a) Reports**

Section 16(a) of the Exchange Act requires our executive officers and directors, and any person or entity who beneficially owns more than ten percent of a registered class of our common stock or other equity securities, to file with the SEC certain reports of ownership and changes in ownership of our securities. Based solely on review of such filed reports and written representations by our executive officers and directors that no other reports were required, we believe that, during 2018, no reporting person failed to file the forms required by Section 16(a) of the Exchange Act on a timely basis, except that Nicole Kelsey, our General Counsel and Secretary, filed one Form 4 late with respect to the vesting of a restricted stock unit award in August 2018.

## **ITEM 11. EXECUTIVE COMPENSATION**

### **Compensation Discussion and Analysis**

The following discussion describes and analyzes the compensation policies, arrangements and decisions for our named executive officers in 2018 and should be read in conjunction with the compensation tables contained elsewhere in this Annual Report on Form 10-K. We believe our existing compensation policies, arrangements and decisions are consistent with our compensation philosophy and objectives discussed below and align the interests of our named executive officers with our short-term and long-term business objectives. During 2018, our named executive officers were:

- John Melo, our President and Chief Executive Officer (our “CEO”)
- Kathleen Valiasek, our Chief Financial Officer (Ms. Valiasek assumed the newly created role of Chief Business Officer to lead the CBD business and other business development efforts while continuing to lead the financing and investor relation activities effective June 3, 2019.)
- Joel Cherry, our President, Research and Development (Dr. Cherry resigned from the Company effective June 7, 2019.)
- Eduardo Alvarez, our Chief Operating Officer
- Nicole Kelsey, our General Counsel and Secretary

### ***Compensation Philosophy and Objectives and Elements of Compensation***

The primary objectives of our executive compensation program in 2018 were to:

- Attract, retain, and motivate highly talented employees that are key to our success;
- Reinforce our core values and foster a sense of ownership, urgency and entrepreneurial spirit;
- Link compensation to individual, team, and company performance (as appropriate by employee level);
- Emphasize performance-based compensation for individuals who can most directly impact stockholder value; and
- Provide exceptional pay for delivering exceptional results.

Our success depends, among other things, on attracting and retaining executive officers with experience and skills in a number of different areas as we continue to drive improvements in our technology platform and production process, pursue and establish key commercial relationships, develop and commercialize products and establish a reliable supply chain and manufacturing organization.

Our business continues to be in an early stage of development, with cash management being one key consideration for our strategy and operations. Accordingly, for 2018, we intended to provide a competitive compensation program that would enable us to attract and retain the top executives and employees necessary to develop our business, while being prudent in the management of our cash and equity. Based on this approach, we continued to aim to balance and reward annual and long-term performance with a total compensation package that included a mix of both cash and equity. Our compensation program was intended to align the interests of our executive officers, key employees and stockholders and to drive the creation of stockholder value by providing long-term incentives through equity-based awards.

Our intent and philosophy in designing compensation packages at the time of hiring of new executives is based on providing compensation that we believe is sufficient to enable us to attract the necessary talent to grow our business, within prudent limitations as discussed above. Compensation of our executive officers after the initial period following their hiring is influenced by the amounts of compensation that we initially agreed to pay them, as well as by our evaluation of their subsequent performance, changes in their levels of responsibility, retention considerations, prevailing market conditions, our financial condition and prospects, and our attempt to maintain an appropriate level of internal pay parity in the compensation of existing executive officers relative to the compensation paid to more recently hired executives.

We compensate our executive officers with a combination of salaries, cash bonuses and equity awards. We believe this combination of cash and equity compensation, subject to strategic allocation among such components, is largely consistent with the forms of compensation provided by other companies with which we compete for executive talent, and, as such, matches the expectations of our executive officers and the market for executive talent. We also believe that this combination provides appropriate incentive levels to retain our executives, reward them for performance in the short term and induce them to contribute to the creation of value in Amyris over the long term. We view the different components of our executive compensation program as distinct, each serving particular functions in furthering our compensation philosophy and objectives, and, together, providing a holistic approach to achieving such philosophy and objectives.

**Base Salary.** We believe that we must maintain base salary levels that are sufficiently competitive to position us to attract and retain the executive officers we need and that it is important for our executive officers to perceive that over time they will continue to have the opportunity to earn a salary that they regard as competitive. The Leadership Development and Compensation Committee of our Board (the “LDCC” or the “Committee”) reviews and adjusts, as appropriate, the base salaries of our executive officers on an annual basis, and makes decisions with respect to the base salaries of new executives at the time of hire. In making such determinations, the Committee considers several factors, including our overall financial performance, the individual performance of the executive officer in question (including, for executives other than our CEO, the recommendation of our CEO based on a performance evaluation of the executive officer in question), the executive officer’s potential to contribute to our annual and longer-term strategic goals, the executive officer’s scope of responsibilities, qualifications and experience, competitive market practices for base salary, prevailing market conditions and internal pay parity.

**Cash Bonuses.** We believe the ability to earn cash bonuses should provide incentives to our executive officers to effectively pursue goals established by our Board and should be regarded by our executive officers as appropriately rewarding effective performance against these goals. For 2018, the LDCC adopted a cash bonus plan for our executive officers, the details of which are described below under “2018 Compensation.” The 2018 cash bonus plan included company performance goals and individual performance goals and was structured to motivate our executive officers to achieve our short-term financial and operational goals and to reward exceptional company and individual performance. In particular, our 2018 cash bonus plan was designed to provide incentives to our executive officers to achieve 2018 company financial and operational targets on a quarterly and annual basis, together with various key individual operational objectives that were considered for annual performance achievement. In general, target bonuses for our executive officers are initially set in their offer letters based on similar factors to those described above with respect to the determination of base salary. For subsequent years, target bonuses for our executive officers may be adjusted by the LDCC based on various factors, including any modifications to base salary, competitive market practices and the other considerations described above with respect to adjustments in base salary. Certain bonuses paid to our executive officers under our 2018 cash bonus plan were granted in the discretion of the Committee notwithstanding the Company’s failure to meet stated performance goals. See “2018 Compensation — Cash Bonuses” below for more information.

**Equity Awards.** Our equity awards are designed to be sufficiently competitive to allow us to attract and retain talented and experienced executives. In 2018, we granted both stock option and restricted stock unit (“RSU”) awards to our executive officers. Stock option awards for executive officers are granted with an exercise price equal to the fair market value of our common stock on the date of grant; accordingly, such stock option awards will have value to our executive officers only if the market price of our common stock increases after the date of grant. RSU awards represent the right to receive full-value shares of our common stock without payment of any exercise or purchase price. In 2018 we continued a practice that began in 2016 to place a greater emphasis on RSU awards, as compared to stock options, to increase the perceived value of equity awards granted to our executive officers. The relative weighting between the stock option and RSU awards granted to our executive officers is based on the LDCC’s review of market practices. In 2018, the LDCC approved special equity awards to our CEO consisting of a stock option subject to performance-based vesting conditions and RSUs with time-based vesting, as described in more detail below under “2018 Compensation — Equity Awards — 2018 CEO Equity Awards.”

We typically grant stock option awards with four-year vesting schedules. Stock option grants include a one year “cliff”, where the stock option award vests as to 25% of the shares of our common stock subject to the award after one year, and monthly thereafter, subject to continued service through each vesting date. Our RSU awards have generally been granted with three-year vesting schedules, vesting as to 1/3<sup>rd</sup> of the units subject to the award annually, subject to continued service through each vesting date. We believe such vesting schedules are generally consistent with the option and RSU award granting practices of our peer group companies. In 2018, we granted stock option and/or RSU awards with non-standard vesting terms to certain of our executive officers, including our CEO, the details of which are described below under “2018 Compensation — Equity Awards.”

We grant equity awards to our executive officers in connection with their hiring, or, as applicable, their promotion from other roles at the Company. The size of initial equity awards is determined based on the executive’s position with us and takes into consideration the executive’s base salary and other compensation as well as an analysis of the grant and compensation practices of our peer group companies in connection with establishing our overall compensation policies. The initial equity awards are generally intended to provide the executive with an incentive to build value in the Company over an extended period of time, while remaining consistent with our overall compensation philosophy. Insofar as we have to date incurred operating losses and consumed substantial amounts of cash in our operations, and to compensate for cash salaries and cash bonus opportunities that were, in certain cases, lower than those offered by competing employers, we have sought to attract executives to join us by granting equity awards that would have the potential to provide significant value if we are successful.

We grant additional equity awards in recognition of commendable performance, in connection with significant changes in responsibilities, and/or in order to better ensure appropriate retention and incentive opportunities from time to time. Further, equity awards are a component of the annual compensation

package of our executive officers. In 2018, the LDCC granted equity awards based on input from management regarding performance, to satisfy our retention objectives and other considerations. In approving such awards, the LDCC took into account various factors, including the responsibilities, past performance and anticipated future contribution of the executive officer, his or her overall compensation package, his or her existing equity holdings and practice at our peer group companies.

**Role of Stockholder Say-on-Pay Votes.** At our 2011, 2014 and 2017 annual meetings of stockholders, our stockholders voted, on an advisory basis, on the compensation of our named executive officers (commonly referred to as a “stockholder say-on-pay vote”). A majority of the votes cast were voted in favor of the non-binding advisory resolutions approving the compensation of our named executive officers as summarized in our 2011, 2014 and 2017 proxy statements. In 2017, 99% of the votes cast on the stockholder say-on-pay proposal approved, on a non-binding advisory basis, the compensation of our named executive officers as summarized in our 2017 proxy statement. The LDCC believes that this affirms our stockholders’ support of our approach to executive compensation, and, accordingly, did not materially change its approach to executive compensation in 2018 and does not intend to do so in 2019. In addition, in 2017 our stockholders approved, and our Board subsequently adopted, a three-year interval for conducting future stockholder say-on-pay votes. Accordingly, our stockholders will again vote, on an advisory basis, on the compensation of our named executive officers at our 2020 annual meeting of stockholders.

### ***Compensation Policies and Practices as They Relate to Risk Management***

The LDCC has determined, through discussions with management and Compensia at Committee meetings held in February 2018 and November 2018, that our policies and practices of compensating our employees, including our executive officers, are not reasonably likely to have a material risk to us. The assessments conducted by the Committee focused on the key terms of our bonus plans and equity compensation programs in 2018, and our plans for such programs in 2019. Among other things, the Committee focused on whether our compensation programs created incentives for risk-taking behavior and whether existing risk mitigation features and policies were sufficient in light of the overall structure and composition of our compensation programs. Among other things, the Committee considered the following aspects of our overall compensation program:

- Our base salaries are generally high enough to provide our employees with sufficient income so that they are not dependent on bonus income to meet their basic cost of living.
- Cash bonus targets are typically 10 – 20% of an employee’s base salary (40 – 100% for our executive officers), which we believe provides balanced incentives for performance, but does not encourage excessive risk taking to achieve such goals. For 2019, most employees were removed from participation in the Company’s 2019 cash bonus plan and received an increase in their base salary in consideration of such removal. Executive officers (including our named executive officers) will continue to participate in the Company’s 2019 cash bonus plan.
- For key employees, our 2018 cash bonus plan (as discussed in more detail below under “2018 Compensation — Cash Bonuses”) emphasized company performance over individual performance objectives and provided for a maximum total bonus funding available for payout of 165% of target funding, with payouts ranging from 0% to 255% of an individual’s annual target bonus depending on company and individual performance. Our 2019 cash bonus plan applies only to certain key employees (including our executive officers) and provides for a maximum total bonus funding available for payout of 150% of target funding, with payouts ranging from 0% to 225% of an individual’s annual target bonus depending on company and individual performance.
- Generally, we do not provide commission or similar compensation programs to our employees. However, starting in 2016 we implemented a cash incentive plan for certain employees involved in sales activities. In 2018, we implemented additional incentive plans for certain employees involved in business development activity. The incentive plans in 2018 for these employees provided what we viewed as moderate leverage, in which approximately 60 – 70% of the employee’s cash compensation was base salary and approximately 30 – 40% was commission-based, depending on the nature of the role.

- For our executive officers, in 2018 we targeted the 50<sup>th</sup> percentile of our competitive market for total cash compensation and between the 50<sup>th</sup> and 75<sup>th</sup> percentiles of our competitive market (subject to company performance and affordability within dilution constraints) for equity compensation, which typically was to vest over three to four years, providing our executives with significant incentives for our longer-term success. For 2019, we are maintaining the same targets as 2018 for total cash and equity compensation for our executive officers.

Based on these considerations, the Committee determined that our compensation programs, including our executive and non-executive compensation programs, provide an appropriate balance of incentives and do not encourage our executives or other employees to take excessive risks or otherwise create risks that are likely to have a material adverse effect on us.

**Role of Compensation Consultant.** In connection with an annual review of our executive compensation program for 2018, the LDCC retained Compensia, a national compensation consulting firm, to provide advice and guidance on our executive compensation policies and practices and relevant information about the executive compensation practices of similarly situated companies. In 2018, Compensia assisted in the preparation of materials for executive compensation proposals in advance of Committee meetings, including 2018 compensation levels for our executive officers and the design of our cash bonus, equity, severance and change of control programs and other executive benefit programs. Compensia also reviewed and advised the LDCC on materials relating to executive compensation prepared by management for Committee consideration. In addition, in the fourth quarter of 2017, Compensia assisted the LDCC in developing our compensation peer group for 2018 (as discussed below). The LDCC retained Compensia again in the fourth quarter of 2018 to provide assistance with respect to our 2019 compensation planning, including updates to our compensation peer group.

Compensia, under the direction of the LDCC, may continue to periodically conduct a review of the competitiveness of our executive compensation programs, including base salaries, cash bonus opportunities, equity awards and other executive benefits, by analyzing the compensation practices of companies in our compensation peer group, as well as data from third-party compensation surveys. Generally, the LDCC uses the results of such analyses to assess the competitiveness of our executive officers' total compensation, and to determine whether each component of such total compensation is properly aligned with reasonable and responsible practices among our peer companies.

The LDCC also retained Compensia for assistance in reviewing and making recommendations to our Board regarding the compensation program for our non-employee directors when it was originally adopted in late 2010 and again when such program was subsequently amended in December 2015 and November 2016, and to provide market data and materials to the Committee.

In September 2017 and November 2018, the LDCC reviewed the independence of Compensia under applicable compensation consultant independence rules and standards and determined that Compensia had no conflict of interest with Amyris.

### ***Compensation Decision Process***

Under the charter of the LDCC, our Board has delegated to the Committee the authority and responsibility to discharge the responsibilities of the Board relating to the compensation of our executive officers. This includes, among other things, review and approval of the compensation of our executive officers and of the terms of any compensation agreements with our executive officers. For more information regarding the functions and composition of the LDCC, please refer to "Committees of the Board Leadership Development and Compensation Committee" in Part III, Item 10 above.

In general, the LDCC is responsible for the design, implementation and oversight of our executive compensation program. In accordance with its charter, the Committee determines the annual compensation of our CEO and other executive officers and reports its compensation decisions to our Board. The Committee also administers our equity compensation plans, including our 2010 Equity Incentive Plan (the "2010 EIP") and 2010 Employee Stock Purchase Plan. Generally, our Human Resources, Finance and Legal departments work with our Chief Executive Officer to design and develop new compensation programs applicable to our executive officers and non-employee directors, to recommend changes to existing compensation programs, to recommend financial and other performance targets to be achieved

under those programs, to prepare analyses of financial data, to prepare peer compensation comparisons and other committee briefing materials, and to implement the decisions of the Committee. Members of these departments and our Chief Executive Officer also meet separately with Compensia to convey information on proposals that management may make to the LDCC, as well as to allow Compensia to collect information about Amyris to develop its recommendations. In addition, our Chief Executive Officer conducts reviews of the performance and compensation of our other executive officers, and based on these reviews and input from Compensia and our Human Resources department, makes recommendations regarding compensation for such executive officers directly to the Committee. For our CEO's compensation, Compensia reviews relevant market data with the Chair of the LDCC, as well as the performance of our CEO, and based on such review makes a recommendation regarding our CEO's compensation, which is then presented to the LDCC. None of our executive officers participated in the determinations or deliberations of the LDCC regarding the amount of any component of his or her own 2018 compensation.

**Use of Competitive Data.** To monitor the competitiveness of our executive officers' compensation, in November 2017 the LDCC approved a compensation peer group (the "Peer Group") to be used in connection with its 2018 compensation discussions that analyzed the compensation of executive officers in comparable positions at similarly-situated companies. The data gathered from the Peer Group was used as a reference in setting executive pay levels (including cash and equity compensation), non-employee director compensation, incentive plan practices, severance and change-in-control practices, equity utilization and pay/performance alignment. The Peer Group was composed of a cross-section of publicly-traded, U.S.-based companies of similar size to us (based on revenue, enterprise value, number of employees and R&D expenditures) from related industries (biotechnology, oil, gas and consumable fuels, chemicals, food products, personal products and household products). Based on these criteria, the following companies were included in the Peer Group approved by the LDCC for use in assessing the market position of our executive compensation for 2018:

#### **2018 Peer Group**

- American Vanguard
- Balchem
- Codexis
- Innospec
- Intrexon
- Kraton Performance Polymers
- Landec
- Renewable Energy Group
- Rentech
- Yield10 Bioscience (formerly Metabolix)

In November 2018, the LDCC conducted a review of the Peer Group for 2019. Similar to our approach for developing the 2018 Peer Group, we identified potential peers by screening publicly-traded, U.S.-based companies of similar size to us (based on revenue, enterprise value, number of employees and R&D expenditures) from related industries (biotechnology and pharmaceuticals, life sciences tools and services, oil, gas and consumable fuels, chemicals, food products, personal products and household products). Based on such analysis, the LDCC removed BioAmber, Kraton, Renewable Energy Group, Rentech, Senomyx, TerraVia Holdings and Yield10 Bioscience from the Peer Group for 2019 due to their financial profile, relevance and/or recent acquisition, and added Calyxt, Cambrex, e.l.f. Beauty, Hawkins, Innophos Holdings, International Flavors & Fragrances, Medifast, Phibro Animal Health, Sensient Technologies, Trecora Resources and USANA Health Sciences.

In addition to reviewing the compensation practices of the Peer Group, the LDCC looks to the collective experience and judgment of its members and advisors, as well as relevant industry survey data, in determining total compensation and the various compensation components provided to our executive



officers. While the LDCC does not believe that the Peer Group data is appropriate as a stand-alone tool for setting executive compensation due to the unique nature of our business, it believes that this information is a valuable reference source during its decision-making process.

**Target Compensation Levels.** For 2018 the LDCC generally targeted the 50<sup>th</sup> percentile of our competitive market for total cash compensation (base salary and target cash bonus), as determined based on the Peer Group, supplemented by data from relevant industry surveys. The Committee chose the 50<sup>th</sup> percentile for total cash compensation in part because we are still in the early stages of product development and therefore need to conserve our cash while we ramp up our operations. Equity has been a critical and prominent component in our overall compensation package and we believe that it will remain an important tool for attracting, retaining and motivating our key talent by providing an opportunity for wealth creation as a result of our long-term success, particularly while we are growing our business. As a result, for 2018 the LDCC targeted equity compensation levels between the 50<sup>th</sup> and the 75<sup>th</sup> percentile (subject to company performance and affordability within dilution constraints) of our competitive market for equity compensation based on the Peer Group, supplemented by data from relevant industry surveys, and taking into consideration the LDCC approved targeted annual burn rate.

To this end, the LDCC approved annual equity awards for Ms. Valiasek, Dr. Cherry and Ms. Kelsey in May 2018 based primarily on the foregoing strategy. In addition, in April 2018 the LDCC approved special equity awards for our CEO, the details of which are described below under “2018 Compensation — Equity Awards — 2018 CEO Equity Awards” and in May 2018 the LDCC approved an equity award for Mr. Alvarez of 250,000 RSUs in accordance with the terms of his employment offer letter with the Company entered into in October 2017. Each of such awards was conditioned on the approval by our stockholders of certain amendments to the 2010 EIP to, among other things, increase the annual per-participant award limit thereunder, which amendments were approved by our stockholders in May 2018. In determining the size of the annual equity grants and the 2018 CEO Equity Awards, the LDCC considered the retention value of existing awards held by our named executive officers (taking into account option exercise prices and the prevailing market value of our common stock), the executives’ overall compensation packages, practice at peer companies and the responsibilities, performance, anticipated future contributions and retention risk of our named executive officers. In 2018, the equity awards granted to certain of our executive officers were larger than in prior years, in part due to the low retention value of existing awards held by such officers.

For 2019, we expect to continue to target the same percentiles for execution compensation as we have in 2018, as determined based on the Peer Group, supplemented by data from relevant industry surveys, which approach the LDCC approved in November 2018.

### ***2018 Compensation***

**Background.** In designing the compensation program and making decisions for our executive officers for 2018, the Committee sought to balance achievement of critical operational goals with retention of key personnel, including our executive officers. Accordingly, the Committee focused in particular on providing a strong equity compensation program in order to provide strong retention incentives through challenging periods. It also focused on cash management in setting target total cash compensation (and associated salary and bonus target levels) for our executive officers. Another key theme for 2018 was establishing strong incentives to drive our performance, including continued emphasis on company performance goals over individual goals in the 2018 cash bonus plan and on equity compensation for longer-term upside potential and sharing in company growth.

**Base Salaries.** In February 2018, the LDCC reviewed the base salaries, bonus targets and target total cash compensation of our executive officers against the Peer Group, as supplemented by relevant industry survey data, and, as a result of such analysis, as well as consideration of the factors described above under “Compensation Philosophy and Objectives and Elements of Compensation — Base Salary,” determined that no base salary adjustments were needed to ensure competitive base salaries for our executive officers.

**Cash Bonuses.** The LDCC adopted a 2018 cash bonus plan for our executive officers in February 2018. Under the plan, our executive officers were eligible for bonuses based on the achievement of company metrics for each quarter in 2018, with a portion of their target bonus allocated to annual company and

individual performance. The 2018 cash bonus plan was intended to provide a balanced focus on both our long-term strategic goals and shorter-term quarterly operational goals. The 2018 cash bonus plan provided for funding and payout of cash bonus awards based on our quarterly and annual performance during 2018 under pre-established metrics set by the LDCC for each quarter and for the year. Payouts, if any, under the 2018 cash bonus plan were made following a review of our results and performance each quarter and, for the annual component, a review occurred in February 2019 with respect to the annual performance of the Company as well as each individual's performance. The 2018 cash bonus plan provided for a 50% weighting for quarterly achievement (with each quarter worth 12.5% of the total bonus fund for the year) and 50% for full year 2018 achievement.

The total funding possible under the 2018 cash bonus plan was based on a cash value (or the "target bonus fund") determined by the executive officers' target bonus levels. Target bonus levels for our executive officers in 2018 varied by individual, but were generally set between 40% and 100% of their annual base salary. In February and May 2018, the LDCC reviewed our executive officers' bonus targets as part of its review of target total cash compensation for similar roles among executive officers at companies in the Peer Group, as supplemented by relevant industry survey data, and, as a result of such analysis, as well as consideration of the factors described above under "Compensation Philosophy and Objectives and Elements of Compensation — Cash Bonuses," approved increases to the target bonus level for one of our executive officers, Ms. Valiasek, from 40% to 50% of annual base salary effective January 1, 2018 and from 50% to 80% of annual base salary effective April 1, 2018.

The quarterly and annual funding of the 2018 cash bonus plan was based on achievement of the following company performance metrics for the applicable quarter and full year 2018, respectively (as determined by the LDCC and, in the case of quarterly funding, as applicable for the quarter based on our operating plan): GAAP revenue (weighted 50%), gross margin (weighted 50%) and earnings before interest, tax, depreciation and amortization ("EBITDA") (providing an additional valuation metric at +/-20% for the annual bonus funding). For each quarterly period and for the annual period under the 2018 cash bonus plan, "threshold," "target" and "superior" performance levels were set for each applicable performance metric, which performance levels were intended to capture the relative difficulty of achievement of that metric.

If we did not achieve at least a 70% weighted average achievement level of the applicable performance metrics described above that achieved at least the "threshold" performance level for a given bonus plan period (the "funding threshold"), no funding would occur for such period. If we achieved the funding threshold level, 70% funding would occur. For a weighted average achievement between the funding threshold level and "target" level, a pro rata increase in funding would occur up to 100% of the target bonus fund allocated to such period. For weighted average achievement above the target level, an increase in funding of 1.67% of the target bonus fund for every 1% above target performance would occur up to 150% of the target bonus fund for the applicable bonus plan period, provided that the annual bonus funding would be subject to further adjustment based on the achievement of an annual EBITDA target, which could increase the annual bonus funding up to 180% of target.

Any payouts for the quarterly bonus periods would be the same as the funded level (provided the recipient meets eligibility requirements), subject to the final discretion of the Committee. Payouts for the annual bonus period would be made from the aggregate funded amount in the discretion of the Committee based on company and individual performance, and could range from 0% to 200% of an individual's funded amount for the annual bonus period. The Committee chose to emphasize company performance goals for the quarterly and annual bonus plan periods given the critical importance of our short term strategic goals, but also to retain reasonable incentives and rewards for exceptional individual performance, recognizing the value of such incentives and rewards to our operational performance and to individual retention. For 2018, the LDCC set the following target bonus levels for our named executive officers:

Name	Target Bonus (\$)
John Melo . . . . .	600,000
Kathleen Valiasek <sup>(1)</sup> . . . . .	304,500
Joel Cherry . . . . .	187,500
Eduardo Alvarez . . . . .	400,000
Nicole Kelsey . . . . .	158,000

- (1) Ms. Valiasek’s target bonus level was increased from 40% to 50% of annual base salary effective January 1, 2018 and from 50% to 80% of annual base salary effective April 1, 2018. Ms. Valiasek assumed the newly created role of Chief Business Officer to lead the CBD business and other business development efforts while continuing to lead the financing and investor relation activities effective June 3, 2019.

Based on the foregoing bonus plan structure, individual bonuses were awarded each quarter based on the LDCC’s assessment of company achievement, and with respect to the annual bonus, the LDCC’s assessment of company achievement as well as each executive officer’s contributions to such achievement, his or her progress toward achieving his or her individual goals, and his or her demonstrating our core values. Actual payment of any bonuses with respect to 2018 remained subject to the final discretion of the Committee. In 2018, the Committee exercised its discretion under the bonus plan to pay awards to certain of our named executive officers with respect to the third quarter and annual period of 2018, notwithstanding the Company’s failure to achieve the funding threshold level under the bonus plan for such periods. The Committee determined that such bonus awards were consistent with the spirit of the bonus plan and were appropriate in light of the Company’s progress towards its goals and objectives.

*Company Performance Goals.* Company performance during 2018 was measured and weighted against quarterly and annual targets established for GAAP revenue and gross margin and an annual target established for EBITDA. The quarterly and annual weighting and achievement for each applicable metric are described below.

These targets were initially discussed with our Board and the LDCC in the second half of 2017. The annual and first quarter targets were adopted in February 2018, and the second, third and fourth quarter targets were adopted at subsequent meetings of the Committee during 2018. The applicable targets were discussed and evaluated each quarter in 2018 and in February 2019 based on quarterly and annual performance (in February 2019, the LDCC discussed and evaluated the fourth quarter as well as the full year 2018 results) and continued development of our business and operating plans for 2018 and beyond. In November 2018, the Committee modified the annual target for GAAP revenue based on a change to our 2018 operating plan. Achievement levels were determined in the discretion of the LDCC following each period under the 2018 cash bonus plan.

*Degree of Difficulty in Achieving Performance Goals.* The LDCC considered the likelihood of achievement when recommending and approving, respectively, the Company and individual performance goals and bonus plan structures for each of the 2018 cash bonus plan periods, but it did not undertake a detailed statistical analysis of the difficulty of achievement of each measure. For 2018, the Committee considered the 70% weighted average achievement level to be attainable with normal effort, 100% to be challenging but achievable with significant effort, requiring circumstances to align as predicted, and any amounts in excess of 100% to be difficult to achieve, requiring additional sources of revenue, breakthroughs in technology, manufacturing operations, process development or business development, and exceptional levels of effort on the part of the executive team, as well as favorable external conditions.

2018 Quarterly and Annual Bonus Plan Funding and Award Decisions. In each of May 2018, August 2018, November 2018 and February 2019, the LDCC determined that our quarterly and annual performance goals were achieved as follows:

Company Performance Goal	Weight	Weighted Achievement Level	Funding Level
<b>Q1</b>			
GAAP Revenue . . . . .	50%	62%	
Gross Margin . . . . .	50%	51%	
<b>Total Q1 . . . . .</b>	<b><u>100.0%</u></b>	<b><u>113%</u></b>	<b><u>121.7%</u></b>
<b>Q2</b>			
GAAP Revenue . . . . .	50%	0%	
Gross Margin . . . . .	50%	65%	
<b>Total Q2 . . . . .</b>	<b><u>100.0%</u></b>	<b><u>65%</u></b>	<b><u>0%</u></b>
<b>Q3</b>			
GAAP Revenue . . . . .	50%	0%	
Gross Margin . . . . .	50%	0%	
<b>Total Q3 . . . . .</b>	<b><u>100.0%</u></b>	<b><u>0%</u></b>	<b><u>75.0%<sup>(1)</sup></u></b>
<b>Q4</b>			
GAAP Revenue . . . . .	50%	43%	
Gross Margin . . . . .	50%	57%	
<b>Total Q4 . . . . .</b>	<b><u>100.0%</u></b>	<b><u>100%</u></b>	<b><u>100.0%</u></b>
<b>ANNUAL</b>			
GAAP Revenue . . . . .	50%	0%	
Gross Margin . . . . .	50%	62%	
EBITDA . . . . .	+/-20%	-20%	
<b>Total Annual . . . . .</b>	<b><u>100.0%</u></b>	<b><u>50%</u></b>	<b><u>71.2%<sup>(2)</sup></u></b>

- (1) In November 2018, the LDCC approved bonus funding for the third quarter of 2018 at 75% of target for all eligible employees, except our CEO, notwithstanding the Company’s failure to meet the funding threshold for such quarter.
- (2) In February 2019, the LDCC approved bonus funding for the annual period of 2018 at 71.2% of target for all eligible employees, notwithstanding the Company’s failure to meet the funding threshold for such period.

In April 2019, we announced that we would restate our interim condensed consolidated financial statements for the quarterly and year-to-date periods ended March 31, 2018, June 30, 2018 and September 30, 2018, included in our Quarterly Reports on Form 10-Q for the fiscal quarters ended March 31, 2018, June 30, 2018 and September 30, 2018 (the “2018 10-Qs”), respectively. We have restated such financial statements in Part II, Item 8 of this Annual Report on Form 10-K. The LDCC is in the process of reviewing its determinations regarding the achievement of our quarterly and annual performance goals under the 2018 cash bonus plan in light of such restatement.

*Individual Performance Goals.*

For the annual portion of the 2018 cash bonus plan tied to individual performance, the Committee considered several factors, including the following:

For our CEO, the achievement of growing GAAP revenue, gross margin and EBITDA, improving employee engagement, maintaining a safe work environment, executive leadership and living our values.

For Ms. Valiasek, the achievement of meeting quarterly financial targets, developing a corporate tax strategy and debt reduction plan, improving finance department performance, executive leadership and living our values.

For Dr. Cherry, the achievement of assisting in developing new technology projects, managing operating expenses, growing our technology leadership, improving R&D employee engagement, meeting technical targets, executive leadership and living our values.

For Mr. Alvarez, the achievement of meeting our production and fulfillment plan, managing costs, overseeing construction of a new production facility in Brazil, taking on additional operational roles and accountabilities, executive leadership and living our values.

For Ms. Kelsey, the achievement of managing legal elements of global expansion, developing a corporate intellectual property policy, improving board organization and financial disclosure processes, improving legal department performance, executive leadership and living our values.

The Committee considered a variety of factors in determining, in its discretion, to award payouts under the 2018 cash bonus plan. In addition to the levels of company achievement (for the quarterly and annual portions) and individual performance (for the annual portion) categories, the Committee considered our cash needs as well as the level of performance of each named executive officer in achieving company results and their respective assigned individual goals. Based on the foregoing, and taking into account the factors described above, the Committee approved the following cash bonus awards under the 2018 cash bonus plan:

Name	2018 Cumulative Quarterly Bonus Payouts (\$)	2018 Annual Portion Bonus Payout (\$)	2018 Aggregate Annual and Quarterly Bonus Payouts (\$)	Annual Bonus Target (\$)	2018 Actual Bonus Earned as a % of Target Bonus
John Melo	166,275	192,240	358,515	600,000	60
Kathleen Valiasek	105,447	97,562	203,009	304,500	67
Joel Cherry	69,542	73,425	142,967	187,500	76
Eduardo Alvarez	148,350	156,640	304,990	400,000	76
Nicole Kelsey	58,601	50,624	109,225	158,000	69

We believe that the payment of these awards was appropriate because the 2018 cash bonus plan appropriately held our named executive officers accountable for achievement of company and individual goals, and the payouts were reasonable and appropriate in light of our progress towards our business objectives.

In April 2019, we announced that we would restate our interim condensed consolidated financial statements for the quarterly and year-to-date periods ended March 31, 2018, June 30, 2018 and September 30, 2018, included in the 2018 10-Qs. We have restated such financial statements in Part II, Item 8 of this Annual Report on Form 10-K. The LDCC is in the process of reviewing its determinations regarding the awards paid to our named executive officers under the 2018 cash bonus plan in light of such restatement.

In addition to the payments under our 2018 cash bonus plan noted above, in October 2018 the Company paid a discretionary cash retention bonus to Dr. Cherry in the amount of \$50,000, which bonus payment was ratified and approved by the LDCC in February 2019.

**Equity Awards.** In May 2018, the LDCC approved annual equity awards for Ms. Valiasek, Dr. Cherry and Ms. Kelsey (the “Focal Awards”), as well as an equity award for Mr. Alvarez of 250,000 RSUs in accordance with the terms of his employment offer letter with the Company entered into in October 2017 (the “Alvarez 2018 Award”). In addition, in April 2018 the LDCC approved special equity awards for our CEO, as described below (the “CEO Equity Awards”). The Focal Awards, the Alvarez 2018 Award and the CEO Equity Awards consisted of the stock option and RSU awards set forth in the “Grants of Plan-Based Awards in 2018” table below. Each of such awards was conditioned on the approval by our stockholders of certain amendments to the 2010 EIP to, among other things, increase the annual per-participant award limit thereunder, which amendments were approved by our stockholders in May 2018.

With respect to the Focal Awards, the LDCC determined the allocation of equity awards between stock options and RSUs after consultation with Compensia, in evaluating the practices of our competitive market (including the Peer Group) and in consultation with management, taking into consideration, among other things, the appropriate balance between rewarding previous performance, retention objectives, upside value potential tied to our and the executive officer's future performance and the mix of the executive officer's current equity holdings. The size of the Focal Awards varied among the applicable named executive officers based on the value of unvested equity awards already held by him or her, his or her relative contributions during 2017 and anticipated levels of responsibility for key corporate objectives in 2018. Notwithstanding our target of between the 50<sup>th</sup> and the 75<sup>th</sup> percentile of our competitive market for equity compensation, the value of the Focal Awards was above the 75<sup>th</sup> percentile of our competitive market in consideration of the low retention value of existing awards held by such officers.

The allocation and size of the Alvarez 2018 Award was determined by his employment offer letter with the Company entered into in October 2017. Please see "2018 CEO Equity Awards" below for details regarding the determination of the allocation and size of the CEO Equity Awards.

Please see the "Grants of Plan-Based Awards in 2018" table below for more information regarding the award types and sizes, grant dates, exercise prices and vesting schedules of the Focal Awards, the Alvarez 2018 Award and the CEO Equity Awards.

#### *2018 CEO Equity Awards*

Because of the direct relationship between the value of our equity awards and the fair market value of our common stock, and in order to incentivize our CEO in a manner that aligns his interests with our long-term strategic direction and the interests of our stockholders and reduces the possibility of business decisions that favor short-term results at the expense of long-term value creation, in April 2018 the LDCC approved, with the support of the Board, a grant to our CEO of (i) an option to purchase 3,250,000 shares of our common stock, such award being subject to performance-based vesting conditions as described below (the "CEO Performance Option"), and (ii) 700,000 RSUs with the terms described below (the "CEO RSU" and together with the CEO Performance Option, the "CEO Equity Awards"). The grant of the CEO Equity Awards was contingent upon approval by our stockholders of both the CEO Equity Awards and certain amendments to the 2010 EIP to, among other things, increase the annual per-participant award limit thereunder, which approvals were obtained at our 2018 annual meeting of stockholders held on May 22, 2018. In accordance with our policy regarding equity award grant dates, the CEO Equity Awards were granted on May 29, 2018, the first business day of the week following the week in which such awards were approved, with the exercise price of the CEO Performance Option being set at \$5.08 per share, the closing price of our common stock on Nasdaq on such date, in accordance with the terms of the 2010 EIP.

***CEO Performance Option.*** The CEO Performance Option is a performance-based nonqualified stock option and therefore the CEO will receive compensation from such stock option only to the extent that the Company achieves the applicable performance milestones.

**Performance Metrics & Vesting.** The CEO Performance Option is divided into four tranches as described in the table below (each a "Tranche"). Each of the four Tranches of the CEO Performance Option will vest on or after the applicable vesting date for the Tranche (the "Earliest Vesting Date") provided: (i) the Board or the LDCC certify that both the EBITDA Milestone and the Stock Price Milestone (collectively, the "Milestones") for such Tranche have been met and (ii) Mr. Melo remains our CEO on the applicable vesting date. Any Milestone may be met before, at or after the applicable Earliest Vesting Date for a Tranche provided that the Milestone is met during its applicable Measurement Period. The EBITDA Measurement Period starts January 1, 2018 and ends December 31, 2021. The Stock Price Measurement Period starts January 1, 2018 and ends December 31, 2022. In the event that either the EBITDA Milestone or the Stock Price Milestone is not yet achieved for a Tranche, no shares attributable to such Tranche will be eligible to vest on such Tranche's Earliest Vesting Date; provided, however, the Milestones will remain eligible to be achieved during the remaining EBITDA Measurement Period and Stock Price Measurement Period, as applicable. For clarity, upon the achievement of both the applicable EBITDA Milestone and Stock Price Milestone for a Tranche, the shares attributable to such Tranche may not vest until such Tranche's Earliest Vesting Date, and only if Mr. Melo remains the CEO on such date. More than one Tranche may vest simultaneously provided that: the Earliest Vesting Date for each

applicable Tranche has occurred, the requisite EBITDA Milestone and Stock Price Milestone for each applicable Tranche have been met and Mr. Melo continues as the CEO through the applicable date of vesting. The table below sets forth the number of shares, EBITDA Milestone, Stock Price Milestone and Earliest Vesting Date for each Tranche:

Tranche	Number of Shares	EBITDA Milestone (\$M)	Stock Price Milestone	Earliest Vesting Date
1	750,000	\$10	\$15	July 1, 2019
2	750,000	\$60	\$20	July 1, 2020
3	750,000	\$80	\$25	July 1, 2021
4	1,000,000	\$100	\$30	July 1, 2022

*EBITDA Milestone.* The EBITDA Milestone for a Tranche is achieved if Amyris’s EBITDA (as described below) equals or exceeds the EBITDA Milestone set forth in the table above for such Tranche for any fiscal year during the EBITDA Measurement Period. The EBITDA Measurement Period starts January 1, 2018 and ends December 31, 2021. The Board or the LDCC will measure and certify the level of achievement of the EBITDA Milestone as of the end of each fiscal year within the EBITDA Measurement Period.

For purposes of the EBITDA Milestone, “EBITDA” shall mean Amyris’s net (loss) income attributable to common stockholders for the relevant fiscal year during the EBITDA Measurement Period as determined in accordance with U.S. Generally Accepted Accounting Principles (“GAAP”) and as reported by Amyris in its audited financial statements contained in its Annual Report on Form 10-K for the relevant fiscal year filed with the SEC, plus interest expense (benefit), provision for income taxes, depreciation and amortization for the same fiscal year as reflected in the audited financial statements. For the avoidance of doubt, there will be no adjustment to the reported net (loss) income attributable to common stockholders for stock based compensation in determining EBITDA.

In the event of unusual non-recurring events such as acquisition activities or divestitures of significant assets or changes in applicable accounting rules, as a result of which the calculation of Amyris’s EBITDA during the EBITDA Measurement Period is increased or decreased by 10% or more in determining Amyris’s audited financial statements contained in its Annual Report on Form 10-K filed with the SEC for the most recently completed fiscal year, the Board or, if the Board delegates authority to the LDCC, the LDCC may provide for one or more equitable adjustments to the EBITDA Milestones to preserve the original intent regarding the EBITDA Milestones at the time of the initial award grant.

As of the date of this Annual Report on Form 10-K, none of the EBITDA Milestones for any of the Tranches had been achieved.

*Stock Price Milestone.* The Stock Price Milestone for a Tranche is achieved if each of (i) the average of the daily closing prices of our common stock on the Nasdaq Global Select Market for any one hundred and eighty (180)-consecutive day period starting at any time after the last day of the fiscal year in which the applicable EBITDA Milestone was achieved for the applicable Tranche and ending during the Stock Price Measurement Period and (ii) the average of the daily closing prices of our common stock on the Nasdaq Global Select Market for a thirty (30)-consecutive day period ending on the date on which the 180-day average stock price set forth in the table is achieved for the applicable Tranche equals or exceeds the Stock Price Milestone for the applicable Tranche during the Stock Price Measurement Period. The Stock Price Measurement Period starts January 1, 2018 and ends December 31, 2022.

The Stock Price Milestone will be adjusted to reflect events such as a stock split or recapitalization in order to prevent diminution or enlargement of the benefits or potential benefits intended to be made available under the CEO Performance Option.

The LDCC considers the Stock Price Milestone to be a challenging hurdle and included the EBITDA Milestone to promote Amyris’s continued focus on growth, sustainability and profitability. The LDCC selected EBITDA (as defined above) as the appropriate measure because it believes EBITDA is a metric that is commonly used for companies at this stage of development and because many of Amyris’s stockholders use it to evaluate Amyris’s performance and viability. It is a measure of cash generation from

operations that does not disincentivize Amyris from making additional investments to grow further. The EBITDA Milestone is designed to ensure that Amyris maintains operating discipline but does not represent Amyris's target EBITDA for any future period. The LDCC included the Stock Price Milestone to drive sustained, long-term stockholder returns, and to further align Mr. Melo's compensation opportunity to long-term stockholder interests. In establishing the EBITDA Milestone and Stock Price Milestone, the LDCC carefully considered a variety of factors, including Amyris' growth trajectory and internal growth plans. The LDCC also reviewed special CEO equity awards approved by other public companies as a reference point for setting the magnitude and terms of the CEO Performance Option and CEO RSU.

As of the date of this Annual Report on Form 10-K, none of the Stock Price Milestones for any of the Tranches had been achieved.

Term. The term of the CEO Performance Option is ten years from the date of the grant, unless Mr. Melo's employment with Amyris is terminated prior to such date. Accordingly, Mr. Melo will have ten years from the date of grant to exercise any portion of the CEO Performance Option that has vested on or prior to such date, provided that he remains employed at Amyris.

Post-Exercise Holding Period. Mr. Melo must hold at least fifty percent (50%) of the shares he acquires upon exercise of the CEO Performance Option (net of any shares sold to pay the exercise price and any tax withholding obligations with respect to the CEO Performance Option) for two years post-exercise.

The LDCC selected a two-year holding period in order to further align Mr. Melo's interests with Amyris stockholders' interests for two years following the exercise of any portion of the CEO Performance Option. Such alignment ensures that Mr. Melo will be focused on sustaining Amyris' success both before and after he exercises his CEO Performance Option.

Employment Requirement for Continued Vesting. Mr. Melo must continue to be employed as Amyris' CEO upon each vesting date in order for the corresponding Tranche to vest under the CEO Performance Option. If Mr. Melo is still employed at Amyris in a role other than CEO, he will no longer be able to vest under the CEO Performance Option but can continue to hold any unexercised, vested portion of the CEO Performance Option for the full term of the CEO Performance Option.

Termination of Employment. Except in the context of a change of control of Amyris, there will be no acceleration of vesting of the CEO Performance Option if the employment of Mr. Melo is terminated, or if he dies or becomes disabled. In other words, termination of Mr. Melo's employment with Amyris will preclude his ability to earn any then-unvested portion of the CEO Performance Option following the date of his termination.

Change of Control of Amyris. If Amyris experiences a change of control, such as a merger with or purchase by another company, vesting under the CEO Performance Option will not automatically accelerate.

In the event of a change of control, the performance under the CEO Performance Option will be determined as of the change of control. For this change of control determination, the EBITDA Milestone will be disregarded and a Stock Price Milestone relating to any Tranche that has not yet vested shall be achieved if the per share price (plus the per share value of any other consideration) received by the Company's stockholders in the change of control equals or exceeds the applicable Stock Price Milestone. To the extent a Stock Price Milestone for a Tranche is achieved upon a change of control, the shares specified for such Tranche will be subject to time-based vesting (the "COC Time-Based Options"), and such COC Time-Based Options shall vest upon the later of the date of the change of control and the Earliest Vesting Date applicable to such Tranche, subject to Mr. Melo remaining the CEO on each such vesting date. To the extent a Stock Price Milestone for a Tranche is not achieved as a result of the change of control, such Tranche will be forfeited automatically as of the immediately prior to closing of the change of control and never shall become vested. Notwithstanding the foregoing, if Mr. Melo is terminated without cause or resigns for good reason in connection with the change of control, any then unvested COC Time-Based Options will accelerate, subject to Mr. Melo's satisfaction of certain terms and conditions, including, but not limited to delivery of a release of claims, pursuant to the Severance Plan (as defined below), the terms of which are described below under "Severance Plan" and "Potential Payments upon Termination and upon Termination Following a Change in Control."



In addition, if the successor or acquiring corporation (if any) of Amyris refuses to assume, convert, replace or substitute the CEO Performance Option in connection with a change of control, 100% of Mr. Melo's COC Time-Based Options shall accelerate and become vested effective immediately prior to the change of control.

The treatment of the CEO Performance Option upon a change of control is intended to align Mr. Melo's interests with Amyris's other stockholders with respect to evaluating potential change of control offers.

**Clawback.** In the event of a restatement of Amyris's financial statements previously filed with the SEC as a result of material noncompliance with financial reporting requirements ("restated financial results"), Amyris will require forfeiture (or repayment, as applicable) of the portion of the CEO Performance Option in excess of what would have been earned or paid based on the restated financial results.

**CEO RSU.** The CEO RSU will vest in four equal annual installments on July 1 of each of 2019, 2020, 2021 and 2022, subject to Mr. Melo's continued service on each vesting date. This four-year vesting schedule is longer than our typical three-year vesting schedule for RSUs granted to our executive officers and is intended to further align Mr. Melo's compensation opportunity to long-term stockholder interests and to promote retention and continuity in our business. Other than the vesting schedule, the terms of the CEO RSU are identical to other RSU awards granted to our executive officers.

**Severance Plan.** In November 2013, the LDCC adopted the Amyris, Inc. Executive Severance Plan (or the "Severance Plan"). The Severance Plan had an initial term of 36 months and thereafter will be automatically extended for successive additional one-year periods unless we provide six months' notice of non-renewal prior to the end of the applicable term. In May 2016, May 2017 and February 2018, the LDCC reviewed the terms of the Severance Plan and elected to allow it to automatically renew upon the expiration of its initial term in November 2016 and renewal terms in November 2017 and November 2018, respectively. The LDCC adopted the Severance Plan to provide a consistent and updated severance framework for our executive officers that aligns with peer practices. The terms of the Severance Plan, including the potential amounts payable under the Severance Plan and related defined terms, are described in detail below under "Potential Payments upon Termination and upon Termination Following a Change in Control." All of our named executive officers, and all senior level employees of Amyris that are eligible to participate in the Severance Plan (or, collectively, the "participants"), have entered into participation agreements to participate in the Severance Plan. Generally, the benefits under the Severance Plan supersede and replace any rights the participants have in connection with any change of control or severance benefits contained in such participants' employment offer letters, equity award agreements or any other agreement that specifically relates to accelerated vesting of equity awards; provided, that (i) our CEO is entitled to the rights and benefits provided for in the CEO Performance Option in connection with a change of control of Amyris, as described above and (ii) in the event of any conflict between the terms of the CEO Performance Option and Mr. Melo's participation agreement or the Severance Plan relating to accelerated vesting of equity awards, the terms of the CEO Performance Option would govern and control. In addition, Mr. Alvarez's participation agreement provides that in the event that prior to full vesting of Mr. Alvarez's new hire equity awards, including the Alvarez 2018 Award (collectively, the "Alvarez New Hire Awards"), Mr. Alvarez's employment with the Company terminates in circumstances entitling him to severance benefits under the Severance Plan, whether or not in connection with a change of control, then upon such termination the vesting and exercisability of each Alvarez New Hire Award will be automatically accelerated in full and the forfeiture provisions and/or company right of repurchase of each Alvarez New Hire Award will automatically lapse accordingly.

We believe that the Severance Plan appropriately balances our need to offer a competitive level of severance protection to our executive officers and to induce them to remain in our employ through the potentially disruptive conditions that may exist around the time of a change of control, while not unduly rewarding executive officers for a termination of their employment.

**Other Executive Benefits and Perquisites.** We provide the following benefits to our executive officers on the same basis as other eligible employees:

- health insurance;
- time off and sick days;
- life insurance and supplemental life insurance;
- short-term and long-term disability; and
- a Section 401(k) plan with an employer matching contribution.

We believe that these benefits are generally consistent with those offered by other companies with which we compete for executive talent.

Some of the executive officers whom we have hired, including Mr. Alvarez and Ms. Kelsey, held positions in locations outside of Northern California at the time they agreed to join us. We have agreed in these instances to pay certain relocation and travel expenses to these executive officers, including housing and rental car expenses. The amounts of relocation and travel expenses paid to our named executive officers are included in the “All Other Compensation” column of the “Summary Compensation Table” below and the related footnotes. Given the high cost of living in the San Francisco Bay Area relative to most other metropolitan areas in the United States, we believe that for us not to be limited to hiring executives located near our headquarters in Emeryville, California, we must be willing to offer to pay an agreed upon amount of relocation costs.

**Other Compensation Practices and Policies.** The following additional compensation practices and policies apply to our executive officers in 2018:

*Timing of Equity Awards.* The timing of equity awards has been determined by our Board or the LDCC based on our Board’s or the LDCC’s view at the time regarding the adequacy of executive equity interests in us for purposes of retention and motivation.

In March 2018 and November 2018, our Board and the LDCC, respectively, ratified our existing policy regarding equity award grant dates, fixing grant dates in an effort to ensure the integrity of the equity award granting process. This policy took effect beginning with equity awards granted after the original adoption of the policy in March 2011. Under the policy, equity awards are generally granted on the following schedule:

- For equity awards to ongoing employees, the grant date is set as the first business day of the week following the week in which the award is approved; and
- For equity awards to new hires, the grant date is set as the first business day of the week following the later of the week in which the award is approved or the week in which the new hire commences his or her employment.

*Tax Considerations.* Generally, Section 162(m) of the U.S. Internal Revenue Code (“Section 162(m)”) disallows a federal income tax deduction for public corporations of remuneration in excess of \$1 million paid for any fiscal year to their chief executive officer and up to three other executive officers (other than the chief financial officer) whose compensation is required to be disclosed to their stockholders under the Securities Exchange Act of 1934 because they are our most highly-compensated executive officers (“covered employees”). Remuneration in excess of \$1 million is exempt from this deduction limit if it qualifies as “performance-based compensation” within the meaning of Section 162(m) with respect to taxable years beginning on or before December 31, 2017 and payable pursuant to a binding written agreement in effect on November 2, 2017.

To date, the Committee has not taken the deductibility limit imposed by Section 162(m) into consideration in setting compensation. However, the 2010 EIP includes various provisions designed to allow us to qualify stock options and other equity awards as “performance-based compensation” under Section 162(m), including a limitation on the maximum number of shares subject to awards that may be granted to an individual under the 2010 EIP in any one year. Among other requirements, for certain awards granted under the 2010 EIP to qualify as fully deductible performance-based compensation under Section 162(m), our stockholders were required to re-approve the 2010 EIP on or before the first annual

meeting of stockholders at which directors were to be elected that occurred after the close of the third calendar year following the calendar year of our initial public offering. We sought and received such approval at our 2012 annual meeting of stockholders. Section 162(m) also requires re-approval of the 2010 EIP by stockholders after five years if the LDCC has retained discretion to select the criteria used to set performance goals under the 2010 EIP from year to year. The 2010 EIP permits the LDCC to choose from among several objective performance measures as the basis for the granting and/or vesting of “performance-based” equity compensation under the 2010 EIP. Accordingly, we sought and received such approval at our 2017 annual meeting of stockholders.

The exemption from Section 162(m)’s deduction limit for “performance-based compensation” has been repealed, effective for taxable years beginning after December 31, 2017, such that compensation paid to our covered employees in excess of \$1 million will not be deductible unless it qualifies for transition relief applicable to certain arrangements in place as of November 2, 2017. The LDCC cannot determine with certainty how the deduction limit of Section 162(m) may impact our executive compensation programs in future years. While the LDCC has not adopted a formal policy regarding tax deductibility of the compensation paid to our executive officers, tax deductibility under Section 162(m) is a factor in its compensation deliberations. However, because of ambiguities and uncertainties as to the application and interpretation of Section 162(m) and the regulations issued thereunder, including the uncertain scope of the transition relief for certain arrangements in place as of November 2, 2017 under the legislation repealing Section 162(m)’s exemption from the deduction limit, no assurance can be given that compensation intended to satisfy the requirements for exemption from Section 162(m) in fact will. The LDCC seeks to balance the cost and benefit of tax deductibility with our executive compensation goals designed to promote long-term stockholder interests, and therefore may, in its discretion, authorize compensation payments that do not consider the deductibility limit imposed by Section 162(m) when it believes that such payments are appropriate to attract and retain executive talent and to be in the best interests of the Company and our stockholders. Accordingly, we expect that a portion of our future cash compensation and equity awards to our executive officers will not be deductible under Section 162(m).

For example, with respect to the CEO Performance Option and CEO RSU described above, we expect that Mr. Melo always will be a covered employee for purposes of Section 162(m) of the Code. Therefore, in any given year in which Mr. Melo exercises all or part of the CEO Performance Option, or vests and is settled in any portion of the CEO RSU, we will be able to take a tax deduction of only \$1,000,000 or less, regardless of the amount of compensation recognized by Mr. Melo from the exercise of the CEO Performance Option or settlement of the CEO RSU.

*Compensation Recovery Policy.* Other than with respect to the CEO Performance Option, as described above, we do not have a formal policy regarding adjustment or recovery of awards or payments if the relevant performance measures upon which they are based are restated or otherwise adjusted in a manner that would reduce the size of the award or payment. Under those circumstances, our Board or the LDCC would evaluate whether adjustments or recoveries of awards or payments were appropriate based upon the facts and circumstances surrounding the restatement or other adjustment. We anticipate that our Board will adopt a policy regarding restatements in the future based on anticipated SEC and Nasdaq regulations requiring listed companies to have a policy that requires repayment of incentive compensation that was paid to current or former executive officers in the three fiscal years preceding any restatement due to material noncompliance with financial reporting requirements. As described above, we have restated our interim condensed consolidated financial statements for the quarterly and year-to-date periods ended March 31, 2018, June 30, 2018 and September 30, 2018. In addition, we have restated our audited consolidated financial statements for the year ended December 31, 2017, which are contained in Part II, Item 8 of this Annual Report on Form 10-K (see the *Explanatory Note* to this Annual Report on Form 10-K for more details). The LDCC is in the process of evaluating whether adjustments or recoveries of 2017 or 2018 awards or payments are appropriate based upon the facts and circumstances surrounding such restatements.

*Stock Ownership Policy.* We have not established stock ownership or similar guidelines with regard to our executive officers. All of our executive officers currently have a direct or indirect, through their stock option holdings, equity interest in our company and we believe that they regard the potential returns from these interests as a significant element of their potential compensation for services to us.

*Insider Trading Policy and Hedging Prohibition.* We have adopted an Insider Trading Policy that, among other things, prohibits our employees, officers and directors from trading in our securities while in possession of material, non-public information. In addition, under our Insider Trading Policy, our employees, officers and directors may not acquire, sell or trade in any interest or position relating to the future price of our securities (such as a put option, a call option or a short sale).

### Leadership Development and Compensation Committee Report\*

The Leadership Development and Compensation Committee has reviewed and discussed with management the “Compensation Discussion and Analysis” contained in this Annual Report on Form 10-K. Based on this review and discussion, the Leadership Development and Compensation Committee recommended to the Board that the Compensation Discussion and Analysis be included in this Annual Report on Form 10-K.

### Amyris, Inc. Leadership Development and Compensation Committee of the Board

Carole Piwnica (Chair)  
Steven Mills  
Patrick Yang

\* *The material in this report is not “soliciting material,” is not deemed “filed” with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of Amyris under the Securities Act or the Exchange Act, whether made before or after the date hereof and irrespective of any general incorporation language in any such filing.*

### Summary Compensation Table

The following table sets forth information regarding compensation earned by our named executive officers in 2018 and, where the individual was a named executive officer for the relevant prior year, 2017 and 2016.

Name and Principal Position	Year	Salary (\$)	Bonus (\$)	Stock Awards (\$) <sup>(1)</sup>	Option Awards (\$) <sup>(1)</sup>	Non-Equity Incentive Plan Compensation (\$) <sup>(2)</sup>	All Other Compensation (\$)	Total (\$)
<b>John Melo</b> <i>President and Chief Executive Officer</i>	2018	600,000	192,240 <sup>(3)</sup>	3,556,000	5,122,500	166,275	997 <sup>(4)</sup>	9,638,012
	2017	579,167 <sup>(5)</sup>	640,000 <sup>(6)</sup>	147,465	43,930	581,948	934 <sup>(7)</sup>	1,993,444
	2016	550,000	—	250,750	162,350	333,056	468 <sup>(8)</sup>	1,296,624
<b>Kathleen Valiasek</b> <sup>(9)</sup> <i>Chief Financial Officer</i>	2018	420,000	129,062 <sup>(10)</sup>	1,016,000	370,650	73,947	5,500 <sup>(11)</sup>	2,015,159
	2017	398,686 <sup>(12)(13)</sup>	45,000 <sup>(14)</sup>	137,623	126,996	163,085	4,310 <sup>(15)</sup>	875,700
<b>Joel Cherry</b> <sup>(16)</sup> <i>President, Research and Development</i>	2018	375,000	141,004 <sup>(17)</sup>	1,079,500	138,994	51,963	6,520 <sup>(18)</sup>	1,792,981
	2017	370,937 <sup>(19)</sup>	—	118,718	35,489	181,331	7,500 <sup>(20)</sup>	713,975
	2016	358,750	—	118,000	76,400	93,256	7,760 <sup>(21)</sup>	654,166
<b>Eduardo Alvarez</b> <i>Chief Operating Officer</i>	2018	400,000	194,140 <sup>(22)</sup>	1,270,000	—	110,850	2,437 <sup>(23)</sup>	1,977,427
	2017	91,026 <sup>(24)</sup>	—	202,300	62,886	91,026	396 <sup>(25)</sup>	447,634
<b>Nicole Kelsey</b> <i>General Counsel and Secretary</i>	2018	395,000	65,437 <sup>(26)</sup>	508,000	185,325	43,788	5,500 <sup>(27)</sup>	1,203,050
	2017	158,760 <sup>(28)</sup>	—	52,290	17,077	67,465	237,570 <sup>(29)</sup>	533,162

(1) The amounts in the “Stock Awards” and “Option Awards” columns reflect the aggregate grant date fair value of such awards computed in accordance with FASB ASC Topic 718, excluding the effect of estimated forfeitures. The assumptions made in the valuation of the awards are discussed in Note 12, “Stock-based Compensation” of “Notes to Consolidated Financial Statements” in our Annual Report on Form 10-K for the fiscal year ended December 31, 2018. See the “Grants of Plan-Based Awards in 2018” table for additional information regarding stock and option awards granted to our named executive officers in 2018. These amounts do not correspond to the actual value that may be recognized by our named executive officers.

- (2) As required under applicable rules of the Securities and Exchange Commission, payments under our 2018 cash bonus plan are included in the column entitled “Non-Equity Incentive Plan Compensation,” as they were based upon the satisfaction of pre-established performance targets, the outcome of which was substantially uncertain.
- (3) Includes a cash bonus payment in the amount of \$192,240 under our 2018 cash bonus plan for the annual period approved by the LDCC in its discretion, notwithstanding the Company’s failure to meet the funding threshold for such period. See “Executive Compensation — Compensation Discussion and Analysis — 2018 Compensation — Cash Bonuses” above for more information.
- (4) Includes \$997 for taxes associated with long term disability insurance.
- (5) Mr. Melo’s annual base salary was increased from \$550,000 to \$600,000 effective June 1, 2017.
- (6) Includes certain discretionary cash bonuses paid to Mr. Melo in an aggregate amount of \$500,000 in recognition of exceptional individual performance, as well as a discretionary cash bonus paid to Mr. Melo in the amount of \$140,000 in recognition of the value lost on the voiding of certain equity awards granted to him in November 2015 that, when aggregated with other equity awards granted to him in 2015, inadvertently exceeded the annual per-participant award limit contained in the 2010 EIP.
- (7) Includes \$934 for taxes associated with long term disability insurance premiums.
- (8) Includes \$468 for taxes associated with long term disability insurance premiums.
- (9) Ms. Valiasek assumed the newly created role of Chief Business Officer to lead the CBD business and other business development efforts while continuing to lead the financing and investor relation activities effective June 3, 2019.
- (10) Includes certain cash bonus payments in an aggregate amount of \$129,062 under our 2018 cash bonus plan for the third quarter and annual period approved by the LDCC in its discretion, notwithstanding the Company’s failure to meet the funding threshold for such periods. See “Executive Compensation — Compensation Discussion and Analysis — 2018 Compensation — Cash Bonuses” above for more information.
- (11) Includes \$5,500 for Section 401(k) plan employer matching contribution.
- (12) Ms. Valiasek joined us on January 4, 2017. The amount shown in the “Salary” column for 2017 represents a partial year’s salary based on her January 4, 2017 start date.
- (13) Ms. Valiasek’s annual base salary was increased from \$350,000 to \$420,000 effective April 1, 2017.
- (14) Includes a discretionary cash bonus paid to Ms. Valiasek in the amount of \$45,000 in recognition of exceptional individual performance.
- (15) Includes \$4,310 for Section 401(k) plan employer matching contribution.
- (16) Dr. Cherry resigned from the Company effective June 7, 2019.
- (17) Includes certain cash bonus payments in an aggregate amount of \$91,004 under our 2018 cash bonus plan for the third quarter and annual period approved by the LDCC in its discretion, notwithstanding the Company’s failure to meet the funding threshold for such periods, as well as a discretionary cash retention bonus paid to Dr. Cherry in the amount of \$50,000. See “Executive Compensation — Compensation Discussion and Analysis — 2018 Compensation — Cash Bonuses” above for more information.
- (18) Includes \$5,500 for Section 401(k) plan employer matching contribution and \$1,020 reimbursement for commuting expenses.
- (19) Dr. Cherry’s annual base salary was increased from \$358,750 to \$375,000 effective April 1, 2017.
- (20) Includes \$5,400 for Section 401(k) plan employer matching contribution, \$1,080 as a stipend for waiving medical benefits and \$1,020 reimbursement for commuting expenses.

- (21) Includes \$5,300 for Section 401(k) plan employer matching contribution, \$1,440 as a stipend for waiving medical benefits and \$1,020 reimbursement for commuting expenses.
- (22) Includes certain cash bonus payments in an aggregate amount of \$194,140 under our 2018 cash bonus plan for the third quarter and annual period approved by the LDCC in its discretion, notwithstanding the Company's failure to meet the funding threshold for such periods. See "Executive Compensation — Compensation Discussion and Analysis — 2018 Compensation — Cash Bonuses" above for more information.
- (23) Includes \$997 as a stipend for waiving medical benefits and \$1,440 for taxes associated with long term disability insurance premiums.
- (24) Mr. Alvarez joined us on October 16, 2017. The amount shown in the "Salary" column for 2017 represents a partial year's salary based on his October 16, 2017 start date.
- (25) Includes \$240 as a stipend for waiving medical benefits and \$156 for taxes associated with long term disability insurance premiums.
- (26) Includes certain cash bonus payments in an aggregate amount of \$65,437 under our 2018 cash bonus plan for the third quarter and annual period approved by the LDCC in its discretion, notwithstanding the Company's failure to meet the funding threshold for such periods. See "Executive Compensation — Compensation Discussion and Analysis — 2018 Compensation — Cash Bonuses" above for more information.
- (27) Includes \$5,500 for Section 401(k) plan employer matching contribution.
- (28) Ms. Kelsey joined us on August 7, 2017. The amount shown in the "Salary" column for 2017 represents a partial year's salary based on her August 7, 2017 start date.
- (29) Includes \$178,976 for relocation stipend in connection with Ms. Kelsey's relocation to our headquarters in Emeryville, California, \$55,961 reimbursement for temporary housing and rental car expenses and \$2,633 for Section 401(k) plan employer matching contribution.

## Grants of Plan-based Awards in 2018

The following table sets forth information regarding grants of compensation in the form of plan-based awards made during 2018 to our named executive officers.

Name	Grant Date <sup>(1)</sup>	Approval Date of Grant <sup>(1)</sup>	Estimated Possible Payouts Under Non-Equity Incentive Plan Awards			All Other Stock Awards: Number of Shares of Stock or Units (#) <sup>(3)</sup>	All Other Option Awards: Number of Securities Underlying Options (#) <sup>(4)</sup>	Exercise or Base Price of Option Awards (\$/Sh) <sup>(5)</sup>	Grant Date Fair Value of Stock and Option Awards (\$) <sup>(6)</sup>
			Threshold (\$) <sup>(2)</sup>	Target (\$) <sup>(2)</sup>	Maximum (\$) <sup>(2)</sup>				
John Melo . . . . .	—	—	220,500	375,000	1,192,500	—	—	—	—
John Melo . . . . .	5/29/2018	5/22/2018	—	—	—	700,000 <sup>(7)</sup>	—	—	3,556,000
John Melo . . . . .	5/29/2018	5/22/2018	—	—	—	—	3,250,000 <sup>(8)</sup>	5	5,122,500
Kathleen Valiasek . .	—	—	114,660	194,250	611,100	—	—	—	—
Kathleen Valiasek . .	5/29/2018	5/22/2018	—	—	—	200,000 <sup>(9)</sup>	—	—	1,016,000
Kathleen Valiasek . .	5/29/2018	5/22/2018	—	—	—	—	100,000 <sup>(10)</sup>	5	370,650
Joel Cherry . . . . .	—	—	68,906	117,188	372,656	—	—	—	—
Joel Cherry <sup>(11)</sup> . . . .	5/29/2018	5/22/2018	—	—	—	212,500 <sup>(9)</sup>	—	—	1,079,500
Joel Cherry <sup>(11)</sup> . . . .	5/29/2018	5/22/2018	—	—	—	—	37,500 <sup>(10)</sup>	5	138,994
Eduardo Alvarez . .	—	—	147,000	250,000	795,000	—	—	—	—
Eduardo Alvarez . .	5/29/2018	5/22/2018	—	—	—	250,000 <sup>(12)</sup>	—	—	1,270,000
Nicole Kelsey . . . .	—	—	58,065	98,750	314,025	—	—	—	—
Nicole Kelsey . . . .	5/29/2018	5/22/2018	—	—	—	100,000 <sup>(9)</sup>	—	—	508,000
Nicole Kelsey . . . .	5/29/2018	5/22/2018	—	—	—	—	50,000 <sup>(10)</sup>	5	185,325

- (1) Our Board has adopted a policy regarding the grant date of equity awards under which the grant date of equity awards generally would be, for awards to ongoing employees, the first business day of the week following the week in which the award was approved by the LDCC or, for new hire awards, the first business day of the week following the later of the week in which the award is approved by the LDCC or the week in which the new hire commences his or her employment. Each of the awards listed in the table above was approved by the LDCC in April or May 2018, subject to the approval by our stockholders of such awards and/or certain amendments to the 2010 EIP to, among other things, increase the annual per-participant award limit thereunder, which approvals were obtained at our 2018 annual meeting of stockholders held on May 22, 2018. In accordance with our policy regarding equity award grant dates, the awards were granted on May 29, 2018, the first business day of the week following the week in which such awards were approved.
- (2) In February 2018, the LDCC approved a non-equity incentive plan upon which the eligibility amounts reported under “Estimated Possible Payouts Under Non-Equity Incentive Plan Awards” were based. The terms of the plan and actual amounts paid out under the plan are discussed above in this Annual Report on Form 10-K under “Executive Compensation — Compensation Discussion and Analysis — 2018 Compensation — Cash Bonuses” and the amounts paid out under the plan are included in the “Bonus” and “Non-Equity Incentive Plan Compensation” columns of the “Summary Compensation Table” above. The estimated possible payouts as of December 31, 2018 shown in this table reflect the potential incentive awards that could have been paid for the fourth quarter and annual period of 2018 at the threshold, target and maximum levels for each individual.
- (3) Amounts in this column represent RSUs granted under the 2010 EIP.
- (4) Amounts in this column represent stock options granted under the 2010 EIP. Mr. Alvarez was not granted any stock options in 2018.

- (5) The exercise price per share of the stock options listed in the table above is the closing price of our common stock on Nasdaq on the Grant Date, which represents the fair value of our common stock on the same date. RSU awards do not have any exercise price.
- (6) Reflects the grant date fair value of each award computed in accordance with FASB ASC Topic 718, excluding the effect of estimated forfeitures. The assumptions made in the valuation of the awards are discussed in Note 12, “Stock-based Compensation” of “Notes to Consolidated Financial Statements” in our Annual Report on Form 10-K for the fiscal year ended December 31, 2018.
- (7) These RSUs have a four-year vesting schedule from a vesting commencement date of July 1, 2018, with 1/4<sup>th</sup> of the units vesting annually, subject to continued service through each vesting date. Such restricted stock units are subject to acceleration of vesting upon termination of employment in connection with a change of control, as further described below under “Potential Payments upon Termination and upon Termination Following a Change in Control.”
- (8) These stock options are subject to performance-based vesting conditions and to acceleration of vesting in connection with a change of control. For more information regarding these stock options, please see above under “Executive Compensation — Compensation Discussion and Analysis — 2018 Compensation — Equity Awards — 2018 CEO Equity Awards — CEO Performance Option.” Such stock options are also subject to acceleration of vesting upon termination of employment in connection with a change of control, as further described below under “Potential Payments upon Termination and upon Termination Following a Change in Control.”
- (9) These RSUs have a three-year vesting schedule from a vesting commencement date of May 1, 2018, with 1/3<sup>rd</sup> of the units vesting annually, subject to continued service through each vesting date. Such restricted stock units are subject to acceleration of vesting upon termination of employment in connection a change of control, as further described below under “Potential Payments upon Termination and upon Termination Following a Change in Control.”
- (10) These stock options have a four-year vesting schedule from a vesting commencement date of May 1, 2018, with 1/4<sup>th</sup> of the shares subject to the stock options vesting on the first anniversary of the vesting commencement date, and 1/48<sup>th</sup> of the shares subject to the stock options vesting each month thereafter until the fourth anniversary of the vesting commencement date, subject to continued service through each vesting date. Such stock options are subject to acceleration of vesting upon termination of employment in connection with a change of control, as further described below under “Potential Payments upon Termination and upon Termination Following a Change in Control.”
- (11) Dr. Cherry resigned from the Company effective June 7, 2019. In connection with his termination of employment, Dr. Cherry agreed to provide certain consulting services to the Company for a period of one year following the termination of his employment with the Company (which term may be extended by the mutual agreement of the parties). In exchange for, and as a result of, such services, Dr. Cherry’s outstanding equity awards, including his 2018 plan-based equity awards, will continue to remain outstanding and vest in accordance with, and subject to, the 2010 EIP and the relevant award agreements during the term of his consulting agreement with the Company.
- (12) These RSUs, which were granted to Mr. Alvarez pursuant to the terms of his employment offer letter with the Company entered into in October 2017, vest in full on October 1, 2019, subject to continued service through such date. Such RSUs are subject to acceleration of vesting upon termination of employment, as further described below under “Potential Payments upon Termination and upon Termination Following a Change in Control.”

#### **Narrative Disclosure to Summary Compensation and Grants of Plan-Based Awards Tables**

The material terms of our named executive officers’ annual compensation, including base salaries, cash bonuses, our equity award granting practices and severance benefits and explanations of decisions for cash and equity compensation during 2018 are described above under “Executive Compensation — Compensation Discussion and Analysis.” As noted below under “Agreements with Executive Officers,”



except for certain terms contained in their employment offer letters, equity award agreements and participation agreements entered into in connection with our Executive Severance Plan, none of our named executive officers has entered into a written employment agreement with us.

### Outstanding Equity Awards as of December 31, 2018

The following table sets forth information regarding outstanding equity awards held by our named executive officers as of December 31, 2018.

Name	Option Awards				Stock Awards	
	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Option Exercise Price (\$/Sh)	Option Expiration Date	Number of Shares or Units of Stock That Have Not Vested (#)	Market Value of Shares or Units of Stock That Have Not Vested (\$)(33)
John Melo	19,866 <sup>(1)(12)</sup>	—	306.15	4/20/2020	740,554 <sup>(9)(10)(19)(20)(29)</sup>	2,473,450
	5,600 <sup>(2)(13)</sup>	—	402.60	4/15/2021		
	6,666 <sup>(2)(14)</sup>	—	57.90	4/9/2022		
	24,066 <sup>(3)(15)</sup>	—	43.05	6/3/2023		
	20,000 <sup>(3)(16)</sup>	—	52.65	5/5/2024		
	24,791 <sup>(3)(17)</sup>	3,542 <sup>(3)(17)</sup>	29.40	6/8/2025		
	4,625 <sup>(3)(18)(28)</sup>	1,375 <sup>(3)(18)(28)</sup>	24.45	11/9/2025		
	18,298 <sup>(3)(19)</sup>	10,035 <sup>(3)(19)</sup>	8.85	5/16/2026		
	7,916 <sup>(3)(20)</sup>	12,084 <sup>(3)(20)</sup>	3.16	6/12/2027		
	—	3,250,000 <sup>(21)</sup>	5.08	5/29/2028		
Kathleen Valiasek	9,722 <sup>(4)(22)</sup>	6,944 <sup>(4)(22)</sup>	10.35	1/17/2027	210,532 <sup>(9)(20)(23)(30)</sup>	703,177
	791 <sup>(3)(20)</sup>	1,209 <sup>(3)(20)</sup>	4.80	5/15/2027		
	—	100,000 <sup>(3)(23)</sup>	5.08	5/29/2028		
	10,904 <sup>(5)(6)(24)</sup>	—	64.65	9/14/2019		
Joel Cherry <sup>(34)</sup>	1,333 <sup>(5)(6)(25)</sup>	—	139.80	1/7/2020	233,432 <sup>(9)(19)(20)(23)</sup>	8/22/4034
	1,666 <sup>(2)(13)</sup>	—	402.60	4/15/2021		
	1,666 <sup>(2)(14)</sup>	—	57.90	4/9/2022		
	11,266 <sup>(3)(15)</sup>	—	43.05	6/3/2023		
	6,133 <sup>(3)(16)</sup>	—	52.65	5/5/2024		
	6,416 <sup>(3)(17)</sup>	917 <sup>(3)(17)</sup>	29.40	6/8/2025		
	5,652 <sup>(3)(18)</sup>	1,681 <sup>(3)(18)</sup>	24.45	11/9/2025		
	8,611 <sup>(3)(19)</sup>	4,722 <sup>(3)(19)</sup>	8.85	5/16/2026		
	4,195 <sup>(3)(20)</sup>	6,405 <sup>(3)(20)</sup>	4.80	5/15/2027		
	—	37,500 <sup>(3)(23)</sup>	5.08	5/29/2028		
Eduardo Alvarez	11,250 <sup>(7)(26)</sup>	18,750 <sup>(7)(26)</sup>	2.89	10/23/2027	285,000 <sup>(11)(31)</sup>	951,900
	5,000 <sup>(8)(27)</sup>	4,000 <sup>(8)(27)</sup>	2.49	8/14/2027		
Nicole Kelsey	—	50,000 <sup>(3)(23)</sup>	5.08	5/29/2028	114,000 <sup>(9)(23)(32)</sup>	380,760

- (1) These stock options vest as to 1/60<sup>th</sup> of the shares subject to the stock options each month from the vesting commencement date, which is a date fixed by the Board or LDCC when granting equity awards, until the fifth anniversary of the vesting commencement date, subject to continued service through each vesting date.
- (2) These stock options vest as to 1/48<sup>th</sup> of the shares subject to the stock options each month from the vesting commencement date until the fourth anniversary of the vesting commencement date, subject to continued service through each vesting date.

- (3) These stock options vest as to 1/4<sup>th</sup> of the shares subject to the stock options on the first anniversary of the vesting commencement date, and as to an additional 1/48<sup>th</sup> of the shares subject to the stock options each month thereafter until the fourth anniversary of the vesting commencement date, subject to continued service through each vesting date.
- (4) These stock options vest as to 1/5<sup>th</sup> of the shares subject to the stock options on the six-month anniversary of the vesting commencement date, as to an additional 1/5<sup>th</sup> of the shares subject to the stock options vesting on the first anniversary of the vesting commencement date, and as to an additional 1/60<sup>th</sup> of the shares subject to the stock options each month thereafter until the fourth anniversary of the vesting commencement date, subject to continued service through each vesting date.
- (5) These stock options were granted under the 2005 Stock Option/Stock Issuance Plan to certain of our named executive officers and were immediately exercisable, regardless of vesting schedule.
- (6) These stock options vest as to 1/5<sup>th</sup> of the shares subject to the stock options on the first anniversary of the vesting commencement date, and as to an additional 1/60<sup>th</sup> of the shares subject to the stock options each month thereafter until the fifth anniversary of the vesting commencement date, subject to continued service through each vesting date.
- (7) These stock options vest as to 1/4<sup>th</sup> of the shares subject to the stock options on the first anniversary of the vesting commencement date, and as to an additional 1/16<sup>th</sup> of the shares subject to the stock options each month thereafter until the second anniversary of the vesting commencement date, subject to continued service through each vesting date.
- (8) These stock options vest as to 50% of the shares subject to the stock options on the first anniversary of the vesting commencement date, and as to an additional 1/72<sup>nd</sup> of the shares subject to the stock options each month thereafter until the fourth anniversary of the vesting commencement date, subject to continued service through each vesting date.
- (9) These RSUs vest as to 1/3<sup>rd</sup> of the units annually from the vesting commencement date until the third anniversary of the vesting commencement date, subject to continued service through each vesting date.
- (10) These RSUs vest as to 1/4<sup>th</sup> of the units annually from the vesting commencement date until the fourth anniversary of the vesting commencement date, subject to continued service through each vesting date.
- (11) These RSUs fully vest on October 1, 2019, subject to continued service through such date.
- (12) The vesting commencement date of this award was April 20, 2010.
- (13) The vesting commencement date of this award was January 1, 2011.
- (14) The vesting commencement date of this award was April 1, 2012.
- (15) The vesting commencement date of this award was April 1, 2013.
- (16) The vesting commencement date of this award is April 1, 2014.
- (17) The vesting commencement date of this award is June 8, 2015. This award is subject to acceleration of vesting upon termination of employment in connection with a change of control, as further described below under “Potential Payments upon Termination and upon Termination Following a Change in Control.”
- (18) The vesting commencement date of this award is November 1, 2015. This award is subject to acceleration of vesting upon termination of employment in connection with a change of control, as further described below under “Potential Payments upon Termination and upon Termination Following a Change in Control.”
- (19) The vesting commencement date of this award is May 1, 2016. This award is subject to acceleration of vesting upon termination of employment in connection with a change of control, as further described below under “Potential Payments upon Termination and upon Termination Following a Change in Control.”

- (20) The vesting commencement date of this award is May 1, 2017. This award is subject to acceleration of vesting upon termination of employment in connection with a change of control, as further described below under “Potential Payments upon Termination and upon Termination Following a Change in Control.”
- (21) These stock options are subject to performance-based vesting conditions and to acceleration of vesting in connection with a change of control. For more information regarding these stock options, please see above under “Executive Compensation — Compensation Discussion and Analysis — 2018 Compensation — Equity Awards — 2018 CEO Equity Awards — CEO Performance Option.” Such stock options are also subject to acceleration of vesting upon termination of employment in connection with a change of control, as further described below under “Potential Payments upon Termination and upon Termination Following a Change in Control.”
- (22) The vesting commencement date of this award is January 4, 2017. This award is subject to acceleration of vesting upon termination of employment in connection with a change of control, as further described below under “Potential Payments upon Termination and upon Termination Following a Change in Control.”
- (23) The vesting commencement date of this award is May 1, 2018. This award is subject to acceleration of vesting upon termination of employment in connection with a change of control, as further described below under “Potential Payments upon Termination and upon Termination Following a Change in Control.”
- (24) The vesting commencement date of this award was November 3, 2008.
- (25) The vesting commencement date of this award was October 27, 2009.
- (26) The vesting commencement date of this award is October 16, 2017. This award is subject to acceleration of vesting upon termination of employment, as further described below under “Potential Payments upon Termination and upon Termination Following a Change in Control.”
- (27) The vesting commencement date of this award is August 7, 2017. This award is subject to acceleration of vesting upon termination of employment in connection with a change of control, as further described below under “Potential Payments upon Termination and upon Termination Following a Change in Control.”
- (28) A portion of this award, when aggregated with other equity awards granted to Mr. Melo in 2015, inadvertently exceeded the annual per-participant award limit contained in the 2010 EIP (the “Plan Limit”) and accordingly was void. On November 9, 2015, Mr. Melo was granted an award of 30,000 stock options and 20,000 RSUs, of which 24,000 stock options and 16,000 RSUs exceeded the Plan Limit. In June 2017, the LDCC voided the portion of the awards that exceeded the Plan Limit, which included 9,500 vested stock options, 14,500 unvested stock options and 10,666 RSUs. In addition, in June 2017 Mr. Melo returned 3,330 of the 4,162 shares of common stock that he received upon the vesting of one third of the original RSUs subject to the award on November 1, 2016 to the Company, representing the portion of such shares that exceeded the Plan Limit and were void, with the remaining 2,004 shares that exceeded the Plan Limit having been withheld by the Company upon vesting to satisfy Mr. Melo’s tax withholding obligation. In recognition of the value lost on the voiding of these awards, in June 2017 Amyris paid a cash bonus of \$140,000 to Mr. Melo.
- (29) The vesting commencement date of this award is July 1, 2018. This award is subject to acceleration of vesting upon termination of employment in connection with a change of control, as further described below under “Potential Payments upon Termination and upon Termination Following a Change in Control.”
- (30) The vesting commencement date of this award is January 1, 2017. This award is subject to acceleration of vesting upon termination of employment in connection with a change of control, as further described below under “Potential Payments upon Termination and upon Termination Following a Change in Control.”

- (31) The vesting commencement date of this award is October 1, 2017. This award is subject to acceleration of vesting upon termination of employment, as further described below under “Potential Payments upon Termination and upon Termination Following a Change in Control.”
- (32) The vesting commencement date of this award is August 1, 2017. This award is subject to acceleration of vesting upon termination of employment in connection with a change of control, as further described below under “Potential Payments upon Termination and upon Termination Following a Change in Control.”
- (33) Calculated by multiplying the number of units that had not vested as of December 31, 2018 by \$3.34, the closing price of our common stock on the Nasdaq Global Select Market on December 31, 2018.
- (34) Dr. Cherry resigned from the Company effective June 7, 2019. In connection with his termination of employment, Dr. Cherry agreed to provide certain consulting services to the Company for a period of one year following the termination of his employment with the Company (which term may be extended by the mutual agreement of the parties). In exchange for, and as a result of, such services, Dr. Cherry’s outstanding equity awards will continue to remain outstanding and vest in accordance with, and subject to, the 2010 EIP and the relevant award agreements during the term of his consulting agreement with the Company.

### Option Exercises and Stock Vested During 2018

The following table sets forth information regarding the exercise of options and vesting of RSUs held by our named executive officers during 2018.

Name	Option Awards		Stock Awards	
	Number of Shares Acquired on Exercise (#)	Value Realized on Exercise (\$)	Number of Shares Acquired on Vesting (#)	Value Realized on Vesting (\$) <sup>(1)</sup>
John Melo	—	—	35,778	226,804
Kathleen Valiasek	—	—	5,267	25,406
Joel Cherry	—	—	16,783	110,437
Eduardo Alvarez	—	—	35,000	262,150
Nicole Kelsey	—	—	7,000	48,720

- (1) Value realized on vesting is calculated by multiplying the number of units vesting by the closing price of our common stock on Nasdaq on the date of vesting (or most recent closing price in the event the date of vesting falls on a non-trading day).

### Pension Benefits

None of our named executive officers participates in, or has an account balance in, a qualified or non-qualified defined benefit plan sponsored by us.

### Non-Qualified Deferred Compensation

None of our named executive officers participates in, or has an account balance in, a traditional non-qualified deferred compensation plan or any other deferred compensation plan maintained by us.

### Potential Payments upon Termination and upon Termination Following a Change in Control

In November 2013, the LDCC adopted the Amyris, Inc. Executive Severance Plan (the “Severance Plan”). The Severance Plan had an initial term of 36 months and thereafter will be automatically extended for successive additional one-year periods unless we provide six months’ notice of non-renewal prior to the end of the applicable term. In May 2016, May 2017 and February 2018, the LDCC reviewed the terms of the Severance Plan and elected to allow it to automatically renew upon the expiration of its initial term in

November 2016 and renewal terms in November 2017 and November 2018, respectively. The LDCC adopted the Severance Plan to provide a consistent and updated severance framework for our executive officers that aligns with peer practices. All of our named executive officers, and all senior level employees of Amyris that are eligible to participate in the Severance Plan (or, collectively, the “participants”), have entered into participation agreements to participate in the Severance Plan. Generally, the benefits under the Severance Plan supersede and replace any rights the participants have in connection with any change of control or severance benefits contained in such participants’ employment offer letters, equity award agreements or any other agreement that specifically relates to accelerated vesting of equity awards; provided, that (i) our CEO is entitled to the rights and benefits provided for in the CEO Performance Option in connection with a change of control of Amyris, as described above and (ii) in the event of any conflict between the terms of the CEO Performance Option and Mr. Melo’s participation agreement or the Severance Plan relating to accelerated vesting of equity awards, the terms of the CEO Performance Option would govern and control.

Upon the execution of a participation agreement, the participants are eligible for the following benefits under the Severance Plan.

Upon termination by us of a participant’s employment other than for “cause” (as defined below) or the death or disability of the participant, or upon resignation by the participant of such participant’s employment for “good reason” (as defined below) (collectively referred to as an “Involuntary Termination”), the participant becomes eligible for the following severance benefits:

- 12 months of base salary continuation (18 months for our CEO)
- 12 months of health benefits continuation (18 months for our CEO)

Upon an Involuntary Termination of a participant at any time within the period beginning three months before and ending 12 months after a change of control (as defined below) of the Company, the participant becomes eligible for the following severance benefits:

- 18 months of base salary continuation (24 months for our CEO)
- 18 months of health benefits continuation (including for our CEO)
- Automatic acceleration of vesting and exercisability of all outstanding equity awards then held by the participant

In addition, as noted in the table below, Mr. Alvarez’s participation agreement provides that in the event he undergoes an Involuntary Termination (whether or not in connection with a change of control), the vesting and exercisability of certain of his equity awards will accelerate.

In each case, the benefits are contingent upon the participant complying with various requirements, including non-solicitation and confidentiality obligations to us, and on execution, delivery and non-revocation by the participant of a standard release of claims in favor of the Company within 60 days of the participant’s separation from service (as defined in Section 409A of the Code). The benefits are subject to forfeiture if, among other things, the participant breaches any of his or her obligations under the Severance Plan and related agreements. The benefits are also subject to adjustment and deferral based on applicable tax rules relating to change-in-control payments and deferred compensation.

Under the Severance Plan, “cause” generally encompasses the participant’s: (i) gross negligence or intentional misconduct; (ii) failure or inability to satisfactorily perform any assigned duties; (iii) commission of any act of fraud or misappropriation of property or material dishonesty; (iv) conviction of a felony or a crime involving moral turpitude; (v) unauthorized use or disclosure of the confidential information or trade secrets of Amyris or any of our affiliates that use causes material harm to Amyris; (vi) material breach of contractual obligations or policies; (vii) failure to cooperate in good faith with investigations; or (viii) failure to comply with confidentiality or intellectual property agreements. Prior to any determination that “cause” under the Severance Plan has occurred, we are generally required to provide notice to the participant specifying the event or actions giving rise to such determination and a 10-day cure period (30 days in the case of failure or inability to satisfactorily perform any assigned duties).

Under the Severance Plan, “good reason” generally means: (i) a material reduction of the participant’s role at Amyris; (ii) certain reductions of base salary; (iii) a workplace relocation of more than 50 miles; or (iv) our failure to obtain the assumption of the Severance Plan by a successor. In order for a participant to assert good reason for his or her resignation, he or she must provide us written notice within 90 days of the occurrence of the condition and allow us 30 days to cure the condition. Additionally, if we fail to cure the condition within the cure period, the participant must terminate employment with us within 30 days of the end of the cure period.

Under the Severance Plan, a “change of control” will generally be deemed to occur if (i) Amyris completes a merger or consolidation after which Amyris’s stockholders before the merger or consolidation do not own at least a majority of the outstanding voting securities of the acquiring or surviving entity after such merger or consolidation, (ii) Amyris sells all or substantially all of its assets, (iii) any person or entity acquires more than 50% of Amyris’s outstanding voting securities or (iv) a majority of Amyris’s directors cease to be directors over any one-year period.

To the extent any severance benefits to a named executive officer constitute deferred compensation subject to Section 409A of the Code and such officer is deemed a “specified employee” under Section 409A, we will defer payment of such benefits to the extent necessary to avoid adverse tax treatment.

Dr. Cherry was not eligible for and did not receive any benefits under the Plan in connection with his separation from the company in June 2019.

The following table summarizes the potential amounts payable to each of our named executive officers under the Severance Plan upon an Involuntary Termination (i) other than in connection with a change of control of the Company and (ii) in connection with a change of control of the Company, assuming in each case that such Involuntary Termination occurred on December 31, 2018.

Name	Involuntary Termination Not in Connection with a Change of Control			Involuntary Termination in Connection with a Change of Control		
	Base Salary (\$)	Continuing Health Benefits (\$)	Value of Accelerated Options or Shares (\$) <sup>(1)</sup>	Base Salary (\$)	Continuing Health Benefits (\$)	Value of Accelerated Options or Shares (\$) <sup>(2)</sup>
John Melo . . . . .	900,000	35,262	—	1,200,000	35,262	2,475,625
Kathleen Valiasek . . . . .	420,000	16,440	—	630,000	24,660	703,177
Joel Cherry <sup>(3)</sup> . . . . .	375,000	16,440	—	562,500	24,660	779,663
Eduardo Alvarez <sup>(4)</sup> . . . . .	400,000	—	960,338	600,000	—	960,338
Nicole Kelsey . . . . .	395,000	13,733	—	592,500	20,600	384,160

- (1) Other than with respect to certain equity awards granted to Mr. Alvarez, as noted below, accelerated vesting is only applicable in the event of an Involuntary Termination in connection with a change of control.
- (2) With respect to outstanding options as of December 31, 2018, calculated by multiplying the number of shares underlying unvested stock options that would vest as a result of an Involuntary Termination in connection with a change of control by the excess of \$3.34, the closing price of our common stock on Nasdaq on December 31, 2018, over the exercise price of the stock options. Unvested stock options with exercise prices higher than \$3.34 are excluded from the calculation. With respect to outstanding RSUs as of December 31, 2018, calculated by multiplying the number of outstanding unvested RSUs that would vest as a result of an Involuntary Termination in connection with a change of control by \$3.34, the closing price of our common stock on Nasdaq on December 31, 2018.
- (3) Dr. Cherry resigned from the Company effective June 7, 2019. Dr. Cherry was not eligible for and did not receive any benefits under the Plan in connection with his separation from the Company.
- (4) Mr. Alvarez’s participation agreement provides that in the event that prior to full vesting of Mr. Alvarez’s new hire equity awards, including his 2018 RSU award set forth in the “Grants of

Plan-Based Awards in 2018” table above (collectively, the “Alvarez New Hire Awards”), Mr. Alvarez’s employment with the company terminates in circumstances entitling him to severance benefits under the Severance Plan, whether or not in connection with a change of control, then upon such termination the vesting and exercisability of each Alvarez New Hire Award shall be automatically accelerated in full.

### **Pay Ratio Disclosure**

In August 2015, pursuant to a mandate of the Dodd-Frank Wall Street Reform and Consumer Protection Act, the Securities and Exchange Commission adopted a rule requiring annual disclosure of the ratio of the median of the annual total compensation of all employees of the Company, other than its principal executive officer, to the total annual compensation of the Company’s principal executive officer. The Company’s principal executive officer is Mr. Melo, our CEO.

For 2018:

- the annual total compensation of our median employee was \$121,378; and
- the annual total compensation of Mr. Melo, as reported in the “Summary Compensation Table” above, was \$9,638,012.

Thus, for 2018, the ratio of our CEO’s annual total compensation to our median employee’s annual total compensation was approximately 79 to 1. This ratio is a reasonable estimate calculated in a manner consistent with Item 402(u) of Regulation S-K.

In accordance with the rule, for purposes of determining the ratio of our CEO’s annual total compensation to our median employee’s annual total compensation for 2018, we are using the same median employee identified in the proxy statement for our 2018 annual meeting of stockholders because there has been no change in our employee population or our employee compensation arrangements that resulted in a significant change of the pay distribution to our employee population, or would significantly impact the pay ratio disclosure. In determining the median of the annual total compensation of all employees of the Company (other than Mr. Melo), we prepared a list of all employees as of December 31, 2017. We then calculated the annual cash compensation (base salary and actual and target bonus) of our employees as of that date for the 12-month period from January 1, 2017 through December 31, 2017. We did not include any contractors or other non-employee workers in our employee population. Salaries and wages were annualized for permanent employees who were not employed for the full year of 2017. We used exchange rates in effect as of December 31, 2017 to convert the base salaries and other compensation amounts of our non-U.S. employees to U.S. dollars. We did not make any cost-of-living adjustments.

Using this approach, we selected the individual at the median of our employee population. We then calculated total compensation for this individual using the same methodology we use for our named executive officers as set forth in the “Summary Compensation Table” above.

### **Agreements with Executive Officers**

We do not have formal employment agreements with any of our named executive officers. The initial compensation of each named executive officer was set forth in an employment offer or promotion letter that we executed with such executive officer at the time his or her employment with us commenced (or at the time of her or his promotion, as the case may be). Each employment offer letter provides that the named executive officer’s employment is “at will.”

As a condition to their employment, our named executive officers entered into non-competition, non-solicitation and proprietary information and inventions assignment agreements. Under these agreements, each named executive officer has agreed (i) not to solicit our employees during her or his employment and for a period of 12 months after the termination of his or her employment, (ii) not to compete with us or assist any other person to compete with us during her or his employment, and (iii) to protect our confidential and proprietary information and to assign to us intellectual property developed during the course of his or her employment.

See above under “Executive Compensation — Potential Payments upon Termination and upon Termination Following a Change in Control” for a description of potential payments to our named executive officers upon termination of employment, including in connection with a change of control of the Company.

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

Our Certificate of Incorporation limits the personal liability of directors for breach of fiduciary duty to the maximum extent permitted by the Delaware General Corporation Law (“DGCL”), and provides that no director will have personal liability to us or to our 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 of our directors for:

- any breach of the director’s duty of loyalty to us or our stockholders;
- acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law;
- voting or assenting to unlawful payments of dividends, stock repurchases or other distributions; 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 our directors will be further limited to the greatest extent permitted by the DGCL.

In addition, our Bylaws provide that we must indemnify our directors and officers to the fullest extent permitted by the DGCL, and we must advance expenses, including attorneys’ fees, to our directors and officers, in connection with legal proceedings related to their status or service, subject to very limited exceptions.

We maintain an insurance policy that covers certain liabilities of our directors and officers arising out of claims based on acts or omissions in their capacities as directors or officers.

Certain of our 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 Board.

We have entered into indemnification agreements with each of our directors and executive officers that may be broader than the specific indemnification provisions contained in the DGCL. These indemnification agreements require us, among other things, to indemnify our directors and executive officers against liabilities that may arise by reason of their status or service. These indemnification agreements also require us to advance all expenses incurred by the directors and executive officers in investigating or defending against any such action, suit or proceeding. We believe that these agreements are necessary to attract and retain qualified individuals to serve as directors and executive officers.

We are not presently aware of any pending litigation or proceeding involving any person who is or was one of our directors, officers, employees or other agents or is or was serving at our request as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, for which indemnification is sought, and we are not aware of any threatened litigation that may result in claims for indemnification.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers or persons controlling our company pursuant to the foregoing provisions, policies and agreements, we have been informed that, in the opinion of the Securities and Exchange Commission, such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable.



## Director Compensation

Mr. Melo did not receive any compensation in connection with his service as a director due to his status as an employee of the Company. The compensation that we pay to Mr. Melo is discussed in the “Executive Compensation” section above.

### Director Compensation for 2018

During the fiscal year ended December 31, 2018, our non-employee directors who served during 2018 received the compensation set forth below.

Name	Fees Earned or Paid in Cash (\$) <sup>(1)</sup>	Stock Awards (\$) <sup>(2)(12)</sup>	Option Awards (\$) <sup>(2)(12)</sup>	All Other Director Compensation (\$)	Total (\$) <sup>(13)</sup>
John Doerr . . . . .	49,000	15,771	17,579	—	82,351
Geoffrey Duyk <sup>(3)</sup> . . . . .	13,166	—	—	—	13,166
Philip Eykerman <sup>(4)</sup> . . . . .	40,000	15,771	17,579	—	73,351
Christoph Goppelsroeder <sup>(5)</sup> . . . . .	40,000	—	—	—	40,000
Frank Kung <sup>(6)</sup> . . . . .	40,000	15,771	17,579	—	73,351
Steven Mills <sup>(7)(8)</sup> . . . . .	20,510	15,363	17,109	—	52,982
Carole Piwnica . . . . .	54,500	15,771	17,579	—	87,851
Fernando de Castro Reinach <sup>(9)</sup> . . . . .	27,751	—	—	—	27,751
HH Sheikh Abdullah bin Khalifa Al Thani <sup>(10)</sup> . . . . .	40,000	15,771	17,579	—	82,351
Christophe Vuillez <sup>(11)</sup> . . . . .	40,000	—	—	—	40,000
R. Neil Williams . . . . .	70,000	15,771	17,579	—	103,351
Patrick Yang . . . . .	45,000	15,771	17,579	—	78,351

- (1) Reflects board, committee chair and committee member retainer fees earned during 2018.
- (2) The amounts in the “Stock Awards” and “Option Awards” columns reflect the aggregate grant date fair value of such awards computed in accordance with FASB ASC Topic 718. The assumptions made in the valuation of the awards are discussed in Note 12, “Stock-based Compensation” of “Notes to Consolidated Financial Statements” in our Annual Report on Form 10-K for the fiscal year ended December 31, 2018. These amounts do not correspond to the actual value that may be recognized by our non-employee directors.
- (3) In July 2017, Dr. Duyk, notified us that, effective July 1, 2017, he had elected to decline all cash and equity compensation accruing, payable or issuable to him under our non-employee director compensation program until such time as he revoked such election in a signed writing delivered to an officer of the Company. On September 21, 2018, Dr. Duyk revoked such election effective as of such date.
- (4) All cash compensation earned by Mr. Eykerman during 2018 was paid directly to DSM, which designated Mr. Eykerman to serve on our Board, and he did not receive any cash benefit from such payments.
- (5) All cash compensation earned by Mr. Goppelsroeder during 2018 was paid directly to DSM, which designated Mr. Goppelsroeder to serve on our Board, and he did not receive any cash benefit from such payments. In addition, Mr. Goppelsroeder has to date declined each equity award granted to him pursuant to our non-employee director compensation program, without prejudice to future awards.
- (6) All cash compensation earned by Dr. Kung during 2018 was paid directly to Vivo, which designated Dr. Kung to serve on our Board, and Dr. Kung did not receive any cash benefit from such payments.

Pursuant to an agreement between Dr. Kung and Vivo, Dr. Kung has agreed, subject to certain conditions and exceptions, to remit the equity compensation he receives under our non-employee director compensation program to Vivo if and when such equity compensation becomes vested and/or exercised.

- (7) Mr. Mills was appointed to our Board and the Audit Committee on August 1, 2018 and the LDCC on November 6, 2018, and the fees earned by him in 2018 represent retainer fees earned for the portions of 2018 that he served on our Board, the Audit Committee and the LDCC, respectively.
- (8) Upon joining our Board in August 2018, Mr. Mills received an initial award under the 2010 EIP of an option to purchase 3,466 shares of our common stock and 2,266 RSUs. This award was contemplated by our non-employee director compensation program (described in “Narrative to Director Compensation Tables” below). The stock option and RSU awards vest in full on August 1, 2019. The grant date fair value for these awards, as calculated under FASB ASC Topic 718, is as shown:

Name	Date of Grant	Number of Shares of Stock or Units (#)	Number of Securities Underlying Options (#)	Exercise Price Per Share (\$)	Stock Awards (\$) <sup>(2)</sup>	Option Awards (\$) <sup>(2)</sup>
Steven Mills . . . . .	8/6/2018	—	3,466	6.78	—	17,109
Steven Mills . . . . .	8/6/2018	2,266	—	—	15,363	—

- (9) Dr. Reinach resigned from our Board and the Audit Committee effective August 1, 2018, and the fees earned by him in 2018 represent retainer fees earned for the portion of 2018 that he served on our Board, the Audit Committee, respectively. Upon resignation from the Board, Dr. Reinach entered into a consulting agreement with Amyris to provide certain consulting and advisory services to the Company in exchange for an award of 203,804 RSUs, as described in more detail below under “Reinach Consulting Agreement” in Part III, Item 13 of this Annual Report on Form 10-K. As a result of Dr. Reinach’s entry into a consulting agreement with, and continued provision of services to, Amyris, notwithstanding his resignation from the Board, Dr. Reinach’s outstanding equity awards will continue to remain outstanding and vest in accordance with, and subject to, the 2010 EIP and the relevant award agreements.
- (10) HH Sheikh Abdullah bin Khalifa Al Thani resigned from our Board effective May 14, 2019, at which time all of his outstanding equity awards ceased vesting: all of his vested options remained exercisable for a period of three months after May 14, 2019, and all of his unvested options and RSUs were forfeited.
- (11) All cash compensation earned by Mr. Vuillez during 2018 was paid directly to Total, which designated Mr. Vuillez to serve on our Board, and he did not receive any cash benefit from such payments. In addition, Mr. Vuillez has to date declined each equity award granted to him pursuant to our non-employee director compensation program, without prejudice to future awards. Mr. Vuillez resigned from our Board effective May 20, 2019.
- (12) In August 2018, each of our non-employee directors other than Dr. Duyk, Mr. Goppelsroeder and Mr. Vuillez (and excluding Dr. Reinach, who resigned from our Board in August 2018, and Mr. Mills, who joined our Board in August 2018) received an annual award under the 2010 EIP of an option to purchase 3,466 shares of our common stock and 2,266 RSUs. These awards were contemplated by our non-employee director compensation program (described in “Narrative to Director Compensation Tables” below). These option and RSU awards will vest in full on August 1, 2019 (subject to continued service through such date). The grant date fair value of these awards, as calculated under FASB ASC Topic 718, is as shown:

Name	Date of Grant	Number of Shares of Stock or Units (#)	Number of Securities Underlying Options (#)	Exercise Price Per Share (\$)	Stock Awards (\$) <sup>(2)</sup>	Option Awards (\$) <sup>(2)</sup>
John Doerr	8/1/2018	—	3,466	6.96	—	17,579
John Doerr	8/1/2018	2,266	—	—	15,771	—
Philip Eykerman	8/1/2018	—	3,466	6.96	—	17,579
Philip Eykerman	8/1/2018	2,266	—	—	15,771	—
Frank Kung <sup>(6)</sup>	8/1/2018	—	3,466	6.96	—	17,579
Frank Kung <sup>(6)</sup>	8/1/2018	2,266	—	—	15,771	—
Carole Piwnica	8/1/2018	—	3,466	6.96	—	17,579
Carole Piwnica	8/1/2018	2,266	—	—	15,771	—
HH Sheikh Abdullah bin Khalifa Al Thani <sup>(10)</sup>	8/1/2018	—	3,466	6.96	—	17,579
HH Sheikh Abdullah bin Khalifa Al Thani <sup>(10)</sup>	8/1/2018	2,266	—	—	15,771	—
R. Neil Williams	8/1/2018	—	3,466	6.96	—	17,579
R. Neil Williams	8/1/2018	2,266	—	—	15,771	—
Patrick Yang	8/1/2018	—	3,466	6.96	—	17,579
Patrick Yang	8/1/2018	2,266	—	—	15,771	—

(13) As of December 31, 2018, the non-employee directors who served during 2018 held the following outstanding equity awards:

Name	Outstanding Options (Shares)	Outstanding Stock Awards (Units)
John Doerr	10,265	2,266
Geoffrey Duyk <sup>(3)</sup>	4,666	—
Philip Eykerman	8,199	3,599
Christoph Goppelsroeder <sup>(5)</sup>	—	—
Frank Kung <sup>(6)</sup>	6,466	3,599
Steven Mills <sup>(8)</sup>	3,466	2,266
Carole Piwnica	10,265	2,266
Fernando de Castro Reinach <sup>(9)</sup>	6,799	203,804
HH Sheikh Abdullah bin Khalifa Al Thani <sup>(10)</sup>	9,865	2,266
Christophe Vuillez <sup>(11)</sup>	—	—
R. Neil Williams	9,465	2,266
Patrick Yang	17,065 <sup>(14)</sup>	2,266

(14) Includes an option to purchase 8,000 shares of our common stock, which Dr. Yang received for consulting work provided to us in 2013 – 2014 prior to his appointment to our Board.

### Narrative to Director Compensation Tables

Under our current non-employee director compensation program, in each case subject to final approval by our Board with respect to equity awards:

- Each non-employee director receives an annual cash retainer of \$40,000 and an annual equity award consisting of an option to purchase 3,466 shares of our common stock and 2,266 RSUs, vesting in full after one year (in each case subject to continued service through the applicable

vesting date). Any new Board members will receive a pro-rated annual equity award upon joining our Board, which award will vest in full on the one-year anniversary of the grant of the most recent annual Board equity awards.

- The non-executive Board chair, if any, receives an additional annual award of 7,300 RSUs. The award becomes fully vested after one year (subject to continued service through the applicable vesting date).
- The chair of the Audit Committee receives an additional annual cash retainer of \$30,000.
- The chair of the LDCC receives an additional annual cash retainer of \$10,000.
- The chair of the Nominating and Governance Committee receives an additional annual cash retainer of \$9,000.
- Audit Committee, LDCC and Nominating and Governance Committee members other than the chair receive an additional annual cash retainer of \$7,500, \$5,000 and \$4,500, respectively.

In general, all of the retainers described above are paid quarterly in arrears. In cases where a non-employee director serves for part of the year in a capacity entitling him or her to a retainer payment, the retainer is prorated to reflect his or her period of service in that capacity. Non-employee directors are also eligible for reimbursement of their expenses incurred in attending Board and committee meetings.

### **Compensation Committee Interlocks and Insider Participation**

The members of the LDCC during 2018 were Steven Mills, Carole Piwnica and Patrick Yang. None of these directors was an officer or employee of Amyris or any of our subsidiaries during 2018, nor are any of these directors former officers of Amyris or any of our subsidiaries, except for Steven Mills, who served as the Chief Financial Officer of Amyris from May 2012 to December 2013. Except as set forth in Part III, Item 13 of this Annual Report on Form 10-K, none of these directors has any relationships with us of the type that are required to be disclosed under Item 404 of Regulation S-K. None of our executive officers has served as a member of the board of directors or as a member of the compensation or similar committee of any entity that has one or more executive officers who have served on our Board or the LDCC during 2018.

## **ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS**

The following table sets forth information with respect to the beneficial ownership of our common stock, as of August 30, 2019, by:

- each person, or group of affiliated persons, who is known by us to beneficially own more than 5% of our voting securities;
- each of our directors;
- each of our named executive officers; and
- all of our directors and named executive officers as a group.

Beneficial ownership is determined in accordance with the rules of the Securities and Exchange Commission (the “SEC”) and generally includes any shares over which the individual or entity has sole or shared voting power or investment power. These rules also treat as outstanding all shares of capital stock that a person would receive upon the exercise of any option, warrant or right or through the conversion of a security held by that person that are immediately exercisable or convertible or exercisable or convertible within 60 days of the date as of which beneficial ownership is determined. These shares are deemed to be outstanding and beneficially owned by the person holding those options, warrants or rights or convertible securities for the purpose of computing the number of shares beneficially owned and 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 information does not necessarily indicate beneficial ownership for any other purpose. Except as indicated in the footnotes to the below table and pursuant to applicable community property laws, to our knowledge the persons named in the table below have sole voting and investment power with respect to all shares of common stock attributed to them in the table.

Information with respect to beneficial ownership has been furnished to us by each director and named executive officer and certain stockholders, and derived from publicly-available SEC beneficial ownership reports on Forms 3 and 4 and Schedules 13D and 13G filed by covered beneficial owners of our common stock. Percentage ownership of our common stock in the table is based on 103,185,068 shares of our common stock outstanding on August 30, 2019 (as reflected in the records of our stock transfer agent). Except as otherwise set forth below, the address of the beneficial owner is c/o Amyris, Inc., 5885 Hollis Street, Suite 100, Emeryville, California 94608.

Name and Address of Beneficial Owner	Number of Shares Beneficially Owned (#)	Percent of Class (%)
<b>5% Stockholders</b>		
DSM International B.V. <sup>(1)</sup> . . . . .	27,001,551	23.0
Foris Ventures, LLC <sup>(2)</sup> . . . . .	21,054,940	19.7
Vivo Capital LLC <sup>(3)</sup> . . . . .	10,725,235	9.98
Total Raffinage Chimie <sup>(4)</sup> . . . . .	10,268,173	9.9
Loyola Capital Management, LLC <sup>(5)</sup> . . . . .	8,300,000	8.0
<b>Directors and Named Executive Officers</b>		
John Melo <sup>(6)</sup> . . . . .	909,575	*
John Doerr <sup>(2)(7)</sup> . . . . .	21,333,787	19.99
Geoffrey Duyk <sup>(8)</sup> . . . . .	8,932	*
Philip Eykerman <sup>(9)</sup> . . . . .	12,848	*
Christoph Goppelsroeder <sup>(10)</sup> . . . . .	0	*
Frank Kung <sup>(3)(11)</sup> . . . . .	10,731,784	9.99
James McCann <sup>(12)</sup> . . . . .	1,240	*
Steven Mills <sup>(13)</sup> . . . . .	16,048	*
Carole Piwnica <sup>(14)</sup> . . . . .	15,797	*
Lisa Qi . . . . .	0	*
R. Neil Williams <sup>(15)</sup> . . . . .	14,597	*
Patrick Yang <sup>(16)</sup> . . . . .	68,997	*
Kathleen Valiasek <sup>(17)</sup> . . . . .	275,646	*
Joel Cherry <sup>(18)</sup> . . . . .	323,067	*
Eduardo Alvarez <sup>(19)</sup> . . . . .	363,876	*
Nicole Kelsey <sup>(20)</sup> . . . . .	128,592	*
All Directors and Named Executive Officers as a Group (16 Persons) <sup>(21)</sup> . . . . .	34,204,786	30.4

\* Represents beneficial ownership of less than 1%.

(1) Includes 13,994,198 shares of common stock issuable upon exercise of certain warrants held by DSM International B.V. (together with its affiliates, “DSM”). 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.

(2) Includes 3,526,967 shares of common stock issuable upon exercise of certain warrants held by Foris. Foris also holds (i) warrants to purchase 17,638,199 shares of common stock, the exercise of which is subject to (A) a beneficial ownership limitation of 19.99% of the Company’s outstanding common stock and/or (B) the approval of the Company’s stockholders and (ii) shares of the Company’s Series B

17.38% Convertible Preferred Stock (the “Series B Preferred Stock”), which are currently convertible into 1,012,071 shares of common stock, the conversion of which is subject to a beneficial ownership limitation of 9.99% of the Company’s outstanding common stock (the “Series B Beneficial Ownership Limitation”). Pursuant to the Certificate of Designation of Preferences, Rights and Limitations relating to the Series B Preferred Stock, the shares of Series B Preferred Stock held by Foris automatically converted to common stock on October 9, 2017, subject to the Series B Beneficial Ownership Limitation. Such automatic conversion of the Series B Preferred Stock will be held in abeyance to the extent such conversion would cause Foris to beneficially own in excess of the Series B Beneficial Ownership Limitation, until Foris is able to receive such shares without exceeding the Series B Beneficial Ownership Limitation. Foris is indirectly owned by director John Doerr, who shares voting and investment control over the shares held by Foris. The address for Foris is 751 Laurel Street #717, San Carlos, California 94070.

- (3) Includes (i) 793,043 shares of common stock issuable upon conversion of shares of the Company’s Series D Convertible Preferred Stock (the “Series D Preferred Stock”) held by affiliates of Vivo Capital LLC (together with its affiliates, “Vivo”) and (ii) 3,440,612 shares of common stock issuable upon exercise of certain warrants held by Vivo. Vivo holds additional shares of Series D Preferred Stock, which are currently convertible into 1,150,618 shares of common stock, and additional warrants, which are currently exercisable for 4,991,953 shares of common stock, the conversion and exercise, respectively, of which is subject to a beneficial ownership limitation of 9.99% of the Company’s outstanding common stock. For purposes of this table, the shares beneficially owned by Vivo have been allocated between the number of shares issuable upon the conversion of shares of Series D Preferred Stock and the exercise of warrants based on the respective number of shares issuable upon such conversion or exercise. Director Frank Kung is a founding member of Vivo and a voting member of the general partner of Vivo entities that hold our common stock, Series D Preferred Stock and warrants, and may be deemed to share voting and dispositive power over the shares held by such entities. The address for Vivo is 505 Hamilton Avenue, Suite 207, Palo Alto, California 94301.
- (4) Includes (i) 172,820 shares of common stock issuable upon conversion of certain convertible promissory notes held by Total Raffinage Chimie (“Total”) and (ii) 141,881 shares of common stock issuable upon exercise of certain warrants held by Total. The address for Total is 2, Place Jean Millier, La Défense 6, 92400 Courbevoie, France.
- (5) The address for Loyola Capital Management, LLC is 222 E. Wisconsin Avenue, Suite 201, Lake Forest, Illinois 60045.
- (6) Shares beneficially owned by Mr. Melo include (i) 559,863 restricted stock units, all of which were unvested as of August 30, 2019, and (ii) 214,693 shares of common stock issuable upon exercise of stock options that were exercisable within 60 days of August 30, 2019.
- (7) Shares beneficially owned by Mr. Doerr include (i) 21,054,940 shares of common stock beneficially owned by Foris, in which Mr. Doerr indirectly owns all of the membership interests, (ii) 567 shares of common stock held by The Vallejo Ventures Trust U/T/A 2/12/96, of which Mr. Doerr is a trustee, (iii) 278,882 shares of common stock held by entities affiliated with Kleiner Perkins Caufield & Byers of which Mr. Doerr is an affiliate, excluding 16,399 shares over which Mr. Doerr has no voting or investment power and (iv) 10,265 shares of common stock issuable upon exercise of stock options that were exercisable within 60 days of August 30, 2019.
- (8) Shares beneficially owned by Dr. Duyk include 4,666 shares of common stock issuable upon exercise of stock options that were exercisable within 60 days of August 30, 2019.
- (9) Shares beneficially owned by Mr. Eykerman include (i) 666 restricted stock units, all of which were unvested as of August 30, 2019, and (ii) 7,449 shares of common stock issuable upon exercise of stock options that were exercisable within 60 days of August 30, 2019. Mr. Eykerman was appointed to the Board on May 18, 2017 as the designee of DSM. Mr. Eykerman disclaims beneficial ownership of all shares of Amyris common stock that are or may be beneficially owned by DSM or any of its affiliates.
- (10) Mr. Goppelsroeder was appointed to the Board on November 2, 2017 as the designee of DSM. Mr. Goppelsroeder does not beneficially own any shares of Amyris common stock directly and disclaims beneficial ownership of all shares of Amyris common stock that are or may be beneficially owned by DSM or any of its affiliates.

- (11) Shares beneficially owned by Dr. Kung include (i) 10,725,235 shares of common stock beneficially owned by Vivo, over which Dr. Kung may be deemed to share voting and dispositive power, (ii) 1,333 restricted stock units, all of which were unvested as of August 30, 2019 and (iii) 5,216 shares of common stock issuable upon exercise of stock options that were exercisable within 60 days of August 30, 2019. Dr. Kung was appointed to the Board on November 2, 2017 as the designee of Vivo. Dr. Kung disclaims beneficial ownership over shares of Amyris common stock that are or may be beneficially owned by Vivo except to the extent of his pecuniary interest therein.
- (12) Shares beneficially owned by Mr. McCann include 750 shares of common stock issuable upon exercise of stock options that were exercisable within 60 days of August 30, 2019.
- (13) Shares beneficially owned by Mr. Mills include 3,466 shares of common stock issuable upon exercise of stock options that were exercisable within 60 days of August 30, 2019.
- (14) Shares beneficially owned by Ms. Piwnica include 10,265 of common stock issuable upon exercise of stock options that were exercisable within 60 days of August 30, 2019. Ms. Piwnica is Director of NAXOS S.A.R.L. (Switzerland), a consulting firm advising private investors, and was designated to serve as our director by Naxyris S.A., an investment vehicle owned by Naxos Capital Partners SCA Sicar. NAXOS S.A.R.L. (Switzerland) is affiliated with Naxos Capital Partners SCA Sicar. Ms. Piwnica disclaims beneficial ownership of all shares of Amyris common stock that are or may be beneficially owned by Naxyris S.A.
- (15) Shares beneficially owned by Mr. Williams include 9,465 shares of common stock issuable upon exercise of stock options that were exercisable within 60 days of August 30, 2019.
- (16) Shares beneficially owned by Dr. Yang include 17,065 shares of common stock issuable upon exercise of stock options that were exercisable within 60 days of August 30, 2019.
- (17) Shares beneficially owned by Ms. Valiasek include (i) 138,599 restricted stock units, all of which were unvested as of August 30, 2019, and (ii) 49,123 shares of common stock issuable upon exercise of stock options that were exercisable within 60 days of August 30, 2019.
- (18) Shares beneficially owned by Dr. Cherry include (i) 149,910 restricted stock units, all of which were unvested as of August 30, 2019, and (ii) 81,650 shares of common stock issuable upon exercise of stock options that were exercisable within 60 days of August 30, 2019. Dr. Cherry resigned from the Company effective June 7, 2019. In connection with his termination of employment, Dr. Cherry agreed to provide certain consulting services to the Company for a period of one year following the termination of his employment with the Company (which term may be extended by the mutual agreement of the parties). In exchange for, and as a result of, such services, Dr. Cherry's outstanding equity awards will continue to remain outstanding and vest in accordance with, and subject to, the 2010 EIP and the relevant award agreements during the term of his consulting agreement with the Company.
- (19) Shares beneficially owned by Mr. Alvarez include (i) 285,000 restricted stock units, all of which were unvested as of August 30, 2019, and (ii) 30,000 shares of common stock issuable upon exercise of stock options that were exercisable within 60 days of August 30, 2019.
- (20) Shares beneficially owned by Ms. Kelsey include (i) 73,666 restricted stock units, all of which were unvested as of August 30, 2019, and (ii) 23,958 shares of common stock issuable upon exercise of stock options that were exercisable within 60 days of August 30, 2019.
- (21) Shares beneficially owned by all of our named executive officers and directors as a group include the shares of common stock described in footnotes 6 through 20 above.

## Equity Compensation Plan Information

The following table shows certain information concerning our common stock reserved for issuance in connection with our 2005 Stock Option/Stock Issuance Plan, our 2010 Equity Incentive Plan and our 2010 Employee Stock Purchase Plan as of December 31, 2018:

Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted-average exercise price of outstanding options, warrants and rights	Number of securities to be issued upon vesting of outstanding restricted stock units	Number of securities remaining available for future issuance under equity compensation plans <sup>(1)(2)</sup>
Equity compensation plans approved by security holders . . . . .	5,390,270	\$11.55	5,294,803	2,559,213
Equity compensation plans not approved by security holders . . . . .	—	\$ —	—	—
Total . . . . .	5,390,270	\$11.55	5,294,803	2,559,213

- (1) Includes 2,359,750 shares reserved for future issuance under our 2010 Equity Incentive Plan and 199,463 shares reserved for future issuance under our 2010 Employee Stock Purchase Plan. No shares are reserved for future issuance under our 2005 Stock Option/Stock Issuance Plan other than shares issuable upon exercise of equity awards outstanding under such plan.
- (2) Effective January 1, 2019, the number of shares available for future issuance under our 2010 Equity Incentive Plan increased by 3,828,241 shares pursuant to the automatic increase provision contained in the 2010 Equity Incentive Plan and the number of shares available for future issuance under our 2010 Employee Stock Purchase Plan increased by 382,824 shares, in each case pursuant to automatic increase provisions contained in the respective plans, as discussed in more detail below.

Our 2010 Equity Incentive Plan includes all shares of our common stock reserved for issuance under our 2005 Stock Option/Stock Issuance Plan immediately prior to our initial public offering that were not subject to outstanding grants as of the completion of such offering. In addition, any shares of our common stock (i) issuable upon exercise of stock options granted under our 2005 Stock Option/Stock Issuance Plan that cease to be subject to such options and (ii) issued under our 2005 Stock Option/Stock Issuance Plan that are forfeited or repurchased by us at the original issue price, will become part of our 2010 Equity Incentive Plan reserve.

The number of shares available for grant and issuance under our 2010 Equity Incentive Plan is increased on January 1 of each year during the term of the plan by an amount equal to the lesser of (1) five percent (5%) of our shares outstanding on the immediately preceding December 31 and (2) a number of shares as may be determined by the Board or the Leadership Development and Compensation Committee of the Board in their discretion. In addition, shares will again be available for grant and issuance under our 2010 Equity Incentive Plan that are:

- subject to issuance upon exercise of an option or stock appreciation right granted under our 2010 Equity Incentive Plan and that cease to be subject to such award for any reason other than the award's exercise;
- subject to an award granted under our 2010 Equity Incentive Plan and that are subsequently forfeited or repurchased by us at the original issue price;
- surrendered pursuant to an exchange program; or
- subject to an award granted under our 2010 Equity Incentive Plan that otherwise terminates without shares being issued.

The number of shares reserved for issuance under our 2010 Employee Stock Purchase Plan is increased on January 1 of each year during the term of the plan by an amount equal to the lesser of (1) one percent (1%) of our shares outstanding on the immediately preceding December 31 and (2) a number of shares as



may be determined by the Board or the Leadership Development and Compensation Committee of the Board in their discretion, provided that the aggregate number of shares issued over the term of our 2010 Employee Stock Purchase Plan shall not exceed 1,666,666 shares.

### **ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE**

The following is a description of each transaction since the beginning of 2018, and each currently proposed transaction, in which:

- we have been or are to be a participant;
- the amount involved exceeds the lesser of \$120,000 or 1% of the average of our total assets for the last two completed fiscal years; and
- any of our directors, executive officers or holders of more than 5% of any class of our capital stock at the time of the transactions in issue, or any immediate family member of or person sharing the household with any of these individuals, had or will have a direct or indirect material interest.

Please refer to Note 1, “Basis of Presentation and Summary of Significant Accounting Policies”, Note 5, “Debt”, Note 7, “Stockholders’ Deficit”, Note 10, “Revenue Recognition”, Note 11, “Related Party Transactions” and Note 16, “Subsequent Events” in Part II, Item 8 of this Annual Report on Form 10-K for a description of certain related party transactions between the Company and Total, DSM, Foris, Naxyris and Vivo since the beginning of 2018. All of such disclosure is incorporated herein by reference.

#### **Agreements with DSM**

##### *Supply Agreement Payment Letter*

In November 2018, we entered into a letter agreement with DSM, pursuant to which we agreed to make a cash payment to DSM of \$0.6 million in respect of certain agreements by DSM to allocate production capacity at the Brotas Facility in 2018 under the Supply Agreement.

##### *Commercial Transactions*

In July and September 2017, we entered into three separate collaboration agreements with DSM (the “DSM Collaboration Agreements”) to jointly develop three new molecules in the Health and Nutrition field (the “DSM Ingredients”) using our technology, which we would produce and DSM would commercialize. Pursuant to the DSM Collaboration Agreements, DSM will, subject to certain conditions, provide funding for the development of the DSM Ingredients and, upon commercialization, the parties would enter into supply agreements whereby DSM would purchase the applicable DSM Ingredients from us at prices agreed by the parties. The development activities will be directed by a joint steering committee with equal representation by DSM and us. In addition, the parties will share product margin from DSM’s sales of products that incorporate the DSM Ingredients subject to the DSM Collaboration Agreements.

In June 2018, we and DSM amended and restated one of the DSM Collaboration Agreements to more clearly define the research and development funding responsibility, amounts and criteria under the agreement. Pursuant to the amended agreement, DSM agreed to fund additional research and development costs upon the achievement of certain milestones, and would then recoup a portion of such funding through a reduction in the royalty percentage paid by DSM to us (once products subject to the agreement have been commercialized) until such amount is recouped by DSM, at which point the royalty percentage would return to its previous level.

#### **Agreements with Total**

In October 2016, we entered into an assistance agreement with the United States Department of Energy relating to a research grant award under which we, with the assistance of two specialized subcontractors, including Total, will work to develop a manufacturing-ready process utilizing wood as the cellulosic feedstock to produce farnesene. The program that is the subject of the award is being performed

and funded on a milestone basis. Under the award, we and our subcontractors could collectively receive reimbursement for up to \$7.0 million in costs expended by us and our subcontractors over the program's three year term if all of the program's milestones are achieved. In April 2017, we entered into a Master Subrecipient Agreement with Total in connection with the grant award (the "Master Subrecipient Agreement"), pursuant to which Total would perform certain services in connection with the program and would be reimbursed for such services, up to a maximum amount of approximately \$350,000. In March 2018, we and Total amended the Master Subrecipient Agreement to reflect the extension of the program through the end of 2018.

In May 2018, we and Total entered into an agreement to terminate, effective April 30, 2018, Total's sublease of certain space in our pilot plants, which sublease was scheduled to expire in April 2019, pursuant to which Total agreed to pay us \$62,000 to satisfy its remaining obligations under the sublease and we agreed to purchase from Total certain laboratory equipment located in the subleased premises for a purchase price of \$0.5 million.

In July 2018, we and Total entered into an agreement to terminate, effective May 31, 2018, the Pilot Plant Services Agreement, dated April 4, 2014, as amended, between us and Total, pursuant to which we provided Total with fermentation and downstream separation scale-up services and training to Total employees and which was scheduled to expire in April 2019. In accordance with the terms of the Pilot Plant Services Agreement, no payments were due by either party in connection with the termination.

We engage in sales of our products to Total (including TAB) in the ordinary course of our business. In 2018, we made product sales to Total of \$0.3 million and held \$0.1 million in accounts receivable from Total as of December 31, 2018.

#### **Reinach Consulting Agreement**

In November 2018, we entered into a consulting agreement, effective August 1, 2018, with Fernando Reinach, a former director who resigned from our Board effective August 1, 2018 (the "Reinach Consulting Agreement"). Pursuant to the Reinach Consulting Agreement, Dr. Reinach agreed to perform certain consulting services relating to our operations in Brazil for a period of three (3) years, including serving as a member of our advisory panel, and was appointed to a one (1)-year term on such panel by our Board of Directors in November 2018. As compensation for such services, Dr. Reinach was granted an award of 203,804 RSUs under the 2010 EIP, which award vests as to 1/3<sup>rd</sup> of the units annually from August 1, 2018, subject to continued service through each vesting date. The Reinach Consulting Agreement expires on August 1, 2021, subject to the right of either party to earlier terminate the Reinach Consulting Agreement on ten (10) day's prior written notice to the other party. In the event the Reinach Consulting Agreement is terminated by us prior to its expiration date other than for cause, any unvested RSUs will accelerate and vest in full upon such termination.

#### **Cherry Consulting Agreement**

In June 2019, we entered into a consulting agreement with Joel Cherry, our former President, Research and Development who resigned from the Company effective June 7, 2019 (the "Cherry Consulting Agreement"). Pursuant to the Cherry Consulting Agreement, Dr. Cherry agreed to perform certain consulting services for the Company, and as compensation for such services, Dr. Cherry's outstanding equity awards (see "Executive Compensation" in Part III, Item 11 of this Annual Report on Form 10-K for more information) will continue to remain outstanding and vest in accordance with, and subject to, the 2010 EIP and the relevant award agreements during the term of the Cherry Consulting Agreement. The Cherry Consulting Agreement expires on June 8, 2020, which term may be extended by mutual agreement of the parties, subject to the right of either party to earlier terminate the Cherry Consulting Agreement on thirty (30) day's prior written notice to the other party or upon a breach of the agreement by the other party.

#### **Officer Loans**

In March, April, May and June 2019, Kathleen Valiasek, the Company's former Chief Financial Officer and current Chief Business Officer, provided loans to the Company in an aggregate principal amount of \$1.2 million. Such amounts were repaid by the Company no later than twelve days after such

loans were made and interest was accrued on each loan, while outstanding, at a rate of 12% per annum, for which the total interest accrued was \$2,296.

### **Compensation Arrangements**

Stephanie Kung, the daughter of director Frank Kung, is a non-executive employee of Amyris and received employment compensation in excess of \$120,000 in 2018 and we expect that she will receive employment compensation in excess of \$120,000 in 2019.

### **Indemnification Arrangements**

Please see “Executive Compensation — Limitation of Liability and Indemnification” in Part III, Item 11 of this Annual Report on 10-K for information regarding our indemnification arrangements with our directors and executive officers.

### **Executive Compensation and Employment Arrangements**

Please see “Executive Compensation” in Part III, Item 11 of this Annual Report on Form 10-K for information regarding our compensation arrangements with our executive officers, including equity awards and employment agreements with our executive officers.

### **Registration Rights Agreements**

Certain of our stockholders, including certain entities affiliated with our directors and/or holders of five percent or more of our outstanding common stock, including DSM, Foris, Vivo and Total, hold registration rights pursuant to (i) the Amended and Restated Letter Agreement, dated May 8, 2014, by and among us and certain of our stockholders, (ii) the letter agreement, dated July 29, 2015, by and among us and certain investors, (iii) the Registration Rights Agreement, dated October 20, 2015, by and among us and certain purchasers of our 9.50% Convertible Senior Notes due 2019, (iv) the warrant to purchase common stock issued by us to Nenter & Co., Inc. on November 16, 2016, (v) the Securities Purchase Agreement, dated May 8, 2017, by and among us and certain investors, (vi) the Securities Purchase Agreement, dated May 31, 2017, by and between us and the investor named therein, (vii) the Securities Purchase Agreement, dated August 2, 2017, by and between us and DSM International B.V., (viii) the Stockholder Agreement, dated August 3, 2017, by and between us and affiliates of Vivo Capital LLC, (ix) the Amended and Restated Stockholder Agreement, dated August 7, 2017, by and between us and DSM International B.V., (x) the DSM SPA, (xi) the Registration Rights Agreement, dated December 10, 2018, by and among us and the investors party thereto, (xii) the Security Purchase Agreement, dated April 24, 2019, by and between us and ETP BioHealth (I) Fund LP and (xiii) the common stock purchase warrants issued by us to each of Schottenfeld Opportunities Fund II, L.P., Phase Five Partners, LP and Koyote Trading, LLC on September 10, 2017.

### **Related-Party Transactions Policy**

Our Related-Party Transactions Policy adopted by our Board of Directors requires that any transaction with a related party that must be reported under applicable SEC rules, other than certain compensation related matters, must be reviewed and approved or ratified by the Audit Committee of our Board of Directors or another independent body of our Board of Directors. Our Related-Party Transactions Policy contains specific procedures to be followed, and factors to be considered, in connection with the review of such transactions, but does not contain specific standards for approval of such transactions.

### **Independence of Directors**

Under the corporate governance rules of The Nasdaq Stock Market (“Nasdaq”), a majority of the members of the Board must qualify as “independent,” as affirmatively determined by the Board. The Board and the Nominating and Governance Committee of the Board consult with our legal counsel to ensure that the Board’s determinations are consistent with all relevant securities and other laws and regulations regarding the definition of “independent,” including those set forth in the applicable Nasdaq rules. The

Nasdaq criteria include various objective standards and a subjective test. A member of the Board is not considered independent under the objective standards if, for example, he or she is, or at any time during the past three years was, employed by Amyris, he or she received compensation (other than standard compensation for Board service) in excess of \$120,000 during a period of twelve months within the past three years, or he or she is an executive officer of any organization to which Amyris made, or from which Amyris received, payments for property or services (other than payments arising solely from investments in our securities or payments under non-discretionary charitable contribution matching programs) in the current or any of the past three fiscal years that exceed 5% of the recipient's gross revenues for that year, or \$200,000, whichever is more.

The subjective test under the Nasdaq rules for director independence requires that each independent director not have a relationship which, in the opinion of the Board, would interfere with the exercise of independent judgment in carrying out the responsibilities of a director. The subjective evaluation of director independence by the Board was made in the context of the objective standards referenced above. In making independence determinations, the Board generally considers commercial, financial and professional services, and other transactions and relationships between Amyris and each director and his or her family members and affiliated entities.

Based on such criteria, the Board determined that (i) Mr. Melo is not independent because he is an Amyris employee and (ii) Messrs. Eykerman and Goppelsroeder are not independent because they are each employees of DSM (with which we have commercial and financial relationships, as described in Part III, Item 13 of this Annual Report on Form 10-K).

For each of the directors other than Messrs. Melo, Eykerman and Goppelsroeder, the Board determined that none of the transactions or other relationships of such directors (and their respective family members and affiliated entities) with Amyris, our executive officers and our independent registered public accounting firm exceeded Nasdaq objective standards and none would otherwise interfere with the exercise of independent judgment in carrying out his or her responsibilities as a director. The following is a description of these relationships:

- Mr. Doerr is a manager of the general partners of entities affiliated with KPCB Holdings, Inc. As of August 30, 2019, KPCB Holdings, Inc., as nominee for entities affiliated with KPCB, held 278,882 shares of our common stock, which represented approximately 0.3% of our outstanding common stock. In addition, Mr. Doerr indirectly owns all of the membership interests in Foris Ventures, LLC ("Foris"), which beneficially owned 21,054,940 shares of our common stock as of August 30, 2019, representing approximately 19.7% of our outstanding common stock (this includes the assumed exercise of certain warrants held by Foris, as described in Part III, Item 12 of this Annual Report on Form 10-K).
- Dr. Kung is a founding member of Vivo and was designated to serve as a director by Vivo. As of August 30, 2019, Vivo beneficially owned 10,725,235 shares of our common stock, representing approximately 9.98% of our outstanding common stock (this includes the assumed conversion and exercise of certain shares of preferred stock and warrants, respectively, held by Vivo, as described in Part III, Item 12 of this Annual Report on Form 10-K). In addition, Dr. Kung's daughter is a non-executive employee of Amyris.
- Prior to joining the Board, Mr. Mills served as the Chief Financial Officer of Amyris from May 2012 to December 2013.
- Ms. Piwnica was designated to serve as a director by Naxyris. As of August 30, 2019, Naxyris beneficially owned 3,743,038 shares of our common stock, representing approximately 3.5% of our outstanding common stock (this includes the assumed exercise of certain warrants held by Naxyris).
- Prior to joining the Board, Dr. Yang worked as a consultant to Amyris from September 2013 through July 2014 and received compensation in excess of \$120,000 during such period for his services.

Consistent with these considerations, after a review of all relevant transactions and relationships between each director, any of his or her family members and affiliated entities, Amyris, our executive officers and our independent registered public accounting firm, the Board affirmatively determined that a majority of the Board is comprised of independent directors, and that the following directors are independent: John Doerr, Geoffrey Duyk, Frank Kung, James McCann, Steven Mills, Carole Piwnica, Lisa Qi, R. Neil Williams and Patrick Yang.

#### ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

##### Independent Registered Public Accounting Firm Fee Information

BDO USA, LLP has served as our independent registered public accounting firm for the fiscal year ended December 31, 2017 since July 10, 2019, and Macias Gini & O’Connell LLP has served as our independent registered public accounting firm for the fiscal year ended December 31, 2018 and the fiscal year ending December 31, 2019 since July 9, 2019. The following tables set forth the aggregate fees billed or to be billed to us by Macias Gini & O’Connell LLP and BDO USA, LLP, respectively, for services performed in or for the fiscal years ended December 31, 2018 and December 31, 2017 (in thousands):

##### *BDO USA, LLP*

Fee Category	Fiscal Year ended December 31,	
	2018	2017
Audit Fees	\$—	\$2,235
Audit-Related Fees	—	—
Tax Fees	—	—
All Other Fees	3	—
Total Fees	<u>\$ 3</u>	<u>\$2,235</u>

The “Audit Fees” category includes aggregate fees billed for the relevant fiscal year for professional services rendered for the audit of our annual financial statements and review of our unaudited financial statements included in our Quarterly Reports on Form 10-Q, and for services that are normally provided in connection with statutory and regulatory filings or engagements for those fiscal years. We did not incur any fees in this category with respect to BDO USA, LLP for the fiscal year ended December 31, 2018.

The “Audit-Related Fees” category includes aggregate fees billed in the relevant fiscal year for assurance and related services that are reasonably related to the performance of the audit or review of our financial statements and that are not reported under the “Audit Fees” category. We did not incur any fees in this category with respect to BDO USA, LLP for the fiscal years ended December 31, 2018 and 2017.

The “Tax Fees” category includes aggregate fees billed in the relevant fiscal year for professional services rendered with respect to tax compliance, tax advice and tax planning. We did not incur any fees in this category with respect to BDO USA, LLP for the fiscal years ended December 31, 2018 and 2017.

The “All Other Fees” category includes aggregate fees billed in the relevant fiscal year for products and services other than those reported under the other categories described above.

We did not incur any fees in this category with respect to BDO USA, LLP for the fiscal year ended December 31, 2018.

##### *Macias Gini & O’Connell LLP*

Fee Category	Fiscal Year ended December 31,	
	2018	2017
Audit Fees	\$3,150	\$—
Audit-Related Fees	—	—
Tax Fees	—	—
All Other Fees	—	—
Total Fees	<u>\$3,150</u>	<u>\$—</u>

The “Audit Fees” category includes aggregate fees billed for the relevant fiscal year for professional services rendered for the audit of our annual financial statements and review of our unaudited financial statements included in our Quarterly Reports on Form 10-Q, and for services that are normally provided in connection with statutory and regulatory filings or engagements for those fiscal years. We did not incur any fees in this category with respect to Macias Gini & O’Connell LLP for the fiscal year ended December 31, 2017.

The “Audit-Related Fees” category includes aggregate fees billed in the relevant fiscal year for assurance and related services that are reasonably related to the performance of the audit or review of our financial statements and that are not reported under the “Audit Fees” category. The Audit-Related Fees above include fees billed in the fiscal year ended December 31, 2017 for attest services that are not required by statute or regulation. We did not incur any fees in this category with respect to Macias Gini & O’Connell LLP for the fiscal years ended December 31, 2018 and 2017.

The “Tax Fees” category includes aggregate fees billed in the relevant fiscal year for professional services rendered with respect to tax compliance, tax advice and tax planning. We did not incur any fees in this category with respect to Macias Gini & O’Connell LLP for the fiscal years ended December 31, 2018 and 2017.

The “All Other Fees” category includes aggregate fees billed in the relevant fiscal year for products and services other than those reported under the other categories described above. We did not incur any fees in this category with respect to Macias Gini & O’Connell LLP for the fiscal years ended December 31, 2018 and 2017.

#### **Audit Committee Pre-Approval of Services Performed by our Independent Registered Public Accounting Firm**

The Audit Committee’s charter requires it to approve all fees and other compensation paid to, and pre-approve all audit and non-audit related services provided by, the Company’s independent registered public accounting firm. The Audit Committee charter permits the Audit Committee to delegate pre-approval authority to one or more members of the Audit Committee, provided that any pre-approval decision is reported to the Audit Committee at its next scheduled meeting. The Audit Committee has delegated such pre-approval authority, for fees of up to \$100,000 in the aggregate, to the Chair of the Audit Committee.

In determining whether to approve audit and non-audit services to be performed by our independent registered public accounting firm, the Audit Committee takes into consideration the fees to be paid for such services and whether such fees would affect the independence of the accounting firm in performing its audit function. In addition, when determining whether to approve non-audit services to be performed by our independent registered public accounting firm, the Audit Committee considers whether the performance of such services is compatible with maintaining the independence of the accounting firm in performing its audit function, and confirms that the non-audit services will not include the prohibited activities set forth in Section 201 of the Sarbanes-Oxley Act of 2002. Except for the services described above under “Audit-Related Fees,” “Tax Fees” and “All Other Fees” (each of which was pre-approved by the Audit Committee in accordance with its policy), no non-audit services were provided by Amyris’s independent registered public accounting firm in 2018 or 2017.

All fees paid to, and all services provided by, our independent registered public accounting firm during fiscal years 2018 and 2017 were pre-approved by the Audit Committee in accordance with the pre-approval procedures described above.

## PART IV

### ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULE

We have filed the following documents as part of this Annual Report on Form 10-K:

1. Financial Statements: See “Index to Consolidated Financial Statements” in Part II, Item 8 of this Annual Report on Form 10-K.
2. Financial Statement Schedule:
  - a. Allowance for doubtful accounts: see Note 3, “Balance Sheet Details” in Part II, Item 8 of this Annual Report on Form 10-K.
  - b. Deferred tax assets valuation allowance: see Note 14, “Income Taxes” in Part II, Item 8 of this Annual Report on Form 10-K.
3. Exhibits: See “Index to Exhibits” immediately following the signature page of this Annual Report on Form 10-K.

## SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

AMYRIS, INC.

By: /s/ John G. Melo

John G. Melo  
President and Chief Executive Officer  
October 1, 2019

## POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints John G. Melo and Jonathan Wolter, and each of them, as his or her true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all amendments to this Annual Report on Form 10-K, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the U.S. Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, 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 to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming that all said attorneys-in-fact and agents, or any of them or their or his or her substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this Annual Report on Form 10-K has been signed by the following persons on behalf of the registrant, in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ John G. Melo</u> John G. Melo	Director, President and Chief Executive Officer (Principal Executive Officer)	October 1, 2019
<u>/s/ Jonathan Wolter</u> Jonathan Wolter	Interim Chief Financial Officer (Principal Financial Officer)	October 1, 2019
<u>/s/ Anthony Hughes</u> Anthony Hughes	Chief Accounting Officer (Principal Accounting Officer)	October 1, 2019
<u>/s/ John Doerr</u> John Doerr	Director	October 1, 2019
<u>/s/ Geoffrey Duyk</u> Geoffrey Duyk	Director	October 1, 2019
<u>/s/ Philip Eykerman</u> Philip Eykerman	Director	October 1, 2019
<u>/s/ Christoph Goppelsroeder</u> Christoph Goppelsroeder	Director	October 1, 2019



<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Frank Kung</u> Frank Kung	Director	October 1, 2019
<u>/s/ James McCann</u> James McCann	Director	October 1, 2019
<u>/s/ Steve Mills</u> Steve Mills	Director	October 1, 2019
<u>/s/ Carole Piwnica</u> Carole Piwnica	Director	October 1, 2019
<u>/s/ Lisa Qi</u> Lisa Qi	Director	October 1, 2019
<u>/s/ R. Neil Williams</u> R. Neil Williams	Director	October 1, 2019
<u>/s/ Patrick Yang</u> Patrick Yang	Director	October 1, 2019

## INDEX TO EXHIBITS

Exhibit No.	Description
2.01 <sup>a</sup>	Quota Purchase Agreement, dated November 17, 2017, among registrant, AB Technologies LLC and DSM Produtos Nutricionais Brasil S.A.
2.02	Amendment No. 1, dated December 28, 2017, to the Quota Purchase Agreement, dated November 17, 2017, among registrant, AB Technologies LLC and DSM Produtos Nutricionais Brasil S.A.
3.01	Restated Certificate of Incorporation
3.02	Certificate of Amendment, dated May 9, 2013, to Restated Certificate of Incorporation
3.03	Certificate of Amendment, dated May 12, 2014, to Restated Certificate of Incorporation
3.04	Certificate of Amendment, dated September 18, 2015, to Restated Certificate of Incorporation
3.05	Certificate of Amendment, dated May 18, 2016, to Restated Certificate of Incorporation
3.06	Certificate of Amendment, dated June 5, 2017, to Restated Certificate of Incorporation
3.07	Form of Certificate of Designation of Preferences, Rights and Limitations of Series A 17.38% Convertible Preferred Stock (found at Exhibit A-1, herein)
3.08	Form of Certificate of Designation of Preferences, Rights and Limitations of Series B 17.38% Convertible Preferred Stock (found at Exhibit A-2, herein)
3.09	Form of Certificate of Designation of Preferences, Rights and Limitations of Series C Convertible Preferred Stock (found at Exhibit A-3, herein)
3.10	Form of Certificate of Designation of Preferences, Rights and Limitations of Series D Convertible Preferred Stock (found at Exhibit E, herein)
3.11	Restated Bylaws
4.01	Specimen of Common Stock Certificate
4.02	Form of certificate representing the Series A 17.38% Convertible Preferred Stock (found at Exhibit D, herein)
4.03	Form of certificate representing the Series B 17.38% Convertible Preferred Stock (found at Exhibit D, herein)
4.04	Form of certificate representing the Series C Convertible Preferred Stock (found at Exhibit D, herein)
4.05	Form of certificate representing the Series D Convertible Preferred Stock
4.06 <sup>a</sup>	Amended and Restated Letter Agreement re: Certain Registration Rights dated May 8, 2014 between registrant and the purchasers listed therein
4.07	Warrant to Purchase Stock, dated December 23, 2011, issued to ATEL Ventures, Inc.
4.08 <sup>a</sup>	Side Letter, dated June 21, 2010, between registrant and Total Gas & Power USA, SAS
4.09	Agreement, dated February 23, 2012, among registrant, Maxwell (Mauritius) Pte Ltd, Naxyris SA, Biolding Investment S.A., and Sualk Capital Ltd.
4.10	Securities Purchase Agreement, dated July 24, 2015, between registrant and the Purchasers listed therein
4.11 <sup>c</sup>	Warrant to Purchase Stock issued July 29, 2015 by registrant to Total Energies Nouvelles Activités USA
4.12	Exchange Agreement, dated July 26, 2015, between registrant and the investors listed therein
4.13	Letter Agreement dated as of July 29, 2015 among registrant and registrant's security holders listed therein

Exhibit No.	Description
4.14	Warrant to Purchase Stock issued July 29, 2015 by registrant to Total Energies Nouvelles Activités USA
4.15	Warrant to Purchase Stock issued July 29, 2015 by registrant to Maxwell (Mauritius) Pte Ltd
4.16	Warrant to Purchase Stock issued July 29, 2015 by registrant to Maxwell (Mauritius) Pte Ltd
4.17	Registration Rights Agreement, dated October 20, 2015, between registrant and registrant's security holders listed therein
4.18	Note and Warrant Purchase Agreement, dated February 12, 2016, between registrant and the purchasers listed therein
4.19 <sup>d</sup>	Warrant to Purchase Stock issued February 12, 2016 by registrant to Foris Ventures, LLC
4.20	Securities Purchase Agreement, dated April 8, 2016, between registrant and Bill & Melinda Gates Foundation
4.21	Letter Agreement re Charitable Purposes and Use of Funds, dated April 8, 2016, between registrant and the Bill & Melinda Gates Foundation
4.22	Warrant to Purchase Stock issued November 16, 2016 by registrant to Nenter & Co., Inc.
4.23	Purchase Money Promissory Note issued December 19, 2016 by registrant to Nikko Chemicals Co. Ltd.
4.24	Form of Securities Purchase Agreement, dated May 8, 2017, between registrant and the other parties thereto
4.25	Amendment No. 1, dated May 30, 2017 to Securities Purchase Agreement, dated May 8, 2017, between registrant and the other parties thereto
4.26	Form of Common Stock Purchase Warrant (Cash Warrant) issued May 11, 2017 by registrant to the purchasers thereof (found at Exhibit C-1, herein)
4.27	Form of Common Stock Purchase Warrant (Dilution Warrant) issued May 11, 2017 by registrant to the purchasers thereof (found at Exhibit C-2, herein)
4.28	Securities Purchase Agreement, dated May 31, 2017, between registrant and the investor named therein
4.29	Securities Purchase Agreement, dated August 2, 2017, between registrant and DSM International B.V.
4.30	Securities Purchase Agreement, dated August 2, 2017, between registrant and affiliates of Vivo Capital LLC
4.31	Form of Common Stock Purchase Warrant (Cash Warrant) issued August 7, 2017 by registrant to DSM International B.V. (found at Exhibit B-1, herein)
4.32	Form of Common Stock Purchase Warrant (Dilution Warrant) issued August 7, 2017 by registrant to DSM International B.V. (found at Exhibit B-2, herein)
4.33	Form of Stockholder Agreement, dated August 3, 2017, between registrant and affiliates of Vivo Capital LLC (found at Exhibit C, herein)
4.34	Common Stock Purchase Warrant (Cash Warrant), issued May 31, 2017, by registrant to the investor named therein
4.35	Common Stock Purchase Warrant (Dilution Warrant), issued May 31, 2017, by registrant to the investor named therein
4.36 <sup>a</sup>	Stockholder Agreement, dated May 11, 2017, between registrant and DSM International B.V.
4.37 <sup>a</sup>	Amended and Restated Stockholder Agreement, dated August 7, 2017, between registrant and DSM International B.V.
4.38	Promissory Note issued November 13, 2017 by registrant to Ginkgo Bioworks, Inc.

Exhibit No.	Description
4.39	Note issued December 28, 2017 by registrant to DSM Finance BV
4.40	Warrant Exercise Agreement, dated August 17, 2018, between registrant and Foris Ventures, LLC
4.41	Warrant Exercise Agreement, dated August 17, 2018, between registrant and Vivo Capital Fund VIII, L.P.
4.42	Warrant Exercise Agreement, dated August 17, 2018, between registrant and Vivo Capital Surplus Fund VIII, L.P.
4.43	Common Stock Purchase Warrant issued August 17, 2018 by registrant to Foris Ventures, LLC
4.44	Common Stock Purchase Warrant issued August 17, 2018 by registrant to Vivo Capital Fund VIII, L.P.
4.45	Common Stock Purchase Warrant issued August 17, 2018 by registrant to Vivo Capital Surplus Fund VIII, L.P.
4.46	Common Stock Purchase Warrant issued August 20, 2018 by registrant to Vivo Capital Fund VIII, L.P.
4.47	Common Stock Purchase Warrant issued August 20, 2018 by registrant to Vivo Capital Surplus Fund VIII, L.P.
4.48	Securities Purchase Agreement, dated November 19, 2018, between registrant and DSM International B.V.
4.49	Securities Purchase Agreement, dated December 6, 2018, among registrant and the investors named therein
4.50	Form of Registration Rights Agreement, dated December 10, 2018, among registrant and the investors party thereto (found at Exhibit B, herein)
4.51	Description of Capital Stock
10.01	Lease, dated August 22, 2007, between registrant and ES East Associates, LLC
10.02	First Amendment, dated March 10, 2008, to Lease, dated August 22, 2007, between registrant and ES East Associates, LLC
10.03	Second Amendment, dated April 25, 2008, to Lease, dated August 22, 2007, between registrant and ES East Associates, LLC
10.04	Third Amendment, dated July 31, 2008, to Lease, dated August 22, 2007, between registrant and ES East Associates, LLC
10.05	Fourth Amendment, dated November 14, 2009, to Lease, dated August 22, 2007, between registrant and ES East Associates, LLC
10.06	Fifth Amendment, dated October 15, 2010, to Lease, dated August 22, 2007, between registrant and ES East, LLC
10.07	Sixth Amendment, dated April 30, 2013, to Lease, dated August 22, 2007, between registrant and ES East, LLC
10.08	Lease dated April 25, 2008 between registrant and EmeryStation Triangle, LLC
10.09	Letter, dated April 25, 2008, amending Lease between registrant and EmeryStation Triangle, LLC
10.10	Second Amendment, dated February 5, 2010, to Lease, dated April 25, 2008, between registrant and EmeryStation Triangle, LLC
10.11	Third Amendment, dated May 1, 2013, to Lease, dated April 25, 2008, between registrant and EmeryStation Triangle, LLC

Exhibit No.	Description
10.12	Pilot Plant Expansion Right Letter dated December 22, 2008 between registrant and EmeryStation Triangle, LLC
10.13	Lease Agreement, dated August 10, 2011, between Amyris Brasil Ltda. and Techno Park Empreendimentos e Administração Imobiliária Ltda.
10.14	First Amendment, dated July 31, 2015, to Lease Agreement, dated August 10, 2011, between Amyris Brasil Ltda. and Techno Park Empreendimentos e Administração Imobiliária Ltda.
10.15	Second Amendment, dated October 31, 2015, to Lease Agreement, dated August 10, 2011, between Amyris Brasil Ltda. and Techno Park Empreendimentos e Administração Imobiliária Ltda.
10.16	Third Amendment, dated March 30, 2016, to Lease Agreement, dated August 10, 2011, between Amyris Brasil Ltda. and Techno Park Empreendimentos e Administração Imobiliária Ltda.
10.17	Private Instrument of Non-Residential Real Estate Lease Agreement, dated March 31, 2008, between Lucio Tomasiello and Amyris Brasil S.A. (including Amendment No. 1, dated July 5, 2008, and Amendment No. 2, dated October 30, 2008)
10.18 <sup>ac</sup>	Third Amendment, dated October 1, 2012, to the Private Instrument of Non Residential Real Estate Lease Agreement, dated March 31, 2008, between Lucio Tomasiello and Amyris Brasil Ltda.
10.19 <sup>ac</sup>	Fourth Amendment, dated March 3, 2015, to the Private Instrument of Non-Residential Real Estate Lease Agreement, dated March 31, 2008, among Amyris Brasil Ltda., Lucius Tomasiello and Mauricio Tomasiello
10.20 <sup>e</sup>	Fifth Amendment, dated September 22, 2015, to the Private Instrument of Non-Residential Real Estate Lease Agreement, dated March 31, 2008, among Amyris Brasil Ltda., Lucius Tomasiello and Mauricio Tomasiello
10.21 <sup>e</sup>	Sixth Amendment, dated October 17, 2016, to the Private Instrument of Non-Residential Real Estate Lease Agreement, dated March 31, 2008, among Amyris Brasil Ltda., Lucius Tomasiello and Mauricio Tomasiello
10.22	Seventh Amendment, dated September 25, 2017, to the Private Instrument of Non-Residential Real Estate Lease Agreement, dated March 31, 2008, among Amyris Brasil Ltda., Lucius Tomasiello and Mauricio Tomasiello
10.23 <sup>e</sup>	Lease Agreement, dated May 1, 2010, between São Martinho S.A. and SMA Indústria Química S.A.
10.24 <sup>e</sup>	Amendment No. 2, dated August 31, 2015, to the Lease Agreement, dated May 1, 2010, between São Martinho S.A. and SMA Indústria Química S.A.
10.25 <sup>e</sup>	Amendment No. 3, dated September 1, 2016, to the Lease Agreement, dated May 1, 2010, between São Martinho S.A. and SMA Indústria Química Ltda. (f.k.a. SMA Indústria Química S.A.)
10.26 <sup>e</sup>	Amendment No. 4, dated December 26, 2017, to the Lease Agreement, dated May 1, 2010, between São Martinho S.A. and SMA Indústria Química Ltda. (f.k.a. SMA Indústria Química S.A.)
10.27 <sup>a</sup>	Partnership Agreement, dated October 20, 2017, between registrant and Ginkgo Bioworks, Inc.
10.28	Credit Agreement, dated December 28, 2017, between registrant and DSM Finance BV
10.29 <sup>a</sup>	Joint Venture Agreement, dated December 12, 2016, among registrant, Nikko Chemicals Co. Ltd., and Nippon Surfactant Industries Co., Ltd.

Exhibit No.	Description
10.30 <sup>a</sup>	First Amended and Restated LLC Operating Agreement of Aprinnova, LLC (f/k/a Neossance, LLC) dated December 6, 2016
10.31	Loan and Security Agreement, dated June 29, 2018, among the registrant, certain subsidiaries of the registrant and GACP Finance Co., LLC
10.32	Amendment No. 1, dated August 24, 2018, to Loan and Security Agreement, dated June 29, 2018, among registrant, certain of registrant's subsidiaries and GACP Finance Co., LLC, as administrative agent and lender
10.33	Amendment No. 2, dated November 14, 2018, to Loan and Security Agreement, dated June 29, 2018, among registrant, certain of registrant's subsidiaries and GACP Finance Co., LLC, as administrative agent and lender
10.34	Amendment No. 3, dated December 14, 2018, to Loan and Security Agreement, dated June 29, 2018, among registrant, certain of registrant's subsidiaries and GACP Finance Co., LLC, as administrative agent and lender
10.35 <sup>b</sup>	Supply Agreement, dated December 28, 2017, between registrant and DSM Produtos Nutricionais Brasil S.A.
10.36 <sup>b</sup>	Amendment No. 1, dated November 19, 2018, to Supply Agreement, dated December 28, 2017, between registrant and DSM Nutritional Products AG, as assignee of DSM Produtos Nutricionais Brasil S.A.
10.37	Assignment Agreement, dated December 31, 2018, between registrant and Hangzhou Xinfu Science & Tech Co. Ltd
10.38 <sup>f</sup>	Offer Letter dated September 27, 2006 between registrant and John Melo
10.39 <sup>f</sup>	Amendment, dated December 18, 2008, to Offer Letter, dated September 27, 2006, between registrant and John Melo
10.40 <sup>f</sup>	Performance Stock Option Award Agreement, dated May 29, 2018, between the registrant and John Melo
10.41 <sup>f</sup>	Amendment #1, dated May 30, 2018, to Executive Severance Plan Participation Agreement, dated December 18, 2013, between the registrant and John Melo
10.42 <sup>f</sup>	Offer Letter, dated November 23, 2016, between registrant and Kathleen Valiasek
10.43 <sup>f</sup>	Amendment, dated March 6, 2017, to Offer Letter, dated November 23, 2016, between registrant and Kathleen Valiasek
10.44 <sup>f</sup>	Offer Letter, dated June 5, 2017, between registrant and Nicole Kelsey
10.45 <sup>f</sup>	Amendment, dated September 18, 2017, to Offer Letter, dated June 5, 2017, between registrant and Nicole Kelsey
10.46 <sup>f</sup>	Offer Letter, dated October 5, 2017, between registrant and Eduardo Alvarez
10.47 <sup>f</sup>	2005 Stock Option/Stock Issuance Plan, as amended on July 19, 2011
10.48 <sup>f</sup>	Form of Notice of Grant of Stock Option under registrant's 2005 Stock Option/Stock Issuance Plan
10.49 <sup>f</sup>	Form of Notice of Grant of Stock Option (non-Exempt) under registrant's 2005 Stock Option/Stock Issuance Plan
10.50 <sup>f</sup>	Form of Notice of Grant of Stock Option (non-US) under registrant's 2005 Stock Option/Stock Issuance Plan
10.51 <sup>f</sup>	Form of Stock Option Agreement under registrant's 2005 Stock Option/Stock Issuance Plan
10.52 <sup>f</sup>	Form of Stock Option Agreement (non-US) under registrant's 2005 Stock Option/Stock Issuance Plan
10.53 <sup>f</sup>	Form of Stock Purchase Agreement under registrant's 2005 Stock Option/Stock Issuance Plan

Exhibit No.	Description
10.54 <sup>f</sup>	Form of Stock Purchase Agreement (non-US) under registrant's 2005 Stock Option/Stock Issuance Plan
10.55 <sup>f</sup>	2010 Equity Incentive Plan, as amended on May 22, 2018, and forms of award agreements thereunder
10.56 <sup>f</sup>	2010 Employee Stock Purchase Plan, as amended on May 22, 2018, and form of subscription agreement thereunder
10.57 <sup>f</sup>	Executive Severance Plan, effective November 6, 2013
10.58 <sup>f</sup>	Compensation arrangements between registrant and its non-employee directors
10.59 <sup>f</sup>	Compensation arrangements between registrant and its executive officers
10.60 <sup>f</sup>	Registrant's 2018 Cash Bonus Plan
10.61 <sup>f</sup>	Form of Indemnity Agreement between registrant and its directors and executive officers
16.1	Letter of PricewaterhouseCoopers LLP dated June 15, 2017
21.01	List of subsidiaries
23.01	Consent of Macias Gini & O'Connell LLP, independent registered public accounting firm
23.02	Consent of BDO USA, LLP, independent registered public accounting firm
24.01	Power of Attorney (included on signature page to this Form 10-K)
31.01	Certification of Chief Executive Officer pursuant to Securities Exchange Act Rules 13a-14(c) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
31.02	Certification of Chief Financial Officer pursuant to Securities Exchange Act Rules 13a-14(c) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
32.01 <sup>g</sup>	Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
32.02 <sup>g</sup>	Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

- a Portions of this exhibit, which have been granted confidential treatment by the Securities and Exchange Commission, have been omitted.
- b Portions of this exhibit have been omitted pursuant to Item 601(b)(10)(iv) of Regulation S-K promulgated under the Exchange Act.
- c Registrant issued substantially identical warrants to the purchasers under that certain Securities Purchase Agreement entered into on July 24, 2015. Registrant has filed the warrant issued to Total Energies Nouvelles Activites USA and has included with such exhibit a schedule (Schedule A to Exhibit 4.11) identifying each of the warrants and setting forth the material details in which the other warrants differ from the filed warrant (i.e., the names of the purchasers, the certificate numbers and the respective numbers of shares underlying the warrants).
- d Substantially identical warrants were issued to three separate investors. Registrant has filed the warrant issued to Foris Ventures, LLC, which is substantially identical in all material respects to all of such warrants except as to the parties thereto, the issue date and the number of underlying shares.

- e Translation to English from Portuguese in accordance with Rule 12b-12(d) of the regulations promulgated by the Securities and Exchange Commission under the Exchange Act.
- f Indicates management contract or compensatory plan or arrangement.
- g This certification shall not be deemed “filed” for purposes of Section 18 of the Exchange Act or otherwise subject to the liability of that section, nor shall it be deemed incorporated by reference into any filing under the Securities Act or the Exchange Act.



**CERTIFICATION OF PERIODIC REPORT UNDER SECTION 302 OF  
THE SARBANES-OXLEY ACT OF 2002**

I, John G. Melo, certify that:

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

/s/ JOHN G. MELO

John G. Melo

*President and Chief Executive Officer*

October 1, 2019

**CERTIFICATION OF PERIODIC REPORT UNDER SECTION 302 OF  
THE SARBANES-OXLEY ACT OF 2002**

I, Jonathan Wolter, certify that:

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

/s/ JONATHAN WOLTER

Jonathan Wolter

*Interim Chief Financial Officer*

October 1, 2019

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

I, John G. Melo, President and Chief Executive Officer of Amyris, Inc. (Company), do hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

- the Annual Report on Form 10-K of the Company for the year ended December 31, 2018 (Report) fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company for the periods presented therein.

/s/ JOHN G. MELO

\_\_\_\_\_  
John G. Melo

*President and Chief Executive Officer*

October 1, 2019

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

I, Jonathan Wolter, Interim Chief Financial Officer of Amyris, Inc. (Company), do hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

- the Annual Report on Form 10-K of the Company for the year ended December 31, 2018 (Report) fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company for the periods presented therein.

/s/ JONATHAN WOLTER

Jonathan Wolter

*Interim Chief Financial Officer*

October 1, 2019

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549**

**FORM 10-K/A  
Amendment No. 1**

(Mark One)

**ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934  
For the fiscal year ended December 31, 2018**

OR

**TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934  
For the transition period from \_\_\_\_\_ to \_\_\_\_\_**

Commission File Number: 001-34885

**AMYRIS, INC.**

(Exact name of registrant as specified in its charter)

Delaware  
(State or other jurisdiction of  
incorporation or organization)

55-0856151  
(I.R.S. Employer  
Identification No.)

5885 Hollis Street, Suite 100, Emeryville, California 94608  
(Address of principal executive offices and Zip Code)

(510) 450-0761

(Registrant's telephone number, including area code)

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

Title of each class	Trading symbol(s)	Name of each exchange on which registered
Common Stock, \$0.0001 par value per share	AMRS	Nasdaq Global Select Market

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes  No

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

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

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes  No

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

Large accelerated filer   
Non-accelerated filer

Accelerated filer   
Smaller reporting company   
Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

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

The aggregate market value of the registrant's common stock held by non-affiliates of the registrant as of June 28, 2019, the last business day of the registrant's most recently completed second fiscal quarter, was \$226.5 million based upon the closing price of the registrant's common stock reported for such date on the Nasdaq Global Select Market.

Number of shares of the registrant's common stock outstanding as of September 26, 2019: 103,400,207

**DOCUMENTS INCORPORATED BY REFERENCE**

None.

## EXPLANATORY NOTE

This Amendment No. 1 on Form 10-K/A (this “Amendment”) amends the Annual Report on Form 10-K of Amyris, Inc. (the “Company”) for the fiscal year ended December 31, 2018 (the “Form 10-K”), as filed with the Securities and Exchange Commission (the “SEC”) on October 1, 2019 (the “Original Filing Date”).

This Amendment is being filed solely (i) for the purpose of furnishing Exhibit 101 (Interactive Data Files) to the Form 10-K, which was not included in the original filing of the Form 10-K with the SEC on the Original Filing Date, (ii) to correct administrative errors in the content of (A) the Report of Independent Registered Public Accounting Firm of BDO USA, LLP (the “BDO Report”), the Company’s independent registered public accounting firm for the fiscal year ended December 31, 2017, contained in Part II, Item 8 of the Form 10-K and (B) the Reports of Independent Registered Public Accounting Firm of Macias Gini & O’Connell LLP (the “MGO Reports”), the Company’s independent registered public accounting firm for the fiscal year ended December 31, 2018, contained in Part II, Item 8 and Part II, Item 9A of the Form 10-K, respectively and (iii) to correct certain other immaterial errors in Part II, Item 8 of the Form 10-K as set forth below.

The BDO Report and MGO Reports in the Form 10-K incorrectly contained certain references to September 30, 2019, when the correct date was October 1, 2019. Accordingly, such reports have been updated to refer to the correct date.

In addition, (i) certain references to “Contract assets” in the financial statement tables and related disclosure in Part II, Item 8 of the Form 10-K have been amended to refer to “Accounts receivable, unbilled — related party”, (ii) a line item for “Accounts receivable, unbilled, noncurrent - related party” has been added to the “Contract Balances” table in Note 10, “Revenue Recognition” in Part II, Item 8 of this Amendment, (iii) the amount of federal NOL and state NOL carryovers written off by the Company as a result of events occurring during the year ended December 31, 2017, disclosed in Note 14, “Income Taxes” in Part II, Item 8 of the Form 10-K, has been corrected, (iv) certain legend references and explanations in the tables in Note 2, “Restatement of 2017 Consolidated Financial Statements” and the “2017 and 2018 Quarterly Data — Restated Condensed Consolidated Financial Statements” section immediately after Note 16, “Subsequent Events” in Part II, Item 8 of the Form 10-K have been updated by deleting unused explanations, expanding or conforming certain explanations and adding certain explanations that were inadvertently excluded from such tables and (v) certain typographical errors in the financial statement tables and related disclosure in Part II, Item 8 of the Form 10-K have been corrected to conform to the correct disclosure provided elsewhere in Part II, Item 8 of the Form 10-K.

No other changes have been made to the Form 10-K. This Amendment speaks as of the Original Filing Date and does not reflect events that may have occurred subsequent to the Original Filing Date, and, except as expressly set forth herein, does not modify or update in any way the disclosures made in the Form 10-K.

Pursuant to Rule 12b-15 promulgated under the Securities Exchange Act of 1934, this Amendment sets forth the complete text of Part II, Item 8 and Part II, Item 9A of the Form 10-K as amended hereby. Part IV, Item 15 of this Amendment reflects (i) new consents of BDO USA, LLP and Macias Gini & O’Connell LLP, (ii) Exhibit 101 (Interactive Data Files) and (iii) new certifications pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 and Section 906 of the Sarbanes-Oxley Act of 2002, each of which is filed or furnished herewith, as applicable.

**AMYRIS, INC.**  
**FORM 10-K/A**  
**FOR THE YEAR ENDED DECEMBER 31, 2018**

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## PART II

### ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

#### AMYRIS, INC.

##### INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

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## Report of Independent Registered Public Accounting Firm



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

### *Opinion on the Consolidated Financial Statements*

We have audited the accompanying consolidated balance sheet of Amyris, Inc. and subsidiaries (the Company) as of December 31, 2018, the related consolidated statements of operations, comprehensive loss, stockholders' deficit and mezzanine equity, and cash flows for the year then ended, and the related notes (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2018, and the results of their operations and their cash flows for the year then ended, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO") and our report dated October 1, 2019 expressed an adverse opinion thereon.

### *Going Concern*

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 1 to the consolidated financial statements, the Company has suffered recurring losses from operations and has current debt service requirements that raise substantial doubt about its ability to continue as a going concern. Management's plans in regard to these matters are also described in Note 1. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

### *Changes in Accounting Principles*

As discussed in Notes 1 and 10 to the consolidated financial statements, the Company has changed its accounting method for recognizing revenue from contracts with customers in fiscal year 2018 due to the adoption of Topic 606, Revenue from Contracts with Customers, and all related amendments.

### *Basis for Opinion*

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audit. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud.

Our audit included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audit also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audit provides a reasonable basis for our opinion.

/s/ Macias Gini & O'Connell LLP

We have served as the Company's auditor since 2019.

San Francisco, California  
October 1, 2019

## **Report of Independent Registered Public Accounting Firm**

To the Board of Directors and Stockholders  
Amyris, Inc.  
Emeryville, CA

### **Opinion on the Consolidated Financial Statements**

We have audited the accompanying consolidated balance sheet of Amyris, Inc. as of December 31, 2017, the related consolidated statements of operations, comprehensive loss, stockholders' deficit and mezzanine equity, and cash flows for the year then ended and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2017 and the results of its operations and its cash flows for the year ended December 31, 2017, in conformity with accounting principles generally accepted in the United States of America.

### **Restatement to Correct 2017 Misstatements**

As discussed in Note 2 to the consolidated financial statements, the 2017 financial statements have been restated to correct several misstatements.

### **Going Concern Uncertainty**

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 1 to the consolidated financial statements, the Company has suffered recurring losses from operations and has a net capital deficiency and these factors, among others, raise substantial doubt about its ability to continue as a going concern. Management's plans in regard to these matters are also described in Note 1. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

### **Basis for Opinion**

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's consolidated financial statements based on our audit. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) ("PCAOB") and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud.

Our audit included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audit also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audit provides a reasonable basis for our opinion.

/s/ BDO USA, LLP

We have served as the Company's auditor since 2019.

San Jose, California  
October 1, 2019

**AMYRIS, INC.**  
**CONSOLIDATED BALANCE SHEETS**

December 31, (In thousands, except shares and per share amounts)	2018	2017 (As Restated, Note 2)
<b>Assets</b>		
Current assets:		
Cash and cash equivalents . . . . .	\$ 45,553	\$ 57,059
Restricted cash . . . . .	741	2,994
Accounts receivable, net of allowance of \$642 and \$619, respectively . . . . .	16,003	18,953
Accounts receivable related party, net of allowance of \$0 and \$23, respectively . . . . .	1,349	4,767
Accounts receivable, unbilled – related party . . . . .	8,021	9,901
Inventories . . . . .	9,693	5,408
Deferred cost of products sold, current – related party . . . . .	489	—
Prepaid expenses and other current assets . . . . .	10,566	4,919
Total current assets . . . . .	92,215	104,001
Property, plant and equipment, net . . . . .	19,756	13,892
Accounts receivable, unbilled, noncurrent – related party . . . . .	1,203	7,940
Deferred cost of products sold, noncurrent – related party . . . . .	2,828	—
Restricted cash, noncurrent . . . . .	960	959
Recoverable taxes from Brazilian government entities . . . . .	3,005	1,445
Other assets . . . . .	7,958	12,559
Total assets . . . . .	\$ 127,925	\$ 140,796
<b>Liabilities, Mezzanine Equity and Stockholders' Deficit</b>		
Current liabilities:		
Accounts payable . . . . .	\$ 26,844	\$ 15,515
Accrued and other current liabilities . . . . .	28,979	29,202
Contract liabilities <sup>(1)</sup> . . . . .	8,236	4,308
Debt, current portion (includes instrument measured at fair value of \$57,918 and \$0, respectively) . . . . .	124,010	36,924
Related party debt, current portion . . . . .	23,667	20,019
Total current liabilities . . . . .	211,736	105,968
Long-term debt, net of current portion . . . . .	43,331	60,220
Related party debt, net of current portion . . . . .	18,689	46,541
Derivative liabilities . . . . .	42,796	116,497
Other noncurrent liabilities . . . . .	23,192	23,658
Total liabilities . . . . .	339,744	352,884
Commitments and contingencies (Note 9)		
Mezzanine equity:		
Contingently redeemable common stock (Note 6) . . . . .	5,000	5,000
Stockholders' deficit:		
Preferred stock – \$.0001 par value, 5,000,000 shares authorized as of December 31, 2018 and 2017, and 14,656 and 22,171 shares issued and outstanding as of December 31, 2018 and 2017, respectively . . . . .	—	—
Common stock – \$.0001 par value, 250,000,000 shares authorized as of December 31, 2018 and 2017, respectively; 76,564,829 and 45,637,433 shares issued and outstanding as of December 31, 2018 and 2017, respectively . . . . .	8	5
Additional paid-in capital . . . . .	1,346,996	1,114,546
Accumulated other comprehensive loss . . . . .	(43,343)	(42,156)
Accumulated deficit . . . . .	(1,521,417)	(1,290,420)
Total Amyris, Inc. stockholders' deficit . . . . .	(217,756)	(218,025)
Noncontrolling interest . . . . .	937	937
Total stockholders' deficit . . . . .	(216,819)	(217,088)
Total liabilities, mezzanine equity and stockholders' deficit . . . . .	\$ 127,925	\$ 140,796

(1) The balance in contract liabilities at December 31, 2017 represents deferred revenue, current prior to the Company's adoption of ASC 606, "Revenue".

See accompanying notes to consolidated financial statements.

AMYRIS, INC.

CONSOLIDATED STATEMENTS OF OPERATIONS

Years Ended December 31,

(In thousands, except shares and per share amounts)

	2018	2017
		(As Restated, Note 2)
Revenue		
Renewable products (includes related party revenue of \$360 and \$1,291, respectively) . . . . .	\$ 33,598	\$ 42,370
Licenses and royalties, net (includes related party revenue of \$5,958 and \$57,972, respectively) . . . . .	7,658	48,703
Grants and collaborations (includes related party revenue of \$4,735 and \$1,679, respectively) . . . . .	<u>22,348</u>	<u>36,598</u>
Total revenue (includes related party revenue of \$11,053 and \$60,942, respectively) . . . . .	<u>63,604</u>	<u>127,671</u>
Cost and operating expenses		
Cost of products sold . . . . .	36,698	62,307
Research and development . . . . .	68,722	57,562
Sales, general and administrative . . . . .	90,902	63,853
Impairment of other assets . . . . .	3,865	—
Total cost and operating expenses . . . . .	<u>200,187</u>	<u>183,722</u>
Loss from operations . . . . .	<u>(136,583)</u>	<u>(56,051)</u>
Other income (expense)		
(Loss) gain on divestiture . . . . .	(1,778)	5,732
Interest expense . . . . .	(42,703)	(37,081)
Loss from change in fair value of derivative instruments . . . . .	(30,880)	(48,852)
Gain from change in fair value of debt . . . . .	2,082	—
Loss upon extinguishment of debt . . . . .	(17,424)	(11,897)
Other income (expense), net . . . . .	<u>(2,949)</u>	<u>(956)</u>
Total other expense, net . . . . .	<u>(93,652)</u>	<u>(93,054)</u>
Loss before income taxes . . . . .	(230,235)	(149,105)
Provision for income taxes . . . . .	—	(6,877)
Net loss attributable to Amyris, Inc. . . . .	(230,235)	(155,982)
Less deemed dividend related to beneficial conversion feature on Series A preferred stock . . . . .	—	(562)
Less deemed dividend related to beneficial conversion feature on Series B preferred stock . . . . .	—	(634)
Less deemed dividend related to beneficial conversion feature on Series D preferred stock . . . . .	—	(5,757)
Less deemed dividend upon settlement of make-whole provision on Series A preferred stock . . . . .	—	(10,505)
Less deemed dividend upon settlement of make-whole provision on Series B preferred stock . . . . .	—	(22,632)
Less deemed dividend related to the recognition of discounts on Series A preferred stock upon conversion . . . . .	—	(21,578)
Less deemed dividend related to the recognition of discounts on Series B preferred stock upon conversion . . . . .	—	(24,366)
Less deemed dividend related to proceeds discount upon conversion of Series D preferred stock . . . . .	(6,852)	—
Add: losses allocated to participating securities . . . . .	<u>13,991</u>	<u>40,159</u>
Net loss attributable to Amyris, Inc. common stockholders . . . . .	<u>\$ (223,096)</u>	<u>\$ (201,857)</u>
Weighted-average shares of common stock outstanding used in computing net loss per share of common stock, basic and diluted . . . . .	<u>60,405,910</u>	<u>32,253,570</u>
Basic and diluted loss per share . . . . .	<u>\$ (3.69)</u>	<u>\$ (6.26)</u>

See accompanying notes to consolidated financial statements.

AMYRIS, INC.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS

Years Ended December 31, (In thousands)	2018	2017 <small>(As Restated, Note 2)</small>
Comprehensive loss:		
Net loss . . . . .	\$(230,235)	\$(155,982)
Foreign currency translation adjustment . . . . .	(1,187)	(1,252)
Comprehensive loss attributable to Amyris, Inc. . . . .	<u><u>\$(231,422)</u></u>	<u><u>\$(157,234)</u></u>

See accompanying notes to consolidated financial statements.

AMYRIS, INC.

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' DEFICIT AND MEZZANINE EQUITY

(In thousands, except number of shares)	Preferred Stock		Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Noncontrolling Interest	Total Stockholders' Deficit	Mezzanine Equity-Common Stock
	Shares	Amount	Shares	Amount						
<b>December 31, 2016</b>	—	—	18,273,921	\$ 2	\$990,895	\$(40,904)	\$(1,134,438)	\$937	\$(183,508)	\$5,000
Issuance of Series A preferred stock for cash	22,140	—	—	—	562	—	—	—	562	—
Issuance of Series B preferred stock upon conversion of debt, net of issuance costs of \$0	40,204	—	—	—	11,530	—	—	—	11,530	—
Issuance of Series B preferred stock for cash, net of issuance costs of \$860	55,700	—	—	—	16,675	—	—	—	16,675	—
Issuance of Series D preferred stock for cash, net of issuance costs of \$176	12,958	—	—	—	6,197	—	—	—	6,197	—
Issuance of common stock due to rounding from reverse stock split	—	—	6,473	—	—	—	—	—	—	—
Issuance of common stock for cash	—	—	2,826,711	—	5,527	—	—	—	5,527	—
Issuance of common stock upon conversion of preferred stock	(108,831)	—	17,274,017	3	—	—	—	—	3	—
Issuance of common stock upon conversion of debt	—	—	2,257,786	—	12,687	—	—	—	12,687	—
Issuance of common stock for settlement of debt principal payments	—	—	1,246,165	—	10,707	—	—	—	10,707	—
Issuance of common stock for settlement of debt interest payments	—	—	400,967	—	3,436	—	—	—	3,436	—
Issuance of common stock upon exercise of warrants	—	—	3,148,097	—	50,449	—	—	—	50,449	—
Issuance of common stock upon restricted stock settlement	—	—	156,104	—	(385)	—	—	—	(385)	—
Issuance of common stock upon ESPP purchase	—	—	47,058	—	—	—	—	—	—	—
Issuance of common stock upon exercise of stock options	—	—	134	—	1	—	—	—	1	—
Beneficial conversion feature of Series A preferred stock	—	—	—	—	562	—	—	—	562	—
Deemed dividend on beneficial conversion feature of Series A preferred stock	—	—	—	—	(562)	—	—	—	(562)	—
Beneficial conversion feature to related party of Series B preferred stock	—	—	—	—	634	—	—	—	634	—
Deemed dividend to related party on beneficial conversion feature of Series B preferred stock	—	—	—	—	(634)	—	—	—	(634)	—
Beneficial conversion feature of Series D preferred stock	—	—	—	—	5,757	—	—	—	5,757	—
Deemed dividend on beneficial conversion feature of Series D preferred stock	—	—	—	—	(5,757)	—	—	—	(5,757)	—
Deemed dividend on preferred stock discounts upon conversion of Series A preferred stock	—	—	—	—	21,578	—	—	—	21,578	—
Deemed dividend on preferred stock discounts upon conversion of Series A preferred stock	—	—	—	—	(21,578)	—	—	—	(21,578)	—
Deemed dividend on preferred stock discounts upon conversion of Series B preferred stock	—	—	—	—	24,366	—	—	—	24,366	—
Deemed dividend on preferred stock discounts upon conversion of Series B preferred stock	—	—	—	—	(24,366)	—	—	—	(24,366)	—
Settlement of make-whole provision on Series A preferred stock	—	—	—	—	10,505	—	—	—	10,505	—

See accompanying notes to consolidated financial statements.

AMYRIS, INC.

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' DEFICIT AND MEZZANINE EQUITY — (Continued)

(In thousands, except number of shares)	Preferred Stock		Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Noncontrolling Interest	Total Stockholders' Deficit	Mezzanine Equity-Common Stock
	Shares	Amount	Shares	Amount						
Deemed dividend upon settlement of make-whole provision on Series A preferred stock . . . . .	—	—	—	—	(10,505)	—	—	—	(10,505)	—
Settlement of make-whole provision on Series B preferred stock . . . . .	—	—	—	—	22,632	—	—	—	22,632	—
Deemed dividend upon settlement of make-whole provision on Series B preferred stock . . . . .	—	—	—	—	(22,632)	—	—	—	(22,632)	—
Stock-based compensation . . . . .	—	—	—	—	6,265	—	—	—	6,265	—
Foreign currency translation adjustment . . . . .	—	—	—	—	—	(1,252)	—	—	(1,252)	—
Net loss (As Restated, Note 2) . . . . .	—	—	—	—	—	—	(155,982)	—	(155,982)	—
<b>December 31, 2017 (As restated, Note 2) . . . . .</b>	<u>22,171</u>	<u>—</u>	<u>45,637,433</u>	<u>\$ 5</u>	<u>\$1,114,546</u>	<u>\$(42,156)</u>	<u>\$(1,290,420)</u>	<u>\$937</u>	<u>\$(217,088)</u>	<u>\$5,000</u>
Cumulative effect of change in accounting principle for ASC 606 (see "Significant Accounting Policies" in Note 1) . . . . .	—	—	—	—	—	—	(762)	—	(762)	—
Issuance of common stock upon exercise of warrants . . . . .	—	—	20,891,038	2	62,152	—	—	—	62,154	—
Settlement of derivatives liability upon exercise of warrants . . . . .	—	—	—	—	108,670	—	—	—	108,670	—
Issuance of common stock in private placement, net of issuance costs of \$0 . . . . .	—	—	205,168	—	1,415	—	—	—	1,415	—
Issuance of common stock in private placement - related party, net of issuance costs of \$0 . . . . .	—	—	1,643,991	—	6,050	—	—	—	6,050	—
Issuance of common stock upon conversion of preferred stock . . . . .	(7,515)	—	1,548,480	—	—	—	—	—	—	—
Deemed dividend on preferred stock discounts upon conversion of Series D preferred stock . . . . .	—	—	—	—	6,852	—	—	—	6,852	—
Deemed dividend on preferred stock discounts upon conversion of Series D preferred stock . . . . .	—	—	—	—	(6,852)	—	—	—	(6,852)	—
Issuance of common stock upon conversion of convertible notes . . . . .	—	—	5,674,926	1	42,368	—	—	—	42,369	—
Issuance of common stock for settlement of debt interest payments . . . . .	—	—	238,898	—	1,800	—	—	—	1,800	—
Issuance of common stock upon exercise of stock options . . . . .	—	—	70,807	—	288	—	—	—	288	—
Issuance of common stock upon ESPP purchase . . . . .	—	—	246,230	—	777	—	—	—	777	—
Issuance of common stock and payment of minimum employee taxes withheld upon net share settlement of restricted stock . . . . .	—	—	407,858	—	(260)	—	—	—	(260)	—
Stock-based compensation . . . . .	—	—	—	—	9,190	—	—	—	9,190	—
Foreign currency translation adjustment . . . . .	—	—	—	—	—	(1,187)	—	—	(1,187)	—
Net loss . . . . .	—	—	—	—	—	—	(230,235)	—	(230,235)	—
<b>December 31, 2018 . . . . .</b>	<u>14,656</u>	<u>—</u>	<u>76,564,829</u>	<u>\$ 8</u>	<u>\$1,346,996</u>	<u>\$(43,343)</u>	<u>\$(1,521,417)</u>	<u>\$937</u>	<u>\$(216,819)</u>	<u>\$5,000</u>

See accompanying notes to consolidated financial statements.

AMYRIS, INC.

CONSOLIDATED STATEMENTS OF CASH FLOWS

Years Ended December 31,  
(In thousands)

	2018	2017 (As Restated, Note 2)
<b>Operating activities</b>		
Net loss	\$(230,235)	\$(155,982)
Adjustments to reconcile net loss to net cash used in operating activities:		
Loss from change in fair value of derivative liabilities	30,880	48,852
Loss upon conversion or extinguishment of debt	17,424	11,897
Amortization of debt discount	16,602	15,239
Stock-based compensation	9,190	6,265
Modification of warrants recorded as legal expense	6,764	—
Depreciation and amortization	4,921	11,358
Issuance costs on warrant exercises for cash	4,389	—
Loss on impairment of other assets	3,865	—
Debt issuance costs expensed due to fair value option	3,810	—
Loss (gain) on divestiture	1,778	(5,732)
Loss on disposal of property, plant and equipment	941	142
Gain on foreign currency exchange rates	(2,223)	(1,230)
Gain from change in fair value of debt	(2,082)	—
Noncash revenue reduction related to issuance of debt obligations under Ginkgo Partnership Agreement	—	13,413
Receipt of noncash consideration in connection with license revenue	—	(8,046)
Changes in assets and liabilities:		
Accounts receivable	7,448	(19,647)
Accounts receivable, unbilled – related party	8,056	(7,940)
Inventories	(4,416)	(3,126)
Deferred cost of products sold	(3,317)	—
Prepaid expenses and other assets	(6,383)	(18,730)
Accounts payable	11,603	5,452
Accrued and other liabilities	8,461	13,877
Contract liabilities	3,158	(7,241)
Net cash used in operating activities	<u>(109,366)</u>	<u>(101,179)</u>
<b>Investing activities</b>		
Purchases of property, plant and equipment	(12,472)	(4,412)
Proceeds from divestiture, net of cash transferred	—	54,827
Maturities of short-term investments	—	12,403
Sale of short-term investments	—	676
Purchase of short-term investments	—	(11,786)
Net cash (used in) provided by investing activities	<u>(12,472)</u>	<u>51,708</u>
<b>Financing activities</b>		
Proceeds from issuance of debt, net of issuance costs	94,371	18,925
Proceeds from exercise of warrants, net of issuance costs	57,767	—
Proceeds from issuance of common stock in private placements, net of issuance costs	1,415	—
Proceeds from ESPP purchases	777	—
Proceeds from exercises of common stock options	288	—
Principal payments on debt	(41,668)	(37,500)
Debt issuance costs incurred in connection with debt instrument accounted at fair value	(3,752)	—
Principal payments on capital leases	(981)	—
Payment of minimum employee taxes withheld upon net share settlement of restricted stock units	(260)	(385)
Proceeds from issuance of convertible preferred stock	—	98,246
Proceeds from issuance of common stock in August 2017 offering	—	5,759
Issuance costs incurred	—	(2,159)
Payment of swap termination	—	(3,113)
Payment on early redemption of debt	—	(1,909)
Net cash provided by financing activities	<u>107,957</u>	<u>77,864</u>
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(77)	186
Net (decrease) increase in cash, cash equivalents and restricted cash	<u>(13,958)</u>	<u>28,579</u>
Cash, cash equivalents and restricted cash at beginning of year	61,012	32,433
Cash, cash equivalents and restricted cash at end of year	<u>\$ 47,054</u>	<u>\$ 61,012</u>
<b>Reconciliation of cash, cash equivalents and restricted cash to the consolidated balance sheets</b>		
Cash and cash equivalents	\$ 45,353	\$ 57,059
Restricted cash, current	741	2,994
Restricted cash, noncurrent	960	959
Total cash, cash equivalents and restricted cash	<u>\$ 47,054</u>	<u>\$ 61,012</u>

See accompanying notes to consolidated financial statements.



AMYRIS, INC.  
**CONSOLIDATED STATEMENTS OF CASH FLOWS — (Continued)**

Years Ended December 31, (In thousands)	2018	2017 (As Restated, Note 2)
<b>Supplemental disclosures of cash flow information:</b>		
Cash paid for interest . . . . .	\$ 18,524	\$11,539
<b>Supplemental disclosures of non-cash investing and financing activities:</b>		
Derecognition of derivative liabilities upon exercise of warrants . . . . .	\$108,670	\$ —
Issuance of common stock upon conversion of convertible notes . . . . .	\$ 24,970	\$28,702
Issuance of common stock – related party . . . . .	\$ 6,050	\$ —
Accrued interest added to debt principal . . . . .	\$ 3,664	\$ 2,816
Issuance of common stock for settlement of debt principal and interest payments . . . . .	\$ 1,800	\$ 3,436
Cumulative effect adjustment of ASC 606 . . . . .	\$ 762	\$ —
Financing of insurance premium under note payable . . . . .	\$ 495	\$ 467
Financing of equipment under financing leases . . . . .	\$ 271	\$ —
Issuance of preferred stock attributed to derivative liabilities . . . . .	\$ —	\$72,725
Issuance of convertible preferred stock upon conversion of debt . . . . .	\$ —	\$40,204
Settlement of debt principal by a related party . . . . .	\$ —	\$25,000
Issuance of note payable in exchange for debt extinguishment with third party . . . . .	\$ —	\$16,954
Issuance of common stock for settlement of debt . . . . .	\$ —	\$10,708

See accompanying notes to consolidated financial statements.

## AMYRIS, INC.

### Notes to Consolidated Financial Statements

#### 1. Basis of Presentation and Summary of Significant Accounting Policies

##### Business Description

Amyris, Inc. (Amyris or the Company) is a leading industrial biotechnology company that applies its technology platform to engineer, manufacture and sell high performance, natural, sustainably-sourced products into the Health & Wellness, Clean Beauty, and Flavor & Fragrance markets. The Company's proven technology platform enables the Company to rapidly engineer microbes and use them as catalysts to metabolize renewable, plant-sourced sugars into large volume, high-value ingredients. The Company's biotechnology platform and industrial fermentation process replace existing complex and expensive manufacturing processes. The Company has successfully used its technology to develop and produce several distinct molecules at commercial volumes.

##### Going Concern

The Company has incurred significant operating losses since its inception and expects to continue to incur losses and negative cash flows from operations for at least the next 12 months following the issuance of the financial statements. As of December 31, 2018, the Company had negative working capital of \$119.5 million and an accumulated deficit of \$1.5 billion.

As of December 31, 2018, the Company's debt (including related party debt), net of deferred discount and issuance costs of \$17.1 million and a change in fair value of \$2.1 million, totaled \$209.7 million, of which \$147.7 million is classified as current. The Company's debt agreements contain various covenants, including certain restrictions on the Company's business that could cause the Company to be at risk of defaults, such as restrictions on additional indebtedness, material adverse effect and cross default clauses. A failure to comply with the covenants and other provisions of the Company's 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 a substantial portion of such indebtedness. If such indebtedness is accelerated, it would generally also constitute an event of default under the Company's other outstanding indebtedness, permitting acceleration of a substantial portion of such other outstanding indebtedness. At December 31, 2018, the Company failed to meet certain covenants in connection with the GACP Term Loan Facility (see Note 5, "Debt"), including those associated with minimum revenue and minimum liquidity requirements. In April 2019, (i) GACP provided a waiver to the Company for breaches of all covenant violations under the GACP loan and security agreement (LSA) occurring prior to, as of and after December 31, 2018 through April 8, 2019, and (ii) GACP sold and assigned the loans under the LSA and all documents and assets related thereto to Foris Ventures, LLC (Foris). Subsequently, Foris provided a waiver to the Company for breaches of certain covenants under the LSA through June 30, 2020 and amended the financial covenants under the LSA to provide more favorable compliance terms and conditions. See Note 16, "Subsequent Events" for additional information.

Cash and cash equivalents of \$45.4 million as of December 31, 2018 are not sufficient to fund expected future negative cash flows from operations and cash debt service obligations through September 30, 2020. These factors raise substantial doubt about the Company's ability to continue as a going concern within one year after the date that these financial statements are issued. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty. The Company's ability to continue as a going concern will depend, in large part, on its ability to achieve positive cash flows from operations during the 12 months from the date of this filing, and refinance or extend other existing debt maturities occurring later in 2019, all of which are uncertain and outside the control of the Company. Further, the Company's operating plan for 2019 contemplates a significant reduction in its net operating cash outflows as compared to the year ended December 31, 2018, resulting from (i) revenue growth from sales of existing and new products with positive gross margins, (ii) reduced production costs as a result of manufacturing and technical developments, and (iii) an increase in cash inflows from collaborations and grants. If the Company is unable to complete these actions, it expects to be unable to meet its operating cash flow needs and its obligations under its existing debt facilities. This could result in an acceleration of

its obligation to repay all amounts outstanding under those facilities, and the Company may be forced to obtain additional equity or debt financing, which may not occur timely or on reasonable terms, if at all, and/or liquidate its assets. In such a scenario, the value received for assets in liquidation or dissolution could be significantly lower than the value reflected in these financial statements. The Company has in the past, including in July 2019, had certain of its debt instruments accelerated for failure to make a payment when due. While we have been able to cure these defaults to date to avoid additional cross-acceleration, we may not be able to cure such a default promptly in the future.

On September 16, 2019, the Company failed to pay an aggregate of \$63.6 million of outstanding principal and accrued interest on the Second Exchange Note when due. The failure resulted in an event of default under the Second Exchange Note and also triggered cross-defaults under other debt instruments of the Company which permitted the holders of such indebtedness to accelerate the amounts owing under such instruments. The Company subsequently received waivers from substantially all holders of such other debt instruments to waive the right to accelerate. As a result, the indebtedness with respect to which the Company has obtained such waivers continues to be classified as long-term on the Company's balance sheet. The indebtedness reflected by the Second Exchange Note continues to be classified as a current liability on the Company's balance sheet. In addition, as a result of the payment default, the conversion price of the Second Exchange Note is subject to adjustment in accordance with the terms of the Second Exchange Note.

The Company does not currently have sufficient funds to repay the amounts outstanding under the Second Exchange Note. To date, negotiations with the holder of the Second Exchange Note have not been successful, and there can be no assurance that a favorable outcome for the Company will be reached. The Company has executed a term sheet with an existing investor for a term loan, the proceeds of which would be used to repay a portion of the Second Exchange Note. However, there can be no assurance that the Company will be able to obtain such financing on its expected timeline, or on acceptable terms, if at all. Even if the Company does obtain such financing, it will not have sufficient funds to repay the Second Exchange Note in full without obtaining additional financing, which the Company is attempting to source. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

### **Basis of Consolidation**

The accompanying consolidated financial statements have been prepared in accordance with the accounting principles generally accepted in the United States (U.S. GAAP). The consolidated financial statements include the accounts of Amyris, Inc. and its wholly-owned and partially-owned subsidiaries in which the Company has a controlling interest after elimination of all significant intercompany accounts and transactions.

Investments and joint venture arrangements are assessed to determine whether the terms provide economic or other control over the entity requiring consolidation of the entity. Entities controlled by means other than a majority voting interest are referred to as variable-interest entities (VIEs) and are consolidated when Amyris has both the power to direct the activities of the VIE that most significantly impact its economic performance and the obligation to absorb losses or the right to receive benefits that could potentially be significant to the entity. For any investment or joint venture in which (i) the Company does not have a majority ownership interest, (ii) the Company possesses the ability to exert significant influence and (iii) the entity is not a VIE for which the Company is considered the primary beneficiary, the Company accounts for the investment or joint venture using the equity method. Following the adoption of ASU 2016-01 on January 1, 2018 described in more detail below (which was applicable to the Company on a prospective basis), equity investments in which the Company does not exert significant influence and that do not have readily determinable fair values are measured at cost, adjusted for changes from observable market transactions, less impairment ("adjusted cost basis"). The Company evaluates its investments for impairment by considering a variety of factors, including the earnings capacity of the related investments. Fair value measurements for the Company's equity investments are classified within Level 3 of the fair value hierarchy based on the nature of the fair value inputs. Realized and unrealized gains or losses are recognized in other income or expense.

## **Sale of Subsidiary and Entry into Commercial Agreements**

On December 28, 2017, the Company completed the sale of all of the capital stock of its subsidiary Amyris Brasil, a wholly-owned subsidiary, to DSM Produtos Nutricionais Brasil S.A (DSM), a related party. Amyris Brasil owned and operated the Company's production facility in Brotas, Brazil. The transaction resulted in a pretax gain of \$5.7 million from continuing operations in 2017, which was further adjusted by a \$1.8 million loss in 2018 related to the final working capital adjustments between the Company and DSM. The transaction did not result in presenting Amyris Brasil as a discontinued operation in the consolidated financial statements, as the sale did not represent a strategic shift that will have a major effect on the Company's operations and financial results due to the Company's continuing commercial presence and reinvestment in a new production facility under construction in Brazil and its continuing Brazilian operation through Amyris Biotecnologia do Brasil Ltda. (formerly SMA Indústria Química Ltda.). The Company and DSM also entered into a series of commercial agreements and a credit agreement concurrently with the sale of Amyris Brasil. See Note 10, "Revenue Recognition", Note 11, "Related Party Transactions", Note 13, "Divestiture" and Note 16, "Subsequent Events" for further information.

## **Use of Estimates and Judgements**

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates, judgements and assumptions that affect the reported amounts of assets and liabilities, disclosures of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates, and such differences may be material to the consolidated financial statements.

## **Significant Accounting Policies**

### ***Cash and Cash Equivalents***

The Company considers all highly liquid investments purchased with an original or remaining maturity of three months or less at the date of purchase to be cash equivalents. Cash and cash equivalents are maintained with various financial institutions.

### ***Inventories***

Inventories, which consist of farnesene-derived products, flavors and fragrances ingredients and clean beauty products, are stated at the lower of actual cost or net realizable value and are categorized as finished goods, work in process or raw material inventories. The Company evaluates the recoverability of its inventories based on assumptions about expected demand and net realizable value. If the Company determines that the cost of inventories exceeds their estimated net realizable value, the Company records a write-down equal to the difference between the cost of inventories and the estimated net realizable value. If actual net realizable values are less favorable than those projected by management, additional inventory write-downs may be required that could negatively impact the Company's operating results. If actual net realizable values are more favorable, the Company may have favorable operating results when products that have been previously written down are sold in the normal course of business. The Company also evaluates the terms of its agreements with its suppliers and establishes accruals for estimated losses on adverse purchase commitments as necessary, applying the same lower of cost or net realizable value approach that is used to value inventory. Cost is computed on a weighted-average basis.

### ***Property, Plant and Equipment, Net***

Property, plant and equipment are recorded at cost. Depreciation and amortization are computed straight-line based on the estimated useful lives of the related assets, ranging from 3 to 15 years for machinery, equipment and fixtures, and 15 years for buildings. Leasehold improvements are amortized over their estimated useful lives or the period of the related lease, whichever is shorter.

The Company expenses costs for maintenance and repairs and capitalizes major replacements, renewals and betterments. For assets retired or otherwise disposed, both cost and accumulated depreciation are eliminated from the asset and accumulated depreciation accounts, and gains or losses related to the disposal are recorded in the statement of operations for the period.

### ***Impairment***

Long-lived assets that are held and used by the Company are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of such assets may not be recoverable. Determination of recoverability of long-lived assets is based on an estimate of the undiscounted future cash flows resulting from the use of the asset and its eventual disposition. Measurement of an impairment loss for long-lived assets that management expects to hold and use is based on the difference between the fair value of the asset and its carrying value. Long-lived assets to be disposed of are reported at the lower of carrying amount or fair value less costs to sell.

### ***Recoverable Taxes from Brazilian Government Entities***

Recoverable taxes from Brazilian government entities represent value-added taxes paid on purchases in Brazil, which are reclaimable from the Brazilian tax authorities, net of reserves for amounts estimated not to be recoverable.

### ***Fair Value Measurements***

The carrying amounts of certain financial instruments, such as cash equivalents, short-term investments, accounts receivable, accounts payable and accrued liabilities, approximate fair value due to their relatively short maturities.

The Company measures the following financial assets and liabilities at fair value:

- Freestanding and bifurcated derivatives in connection with certain debt and equity financings; and
- 6% Convertible Notes Due 2021 (see Note 4, “Fair Value Measurement”, Note 5, “Debt” and Note 16, “Subsequent Events”), for which the Company has elected fair value accounting

Fair value is based on the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants. Where available, fair value is based on or derived from observable market prices or other observable inputs. Where observable prices or inputs are not available, valuation techniques are applied. These valuation techniques involve some level of management estimation and judgement, the degree of which is dependent on the price transparency for the instruments or market and the instruments' complexity.

Changes to the inputs used in these valuation models have a significant impact on the estimated fair value of the 6% Convertible Notes Due 2021 and the Company's embedded and freestanding derivatives. For example, a decrease (increase) in the estimated credit spread for the Company results in an increase (decrease) in estimated fair value. Conversely, a decrease (increase) in the stock price results in a decrease (increase) in estimated fair value.

The changes during 2018 and 2017 in the fair values of the bifurcated compound embedded derivatives are primarily related to the change in price of the Company's common stock and are reflected in the consolidated statements of operations as “Gain (loss) from change in fair value of derivative instruments”.

For debt instruments for which the Company has not elected fair value accounting, fair value is based on the present value of expected future cash flows and assumptions about the then-current market interest rates as of the reporting period and the creditworthiness of the Company. Most of the Company's debt is carried on the consolidated balance sheet on a historical cost basis net of unamortized discounts and premiums, because the Company has not elected the fair value option of accounting. However, for the 6% Notes Due 2021, the Company elected fair value accounting, so that balances reported for that debt instrument represent fair value as of each balance sheet date; see Note 4, “Fair Value Measurement”, for additional information. Changes in fair value of the 6% Convertible Notes Due 2021 are reflected in the consolidated statements of operations as “Gain (loss) from change in fair value of debt”.

For all debt instruments, including any for which the Company has elected fair value accounting, the Company classifies interest that has been accrued during each period as Interest expense on the consolidated statements of operations.

### *Derivatives*

Embedded derivatives that are required to be bifurcated from the underlying debt instrument (i.e., host) are accounted for and valued as separate financial instruments. The Company has evaluated the terms and features of its convertible notes payable and convertible preferred stock and identified compound embedded derivatives requiring bifurcation and accounting at fair value, using the valuation techniques mentioned in the *Fair Value Measurements* section of this Note, because the economic and contractual characteristics of the embedded derivatives met the criteria for bifurcation and separate accounting due to the instruments containing conversion options, certain “make-whole interest” provisions, down-round conversion price adjustment provisions and/or conversion rate adjustments.

Cash warrants and anti-dilution warrants issued in conjunction with the convertible debt and equity financings are freestanding financial instruments which are also classified as derivative liabilities.

### *Noncontrolling Interest*

Noncontrolling interests represent the portion of net income (loss), net assets and comprehensive income (loss) that is not allocable to the Company, in situations where the Company consolidates its equity investment in a joint venture for which there are other owners. The amount of noncontrolling interest is comprised of the amount of such interests at the date of the Company’s original acquisition of an equity interest in a joint venture, plus the other shareholders’ share of changes in equity since the date the Company made an investment in the joint venture.

### *Concentration of Credit Risk*

Financial instruments that potentially subject the Company to a concentration of credit risk consist primarily of cash and cash equivalents, short-term investments and accounts receivable. The Company places its cash equivalents and investments (primarily certificates of deposits) with high credit quality financial institutions and, by policy, limits the amount of credit exposure with any one financial institution. Deposits held with banks may exceed the amount of insurance provided on such deposits. The Company has not experienced any losses on its deposits of cash and cash equivalents and short-term investments.

The Company performs ongoing credit evaluation of its customers, does not require collateral, and maintains allowances for potential credit losses on customer accounts when deemed necessary.

Customers representing 10% or greater of accounts receivable were as follows:

As of December 31,	2018	2017
Customer B	24%	10%
Customer C	19%	15%
Customer G	11%	**
Customer A (related party)	**	38%

\*\* Less than 10%

Customers representing 10% or greater of revenue were as follows:

Years Ended December 31,	2018	2017
		(As Restated, Note 2)
Customer A (related party)	17%	46%
Customer B	18%	13%
Customer C	13%	**
Customer D	13%	**
Customer E	**	11%
Customer F	**	**

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\*\* Less than 10%

### ***Revenue Recognition***

#### Year ended December 31, 2017

For the year ended December 31, 2017, the Company recognized revenue from the sale of renewable products, licenses of and royalties from intellectual property, and grants and collaborative research and development services. Revenue was recognized when all of the following criteria were met: persuasive evidence of an arrangement existed, delivery has occurred or services have been rendered, the fee was fixed or determinable, and collectability was reasonably assured. If sales arrangements contained multiple elements, the Company evaluated whether the components of each arrangement represent separate units of accounting.

#### *Renewable Product Sales*

The Company's renewable product sales do not include rights of return, except for sales of Biossance products. Returns are only accepted if the product does not meet product specifications and such nonconformity is communicated to the Company within a set number of days of delivery. The Company offers a two-year standard warranty provision for squalane products, if the products do not meet Company-established criteria as set forth in the Company's trade terms. The Company bases its return reserve on a historical rate of return for the Company's squalane products. Revenues are recognized, net of discounts and allowances, once passage of title and risk of loss has occurred and contractually specified acceptance criteria have been met, provided all other revenue recognition criteria have also been met.

#### *Licenses and Royalties*

License fees for intellectual property transferred to other parties, representing non-refundable payments received at the time of signature of license agreements, are recognized as revenue upon signature of the license agreements when the Company has no significant future performance obligations and collectability of the fees is assured. Upfront payments received at the beginning of licensing agreements with future service obligations are deferred and recognized as revenue on a systematic basis over the period during which the related services are rendered and all obligations are performed.

Royalties from intellectual property licenses that allow Amyris's customers to use the Company's intellectual property to produce and sell their products in which the Company shares in the profits are recognized in the period the royalty report is received.

#### *Grants and Collaborative Research and Development Services*

Revenues from collaborative research and development services are recognized as the services are performed consistent with the performance requirements of the contract. In cases where the planned levels of research and development services fluctuate over the research term, the Company recognizes revenues using the proportional performance method based upon actual efforts to date relative to the amount of expected effort to be incurred by us. When up-front payments are received and the planned levels of research and development services do not fluctuate over the research term, revenues are recorded on a ratable basis over the arrangement term, up to the amount of cash received. When up-front payments are received and the planned levels of research and development services fluctuate over the research term, revenues are recorded using the proportional performance method, up to the amount of cash received. Where arrangements include milestones that are determined to be substantive and at risk at the inception of the arrangement, revenues are recognized upon achievement of the milestone and is limited to those amounts whereby collectability is reasonably assured.

Grants are agreements that generally provide cost reimbursement for certain types of expenditures in return for research and development activities over a contractually defined period. Revenues from grants are recognized in the period during which the related costs are incurred, provided that the conditions under which the grants were provided have been met and only perfunctory obligations are outstanding.

## Year ended December 31, 2018

In accordance with a new revenue recognition standard that the Company adopted January 1, 2018, the Company recognizes revenue from the sale of renewable products, licenses of and royalties from intellectual property, and grants and collaborative research and development services. Revenue is measured based on the consideration specified in a contract with a customer, and transaction price is allocated utilizing stand-alone selling price. Revenue is recognized when, or as, the Company satisfies a performance obligation by transferring control over a product or service to a customer. The Company generally does not incur costs to obtain new contracts. The costs to fulfill a contract are expensed as incurred.

The Company accounts for a contract when it has approval and commitment to perform from both parties, the rights of the parties are identified, payment terms are established, the contract has commercial substance and collectability of the consideration is probable. Changes to contracts are assessed for whether they represent a modification or should be accounted for as a new contract. The Company considers the following indicators, among others, when determining if it is acting as a principal in the transaction and recording revenue on a gross basis: (i) the Company is primarily responsible for fulfilling the promise to provide the specified goods or service, (ii) the Company has inventory risk before the specified good or service has been transferred to a customer or after transfer of control to the customer and (iii) the Company has discretion in establishing the price for the specified good or service. If a transaction does not meet the Company's indicators of being a principal in the transaction, then the Company is acting as an agent in the transaction and the associated revenues are recognized on a net basis.

The Company's significant contracts and contractual terms with its customers are presented in Note 10, "Revenue Recognition".

The Company recognizes revenue when control has passed to the customer. The following indicators are evaluated in determining when control has passed to the customer: (i) the Company has a right to receive payment for the product or service, (ii) the customer has legal title to the product, (iii) the Company has transferred physical possession of the product to the customer, (iv) the customer has the significant risk and rewards of ownership of the product and (v) the customer has accepted the product. For most of the Company's renewable products customers, supply agreements between the Company and each customer indicate when transfer of title occurs.

In some cases, the Company may make a payment to a customer. When that occurs, the Company evaluates whether the payment is for a distinct good or service receivable from the customer. If the fair value of the goods or services receivable is greater than or equal to the amount paid to the customer, then the entire payment is treated as a purchase. If, on the other hand, the fair value of goods or services is less than the amount paid, then the difference is treated as a reduction in transaction price of the Company's sales to the customer.

### *Performance Obligations*

A performance obligation is a promise in a contract to transfer a distinct good or service to the customer. A contract's transaction price is allocated to each distinct performance obligation and recognized as revenue when, or as, the performance obligation is satisfied. The Company's contracts may contain multiple performance obligations if a promise to transfer the individual goods or services is separately identifiable from other promises in the contracts and, therefore, is considered distinct. For contracts with multiple performance obligations, the Company determines the standalone selling price of each performance obligation and allocates the total transaction price using the relative selling price basis.

The following is a description of the principal goods and services from which the Company generates revenue.

### *Renewable Product Sales*

Revenues from renewable product sales are recognized as a distinct performance obligation on a gross basis as the Company is acting as a principal in these transactions, with the selling price to the customer recorded net of discounts and allowances. Revenues are recognized at a point in time when control has passed to the customer, which typically is upon the renewable products leaving the Company's facilities with



the first transportation carrier. The Company, on occasion, may recognize revenue under a bill and hold arrangement, whereby the customer requests and agrees to purchase product but requests delivery at a later date. Under these arrangements, control transfers to the customer when the product is ready for delivery, which occurs when the product is identified separately as belonging to the customer, the product is ready for shipment to the customer in its current form, and the Company does not have the ability to direct the product to a different customer. It is at this point that the Company has the right to receive payment, the customer obtains legal title, and the customer has the significant risks and rewards of ownership. The Company's renewable product sales do not include rights of return, except for Biossance products, for which the Company estimates sales returns subsequent to sale and reduces revenue accordingly. For renewable products other than Biossance, returns are accepted only if the product does not meet product specifications and such nonconformity is communicated to the Company within a set number of days of delivery. The Company offers a two-year assurance-type warranty to replace squalane products that do not meet Company-established criteria as set forth in the Company's trade terms. An estimate of the cost to replace the squalane products sold is made based on a historical rate of experience and recognized as a liability and related expense when the renewable product sale is consummated.

#### *Licenses and Royalties*

*Licensing of Intellectual Property:* When the Company's intellectual property licenses are determined to be distinct from the other performance obligations identified in the arrangement, revenue is recognized from non-refundable, up-front fees allocated to the license at a point in time when the license is transferred to the licensee and the licensee is able to use and benefit from the license. For intellectual property licenses that are combined with other promises, the Company utilizes judgment to assess the nature of the combined performance obligation to determine whether the combined performance obligation is satisfied over time or at a point in time and, if over time, the appropriate method of measuring progress for purposes of recognizing revenue from non-refundable, up-front-fees. The Company evaluates the measure of progress each reporting period and, if necessary, adjusts the measure of performance and related revenue recognized.

*Royalties from Licensing of Intellectual Property:* The Company earns royalties from the licensing of its intellectual property whereby the licensee uses the intellectual property to produce and sell its products to its customers and the Company shares in the profits.

When the Company's intellectual property license is the only performance obligation, or it is the predominant performance obligation in arrangements with multiple performance obligations, the Company applies the sales-based royalty exception which requires the Company to estimate the revenue that is recognized at a point in time when the licensee's product sales occur. Estimates of sales-based royalty revenues are made using the most likely outcome method, which is the single amount in a range of possible amounts, using the best evidence available at the time, derived from the licensee's historical sales volumes and sales prices of its products and recent commodity market pricing data and trends. Estimates are adjusted to actual or as new information becomes available.

When the Company's intellectual property license is not the predominant performance obligation in arrangements with multiple performance obligations, the royalty represents variable consideration and is allocated to the transaction price of the predominant performance obligation which generally is the supply of renewable products to the Company's customers. Revenue is estimated and recognized at a point in time when the renewable products are delivered to the customer. Estimates of the amount of variable consideration to include in the transaction price are made using the expected value method, which is the sum of probability-weighted amounts in a range of possible amounts determined based on the cost to produce the renewable product plus a reasonable margin for the profit share. The Company only includes an amount of variable consideration in the transaction price to the extent it is probable that a significant reversal in the cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is subsequently resolved. Also, the transaction price is reduced for estimates of customer incentive payments payable by the Company for certain customer contracts.

#### *Grants and Collaborative Research and Development Services*

*Collaborative Research and Development Services:* The Company earns revenues from collaboration agreements with customers to perform research and development services to develop new molecules using the Company's technology and to scale production of the molecules for commercialization and use in the

collaborator's products. The collaboration agreements generally include providing the Company's collaboration partners with research and development services and with licenses to the Company's intellectual property to use the technology underlying the development of the molecules and to sell its products that incorporate the technology. The terms of the Company's collaboration agreements typically include one or more of the following: advance payments for the research and development services that will be performed, nonrefundable upfront license payments, milestone payments to be received upon the achievement of the milestone events defined in the agreements, and royalty payments upon the commercialization of the molecules in which the Company shares in the customer's profits.

Collaboration agreements are evaluated at inception to determine whether the intellectual property licenses represent distinct performance obligations separate from the research and development services. If the licenses are determined to be distinct, the non-refundable upfront license fee is recognized as revenue at a point in time when the license is transferred to the licensee and the licensee is able to use and benefit from the license while the research and development service fees are recognized over time as the performance obligations are satisfied. The research and development service fees represent variable consideration. Estimates of the amount of variable consideration to include in the transaction price are made using the expected value method, which is the sum of probability-weighted amounts in a range of possible amounts. The Company only includes an amount of variable consideration in the transaction price to the extent it is probable that a significant reversal in the cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is subsequently resolved. Revenue is recognized over time using either an input-based measure of labor hours expended or a time-based measure of progress towards the satisfaction of the performance obligations. The measure of progress is evaluated each reporting period and, if necessary, adjustments are made to the measure of progress and the related revenue recognized.

Collaboration agreements that include milestone payments are evaluated at inception to determine whether the milestone events are considered probable of achievement, and estimates are made of the amount of the milestone payments to include in the transaction price using the most likely amount method which is the single amount in a range of possible amounts. If it is probable that a significant revenue reversal will not occur, the estimated milestone payment amount is included in the transaction price. Each reporting period, the Company re-evaluates the probability of achievement of the milestone events and any related constraint and, if necessary, adjusts its estimate of the overall transaction price. Any such adjustments are recorded on a cumulative basis, which would affect collaboration revenues in the period of adjustment. Generally, revenue is recognized using an input-based measure of progress towards the satisfaction of the performance obligations which can be labor hours expended or time-based in proportion to the estimated total project effort or total projected time to complete. The measure of progress is evaluated each reporting period and, if necessary, adjustments are made to the measure of progress and the related revenue recognized. Certain performance obligations are associated with milestones agreed between the Company and its customer. Revenue generated from the performance of services in accordance with these milestones is recognized upon confirmation from the customer that the milestone has been achieved. In these cases, amounts recognized are constrained to the amount of consideration received upon achievement of the milestone.

The Company generally invoices its collaboration partners on a monthly or quarterly basis, or upon the completion of the effort or achievement of a milestone, based on the terms of each agreement. Deferred revenue arises from amounts received in advance of performing the research and development activities and is recognized as revenue in future periods as the performance obligations are satisfied.

*Grants:* The Company earns revenues from grants with government agencies to, among other things, provide research and development services to develop molecules using the Company's technology, and create research and development tools to improve the timeline and predictability for scaling molecules from proof of concept to market by reducing time and costs. Grants typically consist of research and development milestone payments to be received upon the achievement of the milestone events defined in the agreements.

The milestone payments are evaluated at inception to determine whether the milestone events are considered probable of achievement and estimates are made of the amount of the milestone payments to include in the transaction price using the most likely amount method which is the single amount in a range

of possible amounts. If it is probable that a significant revenue reversal will not occur, the estimated milestone payment amount is included in the transaction price. Each reporting period, the Company re-evaluates the probability of achievement of the milestone events and any related constraint and, if necessary, adjusts its estimate of the overall transaction price. Any such adjustments are recorded on a cumulative basis, which would affect grant revenues in the period of adjustment. Revenue is recognized over time using a time-based measure of progress towards the satisfaction of the performance obligations. The measure of progress is evaluated each reporting period and, if necessary, adjustments are made to the measure of progress and the related revenue recognized.

### ***Cost of Products Sold***

Cost of products sold includes the production costs of renewable products, which include the cost of raw materials, in-house manufacturing labor and overhead, amounts paid to contract manufacturers, including amortization of tolling fees, and period costs including inventory write-downs resulting from applying lower of cost or net realizable value inventory adjustments. Cost of products sold also includes certain costs related to the scale-up of production. Shipping and handling costs charged to customers are recorded as revenues. Outbound shipping costs incurred are included in cost of products sold. Such charges were not material for any of the periods presented.

The Company recognizes deferred cost of products sold as an asset on the balance sheet when a cost is incurred in connection with a revenue performance obligation that will not be fulfilled until a future period.

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

Research and development costs are expensed as incurred and include costs associated with research performed pursuant to collaborative agreements and government grants, including internal research. Research and development costs consist of direct and indirect internal costs related to specific projects, as well as fees paid to others that conduct certain research activities on the Company's behalf.

### ***Debt Extinguishment***

The Company accounts for the income or loss from extinguishment of debt in accordance with ASC 470, *Debt*, which indicates that for all extinguishment of debt, the difference between the reacquisition consideration and the net carrying amount of the debt being extinguished should be recognized as gain or loss when the debt is extinguished. Losses from debt extinguishment are shown in the consolidated statements of operations under "Other income (expense)" as "Loss upon extinguishment of debt".

### ***Stock-based Compensation***

The Company accounts for stock-based employee compensation plans under the fair value recognition and measurement provisions of U.S. GAAP. Those provisions require all stock-based payments to employees, including grants of stock options and restricted stock units (RSUs), to be measured using the grant-date fair value of each award. The Company recognizes stock-based compensation expense net of expected forfeitures over each award's requisite service period, which is generally the vesting term. Expected forfeiture rates are estimated based on the Company's historical experience. Stock-based compensation plans are described more fully in Note 12, "Stock-based Compensation".

### ***Income Taxes***

The Company is subject to income taxes in the United States and foreign jurisdictions and uses estimates to determine its provisions for income taxes. The Company uses the asset and liability method of accounting for income taxes, whereby deferred tax asset or liability account balances are calculated at the balance sheet date using current tax laws and rates in effect for the year in which the differences are expected to affect taxable income.

Recognition of deferred tax assets is appropriate when realization of such assets is more likely than not. The Company recognizes a valuation allowance against its net deferred tax assets unless it is more likely than not that such deferred tax assets will be realized. This assessment requires judgement as to the likelihood and amounts of future taxable income by tax jurisdiction.

The Company applies the provisions of Financial Accounting Standards Board (FASB) guidance on accounting for uncertainty in income taxes. The Company assesses all material positions taken in any income tax return, including all significant uncertain positions, in all tax years that are still subject to assessment or challenge by relevant taxing authorities. Assessing an uncertain tax position begins with the initial determination of the position's sustainability, and the tax benefit to be recognized is measured at the largest amount of benefit that is greater than 50 percent likely of being realized upon ultimate settlement. As of each balance sheet date, unresolved uncertain tax positions must be reassessed, and the Company will determine whether (i) the factors underlying the sustainability assertion have changed and (ii) the amount of the recognized tax benefit is still appropriate. The recognition and measurement of tax benefits requires significant judgement, and such judgements may change as new information becomes available.

### ***Foreign Currency Translation***

The assets and liabilities of foreign subsidiaries, where the local currency is the functional currency, are translated from their respective functional currencies into U.S. dollars at the rates in effect at each balance sheet date, and revenue and expense amounts are translated at average rates during each period, with resulting foreign currency translation adjustments recorded in other comprehensive loss, net of tax, in the consolidated statements of stockholders' deficit. As of December 31, 2018 and 2017, cumulative translation adjustment, net of tax, were \$43.3 million and \$42.2 million, respectively.

Where the U.S. dollar is the functional currency, remeasurement adjustments are recorded in other income (expense), net in the accompanying consolidated statements of operations. Net losses resulting from foreign exchange transactions were \$1.6 million and \$0.4 million for the years ended December 31, 2018 and 2017, respectively and are recorded in other income (expense), net in the consolidated statements of operations.

### **New Accounting Standards or Updates Recently Adopted**

During the year ended December 31, 2018 the Company adopted the following Accounting Standards Updates (ASUs):

#### ***Revenue Recognition***

The Company adopted ASC 606, *Revenue from Contracts with Customers*, with a date of initial application of January 1, 2018. As a result, the Company has changed its accounting policy for revenue recognition as detailed above in "Significant Accounting Policies". The Company applied ASC 606 using the modified retrospective approach by recognizing the cumulative effect of initially applying ASC 606 to all contracts not completed as of the date of adoption as an adjustment to the opening balance of accumulated deficit at January 1, 2018. Therefore, the comparative information has not been adjusted and continues to be reported under the legacy revenue recognition guidance of ASC 605, "Revenue Recognition".

The Company applied ASC 606 using a practical expedient for contracts that were modified before the application date, which allowed the Company to determine an aggregate effect of all modifications that occurred before January 1, 2018, when determining the satisfied and unsatisfied performance obligations, the transaction price, and allocating that transaction price to the performance obligations instead of retrospectively restating the contracts for such contract modifications.

The cumulative effect of initially applying ASC 606 resulted in an increase to accumulated deficit at January 1, 2018 of approximately \$0.8 million. The most significant change in accounting policy is the Company is now required to estimate royalty revenues from licenses of the Company's intellectual property and recognize estimated royalty revenues at a point in time when the Company sells its renewable products to its customers (if the sales-based royalty exception does not apply) or when the licensee sells its products to its customer (if the sales-based royalty exception does apply).

The following table presents the amounts by which revenue is affected in the current reporting period by the application of ASC 606 as compared with the legacy guidance that was in effect before the accounting change.

(In thousands)	Year Ended December 31, 2018		
	As Reported	Adjustments	Amounts Without the Adoption of ASC 606
Renewable products . . . . .	\$33,598	\$ —	\$33,598
Licenses and royalties . . . . .	7,658	5,094	12,752
Grants and collaborations . . . . .	22,348	(5,786)	16,562
Total revenue from all customers . . . . .	<u>\$63,604</u>	<u>\$ (692)</u>	<u>\$62,912</u>

#### *Financial Instruments*

In January 2016, the Financial Accounting Standards Board (FASB) issued ASU 2016-01, *Financial Instruments — Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities*, which changes the accounting for equity investments, financial liabilities under the fair value option, and the presentation and disclosure requirements for financial instruments. The Company adopted ASU 2016-01 on January 1, 2018. Adoption of this ASU did not impact the Company’s consolidated financial position, results of operations or cash flows.

#### *Classification of Cash Flow Elements*

In August 2016, the FASB issued ASU 2016-15, *Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments*, which affects the classification of certain cash receipts and cash payments on the statement of cash flows. ASU 2016-15 results in a change in cash flow classification of debt prepayment or extinguishment costs. ASU 2016-15 became effective January 1, 2018 on a retrospective basis. Adoption of this ASU did not impact the Company’s consolidated financial position, results of operations or cash flows.

#### *Income Taxes Related to Intra-entity Asset Transfers*

In October 2016, FASB issued ASU 2016-16, *Intra-Entity Transfers of Assets Other Than Inventory* on simplifying the accounting for income taxes related to intra-entity asset transfers. The new guidance allows an entity to recognize the tax expense from the sale of an asset in the seller’s tax jurisdiction when the transfers occurs, even though the pre-tax effects of that transaction are eliminated in consolidation. ASU 2016-16 became effective January 1, 2018, which the Company adopted on a modified retrospective basis.

#### *Restricted Cash in Statement of Cash Flows*

In November 2016, the FASB issued ASU 2016-18, *Statement of Cash Flows (Topic 230): Restricted Cash*, which requires that a statement of cash flows explain the change during the period in the total of cash, cash equivalents, and amounts generally described as restricted cash or restricted cash equivalents. Therefore, amounts generally described as restricted cash and restricted cash equivalents should be included with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on the statement of cash flows. The accounting standard update became effective January 1, 2018 using a retrospective transition method for each period presented. Upon adoption, ASU 2016-18 resulted in a change in the presentation of restricted cash in the statement of cash flows for current and prior periods presented.

#### *Derecognition of Nonfinancial Assets*

In February 2017, the FASB issued ASU 2017-05, *Other Income — Gains and Losses from the Derecognition of Nonfinancial Assets (Subtopic 610-20): Clarifying the Scope of Asset Derecognition Guidance and Accounting for Partial Sales of Nonfinancial Assets*, which requires entities to apply certain recognition and measurement principles in ASC 606 when they derecognize nonfinancial assets, and in

substance, nonfinancial assets, and the counterparty is not a customer. The guidance applies to: (1) contracts to transfer to a noncustomer a nonfinancial asset or group of nonfinancial assets, or an ownership interest in a consolidated subsidiary that does not meet the definition of a business and is not a not-for-profit activity; and (2) contributions of nonfinancial assets that are not a business to a joint venture or other noncontrolled investee. The accounting standard update became effective January 1, 2018 on a modified retrospective basis. Adoption of this ASU did not impact the Company's consolidated financial position, results of operations or cash flows.

#### *Income Taxes*

In March 2018, FASB issued ASU 2018-05, *Amendments to SEC Paragraphs Pursuant to SEC Staff Accounting Bulletin No. 118* to address the application of GAAP in situations when a registrant does not have the necessary information available, prepared or analyzed (including computations) in reasonable detail to complete the accounting for certain income tax effects of the Tax Act. As of December 31, 2018, the Company's analysis for the Transition Tax has been filed with its December 31, 2017 tax return and the Company considered its accounting for this area of the Tax Act to be complete as of such date and did not make any measurement-period adjustments related to it. In addition, the Company considered its accounting for changes in the U.S. federal rate and deferred tax impact for the rate change to be complete. The Company also accounted for the tax impact related to other areas of the Tax Act and believe its analysis to be completed consistent with the guidance in ASU 2018-05. The Company recognizes that the IRS is continuing to publish and finalize ongoing guidance with respect to the Act which may modify accounting interpretation for the Tax Act, the Company would look to account for these impacts in the period of such change is enacted.

#### *Non-employee Stock-based Compensation*

In June 2018, the FASB issued ASU 2018-07, *Improvements to Nonemployee Share-Based Payment Accounting*, which more closely aligns the accounting for employee and nonemployee stock-based compensation. Under the new standard, companies are no longer required to value non-employee awards differently from employee awards. The Company adopted this accounting standard update on January 1, 2018 using a modified retrospective approach. Adoption of this ASU did not impact the Company's consolidated financial position, results of operations or cash flows.

### **Recent Accounting Standards or Updates Not Yet Effective**

#### *Leases*

In February 2016, the FASB issued ASU 2016-02, *Leases (Topic 842)*, as subsequently updated, with fundamental changes as to how entities account for leases. Lessees will need to recognize a right-of-use asset and a lease liability for virtually all of their leases (other than leases that meet the definition of a short-term lease). The liability will be equal to the present value of lease payments. The asset will be based on the liability, subject to adjustment, such as for initial direct costs. Additional disclosures for leases will also be required.

The Company is adopting the new standard effective January 1, 2019 using a modified retrospective method, and will not restate comparative periods. The modified retrospective transition approach requires lessees and lessors to recognize and measure existing leases at the date of initial application. The new standard provides a number of optional practical expedients in transition. The Company expects to elect the "package of practical expedients", which permits it not to reassess under the new standard prior conclusions about lease identification, lease classification and initial direct costs.

The adoption of this standard on January 1, 2019 is expected to have the effect of increasing assets and liabilities on the consolidated balance sheet by \$25.7 million, but is not expected to have a material impact on the consolidated statements of operations or cash flows. The most significant impact relates to (i) the recognition of new Right of Use (ROU) assets and lease liabilities on the balance sheet for operating leases; and (ii) providing significant new disclosures about leasing activities. Upon adoption, the Company will

recognize operating lease liabilities of \$33.6 million, based on the present value of the remaining minimum rental payments under current leasing standards for existing operating leases. The Company will also recognize ROU assets of \$29.7 million, which represents the operating lease liability adjusted for accrued rent.

#### *Financial Instruments with “Down Round” Features*

In July 2017, the FASB issued ASU 2017-11, *Earnings Per Share (Topic 260); Distinguishing Liabilities from Equity (Topic 480); Derivatives and Hedging (Topic 815): Accounting for Certain Financial Instruments with Down Round Features*. The amendments of this ASU update the classification analysis of certain equity-linked financial instruments, or embedded features, with down round features, as well as clarify existing disclosure requirements for equity-classified instruments. When determining whether certain financial instruments should be classified as liabilities or equity instruments, a down round feature no longer precludes equity classification when assessing whether the instrument is indexed to an entity’s own stock. The accounting standard update will be effective beginning in the first quarter of fiscal year 2019 using a modified retrospective approach. The Company completed its assessment of the new standard and determined the impact to the consolidated balance sheet would be material. The Company anticipates recording a \$41.0 million reduction to derivative liabilities and a corresponding \$41.0 million increase to equity on January 1, 2019.

#### *Fair Value Measurement*

In August 2018, the FASB issued ASU 2018-13, *Fair Value Measurement (Topic 820): Disclosure Framework — Changes to the Disclosure Requirements for Fair Value Measurement*, which amends ASC 820, *Fair Value Measurement*. ASU 2018-13 modifies the disclosure requirements for fair value measurements by removing, modifying or adding certain disclosures. The accounting standard update will be effective beginning in the first quarter of fiscal year 2020, with removed and modified disclosures to be adopted on a retrospective basis, and new disclosures to be adopted on a prospective basis. The Company is in the initial stages of evaluating the impact of the new standard on its consolidated financial statements.

#### *Collaborative Revenue Arrangements*

In November 2018, the FASB issued ASU 2018-18, *Clarifying the Interaction between Topic 808 and Topic 606*, that clarifies the interaction between the guidance for certain collaborative arrangements and Topic 606, the new revenue recognition standard. A collaborative arrangement is a contractual arrangement under which two or more parties actively participate in a joint operating activity and are exposed to significant risks and rewards that depend on the activity’s commercial success. The ASU provides guidance on how to assess whether certain transactions between collaborative arrangement participants should be accounted for within the revenue recognition standard. The accounting standard update will be effective beginning in the first quarter of fiscal year 2020 retroactively. The Company does not believe that the impact of the new standard on its consolidated financial statements will be material.

#### *Credit Losses*

In June 2016, the FASB issued ASU 2016-13, *Financial Instruments — Credit Losses (Topic 326), Measurement of Credit Losses on Financial Instruments*. ASU 2016-13 requires entities to measure all expected credit losses for most financial assets held at the reporting date based on an expected loss model which includes historical experience, current conditions, and reasonable and supportable forecasts. Entities will now use forward-looking information to better form their credit loss estimates. ASU 2016-13 also requires enhanced disclosures to help financial statement users better understand significant estimates and judgments used in estimating credit losses, as well as the credit quality and underwriting standards of an entity’s portfolio. ASU 2016-13 will become effective for the Company beginning in the first quarter of fiscal year 2020. The Company does not believe that the impact of the new standard on its consolidated financial statements will be material.

## 2. Restatement of Consolidated Financial Statements

### *Restatement Background*

Subsequent to the issuance of the Company's unaudited condensed consolidated financial statements as of September 30, 2018 and as previously announced on April 5, 2019 and May 14, 2019, the Audit Committee (the Audit Committee) of the Board of Directors of the Company (the Board) and the Board, respectively, concluded that the Company will restate its interim condensed consolidated financial statements for the quarterly and year-to-date periods ended March 31, 2018, June 30, 2018 and September 30, 2018 (collectively, the Restated 2018 Non-Reliance Periods) and its audited consolidated financial statements for the year ended December 31, 2017 (the Restated 2017 Non-Reliance Consolidated Financial Statements).

### *Restated 2017 Non-Reliance Consolidated Financial Statements*

During the course of the re-audit of the Restated 2017 Financial Statements, in addition to incorrectly accounting for certain payment obligations under the Ginkgo Partnership Agreement as previously disclosed, the Company identified other accounting and financial reporting errors related to (i) the recognition of certain deemed dividends to preferred stock holders, (ii) incorrect accounting treatment for the derecognition of certain debt and derivative liability instruments, (iii) errors in computing tax expense, (iv) incorrect revenue recognition for certain non-cash consideration received under a collaboration agreement, (v) the timing of certain revenue recognition between quarters within 2017, (vi) computation of earnings (loss) per share, (vii) correction of errors in cash flow statements for non-cash adjustments, and (viii) computation of loss on extinguishment of certain debt instruments.

The error corrections for the year to date audited 2017 consolidated financial statements have been reflected throughout these consolidated financial statements and accompanying notes. Also, the tables below show the impact of each adjustment by the individual financial statement line item caption and provide a brief description of the adjustment.



## Consolidated Balance Sheet

The following table presents the Company's consolidated balance sheet at December 31, 2017 as previously reported, restatement adjustments and as restated (in thousands):

(In thousands)	December 31, 2017			
	As Previously Reported	Corrections	Ref.	As Restated
<b>Assets</b>				
Current assets:				
Cash and cash equivalents . . . . .	\$ 57,059	\$ —		\$ 57,059
Restricted cash . . . . .	2,994	—		2,994
Accounts receivable, net . . . . .	24,281	(5,328)	a	18,953
Accounts receivable – related party, net . . . . .	9,340	(4,573)	a	4,767
Accounts receivable, unbilled – related party . . . . .	—	9,901		9,901
Inventories . . . . .	5,408	—		5,408
Prepaid expenses and other current assets . . . . .	5,525	(606)	b	4,919
Total current assets . . . . .	104,607	(606)		104,001
Property, plant and equipment, net . . . . .	13,892	—		13,892
Accounts receivable, unbilled, noncurrent – related party . . . . .	7,940	—		7,940
Restricted cash, noncurrent . . . . .	959	—		959
Recoverable taxes from Brazilian government entities . . . . .	1,445	—		1,445
Other assets . . . . .	22,640	(10,081)	c	12,559
Total assets . . . . .	\$ 151,483	\$(10,687)		\$ 140,796
<b>Liabilities, Mezzanine Equity and Stockholders' Deficit</b>				
Current liabilities:				
Accounts payable . . . . .	\$ 15,921	\$ (406)	d	\$ 15,515
Accrued and other current liabilities . . . . .	29,402	(200)	e	29,202
Contract liabilities . . . . .	4,880	(572)	f	4,308
Debt, current portion . . . . .	36,924	—		36,924
Related party debt, current portion . . . . .	20,019	—		20,019
Total current liabilities . . . . .	107,146	(1,178)		105,968
Long-term debt, net of current portion . . . . .	61,893	(1,673)	g	60,220
Related party debt, net of current portion . . . . .	46,541	—		46,541
Derivative liabilities . . . . .	119,978	(3,481)	h	116,497
Other noncurrent liabilities . . . . .	10,632	13,026	i	23,658
Total liabilities . . . . .	346,190	6,694		352,884
Commitments and contingencies				
Mezzanine equity:				
Contingently redeemable common stock . . . . .	5,000	—		5,000
Stockholders' deficit:				
Preferred stock . . . . .	—	—		—
Common stock – \$0.0001 par value . . . . .	5	—		5
Additional paid-in capital . . . . .	1,048,274	66,272	j	1,114,546
Accumulated other comprehensive loss . . . . .	(42,156)	—		(42,156)
Accumulated deficit . . . . .	(1,206,767)	(83,653)	k	(1,290,420)
Total Amyris, Inc. stockholders' deficit . . . . .	(200,644)	(17,381)		(218,025)
Noncontrolling interest . . . . .	937	—		937
Total stockholders' deficit . . . . .	(199,707)	(17,381)		(217,088)
Total liabilities, mezzanine equity and stockholders' deficit . . . . .	\$ 151,483	\$(10,687)		\$ 140,796

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Restatement adjustments:

- a. Reclassification of related party accounts receivable to a separate line on the balance sheet.
- b. Write-off of unrecoverable receivable in connection with facilities subleased to a related party.
- c. Correction of error in recording amounts payable under Ginkgo Partnership Agreement as prepaid royalties instead of reduction in revenue.
- d. Adjustment to uninvoiced receipts liability.
- e. Adjustment to accrued liability.
- f. Revision to accounting for equity received in satisfaction of a customer receivable.
- g. Adjustment to issuance-date fair value of a debt instrument.
- h. Make-whole derivative liabilities adjustment.
- i. Accrual of the Ginkgo Partnership Payments obligation, net of reduction to deferred revenue liability.
- j. Correction to the accounting for a make-whole equity instrument in connection with May 2017 equity offering.
- k. Sum of adjustments to net loss for the year ended December 31, 2017 as result of corrections.

## Consolidated Statement of Operations

The following table presents the Company's consolidated statements of operations for the year ended December 31, 2017 as previously reported, restatement adjustments and as restated (in thousands, except per share amounts):

(In thousands, except shares and per share amounts)	Year Ended December 31, 2017				
	As Previously Reported	Reclassifications <sup>(1)</sup>	Corrections	Ref	As Restated
Renewable products . . . . .	\$ 45,781	\$(3,411)	\$ —		\$ 42,370
Licenses and royalties . . . . .	57,703	6,774	(15,774)	ab	48,703
Grants and collaborations . . . . .	39,960	(3,363)	1		36,598
Total revenue . . . . .	<u>143,444</u>	<u>—</u>	<u>(15,773)</u>		<u>127,671</u>
Cost and operating expenses . . . . .	—	—	—		—
Cost of products sold . . . . .	62,713	—	(406)	ad	62,307
Research and development . . . . .	57,027	(72)	607	ae	57,562
Sales, general and administrative . . . . .	63,219	72	562	af	63,853
Total cost and operating expenses . . . . .	<u>182,959</u>	<u>—</u>	<u>763</u>		<u>183,722</u>
Loss from operations . . . . .	<u>(39,515)</u>	<u>—</u>	<u>(16,536)</u>		<u>(56,051)</u>
Other income (expense)					
(Loss) gain on divestiture . . . . .	5,732	—	—		5,732
Interest expense . . . . .	(34,033)	—	(3,048)	ah	(37,081)
(Loss) gain from change in fair value of derivative instruments . . . . .	(1,742)	—	(47,110)	ai	(48,852)
Loss upon extinguishment of debt . . . . .	(1,521)	—	(10,376)	ak	(11,897)
Other income (expense), net . . . . .	(955)	—	(1)		(956)
Total other expense, net . . . . .	<u>(32,519)</u>	<u>—</u>	<u>(60,535)</u>		<u>(93,054)</u>
Loss before income taxes . . . . .	<u>(72,034)</u>	<u>—</u>	<u>(77,071)</u>		<u>(149,105)</u>
Provision for income taxes . . . . .	(295)	—	(6,582)	am	(6,877)
Net loss attributable to Amyris, Inc. . . . .	<u>(72,329)</u>	<u>—</u>	<u>(83,653)</u>		<u>(155,982)</u>
Less deemed dividend on capital distribution to related parties . . . . .	(8,648)	—	8,648	an	—
Less deemed dividend related to beneficial conversion feature on Series A preferred stock . . . . .	(562)	—	—		(562)
Less deemed dividend related to beneficial conversion feature on Series B preferred stock . . . . .	(634)	—	—		(634)
Less deemed dividend related to beneficial conversion feature on Series D preferred stock . . . . .	(5,757)	—	—		(5,757)
Less deemed dividend upon settlement of make-whole provision on Series A preferred stock . . . . .	—	—	(10,505)	ap	(10,505)
Less deemed dividend upon settlement of make-whole provision on Series B preferred stock . . . . .	—	—	(22,632)	aq	(22,632)
Less deemed dividend related to proceeds discount and issuance costs upon conversion of Series A preferred stock . . . . .	—	—	(21,578)	ar	(21,578)
Less deemed dividend related to proceeds discount and issuance costs upon conversion of Series B preferred stock . . . . .	—	—	(24,366)	as	(24,366)
Less cumulative dividends on Series A and Series B preferred stock . . . . .	(5,439)	—	5,439	aw	—
Add: losses allocated to participating securities . . . . .	—	—	40,159	au	40,159
Net loss attributable to Amyris, Inc. common stockholders . . . . .	<u>\$ (93,369)</u>	<u>—</u>	<u>\$(108,488)</u>		<u>\$ (201,857)</u>
Net loss per share attributable to common stockholders					
Basic and diluted . . . . .	<u>\$ (2.89)</u>				<u>\$ (6.26)</u>
Weighted-average shares of common stock outstanding used in computing loss per share of common stock:					
Basic and diluted . . . . .	<u>32,253,570</u>				<u>32,253,570</u>

- 
- (1) Reclassification of revenue and operating expense by type to conform to the Company's current presentation.

Restatement adjustments:

- ab. Ginkgo partnership obligation and promissory note issuance recorded as reduction to revenue and correction of errors in recording revenue from non-cash consideration.
- ad. Correction in connection with a sales return, and adjustment to uninvoiced receipts liability.
- ae. Write-off of unrecoverable receivable in connection with facilities subleased to a related party, and reclassification of operating expense by classification to conform to the Company's current presentation.
- af. Expense incurred in connection with May 2017 equity offering.
- ah. Correction to amortization of debt discounts, and interest expense in connection with partnership payments obligation.
- ai. Correction to accounting for make-whole liability in connection with May 2017 Offering.
- ak. Loss on extinguishment of related and unrelated party debt.
- am. Tax provision to accrue liability for unrecognized tax benefit.
- an. Loss on extinguishment of related and unrelated party debt.
- ap. Correction to record deemed dividend in connection with discounts and freestanding instruments related to preferred stock offerings.
- aq. Correction to record deemed dividend in connection with discounts and freestanding instruments related to preferred stock offerings.
- ar. Correction to record deemed dividend in connection with discounts and freestanding instruments related to preferred stock offerings.
- as. Correction to record deemed dividend in connection with discounts and freestanding instruments related to preferred stock offerings.
- au. Correction in the computation of loss per share to reflect participating securities.
- aw. Correction in the computation of net loss per share related to make-whole deemed dividends.

## Consolidated Statement of Cash Flows

The following table presents the Company's consolidated statements of cash flows for the year ended December 31, 2017 as previously reported, restatement adjustments and as restated (in thousands). In this table, As Restated amounts reflect the impact of corrections to the consolidated balance sheet as of December 31, 2017 and the statement of operations for the year ended December 31, 2017, as well as the Company's adoption of ASU 2016-18, which changes how restricted cash is reported in statements of cash flows.

(In thousands)	Year Ended December 31, 2017		
	As Previously Reported	Corrections <sup>(1)</sup>	As Restated
<b>Operating activities</b>			
Net loss	\$ (72,329)	(83,653)	\$(155,982)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	11,358	—	11,358
(Gain) loss on disposal of property, plant and equipment	142	—	142
Stock-based compensation	6,265	—	6,265
Amortization of debt discount	12,490	2,749	15,239
(Gain) loss upon extinguishment of debt	1,521	10,376	11,897
Receipt of equity in connection with collaboration arrangements revenue	(2,661)	2,661	—
(Gain) loss from change in fair value of derivative liabilities	1,742	47,110	48,852
(Gain) loss on foreign currency exchange rates	(1,230)	—	(1,230)
Noncash revenue reduction related to issuance of debt obligations	—	13,413	13,413
Non-cash gain on divestiture	(5,732)	—	(5,732)
Receipt of noncash consideration in connection with license revenue	(8,046)	—	(8,046)
Changes in assets and liabilities:			
Accounts receivable	(19,647)	—	(19,647)
Accounts receivable, unbilled – related party	(7,940)	—	(7,940)
Inventories	(3,126)	—	(3,126)
Prepaid expenses and other assets	(19,336)	606	(18,730)
Accounts payable	5,858	(406)	5,452
Accrued and other liabilities	7,295	6,582	13,877
Contract liabilities	(7,241)	—	(7,241)
Net cash used in operating activities	(100,617)	(562)	(101,179)
<b>Investing activities</b>			
Proceeds from divestiture	54,827	—	54,827
Change in short-term investments	712	581	1,293
Change in restricted cash	865	(865)	—
Purchases of property, plant and equipment	(4,412)	—	(4,412)
Net cash (used in) provided by investing activities	51,992	(284)	51,708
<b>Financing activities</b>			
Proceeds from issuance of convertible preferred stock	101,124	(2,878)	98,246
Proceeds from exercises of common stock options	160	(160)	—
Payment of minimum employee taxes withheld upon net share settlement of restricted stock units	(385)	—	(385)
Proceeds from issuance of common stock in August 2017 offering	—	5,759	5,759
Issuance costs incurred	—	(2,159)	(2,159)
Change in restricted cash related to contingently redeemable common stock	1,046	(1,046)	—
Proceeds from issuance of debt, net of issuance costs	18,925	—	18,925
Principal payments on debt	(37,500)	—	(37,500)
Payment of swap termination	(3,113)	—	(3,113)
Payment on early redemption of debt	(1,909)	—	(1,909)
Net cash provided by financing activities	78,348	(484)	77,864
Effect of exchange rate changes on cash, cash equivalents and restricted cash	186	—	186
Net (decrease) increase in cash, cash equivalents and restricted cash	29,909	(1,330)	28,579
Cash, cash equivalents and restricted cash at beginning of year	27,150	5,283	32,433
Cash, cash equivalents and restricted cash at end of year	\$ 57,059	3,953	61,012

(In thousands)	Year Ended December 31, 2017		
	As Previously Reported	Corrections <sup>(1)</sup>	As Restated
<b>Reconciliation of cash, cash equivalents and restricted cash to the consolidated balance sheets</b>			
Cash and cash equivalents . . . . .			\$ 57,059
Restricted cash, current . . . . .			2,994
Restricted cash, noncurrent . . . . .			959
Total cash, cash equivalents and restricted cash . . . . .			<u>\$ 61,012</u>
<b>Supplemental disclosures of cash flow information:</b>			
Cash paid for interest . . . . .	<u>\$ 11,539</u>	<u>\$ —</u>	<u>\$ 11,539</u>
<b>Supplemental disclosures of non-cash investing and financing activities:</b>			
Issuance of common stock upon conversion of debt . . . . .	<u>\$ 28,702</u>	<u>\$ —</u>	<u>\$ 28,702</u>
Accrued interest added to debt principal . . . . .	<u>\$ 2,816</u>	<u>\$ —</u>	<u>\$ 2,816</u>
Issuance of common stock for settlement of debt principal and interest payments . . . . .	<u>\$ 3,436</u>	<u>\$ —</u>	<u>\$ 3,436</u>
Financing of insurance premium under note payable . . . . .	<u>\$ 467</u>	<u>\$ —</u>	<u>\$ 467</u>
Issuance of convertible preferred stock upon conversion of debt . . . . .	<u>\$ 40,204</u>	<u>\$ —</u>	<u>\$ 40,204</u>
Settlement of debt principal by a related party . . . . .	<u>\$ 25,000</u>	<u>\$ —</u>	<u>\$ 25,000</u>
Issuance of note payable in exchange for debt extinguishment with third party . .	<u>\$ 16,954</u>	<u>\$ —</u>	<u>\$ 16,954</u>
Issuance of common stock for settlement of debt . . . . .	<u>\$ 10,708</u>	<u>\$ —</u>	<u>\$ 10,708</u>
Issuance of preferred stock attributed to derivative liabilities . . . . .	<u>\$ —</u>	<u>\$ 72,725</u>	<u>\$ 72,725</u>

(1) To reflect the impact of restatement corrections on the statement of cash flows.

### 3. Balance Sheet Details

#### *Allowance for Doubtful Accounts*

Allowance for doubtful accounts activity and balances were as follows:

(In thousands)	Balance at Beginning of Year	Provisions	Recoveries (Write-offs), Net	Balance at End of Year
Allowance for doubtful accounts:				
Year Ended December 31, 2018 . . . . .	\$642	\$ —	\$—	\$642
Year Ended December 31, 2017 (as restated, Note 2) . . . . .	\$501	\$141	\$—	\$642

#### *Inventories*

December 31, (In thousands)	2018	2017 (As Restated, Note 2)
Raw materials . . . . .	\$3,901	\$ 819
Work in process . . . . .	539	364
Finished goods . . . . .	5,253	4,225
Total inventories . . . . .	<u>\$9,693</u>	<u>\$5,408</u>

#### *Prepaid expenses and other current assets*

December 31, (In thousands)	2018	2017 (As Restated, Note 2)
Prepayments, advances and deposits . . . . .	\$ 5,644	\$3,599
Recoverable taxes from Brazilian government entities . . . . .	631	87
Other . . . . .	4,291	1,233
Total prepaid expenses and other current assets . . . . .	<u>\$10,566</u>	<u>\$4,919</u>

#### *Property, plant and equipment, net*

December 31, (In thousands)	2018	2017 (As Restated, Note 2)
Machinery and equipment . . . . .	\$ 43,713	\$ 46,317
Leasehold improvements . . . . .	39,922	40,036
Computers and software . . . . .	9,987	9,555
Furniture and office equipment, vehicles and land . . . . .	3,016	3,415
Construction in progress . . . . .	1,749	2,838
Total property, plant and equipment, gross . . . . .	98,387	102,161
Less: accumulated depreciation and amortization . . . . .	(78,631)	(88,269)
Total property, plant and equipment, net . . . . .	<u>\$ 19,756</u>	<u>\$ 13,892</u>

Property, plant and equipment, net includes \$5.0 million and \$4.2 million of machinery and equipment under capital leases as of December 31, 2018 and 2017, respectively. Accumulated amortization of assets under capital lease totaled \$2.3 million and \$1.6 million as of December 31, 2018 and 2017, respectively.

Depreciation and amortization expense, including amortization of assets under capital leases, was \$4.9 million and \$11.4 million for the years ended December 31, 2018 and 2017, respectively.

Losses on disposal of property, plant and equipment were \$0.9 million and \$0.1 million for the years ended December 31, 2018 and 2017, respectively. Such losses or gains were included in “Research and development” expense in the consolidated statements of operations.

In December 2017, the Company’s sold its Brotas production plant in Brazil to a unit of DSM Nutritional Products Ltd (together with its affiliates, DSM); see Note 13, “Divestiture” and Note 11, “Related Party Transactions” for details.

***Other assets***

December 31, (In thousands)	2018	2017 (As Restated, Note 2)
Contingent consideration . . . . .	\$4,286	\$ 8,150
Deposits . . . . .	2,465	2,462
Other . . . . .	1,207	1,947
Total other assets . . . . .	<u>\$7,958</u>	<u>\$12,559</u>

***Accrued and other current liabilities***

December 31, (In thousands)	2018	2017 (As Restated, Note 2)
Payroll and related expenses . . . . .	\$ 9,220	\$ 7,238
Contract termination fees . . . . .	4,092	—
Accrued interest . . . . .	3,853	8,213
Asset retirement obligation <sup>(1)</sup> . . . . .	3,063	3,587
Ginkgo partnership payments obligation . . . . .	2,155	—
Tax-related liabilities . . . . .	2,139	5,837
Professional services . . . . .	1,173	1,694
Other . . . . .	3,284	2,633
Total accrued and other current liabilities . . . . .	<u>\$28,979</u>	<u>\$29,202</u>

(1) The asset retirement obligation represents liabilities incurred but not yet discharged in connection with our 2013 abandonment of a partially constructed facility in Pradópolis, Brazil.

***Other noncurrent liabilities***

December 31, (In thousands)	2018	2017 (As Restated, Note 2)
Liability for unrecognized tax benefit . . . . .	\$ 6,582	\$ 6,582
Deferred rent, net of current portion . . . . .	6,440	7,818
Ginkgo partnership payments obligation, net of current portion . . . . .	6,185	6,444
Contract liabilities, net of current portion . . . . .	1,587	383
Contract termination fees, net of current portion <sup>(1)</sup> . . . . .	1,530	—
Capital leases, net of current portion . . . . .	195	217
Other . . . . .	673	2,214
Total other noncurrent liabilities . . . . .	<u>\$23,192</u>	<u>\$23,658</u>

(1) Contract liabilities, net of current portion at December 31, 2018 and 2017 includes \$1,204 and \$383 in connection with DSM, which is a related party.



In November 2017, the Company entered into a partnership agreement with one of its former collaboration partners, Ginkgo Bioworks, Inc. and has an obligation to make quarterly payments of \$0.8 million from December 31, 2018 through September 2022. At December 31, 2018, total future minimum payments under the agreement totaled \$12.7 million. The Company recorded this liability at its discounted present value of \$6.1 million and is accreting the \$6.6 million discount to interest expense over the five-year repayment period. Also, in conjunction with the partnership agreement, the Company issued a \$12.0 million promissory note, which is included in long-term debt at a \$8.0 million carrying value, net of unamortized discount. See Note 10, "Revenue Recognition" for information regarding the Ginkgo Partnership Agreement and the related accounting treatment for the partnership payments.

In September 2019, the Company was notified by DSM that certain contingent consideration payable to the Company upon the realization of certain NOL tax benefits transferred to DSM with the sale of the Brotas facility in December 2017 would not be realized due to changes in DSM's Brazilian legal entity structure. The Company considered this information in conjunction with the probability and timing of DSM's realization of the underlying NOL tax benefits and determined that \$3.9 million of the contingent consideration receivable was not recoverable as of December 31, 2018.

#### 4. Fair Value Measurement

Assets and liabilities are measured and reported at fair value per related accounting standards that define fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The fair value hierarchy prioritizes the inputs to valuation techniques used to measure fair value. An asset's or liability's level is based on the lowest level of input that is significant to the fair value measurement. Assets and liabilities carried at fair value are valued and disclosed in one of the following three levels of the valuation hierarchy:

- Level 1: Quoted market prices in active markets for identical assets or liabilities.
- Level 2: Observable market-based inputs or unobservable inputs that are corroborated by market data.
- Level 3: Unobservable inputs that are not corroborated by market data.

##### *Assets and Liabilities Measured and Recorded at Fair Value on a Recurring Basis*

As of December 31, 2018 and 2017, the Company's financial assets and financial liabilities measured at fair value on a recurring basis were classified within the fair value hierarchy as follows:

December 31, (In thousands)	2018				2017 (As Restated, Note 2)			
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
<b>Assets</b>								
Money market funds . . . . .	\$—	—	\$ —	\$ —	\$53,199	\$ —	\$ —	\$ 53,199
Certificates of deposit . . . . .	—	—	—	—	—	4,153	—	4,153
Total assets measured and recorded at fair value . . . . .	<u>\$—</u>	<u>—</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$53,199</u>	<u>\$4,153</u>	<u>\$ —</u>	<u>\$ 57,352</u>
<b>Liabilities</b>								
6% Convertible Notes Due 2021 . .	\$—	—	\$ 57,918	\$ 57,918	\$ —	\$ —	\$ —	\$ —
Embedded derivatives in connection with the issuance of debt and equity instruments . . .	—	—	—	—	—	—	723	723
Freestanding derivative instruments in connection with the issuance of equity instruments . . . . .	—	—	42,796	42,796	—	—	115,774	115,774
Total liabilities measured and recorded at fair value . . . . .	<u>\$—</u>	<u>\$—</u>	<u>\$100,714</u>	<u>\$100,714</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$116,497</u>	<u>\$116,497</u>

There were no transfers between the levels during 2018 or 2017.

The Company's assessment of the significance of a particular input to the fair value measurement in its entirety requires management to make judgements and consider factors specific to the asset or liability. The fair values of money market funds and certificates of deposit are based on fair values of identical assets. The method of determining the fair value of compound embedded derivative liabilities is described subsequently in this note. Market risk associated with compound embedded derivative liabilities relates to the potential reduction in fair value and negative impact to future earnings from a decrease in interest rates.

At December 31, 2018 and December 31, 2017, the carrying value of certain financial instruments, such as cash equivalents, accounts receivable, prepaid expenses and other current assets, accounts payable and other current accrued liabilities, approximate fair value due to their relatively short maturities and low market interest rates, if applicable.

Changes in fair value of derivative liabilities are presented as gains or losses in the consolidated statements of operations in the line captioned "Gain (loss) from change in fair value of derivative instruments".

Changes in the fair value of debt that is accounted for at fair value are presented as gains or losses in the consolidated statements of operations in the line captioned "Gain (loss) from change in fair value of debt".

#### *6% Convertible Notes Due 2021*

The Company issued \$60.0 million of 6% Convertible Notes Due 2021 on December 10, 2018 (see Note 5, "Debt" and "Subsequent Events" for details) and elected the fair value option of accounting for this instrument. At December 31, 2018, outstanding principal was \$60.0 million, and the fair value was \$57.9 million, which was measured using a binomial lattice model and assuming a 25.2% discount yield, 45% equity volatility, 50%/50% probability of principal repayment in cash/stock, and 5% probability of change in control. The Company assumed that if a change of control event were to occur, it would occur at the end of the calendar year. See Note 5, "Debt" and Part II, Item 8, "Subsequent Events" for further information related to this debt instrument. For the year ended December 31, 2018, the Company recorded a \$2.1 million gain from change in fair value of debt in connection with the 6% Convertible Notes Due 2021, as follows:

<b>In thousands</b>	
Fair value at issuance on December 10, 2018 . . . . .	\$60,000
Change in fair value . . . . .	<u>(2,082)</u>
Fair value at December 31, 2018 . . . . .	<u>\$57,918</u>

#### *Derivative Instruments*

Derivative instruments measured at fair value on a recurring basis as of December 31, 2018 and 2017 are as follows:

<b>December 31, (In thousands)</b>	<b>2018</b>	<b>2017</b>
		<b>(As Restated, Note 2)</b>
Equity-related derivative liabilities . . . . .	\$41,272	\$108,887
Debt-related derivative liabilities . . . . .	<u>1,524</u>	<u>7,610</u>
Total derivative liabilities . . . . .	<u>\$42,796</u>	<u>\$116,497</u>

The following table provides a reconciliation of the beginning and ending liability balances associated with derivative liabilities — either freestanding or compound embedded — measured at fair value using significant unobservable inputs (Level 3):

<u>(in thousands)</u>	<u>2018</u>	<u>2017</u> <u>(As Restated, Note 2)</u>
Balance at January 1 . . . . .	\$ 116,497	\$ 4,135
Additions . . . . .	4,089	133,517
Loss from change in fair value of derivative liabilities . . . . .	30,880	48,852
Derecognition to additional paid-in capital upon conversion or extinguishment . . . . .	<u>(108,670)</u>	<u>(70,007)</u>
Balance at December 31 . . . . .	<u>\$ 42,796</u>	<u>\$116,497</u>

The liabilities associated with freestanding and compound embedded derivatives represent the fair value of the equity conversion options, make-whole provisions, down round conversion price or conversion rate adjustment provisions and antidilution provisions in some of the Company’s debt, preferred stock, cash warrants and antidilution warrants; see Note 5, “Debt”, and Note 7, “Stockholders’ Deficit”. There is no current observable market for these types of derivatives and, as such, the Company determined the fair value of the freestanding or embedded derivatives using the Monte Carlo or binomial lattice models.

A binomial lattice model was used to determine if a convertible note or share of convertible preferred stock would be converted, called or held at each decision point. Within the lattice model, the following assumptions are made: (i) the convertible note or share of convertible preferred stock will be converted early if the conversion value is greater than the holding value and (ii) the convertible note or share of convertible preferred stock will be called if the holding value is greater than both (a) redemption price and (b) the conversion value at the time. If the convertible note or share of convertible preferred stock is called, the holder will maximize their value by finding the optimal decision between (1) redeeming at the redemption price and (2) converting the convertible note or share of convertible preferred stock. Using this lattice method, the Company valued the embedded and freestanding derivatives using the “with-and-without method”, where the fair value of each related convertible note or share of convertible preferred stock including the embedded derivative is defined as the “with”, and the fair value of the convertible note excluding the embedded derivatives is defined as the “without”. This method estimates the fair value of the embedded and freestanding derivatives by looking at the difference in the values between each convertible note or share of convertible preferred stock with the embedded and freestanding derivatives and the fair value of such convertible note or share of convertible preferred stock without the embedded and freestanding derivatives. The lattice model uses the stock price, conversion price, maturity date, risk-free interest rate, estimated stock volatility and estimated credit spread. The Company marks the compound embedded derivatives to market due to the conversion price not being indexed to the Company’s own stock.

The Company used a Monte Carlo simulation valuation model to determine the fair value of the May 2017 and August 2017 Cash and Dilution Warrants. Monte Carlo simulation combines a random number generator based on a probability distribution and additional inputs of volatility, time to expiration to generate a stock price and other uncertainties. The generated stock price at the time of expiration is then used to calculate the value of the option. The model then calculates results tens of thousands of times, each time using a different set of random values from the probability functions. The resulting Monte Carlo simulation valuation is based on the average of all the calculated results.

The market-based assumptions and estimates used in valuing the compound embedded and freestanding derivative liabilities include amounts in the following ranges/amounts:

December 31,	2018	2017
Risk-free interest rate . . . . .	2.5% – 3.0%	1.7% – 2.4%
Risk-adjusted discount yield . . . . .	17.2% – 27.3%	18.4% – 28.5%
Stock price volatility . . . . .	45.0% – 85.0%	45.0% – 80.0%
Probability of change in control . . . . .	0.0%	5.0%
Stock price . . . . .	\$3.34	\$3.75
Credit spread . . . . .	14.6% – 24.9%	16.6% – 26.7%
Estimated conversion dates . . . . .	2019 – 2025	2018 – 2025

Changes in valuation assumptions can have a significant impact on the valuation of the embedded and freestanding derivative liabilities and debt that the Company elects to account for at fair value. For example, all other things being equal, a decrease/increase in the Company’s stock price, probability of change of control, credit spread, term to maturity/conversion or stock price volatility decreases/increases the valuation of the liabilities, whereas a decrease/increase in risk adjusted yields or risk-free interest rates increases/decreases the valuation of the liabilities. Certain of the convertible notes, shares of convertible preferred stock and warrants also include conversion or exercise price adjustment features and, for example, certain issuances of common stock by the Company at prices lower than the current conversion or exercise price result in a reduction of the conversion price of such notes or convertible preferred stock, or a reduction in the exercise price of, or an increase in the number of shares subject to, such warrants, which increases the value of the embedded and freestanding derivative liabilities and debt measured at fair value; see Note 5, “Debt” for details.

The Series A Preferred Stock issued in May 2017 and Series B Preferred Stock issued in May 2017 (see Note 7, “Stockholder’s Deficit”) included make-whole provisions, which are accounted for as embedded derivatives through the July 2017 Shareholder Approval date at which time the make-whole provision became settleable for a fixed number of common stock shares and ceased to be accounted for as a derivative liability. Cash and antidilution warrants, classified as freestanding financial instruments, were also issued in conjunction with the May 2017 Offering, August 2017 DSM Offering and August 2017 Vivo Offering and are classified as derivative liabilities. The total derivative liability recorded for the securities issued in connection with the May 2017 Offering, August 2017 DSM Offering and August 2017 Vivo Offering was \$113.1 million.

In June 2012, the Company entered into a cross-currency interest rate swap arrangement with Banco Pine with respect to the repayment of R\$22.0 million (approximately U.S. \$6.6 million based on the exchange rate as of December 31, 2017) of the Banco Pine Note. The swap arrangement exchanged the principal and interest payments under the Banco Pine Note (see Note 4, “Debt”) for alternative principal and interest payments that are subject to adjustment based on fluctuations in the foreign currency exchange rate between the U.S. dollar and Brazilian real. The swap had a fixed interest rate of 3.94%. Changes in the fair value of the swap were recognized in the consolidated statements of operations, in “Gain (loss) from change in fair value of derivative instruments”. As of December 31, 2017, the balances of the loan and the associated cross-currency interest rate swap were zero.

### ***Assets and Liabilities Recorded at Carrying Value***

#### ***Financial Assets and Liabilities***

The carrying amounts of certain financial instruments, such as cash equivalents, accounts receivable, accounts payable and accrued liabilities, approximate fair value due to their relatively short maturities and low market interest rates, if applicable. Loans payable, credit facilities and convertible notes are recorded at carrying value (except for the 6% Convertible Notes Due 2021, which are recorded at fair value), which is representative of fair value at the date of acquisition. For loans payable and credit facilities recorded at carrying value, the Company estimates fair value using observable market-based inputs (Level 2); for convertible notes, the Company estimates fair value based on rates currently offered for instruments with

similar maturities and terms (Level 3). The carrying amount (the total amount of net debt presented on the balance sheet) of the Company's debt at December 31, 2018, excluding the 6% Convertible Notes that the Company records at fair value, and at December 31, 2017, was \$151.7 million and \$165.4 million, respectively. The fair value of such debt at December 31, 2018 and at December 31, 2017 was \$149.3 million and \$156.9 million, respectively, and was determined by (i) discounting expected cash flows using current market discount rates estimated for certain of the debt instruments and (ii) using third-party fair value estimates for the remaining debt instruments.

***Assets and Liabilities Measured and Recorded at Fair Value on a Non-Recurring Basis***

On November 19, 2018, the Company amended its supply agreement with DSM, as discussed in Note 10, "Revenue Recognition" to secure production capacity at the Brotas facility in exchange for future cash payments totaling \$22.7 million, the issuance of 1,643,991 million shares common stock valued at \$6.1 million on the date of issuance and a further cash payment for the difference between the fair value of the common stock and \$7.3 million on March 29, 2019. In addition, the Company modified certain warrants held by DSM which resulted in the transfer of \$2.9 million of value to DSM and paid \$1.8 million to settle certain obligations to DSM related to the 2017 sale of the Brotas facility. The Company also entered into other transactions contemporaneously with the amended supply agreement as discussed in Note 11, "Related Party Transactions" and Note 16, "Subsequent Events". This series of transactions with DSM in November 2018 was accounted for as a combined transaction in which the Company determined and allocated the fair value of the consideration to each element. The fair value of the consideration transferred to DSM under the combined arrangement totaled \$33.3 million and was allocated as follows (in thousands):

<u>Element</u>	<u>Fair Value Allocation</u>
Manufacturing capacity reservation fee . . . . .	\$24,395
Legal settlement and consent waiver . . . . .	6,764
Working capital adjustment . . . . .	2,145
Total fair value of consideration transferred . . . . .	<u>\$33,304</u>

The fair value of these elements is based on Level 3 inputs, which considered the lowest level of input that is significant to the fair value measurement of these elements. To determine the fair value of the manufacturing capacity reservation fee, the Company used a discounted cash flow model under a cost savings valuation approach based on a competing manufacturing quote for similar capacity, location and timing. The Company used a discount rate of 22.5% and a tax rate of 0% to discount the gross cash flows. The fair value of the legal settlement for failure to obtain consent from DSM prior to executing the August 2018 Vivo Warrant transaction and was determined by calculating the difference between the fair values of the warrants held by Vivo prior to and after the August 2018 Vivo Warrant transaction using a combination of a Monte Carlo simulation and the Black-Scholes-Merton option pricing model. The fair value of the working capital adjustment was determined to equal the difference between the preliminary estimate for working capital upon closing the Brotas facility sale and the final working capital amounts transferred.

## 5. Debt

December 31, (In thousands)	2018				2017		
	Principal	Unamortized Debt (Discount) Premium	Change in Fair Value	Net	Principal	Unamortized Debt (Discount) Premium	Net
<i>Convertible notes payable</i>							
6% convertible notes due 2021 . . . . .	\$ 60,000	\$ —	\$(2,082)	\$ 57,918	\$ —	\$ —	\$ —
2015 Rule 144A convertible notes . . .	37,887	(2,413)	—	35,474	37,887	(9,458)	28,429
2014 Rule 144A convertible notes . . .	24,004	(867)	—	23,137	24,004	(3,170)	20,834
August 2013 financing convertible notes . . . . .	4,415	(70)	—	4,345	4,009	(2,126)	1,883
December 2017 convertible notes . . .	—	—	—	—	5,000	(25)	4,975
	<u>126,306</u>	<u>(3,350)</u>	<u>(2,082)</u>	<u>120,874</u>	<u>70,900</u>	<u>(14,779)</u>	<u>56,121</u>
<i>Related party convertible notes payable</i>							
2014 Rule 144A convertible notes . . .	24,705	(1,038)	—	23,667	24,705	(3,784)	20,921
August 2013 financing convertible notes . . . . .	—	—	—	—	21,711	897	22,608
R&D note . . . . .	—	—	—	—	3,700	(18)	3,682
	<u>24,705</u>	<u>(1,038)</u>	<u>—</u>	<u>23,667</u>	<u>50,116</u>	<u>(2,905)</u>	<u>47,211</u>
<i>Loans payable and credit facilities</i>							
GACP term loan facility . . . . .	36,000	(1,349)	—	34,651	—	—	—
Ginkgo note . . . . .	12,000	(4,047)	—	7,953	12,000	(4,862)	7,138
Other loans payable . . . . .	4,910	(1,047)	—	3,863	6,463	(1,277)	5,186
Senior secured loan facility . . . . .	—	—	—	—	28,566	(253)	28,313
Other credit facilities . . . . .	—	—	—	—	381	—	381
	<u>52,910</u>	<u>(6,443)</u>	<u>—</u>	<u>46,467</u>	<u>47,410</u>	<u>(6,392)</u>	<u>41,018</u>
<i>Related party loans payable</i>							
DSM note . . . . .	25,000	(6,311)	—	18,689	25,000	(8,039)	16,961
February 2016 private placement . . .	—	—	—	—	2,000	—	2,000
Other DSM loan . . . . .	—	—	—	—	393	—	393
	<u>25,000</u>	<u>(6,311)</u>	<u>—</u>	<u>18,689</u>	<u>27,393</u>	<u>(8,039)</u>	<u>19,354</u>
Total debt . . . . .	<u>\$228,921</u>	<u>\$(17,142)</u>	<u>\$(2,082)</u>	<u>209,697</u>	<u>\$195,819</u>	<u>\$(32,115)</u>	<u>163,704</u>
Less: current portion . . . . .				<u>(147,677)</u>			<u>(56,943)</u>
Long-term debt, net of current portion . . . . .				<u>\$ 62,020</u>			<u>\$106,761</u>

Future minimum payments under the debt agreements as of December 31, 2018 are as follows:

Years ending December 31 (In thousands)	Convertible Notes	Loans Payable and Credit Facilities	Related Party Convertible Notes	Related Party Loans Payable and Credit Facilities	Total
2019 . . . . .	\$ 134,368	\$ 10,219	\$ 25,508	\$ 2,500	\$ 172,595
2020 . . . . .	—	9,981	—	2,500	12,481
2021 . . . . .	—	34,740	—	27,521	62,261
2022 . . . . .	—	13,417	—	—	13,417
2023 . . . . .	—	367	—	—	367
Thereafter . . . . .	—	2,200	—	—	2,200
Total future minimum payments . . . . .	134,368	70,924	25,508	32,521	263,321
Less: amount representing interest <sup>(1)</sup> . . . . .	(7,368)	(18,014)	(803)	(7,521)	(33,706)
Less: future conversion of accrued interest to principal . . . . .	(694)	—	—	—	(694)
Present value of minimum debt payments . . . . .	126,306	52,910	24,705	25,000	228,921
Less: current portion of debt principal . . . . .	(126,306)	(3,829)	(24,705)	—	(154,840)
Noncurrent portion of debt principal . . . . .	<u>\$ —</u>	<u>\$ 49,081</u>	<u>\$ —</u>	<u>\$ 25,000</u>	<u>\$ 74,081</u>

(1) Excluding net debt discount of \$17.1 million that will be amortized to interest expense over the term of the debt.

***Convertible Notes Payable***

*6% Convertible Notes Due 2021*

On December 6, 2018, the Company entered into a securities purchase agreement to issue and sell \$60.0 million in aggregate principal amount of senior convertible notes (the 6% Convertible Notes Due 2021) that are convertible into shares of the Company's common stock. The securities purchase agreement prohibits the Company, subject to certain exceptions, from (i) disposing of any common stock or securities convertible into or exchangeable for shares of common stock during the period commencing on December 6, 2018 and continuing through the later of (A) the date 90 days after December 10, 2018 and (B) the date 30 days after the Registration Statement (as defined below) is declared effective and (ii) effecting or entering into an agreement to effect any issuance involving a variable rate transaction for so long as the 6% Convertible Notes Due 2021 remain outstanding.

The closing of the issuance and sale of the 6% Convertible Notes Due 2021 occurred on December 10, 2018, for net proceeds, after deducting offering expenses payable by the Company and placement agent and advisory fees, of \$56.2 million.

The 6% Convertible Notes Due 2021 are general unsecured obligations of the Company. Unless earlier converted or redeemed, the 6% Convertible Notes Due 2021 will mature on the third anniversary of issuance, subject to the rights of the holders to extend the maturity date in certain circumstances. The 6% Convertible Notes Due 2021 are convertible from time to time, at the election of the holders, into shares of common stock at an initial conversion price of \$6.32 per share. The conversion price is subject to adjustment in the event of any stock split, reverse stock split, recapitalization, reorganization or similar transaction. The Company has the option, upon prior notice to the holders, to settle any conversion of the 6% Convertible Notes Due 2021 in cash.

The 6% Convertible Notes Due 2021 are payable in equal monthly installments beginning April 1, 2019 (each, an Installment Date), in either cash at 108% of such installment amount or, at the Company's option, subject to the satisfaction of certain equity conditions (the Equity Conditions), in shares of common stock

at a discount to the then-current market price, subject to a price floor (the Installment Conversion Price). The holders have the right, upon notice to the Company, to defer all or any portion of any installment amount to a future Installment Date. In addition, if the Company elects to pay any installments in shares of common stock, the holders of the 6% Convertible Notes Due 2021 have the right to accelerate amounts outstanding under their 6% Convertible Notes Due 2021 during such month up to an aggregate of three times the relevant installment amount.

The 6% Convertible Notes Due 2021 bear interest at a rate of 6% per annum, payable quarterly until the first Installment Date, and then at each Installment Date thereafter. Interest on the 6% Convertible Notes Due 2021 may be paid in either cash or, at the Company's option, subject to the satisfaction of the Equity Conditions, shares of common stock at the Installment Conversion Price. The Company elected to make the interest payment due January 1, 2019 in cash.

The 6% Convertible Notes Due 2021 contain customary terms and covenants, including (i) a restriction on the Company's ability to incur additional indebtedness, (ii) certain events of default, after which the holders may require the Company to redeem all or any portion of their 6% Convertible Notes Due 2021 in cash at a price equal to the greater of (A) 125% of the amount being redeemed and (B) the intrinsic value of the shares of common stock underlying the amount being redeemed, and (iii) certain other events, after which the holders may convert all or any portion of the 6% Convertible Notes Due 2021 at a discount to the Installment Conversion Price.

In the event of a Fundamental Transaction (as defined in the 6% Convertible Notes Due 2021), holders of the 6% Convertible Notes Due 2021 may require the Company to redeem all or any portion of their 6% Convertible Notes Due 2021 at a price equal to the greater of (i) 125% of the amount being redeemed and (ii) a premium to the intrinsic value of the shares of Common Stock underlying the amount being redeemed.

Notwithstanding the foregoing, the holders will not have the right to convert any portion of a 6% Convertible Note Due 2021, and the Company will not have the option to pay any amount in shares of common stock, if (a) the holder, together with its affiliates, would beneficially own in excess of 4.99% (or such other percentage as determined by the holder and notified to the Company in writing, not to exceed 9.99%, provided that any increase of such percentage will not be effective until 61 days after notice thereof) of the number of shares of common stock outstanding immediately after giving effect to such conversion or payment, as applicable (the Ownership Limitation), or (b) the aggregate number of shares issued with respect to the 6% Convertible Notes Due 2021 (and any other transaction aggregated for such purpose) after giving effect to such conversion or payment, as applicable, would exceed 15,271,047 shares of common stock (the Exchange Cap), unless the Company has obtained prior stockholder approval to issue shares in excess of the Exchange Cap. In the event that (i) the Company is prohibited from issuing any shares of common stock under the 6% Convertible Notes Due 2021 as a result of the Ownership Limitation (other than in connection with a conversion of 6% Convertible Notes Due 2021), such shares shall be held in abeyance (and the related principal amount of the 6% Convertible Notes Due 2021 reinstated) until the holder shall notify the Company and elect to receive such shares without exceeding the Ownership Limitation, and (ii) the Company is prohibited from issuing any shares of common stock under the 6% Convertible Notes Due 2021 as a result of the Exchange Cap, the Company will pay cash in lieu of any shares that would otherwise be deliverable in excess of the Exchange Cap.

In connection with the offering of the 6% Convertible Notes Due 2021, the Company entered into a registration rights agreement, dated December 10, 2018, with the purchasers of the 6% Convertible Notes Due 2021, pursuant to which the Company agreed to file a registration statement (the Registration Statement) with the Securities and Exchange Commission (the SEC) registering the resale of all of the shares of common stock issuable pursuant to the terms of the 6% Convertible Notes Due 2021 (the Registrable Securities) under the Securities Act of 1933, as amended (the Securities Act), within 30 days following December 10, 2018, and to have the Registration Statement declared effective by the SEC by the date that is 60 days after December 10, 2018. In the event that the Registration Statement is not filed or declared effective within the foregoing time frames, or if thereafter, subject to certain exceptions, the Registration Statement is not effective for any reason or the prospectus contained therein is not available for use by the holders, Company shall pay to each holder an amount in cash equal to 2% of such holder's



original principal amount of Notes on the date of such failure and thereafter on every 30 day anniversary thereof until such failure is cured or no longer prevents the holders from freely disposing of their Registrable Securities. The Company filed the Registration Statement on January 8, 2019, and it went effective on February 7, 2019.

The Company has elected to account for the 6% Convertible Notes Due 2021 at fair value pursuant to U.S. GAAP, as of the issuance date. Management believes that the fair value option better reflects the underlying economics of the 6% Convertible Notes Due 2021, which contain multiple embedded derivatives. Under the fair value election, changes in fair value will be reported in the consolidated statements of operations as “Gain (loss) from change in fair value of debt” in each reporting period subsequent to the issuance of the 6% Convertible Notes Due 2021. For the year ended December 31, 2018, the Company recorded a gain of \$2.1 million, which is shown as Change in Fair Value in the table at the beginning of this Note 4. See Note 4, “Fair Value Measurement” for information about the assumptions that the Company used to measure the fair value of the 6% Convertible Notes Due 2021.

In May, June and July 2019, the Company exchanged the 6% Convertible Notes Due 2021 for new senior convertible notes and warrants to purchase common stock. See Note 16, “Subsequent Events” for additional information.

#### *2015 Rule 144A Convertible Notes*

In October 2015, the Company sold \$57.6 million aggregate principal amount of 9.50% convertible senior notes due 2019 (the 2015 Rule 144A Convertible Notes) to certain qualified institutional buyers in a private placement. Net proceeds from the offering were \$54.4 million after payment of offering expenses and placement agent fees, which together are treated as a debt discount and are being amortized over the remaining loan term using the effective interest method. The Company used \$18.3 million of the net proceeds to repurchase \$22.9 million aggregate principal amount of outstanding 2014 Rule 144A Convertible Notes as discussed below. The 2015 Rule 144A Convertible Notes bear interest at a rate of 9.50% per year, payable semiannually in arrears on April 15 and October 15 of each year. Interest on the 2015 Rule 144A Convertible Notes is payable, at the Company’s option, entirely in cash or entirely in common stock valued at 92.5% of a market-based price. The Company elected to make the April 15, 2016 and 2017 and October 15, 2018 interest payments in shares of common stock and the October 15, 2016 and 2017 and April 15, 2018 interest payments in cash. The 2015 Rule 144A Convertible Notes matured on April 15, 2019. See Note 16, “Subsequent Events”.

The 2015 Rule 144A Convertible Notes are convertible into shares of the Company’s common stock at a conversion rate of 61.7246 shares per \$1,000 principal amount of 2015 Rule 144A Convertible Notes (which conversion rate is subject to adjustment in certain circumstances), representing an effective conversion price of approximately \$16.20 per share as of December 31, 2018. If converted prior to maturity, noteholders are entitled to receive a payment (the Early Conversion Payment) equal to the present value of the remaining scheduled payments of interest on the 2015 Rule 144A Convertible Notes being converted through April 15, 2019, computed using a discount rate of 0.75%. The Company may make the Early Conversion Payment, at its election, either in cash or, subject to certain conditions, in common stock valued at 92.5% of a market-based price. Through December 31, 2018, the Company has elected to make each Early Conversion Payment in shares of common stock.

In January 2017, the Company issued an additional \$19.1 million in aggregate principal amount of 2015 Rule 144A Convertible Notes (the Additional 2015 Rule 144A Convertible Notes) in exchange for the cancellation of \$15.3 million in aggregate principal amount of other outstanding convertible promissory notes of the Company, with the same terms as the 2015 Rule 144A Convertible Notes; provided, that the aggregate number of shares issued with respect to the Additional 2015 Rule 144A Convertible Notes (and any other transaction aggregated for such purpose) cannot exceed 3,652,935 shares of common stock without prior stockholder approval. The exchange was accounted for as an extinguishment of debt, resulting in a \$0.1 million gain in the year ended December 31, 2017.

In May 2017, the Company exchanged \$3.7 million in aggregate principal amount of 2015 Rule 144A Convertible Notes for shares of its Series B 17.38% Convertible Preferred Stock and warrants to purchase common stock, as described in more detail in Note 7, “Stockholders’ Deficit”. The exchange was accounted for as an extinguishment of debt, resulting in a \$2.0 million loss in the year ended December 31, 2017.

On April 16, 2019, the Company repaid the 2015 Rule 144A Convertible Notes in full in cash. See Note 16, “Subsequent Events”.

#### *2014 Rule 144A Convertible Notes*

In May 2014, the Company sold \$75.0 million in aggregate principal amount of 6.50% Convertible Senior Notes due 2019 (the 2014 Rule 144A Convertible Notes) to qualified institutional buyers in a private placement. The net proceeds from the offering were \$72.0 million after payment of initial purchaser discounts and offering expenses, which together are treated as a debt discount and are being amortized over the remaining loan term. The Company used \$9.7 million of the net proceeds to repay convertible notes previously issued to an affiliate of Total S.A. (together with its affiliates, Total), representing the amount of 2014 Rule 144A Convertible Notes purchased by Total. Certain of the Company’s affiliated entities (including Total) purchased \$24.7 million in aggregate principal amount of 2014 Rule 144A Convertible Notes. The 2014 Rule 144A Convertible Notes bear interest at an annual rate of 6.5%, payable semiannually in arrears on May 15 and November 15 of each year in cash. The 2014 Rule 144A Convertible Notes mature on May 15, 2019, unless earlier converted or repurchased.

The 2014 Rule 144A Convertible Notes are convertible into shares of the Company’s common stock at a conversion rate of 17.8073 shares per \$1,000 principal amount of 2014 Rule 144A Convertible Notes (which conversion rate is subject to adjustment in certain circumstances), representing an effective conversion price of approximately \$56.16 per share as of December 31, 2018.

In May 2017, the Company exchanged \$3.4 million in aggregate principal amount of 2014 Rule 144A Convertible Notes for shares of its Series B 17.38% Convertible Preferred Stock and warrants to purchase common stock, as described in more detail in Note 7, “Stockholders’ Deficit”. The exchange was accounted for as an extinguishment, resulting in a \$1.8 million loss for the year ended December 31, 2017.

In May 2019, the Company exchanged a portion of the 2014 Rule 144A Convertible Notes, representing \$38.2 million aggregate principal amount of 2014 Rule 144A Convertible Notes, for shares of common stock, warrants to purchase common stock and a new senior convertible note (see Note 16, “Subsequent Events” for additional information) and repaid the remaining portion of the 2014 Rule 144A Convertible Notes in cash at maturity.

#### *August 2013 Financing Convertible Notes*

In August 2013, the Company entered into a Securities Purchase Agreement (the August 2013 SPA) with Total and Temasek to sell up to \$73.0 million in convertible notes in private placements (the August 2013 Financing or the Tranche Notes). The August 2013 SPA provided for the August 2013 Financing to be divided into two tranches, each with differing closing conditions. The Tranche I Notes were due sixty months from the date of issuance (October 16, 2018). Interest accrued on the Tranche I Notes at 5% per six months, compounded semiannually, and was payable in kind by adding to the principal or in cash. Through maturity, the Company elected to pay interest on the Tranche I Notes in kind. The Tranche I Notes totaling \$15.2 million of principal and accrued interest matured and were repaid in full by conversion into shares of common stock on October 16, 2018 pursuant to the Maturity Treatment Agreement terms (see “Related Party Convertible Notes Payable - August 2013 Financing Convertible Notes” below). Upon conversion of the Tranche I Notes, the Company recognized a \$10.9 million loss upon extinguishment of debt in 2018. See the “Maturity Treatment Agreement” section below for details of the impact of that agreement on the Tranche Notes.

The Tranche II Notes are due sixty months from the date of issuance (January 15, 2019). Interest accrues on the Tranche II Notes at 10% per annum, compounded annually, and is payable in kind by adding to the principal or in cash. Through December 31, 2018, the Company has elected to repay interest on the Tranche II Notes in kind. On November 8, 2018, the Company repaid in full the Tranche II Notes held by Total totaling \$9.8 million of principal and accrued interest by conversion into shares of common stock pursuant to the Maturity Treatment Agreement terms (see “Related Party Convertible Notes Payable — August 2013 Financing Convertible Notes” below). Upon conversion of the Tranche II Notes held by Total, the Company recognized a \$6.5 million loss upon extinguishment of debt.

In August 2018, in connection with certain amendments to the August 2017 Vivo Cash Warrants (see Note 7, “Stockholders’ Deficit”), the conversion price of the Tranche Notes I and II was reduced from \$5.2977 per share to \$4.40 per share. As of December 31, 2018, the conversion price of the remaining Tranche II Notes held by Wolverine Flagship Fund Trading Limited (Wolverine) is \$4.40 per share (which conversion price is subject to adjustment in certain circumstances, including certain price-based anti-dilution adjustments). The August 2013 SPA and the Tranche Notes contain customary terms, covenants and restrictions, including a limit on the Company’s debt, subject to certain exceptions and waivers, of the greater of \$200 million or 50% of its consolidated total assets and the Company’s secured debt of the greater of \$125 million or 30% of its consolidated total assets. The August 2013 SPA also requires the Company 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 in a series of related transactions in an amount greater than \$20.0 million, in each case while any Tranche Notes are outstanding. In addition, the Tranche Notes contain certain events of default after which the Tranche Notes may become due and payable immediately.

On January 14, 2019, Wolverine agreed to waive payment of the Tranche II Note held by Wolverine at maturity until July 15, 2019 in exchange for a cash waiver fee, payable on or prior to July 15, 2019, of \$0.6 million. On July 2, 2019, the Company and Wolverine entered into an exchange agreement whereby the parties agreed to extinguish the Tranche II Note held by Wolverine in exchange for 1,767,632 shares of common stock and a warrant to purchase 1,080,000 shares of common stock. See Note 16, “Subsequent Events” for additional information.

#### *Maturity Treatment Agreement*

In July 2015, the Company entered into an Exchange Agreement (the 2015 Exchange Agreement) with Total and Temasek pursuant to which Temasek exchanged \$71.0 million in principal amount of outstanding Tranche Notes and Total exchanged \$70.0 million in principal amount of outstanding convertible notes for shares of the Company’s common stock at a price of \$34.50 per share (2015 Exchange). At the closing of the 2015 Exchange, the Company, Total and Temasek also entered into a Maturity Treatment Agreement dated July 29, 2015, pursuant to which Total and Temasek agreed to convert any Tranche Notes or 2014 144A Notes held by them that were not canceled in the 2015 Exchange (Remaining Notes) into shares of the Company’s common stock in accordance with the terms of such Remaining Notes at or prior to maturity, provided that certain events of default had not occurred with respect to the applicable Remaining Notes. In May 2017, the Company entered into separate letter agreements with each of Total and Temasek, pursuant to which the Company agreed that the Remaining Notes consisting of 2014 144A Notes held by Total (\$9.7 million in principal amount as of December 31, 2017) and Temasek (\$10.0 million in principal amount as of December 31, 2017) would no longer be subject to mandatory conversion at or prior to the maturity of such Remaining Notes. Accordingly, the Company will be required to pay any portion of such Remaining Notes that remain outstanding at maturity in cash in accordance with the terms of such Remaining Notes. As of December 31, 2017, after giving effect to such letter agreements, Temasek did not hold any Remaining Notes and Total held \$21.8 million in principal amount of Remaining Notes (consisting of Tranche Notes), which Remaining Notes were converted to common stock in October and November 2018 pursuant to the terms of the Maturity Treatment Agreement (see below under “Related Party Convertible Notes Payable — August 2013 Financing Convertible Notes” for more information). The 2015 Exchange Agreement contains customary terms, covenants and restrictions, including a limit on the Company’s debt of the greater of \$200 million or 50% of its consolidated total assets and the Company’s secured debt of the greater of \$125 million or 30% of its consolidated total assets, subject to certain exceptions.

#### *December 2017 Convertible Note*

In December 2017, the Company issued and sold a convertible note under an April 2017 securities purchase agreement in the principal amount of \$5.0 million with a maturity date of June 1, 2018, for proceeds to the Company of \$5.0 million. The Company identified certain embedded feature that required bifurcation, but the fair value of these derivative features was \$0, due primarily to the short-term maturity of the note and a significant out of the money conversion price at issuance and through the maturity date. The Company elected to pay each installment in cash, and the note was repaid in full in May 2018.

### ***Related Party Convertible Notes Payable***

#### *August 2013 Financing Convertible Notes*

Certain of the August 2013 Financing Convertible Notes were held by related parties; see Note 11, “Related Party Transactions” for details.

On October 16, 2018, the Tranche I Notes held by Total totaling \$15.2 million of principal and accrued interest reached maturity and were converted into 3,448,821 shares of common stock. Upon conversion of the Tranche I Notes, the Company recognized a \$10.9 million loss upon extinguishment of debt.

On November 8, 2018, Total converted its Tranche II Notes totaling \$9.8 million of principal and accrued interest, which were scheduled to mature on January 15, 2019, into shares of common stock. In connection with such conversion, the Company agreed to pay Total future interest on the Tranche II Notes being converted up to, but excluding, the maturity date for such notes, which interest was converted by Total into common stock at the conversion price for the Tranche II Notes. As a result of such conversion, the Tranche II Notes held by Total converted into 2,226,105 shares of common stock. Upon conversion of the Tranche II Notes held by Total, the Company recognized a \$6.5 million loss upon extinguishment of debt.

#### *2014 Rule 144A Convertible Notes*

Certain of the 2014 Rule 144A Convertible Notes are held by related parties. See Note 11, “Related Party Transactions” for details.

#### *R&D Note*

In March 2016, as a result of the restructuring of the Company’s fuels joint venture with Total, Total Amyris BioSolutions B.V., the Company issued to Total an unsecured convertible note (the R&D Note) in the principal amount of \$3.7 million, representing the remaining portion of the \$105.0 million convertible note facility between the Company and Total initially established in 2012. In March and May 2018, the Company and Total amended the R&D Note to extend the maturity to May 31, 2018 and July 2, 2018, respectively, with accrued and unpaid interest payable on March 31, 2018, May 31, 2018 and July 2, 2018. On July 2, 2018, the Company repaid the R&D Note in full.

### ***Loans Payable and Credit Facilities***

#### *GACP Term Loan Facility*

On June 29, 2018, the Company, certain of the Company’s subsidiaries and GACP Finance Co., LLC (GACP) entered into a Loan and Security Agreement (the LSA) to borrow a \$36.0 million secured term loan (the GACP Term Loan Facility). The LSA also provides for an incremental secured term loan facility in an aggregate principal amount of up to \$35.0 million (the Incremental GACP Term Loan Facility and, together with the GACP Term Loan Facility, the GACP Term Loan Facilities), subject to certain conditions and approvals, to fund the construction of a custom-built manufacturing facility in Brazil. The majority of the net proceeds from the GACP Term Loan Facility were used to repay all amounts outstanding under the Senior Secured Loan Facility between the Company and Stegodon described below. The remaining net proceeds were used on July 2, 2018 to repay amounts outstanding under the R&D Note at maturity, as described above.

Loans under the GACP Term Loan Facilities have a maturity date of July 1, 2021; provided, that if the Company has not (i) met certain financial conditions on or prior to January 7, 2019 or (ii) refinanced the 2015 Rule 144A Convertible Notes and 2014 Rule 144A Convertible Notes with indebtedness that has a maturity date which is later than July 1, 2021 or converted such notes into equity prior to January 12, 2019, then the maturity date will be January 12, 2019. See Note 16, “Subsequent Events” for additional information about the waiver of this provision. The GACP Term Loan Facilities will amortize beginning on July 1, 2019 in quarterly installments equal to 2.5% of the original loan amounts, with the remaining principal balance payable on the maturity date. Loans under the GACP Term Loan Facilities initially accrued interest at a rate per annum equal to the sum of (i) the greater of (A) the U.S. prime rate as reported in the Wall Street Journal and (B) 4.0%, plus (ii) 6.25%, payable monthly. The GACP Term Loan

Facilities are guaranteed by the subsidiaries of the Company party to the LSA and collateralized by first-priority liens on substantially all the Company's and such subsidiaries' assets, including intellectual property, subject to certain exceptions. The LSA includes customary terms, covenants and restrictions, including mandatory prepayments upon the occurrence of certain events, including asset sales, casualty events, incurrence of additional indebtedness and borrowing base deficiencies, subject to certain exceptions and reinvestment rights. The LSA contains certain financial covenants that include quarterly minimum revenues, minimum liquidity amounts and a minimum asset coverage ratio.

The Company paid origination fees at closing equal to 4%, or \$1.4 million, of the funded amount of the GACP Term Loan Facility and other closing costs totaling \$0.2 million, plus an agency fee of \$25,000 per quarter during the term of the GACP Term Loan Facilities. The \$1.6 million of issuance costs will be amortized using the effective interest method over the expected 3-year loan term.

In November 2018, the Company and GACP amended the LSA to reduce the minimum revenue requirement for the two fiscal quarters ending December 31, 2018 in exchange for an increase in optional prepayment fees, an increase in the minimum liquidity amount and an increase in the base interest rate per annum, from the sum of (i) the greater of (A) the prime rate as reported in the Wall Street Journal or (B) 4.0% plus (ii) 6.25% to the sum of (i) the greater of (A) the prime rate as reported in the Wall Street Journal or (B) 4.0% plus (ii) 8.25%. In December 2018, the Company and GACP further amended the LSA to exclude certain intellectual property licensed to DSM from the loan collateral (see Note 10, "Revenue Recognition" for more information) in exchange for a further increase in the base interest rate per annum, from the sum of (i) the greater of (A) the prime rate as reported in the Wall Street Journal or (B) 4.0% plus (ii) 8.25% to the sum of (i) the greater of (A) the prime rate as reported in the Wall Street Journal or (B) 4.75% plus (ii) 9.00%.

In April 2019, (i) GACP provided a waiver to the Company for breaches of all covenant violations under the GACP loan and security agreement (LSA) occurring prior to, as of and after December 31, 2018 through April 8, 2019, and (ii) GACP sold and assigned the loans under the LSA and all documents and assets related thereto to Foris Ventures, LLC (Foris). Subsequently, Foris provided a waiver to the Company for breaches of certain covenants under the LSA through June 30, 2020 and amended the financial covenants under the LSA to provide more favorable compliance terms and conditions. See Note 16, "Subsequent Events" for additional information.

#### *Senior Secured Loan Facility*

In March 2014, the Company entered into a Loan and Security Agreement (the LSA) with Hercules Technology Growth Capital, Inc. to make available to the Company a secured loan facility (the Senior Secured Loan Facility) in an initial aggregate principal amount of up to \$25.0 million. The LSA was subsequently amended in June 2014, March 2015 and November 2015 to (i) extend additional credit facilities to the Company in an aggregate amount of up to \$31.0 million, of which \$16.0 million was drawn by the Company, (ii) extend the maturity date of the loans, and (iii) remove, add and/or modify certain covenants and agreements under the LSA.

In June 2016, Hercules transferred and assigned its rights and obligations under the Senior Secured Loan Facility to Stegodon Corporation (Stegodon), an affiliate of Ginkgo Bioworks, Inc. (Ginkgo).

In March and May 2018, the Company and Stegodon amended the LSA to extend the date for a \$5.5 million principal payment to May 31, 2018 and July 2, 2018, respectively. Under the amendments, the interest rate from April 1, 2018 through the date of such \$5.5 million principal payment would be the previously agreed interest rate plus 5.0%.

On June 29, 2018, the Company repaid the Senior Secured Loan Facility in full.

#### *Ginkgo Note*

In November 2017, the Company issued an unsecured promissory note in the principal amount of \$12.0 million to Ginkgo (the November 2017 Ginkgo Note) in connection with the termination of the Ginkgo Collaboration Agreement and the execution of a new partnership agreement (the Ginkgo Partnership Agreement), which is described in Note 10, "Revenue Recognition". The November 2017

Ginkgo Note bears interest at 10.5% per annum, payable monthly, and has a maturity date of October 19, 2022. The November 2017 Ginkgo Note may be prepaid in full without penalty or premium at any time, provided that certain payments have been made under the Company's partnership agreement with Ginkgo. The November 2017 Ginkgo Note also contains customary terms, covenants and restrictions, including certain events of default after which the note may become due and payable immediately. The Company recorded the \$7.0 million present value of the November 2017 Ginkgo Note as a note payable liability, and the remaining \$5.0 million was recorded as a debt discount which is being accreted to interest expense over the loan term using the effective interest method. Also, the Company concluded that while no cash was received from Ginkgo under the November 2017 Ginkgo Note, the transaction represents consideration payable to a former customer and the present value of the note payable obligation should be recorded as a reduction of cumulative revenue recognized to date from Ginkgo in the period the November 2017 Ginkgo Note was executed. As a result, the Company recorded a \$7.0 million reduction of license revenues as of December 31, 2017. See Note 10, "Revenue Recognition" for additional information.

#### *Other Loans Payable*

*Nikko Note:* In December 2016, in connection with the Company's formation of its cosmetics joint venture (the Aprinnova JV) with Nikko Chemicals Co., Ltd. (Nikko) made a loan to the Company in the principal amount of \$3.9 million and the Company issued a promissory note (the Nikko Note) to Nikko in an equal principal amount. The proceeds of the Nikko Note were used to satisfy the Company's remaining liabilities related to the Company's purchase of a manufacturing facility in Leland, North Carolina and related assets in December 2016, including liabilities under a promissory note in the principal amount of \$3.5 million issued in connection therewith. The Nikko Note (i) bears interest at 5% per year, (ii) has a term of 13 years, (iii) is payable in equal monthly installments of principal and interest beginning on January 1, 2017 and (iv) is secured by a first-priority lien on 10% of the Aprinnova JV interests owned by the Company. In addition, (i) the Company repaid \$400,000 of the Nikko Note in equal monthly installments of \$100,000 as required on January 1, 2017, February 1, 2017, March 1, 2017 and April 1, 2017 and (ii) the Company is required to repay the Nikko Note with any profits distributed to the Company by the Aprinnova JV, beginning with the distributions for the fourth fiscal year of the Aprinnova JV, until the Nikko Note is fully repaid. The Nikko Note may be prepaid in full or in part at any time without penalty or premium. The Nikko Note contains customary terms and provisions, including certain events of default after which the Nikko Note may become due and payable immediately.

*Aprinnova Working Capital Loans:* In February 2017, in connection with the formation of the Aprinnova JV in December 2016, Nikko made a working capital loan to the Aprinnova JV in the principal amount of \$1.5 million and received a promissory note from the Aprinnova JV in an equal amount (the First Aprinnova Note). The First Aprinnova Note was repayable in \$375,000 installments plus accrued interest on May 1, 2017, August 1, 2017, November 1, 2017 and February 1, 2018. The First Aprinnova Note was fully repaid in January 2018. In August 2017, Nikko made a second working capital loan to the Aprinnova JV in the principal amount of \$1.5 million and received a promissory note from the Aprinnova JV in an equal amount (the Second Aprinnova Note). The Second Aprinnova Note is payable in full on August 1, 2019, with interest payable quarterly. Both notes bear interest at 2.75% per annum. Effective July 31, 2019, the Company and Nikko agreed to extend the term of the Second Aprinnova Note to August 1, 2020. See Note 16, "Subsequent Events".

#### *Related Party Loans Payable*

##### *DSM Note*

In December 2017, the Company and DSM entered into a credit agreement (the DSM Credit Agreement) to make available to the Company an unsecured credit facility of \$25.0 million. On December 28, 2017, the Company borrowed \$25.0 million under the DSM Credit Agreement, representing the entire amount available thereunder, and issued a promissory note to DSM in an equal principal amount (the DSM Note). The Company used the proceeds of the amounts borrowed under the DSM Credit Agreement to repay all outstanding principal under a promissory note in the principal amount of \$25 million issued to Guanfu Holding Co., Ltd. in December 2016 (the Guanfu Note). Given multiple elements in the arrangements with DSM, the Company fair valued the DSM Note to determine the

arrangement consideration that should be allocated to the DSM Note. The fair value of the DSM Note was discounted using a Company specific weighted average cost of capital rate that resulted in a debt discount of \$8.0 million. The debt discount is being amortized over the loan term using the effective interest method.

The DSM Note (i) is an unsecured obligation of the Company, (ii) matures on December 31, 2021 and (iii) accrues interest from and including December 28, 2017 at 10% per annum, payable quarterly. The DSM Note may be prepaid in full or in part at any time without penalty or premium. In addition, the Company is required to use certain payments received by the Company from DSM under the Value Sharing Agreement (see Note 10, "Revenue Recognition") to repay amounts outstanding under the DSM Credit Agreement. The DSM Credit Agreement and the DSM Note contain customary terms, covenants and restrictions, including certain events of default after which the DSM Note may become due and payable immediately.

#### *February 2016 Private Placement*

In February 2016, the Company issued and sold \$20.0 million in aggregate principal amount of promissory notes (the February 2016 Notes), as well as warrants to purchase an aggregate of 190,477 shares of the Company's common stock, exercisable at a price of \$0.15 per share as of December 31, 2018 (the February 2016 Warrants), resulting in aggregate proceeds to the Company of \$20.0 million, in a private placement to certain existing stockholders of the Company that are affiliated with members of the Company's Board of Directors (the Board): Foris Ventures, LLC (Foris, an entity affiliated with director John Doerr of Kleiner Perkins Caufield & Byers, a current stockholder, and an owner of greater than five percent of the Company's outstanding common stock), which purchased \$16.0 million aggregate principal amount of the February 2016 Notes and warrants to purchase 152,381 shares of the Company's common stock; Naxyris S.A. (Naxyris, an investment vehicle owned by Naxos Capital Partners SCA Sicar; director Carole Piwnica is Director of NAXOS UK, which is affiliated with Naxos Capital Partners SCA Sicar, and was designated as a director of the Company by Naxyris), which purchased \$2.0 million aggregate principal amount of the February 2016 Notes and warrants to purchase 19,048 shares of the Company's common stock; and Biolding Investment SA (Biolding, a fund affiliated with director HH Sheikh Abdullah bin Khalifa Al Thani, who was designated as a director of the Company by Biolding), which purchased \$2.0 million aggregate principal amount of the February 2016 Notes and warrants to purchase 19,048 shares of the Company's common stock.

The February 2016 Notes bore interest at 13.50% per annum and had an initial maturity date of May 15, 2017. In May 2017, the February 2016 Notes purchased by Foris and Naxyris were exchanged for shares of the Company's Series B 17.38% Convertible Preferred Stock and warrants to purchase common stock; see Note 7, "Stockholders' Deficit".

In May 2017, the Company and Biolding amended the February 2016 Note issued to Biolding (the Biolding Note) to extend the maturity of the Biolding Note to November 15, 2017, and on November 13, 2017, the Company and Biolding further amended the Biolding Note to extend the maturity to December 31, 2017. The Company paid the Biolding Note in full on January 2, 2018.

The February 2016 Warrants each have five-year terms. The February 2016 Warrants purchased by Naxyris were fully exercised in the year ended December 31, 2017, and a gain of \$0.1 million was recorded in earnings. As of December 31, 2018, none of the 171,429 February 2016 Warrants purchased by Foris or Biolding have been exercised.

For information regarding related party loans payable subsequent to December 31, 2018, see Note 16, "Subsequent Events".

#### *Letters of Credit*

In June 2012, the Company entered into a letter of credit agreement for \$1.0 million under which it provided a letter of credit to the landlord for its headquarters in Emeryville, California in order to cover the security deposit on the lease. This letter of credit is secured by a certificate of deposit. Accordingly, the Company has \$1.0 million of restricted cash, noncurrent in connection with this arrangement as of December 31, 2018 and 2017.

## 6. Mezzanine Equity

Mezzanine equity at December 31, 2018 and 2017 is comprised of proceeds from common shares sold on May 10, 2016 to the Bill & Melinda Gates Foundation (the Gates Foundation). On April 8, 2016, the Company entered into a Securities Purchase Agreement with the Gates Foundation, pursuant to which the Company agreed to sell and issue 292,398 shares of its common stock to the Gates Foundation in a private placement at a purchase price per share of \$17.10, the average of the daily closing price per share of the Company's common stock on the Nasdaq Stock Market for the twenty consecutive trading days ending on April 7, 2016, for aggregate proceeds to the Company of approximately \$5.0 million (the Gates Foundation Investment). The Securities Purchase Agreement includes customary representations, warranties and covenants of the parties.

In connection with the entry into the Securities Purchase Agreement, on April 8, 2016, the Company and the Gates Foundation entered into a Charitable Purposes Letter Agreement, pursuant to which the Company agreed to expend an aggregate amount not less than the amount of the Gates Foundation Investment to develop a yeast strain that produces artemisinic acid and/or amorphadiene at a low cost and to supply such artemisinic acid and amorphadiene to companies qualified to convert artemisinic acid and amorphadiene to artemisinin for inclusion in artemisinin combination therapies used to treat malaria commencing in 2017. The Company is currently conducting the project. If the Company defaults in its obligation to use the proceeds from the Gates Foundation Investment as set forth above or defaults under certain other commitments in the Charitable Purposes Letter Agreement, the Gates Foundation will have the right to request that the Company redeem, or facilitate the purchase by a third party of, the Gates Foundation Investment shares then held by the Gates Foundation at a price per share equal to the greater of (i) the closing price of the Company's common stock on the trading day prior to the redemption or purchase, as applicable, or (ii) an amount equal to \$17.10 plus a compounded annual return of 10%. As of December 31, 2018, the Company's remaining research and development obligation under this arrangement was \$0.7 million.

## 7. Stockholders' Deficit

### *Warrants*

The Company issues warrants in certain debt and equity transactions in order to facilitate raising equity capital or reduce borrowing costs. In connection with various debt and equity transactions (see Note 5, "Debt" and below), the Company has issued warrants exercisable for shares of common stock. The May 2017 and August 2017 cash and dilution warrants, and the July 2015 related party debt exchange warrants are accounted for as derivative liabilities. See the Temasek Funding Warrant and Series A and B sections below for more information. The following table summarizes warrant activity for the year ended December 31, 2018:

Transaction	Number Outstanding	Additional	Exercises	Number Outstanding
	as of December 31, 2017			Warrants Issued
August 2018 warrant exercise agreements . . . .	—	12,097,164	—	12,097,164
May 2017 cash and dilution warrants . . . . .	18,042,568	—	(11,749,770)	6,292,798
August 2017 cash and dilution warrants . . . .	9,543,234	1,713,565	(7,288,683)	3,968,116
April 2018 warrant exercise agreements . . . . .	—	3,616,174	—	3,616,174
July 2015 related party debt exchange . . . . .	2,082,010	471,204	(1,889,986)	663,228
February 2016 related party private placement . . . . .	171,429	—	—	171,429
July 2015 private placement . . . . .	81,197	—	—	81,197
Other . . . . .	1,406	—	—	1,406
	<u>29,921,844</u>	<u>17,898,107</u>	<u>(20,928,439)</u>	<u>26,891,512</u>

For information regarding warrants issued subsequent to December 31, 2018, see Note 16, "Subsequent Events".



### *Shares Issuable under Convertible Notes*

In connection with various debt transactions (see Note 5, “Debt”), the Company issued certain convertible notes that are convertible into shares of common stock as follows as of December 31, 2018, at any time at the election of each debtholder:

<u>Debt Instrument</u>	<u>Number of Shares into Which Debt Instrument Is Convertible as of December 31, 2018</u>
6% convertible notes due 2021 . . . . .	9,493,672
2015 Rule 144A convertible notes . . . . .	2,338,560
August 2013 financing convertible notes . . . . .	1,003,554
2014 Rule 144A convertible notes . . . . .	867,376
	<u>13,703,162</u>

### *2018 Warrant Exercises and New Warrant Issuances*

#### *April 2018 Warrant Transactions*

On April 12, 2018, in accordance with the terms of the Warrant Exercise Agreement, certain holders of the May 2017 Warrants (see below under “May 2017 Offerings”) exercised their May 2017 Cash Warrants in full to purchase an aggregate of 3,616,174 shares of common stock for net proceeds to the Company of \$14.5 million and surrendered their May 2017 Dilution Warrants for cancellation. Upon exercise of the May 2017 Cash Warrants and surrender of such May 2017 Dilution Warrants, certain derivative liabilities representing certain anti-dilution rights contained in the May 2017 Warrants were effectively settled. Under the terms of the Warrant Exercise Agreements, the exercise of such May 2017 Cash Warrants and surrender of such May 2017 Dilution Warrants was required on the date of the Warrant Exercise Agreement in order for the Company to issue new warrants to these same holders to purchase an aggregate of 3,616,174 shares of common stock, exercisable at a price of \$7.00 per share. The new warrants were fully exercisable upon issuance, with an expiration date of July 12, 2019. The new warrants do not provide the holders with anti-dilution protection and only permit “cashless” exercise after the six-month anniversary of issuance, and only to the extent that there is not an effective registration statement covering the resale of the shares of common stock underlying the new warrants; on September 26, 2018, the Company filed such a registration statement, which was declared effective on October 11, 2018. The new warrants were evaluated for liability classification, and while meeting the definition of a derivative, the freestanding instruments met the indexation and equity classification criteria to be accounted for as equity.

#### *August 2018 Warrant Transactions*

In August 2018 in accordance with the terms of the Warrant Exercise Agreements, Foris Ventures, LLC (Foris) and entities affiliated with Vivo Capital LLC (Vivo), related parties and holders of the May 2017 Warrants and August 2017 Warrants (see below under “August 2017 Vivo Offering”), respectively, exercised their Cash Warrants and, in the case of Foris, Dilution Warrants in full and in accordance with the terms of the Warrant Exercise Agreements, to purchase an aggregate of approximately 12.6 million shares of common stock for \$43.0 million in proceeds to the Company, and Vivo subsequently surrendered their Dilution Warrants for cancellation. In connection with the entry by the Company and Vivo into Warrant Exercise Agreement, the Company and Vivo amended the August 2017 Vivo Cash Warrants to (i) reduce the exercise price of such warrants from \$6.39 per share to \$4.40 per share and (ii) remove the August 2017 Vivo Offering Beneficial Ownership Limitation from such warrants. Upon exercise and surrender of such Cash Warrants and Dilution Warrants, certain derivative liabilities representing certain anti-dilution rights contained in the May 2017 Warrants and August 2017 Warrants were effectively settled. Under the terms of the Warrants Exercise Agreement, the exercise of the Cash Warrants and Dilution Warrants and subsequent surrender of the Vivo Dilution Warrants was required on the date of the Warrants Exercise Agreement in order for the Company to issue a series of new warrants to these same holders to purchase an aggregate of 12.1 million shares of common stock, exercisable at \$7.52 per share. The new warrants are exercisable any time after the six-month anniversary of issuance and for

15 months thereafter, with an expiration date in May 2020. The new warrants do not provide the holders with anti-dilution protection and only permit “cashless” exercise after the twelve-month anniversary of issuance, and only to the extent that there is not an effective registration statement covering the resale of the shares of common stock underlying the new warrants. The new warrants were evaluated for liability classification, and while meeting the definition of a derivative, the freestanding instruments met the indexation and equity classification criteria to be accounted for as equity.

#### *Temasek Funding Warrant — Related Party*

Following amendments to certain common stock purchase warrants in August 2018 (see below under “May 2017 Offerings” and “August 2017 Vivo Offering”), and a corresponding adjustment to the conversion price of the August 2013 financing convertible notes from \$5.2977 per share to \$4.40 per share (see Note 5, “Debt”), the Temasek Funding Warrant became exercisable for an additional 471,204 shares of common stock in accordance with its terms. On October 19, 2018, Temasek exercised the Temasek Funding Warrant with respect to 1,889,986 shares of common stock underlying the Temasek Funding Warrant by means of a cashless exercise, resulting in the issuance of 1,852,585 shares of common stock to Temasek. As of December 31, 2018, there were 471,204 shares underlying the Temasek Funding Warrant. As a result of this exercise, the derivative liability related to the Temasek Funding Warrant decreased by \$14.0 million.

#### *November 2018 DSM Securities Purchase Agreement — Related Party*

On November 20, 2018, the Company issued 1,643,991 shares of common stock (the DSM Shares) at \$3.68 per share to DSM in a private placement pursuant to a securities purchase agreement, dated November 19, 2018, between the Company and DSM (the DSM SPA), in consideration of certain agreements of DSM set forth in the Supply Agreement Amendment described in Note 10, “Revenue Recognition”. The Company also agreed to pay DSM the difference between the DSM SPA purchase price of \$4.41 and the closing share price of the Company’s common stock on March 28, 2019, multiplied by 1,643,991. At inception, the Company recorded a \$1.2 million derivative liability for the difference between \$4.41 and the Company’s closing stock price on November 20, 2018. At December 31, 2018 fair value based on the Company’s closing stock price was \$1.8 million, resulting in a \$0.6 million loss on change in fair value for the year ended December 31, 2018. At March 28, 2019, the Company’s stock price was \$2.10, and the Company owed DSM \$3.8 million in connection with this agreement. Pursuant to the DSM SPA, the Company agreed to file a registration statement providing for the resale by DSM of the DSM Shares and to use commercially reasonable efforts to (i) cause such registration statement to become effective within 181 days following the date of the DSM SPA and (ii) keep such registration statement effective until DSM does not own any DSM Shares or the DSM Shares are eligible for resale under Rule 144 without regard to volume limitations. See Note 11, “Related Party Transactions” for additional information about the accounting for this transaction and other November 2018 transactions with DSM. In April 2019, in connection with the assignment by the Company of its rights under the Value Sharing Agreement (see Note 10, “Revenue Recognition”), the Company satisfied its obligation under the Supply Agreement Amendment relating to the difference between \$4.41 and the price of the Company’s common stock on March 28, 2019. See Note 16, “Subsequent Events” for additional information.

#### *At Market Issuance Sales Agreement*

On March 8, 2016, the Company entered into an At Market Issuance Sales Agreement (ATM Sales Agreement) with FBR Capital Markets & Co. and MLV & Co. LLC (Agents) under which the Company would be able to issue and sell shares of its common stock having an aggregate offering price of up to \$50.0 million (ATM Shares) from time to time through the Agents, acting as its sales agents, under the Company’s Registration Statement on Form S-3 (File No. 333-203216), effective April 15, 2015. Sales of the ATM Shares through the Agents would be made by any method that is deemed an “at the market offering” as defined in Rule 415 under the Securities Act of 1933, as amended, including by means of ordinary brokers’ transactions at market prices, in block transactions, or as otherwise agreed by the Company and the Agents. The Company agreed to pay the applicable Agent a commission rate of up to 3.0% of the gross proceeds from the sale of any ATM Shares sold through such Agent under the ATM Sales Agreement. The ATM Sales Agreement included no commitment by other parties to purchase ATM Shares the Company offers for sale.

During the year ended December 31, 2018, the Company issued and sold 205,168 shares of common stock under the ATM Sales Agreement, at an average price of \$6.90 per share, resulting in total net proceeds to the Company of \$1.4 million. During the year ended December 31, 2017, the Company did not sell any shares of common stock under the ATM Sales Agreement. The ATM Sales Agreement expired on April 15, 2018, and as a result, zero remained available for issuance under the ATM Sales Agreement as of December 31, 2018.

### ***May 2017 Offerings***

In May 2017, the Company issued and sold an aggregate of 22,140 shares of Series A 17.38% Convertible Preferred Stock (Series A Preferred Stock), 70,904 shares of Series B 17.38% Convertible Preferred Stock (Series B Preferred Stock), and warrants to purchase an aggregate of 7,384,190 shares of common stock at an initial exercise price of \$7.80 per share, warrants to purchase an aggregate of 7,384,190 shares of common stock at an initial exercise price of \$9.30 per share, and warrants to purchase a number of shares of common stock sufficient to provide full-ratchet anti-dilution protection with respect to the effective price paid for the common stock underlying the Series A Preferred Stock and Series B Preferred Stock (collectively, the May 2017 Warrants) in separate offerings, certain of which were registered under the Securities Act or others of which were private placements (collectively, the May 2017 Offerings).

The net proceeds to the Company from the May 2017 Offerings were \$50.7 million after payment of offering expenses and placement agent fees. The Series A Preferred Stock and May 2017 Warrants relating thereto were sold to the purchasers thereof in exchange for aggregate cash consideration of \$22.1 million, and the Series B Preferred Stock and May 2017 Warrants relating thereto were sold to the purchasers thereof in exchange for (i) aggregate cash consideration of \$30.7 million and (ii) the cancellation of \$40.2 million of outstanding indebtedness (including accrued interest thereon) owed by the Company to certain purchasers, of which \$33.1 million was from related parties, as further described below.

### ***Series A and B Preferred Stock***

#### ***Series A Preferred Stock***

Each share of Series A Preferred Stock has a stated value of \$1,000 and is convertible at any time, at the option of the holder, into common stock at a conversion price of \$17.25 per share (Preferred Stock Conversion Rate). The Preferred Stock Conversion Rate is subject to adjustment in the event of any dividends or distributions of common stock, or any stock split, reverse stock split, recapitalization, reorganization or similar transaction. If not previously converted at the option of the holder, each share of Series A Preferred Stock automatically converted on October 9, 2017, the 90th day following the date that the July 2017 Stockholder Approval (as defined below) was obtained and effected, subject to the May 2017 Offerings Beneficial Ownership Limitation (as defined below).

Dividends, at a rate per year equal to 17.38% of the stated value of the Series A Preferred Stock, will be payable semiannually from the issuance of the Series A Preferred Stock until the tenth anniversary of the date of issuance, on each October 15 and April 15, beginning October 15, 2017, on a cumulative basis, at the Company's option, in cash, out of any funds legally available for the payment of dividends, or, subject to the satisfaction of certain conditions, in Common Stock at the Preferred Stock Conversion Rate, or a combination thereof. Upon the conversion of the Series A Preferred Stock prior to the tenth anniversary of the date of issuance, the holders of the Series Preferred A Stock shall be entitled to a payment equal to \$1,738 per \$1,000 of stated value of the Series A Preferred Stock, less the amount of all prior semiannual dividends paid on such converted Series A Preferred Stock prior to the relevant conversion date (Make-Whole Payment), at the Company's option, in cash, out of any funds legally available for the payment of dividends, or, subject to the satisfaction of certain conditions, in common stock at the Preferred Stock Conversion Rate, or a combination thereof. If the Company elects to pay any dividend in the form of cash, it shall provide each holder with notice of such election not later than the first day of the month of prior to the applicable dividend payment date.

Unless and until converted into common stock in accordance with its terms, the Series A Preferred Stock has no voting rights, other than as required by law or with respect to matters specifically affecting the Series A Preferred Stock.

Upon any liquidation, dissolution or winding-up of the Company, the holders of the Series A Preferred Stock shall be entitled to receive out of the assets of the Company the same amount that a holder of Common Stock would receive if the Series A Preferred Stock were fully converted to common stock immediately prior to such liquidation, dissolution or winding-up (without regard to whether such Series A Preferred Stock is convertible at such time), which amount shall be paid *pari passu* with all holders of Common Stock.

The conversion of the Series A Preferred Stock is subject to a beneficial ownership limitation of 4.99% (or such other percentage not to exceed 9.99%, provided that any increase will not be effective until 61 days after notice thereof by the holder) of the number of shares of common stock outstanding immediately after giving effect to the issuance of shares of common stock issuable upon conversion of such Series A Preferred Stock (May 2017 Offerings Beneficial Ownership Limitation). In addition, prior to obtaining the July 2017 Stockholder Approval (as defined below), the aggregate number of shares issued with respect to the Series A Preferred Stock (and any other transaction aggregated for such purpose) could not exceed 3,792,778 shares of common stock (May 2017 Exchange Cap).

The Series A Preferred Stock is classified as permanent equity, as the Company controls all actions or events required to settle the optional and mandatory conversion feature in shares. The Make-Whole Payment was determined to be an embedded derivative requiring bifurcation and separate recognition as a derivative liability recognized at its fair value as of the issuance date with subsequent changes in fair value recorded in earnings until the earlier of (i) July 7, 2017 when the Make-Whole shares became fixed and certain, (ii) the Series A Preferred Stock is converted into common stock, (iii) the Make-Whole Payment is voluntarily converted, or (iv) the Make-Whole Payment is paid through declared dividends or cash. A derivative liability was recognized at fair value on the date of issuance for the Make-Whole Payment in the amount of \$11.0 million. The value of the remaining Make-Whole derivative liability at July 7, 2017 was extinguished to equity. All Make-Whole Payment conversions into common stock before and after July 7, 2017, were accounted for as a deemed dividend in the period converted. A derivative liability was also recognized at fair value on the date of issuance for the May 2017 Warrants issued to the Series A holders (discussed more fully below) in the amount of \$10.6 million. The Series A Preferred Stock also contained a beneficial conversion feature which was recognized up to the amount of \$0.6 million of proceeds allocated to the preferred stock. Net proceeds allocated to the Series A Preferred Stock were \$0.6 million.

As of December 31, 2017, all 22,140 shares of Series A Preferred Stock had been converted into common stock (with the Make-Whole Payment in each case being made in the form of common stock) and zero shares of Series A Preferred Stock were outstanding. Upon conversion of the Series A Preferred Shares, the Company recognized a deemed dividend for the unamortized discount related to the allocation of proceeds to the May 2017 Warrants derivatives totaling \$21.6 million, and deemed dividends upon settlement of the Series A Make-Whole Payment totaling \$10.5 million, all as a reduction to Additional Paid-in Capital and an increase to net loss attributable to Amyris, Inc. common stockholders.

#### *Series B Preferred Stock*

The Series B Preferred Stock has substantially identical terms to the Series A Preferred Stock, except that (i) the conversion of the Series B Preferred Stock was subject to the July 2017 Stockholder Approval and (ii) the May 2017 Offerings Beneficial Ownership Limitation does not apply to DSM. The Series B Preferred Stock was classified as permanent equity at issuance due to the lack of a cash redemption feature and because the holder's only recourse to affect conversion was to require the Company to continually seek shareholder approval, thus effectively giving the Company control over the actions or events necessary to settle an optional or mandatory conversion feature in shares. As described in more detail below under "July 2017 Stockholder Approval," in July 2017 the Company's stockholders approved removing a restriction preventing the Series B Preferred Stock issued in the May 2017 Offerings from being convertible into common stock.

The investors that purchased shares of the Series B Preferred Stock included related parties affiliated with members of the Board: Foris exchanged an aggregate principal amount of \$27.0 million of indebtedness, plus accrued interest thereon, for 30,729 shares of Series B Preferred Stock and May 2017 Warrants to purchase 4,877,386 shares of Common Stock and Naxyris exchanged an aggregate principal amount of \$2.0 million of indebtedness, plus accrued interest thereon, for 2,333 shares of Series B Preferred

Stock and May 2017 Warrants to purchase 370,404 shares of common stock. The fair value of the Series B Preferred Stock, the embedded Make-Whole payment and the related warrants exceeded the carrying value of the related party debt and accrued interest exchanged by \$8.6 million which was recorded as a loss upon extinguishment of debt as the Company determined that the related parties were acting in their interests as debt holders.

The investors that purchased shares of the Series B Preferred Stock also included non-related party holders of the Company's 2014 Rule 144A Convertible Notes and 2015 Rule 144A Convertible Notes. These investors exchanged all or a portion of their holding of such indebtedness, including accrued interest thereon, representing an aggregate of \$3.4 million of 2014 Rule 144A Convertible Notes and \$3.7 million of 2015 Rule 144A Convertible Notes, for Series B Preferred Stock and May 2017 Warrants in the May 2017 Offerings. The fair value of the Series B Preferred Stock, the embedded Make-Whole payment and the related warrants exceeded the carrying value of the debt and accrued interest exchanged by \$1.9 million, which was recognized as a loss on extinguishment of debt in other income (expense).

Issuance costs of \$1.2 million were netted against the proceeds. Additional issuance costs of \$0.2 million were expensed as debt extinguishment costs for debt that was exchanged in the May 2017 Offerings.

Upon the closing of the May 2017 Offerings, all such exchanged indebtedness was canceled and the agreements relating thereto, including any note purchase agreements or unsecured or secured promissory notes (including any security interest relating thereto), were terminated, except to the extent such investors or other investors retain a portion of such indebtedness.

A derivative liability was recognized at fair value on the date of issuance for the May 2017 DSM Series B Make-Whole Payment in the amount of \$12.4 million. A derivative liability was also recognized at fair value on the date of issuance for the May 2017 Warrants issued to DSM (discussed more fully below) in the amount of \$11.9 million. Upon conversion of the DSM Series B Preferred Shares, the Company recognized a deemed dividend for the unamortized discounts related to the allocation of proceeds to the May 2017 DSM Make-Whole Payment and May 2017 Warrants derivatives totaling \$24.4 million, and a deemed dividend upon settlement of all May 2017 Series B Make-Whole Payments totaling \$22.6 million, all as a reduction to Additional Paid in Capital and an increase to net loss attributable to Amyris, Inc. common stockholders. The Series B Preferred Stock issued to DSM in the May 2017 Offerings also contained a contingent beneficial conversion feature that was recognized in the three months ending September 30, 2017 upon the July 2017 Stockholder Approval, which eliminated the contingency. As a result, \$0.6 million was recorded as a reduction to Additional Paid in Capital and was considered a deemed dividend, increasing net loss attributable to Amyris, Inc. common stockholders.

As of December 31, 2018, 89,528 shares of Series B Preferred Stock (including the Series B Preferred Stock issued in the August 2017 DSM Offering) have been converted into common stock (with the Make-Whole Payment in each case being made in the form of common stock) and 6,376 shares of Series B Preferred Stock were outstanding. At December 31, 2017, 9,213 shares of Series B Preferred Stock were outstanding.

#### *May 2017 Warrants*

The Company issued to each investor in the May 2017 Offerings warrants to purchase a number of shares of common stock equal to 100% of the shares of common stock into which such investor's shares of Series A Preferred Stock or Series B Preferred Stock were initially convertible (including shares of common stock issuable as payment of dividends or the Make-Whole Payment, assuming that all such dividends and the Make-Whole Payment are made in common stock), representing warrants to purchase 14,768,380 shares of common stock in the aggregate for all investors (collectively, the May 2017 Cash Warrants). The exercise price of the May 2017 Cash Warrants is subject to standard adjustments as well as full-ratchet anti-dilution protection for any issuance by the Company of equity or equity-linked securities during the three-year period following the issuance of such warrants (May 2017 Dilution Period) at a per share price less than the then-current exercise price of the May 2017 Cash Warrants, subject to certain exceptions. As of December 31, 2017, the exercise prices of the May 2017 Cash Warrants were \$4.40 per share and no May 2017 Cash Warrants had been exercised. As of December 31, 2018, the exercise prices of the May 2017 Cash Warrants were \$4.40 per share and 8,523,560 May 2017 Cash Warrants had been exercised (see "April 2018 Warrant Transactions" and "August 2018 Warrant Transactions" above).

In addition, the Company issued to each investor a warrant, with an exercise price of \$0.0015 per share as of December 31, 2018 (collectively, the May 2017 Dilution Warrants), to purchase a number of shares of common stock sufficient to provide the investor with full-ratchet anti-dilution protection for any issuance by the Company of equity or equity-linked securities during the May 2017 Dilution Period at a per share price less than \$6.30, the effective per share price paid by the investors for the shares of common stock issuable upon conversion of their Series A Preferred Stock or Series B Preferred Stock (including shares of common stock issuable as payment of dividends or the Make-Whole Payment, assuming that all such dividends and the Make-Whole Payment are made in common stock) subject to certain exceptions. As of December 31, 2018, the May 2017 Dilution Warrants were exercisable for an aggregate of 6,377,466 shares based on an effective per share price of \$4.40 per share, of which 6,329,488 warrants had been exercised, resulting in a \$64.1 million reduction in derivative liability. See “April 2018 Warrant Transactions” and “August 2018 Warrant Transactions” above regarding the cancellation of certain May 2017 Dilution Warrants.

The May 2017 Warrants each have a term of five years from the date such warrants initially became exercisable upon the receipt and effectiveness of the July 2017 Stockholder Approval. The exercise of the May 2017 Warrants (other than the May 2017 Warrants held by DSM) is subject to the May 2017 Offerings Beneficial Ownership Limitation. In connection with the entry by the Company and Foris into a warrant exercise agreement in August 2018 and related transactions (see “August 2018 Warrant Transactions” above), the Company and Foris amended Foris’s May 2017 Cash Warrants and May 2017 Dilution Warrant to remove the May 2017 Offerings Beneficial Ownership Limitation from such warrants. The May 2017 Cash Warrants are freestanding financial instruments that are accounted for as derivative liabilities and recognized at their fair value on the date of issuance of \$39.5 million. As of December 31, 2018, the fair value of the May 2017 Cash Warrants was \$24.1 million, as determined with the assistance of an independent third-party appraisal.

For the years ended December 31, 2018 and 2017, the Company recorded a loss of \$13.5 million and \$40.4 million, respectively, to reflect change in fair value of the May 2017 Cash Warrants (including the anti-dilution protection feature). Subsequent changes to the fair value of the May 2017 Cash Warrants will continue to be recorded in earnings until the warrants are exercised or expire in July 2022.

#### *July 2017 Stockholder Approval*

In connection with the May 2017 Offerings, the Company agreed to solicit from its stockholders (i) any approval required by the rules and regulations of the NASDAQ Stock Market, including without limitation for the issuance of common stock upon conversion of the Series A Preferred Stock in excess of the May 2017 Exchange Cap, upon conversion of the Series B Preferred Stock and upon exercise of the May 2017 Warrants (the NASDAQ Approval) and (ii) approval to effect the Reverse Stock Split (collectively, the July 2017 Stockholder Approval) at an annual or special meeting of stockholders to be held on or prior to July 10, 2017, and to use commercially reasonable efforts to secure the July 2017 Stockholder Approval. The Reverse Stock Split was approved by the Company’s stockholders in May 2017 and the NASDAQ Approval was obtained on July 7, 2017.

#### *August 2017 DSM Offering — Related Party*

On August 7, 2017, the Company issued and sold the following securities to DSM in a private placement (August 2017 DSM Offering):

- 25,000 shares of Series B Preferred Stock (August 2017 DSM Series B Preferred Stock) at a price of \$1,000 per share;
- a warrant to purchase 3,968,116 shares of common stock at an initial exercise price of \$6.30 per share expiring in five years (August 2017 DSM Cash Warrant); and
- the August 2017 DSM Dilution Warrant (as described below).

Net proceeds to the Company were \$25.9 million after payment of offering expenses and the allocation of total fair value received to the elements in the arrangement.

The exercise price of the August 2017 DSM Cash Warrant is subject to standard adjustments as well as full-ratchet anti-dilution protection for any issuance by the Company of equity or equity-linked securities during the three-year period following August 7, 2017 (DSM Dilution Period) at a per share price less than the then-current exercise price of the August 2017 DSM Cash Warrant, subject to certain exceptions. As of December 31, 2018, the exercise price of the August 2017 DSM Cash Warrant was \$4.40 per share.

The August 2017 DSM Dilution Warrant allows DSM to purchase a number of shares of common stock sufficient to provide DSM with full-ratchet anti-dilution protection for any issuance by the Company of equity or equity-linked securities during the DSM Dilution Period at a per share price less than \$6.30, the effective per share price paid by DSM for the shares of common stock issuable upon conversion of its Series B Preferred Stock (including shares of common stock issuable as payment of dividends or the Make-Whole Payment (as defined below), assuming that all such dividends and the Make-Whole Payment are made in common stock), subject to certain exceptions and subject to a price floor of \$0.10 per share (Dilution Floor). The August 2017 DSM Dilution Warrant expires five years from the date it is initially exercisable.

In connection with the August 2017 DSM Offering, the Company also agreed that, subject to certain exceptions, it would not (i) issue any shares of common stock or securities convertible into or exercisable or exchangeable for common stock prior to October 31, 2017, (ii) effect any issuance of securities involving a variable rate transaction until May 11, 2018 or (iii) issue any shares of common stock or securities convertible into or exercisable or exchangeable for common stock at a price below the Dilution Floor without DSM's consent. On November 19, 2018, the Company entered into an agreement to reduce the exercise price of the August 2017 DSM Cash Warrant from \$6.30 to \$4.40 to compensate DSM for failure to obtain its consent to reduce the exercise price of the Vivo Warrant discussed in the "August 2018 Warrant Transactions" section of this Note 7 "Stockholders' Deficit". The Company determined the fair value of this agreement to be \$6.8 million and recorded a legal settlement expense for the period ended December 31, 2018 in that amount. See Note 4, "Fair Value Measurement" for additional information. The accounting treatment for this transaction was evaluated in conjunction with the other November 2018 transactions discussed in Note 11, "Related Party Transactions". Also, upon execution of this agreement the August 2017 DSM Dilution Warrant became exercisable for 1,713,565 shares based on an effective per share price of \$0.0001 per share, all of which were exercised in November 2018.

In connection with the August 2017 DSM Offering, the Company and DSM also entered into an amendment to the stockholder agreement dated May 11, 2017 (DSM Stockholder Agreement) between the Company and DSM (Amended and Restated DSM Stockholder Agreement). Under the DSM Stockholder Agreement, DSM was granted the right to designate one director selected by DSM, subject to certain restrictions and a minimum beneficial ownership level of 4.5%, to the Board. Furthermore, DSM has the right to purchase additional shares of capital stock of the Company in connection with a sale of equity or equity-linked securities by the Company in a capital raising transaction for cash, subject to certain exceptions, to maintain its proportionate ownership percentage in the Company. Pursuant to the DSM Stockholder Agreement, DSM agreed not to sell or transfer any of the Series B Preferred Stock or warrants purchased by DSM in the May 2017 Offerings (as defined below), or any shares of common stock issuable upon conversion or exercise thereof, other than to its affiliates, without the consent of the Company through May 2018 and to any competitor of the Company thereafter. DSM also agreed that, subject to certain exceptions, until three months after there is no DSM director on the Board, DSM will not, without the prior consent of the Board, acquire common stock or rights to acquire common stock that would result in DSM beneficially owning more than 33% of the Company's outstanding voting securities at the time of acquisition. Under the DSM Stockholder Agreement, the Company agreed to use its commercially reasonable efforts to register, via one or more registration statements filed with the Securities and Exchange Commission (SEC) under the Securities Act of 1933, as amended (Securities Act), the shares of common stock issuable upon conversion or exercise of the securities purchased by DSM in the May 2017 Offerings. The Amended and Restated DSM Stockholder Agreement provides that (i) DSM has the right to designate a second director to the Board, subject to certain restrictions and a minimum beneficial ownership level of 10%, and (ii) the shares of common stock issuable upon conversion or exercise of the securities purchased by DSM in the August 2017 DSM Offering are (a) entitled to the registration rights provided for in the DSM Stockholder Agreement and (b) subject to the transfer restrictions set forth in the DSM Stockholder Agreement.

In addition, pursuant to the Amended and Restated DSM Stockholder Agreement, the Company and DSM agreed to negotiate in good faith regarding an agreement concerning the development of certain products in the Health & Wellness field and, in the event that the parties did not reach such agreement prior to 90 days after the closing of the August 2017 DSM Offering (August 2017 DSM Closing), (a) certain exclusive negotiating rights granted to DSM in connection with the entry into the DSM Stockholder Agreement would expire and (b) on the first anniversary of the August 2017 DSM Closing and each subsequent anniversary thereof, the Company would make a \$5.0 million cash payment to DSM, provided that the aggregate amount of such payments would not exceed \$25.0 million. In September 2017, the Company and DSM entered into such agreement, and in connection therewith an intellectual property escrow agreement relating to certain intellectual property licenses granted by the Company to DSM upon the August 2017 DSM Closing became effective.

In connection with the August 2017 DSM Offering and its \$25.9 million in net proceeds, the Company also entered into a separate intellectual property license with DSM for consideration of \$9.0 million in cash, which DSM remitted to the Company on October 28, 2017, and a credit letter (DSM Credit Letter) to be applied against future collaboration and royalty payments owed by DSM to the Company beginning in 2018. The DSM Credit Letter had a fair value of \$7.1 million and was recorded as deferred revenue on the transaction date. The total fixed consideration of \$34.0 million was allocated to each of the August 2017 DSM Series B Preferred Stock, August 2017 DSM Cash Warrant, August 2017 DSM Dilution Warrant and DSM Credit Letter at fair value based on level 3 inputs. The August 2017 DSM Series B Preferred Stock was recognized at its fair value on the date of issuance of \$15.6 million, net of issuance costs of \$0.2 million. The August 2017 Make-Whole Payment met the criteria to be classified in permanent equity and was not bifurcated from the preferred stock but will be recognized as a deemed dividend upon conversion, increasing the net loss attributable to Amyris, Inc. common stockholders. The August 2017 DSM Cash Warrant and August 2017 DSM Dilution Warrant are freestanding financial instruments and were initially recognized at their fair value of \$10.6 million. The August 2017 DSM Cash Warrant and August 2017 DSM Dilution Warrant have been reported together as derivative liabilities. Changes in the fair value of the warrant derivatives for the years ended December 31, 2018 and 2017 have been recorded in earnings as a \$7.5 million loss and \$4.0 million loss, respectively.

As of December 31, 2018, all the August 2017 Series B Preferred Shares have been converted into common stock.

The DSM Credit Letter was initially recorded as deferred revenue at its \$7.1 million fair value, which was determined based on the assumptions that DSM would realize its credit over the next 18 months to 4 years with a 50% to 90% likelihood the credit will be utilized, fully discounted at the Company's 8.6% average cost of debt. After allocating the \$34.0 million in fixed consideration to the financial instruments noted above and the DSM Credit Letter, \$7.8 million was available for recognition as revenue related to the intellectual property licenses delivered to DSM, of which \$3.3 million was recognized as license revenue during the year ended December 31, 2017. The DSM Credit Letter was terminated in December 2017, resulting in the reversal of the remaining unrecognized \$4.5 million deferred revenue liability previously recorded as consideration for the DSM License and Collaboration transaction. See Note 10, "Revenue Recognition" for additional information.

#### ***August 2017 Vivo Offering — Related Party***

On August 3, 2017, the Company issued and sold the following securities to Vivo in a private placement (August 2017 Vivo Offering), resulting in net proceeds to the Company of \$24.8 million after payment of offering expenses.

- 2,826,711 shares of common stock at a price of \$4.26 per share;
- 12,958 shares of Series D Preferred Stock at a price of \$1,000 per share;
- warrants to purchase an aggregate of 5,575,118 shares of common stock at an initial exercise price of \$6.39 per share, expiring in five years (August 2017 Vivo Cash Warrants); and
- the August 2017 Vivo Dilution Warrants (as described below).



Each share of Series D Preferred Stock has a stated value of \$1,000 and, subject to the August 2017 Vivo Offering Beneficial Ownership Limitation (as defined below), is convertible at any time, at the option of the holders, into common stock at a conversion price of \$4.26 per share. The Series D Conversion Rate is subject to adjustment in the event of any dividends or distributions of the common stock, or any stock split, reverse stock split, recapitalization, reorganization or similar transaction.

Prior to declaring any dividend or other distribution of its assets to holders of common stock, the Company shall first declare a dividend per share on the Series D Preferred Stock equal to \$0.0001 per share. In addition, the Series D Preferred Stock will be entitled to participate with the common stock on an as-converted basis with respect to any dividends or other distributions to holders of common stock. There were no dividends declared as of December 31, 2018 or 2017.

Unless and until converted into common stock in accordance with its terms, the Series D Preferred Stock has no voting rights, other than as required by law or with respect to matters specifically affecting the Series D Preferred Stock. The Series D Preferred Stock is classified as permanent equity, as the Company controls all actions or events required to settle the optional conversion feature in shares.

The August 2017 Vivo Cash Warrants and August 2017 Vivo Dilution Warrants are freestanding derivative instruments in connection with the issuance of equity instruments, which have been recorded as derivative liabilities. These warrants were recognized at their initial fair value upon issuance of \$13.0 million as determined by management with the assistance of an independent third party appraisal based on level 3 inputs. Changes in the fair value of these derivative liabilities from the date of issuance through December 31, 2018 have been recorded in earnings, with losses of \$7.7 million and \$3.0 million recorded for the years ended December 31, 2018 and 2017, respectively. The remaining \$12.0 million of the \$25.0 million in gross proceeds received was allocated on a relative fair value basis, resulting in \$5.6 million of proceeds, net of \$0.2 million in issuance costs being allocated to the common stock sold in the August 2017 Vivo Offering and \$6.2 million allocated to the Series D Preferred Stock. The Series D Preferred Stock includes a beneficial conversion feature of \$5.8 million as the full fair value of the Series D Preferred Stock of \$12.0 million was greater than the \$6.2 million allocated to the Series D Preferred Stock. The \$5.8 million beneficial conversation feature was recorded as a reduction to Additional Paid in Capital and a deemed dividend increasing net loss attributable to Amyris, Inc. common stockholders upon conversion in the third quarter of 2017.

At December 31, 2018 and 2017, 8,280 and 12,958 shares, respectively of Series D Preferred Stock were outstanding. In the third quarter of 2018 Vivo converted 4,678 shares of August 2017 Offerings Series D Preferred Stock and the Company recognized a \$6.8 million deemed dividend for the unamortized discounts created from the allocation of proceeds, as a reduction to Additional Paid in Capital and increasing net loss attributable to Amyris, Inc. common stockholders.

In the event of a Fundamental Transaction, the holders of the Series D Preferred Stock will have the right to receive the consideration receivable as a result of such Fundamental Transaction by a holder of the number of shares of common stock for which the Series D Preferred Stock is convertible immediately prior to such Fundamental Transaction (without regard to whether such Series D Preferred Stock is convertible at such time), which amount shall be paid *pari passu* with all holders of common stock. A Fundamental Transaction is defined in the Certificate of Designation of Preferences, Rights and Limitations relating to the Series D Preferred Stock as any of the following: (i) merger with or consolidation into another legal entity; (ii) sale, lease, license, assignment, transfer or other disposition of all or substantially all of the Company's assets in one or a series of related transactions; (iii) purchase offer, tender offer or exchange offer of the Company's common stock pursuant to which holders of the Company's common stock are permitted to sell, tender or exchange their shares for other securities, cash or property and has been accepted by the holders of 50% or more of the outstanding common stock; (iv) reclassification, reorganization or recapitalization of the Company's stock; or (v) stock or share purchase agreement that results in another party acquiring more than 50% of the Company's outstanding shares of common stock.

Upon any liquidation, dissolution or winding-up of the Company, the holders of the Series D Preferred Stock shall be entitled to receive out of the assets of the Company the same amount that a holder of common stock would receive if the Series D Preferred Stock were fully converted to common stock immediately prior to such liquidation, dissolution or winding-up (without regard to whether such Series D Preferred Stock is convertible at such time), which amount shall be paid pari passu with all holders of common stock.

The conversion of the Series D Preferred Stock is subject to a beneficial ownership limitation of 9.99% (August 2017 Vivo Offering Beneficial Ownership Limitation), which limitation may be waived by the holders on 61 days' prior notice.

The exercise price of the August 2017 Vivo Cash Warrants is subject to standard adjustments as well as full-ratchet anti-dilution protection for any issuance by the Company of equity or equity-linked securities during the three-year period following August 3, 2017 (Vivo Dilution Period) at a per share price less than the then-current exercise price of the August 2017 Vivo Cash Warrants, subject to certain exceptions. In connection with the entry by the Company and Vivo into warrant exercise agreements in August 2018 and related transactions (see "August 2018 Warrant Transactions" above), the Company and Vivo amended the August 2017 Vivo Cash Warrants to (i) reduce the exercise price of such warrants from \$6.39 per share to \$4.40 per share and (ii) remove the August 2017 Vivo Offering Beneficial Ownership Limitation from such warrants.

The August 2017 Vivo Dilution Warrants allow Vivo to purchase a number of shares of common stock sufficient to provide Vivo with full-ratchet anti-dilution protection for any issuance by the Company of equity or equity-linked securities during the Vivo Dilution Period at a per share price less than \$4.26, the effective per share price paid by Vivo for the shares of common stock issuable upon conversion of the Series D Preferred Stock, subject to certain exceptions and subject to the Dilution Floor. The August 2017 Vivo Dilution Warrants expire five years from the date they are initially exercisable.

As of December 31, 2017, none of the August 2017 Vivo Warrants were exercised. As of December 31, 2018, 5,575,118 of the August 2017 Vivo Cash Warrants had been exercised and the August 2017 Vivo Dilution Warrants were not exercisable for any shares upon cancellation as part of the August 2018 transaction. See "August 2018 Warrant Transactions" above regarding the exercise of the August 2017 Vivo Cash Warrants and the cancellation of the August 2017 Vivo Dilution Warrants.

In connection with the August 2017 Vivo Offering, the Company agreed that it would not issue any shares of common stock or securities convertible into or exercisable or exchangeable for common stock at a price below the Dilution Floor without Vivo's consent.

In connection with the August 2017 Vivo Offering, the Company and Vivo also entered into a Stockholder Agreement (Vivo Stockholder Agreement) setting forth certain rights and obligations of Vivo and the Company. Pursuant to the Vivo Stockholder Agreement, Vivo will have the right, subject to certain restrictions and a minimum beneficial ownership level of 4.5%, to (i) designate one director selected by Vivo to the Board and (ii) appoint a representative to attend all Board meetings in a nonvoting observer capacity and to receive copies of all materials provided to directors, subject to certain exceptions. Furthermore, Vivo will have the right to purchase additional shares of capital stock of the Company in connection with a sale of equity or equity-linked securities by the Company in a capital raising transaction for cash, subject to certain exceptions, to maintain its proportionate ownership percentage in the Company. Vivo agreed not to sell or transfer any of the shares of common stock, Series D Preferred Stock or warrants purchased by Vivo in the August 2017 Vivo Offering, or any shares of common stock issuable upon conversion or exercise thereof, other than to its affiliates, without the consent of the Company through August 2018 and to any competitor of the Company thereafter. Vivo also agreed that, subject to certain exceptions, until the later of (i) three years from the closing of the August 2017 Vivo Offering and (ii) three months after there is no Vivo director on the Board, Vivo will not, without the prior consent of the Board, acquire common stock or rights to acquire common stock that would result in Vivo beneficially owning more than 33% of the Company's outstanding voting securities at the time of acquisition. Under the Vivo Stockholder Agreement, the Company agreed to use its commercially reasonable efforts to register, via one or more registration statements filed with the SEC under the Securities Act, the shares of common stock purchased in the August 2017 Vivo Offering as well as the shares of common stock issuable upon conversion or exercise of the Series D Preferred Stock and warrants purchased by Vivo in the August 2017 Vivo Offering.

### ***May 2017 Exchange of Common Stock for Series C Convertible Preferred Stock — Related Party***

In May 2017, Foris and Naxyris agreed to exchange (May 2017 Exchange) their outstanding shares of common stock, representing a total of 1,394,706 shares, for 20,921 shares of the Company's Series C Convertible Preferred Stock, par value \$0.0001 per share (Series C Preferred Stock) in a private exchange.

Each share of Series C Preferred Stock had a stated value of \$1,000 and would automatically convert into common stock, at a conversion price of \$15.00 per share (Series C Conversion Rate), upon the approval by the Company's stockholders and implementation of a reverse stock split.

The shares of Series C Preferred Stock automatically converted to common stock on June 6, 2017 in connection with the effectiveness of the Reverse Stock Split. The Company accounted for the Series C Preferred Stock and the May 2017 Exchange as a non-monetary transaction that had no impact on the consolidated financial statements.

### ***July 2015 PIPE Warrants***

In July 2015, the Company entered into a securities purchase agreement with certain purchasers, including entities affiliated with members of the Board, under which the Company agreed to sell 1,068,379 shares of common stock at a price of \$23.40 per share, for aggregate proceeds to the Company of \$25.0 million. In connection with the sale, the Company granted to each of the purchasers a warrant, exercisable at a price of \$0.15 per share, to purchase of a number of shares of common stock equal to 10% of the shares of common stock purchased by such investor. As of December 31, 2018 and 2017, such warrants had been exercised with respect to 25,643 shares of common stock and warrants with respect to 81,197 shares of common stock were outstanding.

For information regarding issuances of equity securities subsequent to December 31, 2018, see Part II, Item 8, "Subsequent Events".

### ***Right of First Investment to Certain Investors***

In connection with investments in the Company has granted certain investors, including Vivo and DSM, a right of first investment if the Company proposes to sell securities in certain financing transactions. With these rights, such investors may subscribe for a portion of any such new financing and require the Company to comply with certain notice periods, which could discourage other investors from participating in, or cause delays in its ability to close, such a financing.

## **8. Net Loss per Share Attributable to Common Stockholders**

The Company computes net loss per share in accordance with ASC 260, "Earnings per Share." Basic net loss per share of common stock is computed by dividing the Company's net loss attributable to Amyris, Inc. common stockholders by the weighted-average number of shares of common stock outstanding during the period. Diluted net loss per share of common stock is computed by giving effect to all potentially dilutive securities, including stock options, restricted stock units, convertible preferred stock, convertible promissory notes and common stock warrants, using the treasury stock method or the as converted method, as applicable. For the years ended December 31, 2018 and 2017, basic net loss per share was the same as diluted net loss per share because the inclusion of all potentially dilutive securities outstanding was anti-dilutive. As such, the numerator and the denominator used in computing both basic and diluted net loss were the same for those years.

The Company follows the two-class method when computing net loss per common share when shares are issued that meet the definition of participating securities. The two-class method requires income available to common stockholders for the period to be allocated between common stock and participating securities based upon their respective rights to receive dividends as if all income for the period had been distributed. The two-class method also requires losses for the period to be allocated between common stock and participating securities based on their respective rights if the participating security contractually participates in losses. The Company's convertible preferred stock are participating securities as they contractually entitle the holders of such shares to participate in dividends and contractually require the holders of such shares to participate in the Company's losses.

The following table presents the calculation of basic and diluted net loss per share of common stock attributable to Amyris, Inc. common stockholders:

Years Ended December 31, (In thousands, except shares and per share amounts)	2018	2017 (As Restated, Note 2)
Net loss attributable to Amyris, Inc. . . . .	(230,235)	(155,982)
Less deemed dividend related to beneficial conversion feature on Series A preferred stock . . . . .	—	(562)
Less deemed dividend related to beneficial conversion feature on Series B preferred stock . . . . .	—	(634)
Less deemed dividend related to beneficial conversion feature on Series D preferred stock . . . . .	—	(5,757)
Less deemed dividend upon settlement of make-whole provision on Series A preferred stock . . . . .	—	(10,505)
Less deemed dividend upon settlement of make-whole provision on Series B preferred stock . . . . .	—	(22,632)
Less deemed dividend related to the recognition of discounts on Series A preferred stock upon conversion . . . . .	—	(21,578)
Less deemed dividend related to the recognition of discounts on Series B preferred stock upon conversion . . . . .	—	(24,366)
Less deemed dividend related to proceeds discount upon conversion of Series D preferred stock . . . . .	(6,852)	—
Add: losses allocated to participating securities . . . . .	13,991	40,159
Net loss attributable to Amyris, Inc. common stockholders . . . . .	\$ (223,096)	\$ (201,857)
<i>Denominator:</i>		
Weighted-average shares of common stock outstanding used in computing net loss per share of common stock, basic and diluted . . . . .	60,405,910	32,253,570
Basic and diluted loss per share . . . . .	<u>\$ (3.69)</u>	<u>\$ (6.26)</u>

The following outstanding shares of potentially dilutive securities were excluded from the computation of diluted net loss per share of common stock for the periods presented because including them would have been anti-dilutive:

Years Ended December 31,	2018	2017 (As Restated, Note 2)
Period-end common stock warrants . . . . .	25,986,370	29,921,844
Convertible promissory notes <sup>(1)</sup> . . . . .	13,703,162	8,203,821
Period-end stock options to purchase common stock . . . . .	5,392,269	1,338,367
Period-end restricted stock units . . . . .	5,294,848	685,007
Period-end preferred shares on an as-converted basis . . . . .	2,955,732	4,504,212
Total potentially dilutive securities excluded from computation of diluted net loss per share . . . . .	53,332,381	44,653,251

(1) The potentially dilutive effect of convertible promissory notes was computed based on conversion ratios in effect at the respective year-end. A portion of the convertible promissory notes issued carries a provision for a reduction in conversion price under certain circumstances, which could potentially increase the dilutive shares outstanding. Another portion of the convertible promissory notes issued carries a provision for an increase in the conversion rate under certain circumstances, which could also potentially increase the dilutive shares outstanding.

## 9. Commitments and Contingencies

### *Lease Obligations*

The Company leases certain facilities and finances certain equipment under operating and capital leases, respectively. Operating leases include leased facilities, and capital leases include leased equipment (see Note 3, “Balance Sheet Details”). The Company recognizes rent expense on a straight-line basis over the noncancelable lease term and records the difference between cash rent payments and the recognition of rent expense as a deferred rent liability. Where leases contain escalation clauses, rent abatements, and/or concessions, such as rent holidays and landlord or tenant incentives or allowances, the Company applies them as straight-line rent expense over the lease term. The Company has noncancelable operating lease agreements for office, research and development, and manufacturing space that expire at various dates, with the latest expiration in May 2023. Rent expense under operating leases was \$5.8 million and \$5.1 million for the years ended December 31, 2018 and 2017, respectively.

Future minimum payments under the Company’s lease obligations as of December 31, 2018, are as follows:

<b>Years Ending December 31 (In thousands)</b>	<b>Capital Leases</b>	<b>Operating Leases</b>	<b>Total Lease Obligations</b>
2019	\$ 513	\$10,416	\$10,929
2020	198	7,932	8,130
2021	1	7,226	7,227
2022	—	7,399	7,399
2023	—	3,034	3,034
Thereafter	—	—	—
Total future minimum payments	712	<u>\$36,007</u>	<u>\$36,719</u>
Less: amount representing interest	(33)		
Present value of minimum lease payments	679		
Less: current portion	(484)		
Long-term portion	<u>\$ 195</u>		

### *Guarantor Arrangements*

The Company has agreements whereby it indemnifies its executive officers and directors for certain events or occurrences while the executive officer or director is serving in his or her official capacity. The indemnification period remains enforceable for the executive officer’s or director’s lifetime. The maximum potential amount of future payments the Company could be required to make under these indemnification agreements is unlimited; however, the Company has a director and officer insurance policy that limits its exposure and enables the Company to recover a portion of any future payments. As a result of its insurance policy coverage, the Company believes the estimated fair value of these indemnification agreements is minimal. Accordingly, the Company had no liabilities recorded for these agreements as of December 31, 2018 and 2017.

The GACP Term Loan Facility (see Note 5, “Debt” and Note 16, “Subsequent Events”) is collateralized by first-priority liens on substantially all of the Company’s assets, including Company intellectual property. Certain of the Company’s subsidiaries have guaranteed the Company’s obligations under the GACP Term Loan Facility.

The Nikko Note is collateralized by a first-priority lien on 10% of the Aprinova JV interests owned by the Company, as discussed in Note 5, “Debt”.

### *Other Matters*

Certain conditions may exist as of the date the financial statements are issued, which may result in a loss to the Company but will only be recorded when one or more future events occur or fail to occur. The Company’s management assesses such contingent liabilities, and such assessment inherently involves an

exercise of judgement. In assessing loss contingencies related to legal proceedings that are pending against and by the Company or unasserted claims that may result in such proceedings, the Company's management evaluates the perceived merits of any legal proceedings or unasserted claims as well as the perceived merits of the amount of relief sought or expected to be sought.

If the assessment of a contingency indicates that it is probable that a material loss has been incurred and the amount of the liability can be estimated, then the estimated liability would be accrued in the Company's financial statements. If the assessment indicates that a potential material loss contingency is not probable but is reasonably possible, or is probable but cannot be reasonably estimated, then the nature of the contingent liability, together with an estimate of the range of possible loss if determinable and material would be disclosed. Loss contingencies considered to be remote by management are generally not disclosed unless they involve guarantees, in which case the guarantee would be disclosed.

On April 3, 2019, a securities class action complaint was filed against Amyris and our CEO, John G. Melo, and former CFO (and current Chief Business Officer), Kathleen Valiasek, in the U.S. District Court for the Northern District of California. The complaint seeks unspecified damages on behalf of a purported class that would comprise all persons and entities that purchased or otherwise acquired our securities between March 15, 2018 and March 19, 2019. The complaint alleges securities law violations based on statements and omissions made by the Company during such period. Subsequent to the filing of the securities class action complaint described above, on June 21, 2019, a purported shareholder derivative complaint was filed in the U.S. District Court for the Northern District of California (Bonner v. Doerr, et al., Case No. 4:19-cv-03621) based on similar allegations to those made in the securities class action complaint described above. The derivative complaint names Amyris, Inc. as a nominal defendant and names a number of the Company's current and former officers and directors as additional defendants. The lawsuit seeks to recover, on the Company's behalf, unspecified damages purportedly sustained by the Company in connection with allegedly misleading statements and/or omissions made in connection with the Company's securities filings. The derivative complaint also seeks a series of changes to the Company's corporate governance policies, restitution to the Company from the individual defendants, and an award of attorneys' fees. These cases are in the initial pleadings stage. We believe the complaints lack merit, and intend to defend ourselves vigorously. Given the early stage of these proceedings, it is not yet possible to reliably determine any potential liability that could result from these matters.

The Company is subject to disputes and claims that arise or have arisen in the ordinary course of business and that have not resulted in legal proceedings or have not been fully adjudicated. Such matters that may arise in the ordinary course of business are subject to many uncertainties and outcomes are not predictable with reasonable assurance and therefore an estimate of all the reasonably possible losses cannot be determined at this time. Therefore, if one or more of these legal disputes or claims resulted in settlements or legal proceedings that were resolved against the Company for amounts in excess of management's expectations, the Company's consolidated financial statements for the relevant reporting period could be materially adversely affected.

## 10. Revenue Recognition

### *Disaggregation of Revenue*

The following tables present revenue by primary geographical market, based on the location of the customer, as well as by major product and service:

Years Ended December 31, (In thousands)	2018	2017 (As Restated, Note 2)
Europe . . . . .	\$29,405	\$ 23,823
United States . . . . .	26,241	78,286
Asia . . . . .	6,331	23,290
Brazil . . . . .	942	2,159
Other . . . . .	685	113
	\$63,604	\$127,671

### ***Significant Revenue Agreements***

For the years ended December 31, 2018 and 2017, the Company recognized revenue in connection with significant revenue agreements and from all other customers as follows:

Years Ended December 31, (In thousands)	2018				2017 (As Restated, Note 2)			
	Renewable Products	Licenses and Royalties	Grants and Collaborations	TOTAL	Renewable Products	Licenses and Royalties	Grants and Collaborations	TOTAL
Revenue from significant revenue agreements with:								
DSM (related party) . . . . .	\$ 18	\$5,958	\$ 4,735	\$10,711	\$ —	\$ 57,972	\$ 1,679	\$ 59,651
Firmenich . . . . .	3,727	1,700	5,717	11,144	9,621	1,199	5,803	16,623
DARPA . . . . .	—	—	8,436	8,436	—	—	12,333	12,333
Givaudan . . . . .	4,078	—	4,358	8,436	1,950	—	6,000	7,950
Nenter . . . . .	—	—	—	—	12,057	2,633	—	14,690
Ginkgo . . . . .	—	—	—	—	—	(13,113)	—	(13,113)
Subtotal revenue from significant revenue agreements . . . . .	7,823	7,658	23,246	38,727	23,628	48,691	25,815	98,134
Revenue from all other customers . . . . .	25,775	—	(898)	24,877	18,742	12	10,783	29,537
Total revenue from all customers . . . . .	<u>\$33,598</u>	<u>\$7,658</u>	<u>\$22,348</u>	<u>\$63,604</u>	<u>\$42,370</u>	<u>\$ 48,703</u>	<u>\$36,598</u>	<u>\$127,671</u>

### ***Renewable Products***

#### *Firmenich Agreements*

In 2013, the Company entered into a collaboration agreement with Firmenich SA (Firmenich) (as amended, the Firmenich Collaboration Agreement), for the development and commercialization of multiple renewable flavors and fragrances compounds. In 2014, the Company entered into a supply agreement with Firmenich (Firmenich Supply Agreement) for compounds developed under the Firmenich Collaboration Agreement. The Firmenich Collaboration Agreement and Firmenich Supply Agreement (Firmenich Agreements) are considered for revenue recognition purposes to comprise a single multiple-element arrangement.

In July 2017, the Company and Firmenich entered into an amendment of the Firmenich Collaboration Agreement, pursuant to which the parties agreed to exclude certain compounds from the scope of the agreement and to amend certain terms connected with the supply and use of such compounds when commercially produced. In addition, the parties agreed to (i) fix at a 70/30 basis (70% for Firmenich) the ratio at which the parties will share profit margins from sales of two compounds; (ii) set at a 70/30 basis (70% for Firmenich) the ratio at which the parties will share profit margins from sales of a distinct form of compound until Firmenich receives \$15.0 million more than the Company in the aggregate from such sales, after which time the parties will share the profit margins 50/50 and (iii) a maximum Company cost of a compound where a specified purchase volume is satisfied, and alternative production and margin share arrangements in the event such Company cost cap is not achieved.

In August 2018, the Company and Firmenich entered into a second supply agreement (Firmenich Amended and Restated Supply Agreement), which incorporates all previous amendments and new changes and supersedes the September 2014 supply agreement. With this Amended and Restated Supply Agreement, the parties agreed on the compounds to be supplied under the agreement and the commercial specifications of these products, and made some adjustments to the pricing of the compounds.

Pursuant to the Firmenich Collaboration Agreement, the Company agreed to pay a one-time success bonus to Firmenich of up to \$2.5 million if certain commercialization targets are met. Such targets have not yet been met as of December 31, 2018. The one-time success bonus will expire upon termination of the Firmenich Collaboration Agreement, which has an initial term of 10 years and will automatically renew at the end of such term (and at the end of any extension) for an additional 3-year term unless otherwise terminated. At December 31, 2018, the Company had a \$0.5 million liability associated with this one-time success bonus that has been recorded as a reduction to the associated collaboration revenue.

### *Nenter Agreements*

In April 2016, the Company and Nenter & Co., Inc. (Nenter) entered into a renewable farnesene supply agreement (Nenter Supply Agreement) under which the Company agreed to supply farnesene and provide certain exclusive purchase rights, and Nenter committed to purchase minimum quantities and make quarterly royalty payments to the Company representing a portion of Nenter's profit on the sale of products produced using farnesene purchased under the agreement. The agreement expires December 31, 2020 and will automatically renew for an additional five years unless otherwise terminated. In December 2017, the Company assigned the Nenter Supply Agreement to DSM in connection with the Company's sale of its subsidiary Amyris Brasil Ltda., which owned and operated the Brotas, Brazil production facility; see Note 13, "Divestiture" and Note 11, "Related Party Transactions" for additional information.

### *Licenses and Royalties*

#### *DSM Agreements*

##### *DSM July and September 2017 Collaboration and Licensing Agreements*

In July and September 2017, the Company entered into three separate collaboration agreements with DSM (DSM Collaboration Agreements) to jointly develop three new molecules in the Health & Wellness (DSM Ingredients) market using the Company's technology, which the Company would produce and DSM would commercialize. Pursuant to the DSM Collaboration Agreements, DSM will, subject to certain conditions, provide funding for the development of the DSM Ingredients and, upon commercialization, the parties would enter into supply agreements whereby DSM would purchase the applicable DSM Ingredients from the Company at prices agreed by the parties. The development services will be directed by a joint steering committee with equal representation by DSM and the Company. In addition, the parties will share profit margin from DSM's sales of products that incorporate the DSM Ingredients subject to the DSM Collaboration Agreements.

In connection with the entry into the DSM Collaboration Agreements, the Company and DSM also entered into certain license arrangements (DSM License Agreements) providing DSM with certain rights to use the technology underlying the development of the DSM Ingredients to produce and sell products incorporating the DSM Ingredients. Under the DSM License Agreements, DSM agreed to pay the Company \$9.0 million for a worldwide, exclusive, perpetual, royalty-free license to produce and sell products incorporating one of the DSM Ingredients in the Health & Wellness field.

As discussed in Note 7, "Stockholders' Deficit", the Company received \$34.0 million of fixed consideration resulting from the August 2017 DSM Offering and the DSM License Agreements, discussed above, and allocated this consideration to the various elements identified. The Company first allocated \$10.6 million to the August 2017 DSM Cash Warrants and DSM Dilution Warrants liabilities and \$15.6 million of the proceeds to the August 2017 DSM Series B Preferred Stock. The remaining proceeds in excess of the fair value the equity awards and warrants of \$7.8 million was available for recognition as revenue generated from the delivery of the intellectual property licenses to DSM.

In connection with the entry into the DSM Agreements, the Company and DSM entered into the DSM Credit Letter, pursuant to which the Company granted a credit to DSM in an aggregate amount of \$12.0 million to be offset against future collaboration payments (in an amount not to exceed \$6.0 million) and royalties receivable from DSM beginning in 2018. The \$7.8 million available for revenue recognition was reduced by an apportionment of the credit and allocated between delivered license revenue and future revenues associated with the collaboration agreements. This resulted in the recognition of \$3.3 million in licenses revenue under the DSM License Agreements and the remaining amount of \$4.5 million being recorded as deferred revenue. During the three months ended December 31, 2017, the Company and DSM terminated the DSM Credit Letter, eliminating the \$12.0 million credit from the DSM Collaboration Agreements. As a result of the cancelation of the Credit Letter, the \$4.5 million of deferred revenue was included as an element of consideration in the series of December 2017 DSM agreements described below, which were evaluated as a combined transaction for accounting purposes in conjunction with the sales of the Brotas 1 facility discussed more fully in Note 11, "Related Party Transactions" and Note 13, "Divestiture".



### *DSM Value Sharing Agreement*

In December 2017, in conjunction with the Company's divestiture of its Brotas, Brazil production facility (see Note 13, "Divestiture" and Note 11, "Related Party Transactions"), the Company and DSM entered into a value sharing agreement (Value Sharing Agreement), pursuant to which DSM agreed to make certain royalty payments to the Company representing a portion of the profit on the sale of products produced using farnesene purchased under the Nenter Supply Agreement realized by Nenter and paid to DSM in accordance with the Nenter Supply Agreement. In addition, pursuant to the Value Sharing Agreement, DSM agreed to guarantee certain minimum annual royalty payments for the first three calendar years of the Value Sharing Agreement, subject to future offsets in the event that the royalty payments to which the Company would otherwise have been entitled under the Value Sharing Agreement for such years fall below certain milestones. The fair value of the nonrefundable minimum annual royalty payments were determined to be fixed and determinable, and were included as part of the total arrangement consideration subject to allocation of the overall multiple-element transaction that occurred in December 2017 with DSM. Under the Value Sharing Agreement, the Company is required to use certain royalty payments received by the Company with respect to the first three calendar years of the Value Sharing Agreement in excess of the guaranteed minimum annual royalty payments for such years, if any, to repay amounts outstanding under the DSM Credit Agreement; however, in 2018, the Company did not receive royalty payments in excess of the guaranteed minimum annual amount. See Note 5, "Debt". The Value Sharing Agreement will expire in December 2027, subject to the right of each of the parties to terminate for uncured material breach by the other party or in the event the other party is subject to bankruptcy proceedings, liquidation, dissolution or similar proceedings or other specified events. During 2018, the Company and DSM amended the Value Sharing Agreement to (i) provide for the use of estimates in calculating quarterly royalty payments (subject to true-up), (ii) modify how the guaranteed minimum annual royalty payment for 2018 will be offset against value payments accruing during 2018 and (iii) accelerate the minimum annual royalty payment for 2019 from December 31, 2018 to June 30, 2018 in exchange for a fee of \$750,000. For the year ended December 31, 2018, the Company recognized \$7.9 million of revenue in connection with the DSM Value Sharing Agreement.

In April 2019, the Company assigned to DSM all the Company's rights and obligations under the Value Sharing Agreement. See Note 16, "Subsequent Events" for additional information.

### *DSM Performance Agreement*

In December 2017, in connection with the Company's divestiture of its Brotas, Brazil production facility (see Note 13, "Divestiture"), the Company and DSM entered into a performance agreement (Performance Agreement), pursuant to which the Company will provide certain research and development services to DSM relating to the development of the technology underlying the farnesene-related products to be manufactured at the Brotas facility in exchange for related funding, including certain bonus payments in the event that specific performance metrics are achieved. The Company will record the bonus payments as earned revenue upon the transfer of the developed technology to DSM. If the Company does not meet the established metrics under the Performance Agreement, the Company will be required to pay \$1.8 million to DSM. The Performance Agreement will expire in December 2020, subject to the right of each of the parties to terminate for uncured material breach by the other party or in the event the other party is subject to bankruptcy proceedings, liquidation, dissolution or similar proceedings or other specified events.

In April 2019, the Company and DSM amended the Performance Agreement. See Note 16, "Subsequent Events" for additional information.

### *DSM November 2017 Intellectual Property License Agreement*

In November 2017, in connection with the Company's divestiture of its Brotas, Brazil production facility (see Note 13, "Divestiture"), the Company and DSM entered into a license agreement covering certain intellectual property of the Company useful in the performance of certain commercial supply agreements assigned by the Company to DSM relating to products currently manufactured at the Brotas facility (DSM November 2017 Intellectual Property License Agreement). In December 2017, DSM paid the Company an upfront license fee of \$27.5 million. In accounting for the Divestiture with DSM, a multiple-element arrangement, the license of intellectual property to DSM was identified as revenue

deliverable with standalone value and qualified as a separate unit of accounting. The Company performed an analysis to determine the fair value for of the license, and allocated the non-contingent consideration based on the relative fair value. The Company determined that the license had been fully delivered, and, as such, license revenue of \$54.6 million was recognized for the period ended December 31, 2017.

#### *DSM December 2017 Supply Agreement and November 2018 Supply Agreement Amendment*

On November 19, 2018, the Company and DSM entered into an amendment (Supply Agreement Amendment) to the supply agreement, dated December 28, 2017 (Supply Agreement), by and between the Company and DSM. Under the Supply Agreement, DSM agreed to manufacture and supply to the Company certain products useful in the Company's business, at prices and on production and delivery terms and specifications set forth in the Supply Agreement, which prices are based upon DSM's manufacturing cost plus an agreed margin. The Supply Agreement originally provided that it would expire (i) with respect to non-farnesene related products, on the date that the Company's planned new specialty ingredients manufacturing facility in Brazil is fully operational and meets its production targets, but in any event no later than December 31, 2021 and (ii) with respect to farnesene related products, on December 28, 2037, subject in each case to earlier termination in certain circumstances. Pursuant to the Supply Agreement Amendment, (i) the outside expiration date of the Supply Agreement with respect to non-farnesene related products was extended to December 31, 2022, with specified pricing terms added for products manufactured during 2022, (ii) DSM committed to produce certain non-farnesene related products for the Company for two months of each calendar year during the term of the Supply Agreement and (iii) the Company agreed to (A) pay DSM a cash fee totaling \$15.5 million, payable in installments during 2018 and 2019, (B) issue 1,643,991 shares of the Company's common stock to DSM, and (C) pay DSM a cash fee of \$7.3 million, payable on or before March 29, 2019, plus, if the closing price of the Common Stock on the trading day immediately preceding the date of such payment is less than \$4.41 per share, an amount equal to such deficiency multiplied by 1,643,991.

The Company also entered into other transactions with DSM in November 2018 which resulted in the Company (i) accounting for this series of transactions, including the Supply Agreement Amendment, and certain other transactions with DSM in 2018 as a combined arrangement, and (ii) determining and allocating the fair value to each element. See Note 11, "Related Party Transactions" for additional information.

In April 2019, the Company and DSM further amended the Supply Agreement. See Note 16, "Subsequent Events" for additional information.

#### *DSM November 2018 Letter Agreement*

On November 19, 2018, the Company and DSM entered into a letter agreement (November 2018 DSM Letter Agreement), pursuant to which the Company agreed (i) to cause the removal of certain existing liens on intellectual property owned by the Company and licensed to DSM and (ii) if such liens were not removed prior to December 15, 2018, to issue to DSM shares of the Company's common stock with a value equal to \$5.0 million. On December 14, 2018, the Company entered into an amendment to the GACP Term Loan Facility to remove such lien, and the November 2018 DSM Letter Agreement was thereby terminated.

#### *Ginkgo Agreements*

##### *Ginkgo Initial Strategic Partnership Agreement and Collaboration Agreement*

In June 2016, the Company entered into a collaboration agreement (Initial Ginkgo Agreement) with Ginkgo Bioworks, Inc. (Ginkgo), pursuant to which the Company licensed certain intellectual property to Ginkgo in exchange for a fee of \$20.0 million to be paid by Ginkgo to the Company in two installments, and a 10% royalty on net revenue, including without limitation net sales, royalties, fees and any other amounts received by Ginkgo related directly to the license. The Company received the first installment of \$15.0 million in July 2016, which the Company recognized as revenue in 2016. However, the Company did not receive the second installment of \$5.0 million, as the Company did not meet the milestone criteria for the receipt of such payment.

In September 2016, the Company and Ginkgo entered into a collaboration agreement (Ginkgo Collaboration Agreement) setting forth the terms of the Ginkgo Collaboration, under which the parties would collaborate to develop, manufacture and sell commercial products, and Ginkgo would pay royalties to the Company. The Ginkgo Collaboration Agreement provided that, subject to certain exceptions, all third-party contracts for the development of chemical small molecule compounds whose manufacture is enabled by the use of microbial strains and fermentation technologies that are entered into by the Company or Ginkgo during the term of the Ginkgo Collaboration Agreement would be subject to the Ginkgo Collaboration and the approval of the other party (not to be unreasonably withheld). Responsibility for the engineering and small-scale process development of the newly developed products would be allocated between the parties on a project-by-project basis, and the Company would be principally responsible for the commercial scale-up and production of such products, with each party generally bearing its own respective costs and expenses relating to the Ginkgo Collaboration, including capital expenditures.

Under the Ginkgo Collaboration Agreement, subject to certain exceptions, including excluded or refused products and cost savings initiatives, the profit on the sale of products subject to the Ginkgo Collaboration Agreement as well as cost-sharing, milestone and “value-creation” payments associated with the development and production of such products would be shared equally between the parties. The parties also agreed to provide each other with a license and other rights to certain intellectual property necessary to support the development and manufacture of the products under the Ginkgo Collaboration, and also to provide each other with access to certain other intellectual property useful in connection with the activities to be undertaken under the Ginkgo Collaboration Agreement, subject to certain carve-outs.

#### *Ginkgo Partnership Agreement*

In November 2017, the Company and Ginkgo entered into a partnership agreement (Ginkgo Partnership Agreement) to replace and supersede the Ginkgo Collaboration Agreement. Under the Ginkgo Partnership Agreement, the Company and Ginkgo agreed:

- to continue to collaborate on limited research and development;
- to provide each other licenses (with royalties) to specified intellectual property for limited purposes;
- for the Company to pay Ginkgo quarterly fees of \$0.8 million (Partnership Payments) for a total of \$12.7 million, beginning on December 31, 2018 and ending on September 30, 2022;
- to share profit margins from sales of a certain product to be developed under the Ginkgo Partnership Agreement on a 50/50 basis, subject to certain conditions, provided that net profits will be payable to Ginkgo for any quarterly period to the extent that such net profits exceed the sum of (a) quarterly interest payments due under the November 2017 Ginkgo Note (see Note 5, “Debt”) and (b) Partnership Payments due in such quarter;
- for the Company to issue the \$12 million Ginkgo Note which effectively guarantees Ginkgo \$12 million minimum future royalties under the profit margin sharing provisions noted above; and
- for the Company to pay Ginkgo \$0.5 million in connection with certain fees previously owed to Ginkgo under the Ginkgo Collaboration Agreement.

The Ginkgo Partnership Agreement provides for an initial term of two years and will automatically renew for successive one-year terms thereafter unless otherwise terminated. The Company does not expect to recognize any future revenue under this arrangement.

The Company recorded the \$6.1 million present value of the \$12.7 million partnership payments as an other liability (see Note 3, “Balance Sheet Details”), with the remaining \$6.6 million recorded as a debt discount to be recognized as interest expense under the effective interest method over the five-year payment term. The Company also concluded the partnership payment obligation under the Ginkgo Partnership Agreement represents consideration payable to a former customer; and consequently, the present value of the partnership payments should be recorded as a reduction of cumulative revenue recognized to date from Ginkgo in the period the partnership agreement was executed. As a result, the Company recorded a \$6.1 million reduction in license revenues for the year ended December 31, 2017. The Company reached a

similar conclusion regarding the \$12.0 million Ginkgo Note (see Note 5, “Debt” under the “Ginkgo Note” section for further discussion regarding the accounting treatment of the Ginkgo Note) and recorded an additional \$7.0 million reduction in license revenue for the year ended December 31, 2017 related to the present value of the Ginkgo Note. In total, the Company recorded a \$13.1 million reduction in licenses and royalties revenue and \$13.1 million in notes payable and other liabilities as of and for the year ended December 31, 2017 upon execution of the Ginkgo Partnership Agreement.

### ***Collaborations***

#### ***DARPA Technology Investment Agreement***

In September 2015, the Company entered into a technology investment agreement (TIA) with The Defense Advanced Research Projects Agency (DARPA), under which the Company, with the assistance of specialized subcontractors, is working to create new research and development tools and technologies for strain engineering and scale-up activities. The agreement is being funded by DARPA on a milestone basis. Under the TIA, the Company and its subcontractors could collectively receive DARPA funding of up to \$35.0 million over the program’s four year term if all of the program’s milestones are achieved. In conjunction with DARPA’s funding, the Company and its subcontractors are obligated to collectively contribute approximately \$15.5 million toward the program over its four year term (primarily by providing specified labor and/or purchasing certain equipment). For the DARPA agreement, the Company recognizes revenue using an output-based measure of progress of the milestones completed relative to remaining milestones, once acknowledged by DARPA.

### ***Contract Assets and Liabilities***

When a contract results in revenue being recognized in excess of the amount the Company has invoiced or has the right to invoice to the customer, a contract asset is recognized. Contract assets are transferred to accounts receivable, net when the rights to the consideration become unconditional. Contract assets are presented as Accounts receivable, unbilled – related party on the consolidated balance sheets.

Contract liabilities consist of payments received from customers, or such consideration that is contractually due, in advance of providing the product or performing services such that control has not passed to the customer.

Trade receivables related to revenue from contracts with customers are included in accounts receivable on the consolidated balance sheets, net of the allowance for doubtful accounts. Trade receivables are recorded at the point of renewable product sale or in accordance with the contractual payment terms for licenses and royalties, and grants and collaborative research and development services for the amount payable by the customer to the Company for sale of goods or the performance of services, and for which the Company has the unconditional right to receive payment.

### ***Contract Balances***

The following table provides information about accounts receivable and contract liabilities from contracts with customers:

<b>December 31, (In thousands)</b>	<b>2018</b>	<b>2017</b>
Accounts receivable, net . . . . .	\$16,003	\$18,953
Accounts receivable – related party, net . . . . .	\$ 1,349	\$ 4,767
Accounts receivable, unbilled – related party . . . . .	\$ 8,021	\$ 9,901
Accounts receivable, unbilled, noncurrent – related party . . . . .	\$ 1,203	\$ 7,940
Contract liabilities <sup>(1)</sup> . . . . .	\$ 8,236	\$ 4,308
Contract liabilities, noncurrent <sup>(2)</sup> . . . . .	\$ 1,587	\$ —

(1) The balance in contract liabilities, current at December 31, 2017 represents deferred revenue, current prior to the Company’s adoption of ASC 606, “Revenue”.

- (2) The balances in contract liabilities, noncurrent are included in other noncurrent liabilities on the consolidated balance sheets.

Unbilled receivables relate to the Company’s right to consideration from DSM for (i) minimum future royalties and (ii) a material right arising from a customer option for a future transfer of technology. The Company’s right to cash receipt for these minimum royalty amounts occurs on or before December 31, 2019, and the right to cash receipt for the customer option occurs on or before December 31, 2020.

Contract liabilities, current increased by \$3.9 million at December 31, 2018 resulting from a \$0.8 million increase upon adoption of ASC 606 on January 1, 2018 plus the net amount of collaboration and royalty revenues invoiced in excess of amounts recognized as revenue, less \$3.3 million of revenue recognized during the year ended December 31, 2018 that was included in deferred revenue at the beginning of the period.

*Remaining Performance Obligations*

The following table provides information regarding the estimated revenue expected to be recognized in the future related to performance obligations that are unsatisfied (or partially unsatisfied) based on the Company’s existing agreements with customers as of December 31, 2018.

<u>(In thousands)</u>	<u>As of December 31, 2018</u>
2019 . . . . .	\$14,131
2020 . . . . .	7,925
2021 . . . . .	—
2022 and thereafter . . . . .	—
Total from all customers . . . . .	<u>\$22,056</u>

In accordance with the disclosure provisions of ASC 606, the table above excludes estimated future revenues for performance obligations that are part of a contract that has an original expected duration of one year or less or a performance obligation with variable consideration that is recognized using the sales-based royalty exception for licenses of intellectual property. Additionally, \$21.4 million of estimated future revenue is excluded from the table above, as that amount represents constrained variable consideration.

**11. Related Party Transactions**

*Related Party Divestiture*

See Note 13, “Divestiture” for details regarding the sale of Amyris Brasil to DSM in December 2017.

*Related Party Equity*

See Note 7, “Stockholders’ Deficit” for details of these related party equity transactions:

- November 2018 DSM Securities Purchase Agreement
- August 2018 Warrant Transactions
- August 2017 DSM Offering
- May 2017 Offerings
- May 2017 Exchange of Common Stock for Series C Convertible Preferred Stock
- July 2015 PIPE Warrants
- Temasek Funding Warrant

*Related Party Debt*

See Note 5, “Debt” for details of these related party debt transactions:

- DSM Note (also see Note 13, “Divestiture”)
- February 2016 Private Placement
- 2014 Rule 144A Convertible Notes
- August 2013 Financing Convertible Notes
- R&D Note

Related party debt was as follows:

December 31, (in thousands)	2018			2017		
	Principal	Unamortized Debt (Discount) Premium	Net	Principal	Unamortized Debt (Discount) Premium	Net
<b>Total</b>						
2014 Rule 144A convertible notes . .	\$ 9,705	\$ (422)	\$ 9,283	\$ 9,705	\$ (1,538)	\$ 8,167
August 2013 financing convertible notes . . . . .	—	—	—	21,711	897	22,608
R&D note . . . . .	—	—	—	3,700	(18)	3,682
	<u>9,705</u>	<u>(422)</u>	<u>9,283</u>	<u>35,116</u>	<u>(659)</u>	<u>34,457</u>
<b>DSM</b>						
DSM note . . . . .	25,000	(6,311)	18,689	25,000	(8,039)	16,961
Other DSM loan . . . . .	—	—	—	393	—	393
	<u>25,000</u>	<u>(6,311)</u>	<u>18,689</u>	<u>25,393</u>	<u>(8,039)</u>	<u>17,354</u>
<b>Biolding</b>						
February 2016 private placement . . .	—	—	—	2,000	—	2,000
<b>Foris</b>						
2014 Rule 144A convertible notes . .	5,000	(181)	4,819	5,000	(660)	4,340
<b>Temasek</b>						
2014 Rule 144A convertible notes . .	<u>10,000</u>	<u>(435)</u>	<u>9,565</u>	<u>10,000</u>	<u>(1,591)</u>	<u>8,409</u>
	<u>\$49,705</u>	<u>\$(7,349)</u>	<u>\$42,356</u>	<u>\$77,509</u>	<u>\$(10,949)</u>	<u>\$66,560</u>

The fair value of the derivative liabilities related to the related party R&D Note, related party August 2013 Financing Convertible Notes (Tranche Notes) and related party 2014 Rule 144A Convertible Notes as of December 31, 2018 and 2017 was \$0 and \$0.2 million, respectively. The Company recognized (losses) gains from change in the fair value of these derivative liabilities of (\$8.5) million and \$0.6 million for the years ended December 31, 2018 and 2017, respectively; see Note 4, “Fair Value Measurement”.

At December 31, 2018, Temasek was no longer a related party. However, the Company and Temasek were related parties when they entered into the 2014 Rule 144A convertible notes transaction, for which terms have remained unchanged since the borrowing date.

*Related Party Revenue*

The Company recognized revenue from related parties and from all other customers as follows:

Years Ended December 31, (In thousands)	2018				2017 (As restated, Note 2)			
	Renewable Products	Licenses and Royalties	Grants and Collaborations	TOTAL	Renewable Products	Licenses and Royalties	Grants and Collaborations	TOTAL
Revenue from related parties: . . .								
DSM . . . . .	\$ 18	\$5,958	\$ 4,735	\$10,711	\$ —	\$57,972	\$ 1,679	\$ 59,651
Total . . . . .	342	—	—	342	(200)	—	—	(200)
Novvi . . . . .	—	—	—	—	1,491	—	—	1,491
Subtotal revenue from related parties . . . . .	360	5,958	4,735	11,053	1,291	57,972	1,679	60,942
Revenue from all other customers <sup>(1)</sup> . . . . .	33,238	1,700	17,613	52,551	41,079	(9,269)	34,919	66,729
Total revenue from all customers . . . . .	<u>\$33,598</u>	<u>\$7,658</u>	<u>\$22,348</u>	<u>\$63,604</u>	<u>\$42,370</u>	<u>\$48,703</u>	<u>\$36,598</u>	<u>\$127,671</u>

- (1) Licenses and royalties revenue is negative for 2017 due to the \$13.1 million reversal of cumulative to date revenue as a result of entering into the 2017 Ginkgo Partnership Agreement. See Note 10. Revenue Recognition.

See Note 10, “Revenue Recognition” for details of the Company’s revenue agreements with DSM.

*Related Party Accounts Receivable*

Related party accounts receivable was as follows:

December 31, (In thousands)	2018	2017
DSM . . . . .	\$1,071	\$12,823
Novvi . . . . .	188	1,607
Total . . . . .	90	238
Related party accounts receivable, net . . . . .	<u>\$1,349</u>	<u>\$14,668</u>

In addition to the amounts shown above, there were the following amounts on the consolidated balance sheet at December 31, 2018:

- a total of \$8.0 million of unbilled receivables from DSM, in the lines captioned “Accounts receivable, unbilled – related party” and “Accounts receivable, unbilled, noncurrent – related party”; and
- \$4.3 million of contingent consideration receivable from DSM in the line captioned “Other assets”.

*Related Party Accounts Payable*

Amounts due to DSM that were included in Accounts payable and Accrued and other current liabilities at December 31, 2018 were \$2.1 million and \$0.6 million, respectively.

### Related Party DSM Transactions

The Company is party to the following significant agreements (and related amendments) with related party DSM:

Related to	Agreement	For Additional Information, See the Note Indicated
Debt	DSM Credit Agreement	5. Debt 10. Revenue Recognition
Debt	DSM Note	5. Debt
Debt	November 2018 DSM Letter Agreement	5. Debt
Divestiture	November 2017 Quota Purchase Agreement	13. Divestiture
Divestiture	December 2017 DSM Transition Services Agreement	13. Divestiture
Equity	May 2017 Offerings	7. Stockholders' Deficit
Equity	August 2017 DSM Offering	7. Stockholders' Deficit
Equity	November 2018 DSM Securities Purchase Agreement	7. Stockholders' Deficit
Revenue	July and September 2017 Collaboration and Licensing Agreements	10. Revenue Recognition
Revenue	December 2017 DSM Supply Agreement	10. Revenue Recognition
Revenue	December 2017 DSM Value Sharing Agreement, as amended	10. Revenue Recognition
Revenue	December 2017 DSM Performance Agreement	10. Revenue Recognition
Revenue	November 2017 Intellectual Property License Agreement	10. Revenue Recognition
Revenue	November 2018 Supply Agreement Amendment	10. Revenue Recognition

Concurrent with the sale of Amyris Brasil in December 2017, the Company and DSM entered into a series of commercial agreements including (i) a license agreement to DSM of its farnesene product for DSM to use in the Vitamin E and lubricant markets; (ii) a royalty agreement that DSM will pay the Company specified royalties representing a portion of the profit on the sale of Vitamin E produced from farnesene under the Nenter Supply Agreement assigned to DSM; (iii) a performance agreement, which provides an option for DSM to elect a technology transfer upon the achievement of certain development milestones associated with the optimization of farnesene strains; and (iv) a transition services agreement for the Company to provide finance, legal, logistics, and human resource services to support the Brotas facility under DSM ownership for a six-month period with a DSM option to extend for six additional months. At closing, DSM paid the Company a nonrefundable license fee of \$27.5 million and a nonrefundable royalty payment of \$15.0 million. In addition, in December 2017 the Company entered into a credit agreement with DSM under which the Company borrowed \$25 million; see Note 5, "Debt" for additional information.

In June 2018, DSM paid the Company a non-refundable minimum royalty payment of \$9.3 million (net of a \$0.7 million early payment discount) and will also owe the Company a final payment of \$8.1 million in 2019. The future nonrefundable minimum annual royalty payments were determined to be fixed and determinable with a fair value of \$17.8 million and were included as part of the total arrangement consideration subject to allocation of this overall multiple-element divestiture transaction.

In November 2018, the Company amended the supply agreement with DSM to secure capacity at the Brotas 1 facility for Reb M production thru 2022. See Note 10, "Revenue Recognition" for information regarding the November 2018 Supply Agreement Amendment and the November 2018 DSM Securities Purchase Agreement. The Company also entered into other transactions with DSM in November 2018 which resulted in the Company (i) evaluating this series of November 2018 transactions and considering other certain transactions with DSM in 2018 as a combined arrangement, and (ii) determining and allocating the fair value to each element. The other transactions entered into concurrently with the November 2018 Supply Agreement Amendment and November 2018 DSM Securities Purchase Agreement included an agreement to finalize the working capital adjustments related to the Brotas 1 facility sale in



December 2017 and an amendment to reduce the exercise price of the Cash Warrant issued to DSM in the August 2017 DSM Offering and to provide a waiver for any potential claims arising from failure to obtain consent prior to amending the exercise price of the August 2017 Vivo Cash Warrant in the August 2017 Warrant transaction.

The contractual consideration transferred to DSM under the combined arrangement was \$34.7 million. The Company performed an analysis to determine the fair value of the elements and allocated (i) \$24.4 million to the manufacturing capacity, (ii) \$6.8 million to the legal settlement and related consent waiver and (iii) \$2.1 million to the working capital adjustment. Of the \$24.4 million fair value allocated to the manufacturing capacity, \$3.3 million was recorded as deferred cost of revenue during the period ended December 31, 2018 and the remaining \$21.0 million will be recorded as deferred cost of revenue in the period the additional payments are due and payable to DSM. The deferred cost of revenue asset will be expensed on a units of production basis as products are sold over the five-year term of the supply agreement and evaluated for recoverability at each period end. The \$6.8 million of fair value allocated to the legal settlement and related consent waiver was recorded as legal settlement expense for the year ended December 31, 2018. The \$2.1 million of fair value allocated to the working capital adjustment was recorded as a loss on divestiture for the year ended December 31, 2018. The contractual consideration transferred to DSM exceeded the fair value of the elements received by \$1.4 million and this excess was recorded as a reduction of licenses and royalties revenues in the three months ended December 31, 2018.

#### *Related Party Joint Venture*

In December 2016, the Company, Nikko Chemicals Co., Ltd. an existing commercial partner of the Company, and Nippon Surfactant Industries Co., Ltd., an affiliate of Nikko (collectively, Nikko) entered into a joint venture (the Aprinova JV Agreement) pursuant to which the Company contributed certain assets, including certain intellectual property and other commercial assets relating to its business-to-business cosmetic ingredients business (the Aprinova JV Business), as well as its Leland production facility. The Company also agreed to provide the Aprinova JV with exclusive (to the extent not already granted to a third party), royalty-free licenses to certain of the Company's intellectual property necessary to make and sell products associated with the Aprinova JV Business (the Aprinova JV Products). Nikko purchased their 50% interest in the Aprinova JV in exchange for the following payments to the Company: (i) an initial payment of \$10.0 million and (ii) the profits, if any, distributed to Nikko in cash as members of the Aprinova JV during the three-year period from 2017 to 2019, up to a maximum of \$10.0 million.

The Aprinova JV operates in accordance with the Aprinova Operating Agreement under which the Aprinova JV is managed by a Board of Directors consisting of four directors: two appointed by the Company and two appointed by Nikko. In addition, Nikko has the right to designate the Chief Executive Officer of the Aprinova JV from among the directors and the Company has the right to designate the Chief Financial Officer. The Company determined that it has the power to direct the activities of the Aprinova JV that most significantly impact its economic performance because of its (i) significant control and ongoing involvement in operational decision making, (ii) guarantee of production costs for certain Aprinova JV products, as discussed below, and (iii) control over key supply agreements, operational and administrative personnel and other production inputs. The Company has concluded that the Aprinova JV is a variable-interest entity (VIE) under the provisions of ASC 810, Consolidation, and that the Company has a controlling financial interest and is the VIE's primary beneficiary. As a result, the Company accounts for its investment in the Aprinova JV on a consolidation basis in accordance with ASC 810.

Under the Aprinova Operating Agreement, profits from the operations of the Aprinova JV, if any, are distributed as follows: (i) first, to the Company and Nikko (the Members) in proportion to their respective unreturned capital contribution balances, until each Member's unreturned capital contribution balance equals zero and (ii) second, to the Members in proportion to their respective interests. In addition, any future capital contributions will be made by the Company and Nikko on an equal (50%/50%) basis each time, unless otherwise mutually agreed.

Pursuant to the Aprinova JV Agreement, the Company and Nikko agreed to make working capital loans to the Aprinova JV in the amounts of \$0.5 million and \$1.5 million, respectively, as described in more detail in Note 5, "Debt" under "Aprinova Working Capital Loans". In addition, the Company agreed to guarantee a maximum production cost for squalane and hemisqualane to be produced by the Aprinova JV and to bear any cost of production above such guaranteed costs.

In connection with the contribution of the Leland Facility by the Company to the Aprinnova JV, at the closing of the formation of the Aprinnova JV, Nikko made a loan to the Company in the principal amount of \$3.9 million, and the Company in consideration therefore issued a promissory note to Nikko in an equal principal amount, as described in more detail in Note 5, “Debt” under “Nikko Note.”

The following presents the carrying amounts of the Aprinnova JV’s assets and liabilities included in the accompanying consolidated balance sheets. Assets presented below are restricted for settlement of the Aprinnova JV’s obligations and all liabilities presented below can only be settled using the Aprinnova JV resources.

December 31, (In thousands)	2018	2017
Assets . . . . .	\$12,904	\$7,635
Liabilities . . . . .	\$ 2,364	\$3,187

The Aprinnova JV’s assets and liabilities are primarily comprised of inventory, property, plant and equipment, accounts payable and debt, which are classified in the same categories in the Company’s consolidated balance sheets.

There was no change in noncontrolling interest for the Aprinnova JV for the years ended December 31, 2018 and 2017, due to profit sharing provisions whereby the Company retains 100% of the profits from 2017 to 2020.

*Office Sublease*

The Company subleases certain office space to Novvi, for which the Company charged Novvi \$0.6 million and \$0.5 million for the years ended December 31, 2018 and 2017, respectively.

See Note 16, “Subsequent Events” for information regarding related party transactions subsequent to December 31, 2018.

**12. Stock-based Compensation**

*Stock-based Compensation Expense Related to All Plans*

Stock-based compensation expense related to all employee stock compensation plans, including options, restricted stock units and ESPP, was as follows:

Years Ended December 31, (In thousands)	2018	2017
Research and development . . . . .	\$1,797	\$2,204
Sales, general and administrative . . . . .	7,393	4,061
Total stock-based compensation expense . . . . .	<u>\$9,190</u>	<u>\$6,265</u>

*Plans*

*2010 Equity Incentive Plan*

The Company’s 2010 Equity Incentive Plan (2010 Equity Plan) became effective on September 27, 2010 and will terminate in 2020. The 2010 Equity Plan provides for the granting of common stock options, restricted stock awards, stock bonuses, stock appreciation rights, restricted stock units (RSUs) and performance awards. It allows for time-based or performance-based vesting for the awards. Options granted under the 2010 Equity Plan may be either incentive stock options (ISOs) or non-statutory stock options (NSOs). ISOs may be granted only to Company employees (including officers and directors who are also employees). NSOs may be granted to Company employees, non-employee directors and consultants. The Company will be able to issue no more than 2,000,000 shares pursuant to the grant of ISOs under the 2010 Equity Plan. Options under the 2010 Equity Plan may be granted for periods of up to ten years. All options issued to date have had a ten-year life. Under the plan, the exercise price of any ISOs and NSOs may not be

less than 100% of the fair market value of the shares on the date of grant. The exercise price of any ISOs and NSOs granted to a 10% stockholder may not be less than 110% of the fair value of the underlying stock on the date of grant. The options and RSUs granted to-date generally vest over three to five years.

As of December 31, 2018 and 2017, options were outstanding to purchase 5,339,214 and 1,255,045 shares, respectively, of the Company's common stock granted under the 2010 Equity Plan, with weighted-average exercise prices per share of \$33.40 and \$26.29, respectively. In addition, as of December 31, 2018 and 2017, restricted stock units representing the right to receive 5,294,803 and 683,554 shares, respectively, of the Company's common stock granted under the 2010 Equity Plan were outstanding. As of December 31, 2018 and 2017, 2,359,750 and 252,107 shares, respectively, of the Company's common stock remained available for future awards that may be granted under the 2010 Equity Plan.

The number of shares reserved for issuance under the 2010 Equity Plan increases automatically on January 1 of each year starting with January 1, 2011, by a number of shares equal to 5% of the Company's total outstanding shares as of the immediately preceding December 31. However, the Company's Board of Directors or the Leadership Development and Compensation Committee of the Board of Directors retains the discretion to reduce the amount of the increase in any particular year.

In May 2018, shareholders approved amendments to the 2010 Equity Plan to (i) increase the number of shares of common stock available for grant and issuance thereunder by 9.0 million shares and (ii) increase the annual per-participant award limit thereunder to 4.0 million shares. Subsequent to the amendments, the total number of shares available for grant was 9,280,000, not including the annual evergreen increases.

#### *2005 Stock Option/Stock Issuance Plan*

In 2005, the Company established its 2005 Stock Option/Stock Issuance Plan (2005 Plan) which provided for the granting of common stock options, restricted stock units, restricted stock and stock purchase rights awards to employees and consultants of the Company. The 2005 Plan allowed for time-based or performance-based vesting for the awards. Options granted under the 2005 Plan were ISOs or NSOs. ISOs were granted only to Company employees (including officers and directors who are also employees). NSOs were granted to Company employees, non-employee directors, and consultants.

All options issued under the 2005 Plan had a ten-year life. The exercise prices of ISOs and NSOs granted under the 2005 Plan were not less than 100% of the estimated fair value of the shares on the date of grant, as determined by the Board of Directors. The exercise price of an ISO and NSO granted to a 10% stockholder could not be less than 110% of the estimated fair value of the underlying stock on the date of grant as determined by the Board. The options generally vested over 5 years.

As of December 31, 2018 and 2017, options to purchase 52,389 and 79,322 shares, respectively, of the Company's common stock granted under the 2005 Plan remained outstanding, and as a result of the adoption of the 2010 Equity Plan discussed above, zero shares of the Company's common stock remained available for future awards issuance under the 2005 Plan. The options outstanding under the 2005 Plan as of December 31, 2018 and 2017 had a weighted-average exercise price per share of \$185.93 and \$144.58, respectively.

#### *2010 Employee Stock Purchase Plan*

The 2010 Employee Stock Purchase Plan (2010 ESPP) became effective on September 27, 2010. The 2010 ESPP is designed to enable eligible employees to purchase shares of the Company's common stock at a discount. Offering periods under the 2010 ESPP generally commence on each May 16 and November 16, with each offering period lasting for one year and consisting of two six-month purchase periods. The purchase price for shares of common stock under the 2010 ESPP is the lesser of 85% of the fair market value of the Company's common stock on the first day of the applicable offering period or the last day of each purchase period. During the life of the 2010 ESPP, the number of shares reserved for issuance increases automatically on January 1 of each year, starting with January 1, 2011, by a number of shares equal to 1% of the Company's total outstanding shares as of the immediately preceding December 31. However, the Company's Board of Directors or the Leadership Development and Compensation Committee of the Board of Directors retains the discretion to reduce the amount of the increase in any particular year. In May 2018, shareholders approved an amendment to the 2010 ESPP to increase the

maximum number of shares of common stock that may be issued over the term of the ESPP by 1 million shares. No more than 1,666,666 shares of the Company's common stock may be issued under the 2010 ESPP and no other shares may be added to this plan without the approval of the Company's stockholders.

### *2018 CEO Performance-based Stock Options*

In May 2018, the Company granted its chief executive officer performance-based stock options (PSOs) to purchase 3,250,000 shares. PSOs are equity awards with the final number of PSOs that may vest determined based on the Company's performance against pre-established EBITDA milestones and Amyris stock price milestones. The EBITDA milestones are measured from the grant date through December 31, 2021, and the stock price milestones are measured from the grant date through December 31, 2022. The PSOs vest in four tranches contingent upon the achievement of both the EBITDA milestones and stock price milestones for each respective tranche, and the chief executive officer's continued employment with the Company. Over the measurement periods, the number of PSOs that may be issued and the related stock-based compensation expense that is recognized is adjusted upward or downward based upon the probability of achieving the EBITDA milestones. Depending on the probability of achieving the EBITDA milestones and stock price milestones and certification of achievement of those milestones for each vesting tranche by the Company's Board of Directors or Compensation Committee, the PSOs issued could be from zero to 3,250,000 stock options, with an exercise price of \$5.08 per share.

Stock-based compensation expense for this award is recognized using a graded-vesting approach over the service period beginning at the grant date through December 31, 2022, as the Company's management has determined that certain EBITDA milestones are probable of achievement over the next four years as of December 31, 2018. The Company utilized a Monte Carlo simulation to estimate the grant date fair value of each tranche of the award which totaled \$5.1 million. For the year ended December 31, 2018, the Company recognized \$0.7 million of compensation expense for this award. The assumptions used to estimate the fair value of this award with performance and market vesting conditions were as follows:

#### **Stock Option Award with Performance and Market Vesting Conditions:**

Fair value of the Company's common stock on grant date . . . . .	\$5.08
Expected volatility . . . . .	70%
Risk-free interest rate . . . . .	2.75%
Dividend yield . . . . .	0.0%

### *Stock Option Activity*

Stock option activity is summarized as follows:

Year ended December 31,	2018	2017
Options granted . . . . .	4,337,119	661,094
Weighted-average grant-date fair value per share . . . . .	\$ 5.18	\$ 3.26
Compensation expense related to stock options (in millions) . . . . .	\$ 2.6	\$ 3.3
Unrecognized compensation costs as of December 31 (in millions) . . . . .	\$ 8.5	\$ 2.7

The Company expects to recognize the December 31, 2018 balance of unrecognized costs over a weighted-average period of 3.8 years. Future option grants will increase the amount of compensation expense to be recorded in these periods.

Stock-based compensation expense for stock options and employee stock purchase plan rights is estimated at the grant date and offering date, respectively, based on the fair-value using the Black-Scholes option pricing model. The fair value of employee stock options is amortized on a ratable basis over the requisite service period of the awards. The fair value of employee stock options and employee stock purchase plan rights was estimated using the following weighted-average assumptions:

Years Ended December 31,	2018	2017
Expected dividend yield . . . . .	—%	—%
Risk-free interest rate . . . . .	2.8%	2.1%
Expected term (in years) . . . . .	6.90	6.12
Expected volatility . . . . .	80%	84%

The expected life of options is based primarily on historical share option exercise experience of the employees for options granted by the Company. All options are treated as a single group in the determination of expected life, as the Company does not currently expect substantially different exercise or post-vesting termination behavior among the employee population. The risk-free interest rate is based on the U.S. Treasury yield for a term consistent with the expected life of the awards in effect at the time of grant. Expected volatility is based on the historical volatility of the Company's common stock. The Company has no history or expectation of paying dividends on common stock.

Stock-based compensation expense associated with options is based on awards ultimately expected to vest. At the time of an option grant, the Company estimates the expected future rate of forfeitures based on historical experience. These estimates are revised, if necessary, in subsequent periods if actual forfeiture rates differ from those estimates. If the actual forfeiture rate is lower than estimated the Company will record additional expense and if the actual forfeiture is higher than estimated the Company will record a recovery of prior expense.

The Company's stock option activity and related information for the year ended December 31, 2018 was as follows:

	Number of Stock Options	Weighted- average Exercise Price	Weighted- average Remaining Contractual Life (in years)	Aggregate Intrinsic Value (in thousands)
Outstanding – December 31, 2017 . . . . .	1,338,367	\$33.40	7.7	\$97
Options granted . . . . .	4,337,119	\$ 5.18		
Options exercised . . . . .	(70,807)	\$ 3.68		
Options forfeited or expired . . . . .	<u>(214,409)</u>	\$19.61		
Outstanding – December 31, 2018 . . . . .	<u>5,390,270</u>	\$11.55	8.5	\$29
Vested or expected to vest after December 31, 2018 . . . . .	4,833,615	\$12.28	8.4	\$28
Exercisable at December 31, 2018 . . . . .	972,229	\$39.73	5.8	\$12

The aggregate intrinsic value of options exercised under all option plans was \$0.2 million and \$0 for the years ended December 31, 2018 and 2017, respectively, determined as of the date of option exercise.

#### ***Restricted Stock Units Activity and Expense***

During the years ended December 31, 2018 and 2017, 5,452,664 and 523,167 RSUs, respectively, were granted with weighted-average service-inception date fair value per unit of \$5.36 and \$5.51, respectively. The Company recognized RSU-related stock-based compensation expense of \$6.4 million and \$2.8 million, respectively, for the years ended December 31, 2018 and 2017. As of December 31, 2018 and 2017, unrecognized RSU-related compensation costs totaled \$23.8 million and \$5.0 million, respectively.

Stock-based compensation expense for RSUs is measured based on the closing fair market value of the Company's common stock on the date of grant.

The Company's RSU and restricted stock activity and related information for the year ended December 31, 2018 was as follows:

	Number of Restricted Stock Units	Weighted- average Grant-date Fair Value	Weighted- average Remaining Contractual Life (in years)
Outstanding – December 31, 2017 . . . . .	683,554	\$8.66	1.4
Awarded . . . . .	5,452,664	\$5.36	
Vested . . . . .	(445,828)	\$8.43	
Forfeited . . . . .	(395,587)	\$5.64	
Outstanding – December 31, 2018 . . . . .	5,294,803	\$5.50	1.7
Vested or expected to vest after December 31, 2018 . . . . .	4,953,264	\$5.50	1.6

### *ESPP Activity and Expense*

During the years ended December 31, 2018 and 2017, 246,230 and 47,058 shares, respectively, of the Company's common stock were purchased under the 2010 ESPP. At December 31, 2018 and 2017, 382,824 and 80,594 shares, respectively, of the Company's common stock remained reserved for issuance under the 2010 ESPP.

During the years ended December 31, 2018 and 2017, the Company also recognized ESPP-related stock-based compensation expense of \$0.2 million and \$0.1 million, respectively.

### **13. Divestiture**

On December 28, 2017, the Company completed the sale of its subsidiary Amyris Brasil Ltda. (Amyris Brasil), which operated the Company's production facility located in Brotas, Brazil, to DSM and concurrently entered into a series of commercial agreements and a credit agreement with DSM. At closing, the Company received \$33.0 million in contractual cash consideration for the capital stock of Amyris Brasil, which was subject to certain post-closing working capital adjustments; and reimbursements contingent upon DSM's utilization of certain Brazilian tax benefits it acquired with its purchase of Amyris Brasil. The Company used \$12.6 million of the cash proceeds received to repay certain indebtedness of Amyris Brasil. The total fair value of the contractual consideration received by the Company for Amyris Brasil was \$56.9 million and resulted in a pretax gain of \$5.7 million from continuing operations. In November 2018, the Company paid DSM \$1.8 million related to the final post-closing working capital adjustment. In connection with the payment, \$1.8 million was recorded as a loss on divestiture in the 2018 consolidated statement of operations, in the line captioned "(Loss) gain on divestiture".

Concurrent with the sale of Amyris Brasil, the Company and DSM entered into a series of commercial agreements including (i) a license agreement to DSM of its farnesene product for DSM to use in the Vitamin E and lubricant markets; (ii) a royalty agreement, pursuant to which DSM agreed to pay the Company specified royalties representing a portion of the profit on the sale of Vitamin E produced from farnesene sold under the Nenter Supply Agreement assigned to DSM; (iii) a performance agreement for the Company to perform research and development to optimize farnesene for production and sale of farnesene products; and (iv) a transition services agreement for the Company to provide finance, legal, logistics, and human resource services to support the Brotas facility under DSM ownership for a six-month period with a DSM option to extend for six additional months (see Note 10, "Revenue Recognition" and Note 16, "Subsequent Events" for additional information). At closing, DSM paid the Company a nonrefundable license fee of \$27.5 million and a nonrefundable royalty payment of \$15.0 million. DSM also paid the Company a nonrefundable minimum annual royalty payment in 2018 and will pay a nonrefundable minimum annual royalty payment in 2019. The future nonrefundable minimum annual royalty payments were determined to be fixed and determinable with a fair value of \$17.8 million and were included as part of the total arrangement consideration subject to allocation of this overall multiple-element divestiture transaction. See Note 10, "Revenue Recognition" and Note 11, "Related Party Transactions" for a full

listing and details of agreements entered into with DSM. Additionally, the Company and DSM entered into a \$25.0 million credit agreement that the Company used to repay all outstanding amounts under the Guanfu Note; see Note 5, “Debt” for additional information.

The Company accounted for the sale of Amyris Brasil as a sale of a business for proceeds of \$54.8 million. The agreements entered into concurrently with the sale of Amyris Brasil including the license agreement, royalty agreement, performance agreement, transition services agreement, and credit agreement contain various elements and, as such, are deemed to be an arrangement with multiple deliverables as defined under U.S. GAAP. The Company performed an analysis to determine the fair value for all elements in the agreements with DSM and separated the elements between the non-revenue and revenue elements. After allocating the total fair value of the non-revenue elements from the fixed and determinable consideration received, the Company allocated the remaining fixed and determinable consideration to the revenue elements based on relative fair value. As such, the Company recognized \$54.7 million of license revenue and \$2.1 million of deferred revenue related to the performance option and transition services agreements with DSM as of December 31, 2017.

Results from the operations of Amyris Brasil are included in the Company’s Consolidated Statements of Operations for 2017, and the Company has not segregated the results of operations or net assets of Amyris Brasil on the Company’s consolidated financial statements for any period presented. The disposition of the assets and liabilities of Amyris Brasil did not qualify for classification as a discontinued operation as it did not represent a strategic shift that will have a major effect on the Company’s operations and financial results.

#### 14. Income Taxes

The components of loss before income taxes are as follows:

Years Ended December 31, (In thousands)	2018	2017 (As Restated, Note 2)
United States . . . . .	\$(218,109)	\$(156,020)
Foreign . . . . .	(12,125)	6,915
Loss before income taxes . . . . .	<u>\$(230,234)</u>	<u>\$(149,105)</u>

The components of the provision for income taxes are as follows:

Years Ended December 31, (In thousands)	2018	2017 (As Restated, Note 2)
Current:		
Federal . . . . .	\$—	\$6,564
State . . . . .	—	18
Foreign . . . . .	—	964
Total current provision . . . . .	<u>—</u>	<u>7,546</u>
Deferred:		
Federal . . . . .	—	(669)
State . . . . .	—	—
Foreign . . . . .	—	—
Total deferred benefit . . . . .	<u>—</u>	<u>(669)</u>
Total provision for income taxes . . . . .	<u>\$—</u>	<u>\$6,877</u>

A reconciliation between the statutory federal income tax and the Company's effective tax rates as a percentage of loss before income taxes is as follows:

Years Ended December 31,	2018	2017
		(As Restated, Note 2)
Statutory tax rate . . . . .	(21.0)%	(34.0)%
State taxes, net of federal tax benefit . . . . .	—%	—%
Stock-based compensation . . . . .	—%	—%
Federal R&D credit . . . . .	(0.6)%	(0.2)%
Derivative liability . . . . .	4.3%	13.9%
Nondeductible interest . . . . .	1.0%	3.0%
Other . . . . .	(0.1)%	(0.2)%
Foreign losses . . . . .	0.9%	8.5%
Change in U.S. federal tax rate . . . . .	—%	25.1%
IRC Section 382 limitation . . . . .	—%	7.2%
Change in valuation allowance . . . . .	15.5%	(18.6)%
Effective income tax rate . . . . .	<u>—%</u>	<u>4.7%</u>

Temporary differences and carryforwards that gave rise to significant portions of deferred taxes are as follows:

December 31, (In thousands)	2018	2017
		(As Restated, Note 2)
Net operating loss carryforwards . . . . .	\$ 57,921	\$ 20,066
Property, plant and equipment . . . . .	9,269	9,653
Research and development credits . . . . .	12,046	9,480
Foreign tax credit . . . . .	—	—
Accruals and reserves . . . . .	8,526	7,286
Stock-based compensation . . . . .	6,496	5,471
Disallowed interest carryforward . . . . .	2,359	—
Capitalized start-up costs . . . . .	—	—
Capitalized research and development costs . . . . .	27,888	32,085
Intangible and others . . . . .	3,114	3,584
Equity investments . . . . .	156	—
Total deferred tax assets . . . . .	<u>127,775</u>	<u>87,625</u>
Debt discount and derivatives . . . . .	(3,750)	(6,539)
Total deferred tax liabilities . . . . .	<u>(3,750)</u>	<u>(6,539)</u>
Net deferred tax assets prior to valuation allowance . . . . .	124,025	81,086
Less: valuation allowance . . . . .	(124,025)	(81,086)
Net deferred tax assets . . . . .	<u>\$ —</u>	<u>\$ —</u>



Activity in the deferred tax assets valuation allowance is summarized as follows:

<u>(In thousands)</u>	<u>Balance at Beginning of Year</u>	<u>Additions</u>	<u>Reductions/ Charges</u>	<u>Balance at End of Year</u>
Deferred tax assets valuation allowance:				
Year Ended December 31, 2018 . . . . .	\$ 81,086	\$42,939	\$ —	\$124,025
Year Ended December 31, 2017 (As Restated, Note 2) .	\$386,867	\$ —	\$(305,781)	\$ 81,086

Recognition of deferred tax assets is appropriate when realization of such assets is more likely than not. Based on the weight of available evidence, especially the uncertainties surrounding the realization of deferred tax assets through future taxable income, the Company believes that it is more likely than not that the net deferred tax assets will not be fully realizable. Accordingly, the Company has provided a full valuation allowance against its net deferred tax assets as of December 31, 2018 and 2017. The valuation allowance decreased by \$305.8 million during the year ended December 31, 2017 and increased by \$42.9 million during the year ended December 31, 2018. The valuation allowance decreased by \$305.8 million during the year ended December 31, 2017 due to the partial write-off of federal net operating loss (NOL) carryforwards due to the IRC Section 382 limitation further described below and due to tax reform that changed deferred tax asset rate from 35% down to 21%.

On December 22, 2017, the U.S. government enacted comprehensive tax legislation, commonly referred to as the Tax Cuts and Jobs Act (Tax Act). The Tax Act makes broad and complex changes to the U.S. tax code, including, but not limited to, (1) reducing the U.S. federal corporate tax rate from 35 percent to 21 percent; (2) requiring companies to pay a one-time transition tax on certain unrepatriated earnings of foreign subsidiaries; (3) generally eliminating U.S. federal income taxes on dividends from foreign subsidiaries; (4) requiring a current inclusion in U.S. federal taxable income of certain earnings of controlled foreign corporations; (5) eliminating the corporate alternative minimum tax (AMT) and changing how existing AMT credits can be realized; (6) creating the base erosion anti-abuse tax, a new minimum tax; (7) creating a new limitation on deductible interest expense; and (8) changing the rules related to uses and limitations of NOL carryforwards created in tax years beginning after December 31, 2017.

On December 22, 2017, Staff Accounting Bulletin No. 118 (SAB 118) was issued to address the application of GAAP in situations when a registrant does not have the necessary information available, prepared or analyzed (including computations) in reasonable detail to complete the accounting for certain income tax effects of the Tax Act. In accordance with SAB 118, the Company recorded a provisional amount related to the remeasurement of certain deferred tax assets and liabilities based on the rates at which they are expected to reverse in the future, which resulted in a \$37.7 million net decrease related to deferred tax assets and deferred tax liabilities, with a corresponding and fully offsetting adjustment to our valuation allowance for the year ended December 31, 2017. As of December 22, 2018, the Company completed its accounting for the remeasurement of certain deferred tax assets and liabilities based on the rates at which they are expected to reverse in the future. There have been no net benefit changes to the provisional estimates disclosed in the period of enactment under SAB 118. The Tax Act also created a new requirement that certain income (i.e., GILTI) earned by controlled foreign corporations (CFCs) must be included currently in the gross income of the CFCs' U.S. shareholder. The Company has elected to treat GILTI as a period cost in its income tax provision computations.

As of December 31, 2018, the Company had federal net operating loss carryforwards of approximately \$290.7 million and state net operating loss carryforwards \$154.3 million, available to reduce future taxable income, if any. The Internal Revenue Code of 1986, as amended, imposes restrictions on the utilization of net operating losses in the event of an "ownership change" of a corporation. Accordingly, a company's ability to use net operating losses may be limited as prescribed under Internal Revenue Code Section 382 (IRC Section 382). Events that may cause limitations in the amount of the net operating losses that the Company may use in any one year include, but are not limited to, a cumulative ownership change of more than 50% over a three-year period. During the year ended December 31, 2017, the Company experienced a cumulative ownership change of greater than 50%. As such, net operating losses generated prior to that change are subject to an annual limitation on their use. Due to the limitations imposed, the Company wrote-off \$456.2 million and \$115.5 million of federal NOL and state NOL carryovers that are expected to

expire before they can be utilized. Additionally, the Company wrote-off \$14.7 million of its historical federal research and development credit carryovers as a result of the limitations. As of December 31, 2018, the Company had foreign net operating loss carryovers of \$7.3 million.

As of December 31, 2018, the Company had federal research and development credit carryforwards of \$1.6 million and California research and development credit carryforwards of \$13.5 million.

If not utilized, the federal net operating loss carryforward will begin expiring in 2025, and the California net operating loss carryforward will begin expiring in 2028. The federal research and development credit carryforwards will expire starting in 2038 if not utilized. The California research and development credit carryforwards can be carried forward indefinitely.

A reconciliation of the beginning and ending amounts of unrecognized tax benefits is as follows:

<u>(In thousands)</u>	
Balance at December 31, 2016	\$ 9,101
Increases in tax positions for prior period	50
Increases in tax positions during current period	<u>19,682</u>
Balance at December 31, 2017	28,833
Increases in tax positions for prior period	55
Increases in tax positions during current period	<u>1,239</u>
Balance at December 31, 2018	<u>\$30,127</u>

The Company's policy is to include interest and penalties related to unrecognized tax benefits within the provision for taxes. The Company determined that accrual for interest and penalties was not material as of December 31, 2018 or 2017.

None of the unrecognized tax benefits, if recognized, would affect the effective income tax rate for any of the above years due to the valuation allowance that currently offsets deferred tax assets. The Company does not anticipate that the total amount of unrecognized income tax benefits will significantly increase or decrease in the next 12 months.

The Company's primary tax jurisdiction is the United States. For United States federal and state tax purposes, returns for tax years 2005 and forward remain open and subject to tax examination by the appropriate federal or state taxing authorities. Brazil tax years 2010 and forward remain open and subject to examination.

As of December 31, 2018, the U.S. Internal Revenue Service (the IRS) has completed its audit of the Company for tax year 2008 and concluded that there were no adjustments resulting from the audit. While the statutes are closed for tax year 2008, the U.S. federal tax carryforwards (net operating losses and tax credits) may be adjusted by the IRS in the year in which the carryforward is utilized.

## **15. Geographical Information**

The chief operating decision maker is the Company's Chief Executive Officer, who makes resource allocation decisions and assesses performance based on financial information presented on a consolidated basis. There are no segment managers who are held accountable by the chief operating decision maker, or anyone else, for operations, operating results, and planning for levels or components below the consolidated unit level. Accordingly, the Company has determined that it has a single reportable segment and operating segment structure.

### *Revenue*

Revenue by geography, based on each customer's location, is shown in Note 10, "Revenue Recognition".

*Property, Plant and Equipment*

<b>December 31, (In thousands)</b>	<b>2018</b>	<b>2017</b>
		<b>(As Restated, Note 2)</b>
United States . . . . .	\$13,111	\$10,357
Brazil . . . . .	6,447	3,357
Europe . . . . .	198	178
	<u>\$19,756</u>	<u>\$13,892</u>

**16. Subsequent Events**

*Extension and Exchange of Tranche II Note*

On January 14, 2019, Wolverine Flagship Fund Trading Limited (Wolverine) agreed to waive payment of the Tranche II Note held by Wolverine (see Note 5, “Debt”) at maturity until July 15, 2019 in exchange for a fee, payable on or prior to July 15, 2019, of \$0.6 million. Effective July 15, 2019, the due date of the waiver fee was extended to October 13, 2019 and will bear interest at a rate of 1.75% per month, compounded, from July 16, 2019 to the date of payment.

*Evergreen Shares for 2010 Equity Incentive Plan and 2010 Employee Stock Purchase Plan*

In February 2019, the Company’s Board of Directors (the Board) approved increases to the number of shares available for issuance under the Company’s 2010 Equity Incentive Plan (the Equity Plan) and 2010 Employee Stock Purchase Plan (the Purchase Plan). These shares in connection with the Equity Plan represented an automatic annual increase in the number of shares available for grant and issuance under the Equity Plan of 3,828,241 shares. This increase is equal to approximately 5.0% of the 76,564,829 total outstanding shares of the Company’s common stock as of December 31, 2018. This automatic increase was effective as of January 1, 2019. These shares in connection with the Purchase Plan represented an automatic annual increase in the number of shares reserved for issuance under the Purchase Plan of 382,824 shares. This increase is equal to approximately 0.5% of the 76,564,829 total outstanding shares of the Company’s common stock as of December 31, 2018. This automatic increase was effective as of January 1, 2019.

*Cannabinoid Agreement*

On March 18, 2019, the Company entered into a \$300 million research, collaboration and license agreement (the Cannabinoid Agreement) with LAVVAN, Inc., a newly formed investment-backed company (Lavvan), for the development, manufacture and commercialization of cannabinoids. Under the agreement, the Company would perform research and development activities and Lavvan would be responsible for the commercialization of the cannabinoids developed under the agreement. The Cannabinoid Agreement is being principally funded on a milestone basis, with the Company also entitled to receive certain supplementary research and development funding from Lavvan. The Company could receive aggregate funding of up to \$300 million over the term of the Cannabinoid Agreement if all of the milestones are achieved. Additionally, the agreement provides for profit share to the Company on Lavvan’s gross profit margin once products are commercialized; these payments will be due for the next 20 years. The consummation of the transactions contemplated by the Cannabinoid Agreement is subject to certain conditions, including obtaining certain third party consents and releases and the repayment or refinancing of the 2014 Rule 144A Convertible Notes and the 2015 Rule 144A Convertible Notes (see Note 5, “Debt”). On May 2, 2019, the parties consummated the transactions contemplated by the Cannabinoid Agreement, including the formation of a special purpose entity to hold certain intellectual property created during the collaboration (the Cannabinoid Collaboration IP), the licensing of certain Company intellectual property to Lavvan, the licensing of the Cannabinoid Collaboration IP to the Company and Lavvan, and the granting by the Company to Lavvan of a lien on the Company background intellectual property being licensed to Lavvan under the Cannabinoid Agreement, which lien would be subordinated to the lien on such intellectual property under the GACP Term Loan Facility (see Note 5, “Debt”).

### *LSA Amendments, Assignment and Waivers*

On April 4, 2019, the Company and GACP amended the LSA (see Note 5, “Debt”) to (i) effective December 31, 2018, eliminate the conditions giving rise to the early maturity date, so that loans under the GACP Term Loan Facilities would have a maturity date of July 1, 2021, (ii) remove certain Company intellectual property related to the Cannabinoid Agreement from the lien granted by the Company to GACP under the LSA, (iii) eliminate the Company’s ability to obtain the Incremental GACP Term Loan Facility, (iv) eliminate the Company’s reinvestment rights with respect to mandatory prepayments upon asset sales, (v) restrict the Company’s ability to pay interest and principal on other indebtedness without the consent of GACP, and (vi) provide that the Company must have at all times at least \$15 million of unrestricted, unencumbered cash subject to a control agreement in favor of GACP.

On April 4, 2019, the Company and GACP entered into a waiver agreement, pursuant to which GACP agreed to waive breaches of certain covenants under the LSA occurring prior to, as of and after December 31, 2018 through April 8, 2019, including covenants related to quarterly minimum revenues, minimum liquidity amounts and a minimum asset coverage ratio. In connection with such waiver, the Company agreed to pay GACP fees of \$0.8 million.

On April 15, 2019, the Company, GACP and Foris Ventures, LLC (Foris, an entity affiliated with director John Doerr of Kleiner Perkins Caufield & Byers, a current stockholder, and an owner of greater than five percent of the Company’s outstanding common stock) entered into a Loan Purchase Agreement, pursuant to which Foris agreed to purchase and assume from GACP, and GACP agreed to sell and assign to Foris, the outstanding loans under the LSA and all documents and assets related thereto. In connection with such purchase and assignment, the Company agreed to repay Foris \$2.5 million of the purchase price paid by Foris to GACP (the Company LPA Obligation). The closing of the loan purchase and assignment occurred on April 16, 2019.

On August 14, 2019, the Company and Foris entered into an Amendment No 5 and Waiver to the LSA (the LSA Amendment and Waiver), pursuant to which (i) the maturity date of the loans under the LSA was extended from July 1, 2021 to July 1, 2022, (ii) the interest rate for the loans under the LSA was modified from the sum of (A) the greater of (x) the prime rate as reported in the Wall Street Journal or (y) 4.75% plus (B) 9% to the greater of (A) 12% or (B) the rate of interest payable with respect to any indebtedness of the Company, (iii) the amortization of the loans under the LSA was delayed until December 16, 2019, (iv) certain accrued and future interest and agency fee payments under the LSA were delayed until December 16, 2019, (v) certain covenants under the LSA, including related definitions, were amended to provide the Company with greater operational and financial flexibility, including, without limitation, to permit the incurrence of the indebtedness under the Naxyris Loan Facility (as described below) and the granting of liens with respect thereto, subject to the terms of an intercreditor agreement between Foris and Naxyris S.A. (Naxyris) governing the respective rights of the parties with respect to, among other things, the assets securing the Naxyris Loan Agreement and the LSA (the Intercreditor Agreement), (vi) certain outstanding unsecured promissory notes issued by the Company to Foris on April 8, 2019, June 11, 2019, July 10, 2019 and July 26, 2019 (as described below under “Foris Credit Agreements”), in an aggregate principal amount of \$32.5 million, as well as the Company LPA Obligation, were added to the loans under the LSA, made subject to the LSA and secured by the security interest in the collateral granted to Foris under the LSA, and such promissory notes and contractual obligation were cancelled in connection therewith, and (vii) Foris agreed to waive certain existing defaults under the LSA. After giving effect to the LSA Amendment and Waiver, there is \$71.0 million aggregate principal amount of loans outstanding under the LSA, including with respect to covenants related to quarterly minimum revenues, minimum liquidity amounts and a minimum asset coverage ratio. In connection with the entry into the LSA Amendment and Waiver, on August 14, 2019 the Company issued to Foris a warrant to purchase up to 1,438,829 shares of Common Stock at an exercise price of \$2.87 per share, with an exercise term of two years from issuance. Pursuant to the terms of the warrant, Foris may not exercise the Foris Warrant to the extent that, after giving effect to such exercise, Foris, together with its affiliates, would beneficially own in excess of 19.99% of the number of shares of common stock outstanding after giving effect to such exercise, unless the Company has obtained stockholder approval to exceed such limit in accordance with Nasdaq rules and regulations, which the Company intends to seek at its 2019 annual meeting of stockholders.

### *Foris Credit Agreements*

On April 8, 2019, the Company and Foris entered into an agreement to make available to the Company an unsecured credit facility in an aggregate principal amount of \$8.0 million, which the Company borrowed in full on April 8, 2019 and issued to Foris a promissory note in the principal amount of \$8.0 million (the April Foris Note). The April Foris Note has a maturity date of October 14, 2019. In connection with the entry into the April Foris Credit Agreement and the issuance of the April Foris Note, which has no stated interest rate, the Company agreed to pay Foris a fee of \$1.0 million, payable on or prior to the maturity date of the April Foris Note (the April Foris Note Fee); provided, that the April Foris Note Fee would be reduced to \$0.5 million if the Company repaid the April Foris Note in full by July 15, 2019. The April Foris Note is subordinated in right of payment to the Tranche II Note held by Wolverine (see Note 5, “Debt” and above in this Note 16, “Subsequent Events”).

On June 11, 2019, the Company and Foris entered into an agreement to make available to the Company an unsecured credit facility in an aggregate principal amount of \$8.5 million, which the Company borrowed in full on June 11, 2019 and issued to Foris a promissory note in the principal amount of \$8.5 million (the June Foris Note). The June Foris Note (i) accrues interest at a rate of 12.5% per annum from and including June 11, 2019, which interest is payable on the maturity date or the earlier repayment or other satisfaction of the June Foris Note, and (ii) matures on August 28, 2019; provided, that if the May 2017 Cash Warrant held by DSM and the August 2017 DSM Cash Warrant (see Note 7, “Stockholders’ Deficit”) are exercised, then the maturity date of the June Foris Note will be the business day immediately following such exercise.

On July 10, 2019, the Company and Foris entered into a credit agreement to make available to the Company an unsecured credit facility in an aggregate principal amount of \$16.0 million (the July Foris Credit Agreement), of which the Company borrowed \$8.0 million on July 10, 2019 and \$8.0 million on July 26, 2019 and issued to Foris promissory notes, each in the principal amount of \$8.0 million, on such dates (the July Foris Notes). The July Foris Notes (i) accrue interest at a rate of 12.5% per annum from and including the respective date of issuance, which interest is payable on the maturity date or the earlier repayment or other satisfaction of the applicable July Foris Note, and (ii) mature on December 31, 2019. In connection with the entry into the July Foris Credit Agreement, the Company and Foris amended the warrant issued to Foris on August 17, 2018 (see Note 7, “Stockholders’ Deficit”) to reduce the exercise price of such warrant from \$7.52 per share to \$2.87 per share.

The Company may at its option repay the amounts outstanding under the April Foris Note (including the April Foris Note Fee), the June Foris Note and the July Foris Notes before their respective maturity dates, in whole or in part, at a price equal to 100% of the amount being repaid plus, in the case of the June Foris Note and the July Foris Notes, accrued and unpaid interest on such amount to the date of repayment.

On August 14, 2019, the April Foris Note, the June Foris Note and the July Foris Notes were added to the loans under the LSA, made subject to the LSA and secured by the security interest in the collateral granted to Foris under the LSA, and such notes were cancelled in connection therewith. See above under “LSA Amendments, Assignment and Waivers” for additional information.

On August 28, 2019, the Company and Foris entered into a credit agreement to make available to the Company an unsecured credit facility in an aggregate principal amount of \$19.0 million (the August Foris Credit Agreement), which the Company borrowed in full on August 28, 2019 and issued to Foris a promissory note in the principal amount of \$19.0 million (the August Foris Note). The August Foris Note (i) accrues interest at a rate of 12% per annum from and including August 28, 2019, which interest is payable quarterly in arrears on each March 31, June 30, September 30 and December 31, beginning December 31, 2019, and (ii) matures on January 1, 2023. The Company may at its option repay the amounts outstanding under the August Foris Note before the maturity date, in whole or in part, at a price equal to 100% of the amount being repaid plus accrued and unpaid interest on such amount to the date of repayment.

In connection with the entry into the August Foris Credit Agreement, on August 28, 2019 the Company issued to Foris a warrant to purchase up to 4,871,795 shares of Common Stock at an exercise price of \$3.90 per share, with an exercise term of two years from issuance in a private placement pursuant to the exemption from registration under Section 4(a)(2) of the Securities Act of 1933, as amended (the

Securities Act), and Regulation D promulgated under the Securities Act. The exercise price of the warrant is subject to standard adjustments but does not contain any anti-dilution protection, and the warrants only permit “cashless” or “net” exercise after the six-month anniversary of issuance of the applicable warrant, and only to the extent that there is not an effective registration statement covering the resale of the shares of common stock underlying the applicable warrant. In addition, Foris may not exercise the warrant to the extent that, after giving effect to such exercise, Foris, together with its affiliates, would beneficially own in excess of 19.99% of the number of shares of common stock outstanding after giving effect to such exercise, unless the Company has obtained stockholder approval to exceed such limit in accordance with Nasdaq rules and regulations, which the Company intends to seek at its 2019 annual meeting of stockholders.

#### *Private Placements*

On April 16, 2019, the Company sold and issued to Foris 6,732,369 shares of common stock at a price of \$2.87 per share, as well as a warrant to purchase up to 5,424,804 shares of common stock at an exercise price of \$2.87 per share, with an exercise term of two years from issuance, in a private placement pursuant to the exemption from registration under Section 4(a)(2) of the Securities Act and Regulation D promulgated under the Securities Act, for aggregate cash proceeds to the Company of \$20.0 million (the Foris Investment). The Company used the proceeds from the Foris Investment to repay a portion of the 2015 Rule 144A Convertible Notes (see Note 5, “Debt”).

On April 26, 2019, the Company sold and issued (i) 2,832,440 shares of common stock at a price of \$5.12 per share, as well as a warrant to purchase up to 3,983,230 shares of common stock at an exercise price of \$5.12 per share, with an exercise term of two years from issuance, to Foris and (ii) an aggregate of 2,043,781 shares of common stock at a price of \$4.02 per share, as well as warrants to purchase up to an aggregate of 1,635,025 shares of common stock at an exercise price of \$5.02 per share, with an exercise term of two years from issuance, to certain other non-affiliated investors, in each case in private placements pursuant to the exemption from registration under Section 4(a)(2) of the Securities Act and Regulation D promulgated under the Securities Act, for aggregate cash proceeds to the Company of \$23.2 million. On August 28, 2019, in connection with the entry into the August Foris Credit Agreement (as described above under “Foris Credit Agreements”), the Company and Foris amended the warrant issued to Foris on April 26, 2019 to reduce the exercise price of such warrant from \$5.12 per share to \$3.90 per share.

On April 29, 2019, the Company sold and issued (i) 913,529 shares of common stock at a price of \$4.76 per share, as well as a warrant to purchase up to 1,212,787 shares of common stock at an exercise price of \$4.76 per share, with an exercise term of two years from issuance, to Vivo and (ii) an aggregate of 323,382 shares of common stock at a price of \$4.02 per share, as well as warrants to purchase up to an aggregate of 258,704 shares of common stock at an exercise price of \$5.02 per share, with an exercise term of two years from issuance, to certain other non-affiliated investors, in each case in private placements pursuant to the exemption from registration under Section 4(a)(2) of the Securities Act and Regulation D promulgated under the Securities Act, for aggregate cash proceeds to the Company of \$5.8 million.

On May 3, 2019, the Company sold and issued 1,243,781 shares of common stock at a price of \$4.02 per share, as well as a warrant to purchase up to 995,024 shares of common stock at an exercise price of \$5.02 per share, with an exercise term of two years from issuance, to a non-affiliated investor in a private placement pursuant to the exemption from registration under Section 4(a)(2) of the Securities Act and Regulation D promulgated under the Securities Act, for aggregate cash proceeds to the Company of \$5 million.

The exercise price of the warrants issued in the foregoing private placements is subject to standard adjustments but does not contain any anti-dilution protection, and the warrants only permit “cashless” or “net” exercise after the six-month anniversary of issuance of the applicable warrant, and only to the extent that there is not an effective registration statement covering the resale of the shares of common stock underlying the applicable warrant. In addition, in connection with the foregoing private placements, the Company agreed not to effect any exercise or conversion of any Company security, and the investors agreed not to exercise or convert any portion of any Company security, to the extent that after giving effect to such exercise or conversion, the applicable investor, together with its affiliates, would beneficially own in excess of 19.99% of the number of shares of common stock outstanding immediately after giving effect to such exercise or conversion, and the warrants contained a similar limitation. The Company intends to seek

stockholder approval for Foris to exceed such limitation in accordance with Nasdaq rules and regulations at its 2019 annual meeting of stockholders.

#### *DSM Agreements*

On April 16, 2019, the Company assigned to DSM, and DSM assumed, all of the Company's rights and obligations under the Value Sharing Agreement (see Note 10, "Revenue Recognition"), for aggregate consideration to the Company of \$57.0 million, \$29.1 million of which was paid to the Company in cash, with the remaining \$27.9 million being used to pay certain existing obligations of the Company to DSM, including certain obligations under the Supply Agreement Amendment (see Note 10, "Revenue Recognition"). The Company used a majority of the cash proceeds to repay a portion of the 2015 Rule 144A Convertible Notes (see Note 5, "Debt").

In addition, on April 16, 2019 the Company and DSM entered into amendments to the Supply Agreement and the Performance Agreement (see Note 10, "Revenue Recognition"), as well as the Quota Purchase Agreement relating to the December 2017 sale of Amyris Brasil to DSM (see Note 13, "Divestiture" and Note 11, "Related Party Transactions"), pursuant to which (i) DSM agreed to reduce certain manufacturing costs and fees paid by the Company related to the production of farnesene under the Supply Agreement through 2021, as well as remove the priority of certain customers over the Company with respect to production capacity at the Brotas, Brazil facility, (ii) the Company agreed to provide DSM rights to conduct certain process and downstream recovery improvements under the Performance Agreement at facilities other than the Brotas, Brazil facility in exchange for DSM providing the Company with a license to such improvements and (iii) the Company released DSM from its obligation to provide manufacturing and support services under the Quota Purchase Agreement in connection with the Company's planned new manufacturing facility, which is no longer planned to be located at the Brotas, Brazil location.

On September 17, 2019, the Company and DSM entered into a credit agreement (the "2019 DSM Credit Agreement") to make available to the Company a secured credit facility in an aggregate principal amount of \$8.0 million, to be issued in separate installments of \$3.0 million, \$3.0 million and \$2.0 million, respectively, with each installment being subject to certain closing conditions, including the payment of certain existing obligations of the Company to DSM. On September 17, 2019, the Company borrowed the first installment of \$3.0 million under the 2019 DSM Credit Agreement, all of which proceeds were used to pay certain existing obligations of the Company to DSM, and issued to DSM a promissory note in the principal amount of \$3.0 million. On September 19, 2019, the Company borrowed the second installment of \$3.0 million under the 2019 DSM Credit Agreement, all of which proceeds were used to pay certain existing obligations of the Company to DSM, and issued to DSM a promissory note in the principal amount of \$3.0 million. On September 23, 2019, the Company borrowed the final installment of \$2.0 million under the 2019 DSM Credit Agreement, \$1.5 million of which proceeds were used to pay certain existing obligations of the Company to DSM, and issued to DSM a promissory note in the principal amount of \$2.0 million. The promissory notes issued under the 2019 DSM Credit Agreement (i) mature on August 7, 2022, (ii) accrue interest at a rate of 12.5% per annum from and including the applicable date of issuance, which interest is payable quarterly in arrears on each January 1, April 1, July 1 and October 1, beginning January 1, 2020, and (iii) are secured by a first-priority lien on certain Company intellectual property licensed to DSM. The Company may at its option repay the amounts outstanding under the 2019 DSM Credit Agreement before the maturity date, in whole or in part, at a price equal to 100% of the amount being repaid plus accrued and unpaid interest on such amount to the date of repayment. In addition, the Company is required to repay the amounts outstanding under the 2019 DSM Credit Agreement (i) in an amount equal to the gross cash proceeds, if any, received by the Company upon the exercise by DSM of any of the common stock purchase warrants issued by the Company to DSM on May 11, 2017 or August 7, 2017 (see Note 7, "Stockholders' Deficit") and (ii) in full upon the request of DSM at any time following the receipt by the Company of at least \$50.0 million of gross cash proceeds from one or more sales of equity securities of the Company on or prior to June 30, 2020.

#### *Raizen Joint Venture Agreement*

On May 10, 2019, the Company and Raizen Energia S.A. (Raizen) entered into an agreement relating to the formation and operation of a joint venture relating to the production, sale and commercialization of

alternative sweetener products. In connection with the formation of the joint venture, among other things, (i) the joint venture will construct a manufacturing facility on land owned by Raizen and leased to the joint venture (the Sweetener Plant), (ii) the Company will grant to the joint venture an exclusive, royalty-free, worldwide, license to certain technology owned by the Company relevant to the joint venture's business, and (iii) the Company and Raizen will enter into a shareholders agreement setting forth the rights and obligations of the parties with respect to, and the management of, the joint venture. The formation of the joint venture is subject to certain conditions, including certain regulatory approvals and the achievement of certain technological and economic milestones relating to the Company's existing production of its alternative sweetener product. If such conditions are not satisfied by December 31, 2019, the joint venture will automatically terminate. In addition, notwithstanding the satisfaction of the closing conditions, Raizen may elect not to consummate the formation and operation of the joint venture, in which event, the Company will retain the right to construct and operate the Sweetener Plant.

Upon the closing of the joint venture, each party will make an initial capital contribution to the joint venture of 2,500,000 Brazilian Real (R\$2,500,000) and the joint venture will be owned 50% by the Company and 50% by Raizen. Within 60 days of the formation, the parties will make an aggregate cash contribution to the joint venture of U.S.\$9,000,000 to purchase certain fixed assets currently owned by the Company and located at the site of the Company's former joint venture with Sao Martinho S.A. in Pradopolis, Brazil for U.S.\$3,000,000. In addition, within six months of the formation, the Company will contribute to the joint venture its existing supply agreements related to its alternative sweetener product, subject to certain exceptions, in exchange for shares of dividend-bearing preferred stock in the joint venture, which will be entitled, for a period of 10 years commencing from the initial date of operation of the Sweetener Plant, to certain priority fixed cumulative dividends including, in the event that certain technological and economic milestones are met in any fiscal quarter, a percentage of the operating cash flow of the joint venture in such quarter.

After the formation of the joint venture, the parties will not conduct activities similar or identical to the joint venture. In the event that certain technological and economic milestones are not met in any fiscal year beginning with the third fiscal year after formation of the joint venture and ending with the seventh fiscal year after formation of the joint venture, Raizen shall have the right to sell all of its shares in the joint venture to the Company at a price per share equal to the higher of the book value and the amount of Raizen's investments in the joint venture, as adjusted for Raizen's cost of capital.

#### *2014 Rule 144A Convertible Notes Exchanges*

On May 10, 2019, the Company exchanged \$13.5 million aggregate principal amount of the 2014 Rule 144A Convertible Notes (see Note 5, "Debt") held by certain non-affiliated investors, including accrued and unpaid interest thereon up to, but excluding, May 15, 2019, for an aggregate of 3,479,008 shares of common stock and warrants to purchase an aggregate of 1,391,603 shares of common stock at an exercise price of \$5.02 per share, with an exercise term of two years from issuance, in a private exchange pursuant to the exemption from registration under Section 3(a)(9) of the Securities Act.

On May 14, 2019, the Company exchanged \$5.0 million aggregate principal amount of the 2014 Rule 144A Convertible Notes held by Foris, including accrued and unpaid interest thereon up to, but excluding, May 15, 2019, for 1,122,460 shares of common stock and a warrant to purchase up to 352,638 shares of common stock at an exercise price of \$4.56 per share, with an exercise term of two years from issuance, in a private exchange pursuant to the exemption from registration under Section 3(a)(9) of the Securities Act. On August 28, 2019, in connection with the entry into the August Foris Credit Agreement (as described above under "Foris Credit Agreements"), the Company and Foris amended the warrant issued to Foris on May 14, 2019 to reduce the exercise price of such warrant from \$4.56 per share to \$3.90 per share.

On May 15, 2019, the Company exchanged \$10.0 million aggregate principal amount of the 2014 Rule 144A Convertible Notes held by Maxwell (Mauritius) Pte Ltd for 2,500,000 shares of common stock in a private exchange pursuant to the exemption from registration under Section 3(a)(9) of the Securities Act.

On May 15, 2019, the Company exchanged \$9.7 million aggregate principal amount of the 2014 Rule 144A Convertible Notes held by Total for a new senior convertible note with an equal principal



amount and with substantially identical terms, except that the new note had a maturity date of June 14, 2019, in a private exchange pursuant to the exemption from registration under Section 3(a)(9) of the Securities Act. Effective June 14, 2019, the Company and Total agreed to extend the maturity date of the new note from June 14, 2019 to July 18, 2019. Effective July 18, 2019, the Company and Total agreed to (i) further extend the maturity date of the new note from July 18, 2019 to August 28, 2019 and (ii) increase the interest rate on the new note to 10.5% per annum, beginning July 18, 2019. Effective August 28, 2019, the Company and Total agreed to (i) further extend the maturity date of the new note from August 28, 2019 to October 28, 2019 and (ii) increase the interest rate on the new note to 12% per annum, beginning August 28, 2019.

The exercise price of the warrants issued in the foregoing exchanges is subject to standard adjustments but does not contain any anti-dilution protection, and the warrants only permit “cashless” or “net” exercise after the six-month anniversary of the exercisability of the applicable warrant, and only to the extent that there is not an effective registration statement covering the resale of the shares of common stock underlying the applicable warrant. In addition, (i) the exercisability of the warrant issued to Foris is subject to stockholder approval in accordance with Nasdaq rules and regulations, which the Company intends to seek at its 2019 annual meeting of stockholders, and (ii) each other warrant provides that the Company may not effect any exercise of such warrant to the extent that, after giving effect to such exercise, the applicable holder, together with its affiliates, would beneficially own in excess of 4.99% of the number of shares of common stock outstanding after giving effect to such exercise.

#### *6% Convertible Notes due 2021 Exchanges*

On May 15, 2019 and June 24, 2019, the Company exchanged \$53.3 million and \$4.7 million principal amount, respectively, of the 6% Convertible Notes due 2021 (see Note 5, “Debt”), including accrued and unpaid interest thereon, representing all then-outstanding 6% Convertible Notes due 2021, for new senior convertible notes with an equal principal amount and warrants to purchase up to 2,000,000 and 181,818 shares of common stock, respectively, at an exercise price of \$5.12 per share, with an exercise term of two years from issuance, in private exchanges pursuant to the exemption from registration under Section 3(a)(9) of the Securities Act. The new notes have substantially identical terms as the 6% Convertible Notes due 2021 being exchanged, except that (i) the holders agreed to waive, until July 22, 2019, certain covenants relating to the effectiveness of the registration statement covering the shares of common stock issuable upon conversion of, or otherwise pursuant to, the new notes and the filing by the Company of reports with the SEC and (ii) during the period from July 22, 2019 to July 29, 2019, inclusive, the holders have the right to require the Company to redeem the new notes, in whole or in part, at a price equal to 125% of the principal amount being redeemed. The exercise price of the warrants is subject to standard adjustments but does not contain any anti-dilution protection, and the warrants only permit “cashless” or “net” exercise after the six-month anniversary of issuance, and only to the extent that there is not an effective registration statement covering the resale of the shares of common stock underlying the applicable warrant. In addition, the holders may not exercise the warrants, and the Company may not effect any exercise of the warrants, to the extent that, after giving effect to such exercise, the applicable holder, together with its affiliates, would beneficially own in excess of 4.99% of the number of shares of common stock outstanding after giving effect to such exercise.

On July 26, 2019, one of the holders of the senior convertibles notes issued in exchange for the 6% Convertible Notes due 2021, holding a senior convertible note in the principal amount of \$4.7 million, exercised its right to require the Company to redeem such note in whole at a price equal to 125% of the principal amount being redeemed, plus accrued and unpaid interest on such note to the date of repayment. Redemption of such note was initially due on July 30, 2019 and subsequently extended to August 30, 2019. The Company redeemed such note in full on August 30, 2019.

On July 24, 2019, Company further exchanged \$53.3 million principal amount of the previously-exchanged 6% Convertible Senior Notes due 2021 as well as the warrant to purchase up to 2,000,000 shares of common stock issued on May 15, 2019, for a new senior convertible note with a principal amount of \$68.3 million (the Second Exchange Note) and a new warrant to purchase up to 2,000,000 shares of common stock at an exercise price of \$2.87 per share, with an exercise term of two years from May 15, 2019 (the Second Exchange Warrant) in a private exchange pursuant to the

exemption from registration under Section 3(a)(9) of the Securities Act. The Second Exchange Note and Second Exchange Warrant have substantially similar terms as the note and warrant, respectively, issued on May 15, 2019, except that (i) the principal amount of the Second Exchange Note would be \$68.3 million, reflecting accrued and unpaid interest and late charges under the exchanged note and a 25% premium accruing as a result of the Company's failure to make an installment payment on the exchanged note due July 1, 2019 in the amount of \$6.4 million, provided that upon an event of default under the Second Exchange Note, the Company would not be required to redeem the Second Exchange Note in cash at a price greater than the intrinsic value of the shares of common stock underlying the Second Exchange Note, (ii) the Second Exchange Note bears interest at a rate of 18% per annum, (iii) the holder agreed to extend its waiver of certain covenant breaches relating to the failure by the Company to timely file periodic reports with the SEC from July 22, 2019 to September 16, 2019, (iv) the first installment date under the Second Exchange Note will occur on October 1, 2019, (v) the Company is required to (A) make principal payments on the Second Exchange Note in the amount of \$3.2 million on each of August 2, 2019 and August 22, 2019, and (B) pay all remaining amounts then outstanding under the Second Exchange Note on September 16, 2019, and if the Company fails to make any such payment on the applicable payment date, the conversion price of the Second Exchange Note will be reset to the volume-weighted average price of the common stock on the trading day immediately following the Company's filing of a Current Report on Form 8-K with respect to its failure to make the payment due on September 16, 2019, if such volume-weighted average price is lower than the conversion price of the Second Exchange Note then in effect, subject to a price floor and (vi) the Second Exchange Warrant has an exercise price of \$2.87 per share.

On September 16, 2019, the Company failed to pay an aggregate of \$63.6 million of outstanding principal and accrued interest on the Second Exchange Note when due. The failure resulted in an event of default under the Second Exchange Note and also triggered cross-defaults under other debt instruments of the Company which permitted the holders of such indebtedness to accelerate the amounts owing under such instruments. The Company subsequently received waivers from substantially all holders of such other debt instruments to waive the right to accelerate. As a result, the indebtedness with respect to which the Company has obtained such waivers continues to be classified as long-term on the Company's balance sheet. The indebtedness reflected by the Second Exchange Note continues to be classified as a current liability on the Company's balance sheet. In addition, as a result of the payment default, the conversion price of the Second Exchange Note is subject to adjustment in accordance with the terms of the Second Exchange Note.

The Company does not currently have sufficient funds to repay the amounts outstanding under the Second Exchange Note. To date, negotiations with the holder of the Second Exchange Note have not been successful, and there can be no assurance that a favorable outcome for the Company will be reached. The Company has executed a term sheet with an existing investor for a term loan, the proceeds of which would be used to repay a portion of the Second Exchange Note. However, there can be no assurance that the Company will be able to obtain such financing on its expected timeline, or on acceptable terms, if at all. Even if the Company does obtain such financing, it will not have sufficient funds to repay the Second Exchange Note in full without obtaining additional financing, which the Company is attempting to source.

The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

#### *Exchange of August 2013 Financing Convertible Note*

On July 8, 2019, the August 2013 Financing Convertible Note held by Wolverine (see Note 4, "Debt") was exchanged for 1,767,632 shares of common stock and a warrant to purchase 1,080,000 shares of common stock in a private exchange pursuant to the exemption from registration under Section 3(a)(9) of the Securities Act. The exercise price of the warrant is subject to standard adjustments but does not contain any anti-dilution protection, and the warrant only permits "cashless" or "net" exercise after the six-month anniversary of issuance, and only to the extent that there is not an effective registration statement covering the resale of the shares of common stock underlying the warrant. In addition, Wolverine may not exercise the warrant to the extent that, after giving effect to such exercise, Wolverine, together with its affiliates, would beneficially own in excess of 4.99% of the number of shares of common stock outstanding after giving effect to such exercise.

### *Nikko Loan Agreement*

On July 29, 2019, the Company and Nikko Chemicals Co., Ltd. (Nikko) entered into a loan agreement (the Nikko Loan Agreement) to make available to the Company secured loans in an aggregate principal amount of \$5.0 million, to be issued in separate installments of \$3.0 million and \$2.0 million, respectively, with each installment being subject to certain closing conditions, including the entry into certain commercial agreements and other arrangements relating to the Aprinova JV (see Note 11, “Related Party Transactions”). On July 30, 2019, the Company borrowed the first installment of \$3.0 million under the Nikko Loan Agreement and received net cash proceeds of \$2.8 million, with the remaining \$0.2 million being withheld by Nikko as prepayment of the interest payable on such loan through the maturity date. On August 8, 2019, the Company borrowed the remaining \$2.0 million available under the Nikko Loan Agreement and received net cash proceeds of \$1.9 million, with the remaining \$0.1 million being withheld by Nikko as prepayment of the interest payable on such loan through the maturity date. The loans (i) mature on December 18, 2020, (ii) accrue interest at a rate of 5% per annum from and including the applicable loan date through the maturity date, which interest is required to be prepaid in full on the date of the applicable loan, and (iii) are secured by a first-priority lien on 12.8% of the Aprinova JV interests owned by the Company.

### *Aprinova Working Capital Loan*

Effective July 31, 2019, the Company and Nikko agreed to extend the term of the Second Aprinova Note (see Note 5, “Debt”) from August 1, 2019 to August 1, 2020.

### *Naxyris Loan and Security Agreement*

On August 14, 2019, the Company, certain of the Company’s subsidiaries (the Subsidiary Guarantors) and, as lender, Naxyris, an existing stockholder of the Company and an investment vehicle owned by Naxos Capital Partners SCA Sicar, which is affiliated with NAXOS S.A.R.L. (Switzerland), for which director Carole Piwnica serves as director, entered into a Loan and Security Agreement (the Naxyris Loan Agreement) to make available to the Company a secured term loan facility in an aggregate principal amount of up to \$10,435,000 (the Naxyris Loan Facility), which the Company borrowed in full on August 14, 2019.

Loans under the Naxyris Loan Facility have a maturity date of July 1, 2022 and accrue interest at a rate per annum equal to the greater of (i) 12% or (ii) the rate of interest payable with respect to any indebtedness of the Company plus 25 basis points, which interest will be payable monthly in arrears, provided that all interest accruing from and after August 14, 2019 through December 1, 2019 shall be due and payable on December 15, 2019.

The obligations of the Company under the Naxyris Loan Facility are (i) guaranteed by the Subsidiary Guarantors and (ii) secured by a perfected security interest in substantially all of the assets of the Company and the Subsidiary Guarantors (the Collateral), junior in payment priority to Foris Ventures subject to certain limitations and exceptions, as well as the terms of the Intercreditor Agreement (as defined above).

Mandatory prepayments of the outstanding amounts under the Naxyris Loan Facility will be required upon the occurrence of certain events, including asset sales, a change in control, and the incurrence of additional indebtedness, subject to certain exceptions and reinvestment rights. Outstanding amounts under the Naxyris Loan Facility must also be prepaid to the extent that the borrowing base exceeds the outstanding principal amount of the loans under the Naxyris Loan Facility. In addition, the Company may at its option prepay the outstanding principal amount of the loans under the Naxyris Loan Facility in full before the maturity date. Any prepayment of the loans under the Naxyris Loan Facility prior to the maturity date, whether pursuant to a mandatory or optional prepayment, is subject to a prepayment charge equal to one year’s interest at the then-current interest rate for the Naxyris Loan Facility. Upon the repayment of the loans under the Naxyris loan facility, whether on the maturity date or earlier pursuant to an optional or mandatory prepayment, the Company will pay Naxyris an end of term fee. In addition, (i) the Company will be required to pay a fee equal to 6% of any amount the Company fails to pay within three business days of its due date and (ii) any interest that is not paid when due will be added to principal and will bear compound interest at the applicable rate.

The affirmative and negative covenants in the Naxyris Loan Agreement relate to, among other items: (i) payment of taxes; (ii) financial reporting; (iii) maintenance of insurance; and (iv) limitations on indebtedness, liens, mergers, consolidations and acquisitions, transfers of assets, dividends and other distributions in respect of capital stock, investments, loans and advances, and corporate changes. The Naxyris Loan Agreement also contains financial covenants, including covenants related to minimum revenue, liquidity, and asset coverage.

#### *September 2019 Credit Agreements*

On September 10, 2019, the Company entered into separate credit agreements (the “Investor Credit Agreements”) with each of Schottenfeld Opportunities Fund II, L.P., Phase Five Partners, LP and Koyote Trading, LLC (the “Investors”) to make available to the Company unsecured credit facilities in an aggregate principal amount of \$12.5 million, which the Company borrowed in full on September 10, 2019 and issued to the Investors separate promissory notes in the aggregate principal amount of \$12.5 million (the “Investor Notes”). Each Investor Note (i) accrues interest at a rate of 12% per annum from and including September 10, 2019, which interest is payable quarterly in arrears on each March 31, June 30, September 30 and December 31, beginning December 31, 2019, and (ii) matures on January 1, 2023. The Company may at its option repay the amounts outstanding under the Investor Notes before the maturity date, in whole or in part, at a price equal to 100% of the amount being repaid plus accrued and unpaid interest on such amount to the date of repayment.

In connection with the entry into the Investor Credit Agreements, on September 10, 2019, the Company issued to the Investors warrants to purchase up to an aggregate of 3,205,128 shares of Common Stock at an exercise price of \$3.90 per share, with an exercise term of two years from issuance in a private placement pursuant to the exemption from registration under Section 4(a)(2) of the Securities Act and Regulation D promulgated under the Securities Act. The exercise price of the warrants is subject to standard adjustments but does not contain any anti-dilution protection, and the warrants only permit “cashless” or “net” exercise after the six-month anniversary of issuance of the applicable warrant, and only to the extent that there is not an effective registration statement covering the resale of the shares of common stock underlying the applicable warrant. In addition, no Investor may exercise its warrant to the extent that, after giving effect to such exercise, such Investor, together with its affiliates, would beneficially own in excess of 9.99% of the number of shares of common stock outstanding after giving effect to such exercise. In addition, the Company agreed to file a registration statement providing for the resale by the Investors of the shares of Common Stock underlying the warrants with the SEC within 60 days following the date of the issuance of the warrants and to use commercially reasonable efforts to (i) cause such registration statement to become effective within 120 days following the date of the issuance of the warrants and (ii) keep such registration statement effective until the Investors no longer beneficially own any such shares of Common Stock or such shares of Common Stock are eligible for resale under Rule 144 under the Securities Act without regard to volume limitations. If the Company fails to file the registration statement by the filing deadline or the registration statement is not declared effective by the effectiveness deadline, or the Company fails to maintain the effectiveness of the registration statement as required by the warrants, then the exercise price of the warrants will be reduced by 10%, and by an additional 5% if such failure continues for longer than 90 days, subject to an exercise price floor of \$3.31 per share, provided that upon the cure by the Company of such failure, the exercise price of the warrants will revert to \$3.90 per share.

In connection with the entry into the Investor Credit Agreements and the issuance of the warrants, on September 10, 2019, the Company and the Investors entered into a Standstill Agreement (the “Investor Standstill Agreement”), pursuant to which the Investors agreed that, until the earliest to occur of (i) the Investors no longer beneficially owning any shares underlying the warrants, (ii) the Company entering into a definitive agreement involving the direct or indirect acquisition of all or a majority of the Company’s equity securities or all or substantially all of the Company’s assets or (iii) a person or group, with the prior approval of the Company’s Board of Directors (the “Board”), commencing a tender offer for all or a majority of the Company’s equity securities, neither the Investors nor any of their respective affiliates will (without the prior written consent of the Board), among other things, (i) acquire any loans, debt securities, equity securities, or assets of the Company or any of its subsidiaries, or rights or options with respect thereto, except that the Investors shall be permitted to (a) purchase the shares underlying the warrants pursuant to the exercise of the warrants and (b) acquire beneficial ownership of up to 6.99% of the

Common Stock, or (ii) make any proposal, public announcement, solicitation or offer with respect to, or otherwise solicit, seek or offer to effect, or instigate, encourage, or assist any third party with respect to: (a) any business combination, merger, tender offer, exchange offer, or similar transaction involving the Company or any of its subsidiaries; (b) any restructuring, recapitalization, liquidation, or similar transaction involving the Company or any of its subsidiaries; (c) any acquisition of any of the Company's loans, debt securities, equity securities or assets, or rights or options with respect thereto; or (d) any proposal to seek representation on the Board or otherwise seek to control or influence the management, Board, or policies of the Company, in each case subject to certain exceptions.

## Selected Quarterly Financial Data (Unaudited)

### Summary of Quarterly Results of Operations

(In thousands)	2017				2018			
	Three Months Ended	Three Months Ended	Three Months Ended	Three Months Ended	Three Months Ended	Three Months Ended	Three Months Ended	
	March 31, 2017	June 30, 2017	September 30, 2017	December 31, 2017	March 31, 2018	June 30, 2018	September 30, 2018	December 31, 2018
	As Restated	As Restated	As Restated	As Restated	As Restated	As Restated	As Restated	
Revenue								
Renewable products . . . . .	\$ 8,037	\$ 9,892	\$ 10,996	\$ 13,445	\$ 5,195	\$ 6,633	\$ 9,639	\$ 12,131
Licenses and royalties . . . . .	255	1,236	4,483	42,729	7,955	(513)	142	74
Grants and collaborations . . . . .	4,688	10,291	12,179	9,440	4,709	8,939	4,534	4,166
Revenue . . . . .	\$ 12,980	\$ 21,419	\$ 27,658	\$ 65,614	\$ 17,859	\$ 15,059	\$ 14,315	\$ 16,371
Gross profit (loss) from product sales . . . . .	\$ (4,731)	\$ (6,305)	\$ (6,641)	\$ (2,260)	\$ (120)	\$ 99	\$ 1,065	\$ (4,144)
Net income (loss) . . . . .	\$ (38,037)	\$ (23,621)	\$ (58,235)	\$ (36,089)	\$ (92,802)	\$ (14,381)	\$ (74,453)	\$ (48,599)
Net loss attributable to Amyris, Inc. common stockholders:								
Basic and diluted . . . . .	\$ (38,037)	\$ (39,784)	\$ (85,691)	\$ (33,191)	\$ (85,298)	\$ (13,411)	\$ (76,814)	\$ (46,738)
Net loss per share attributable to common stockholders:								
Basic and diluted . . . . .	\$ (1.97)	\$ (1.71)	\$ (2.34)	\$ (0.69)	\$ (1.67)	\$ (0.24)	\$ (1.26)	\$ (0.63)
Weighted-average shares of common stock outstanding used in computing net loss per share of common stock:								
Basic and diluted . . . . .	19,268,060	23,200,460	36,643,901	47,895,238	51,200,922	54,932,411	60,966,071	74,265,076

**2017 AND 2018 QUARTERLY DATA — RESTATED CONDENSED CONSOLIDATED FINANCIAL STATEMENTS**

In lieu of filing amended Quarterly Reports on Form 10-Q/A for the periods ended March 31, 2017, June 30, 2017 and September 30, 2017, and March 31, 2018, June 30, 2018 and September 30, 2018, quarterly financial data as restated is included in this Annual Report on Form 10-K in the tables that follow. Amounts are computed independently each quarter, therefore, the sum of the quarterly amounts may not equal the total amount for the respective year due to rounding.

**2017 and 2018 Quarterly Data — Restated Condensed Consolidated Balance Sheets**

(In thousands)	March 31, 2017	June 30, 2017	September 30, 2017	December 31, 2017	March 31, 2018	June 30, 2018	September 30, 2018
	Restated	Restated	Restated	Restated	Restated	Restated	Restated
<b>Assets</b>							
Current assets:							
Cash and cash equivalents . . . . .	\$ 1,297	\$ 5,078	\$ 15,865	\$ 57,059	\$ 24,084	\$ 14,050	\$ 19,045
Restricted cash . . . . .	301	3,815	4,078	2,994	2,454	1,846	1,258
Short-term investments . . . . .	1,188	1,556	1,743	—	—	130	—
Accounts receivable, net . . . . .	8,122	15,958	14,843	18,953	6,035	9,567	15,001
Accounts receivable – related party, net . . . . .	416	1,431	10,079	4,767	18,695	4,265	7,581
Accounts receivable, unbilled – related party . . . . .	—	—	—	9,901	9,247	12,683	56
Inventories . . . . .	7,077	5,729	6,410	5,408	4,998	6,632	6,260
Prepaid expenses and other current assets . . . . .	5,652	7,440	9,244	4,919	7,340	4,687	5,541
Total current assets . . . . .	24,053	41,007	62,262	104,001	72,853	53,860	54,742
Property, plant and equipment, net . . . . .	53,045	49,303	50,130	13,892	13,262	15,300	16,622
Accounts receivable, unbilled – related party, noncurrent . . . . .	—	—	—	7,940	7,940	9,747	9,767
Restricted cash, noncurrent . . . . .	958	958	958	959	959	959	959
Recoverable taxes from Brazilian government entities . . . . .	—	—	—	1,445	1,226	1,057	1,053
Other assets . . . . .	17,388	18,204	21,998	12,559	12,287	14,329	14,396
Total assets . . . . .	\$ 95,444	\$ 109,472	\$ 135,348	\$ 140,796	\$ 108,527	\$ 95,252	\$ 97,539
<b>Liabilities, Mezzanine Equity and Stockholders' Deficit</b>							
Current liabilities:							
Accounts payable . . . . .	\$ 16,453	\$ 13,575	\$ 19,314	\$ 15,515	\$ 15,648	\$ 19,206	\$ 11,380
Accrued and other current liabilities . . . . .	32,211	29,873	28,883	29,202	27,702	22,746	37,711
Contract liabilities . . . . .	3,487	6,029	4,594	4,308	9,376	6,971	4,026
Debt, current portion . . . . .	15,290	7,954	6,070	36,924	35,950	60,105	62,056
Related party debt, current portion . . . . .	34,165	5,331	5,634	20,019	27,171	49,669	47,020
Total current liabilities . . . . .	101,606	62,762	64,495	105,968	115,847	158,697	162,193
Long-term debt, net of current portion . . . . .	132,425	107,906	106,699	60,220	60,462	43,763	43,788
Related party debt, net of current portion . . . . .	39,724	40,920	43,736	46,541	39,147	17,834	18,256
Derivative liabilities . . . . .	5,144	58,606	75,767	116,497	174,152	133,845	93,561
Other noncurrent liabilities . . . . .	23,462	20,767	18,271	23,658	22,436	22,073	21,293
Total liabilities . . . . .	302,361	290,961	308,968	352,884	412,044	376,212	339,091
Commitments and contingencies							
Mezzanine equity:							
Contingently redeemable common stock . . . . .	5,000	5,000	5,000	5,000	5,000	5,000	5,000
Stockholders' deficit:							
Common stock – \$0.0001 par value . . . . .	2	3	4	5	5	5	6
Additional paid-in capital . . . . .	1,000,200	1,050,670	1,115,371	1,114,546	1,116,859	1,154,625	1,268,679
Accumulated other comprehensive loss . . . . .	(40,581)	(42,003)	(40,601)	(42,156)	(42,293)	(43,120)	(43,314)
Accumulated deficit . . . . .	(1,172,475)	(1,196,096)	(1,254,331)	(1,290,420)	(1,384,025)	(1,398,407)	(1,472,860)
Total Amyris, Inc. stockholders' deficit . . . . .	(212,854)	(200,256)	(179,557)	(218,025)	(309,454)	(286,897)	(247,489)
Noncontrolling interest . . . . .	937	937	937	937	937	937	937
Total stockholders' deficit . . . . .	(211,917)	(199,319)	(178,620)	(217,088)	(308,517)	(285,960)	(246,552)
Total liabilities, mezzanine equity and stockholders' deficit . . . . .	\$ 95,444	\$ 109,472	\$ 135,348	\$ 140,796	\$ 108,527	\$ 95,252	\$ 97,539

2017 and 2018 Quarterly Data — Restated Condensed Consolidated Statements of Operations

2017

(In thousands, except shares and per share amounts)	Three Months Ended	Three Months Ended	Six Months Ended	Three Months Ended	Nine Months Ended	Three Months Ended	Year Ended
	March 31, 2017	June 30, 2017	June 30, 2017	September 30, 2017	September 30, 2017	December 31, 2017	December 31, 2017
	Restated	Restated	Restated	Restated	Restated	Restated	Restated
Renewable products	\$ 8,037	\$ 9,892	\$ 17,929	\$ 10,996	\$ 28,925	\$ 13,445	\$ 42,370
Licenses and royalties	255	1,236	1,491	4,483	5,974	42,729	48,703
Grants and collaborations	4,688	10,291	14,979	12,179	27,158	9,440	36,598
Total revenue	12,980	21,419	34,399	27,658	62,057	65,614	127,671
Cost and operating expenses							
Cost of products sold	12,768	16,197	28,965	17,637	46,602	15,705	62,307
Research and development	14,778	14,178	28,956	15,185	44,141	13,421	57,562
Sales, general and administrative	12,778	16,583	29,361	15,454	44,815	19,038	63,853
Total cost and operating expenses	40,324	46,958	87,282	48,276	135,558	48,164	183,722
Loss from operations	(27,344)	(25,539)	(52,883)	(20,618)	(73,501)	17,450	(56,051)
Other income (expense)							
(Loss) gain on divestiture	—	—	—	—	—	5,732	5,732
Interest expense	(12,850)	(9,973)	(22,823)	(8,433)	(31,256)	(5,825)	(37,081)
(Loss) gain from change in fair value of derivative instruments	2,339	26,322	28,661	(29,827)	(1,166)	(47,686)	(48,852)
Loss upon extinguishment of debt	96	(14,000)	(13,904)	461	(13,443)	1,546	(11,897)
Other income (expense), net	(319)	(121)	(440)	(136)	(576)	(380)	(956)
Total other expense, net	(10,734)	2,228	(8,506)	(37,935)	(46,441)	(46,613)	(93,054)
Loss before income taxes	(38,078)	(23,311)	(61,389)	(58,553)	(119,942)	(29,163)	(149,105)
Provision for income taxes	41	(310)	(269)	318	49	(6,926)	(6,877)
Net loss attributable to Amyris, Inc.	(38,037)	(23,621)	(61,658)	(58,235)	(119,893)	(36,089)	(155,982)
Less deemed dividend related to beneficial conversion feature on Series A preferred stock	—	(562)	(562)	—	(562)	—	(562)
Less deemed dividend related to beneficial conversion feature on Series B preferred stock	—	—	—	(634)	(634)	—	(634)
Less deemed dividend related to beneficial conversion feature on Series D preferred stock	—	—	—	(5,757)	(5,757)	—	(5,757)
Less deemed dividend upon settlement of make-whole provision on Series A preferred stock	—	(9,453)	(9,453)	(1,026)	(10,479)	(26)	(10,505)
Less deemed dividend upon settlement of make-whole provision on Series B preferred stock	—	—	—	(21,992)	(21,992)	(640)	(22,632)
Less deemed dividend related to proceeds discount and issuance costs upon conversion of Series A preferred stock	—	(18,362)	(18,362)	(1,784)	(20,146)	(1,432)	(21,578)
Less deemed dividend related to proceeds discount and issuance costs upon conversion of Series B preferred stock	—	—	—	(24,366)	(24,366)	—	(24,366)
Add: losses allocated to participating securities	—	12,214	12,985	28,103	38,813	4,996	40,159
Net loss attributable to Amyris, Inc. common stockholders	\$ (38,037)	\$ (39,784)	\$ (77,050)	\$ (85,691)	\$ (165,016)	\$ (33,191)	\$ (201,857)
Loss per share attributable to common stockholders:							
Basic and diluted	\$ (1.97)	\$ (1.71)	\$ (3.63)	\$ (2.34)	\$ (6.12)	\$ (0.69)	\$ (6.26)
Weighted-average shares of common stock outstanding used in computing loss per share of common stock:							
Basic and diluted	19,268,060	23,200,460	21,248,306	36,643,901	26,982,385	47,895,238	32,253,570

2018

*Results of Operations*

(In thousands, except shares and per share amounts)	Three Months Ended March 31, 2018	Three Months Ended June 30, 2018	Six Months Ended June 30, 2018	Three Months Ended September 30, 2018	Nine Months Ended September 30, 2018
	Restated	Restated	Restated	Restated	Restated
Renewable products . . . . .	\$ 5,195	\$ 6,633	\$ 11,828	\$ 9,639	\$ 21,467
Licenses and royalties . . . . .	7,955	(513)	7,442	142	7,584
Grants and collaborations . . . . .	4,709	8,939	13,648	4,534	18,182
Total revenue . . . . .	<u>17,859</u>	<u>15,059</u>	<u>32,918</u>	<u>14,315</u>	<u>47,233</u>
Cost and operating expenses					
Cost of products sold . . . . .	5,315	6,534	11,849	8,574	20,423
Research and development . . . . .	17,825	15,669	33,494	16,445	49,939
Sales, general and administrative . . . . .	18,100	19,454	37,554	27,239	64,793
Total cost and operating expenses . . . . .	<u>41,240</u>	<u>41,657</u>	<u>82,897</u>	<u>52,258</u>	<u>135,155</u>
Loss from operations . . . . .	<u>(23,381)</u>	<u>(26,598)</u>	<u>(49,979)</u>	<u>(37,943)</u>	<u>(87,922)</u>
Other income (expense)					
(Loss) gain on divestiture . . . . .	(1,778)	—	(1,778)	—	(1,778)
Interest expense . . . . .	(9,978)	(9,580)	(19,558)	(9,180)	(28,738)
(Loss) gain from change in fair value of derivative instruments . . . . .	(58,357)	21,990	(36,367)	(24,797)	(61,164)
Loss upon extinguishment of debt . . . . .	—	(26)	(26)	—	(26)
Other income (expense), net . . . . .	692	(168)	524	(2,533)	(2,009)
Total other expense, net . . . . .	<u>(69,421)</u>	<u>12,216</u>	<u>(57,205)</u>	<u>(36,510)</u>	<u>(93,715)</u>
Loss before income taxes . . . . .	<u>(92,802)</u>	<u>(14,382)</u>	<u>(107,184)</u>	<u>(74,453)</u>	<u>(181,637)</u>
Provision for income taxes . . . . .	—	—	—	—	—
Net loss attributable to Amyris, Inc. . . . .	(92,802)	(14,382)	(107,184)	(74,453)	(181,637)
Less deemed dividend related to proceeds discount and issuance costs upon conversion of Series D preferred stock . . . . .	—	—	—	(6,852)	(6,852)
Add: losses allocated to participating securities . . . . .	7,504	970	7,932	4,491	12,824
Net loss attributable to Amyris, Inc. common stockholders . . . . .	<u>\$ (85,298)</u>	<u>\$ (13,412)</u>	<u>\$ (99,252)</u>	<u>\$ (76,814)</u>	<u>\$ (175,665)</u>
Loss per share attributable to common stockholders:					
Basic and diluted . . . . .	<u>\$ (1.67)</u>	<u>\$ (0.24)</u>	<u>\$ (1.87)</u>	<u>\$ (1.26)</u>	<u>\$ (3.15)</u>
Weighted-average shares of common stock outstanding used in computing loss per share of common stock:					
Basic and diluted . . . . .	<u>51,200,922</u>	<u>54,932,411</u>	<u>53,076,975</u>	<u>60,966,071</u>	<u>55,735,571</u>



## Revenue

*Three Months Ended September 30, 2018 Compared with Three Months Ended September 30, 2017.* Total revenue decreased by 48%. Renewable products revenue decreased by 12% primarily due to the assignment of certain farnesene supply agreements to DSM and discontinuing the sales of low-margin products, partially offset by a \$1.6 million increase in revenue from Biossance products. Licenses and royalties revenue decreased by 97% due to a license fee in 2017 from DSM for which there was no comparable revenue in 2018. Grants and collaborations revenue decreased by 63% mainly due to one-time revenue in 2017 upon the termination of the Braskem/Michelin agreement and lower grant revenue from DARPA.

*Three Months Ended June 30, 2018 Compared with Three Months Ended June 30, 2017.* Total revenue decreased by 30%. Renewable products revenue decreased by 33% to \$6.6 million due to the assignment of certain farnesene supply agreements to DSM and discontinuing low margin product sales, partly offset by increases in sales of our Biossance and Neossance products. Licenses and royalties revenue decreased by 141% due to no royalty revenue in the June 30, 2018 period combined with early payment discounts taken in the 2018 period. Grants and collaborations revenue decreased by 13% primarily due to decreases from Biogen, Firmenich and DARPA totaling \$2.5 million, partly offset by a \$1.6 million increase from DSM.

*Three Months Ended March 31, 2018 Compared with Three Months Ended March 31, 2017.* Total revenue increased by 38% primarily due to a \$7.7 million increase in license and royalty revenue related to royalty revenue from DSM. Renewable products revenue decreased by 37% as a result of the assignment of certain farnesene supply agreements to DSM and discontinuing low margin product sales, partially offset by increases in Biossance and Aprinnova revenue streams. Licenses and royalties revenue increased significantly due to royalty revenues from DSM, primarily due to the adoption of ASC 606, discussed elsewhere in this document. Grants and collaborations revenue was unchanged for the comparative period.

## Costs and Operating Expenses

*Three Months Ended September 30, 2018 Compared with Three Months Ended September 30, 2017.* Costs of products sold decreased by 51%, primarily due to (i) the December 2017 sale of our Brotas production facility to DSM, which substantially reduced our fixed production costs, (ii) the assignment of certain farnesene supply agreements to DSM with a resulting 12% decrease in renewable products revenue, and (iii) our discontinuing manufacturing of low-margin products. Research and development expenses increased by 8% due to increases in headcount to support new product development and one-time costs related to product development. Sales, general and administrative expenses increase by 76%, primarily due to increases in headcount to support our growth and expansion, professional services costs, one-time costs associated with a contract termination, and a \$6.8 million charge for legal expense in connection to the August warrants exercise transaction.

*Three Months Ended June 30, 2018 Compared with Three Months Ended June 30, 2017.* Costs of products sold decreased 62%, primarily due to (i) the December 2017 sale of our Brotas production facility to DSM, which substantially reduced our fixed production costs, (ii) the assignment of certain farnesene supply agreements to DSM with a resulting 33% decrease in renewable products revenue, and (iii) our discontinuing manufacturing of low-margin products. Research and development expenses increased by 11% due to increases in headcount to support new product development and one-time costs related to product development. Sales, general and administrative expenses increased by 17% primarily due to increases in headcount to support our growth and expansion, and professional services costs, partially offset by a \$0.7 million credit for services provided to a related party.

*Three Months Ended March 31, 2018 Compared with Three Months Ended March 31, 2017.* Costs of products sold decreased by 58% to \$7.4 million primarily due to the December 2017 sale of our Brotas 1 production facility to DSM, which substantially reduced our fixed production costs, and due to the assignment of certain farnesene supply agreements to DSM and our discontinuing manufacturing of low-margin products. Research and development expenses increased by 21% to \$17.8 million due to increases in headcount to support new product development and one-time costs related by product development. Sales, general and administrative expenses increased by 42% as a result of increases in headcount to support our growth, professional services costs, and costs related to the Amyris Brasil Ltda. transaction.

## **Other Expense, Net**

*Three Months Ended September 30, 2018 Compared with Three Months Ended September 30, 2017.* Total other expense, net was \$36.5 million for the three months ended September 30, 2018, compared to total other expense, net of \$37.9 million for the same period in 2017. The \$1.4 million decrease was primarily due to a \$5.0 million decrease in the loss from change in fair value of derivative instruments, partially offset by a \$2.4 million increase in other expense, which was primarily comprised of issuance costs incurred in connection with our August 2018 secondary offering in which existing shareholders sold approximately 7.7 million shares, and an additional \$0.7 million increase related to an increase in interest expense.

*Three Months Ended June 30, 2018 Compared with Three Months Ended June 30, 2017.* The \$8.2 million increase in total other income, net, was primarily due to a decrease in expense of \$12.2 million associated with certain May 2017 warrant exercise, partially offset by the decrease in gain in fair value of derivative instruments.

*Three Months Ended March 31, 2018 Compared with Three Months Ended March 31, 2017.* The \$59.3 million change in total other expense, net, was primarily due to a \$58.3 million loss on the change in fair value of derivative instruments, partially offset by a \$2.2 million decrease in interest expense. The loss from change in fair value of derivative instruments for the three months ended March 31, 2018 was the result of a significant increase in derivative instruments issued subsequent to March 31, 2017, and a 78% increase to our stock price during the first quarter of 2018. The \$1.8 million loss on divestiture was the result of a working capital adjustment to the sale price of the Brotas 1 facility, which we sold to a related party in December 2017.

**Q1 2017 Operating Highlights**

*Condensed Consolidated Balance Sheet*

	March 31, 2017			
(In thousands)	As Previously Reported	Adjustments	Ref.	As Restated
<b>Assets</b>				
Current assets:				
Cash and cash equivalents . . . . .	\$ 1,297	\$ —		\$ 1,297
Restricted cash . . . . .	301	—		301
Short-term investments . . . . .	1,188	—		1,188
Accounts receivable, net . . . . .	8,122	—		8,122
Accounts receivable – related party, net . . . . .	416	—		416
Inventories . . . . .	7,077	—		7,077
Prepaid expenses and other current assets . . . . .	5,652	—		5,652
Total current assets . . . . .	<u>24,053</u>	<u>—</u>		<u>24,053</u>
Property, plant and equipment, net . . . . .	53,045	—		53,045
Restricted cash, noncurrent . . . . .	958	—		958
Other assets . . . . .	17,388	—		17,388
Total assets . . . . .	<u>\$ 95,444</u>	<u>\$ —</u>		<u>\$ 95,444</u>
<b>Liabilities, Mezzanine Equity and Stockholders' Deficit</b>				
Current liabilities:				
Accounts payable . . . . .	\$ 16,453	\$ —		\$ 16,453
Accrued and other current liabilities . . . . .	32,211	—		32,211
Contract liabilities . . . . .	3,487	—		3,487
Debt, current portion . . . . .	15,290	—		15,290
Related party debt, current portion . . . . .	34,165	—		34,165
Total current liabilities . . . . .	<u>101,606</u>	<u>—</u>		<u>101,606</u>
Long-term debt, net of current portion . . . . .	131,759	666	j	132,425
Related party debt, net of current portion . . . . .	39,724	—		39,724
Derivative liabilities . . . . .	5,144	—		5,144
Other noncurrent liabilities . . . . .	23,462	—		23,462
Total liabilities . . . . .	<u>301,695</u>	<u>666</u>		<u>302,361</u>
Commitments and contingencies . . . . .				
Mezzanine equity:				
Contingently redeemable common stock . . . . .	5,000	—		5,000
Stockholders' deficit:				
Common stock – \$0.0001 par value <sup>(1)</sup> . . . . .	2	—		2
Additional paid-in capital . . . . .	1,000,200	—		1,000,200
Accumulated other comprehensive loss . . . . .	(40,581)	—		(40,581)
Accumulated deficit . . . . .	<u>(1,171,809)</u>	<u>(666)</u>	p	<u>(1,172,475)</u>
Total Amyris, Inc. stockholders' deficit . . . . .	<u>(212,188)</u>	<u>(666)</u>		<u>(212,854)</u>
Noncontrolling interest . . . . .	937	—		937
Total stockholders' deficit . . . . .	<u>(211,251)</u>	<u>(666)</u>		<u>(211,917)</u>
Total liabilities, mezzanine equity and stockholders' deficit . . . . .	<u>\$ 95,444</u>	<u>\$ —</u>		<u>\$ 95,444</u>

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(1) Reflects the 15:1 reverse stock split effected by the Company on June 5, 2017.

Restatement adjustments:

- j. Correction to amortization of debt discounts.
- p. Impact to net loss of correction to amortization of debt discounts.

Condensed Consolidated Statements of Operations

(In thousands, except shares and per share amounts)	Three Months Ended March 31, 2017				
	As Previously Reported	Reclassifications <sup>(1)</sup>	Corrections	Ref	As Restated
Revenue					
Renewable products . . . . .	\$ 8,292	\$(255)	\$ —		\$ 8,037
Licenses and royalties . . . . .	—	255	—		255
Grants and collaborations . . . . .	4,688	—	—		4,688
Total revenue . . . . .	<u>12,980</u>	<u>—</u>	<u>—</u>		<u>12,980</u>
Cost and operating expenses					
Cost of products sold . . . . .	12,768	—	—		12,768
Research and development . . . . .	14,778	—	—		14,778
Sales, general and administrative . . . . .	12,778	—	—		12,778
Total cost and operating expenses . . . . .	<u>40,324</u>	<u>—</u>	<u>—</u>		<u>40,324</u>
Loss from operations . . . . .	<u>(27,344)</u>	<u>—</u>	<u>—</u>		<u>(27,344)</u>
Other income (expense)					
Interest expense . . . . .	(12,184)	—	(666)	ah	(12,850)
(Loss) gain from change in fair value of derivative instruments . . . . .	2,339	—	—		2,339
Loss upon extinguishment of debt . . . . .	96	—	—		96
Other income (expense), net . . . . .	(319)	—	—		(319)
Total other expense, net . . . . .	<u>(10,068)</u>	<u>—</u>	<u>(666)</u>		<u>(10,734)</u>
Loss before income taxes . . . . .	<u>(37,412)</u>	<u>—</u>	<u>(666)</u>		<u>(38,078)</u>
Provision for income taxes . . . . .	41	—	—		41
Net loss attributable to Amyris, Inc. . . . .	<u>(37,371)</u>	<u>—</u>	<u>(666)</u>		<u>(38,037)</u>
Add: losses allocated to participating securities . . . . .	—	—	—		—
Net loss attributable to Amyris, Inc. common stockholders . . . . .	<u>\$ (37,371)</u>	<u>\$ —</u>	<u>\$(666)</u>		<u>\$ (38,037)</u>
Loss per share attributable to common stockholders:					
Basic and diluted . . . . .	<u>\$ (1.93)</u>				<u>\$ (1.97)</u>
Weighted-average shares of common stock outstanding used in computing loss per share of common stock:					
Basic and diluted . . . . .	<u>19,335,948</u>			av	<u>19,268,060</u>

(1) Reclassification of revenue by type to conform to the Company's current presentation.

Restatement adjustments:

ah. Correction to amortization of debt discounts.

av. Correction to weighted-average shares outstanding.

Condensed Consolidated Statements of Cash Flows

(In thousands)	Three Months Ended March 31, 2017		
	As Previously Reported	Corrections <sup>(1)</sup>	As Restated
<b>Operating activities</b>			
Net loss	\$(37,371)	(666)	\$(38,037)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	2,715	—	2,715
(Gain) loss on disposal of property, plant and equipment	(55)	—	(55)
Stock-based compensation	1,646	—	1,646
Amortization of debt discount	4,473	666	5,139
(Gain) loss upon extinguishment of debt	(96)	—	(96)
(Gain) loss from change in fair value of derivative liabilities	(2,339)	—	(2,339)
(Gain) loss on foreign currency exchange rates	(295)	—	(295)
Changes in assets and liabilities:			
Accounts receivable	5,388	—	5,388
Inventories	(867)	—	(867)
Prepaid expenses and other assets	(713)	—	(713)
Accounts payable	450	—	450
Accrued and other liabilities	3,515	—	3,515
Contract liabilities	(1,844)	—	(1,844)
Net cash used in operating activities	(25,393)	—	(25,393)
<b>Investing activities</b>			
Change in short-term investments	329	—	329
Purchases of property, plant and equipment	(457)	—	(457)
Net cash (used in) provided by investing activities	(128)	—	(128)
<b>Financing activities</b>			
Payment of minimum employee taxes withheld upon net share settlement of restricted stock units	(22)	—	(22)
Principal payments on capital leases	(627)	—	(627)
Proceeds from issuance of debt, net of issuance costs	1,500	—	1,500
Principal payments on debt	(5,124)	—	(5,124)
Net cash provided by financing activities	(4,273)	—	(4,273)
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(83)	—	(83)
Net (decrease) increase in cash, cash equivalents and restricted cash	(29,877)	—	(29,877)
Cash, cash equivalents and restricted cash at beginning of year	32,433	—	32,433
Cash, cash equivalents and restricted cash at end of year	<u>\$ 2,556</u>	<u>\$ —</u>	<u>\$ 2,556</u>
<b>Reconciliation of cash, cash equivalents and restricted cash to the consolidated balance sheets</b>			
Cash and cash equivalents	\$ 1,297		\$ 1,297
Restricted cash, current	301		301
Restricted cash, noncurrent	958		958
Total cash, cash equivalents and restricted cash	<u>\$ 2,556</u>		<u>\$ 2,556</u>

(1) To reflect the impact of restatement corrections on the statement of cash flows.

Q2 2017

Condensed Consolidated Balance Sheet

(In thousands)	June 30, 2017			
	As Previously Reported	Corrections	Ref.	As Restated
<b>Assets</b>				
Current assets:				
Cash and cash equivalents . . . . .	\$ 5,078	—		\$ 5,078
Restricted cash . . . . .	3,815	—		3,815
Short-term investments . . . . .	1,556	—		1,556
Accounts receivable, net . . . . .	15,958	—		15,958
Accounts receivable – related party, net . . . . .	1,431	—		1,431
Inventories . . . . .	5,729	—		5,729
Prepaid expenses and other current assets . . . . .	7,440	—		7,440
Total current assets . . . . .	41,007	—		41,007
Property, plant and equipment, net . . . . .	49,303	—		49,303
Restricted cash, noncurrent . . . . .	958	—		958
Other assets . . . . .	21,437	(3,233)	d	18,204
Total assets . . . . .	\$ 112,705	\$ (3,233)		\$ 109,472
<b>Liabilities, Mezzanine Equity and Stockholders' Deficit</b>				
Current liabilities:				
Accounts payable . . . . .	\$ 14,657	\$ (1,082)	e	\$ 13,575
Accrued and other current liabilities . . . . .	29,873	—		29,873
Contract liabilities . . . . .	5,001	1,028	g	6,029
Debt, current portion . . . . .	7,954	—		7,954
Related party debt, current portion . . . . .	5,331	—		5,331
Total current liabilities . . . . .	62,816	(54)		62,762
Long-term debt, net of current portion . . . . .	111,112	(3,206)	j	107,906
Related party debt, net of current portion . . . . .	40,920	—		40,920
Derivative liabilities . . . . .	58,606	—		58,606
Other noncurrent liabilities . . . . .	20,767	—		20,767
Total liabilities . . . . .	294,221	(3,260)		290,961
Commitments and contingencies				
Mezzanine equity:				
Contingently redeemable common stock . . . . .	5,000	—		5,000
Convertible preferred stock . . . . .	12,830	(12,830)	m	—
Stockholders' deficit:				
Common stock – \$0.0001 par value . . . . .	3	—		3
Additional paid-in capital . . . . .	1,012,906	37,764	m/n	1,050,670
Accumulated other comprehensive loss . . . . .	(42,003)	—		(42,003)
Accumulated deficit . . . . .	(1,171,189)	(24,907)	p	(1,196,096)
Total Amyris, Inc. stockholders' deficit . . . . .	(200,283)	12,857		(187,426)
Noncontrolling interest . . . . .	937	—		937
Total stockholders' deficit . . . . .	(199,346)	12,857		(186,489)
Total liabilities, mezzanine equity and stockholders' deficit . . . . .	\$ 112,705	\$ (3,233)		\$ 109,472

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Restatement adjustments:

- d. Revision to accounting for a license sale to a customer for which the customer paid the Company in equity.
- e. Correction to uninvoiced receipts liability.
- g. Revision to accounting for a license sale to a customer for which the customer paid the Company in equity, and shift in timing of royalty revenue recognition.
- j. Correction to debt discount in connection with Fidelity 2015 144A Note.
- m. Correction to temporary equity classification of the May 2017 Preferred Stock Series B.
- n. Correction to the settlement of a make-whole provision, and loss on extinguishment of related party debt in connection with May 2017 equity offering and correction to debt discount related to 2015 144A Notes.
- p. Cumulative impact of restatement corrections on accumulated deficit.



Condensed Consolidated Statements of Operations

(In thousands, except shares and per share amounts)	Three Months Ended June 30, 2017					Six Months Ended June 30, 2017				
	As Previously Reported	Reclassifications <sup>(1)</sup>	Corrections	Ref	As Restated	As Previously Reported	Reclassifications <sup>(1)</sup>	Corrections	Ref	As Restated
Revenue										
Renewable products . . . . .	\$ 12,729	\$(2,837)	\$ —		\$ 9,892	\$ 21,021	\$(3,092)	\$ —		\$ 17,929
Licenses and royalties . . . . .	—	5,497	(4,261)	ab	1,236	—	5,752	(4,261)	ab	1,491
Grants and collaborations . . . . .	12,950	(2,660)	1		10,291	17,638	(2,660)	1		14,979
Total revenue . . . . .	<u>25,679</u>	<u>—</u>	<u>(4,260)</u>		<u>21,419</u>	<u>38,659</u>	<u>—</u>	<u>(4,260)</u>		<u>34,399</u>
Cost and operating expenses										
Cost of products sold . . . . .	17,279	—	(1,082)	ad	16,197	30,047	—	(1,082)	ad	28,965
Research and development . . . . .	14,249	(72)	1		14,178	29,027	(72)	1		28,956
Sales, general and administrative . . . . .	15,949	72	562	af	16,583	28,727	72	562	af	29,361
Total cost and operating expenses . . . . .	<u>47,477</u>	<u>—</u>	<u>(519)</u>		<u>46,958</u>	<u>87,801</u>	<u>—</u>	<u>(519)</u>		<u>87,282</u>
Loss from operations . . . . .	<u>(21,798)</u>	<u>—</u>	<u>(3,741)</u>		<u>(25,539)</u>	<u>(49,142)</u>	<u>—</u>	<u>(3,741)</u>		<u>(52,883)</u>
Other income (expense)										
(Loss) gain on divestiture . . . . .	—	—	—		—	—	—	—		—
Interest expense . . . . .	(9,303)	—	(670)	ah	(9,973)	(21,487)	—	(1,336)	ah	(22,823)
(Loss) gain from change in fair value of derivative instruments . . . . .	35,775	—	(9,453)	ai	26,322	38,114	—	(9,453)	ai	28,661
Loss upon extinguishment of debt . . . . .	(3,624)	—	(10,376)	ak	(14,000)	(3,528)	—	(10,376)	ak	(13,904)
Other income (expense), net . . . . .	(120)	—	(1)		(121)	(439)	—	(1)		(440)
Total other expense, net . . . . .	<u>22,728</u>	<u>—</u>	<u>(20,500)</u>		<u>2,228</u>	<u>12,660</u>	<u>—</u>	<u>(21,166)</u>		<u>(8,506)</u>
Loss before income taxes . . . . .	930	—	(24,241)		(23,311)	(36,482)	—	(24,907)		(61,389)
Provision for income taxes . . . . .	(310)	—	—		(310)	(269)	—	—		(269)
Net loss attributable to Amyris, Inc. . . . .	620	—	(24,241)		(23,621)	(36,751)	—	(24,907)		(61,658)
Less deemed dividend on capital distribution to related parties . . . . .	(8,648)	—	8,648	an	—	(8,648)	—	8,648	an	—
Less deemed dividend related to beneficial conversion feature on Series A preferred stock . . . . .	(562)	—	—		(562)	(562)	—	—		(562)
Less deemed dividend upon settlement of make-whole provision on Series A preferred stock . . . . .	—	—	(9,453)	ap	(9,453)	—	—	(9,453)	ap	(9,453)
Less deemed dividend related to proceeds discount and issuance costs upon conversion of Series A preferred stock . . . . .	—	—	(18,362)	ar	(18,362)	—	—	(18,362)	ar	(18,362)
Less cumulative dividends on Series A and Series B preferred stock . . . . .	(1,675)	—	1,675	aw	—	(1,675)	—	1,675	aw	—
Add: losses allocated to participating securities . . . . .	—	—	12,214	au	12,214	—	—	12,985	au	12,985
Net loss attributable to Amyris, Inc. common stockholders . . . . .	<u>\$ (10,265)</u>	<u>—</u>	<u>\$(29,519)</u>		<u>\$ (39,784)</u>	<u>\$ (47,636)</u>	<u>—</u>	<u>\$(29,414)</u>		<u>\$ (77,050)</u>
Loss per share attributable to common stockholders:										
Basic and diluted . . . . .	<u>\$ (0.44)</u>				<u>\$ (1.71)</u>	<u>\$ (2.24)</u>				<u>\$ (3.63)</u>
Weighted-average shares of common stock outstanding used in computing loss per share of common stock:										
Basic and diluted . . . . .	<u>23,155,874</u>			av	<u>23,200,460</u>	<u>21,226,013</u>			av	<u>21,248,306</u>

(1) Reclassification of revenue and operating expense by type to conform to the Company's current presentation.

Restatement adjustments:

- ab. Adjustment for revenue reversal related to non-cash consideration and timing of revenue recognition between quarters.
- ad. Correction in connection with a sales return.
- af. Correction to accounting for expenses incurred in connection with May 2017 Offering.
- ah. Correction to amortization of debt discounts.
- ai. Correction to accounting for make-whole liability in connection with May 2017 Offering.
- ak. Correction to accounting for debt exchanges.
- an. Correction to record deemed dividend in connection with discounts and freestanding instruments related to preferred stock offerings
- ap. Correction to record deemed dividend in connection with discounts and freestanding instruments related to preferred stock offerings.
- ar. Correction to record deemed dividend in connection with discounts and freestanding instruments related to preferred stock offerings.
- au. Correction in the computation of net loss per share to reflect participating securities.
- av. Correction to weighted-average shares outstanding.
- aw. Correction in the computation of net loss per share related to make-whole deemed dividends.

Condensed Consolidated Statements of Cash Flows

(In thousands)	Six Months Ended June 30, 2017		
	As Previously Reported	Corrections <sup>(1)</sup>	As Restated
<b>Operating activities</b>			
Net loss	\$(36,751)	\$(24,907)	\$(61,658)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	5,550	—	5,550
(Gain) loss on disposal of property, plant and equipment	(161)	—	(161)
Stock-based compensation	2,684	—	2,684
Amortization of debt discount	7,637	4,042	11,679
(Gain) loss upon extinguishment of debt	3,528	10,376	13,904
Receipt of equity in connection with collaboration arrangements revenue	(2,660)	2,660	—
(Gain) loss from change in fair value of derivative liabilities	(38,115)	9,453	(28,662)
(Gain) loss on foreign currency exchange rates	63	—	63
Changes in assets and liabilities:			
Accounts receivable	(3,509)	—	(3,509)
Inventories	409	—	409
Prepaid expenses and other assets	(4,220)	3,233	(987)
Accounts payable	(1,739)	657	(1,082)
Accrued and other liabilities	7,105	(7,105)	—
Contract liabilities	—	1,028	1,028
Net cash used in operating activities	(60,179)	(563)	(60,742)
<b>Investing activities</b>			
Change in short-term investments	(85)	—	(85)
Purchases of property, plant and equipment	(264)	—	(264)
Net cash (used in) provided by investing activities	(349)	—	(349)
<b>Financing activities</b>			
Proceeds from issuance of convertible preferred stock	50,661	562	51,223
Proceeds from exercises of common stock options	69	—	69
Payment of minimum employee taxes withheld upon net share settlement of restricted stock units	(110)	—	(110)
Principal payments on capital leases	(764)	—	(764)
Proceeds from issuance of debt, net of issuance costs	12,455	—	12,455
Principal payments on debt	(24,372)	—	(24,372)
Net cash provided by financing activities	37,939	562	38,501
Effect of exchange rate changes on cash, cash equivalents and restricted cash	7	—	7
Net (decrease) increase in cash, cash equivalents and restricted cash	(22,582)	—	(22,582)
Cash, cash equivalents and restricted cash at beginning of year	32,433	—	32,433
Cash, cash equivalents and restricted cash at end of year	<u>\$ 9,851</u>	<u>\$ —</u>	<u>\$ 9,851</u>
<b>Reconciliation of cash, cash equivalents and restricted cash to the consolidated balance sheets</b>			
Cash and cash equivalents	\$ 5,078		\$ 5,078
Restricted cash, current	3,815		3,815
Restricted cash, noncurrent	958		958
Total cash, cash equivalents and restricted cash	<u>\$ 9,851</u>		<u>\$ 9,851</u>

(1) To reflect the impact of restatement corrections on the statement of cash flows.

**Q3 2017 Quarterly Data Restatement Adjustments**

*Condensed Consolidated Balance Sheet*

	September 30, 2017			
(In thousands)	As Previously Reported	Corrections	Ref.	As Restated
<b>Assets</b>				
Current assets:				
Cash and cash equivalents . . . . .	\$ 15,865	\$ —		\$ 15,865
Restricted cash . . . . .	4,078	—		4,078
Short-term investments . . . . .	1,743	—		1,743
Accounts receivable, net . . . . .	24,922	(10,079)	a	14,843
Accounts receivable – related party, net . . . . .	—	10,079	a	10,079
Inventories . . . . .	6,410	—		6,410
Prepaid expenses and other current assets . . . . .	9,244	—		9,244
Total current assets . . . . .	<u>62,262</u>	<u>—</u>		<u>62,262</u>
Property, plant and equipment, net . . . . .	50,130	—		50,130
Restricted cash, noncurrent . . . . .	958	—		958
Other assets . . . . .	25,231	(3,233)	d	21,998
Total assets . . . . .	<u>\$ 138,581</u>	<u>\$ (3,233)</u>		<u>\$ 135,348</u>
<b>Liabilities, Mezzanine Equity and Stockholders' Deficit</b>				
Current liabilities:				
Accounts payable . . . . .	\$ 20,396	\$ (1,082)	e	\$ 19,314
Accrued and other current liabilities . . . . .	28,883	—		28,883
Contract liabilities . . . . .	7,027	(2,433)	g	4,594
Debt, current portion . . . . .	6,070	—		6,070
Related party debt, current portion . . . . .	5,634	—		5,634
Total current liabilities . . . . .	<u>68,010</u>	<u>(3,515)</u>		<u>64,495</u>
Long-term debt, net of current portion . . . . .	109,205	(2,506)	j	106,699
Related party debt, net of current portion . . . . .	43,736	—		43,736
Derivative liabilities . . . . .	89,770	(14,003)	l	75,767
Other noncurrent liabilities . . . . .	18,271	18,271		—
Total liabilities . . . . .	<u>328,992</u>	<u>(20,024)</u>		<u>308,968</u>
Commitments and contingencies				
Mezzanine equity:				
Contingently redeemable common stock . . . . .	5,000	—		5,000
Stockholders' deficit:				
Common stock – \$0.0001 par value . . . . .	4	—		4
Additional paid-in capital . . . . .	1,049,299	66,072	n	1,115,371
Accumulated other comprehensive loss . . . . .	(40,601)	—		(40,601)
Accumulated deficit . . . . .	(1,205,050)	(49,281)	p	(1,254,331)
Total Amyris, Inc. stockholders' deficit . . . . .	<u>(196,348)</u>	<u>16,791</u>		<u>(179,557)</u>
Noncontrolling interest . . . . .	937	—		937
Total stockholders' deficit . . . . .	<u>(195,411)</u>	<u>16,791</u>		<u>(178,620)</u>
Total liabilities, mezzanine equity and stockholders' deficit . . . . .	<u>\$ 138,581</u>	<u>\$ (3,233)</u>		<u>\$ 135,348</u>

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Restatement adjustments:

- a. Reclassification of related party accounts receivable to a separate line on the balance sheet.
- d. Reversal of the fair value of non-cash consideration received in connection with a revenue arrangement.
- e. Correction in connection with a sales return.
- g. Revision to accounting for a license sale to a customer for which the customer paid the Company in equity, and shift in timing of royalty revenue recognition.
- j. Correction to debt discount in connection with Fidelity 2015 144A Note.
- l. Correction to extinguishment accounting for a make-whole equity instrument, and loss on extinguishment of related party debt in connection with May 2017 equity offering.
- n. Correction to the settlement of a make-whole equity instrument, and loss on extinguishment of related party debt in connection with May 2017 equity offering.
- p. Cumulative impact of restatement corrections on accumulated deficit.

Condensed Consolidated Statements of Operations

(In thousands, except shares and per share amounts)	Three Months Ended September 30, 2017				Nine Months Ended September 30, 2017					
	As Previously Reported	Reclassifications <sup>(1)</sup>	Corrections	Ref	As Restated	As Previously Reported	Reclassifications <sup>(1)</sup>	Corrections	Ref	As Restated
Renewable products . . . . .	\$ 11,315	\$ (319)	\$ —		\$ 10,996	\$ 32,336	\$(3,411)	\$ —		\$ 28,925
Licenses and royalties . . . . .	—	1,022	3,461	ab	4,483	—	6,774	(800)	ab	5,974
Grants and collaborations . . . . .	12,882	(703)	—		12,179	30,520	(3,363)	1		27,158
Total revenue . . . . .	24,197	—	3,461		27,658	62,856	—	(799)		62,057
Cost and operating expenses										
Cost of products sold . . . . .	17,637	—	—		17,637	47,684	—	(1,082)	ad	46,602
Research and development . . . . .	15,185	—	—		15,185	44,212	(72)	1		44,141
Sales, general and administrative . . . . .	15,454	—	—		15,454	44,181	72	562	af	44,815
Total cost and operating expenses . . . . .	48,276	—	—		48,276	136,077	—	(519)		135,558
Loss from operations . . . . .	(24,079)	—	3,461		(20,618)	(73,221)	—	(280)		(73,501)
Other income (expense)										
Interest expense . . . . .	(7,733)	—	(700)	ah	(8,433)	(29,220)	—	(2,036)	ah	(31,256)
(Loss) gain from change in fair value of derivative instruments . . . . .	(2,692)	—	(27,135)	ai	(29,827)	35,422	—	(36,588)	ai	(1,166)
Loss upon extinguishment of debt . . . . .	461	—	—		461	(3,067)	—	(10,376)	ak	(13,443)
Other income (expense), net . . . . .	(136)	—	—		(136)	(575)	—	(1)		(576)
Total other expense, net . . . . .	(10,100)	—	(27,835)		(37,935)	2,560	—	(49,001)		(46,441)
Loss before income taxes . . . . .	(34,179)	—	(24,374)		(58,553)	(70,661)	—	(49,281)		(119,942)
Provision for income taxes . . . . .	318	—	—		318	49	—	—		49
Net loss attributable to Amyris, Inc. . . . .	(33,861)	—	(24,374)		(58,235)	(70,612)	—	(49,281)		(119,893)
Less deemed dividend on capital distribution to related parties . . . . .	—	—	—		—	(8,648)	—	8,648	an	—
Less deemed dividend related to beneficial conversion feature on Series A preferred stock . . . . .	—	—	—		—	(562)	—	—		(562)
Less deemed dividend related to beneficial conversion feature on Series B preferred stock . . . . .	(634)	—	—		(634)	(634)	—	—		(634)
Less deemed dividend related to beneficial conversion feature on Series D preferred stock . . . . .	(5,757)	—	—		(5,757)	(5,757)	—	—		(5,757)
Less deemed dividend upon settlement of make-whole provision on Series A preferred stock . . . . .	—	—	(1,026)	ap	(1,026)	—	—	(10,479)	ap	(10,479)
Less deemed dividend upon settlement of make-whole provision on Series B preferred stock . . . . .	—	—	(21,992)	aq	(21,992)	—	—	(21,992)	aq	(21,992)
Less deemed dividend related to proceeds discount and issuance costs upon conversion of Series A preferred stock . . . . .	—	—	(1,784)	ar	(1,784)	—	—	(20,146)	ar	(20,146)
Less deemed dividend related to proceeds discount and issuance costs upon conversion of Series B preferred stock . . . . .	—	—	(24,366)	as	(24,366)	—	—	(24,366)	as	(24,366)
Less cumulative dividends on Series A and Series B preferred stock . . . . .	(2,567)	—	2,567	aw	—	(4,242)	—	4,242	aw	—
Add: losses allocated to participating securities . . . . .	—	—	28,103	au	28,103	—	—	38,813	au	38,813
Net loss attributable to Amyris, Inc. common stockholders . . . . .	\$ (42,819)	—	\$(42,872)		\$ (85,691)	\$ (90,455)	—	\$(74,561)		\$ (165,016)
Loss per share attributable to common stockholders:										
Basic and diluted . . . . .	\$ (1.14)				\$ (2.34)	\$ (3.32)				\$ (6.12)
Weighted-average shares of common stock outstanding used in computing loss per share of common stock:										
Basic and diluted . . . . .	37,529,694			av	36,643,901	27,280,894			av	26,982,385

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(1) Reclassification of revenue by type to conform to the Company's current presentation.

Restatement adjustments:

- ab. Revision to accounting for license revenue for non-cash consideration and change in timing of recognition from a customer.
- ad. Correction in connection with a sales return.
- af. Correction to accounting for expenses incurred in connection with May 2017 Offering.
- ah. Correction to amortization of debt discounts.
- ai. Correction to accounting for make-whole liability in connection with May 2017 Offering.
- ak. Correction to accounting for certain debt exchanges.
- an. Correction to record deemed dividend in connection with discounts and freestanding instruments related to preferred stock offerings.
- ap. Correction to record deemed dividend in connection with discounts and freestanding instruments related to preferred stock offerings.
- aq. Correction to record deemed dividend in connection with discounts and freestanding instruments related to preferred stock offerings.
- ar. Correction to record deemed dividend in connection with discounts and freestanding instruments related to preferred stock offerings.
- as. Correction to record deemed dividend in connection with discounts and freestanding instruments related to preferred stock offerings.
- au. Correction in the computation of net loss per share to reflect participating securities.
- av. Correction to weighted-average shares outstanding.
- aw. Correction in the computation of net loss per share related to make-whole deemed dividends.

Condensed Consolidated Statements of Cash Flows

Nine Months Ended September 30, 2017

(In thousands)	As Previously Reported	Corrections <sup>(1)</sup>	As Restated
<b>Operating activities</b>			
Net loss	\$ (70,612)	(49,281)	\$(119,893)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	8,124	—	8,124
(Gain) loss on disposal of property, plant and equipment	37	—	37
Stock-based compensation	3,942	—	3,942
Amortization of debt discount	10,108	4,327	14,435
(Gain) loss upon extinguishment of debt	3,067	10,376	13,443
Receipt of equity in connection with collaboration arrangements revenue	(2,660)	2,660	—
(Gain) loss from change in fair value of derivative liabilities	(35,054)	36,220	1,166
(Gain) loss on foreign currency exchange rates	(205)	—	(205)
Changes in assets and liabilities:			
Accounts receivable	(10,947)	—	(10,947)
Inventories	(126)	—	(126)
Prepaid expenses and other assets	(12,962)	3,233	(9,729)
Accounts payable	3,119	(1,082)	2,037
Accrued and other liabilities	404	—	404
Contract liabilities	1,113	(2,433)	(1,320)
Net cash used in operating activities	(102,652)	4,020	(98,632)
<b>Investing activities</b>			
Change in short-term investments	2,999	—	2,999
Purchases of property, plant and equipment	(487)	—	(487)
Net cash (used in) provided by investing activities	2,512	—	2,512
<b>Financing activities</b>			
Proceeds from issuance of convertible preferred stock	101,427	562	101,989
Proceeds from exercises of common stock options	147	—	147
Payment of minimum employee taxes withheld upon net share settlement of restricted stock units	(87)	—	(87)
Proceeds from issuance of debt, net of issuance costs	13,965	—	13,965
Principal payments on debt	(26,708)	—	(26,708)
Net cash provided by financing activities	88,744	562	89,306
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(136)	—	(136)
Net (decrease) increase in cash, cash equivalents and restricted cash	(11,532)	4,582	(6,950)
Cash, cash equivalents and restricted cash at beginning of year	32,433	—	32,433
Cash, cash equivalents and restricted cash at end of year	<u>\$ 20,901</u>	<u>\$ 4,582</u>	<u>\$ 25,483</u>
<b>Reconciliation of cash, cash equivalents and restricted cash to the consolidated balance sheets</b>			
Cash and cash equivalents	\$ 15,865		\$ 15,865
Restricted cash, current	4,078		4,078
Restricted cash, noncurrent	958		958
Total cash, cash equivalents and restricted cash	<u>\$ 20,901</u>		<u>\$ 20,901</u>

(1) To reflect the impact of restatement corrections on the statement of cash flows.



## Q4 2017 Quarterly Data Restatement Adjustments

### Condensed Consolidated Balance Sheet

Consolidated balance sheet as of December 31, 2017 is shown in Note 2, “Restatement of 2017 Consolidated Financial Statements”.

### Condensed Consolidated Statements of Operations

(In thousands, except shares and per share amounts)	Three Months Ended December 31, 2017			Year Ended December 31, 2017					
	As Previously Reported	Corrections	Ref	As Restated	As Previously Reported	Reclassifications <sup>(1)</sup>	Corrections	Ref	As Restated
Renewable products . . . . .	\$ 13,445	\$ —		\$ 13,445	\$ 45,781	\$(3,411)	\$ —		\$ 42,370
Licenses and royalties . . . . .	57,703	(14,974)	ab	42,729	57,703	6,774	(15,774)	ab	48,703
Grants and collaborations . . . . .	9,440	—		9,440	39,960	(3,363)	1		36,598
Total revenue . . . . .	80,588	(14,974)		65,614	143,444	—	(15,773)		127,671
Cost and operating expenses									
Cost of products sold . . . . .	15,029	676	ad	15,705	62,713	—	(406)	ad	62,307
Research and development . . . . .	12,815	606	ae	13,421	57,027	(72)	607	ae	57,562
Sales, general and administrative . . . . .	19,038	—		19,038	63,219	72	562	af	63,853
Total cost and operating expenses . . . . .	46,882	1,282		48,164	182,959	—	763		183,722
Loss from operations . . . . .	33,706	(16,256)		17,450	(39,515)	—	(16,536)		(56,051)
Other income (expense)									
(Loss) gain on divestiture . . . . .	5,732	—		5,732	5,732	—	—		5,732
Interest expense . . . . .	(4,813)	(1,012)	ah	(5,825)	(34,033)	—	(3,048)	ah	(37,081)
(Loss) gain from change in fair value of derivative instruments . . . . .	(37,164)	(10,522)	ai	(47,686)	(1,742)	—	(47,110)	ai	(48,852)
Loss upon extinguishment of debt . . . . .	1,546	—		1,546	(1,521)	—	(10,376)	ak	(11,897)
Other income (expense), net . . . . .	(380)	—		(380)	(955)	—	(1)		(956)
Total other expense, net . . . . .	(35,079)	(11,534)		(46,613)	(32,519)	—	(60,535)		(93,054)
Loss before income taxes . . . . .	(1,373)	(27,790)		(29,163)	(72,034)	—	(77,071)		(149,105)
Provision for income taxes . . . . .	(344)	(6,582)	am	(6,926)	(295)	—	(6,582)	am	(6,877)
Net loss attributable to Amyris, Inc. . . . .	(1,717)	(34,372)		(36,089)	(72,329)	—	(83,653)		(155,982)
Less deemed dividend on capital distribution to related parties . . . . .	—	—		—	(8,648)	—	8,648	an	—
Less deemed dividend related to beneficial conversion feature on Series A preferred stock . . . . .	—	—		—	(562)	—	—		(562)
Less deemed dividend related to beneficial conversion feature on Series B preferred stock . . . . .	—	—		—	(634)	—	—		(634)
Less deemed dividend related to beneficial conversion feature on Series D preferred stock . . . . .	—	—		—	(5,757)	—	—		(5,757)
Less deemed dividend upon settlement of make-whole provision on Series A preferred stock . . . . .	—	(26)	ap	(26)	—	—	(10,505)	ap	(10,505)
Less deemed dividend upon settlement of make-whole provision on Series B preferred stock . . . . .	—	(640)	aq	(640)	—	—	(22,632)	aq	(22,632)
Less deemed dividend related to proceeds discount and issuance costs upon conversion of Series A preferred stock . . . . .	—	(1,432)	ar	(1,432)	—	—	(21,578)	ar	(21,578)
Less deemed dividend related to proceeds discount and issuance costs upon conversion of Series B preferred stock . . . . .	—	—		—	—	—	(24,366)	as	(24,366)
Less cumulative dividends on Series A and Series B preferred stock . . . . .	(1,197)	1,197	aw	—	(5,439)	—	5,439	aw	—
Add: losses allocated to participating securities . . . . .	—	4,996	au	4,996	—	—	40,159	au	40,159
Net loss attributable to Amyris, Inc. common stockholders . . . . .	\$ (2,914)	\$(30,277)		\$ (33,191)	\$ (93,369)	\$ —	\$(108,488)		\$ (201,857)
Loss per share attributable to common stockholders:									
Basic and diluted . . . . .	\$ (0.06)			\$ (0.69)	\$ (2.89)				\$ (6.26)
Weighted-average shares of common stock outstanding used in computing loss per share of common stock:									
Basic and diluted . . . . .	47,895,238			47,895,238	32,253,570				32,253,570

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- (1) Reclassification of revenue and operating expense by type to conform to the Company's current presentation.

Restatement adjustments:

- ab. Ginkgo partnership obligation and promissory note issuance recorded as reduction in revenue, and reversal of revenue in connection with non-cash consideration.
- ad. Correction in connection with a sales return, and adjustment to uninvoiced receipts liability.
- ae. Write-off of unrecoverable receivable in connection with facilities subleased to a related party, and reclassification of operating expense by classification to conform to the Company's current presentation.
- af. (i) Expense incurred in connection with May 2017 equity offering, and (ii) reclassification of amounts from related party services revenue to expense offset, and reclassification of operating expense by classification to conform to the Company's current presentation.
- ah. Correction to amortization of debt discounts, and interest expense in connection with Ginkgo partnership obligation.
- ai. Correction to accounting for make-whole liability in connection with May 2017 Offering.
- ak. Correction to accounting for certain debt exchanges.
- am. Tax provision to accrue liability for uncertain tax benefit.
- an. Correction to record deemed dividend in connection with discounts and freestanding instruments related to preferred stock offerings.
- ap. Correction to record deemed dividend in connection with discounts and freestanding instruments related to preferred stock offerings.
- aq. Correction to record deemed dividend in connection with discounts and freestanding instruments related to preferred stock offerings.
- ar. Correction to record deemed dividend in connection with discounts and freestanding instruments related to preferred stock offerings.
- as. Correction to record deemed dividend in connection with discounts and freestanding instruments related to preferred stock offerings.
- au. Correction in the computation of net loss per share to reflect participating securities.
- aw. Correction in the computation of net loss per share related to make-whole deemed dividends.

*Condensed Consolidated Statements of Cash Flows*

Consolidated statement of cash flows for the year ended December 31, 2017 is shown in Note 2, “Restatement of 2017 Consolidated Financial Statements”.

***Q1 2018 Quarterly Data Restatement Adjustments***

*Condensed Consolidated Balance Sheet*

(In thousands)	March 31, 2018			
	As Previously Reported	Corrections	Ref.	As Restated
<b>Assets</b>				
Current assets:				
Cash and cash equivalents	\$ 24,084	\$ —		\$ 24,084
Restricted cash	2,454	—		2,454
Accounts receivable, net	25,730	(19,695)	a	6,035
Accounts receivable – related party, net	—	18,695	a	18,695
Accounts receivable, unbilled – related party	9,247	—		9,247
Inventories	4,998	—		4,998
Prepaid expenses and other current assets	7,340	—		7,340
Total current assets	73,853	(1,000)		72,853
Property, plant and equipment, net	12,880	382	b	13,262
Accounts receivable, unbilled – related party, noncurrent	7,940	—		7,940
Restricted cash, noncurrent	959	—		959
Recoverable taxes from Brazilian government entities	1,226	—		1,226
Other assets	21,302	(9,015)	d	12,287
Total assets	\$ 118,160	\$ (9,633)		\$ 108,527
<b>Liabilities, Mezzanine Equity and Stockholders’ Deficit</b>				
Current liabilities:				
Accounts payable	\$ 16,054	\$ (406)	e	\$ 15,648
Accrued and other current liabilities	26,622	1,080	f	27,702
Contract liabilities	6,466	2,910	g	9,376
Debt, current portion	34,252	1,698	h	35,950
Related party debt, current portion	27,171	—		27,171
Total current liabilities	110,565	5,282		115,847
Long-term debt, net of current portion	62,489	(2,027)	h	60,462
Related party debt, net of current portion	39,147	—		39,147
Derivative liabilities	183,189	(9,037)	l	174,152
Other noncurrent liabilities	8,981	13,455	m	22,436
Total liabilities	404,371	7,673		412,044
Commitments and contingencies				
Mezzanine equity:				
Contingently redeemable common stock	5,000	—		5,000
Stockholders’ deficit:				
Common stock – \$0.0001 par value	5	—		5
Additional paid-in capital	1,050,587	66,272	n	1,116,859
Accumulated other comprehensive loss	(42,293)	—		(42,293)
Accumulated deficit	(1,300,447)	(83,578)	p	(1,384,025)
Total Amyris, Inc. stockholders’ deficit	(292,148)	(17,306)		(309,454)
Noncontrolling interest	937	—		937
Total stockholders’ deficit	(291,211)	(17,306)		(308,517)
Total liabilities, mezzanine equity and stockholders’ deficit	\$ 118,160	\$ (9,633)		\$ 108,527

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Restatement adjustments:

- a. Reclassification of related party accounts receivable to a separate line on the balance sheet and a shift in revenue recognition and accounts receivable recognition timing.
- b. Revision to capitalization of internal labor cost.
- d. Reversal of the fair value of an equity instrument received as consideration in a revenue arrangement.
- e. Correction to uninvoiced receipts liability.
- f. Liability in connection with December 2017 divestiture of Amyris Brasil Ltda.
- g. Revision to accounting for a license sale to a customer for which the customer paid the Company in equity, and shift in timing of royalty revenue recognition.
- h. Correction to debt discount amortization.
- l. Correction to extinguishment accounting for a make-whole equity instrument, and loss on extinguishment of related party debt in connection with May 2017 equity offering.
- m. Income tax liability and Ginkgo partnership liability.
- n. Correction to the settlement of a make-whole equity instrument, and loss on extinguishment of related party debt in connection with May 2017 equity offering.
- p. Cumulative impact of restatement corrections on accumulated deficit.

Condensed Consolidated Statements of Operations

(In thousands, except shares and per share amounts)	Three Months Ended March 31, 2018			
	As Previously Reported	Corrections	Ref	As Restated
Renewable products . . . . .	\$ 5,195	\$ —		\$ 5,195
Licenses and royalties . . . . .	11,437	(3,482)	ab	7,955
Grants and collaborations . . . . .	6,366	(1,657)	ac	4,709
Total revenue . . . . .	<u>22,998</u>	<u>(5,139)</u>		<u>17,859</u>
Cost and operating expenses				
Cost of products sold . . . . .	5,315	—		5,315
Research and development . . . . .	18,813	(988)	ae	17,825
Sales, general and administrative . . . . .	18,757	(657)	af	18,100
Total cost and operating expenses . . . . .	<u>42,885</u>	<u>(1,645)</u>		<u>41,240</u>
Loss from operations . . . . .	<u>(19,887)</u>	<u>(3,494)</u>		<u>(23,381)</u>
Other income (expense)				
(Loss) gain on divestiture . . . . .	—	(1,778)	ag	(1,778)
Interest expense . . . . .	(8,205)	(1,773)	ah	(9,978)
(Loss) gain from change in fair value of derivative instruments . . . . .	(63,913)	5,556	ai	(58,357)
Other income (expense), net . . . . .	509	183	al	692
Total other expense, net . . . . .	<u>(71,609)</u>	<u>2,188</u>		<u>(69,421)</u>
Loss before income taxes . . . . .	<u>(91,496)</u>	<u>(1,306)</u>		<u>(92,802)</u>
Provision for income taxes . . . . .	—	—		—
Net loss attributable to Amyris, Inc. . . . .	<u>(91,496)</u>	<u>(1,306)</u>		<u>(92,802)</u>
Less cumulative dividends on Series A and Series B preferred stock . . . . .	(395)	395	aw	—
Add: losses allocated to participating securities . . . . .	—	7,504	au	7,504
Net loss attributable to Amyris, Inc. common stockholders . .	<u>\$ (91,891)</u>	<u>\$ 6,593</u>		<u>\$ (85,298)</u>
Loss per share attributable to common stockholders:				
Basic and diluted . . . . .	<u>\$ (1.79)</u>			<u>\$ (1.67)</u>
Weighted-average shares of common stock outstanding used in computing loss per share of common stock:				
Basic and diluted . . . . .	<u>51,200,922</u>			<u>51,200,922</u>

Restatement adjustments:

- ab. Reduction to revenue previously recognized in connection with DSM royalty revenue arrangement.
- ac. Reclassification of a related party transaction from collaboration revenue to expense offset.
- ae. Write-off of unrecoverable receivable in connection with facilities subleased to a related party, and revision to capitalization of internal labor cost.
- af. Expense incurred in connection with May 2017 equity offering, and reclassification of amounts from related party services revenue to expense offset.
- ag. Loss incurred in 2018 on December 2017 divestiture of Amyris Brasil Ltda.
- ah. Correction to amortization of debt discounts, and interest expense in connection with Ginkgo partnership obligation.

- ai. Adjustments to change in fair value of derivative liabilities in connection with May and August 2017 equity offerings.
- al. Revision to accounting for shares received in satisfaction of a 2017 revenue arrangement, equity issuance costs recorded as expense, and adjustment to gain (loss) on change in accumulated other comprehensive income.
- au. Correction in the computation of net loss per share to reflect participating securities.
- aw. Correction in the computation of net loss per share related to make-whole deemed dividends.

Condensed Consolidated Statements of Cash Flows

(In thousands)	Three Months Ended March 31, 2018		
	As Previously Reported	Corrections <sup>(1)</sup>	As Restated
<b>Operating activities</b>			
Net loss	\$(91,496)	(1,306)	\$(92,802)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	1,561	—	1,561
Gain on change in fair value of equity investment	(315)	315	—
(Gain) loss on disposal of property, plant and equipment	1,035	—	1,035
Stock-based compensation	1,278	—	1,278
Amortization of debt discount	3,016	1,773	4,789
(Gain) loss from change in fair value of derivative liabilities	63,913	(5,556)	58,357
(Gain) loss on foreign currency exchange rates	243	—	243
Changes in assets and liabilities:			
Accounts receivable	(926)	1,000	74
Accounts receivable, unbilled – related party	93	—	93
Inventories	420	—	420
Prepaid expenses and other assets	(2,268)	9,015	6,747
Accounts payable	(108)	—	(108)
Accrued and other liabilities	(2,779)	(8,341)	(11,120)
Contract liabilities	782	3,482	4,264
Net cash used in operating activities	(25,551)	382	(25,169)
<b>Investing activities</b>			
Purchases of property, plant and equipment	(1,202)	(382)	(1,584)
Net cash (used in) provided by investing activities	(1,202)	(382)	(1,584)
<b>Financing activities</b>			
Proceeds from exercises of common stock options	81	—	81
Payment of minimum employee taxes withheld upon net share settlement of restricted stock units	(66)	—	(66)
Principal payments on capital leases	(400)	—	(400)
Principal payments on debt	(6,534)	—	(6,534)
Proceeds from exercise of warrants	133	—	133
Proceeds from issuance of common stock in private placements, net of issuance costs	92	—	92
Net cash provided by financing activities	(6,694)	—	(6,694)
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(68)	—	(68)
Net (decrease) increase in cash, cash equivalents and restricted cash	(33,515)	—	(33,515)
Cash, cash equivalents and restricted cash at beginning of year	61,012	—	61,012
Cash, cash equivalents and restricted cash at end of year	\$ 27,497	\$ —	\$ 27,497
<b>Reconciliation of cash, cash equivalents and restricted cash to the consolidated balance sheets</b>			
Cash and cash equivalents	\$ 24,084		\$ 24,084
Restricted cash, current	2,454		2,454
Restricted cash, noncurrent	959		959
Total cash, cash equivalents and restricted cash	\$ 27,497		\$ 27,497

(1) To reflect the impact of restatement corrections on the statement of cash flows.

*Q2 2018 Quarterly Data Restatement Adjustments*

*Condensed Consolidated Balance Sheet*

(In thousands)	June 30, 2018			
	As Previously Reported	Corrections	Ref.	As Restated
<b>Assets</b>				
Current assets:				
Cash and cash equivalents . . . . .	\$ 14,050	\$ —		\$ 14,050
Restricted cash . . . . .	1,846	—		1,846
Short-term investments . . . . .	130	—		130
Accounts receivable, net . . . . .	26,814	(17,247)	a	9,567
Accounts receivable – related party, net . . . . .	—	4,265	a	4,265
Accounts receivable, unbilled – related party . . . . .	12,683	—		12,683
Inventories . . . . .	6,632	—		6,632
Prepaid expenses and other current assets . . . . .	4,687	—		4,687
Total current assets . . . . .	<u>66,842</u>	<u>(12,982)</u>		<u>53,860</u>
Property, plant and equipment, net . . . . .	15,300	—		15,300
Accounts receivable, unbilled, noncurrent – related party . . . . .	9,747	—		9,747
Deferred cost of products sold, noncurrent – related party . . . . .	—	—		—
Restricted cash, noncurrent . . . . .	959	—		959
Recoverable taxes from Brazilian government entities . . . . .	1,057	—		1,057
Other assets . . . . .	24,747	(10,418)	d	14,329
Total assets . . . . .	<u>\$ 118,652</u>	<u>\$(23,400)</u>		<u>\$ 95,252</u>
<b>Liabilities, Mezzanine Equity and Stockholders' Deficit</b>				
Current liabilities:				
Accounts payable . . . . .	\$ 19,206	\$ —		\$ 19,206
Accrued and other current liabilities . . . . .	20,101	2,645	f	22,746
Contract liabilities . . . . .	9,643	(2,672)	g	6,971
Debt, current portion . . . . .	59,987	118	h	60,105
Related party debt, current portion . . . . .	49,669	—		49,669
Total current liabilities . . . . .	<u>158,606</u>	<u>91</u>		<u>158,697</u>
Long-term debt, net of current portion . . . . .	43,642	121	h	43,763
Related party debt, net of current portion . . . . .	18,104	(270)	k	17,834
Derivative liabilities . . . . .	138,695	(4,850)	l	133,845
Other noncurrent liabilities . . . . .	8,581	13,492	m	22,073
Total liabilities . . . . .	<u>367,628</u>	<u>8,584</u>		<u>376,212</u>
Commitments and contingencies				
Mezzanine equity:				
Contingently redeemable common stock . . . . .	5,000	—		5,000
Stockholders' deficit:				
Common stock – \$0.0001 par value . . . . .	5	—		5
Additional paid-in capital . . . . .	1,086,814	67,811	n	1,154,625
Accumulated other comprehensive loss . . . . .	(42,818)	(302)	o	(43,120)
Accumulated deficit . . . . .	(1,298,914)	(99,493)	p	(1,398,407)
Total Amyris, Inc. stockholders' deficit . . . . .	<u>(254,913)</u>	<u>(31,984)</u>		<u>(286,897)</u>
Noncontrolling interest . . . . .	937	—		937
Total stockholders' deficit . . . . .	<u>(253,976)</u>	<u>(31,984)</u>		<u>(285,960)</u>
Total liabilities, mezzanine equity and stockholders' deficit . . . . .	<u>\$ 118,652</u>	<u>\$(23,400)</u>		<u>\$ 95,252</u>



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Restatement adjustments:

- a. Reclassification of related party accounts receivable to a separate line on the balance sheet, and revision to accounting for a related party royalties arrangement.
- d. Reversal of prepaid royalty asset related to Ginkgo Partnership promissory note and the fair value of an equity instrument received as consideration in a revenue arrangement.
- f. Liability in connection with December 2017 divestiture of Amyris Brasil Ltda.
- g. Revision to accounting for a license sale to a customer for non-cash consideration, and shift in timing of royalty revenue recognition.
- h. Correction to debt discount amortization.
- l. Correction to extinguishment accounting for a make-whole equity instrument, and loss on extinguishment of related party debt in connection with May 2017 equity offering.
- m. Income tax and Ginkgo partnership obligation liabilities.
- n. Correction to the settlement of a make-whole equity instrument, and loss on extinguishment of related party debt in connection with May 2017 equity offering.
- o. Correction to accumulated other comprehensive loss related to foreign currency translation gains / losses.
- p. Cumulative impact of restatement corrections on accumulated deficit.

Condensed Consolidated Statements of Operations

(In thousands, except shares and per share amounts)	Three Months Ended June 30, 2018				Six Months Ended June 30, 2018			
	As			As	As			As
	Previously Reported	Corrections	Ref	Restated	Previously Reported	Corrections	Ref	Restated
Renewable products . . . . .	\$ 6,633	\$ —		\$ 6,633	\$ 11,828	\$ —		\$ 11,828
Licenses and royalties . . . . .	6,887	(7,400)	ab	(513)	18,324	(10,882)	ab	7,442
Grants and collaborations . . . . .	9,674	(735)	ac	8,939	16,040	(2,392)	ac	13,648
Total revenue . . . . .	<u>23,194</u>	<u>(8,135)</u>		<u>15,059</u>	<u>46,192</u>	<u>(13,274)</u>		<u>32,918</u>
Cost and operating expenses								
Cost of products sold . . . . .	5,984	550	ad	6,534	11,299	550	ad	11,849
Research and development . . . . .	15,287	382	ae	15,669	34,100	(606)	ae	33,494
Sales, general and administrative . . . . .	20,189	(735)	af	19,454	38,946	(1,392)	af	37,554
Total cost and operating expenses . . . . .	<u>41,460</u>	<u>197</u>		<u>41,657</u>	<u>84,345</u>	<u>(1,448)</u>		<u>82,897</u>
Loss from operations . . . . .	<u>(18,266)</u>	<u>(8,332)</u>		<u>(26,598)</u>	<u>(38,153)</u>	<u>(11,826)</u>		<u>(49,979)</u>
Other income (expense)								
(Loss) gain on divestiture . . . . .	—	—		—	—	(1,778)	ag	(1,778)
Interest expense . . . . .	(8,824)	(756)	ah	(9,580)	(17,029)	(2,529)	ah	(19,558)
(Loss) gain from change in fair value of derivative instruments . . . . .	24,365	(2,375)	ai	21,990	(39,548)	3,181	ai	(36,367)
Gain upon extinguishment of derivative liability . . . . .	1,857	(1,857)	aj	—	1,857	(1,857)	aj	—
Loss upon extinguishment of debt . . . . .	(26)	—		(26)	(26)	—		(26)
Other income (expense), net . . . . .	2,427	(2,595)	al	(168)	2,936	(2,412)	al	524
Total other expense, net . . . . .	<u>19,799</u>	<u>(7,583)</u>		<u>12,216</u>	<u>(51,810)</u>	<u>(5,395)</u>		<u>(57,205)</u>
Loss before income taxes . . . . .	1,533	(15,915)		(14,382)	(89,963)	(17,221)		(107,184)
Provision for income taxes . . . . .	—	—		—	—	—		—
Net loss attributable to Amyris, Inc. . . . .	1,533	(15,915)		(14,382)	(89,963)	(17,221)		(107,184)
Less cumulative dividends on Series A and Series B preferred stock . . . . .	(399)	399	aw	—	(794)	794	aw	—
Add: losses allocated to participating securities . . . . .	(67)	1,037	au	970	(67)	7,999	au	7,932
Net loss attributable to Amyris, Inc. common stockholders . . . . .	\$ 1,067	\$(14,479)		\$ (13,412)	\$ (90,824)	\$ (8,428)		\$ (99,252)
Loss per share attributable to common stockholders:								
Basic and diluted . . . . .	<u>\$ 0.02</u>			<u>\$ (0.24)</u>	<u>\$ (1.71)</u>			<u>\$ (1.87)</u>
Weighted-average shares of common stock outstanding used in computing loss per share of common stock:								
Basic and diluted . . . . .	<u>54,932,411</u>			<u>54,932,411</u>	<u>53,076,975</u>			<u>53,076,975</u>

Restatement adjustments:

- ab. Reduction to revenue previously recognized in connection with DSM royalty revenue arrangement.
- ac. Reclassification of a related party transaction from collaboration revenue to expense offset.
- ad. Adjustment to uninvoiced receipts liability, and revision in connection with change in timing of revenue recognition.
- ae. Write-off of unrecoverable receivable in connection with facilities subleased to a related party, and revision to capitalization of internal labor cost.

- af. Expense incurred in connection with May 2017 equity offering, and reclassification of amounts from related party services revenue to expense offset.
- ag. Loss incurred in 2018 in connection with the December 2017 divestiture of Amyris Brasil Ltda.
- ah. Correction to amortization of debt discounts, and interest expense in connection with various debt instruments.
- ai. Correction to accounting for settlement of a make-whole equity instrument in connection with May 2017 equity offering.
- aj. Reclassification to (loss) gain from change in fair value of derivative instruments.
- al. Revision to accounting for shares received in satisfaction of a 2017 revenue arrangement, equity issuance costs recorded as expense, and adjustment to gain (loss) on change in accumulated other comprehensive income.
- au. Correction in the computation of net loss per share to reflect participating securities.
- aw. Correction in the computation of net loss per share related to make-whole deemed dividends.

Condensed Consolidated Statements of Cash Flows

(In thousands)	Six Months Ended June 30, 2018		
	As Previously Reported	Corrections <sup>(1)</sup>	As Restated
<b>Operating activities</b>			
Net loss	\$(89,963)	(17,221)	\$(107,184)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	2,944	—	2,944
Gain on change in fair value of equity investment	(1,717)	1,717	—
(Gain) loss on disposal of property, plant and equipment	942	—	942
Stock-based compensation	3,178	—	3,178
Amortization of debt discount	6,587	1,642	8,229
(Gain) loss upon extinguishment of debt	26	—	26
Receipt of equity in connection with collaboration arrangements revenue	—	—	—
(Gain) loss from change in fair value of derivative liabilities	39,548	(3,181)	36,367
(Gain) loss from extinguishment of derivative liabilities	(1,857)	1,857	—
(Gain) loss on foreign currency exchange rates	271	(302)	(31)
Changes in assets and liabilities:			
Accounts receivable	(2,027)	12,983	10,956
Accounts receivable, unbilled – related party	(5,150)	—	(5,150)
Inventories	(1,313)	—	(1,313)
Deferred cost of products sold	—	—	—
Prepaid expenses and other assets	(1,072)	(606)	(1,678)
Accounts payable	2,681	406	3,087
Accrued and other liabilities	(10,031)	3,311	(6,720)
Contract liabilities	3,959	(2,100)	1,859
Net cash used in operating activities	(52,994)	(1,494)	(54,488)
<b>Investing activities</b>			
Change in short-term investments	(157)	—	(157)
Purchases of property, plant and equipment	(4,207)	—	(4,207)
Net cash (used in) provided by investing activities	(4,364)	—	(4,364)
<b>Financing activities</b>			
Proceeds from exercises of common stock options	248	—	248
Payment of minimum employee taxes withheld upon net share settlement of restricted stock units	(185)	—	(185)
Principal payments on capital leases	(593)	—	(593)
Proceeds from issuance of debt, net of issuance costs	34,611	1,494	36,105
Principal payments on debt	(37,037)	—	(37,037)
Proceeds from exercise of warrants	14,549	—	14,549
Proceeds from issuance of common stock in private placements, net of issuance costs	1,416	—	1,416
Proceeds from ESPP purchases	270	—	270
Net cash provided by financing activities	13,279	1,494	14,773
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(78)	—	(78)
Net (decrease) increase in cash, cash equivalents and restricted cash	(44,157)	—	(44,157)
Cash, cash equivalents and restricted cash at beginning of year	61,012	—	61,012
Cash, cash equivalents and restricted cash at end of year	<u>\$ 16,855</u>	<u>\$ —</u>	<u>\$ 16,855</u>
<b>Reconciliation of cash, cash equivalents and restricted cash to the consolidated balance sheets</b>			
Cash and cash equivalents	\$ 14,050		\$ 14,050
Restricted cash, current	1,846		1,846
Restricted cash, noncurrent	959		959
Total cash, cash equivalents and restricted cash	<u>\$ 16,855</u>		<u>\$ 16,855</u>

(1) To reflect the impact of restatement corrections on the statement of cash flows.

## Q3 018 Quarterly Data Restatement Adjustments

### Condensed Consolidated Balance Sheet

(In thousands)	September 30, 2018			
	As Previously Reported	Corrections	Ref.	As Restated
<b>Assets</b>				
Current assets:				
Cash and cash equivalents . . . . .	\$ 19,045	\$ —		\$ 19,045
Restricted cash . . . . .	1,258	—		1,258
Accounts receivable, net . . . . .	35,564	(20,563)	a	15,001
Accounts receivable – related party, net . . . . .	—	7,581	a	7,581
Accounts receivable, unbilled – related party . . . . .	56	—		56
Inventories . . . . .	6,260	—		6,260
Prepaid expenses and other current assets . . . . .	5,541	—		5,541
Total current assets . . . . .	67,724	(12,982)		54,742
Property, plant and equipment, net . . . . .	16,622	—		16,622
Accounts receivable, unbilled, noncurrent – related party . . . . .	9,767	—		9,767
Restricted cash, noncurrent . . . . .	959	—		959
Recoverable taxes from Brazilian government entities . . . . .	1,053	—		1,053
Other assets . . . . .	26,557	(12,161)	d	14,396
Total assets . . . . .	\$ 122,682	\$ (25,143)		\$ 97,539
<b>Liabilities, Mezzanine Equity and Stockholders' Deficit</b>				
Current liabilities:				
Accounts payable . . . . .	\$ 11,380	\$ —		\$ 11,380
Accrued and other current liabilities . . . . .	27,263	10,448	f	37,711
Contract liabilities . . . . .	6,698	(2,672)	g	4,026
Debt, current portion . . . . .	61,904	152	h	62,056
Related party debt, current portion . . . . .	47,020	—		47,020
Total current liabilities . . . . .	154,265	7,928		162,193
Long-term debt, net of current portion . . . . .	43,667	121	j	43,788
Related party debt, net of current portion . . . . .	18,526	(270)	j	18,256
Derivative liabilities . . . . .	98,662	(5,101)	l	93,561
Other noncurrent liabilities . . . . .	8,152	13,141	m	21,293
Total liabilities . . . . .	323,272	15,819		339,091
Commitments and contingencies				
Mezzanine equity:				
Contingently redeemable common stock . . . . .	5,000	—		5,000
Stockholders' deficit:				
Common stock – \$0.0001 par value . . . . .	6	—		6
Additional paid-in capital . . . . .	1,202,850	65,829	n	1,268,679
Accumulated other comprehensive loss . . . . .	(42,148)	(1,166)	o	(43,314)
Accumulated deficit . . . . .	(1,367,235)	(105,625)	p	(1,472,860)
Total Amyris, Inc. stockholders' deficit . . . . .	(206,527)	(40,962)		(247,489)
Noncontrolling interest . . . . .	937	—		937
Total stockholders' deficit . . . . .	(205,590)	(40,962)		(246,552)
Total liabilities, mezzanine equity and stockholders' deficit . . . . .	\$ 122,682	\$ (25,143)		\$ 97,539

#### Restatement adjustments:

- Reclassification of related party accounts receivable to a separate line on the balance sheet, and revision to accounting for a related party royalties arrangement.

- d. Reversal of revenue and the fair value of an equity instrument received as consideration in a revenue arrangement.
- f. Liability related to modification of warrants recorded as legal expense, and liability in connection with December 2017 divestiture of Amyris Brasil Ltda.
- g. Revision to accounting for a related party royalties arrangement, and revision to accounting for a license sale to a customer for non-cash consideration.
- h. Correction to debt discount amortization.
- j. Correction to debt discount amortization.
- l. Correction to extinguishment accounting for a make-whole equity instrument.
- m. Income tax and Ginkgo partnership obligation liabilities.
- n. Correction to the settlement of a make-whole equity instrument, and loss on extinguishment of related party debt in connection with May 2017 equity offering.
- o. Correction to accumulated other comprehensive loss related to foreign currency translation gains / losses.
- p. Cumulative impact of restatement corrections on accumulated deficit.

Condensed Consolidated Statements of Operations

(In thousands, except shares and per share amounts)	Three Months Ended September 30, 2018				Nine Months Ended September 30, 2018			
	As Previously Reported	Corrections	Ref	As Restated	As Previously Reported	Corrections	Ref	As Restated
Renewable products . . . . .	\$ 9,639	\$ —		\$ 9,639	\$ 21,467	\$ —		\$ 21,467
Licenses and royalties . . . . .	142	—		142	18,466	(10,882)	ab	7,584
Grants and collaborations . . . . .	5,085	(551)	ac	4,534	21,125	(2,943)	ac	18,182
Total revenue . . . . .	<u>14,866</u>	<u>(551)</u>		<u>14,315</u>	<u>61,058</u>	<u>(13,825)</u>		<u>47,233</u>
Cost and operating expenses								
Cost of products sold . . . . .	8,574	—		8,574	19,873	550	ad	20,423
Research and development . . . . .	16,445	—		16,445	50,545	(606)	ae	49,939
Sales, general and administrative . . . . .	21,026	6,213	af	27,239	59,972	4,821	af	64,793
Total cost and operating expenses . . . . .	<u>46,045</u>	<u>6,213</u>		<u>52,258</u>	<u>130,390</u>	<u>4,765</u>		<u>135,155</u>
Loss from operations . . . . .	<u>(31,179)</u>	<u>(6,764)</u>		<u>(37,943)</u>	<u>(69,332)</u>	<u>(18,590)</u>		<u>(87,922)</u>
Other income (expense)								
(Loss) gain on divestiture . . . . .	—	—		—	—	(1,778)	ag	(1,778)
Interest expense . . . . .	(8,658)	(522)	ah	(9,180)	(25,687)	(3,051)	ah	(28,738)
(Loss) gain from change in fair value of derivative instruments . . . . .	(25,048)	251	ai	(24,797)	(64,596)	3,432	ai	(61,164)
Gain upon extinguishment of derivative liability . . . . .	(1,782)	1,782	aj	—	75	(75)	aj	—
Loss upon extinguishment of debt . . . . .	—	—	—	(26)	—	(26)		
Other income (expense), net . . . . .	(1,654)	(879)	al	(2,533)	1,282	(3,291)	al	(2,009)
Total other expense, net . . . . .	<u>(37,142)</u>	<u>632</u>		<u>(36,510)</u>	<u>(88,952)</u>	<u>(4,763)</u>		<u>(93,715)</u>
Loss before income taxes . . . . .	<u>(68,321)</u>	<u>(6,132)</u>		<u>(74,453)</u>	<u>(158,284)</u>	<u>(23,353)</u>		<u>(181,637)</u>
Provision for income taxes . . . . .	—	—		—	—	—		—
Net loss attributable to Amyris, Inc. . . . .	<u>(68,321)</u>	<u>(6,132)</u>		<u>(74,453)</u>	<u>(158,284)</u>	<u>(23,353)</u>		<u>(181,637)</u>
Less deemed dividend related to proceeds discount and issuance costs upon conversion of Series D preferred stock . . . . .	—	(6,852)	at	(6,852)	—	(6,852)	at	(6,852)
Less cumulative dividends on Series A and Series B preferred stock . . . . .	(279)	279	aw	—	(1,073)	1,073	aw	—
Add: losses allocated to participating securities . . . . .	—	4,491	au	4,491	(67)	12,891	au	12,824
Net loss attributable to Amyris, Inc. common stockholders . . . . .	<u>\$ (68,600)</u>	<u>\$ (8,214)</u>		<u>\$ (76,814)</u>	<u>\$ (159,424)</u>	<u>\$ (16,241)</u>		<u>\$ (175,665)</u>
Loss per share attributable to common stockholders:								
Basic and diluted . . . . .	<u>\$ (1.13)</u>	<u>\$ (0.13)</u>		<u>\$ (1.26)</u>	<u>\$ (2.86)</u>	<u>\$ (0.29)</u>		<u>\$ (3.15)</u>
Weighted-average shares of common stock outstanding used in computing loss per share of common stock:								
Basic and diluted . . . . .	<u>60,966,071</u>			<u>60,966,071</u>	<u>55,735,571</u>			<u>55,735,571</u>

Restatement adjustments:

- ab. Reduction to revenue previously recognized in connection with DSM royalty revenue arrangement.
- ac. Reclassification of a related party transaction from collaboration revenue to expense offset.
- ad. Adjustment to uninvoiced receipts liability.

- ae. Write-off of unrecoverable receivable in connection with facilities subleased to a related party.
- af. Expense incurred in connection with warrant exercise in August 2018, and reclassification of amounts from related party services revenue to expense offset.
- ag. Loss incurred in 2018 on December 2017 divestiture of Amyris Brasil Ltda.
- ah. Interest expense in connection with various debt instruments.
- ai. Adjustments to change in fair value of derivative liabilities in connection with May and August 2017 equity offerings.
- aj. Correction to extinguishment accounting for a make-whole equity instrument.
- al. Revision to accounting for shares received in satisfaction of a 2017 revenue arrangement, equity issuance costs recorded as expense, and adjustment to gain (loss) on change in accumulated other comprehensive income.
- at. Correction to record deemed dividend in connection with discounts and freestanding instruments related to preferred stock offerings.
- au. Correction in the computation of net loss per share to reflect participating securities.
- aw. Correction in the computation of net loss per share related to make-whole deemed dividends.



Condensed Consolidated Statements of Cash Flows

(In thousands)	Nine Months Ended September 30, 2018		
	As Previously Reported	Corrections <sup>(1)</sup>	As Restated
<b>Operating activities</b>			
Net loss	\$(158,284)	(23,353)	\$(181,637)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	3,957	—	3,957
Gain on change in fair value of equity investment	(3,460)	3,460	—
(Gain) loss on disposal of property, plant and equipment	943	—	943
Stock-based compensation	6,115	—	6,115
Amortization of debt discount	10,568	1,676	12,244
(Gain) loss upon extinguishment of debt	26	—	26
(Gain) loss from change in fair value of derivative liabilities	64,596	(3,432)	61,164
(Gain) loss from extinguishment of derivative liabilities	(75)	75	—
(Gain) loss on foreign currency exchange rates	34	(1,166)	(1,132)
Changes in assets and liabilities:			
Accounts receivable	(10,756)	12,982	2,226
Accounts receivable, unbilled – related party	7,457	—	7,457
Inventories	(890)	—	(890)
Prepaid expenses and other assets	(1,781)	(606)	(2,387)
Accounts payable	(5,201)	406	(4,795)
Accrued and other liabilities	(2,216)	10,564	8,348
Contract liabilities	1,014	(2,100)	(1,086)
Net cash used in operating activities	(87,953)	(1,494)	(89,447)
<b>Investing activities</b>			
Purchases of property, plant and equipment	(6,362)	—	(6,362)
Net cash (used in) provided by investing activities	(6,362)	—	(6,362)
<b>Financing activities</b>			
Proceeds from exercises of common stock options	301	—	301
Payment of minimum employee taxes withheld upon net share settlement of restricted stock units	(196)	—	(196)
Principal payments on capital leases	(848)	—	(848)
Proceeds from issuance of debt, net of issuance costs	35,149	1,494	36,643
Principal payments on debt	(41,970)	—	(41,970)
Proceeds from exercise of warrants	60,544	—	60,544
Proceeds from issuance of common stock in private placements, net of issuance costs	1,416	—	1,416
Proceeds from ESPP purchases	270	—	270
Net cash provided by financing activities	54,666	1,494	56,160
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(101)	—	(101)
Net (decrease) increase in cash, cash equivalents and restricted cash	(39,750)	—	(39,750)
Cash, cash equivalents and restricted cash at beginning of year	61,012	—	61,012
Cash, cash equivalents and restricted cash at end of year	\$ 21,262	\$ —	\$ 21,262
<b>Reconciliation of cash, cash equivalents and restricted cash to the consolidated balance sheets</b>			
Cash and cash equivalents	\$ 19,045		\$ 19,045
Restricted cash, current	1,258		1,258
Restricted cash, noncurrent	959		959
Total cash, cash equivalents and restricted cash	\$ 21,262		\$ 21,262

(1) To reflect the impact of restatement corrections on the statement of cash flows.

## ITEM 9A. CONTROLS AND PROCEDURES

As described in additional detail in the *Explanatory Note* to this Annual Report on Form 10-K, in May 2019, our Board, upon the recommendation of the Audit Committee after consultation with senior management, concluded that there were material misstatements in our audited consolidated financial statements for the year ended December 31, 2017. Accordingly, our Board and senior management concluded that our audited consolidated financial statements for the year ended December 31, 2017 should no longer be relied upon and required restatement. The restated audited consolidated financial statements for year ended December 31, 2017 are provided in this Annual Report on Form 10-K.

### (a) *Evaluation of Disclosure Controls and Procedures*

We maintain disclosure controls and procedures (as that term is defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934 (the Exchange Act) that are designed to provide reasonable assurance that information required to be disclosed in our reports under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the U.S. Securities and Exchange Commission's rules and forms, and that such information is accumulated and communicated to our management, including our principal executive officer (CEO) and interim chief financial officer (CFO) and, as appropriate, to allow timely decisions regarding required disclosures.

In connection with the preparation of this Annual Report on Form 10-K, we carried out an evaluation under the supervision of and with the participation of management, including our CEO and CFO, as of December 31, 2018, of the effectiveness of the design and operation of our disclosure controls and procedures. Based upon this evaluation, our CEO and CFO concluded that as of December 31, 2018, our disclosure controls and procedures were not effective because of the material weaknesses in our internal control over financial reporting described below.

Notwithstanding the existence of the material weaknesses described below, management performed additional analysis and other procedures to ensure that our consolidated financial statements were prepared in accordance with U.S. GAAP. Accordingly, management believes that the consolidated financial statements and disclosures included in this Annual Report on Form 10-K fairly present, in all material respects, in accordance with U.S. GAAP, our financial position, results of operations and cash flows for the periods presented.

### (b) *Management's Annual Report on Internal Control over Financial Reporting*

Our management is responsible for establishing and maintaining adequate internal control over financial reporting and for the assessment of the effectiveness of internal control over financial reporting as defined in Rule 13a-15(f) under the Exchange Act. Our internal control over financial reporting is a process designed by and under the supervision of our CEO and CFO and effected by our board of directors, management, and other personnel, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of our consolidated financial statements for external purposes in accordance with U.S. GAAP. Our internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of the assets of the Company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of the financial statements in accordance with U.S. GAAP, and that receipts and expenditures of the Company are being made only in accordance with authorizations of management and directors of company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the Company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies and procedures may deteriorate.

A "material weakness" is a deficiency, or combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis.

Management, under the supervision of our CEO and CFO, and oversight of the board of directors, conducted an assessment of the effectiveness of our internal control over financial reporting as of December 31, 2018, based on the criteria set forth in Internal Control–Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO 2013 Framework). Based on this assessment, management has identified deficiencies in our internal controls over financial reporting that contributed to the identified material weaknesses described below:

- The Company’s control environment is not effective because the Company lacked a sufficient number of trained resources with assigned responsibility and accountability over the application of generally accepted accounting principles and financial reporting and related internal controls over complex, significant non-routine transactions and routine transactions;
- The Company did not have an effective risk assessment process to identify and analyze necessary changes in business operations resulting from complex significant non-routine transactions and completeness and adequacy of required disclosures;
- The Company did not have an effective internal and external information and communication process to ensure that relevant and reliable information was communicated timely across the organization, to enable financial personnel to effectively carry out their financial reporting and internal control roles and responsibilities; and
- The Company did not design, implement and operate effective monitoring activities over complex, significant non-routine transactions and the accounting for income taxes to ascertain whether the processes and internal controls were present and functioning.

As a consequence of the ineffective control environment, risk assessment, information and communication and monitoring activities components, the Company did not design, implement, and maintain effective control activities at the transaction level over all significant accounts to mitigate the risk of material misstatement in financial reporting, specifically:

- The Company did not retain the required documentation to demonstrate the consistent and timely operation of the controls at a sufficient level of precision to prevent and detect potential misstatements; and
- The Company did not design and operate effective controls over account reconciliations, review and approval of manual journal entries, complex, significant non-routine transactions related to licenses and royalty revenue recognition, derivative liabilities, NOL carryforward limitations, currency translation adjustments and the completeness and accuracy and timely preparation of financial statement presentation and disclosures, including earnings per share.

The control deficiencies create a reasonable possibility that a material misstatement of our annual or interim consolidated financial statements would not be prevented or detected on a timely basis. Therefore, we concluded that these control deficiencies are material weaknesses and our internal control over financial reporting is not effective as of December 31, 2018.

The Company’s independent registered public accounting firm, Macias, Gini & O’Connell LLP, who audited the December 31, 2018 consolidated financial statements included in this annual report, has issued an adverse audit report on the effectiveness of the Company’s internal control over financial reporting as of December 31, 2018. Macias, Gini & O’Connell LLP’s report appears under Part II, Item 8 of this Annual Report on Form 10-K.

**(c) *Changes in Internal Control over Financial Reporting***

Except for the material weaknesses discussed above in this Item 9A that were identified in the fourth quarter (and that arose in an earlier period), there were no changes in our internal control over financial reporting during the fourth quarter of 2018 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

**(d) *Remediation Plan***

Management has begun implementing the plan to assess risks of material misstatement over financial reporting, including the enhancement of internal control activities, and training of key process owners. The plan will be accomplished by the execution of the following:

- Management will augment the finance and accounting function with qualified personnel commensurate with the complexity of our processes and financial reporting requirements. Management will review the assignment of roles and responsibilities to qualified personnel to ensure our financial reporting objectives are met.
- Management will ensure key process owners and other relevant personnel are adequately trained on our financial reporting processes and internal controls to ensure such processes and controls are performed timely and supported with adequate documentation evidencing control performance.
- Management will enhance internal communication processes through the formalization of internal control documentation and related documentation standards.
- Management will formalize and strengthen our oversight and monitoring controls to assess the effective functioning of controls over all components and functional areas of the organization and to monitor compliance with policies and procedures.
- Management will document and augment key policies and internal control procedures to strengthen our identification of and accounting for complex, significant non-routine transactions and routine transactions.

We believe these activities will remediate the control deficiencies identified above and strengthen our internal controls over financial reporting. Management, with the oversight of the Audit Committee, has dedicated incremental resources to successfully implement and test effectiveness of the enhanced controls throughout 2019 and into 2020.

As we continue to evaluate and work to improve our internal control over financial reporting, management may determine to take additional measures to address control deficiencies or determine to modify the remediation plan described above. We cannot be certain, however, that we will effectively remediate such material weaknesses or when we will do so, nor can we be certain of whether additional actions will be required or the costs of any such actions. In designing and evaluating disclosure controls and procedures and internal control over financial reporting, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives. In addition, the design of disclosure controls and procedures and internal control over financial reporting must reflect the fact that there are resource constraints and that management is required to apply judgement in evaluating the benefits of possible controls and procedures relative to their costs.

## **Report of Independent Registered Public Accounting Firm**

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

### **Opinion on Internal Control over Financial Reporting**

We have audited the internal control over financial reporting of Amyris, Inc. and Subsidiaries (the “Company”) as of December 31, 2018, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (the “COSO criteria”). In our opinion, the Company did not maintain, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on the COSO criteria.

We do not express an opinion or any other form of assurance on management’s statements referring to any corrective actions taken by the Company after the date of management’s assessment.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (“PCAOB”), the consolidated balance sheet as of December 31, 2018 and the related consolidated statement of operations, comprehensive loss, stockholders’ deficit and mezzanine equity and cash flow for the year end December 31, 2018, and the related notes (collectively referred to as the “consolidated financial statements”) and our report dated October 1, 2019 expressed an unqualified opinion thereon.

### **Basis for Opinion**

The Company’s management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Item 9A, management’s annual report on internal control over financial reporting. Our responsibility is to express an opinion on the Company’s internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit of internal control over financial reporting in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the Company’s annual or interim financial statements will not be prevented or detected on a timely basis. Several material weaknesses regarding management’s failure to design, implement and maintain internal control over financial reporting have been identified and described in management’s assessment in Item 9A. The material weaknesses related to 1) control environment, due to material weaknesses related to lack of a sufficient number of trained resources with assigned responsibility and accountability over the application of generally accepted accounting principles and financial reporting and related internal controls over complex, significant non-routine transactions and routine transactions; 2) risk assessment, as to the lack of processes to identify and analyze necessary changes in business operations resulting from complex significant non-routine transactions and completeness and adequacy of required disclosures; 3) information and communication, as to the lack of processes to ensure that relevant and reliable information was communicated timely across the organization, to enable financial personnel to effectively carry out their financial reporting and internal control roles and responsibilities and 4) monitoring, given the lack of control activities over complex, significant non-routine transactions and accounting for income taxes to ascertain whether the processes and internal controls were present and functioning. These material weaknesses contributed to additional material weaknesses with the Company not retaining the required documentation to demonstrate the consistent and timely operation of the controls at a sufficient level of

precision to prevent and detect potential misstatements and did not design and operate effective controls over account reconciliations, review and approval of manual journal entries, complex, significant non-routine transactions related to licenses and royalty revenue recognition, derivative liabilities, NOL carryforward limitations, currency translation adjustments and the completeness and accuracy and timely preparation of financial statement presentation and disclosures, including earnings per share.

These material weaknesses were considered in determining the nature, timing, and extent of audit tests applied in our audit of the 2018 consolidated financial statements, and this report does not affect our report dated October 1, 2019 on those consolidated financial statements.

### **Definition and Limitations of Internal Control over Financial Reporting**

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the Company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the Company are being made only in accordance with authorizations of management and directors of the Company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the Company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Macias Gini & O'Connell LLP

San Francisco, California  
October 1, 2019

## PART IV

### ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULE

We have filed the following documents as part of this Annual Report on Form 10-K/A:

1. Financial Statements: See “Index to Consolidated Financial Statements” in Part II, Item 8 of this Annual Report on Form 10-K/A.
2. Financial Statement Schedule:
  - a. Allowance for doubtful accounts: see Note 3, “Balance Sheet Details” in Part II, Item 8 of this Annual Report on Form 10-K/A.
  - b. Deferred tax assets valuation allowance: see Note 14, “Income Taxes” in Part II, Item 8 of this Annual Report on Form 10-K/A.
3. Exhibits: See “Index to Exhibits” immediately following the signature page of this Annual Report on Form 10-K/A.

## SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

AMYRIS, INC.

By: /s/ Jonathan Wolter

\_\_\_\_\_  
Jonathan Wolter  
Interim Chief Financial Officer  
October 4, 2019



## INDEX TO EXHIBITS

Exhibit No.	Description
2.01 <sup>a</sup>	Quota Purchase Agreement, dated November 17, 2017, among registrant, AB Technologies LLC and DSM Produtos Nutricionais Brasil S.A.
2.02	Amendment No. 1, dated December 28, 2017, to the Quota Purchase Agreement, dated November 17, 2017, among registrant, AB Technologies LLC and DSM Produtos Nutricionais Brasil S.A.
3.01	Restated Certificate of Incorporation
3.02	Certificate of Amendment, dated May 9, 2013, to Restated Certificate of Incorporation
3.03	Certificate of Amendment, dated May 12, 2014, to Restated Certificate of Incorporation
3.04	Certificate of Amendment, dated September 18, 2015, to Restated Certificate of Incorporation
3.05	Certificate of Amendment, dated May 18, 2016, to Restated Certificate of Incorporation
3.06	Certificate of Amendment, dated June 5, 2017, to Restated Certificate of Incorporation
3.07	Form of Certificate of Designation of Preferences, Rights and Limitations of Series A 17.38% Convertible Preferred Stock (found at Exhibit A-1, herein)
3.08	Form of Certificate of Designation of Preferences, Rights and Limitations of Series B 17.38% Convertible Preferred Stock (found at Exhibit A-2, herein)
3.09	Form of Certificate of Designation of Preferences, Rights and Limitations of Series C Convertible Preferred Stock (found at Exhibit A-3, herein)
3.10	Form of Certificate of Designation of Preferences, Rights and Limitations of Series D Convertible Preferred Stock (found at Exhibit E, herein)
3.11	Restated Bylaws
4.01	Specimen of Common Stock Certificate
4.02	Form of certificate representing the Series A 17.38% Convertible Preferred Stock (found at Exhibit D, herein)
4.03	Form of certificate representing the Series B 17.38% Convertible Preferred Stock (found at Exhibit D, herein)
4.04	Form of certificate representing the Series C Convertible Preferred Stock (found at Exhibit D, herein)
4.05	Form of certificate representing the Series D Convertible Preferred Stock
4.06 <sup>a</sup>	Amended and Restated Letter Agreement re: Certain Registration Rights dated May 8, 2014 between registrant and the purchasers listed therein
4.07	Warrant to Purchase Stock, dated December 23, 2011, issued to ATEL Ventures, Inc.
4.08 <sup>a</sup>	Side Letter, dated June 21, 2010, between registrant and Total Gas & Power USA, SAS
4.09	Agreement, dated February 23, 2012, among registrant, Maxwell (Mauritius) Pte Ltd, Naxyris SA, Biolding Investment S.A., and Sualk Capital Ltd.
4.10	Securities Purchase Agreement, dated July 24, 2015, between registrant and the Purchasers listed therein
4.11 <sup>c</sup>	Warrant to Purchase Stock issued July 29, 2015 by registrant to Total Energies Nouvelles Activités USA
4.12	Exchange Agreement, dated July 26, 2015, between registrant and the investors listed therein
4.13	Letter Agreement dated as of July 29, 2015 among registrant and registrant's security holders listed therein
4.14	Warrant to Purchase Stock issued July 29, 2015 by registrant to Total Energies Nouvelles Activités USA

Exhibit No.	Description
4.15	Warrant to Purchase Stock issued July 29, 2015 by registrant to Maxwell (Mauritius) Pte Ltd
4.16	Warrant to Purchase Stock issued July 29, 2015 by registrant to Maxwell (Mauritius) Pte Ltd
4.17	Registration Rights Agreement, dated October 20, 2015, between registrant and registrant's security holders listed therein
4.18	Note and Warrant Purchase Agreement, dated February 12, 2016, between registrant and the purchasers listed therein
4.19 <sup>d</sup>	Warrant to Purchase Stock issued February 12, 2016 by registrant to Foris Ventures, LLC
4.20	Securities Purchase Agreement, dated April 8, 2016, between registrant and Bill & Melinda Gates Foundation
4.21	Letter Agreement re Charitable Purposes and Use of Funds, dated April 8, 2016, between registrant and the Bill & Melinda Gates Foundation
4.22	Warrant to Purchase Stock issued November 16, 2016 by registrant to Nenter & Co., Inc.
4.23	Purchase Money Promissory Note issued December 19, 2016 by registrant to Nikko Chemicals Co. Ltd.
4.24	Form of Securities Purchase Agreement, dated May 8, 2017, between registrant and the other parties thereto
4.25	Amendment No. 1, dated May 30, 2017 to Securities Purchase Agreement, dated May 8, 2017, between registrant and the other parties thereto
4.26	Form of Common Stock Purchase Warrant (Cash Warrant) issued May 11, 2017 by registrant to the purchasers thereof (found at Exhibit C-1, herein)
4.27	Form of Common Stock Purchase Warrant (Dilution Warrant) issued May 11, 2017 by registrant to the purchasers thereof (found at Exhibit C-2, herein)
4.28	Securities Purchase Agreement, dated May 31, 2017, between registrant and the investor named therein
4.29	Securities Purchase Agreement, dated August 2, 2017, between registrant and DSM International B.V.
4.30	Securities Purchase Agreement, dated August 2, 2017, between registrant and affiliates of Vivo Capital LLC
4.31	Form of Common Stock Purchase Warrant (Cash Warrant) issued August 7, 2017 by registrant to DSM International B.V. (found at Exhibit B-1, herein)
4.32	Form of Common Stock Purchase Warrant (Dilution Warrant) issued August 7, 2017 by registrant to DSM International B.V. (found at Exhibit B-2, herein)
4.33	Form of Stockholder Agreement, dated August 3, 2017, between registrant and affiliates of Vivo Capital LLC (found at Exhibit C, herein)
4.34	Common Stock Purchase Warrant (Cash Warrant), issued May 31, 2017, by registrant to the investor named therein
4.35	Common Stock Purchase Warrant (Dilution Warrant), issued May 31, 2017, by registrant to the investor named therein
4.36 <sup>a</sup>	Stockholder Agreement, dated May 11, 2017, between registrant and DSM International B.V.
4.37 <sup>a</sup>	Amended and Restated Stockholder Agreement, dated August 7, 2017, between registrant and DSM International B.V.
4.38	Promissory Note issued November 13, 2017 by registrant to Ginkgo Bioworks, Inc.
4.39	Note issued December 28, 2017 by registrant to DSM Finance BV
4.40	Warrant Exercise Agreement, dated August 17, 2018, between registrant and Foris Ventures, LLC

Exhibit No.	Description
4.41	Warrant Exercise Agreement, dated August 17, 2018, between registrant and Vivo Capital Fund VIII, L.P.
4.42	Warrant Exercise Agreement, dated August 17, 2018, between registrant and Vivo Capital Surplus Fund VIII, L.P.
4.43	Common Stock Purchase Warrant issued August 17, 2018 by registrant to Foris Ventures, LLC
4.44	Common Stock Purchase Warrant issued August 17, 2018 by registrant to Vivo Capital Fund VIII, L.P.
4.45	Common Stock Purchase Warrant issued August 17, 2018 by registrant to Vivo Capital Surplus Fund VIII, L.P.
4.46	Common Stock Purchase Warrant issued August 20, 2018 by registrant to Vivo Capital Fund VIII, L.P.
4.47	Common Stock Purchase Warrant issued August 20, 2018 by registrant to Vivo Capital Surplus Fund VIII, L.P.
4.48	Securities Purchase Agreement, dated November 19, 2018, between registrant and DSM International B.V.
4.49	Securities Purchase Agreement, dated December 6, 2018, among registrant and the investors named therein
4.50	Form of Registration Rights Agreement, dated December 10, 2018, among registrant and the investors party thereto (found at Exhibit B, herein)
4.51	Description of Capital Stock
10.01	Lease, dated August 22, 2007, between registrant and ES East Associates, LLC
10.02	First Amendment, dated March 10, 2008, to Lease, dated August 22, 2007, between registrant and ES East Associates, LLC
10.03	Second Amendment, dated April 25, 2008, to Lease, dated August 22, 2007, between registrant and ES East Associates, LLC
10.04	Third Amendment, dated July 31, 2008, to Lease, dated August 22, 2007, between registrant and ES East Associates, LLC
10.05	Fourth Amendment, dated November 14, 2009, to Lease, dated August 22, 2007, between registrant and ES East Associates, LLC
10.06	Fifth Amendment, dated October 15, 2010, to Lease, dated August 22, 2007, between registrant and ES East, LLC
10.07	Sixth Amendment, dated April 30, 2013, to Lease, dated August 22, 2007, between registrant and ES East, LLC
10.08	Lease dated April 25, 2008 between registrant and EmeryStation Triangle, LLC
10.09	Letter, dated April 25, 2008, amending Lease between registrant and EmeryStation Triangle, LLC
10.10	Second Amendment, dated February 5, 2010, to Lease, dated April 25, 2008, between registrant and EmeryStation Triangle, LLC
10.11	Third Amendment, dated May 1, 2013, to Lease, dated April 25, 2008, between registrant and EmeryStation Triangle, LLC
10.12	Pilot Plant Expansion Right Letter dated December 22, 2008 between registrant and EmeryStation Triangle, LLC
10.13	Lease Agreement, dated August 10, 2011, between Amyris Brasil Ltda. and Techno Park Empreendimentos e Administração Imobiliária Ltda.
10.14	First Amendment, dated July 31, 2015, to Lease Agreement, dated August 10, 2011, between

Exhibit No.	Description
	Amyris Brasil Ltda. and Techno Park Empreendimentos e Administração Imobiliária Ltda.
10.15	Second Amendment, dated October 31, 2015, to Lease Agreement, dated August 10, 2011, between Amyris Brasil Ltda. and Techno Park Empreendimentos e Administração Imobiliária Ltda.
10.16	Third Amendment, dated March 30, 2016, to Lease Agreement, dated August 10, 2011, between Amyris Brasil Ltda. and Techno Park Empreendimentos e Administração Imobiliária Ltda.
10.17	Private Instrument of Non-Residential Real Estate Lease Agreement, dated March 31, 2008, between Lucio Tomasiello and Amyris Brasil S.A. (including Amendment No. 1, dated July 5, 2008, and Amendment No. 2, dated October 30, 2008)
10.18 <sup>ac</sup>	Third Amendment, dated October 1, 2012, to the Private Instrument of Non Residential Real Estate Lease Agreement, dated March 31, 2008, between Lucio Tomasiello and Amyris Brasil Ltda.
10.19 <sup>ac</sup>	Fourth Amendment, dated March 3, 2015, to the Private Instrument of Non-Residential Real Estate Lease Agreement, dated March 31, 2008, among Amyris Brasil Ltda., Lucius Tomasiello and Mauricio Tomasiello
10.20 <sup>e</sup>	Fifth Amendment, dated September 22, 2015, to the Private Instrument of Non-Residential Real Estate Lease Agreement, dated March 31, 2008, among Amyris Brasil Ltda., Lucius Tomasiello and Mauricio Tomasiello
10.21 <sup>e</sup>	Sixth Amendment, dated October 17, 2016, to the Private Instrument of Non-Residential Real Estate Lease Agreement, dated March 31, 2008, among Amyris Brasil Ltda., Lucius Tomasiello and Mauricio Tomasiello
10.22	Seventh Amendment, dated September 25, 2017, to the Private Instrument of Non-Residential Real Estate Lease Agreement, dated March 31, 2008, among Amyris Brasil Ltda., Lucius Tomasiello and Mauricio Tomasiello
10.23 <sup>e</sup>	Lease Agreement, dated May 1, 2010, between São Martinho S.A. and SMA Indústria Química S.A.
10.24 <sup>e</sup>	Amendment No. 2, dated August 31, 2015, to the Lease Agreement, dated May 1, 2010, between São Martinho S.A. and SMA Indústria Química S.A.
10.25 <sup>e</sup>	Amendment No. 3, dated September 1, 2016, to the Lease Agreement, dated May 1, 2010, between São Martinho S.A. and SMA Indústria Química Ltda. (f.k.a. SMA Indústria Química S.A.)
10.26 <sup>e</sup>	Amendment No. 4, dated December 26, 2017, to the Lease Agreement, dated May 1, 2010, between São Martinho S.A. and SMA Indústria Química Ltda. (f.k.a. SMA Indústria Química S.A.)
10.27 <sup>a</sup>	Partnership Agreement, dated October 20, 2017, between registrant and Ginkgo Bioworks, Inc.
10.28	Credit Agreement, dated December 28, 2017, between registrant and DSM Finance BV
10.29 <sup>a</sup>	Joint Venture Agreement, dated December 12, 2016, among registrant, Nikko Chemicals Co. Ltd., and Nippon Surfactant Industries Co., Ltd.
10.30 <sup>a</sup>	First Amended and Restated LLC Operating Agreement of Aprinnova, LLC (f/k/a Neossance, LLC) dated December 6, 2016
10.31	Loan and Security Agreement, dated June 29, 2018, among the registrant, certain subsidiaries of the registrant and GACP Finance Co., LLC
10.32	Amendment No. 1, dated August 24, 2018, to Loan and Security Agreement, dated June 29, 2018, among registrant, certain of registrant's subsidiaries and GACP Finance Co., LLC, as administrative agent and lender
10.33	Amendment No. 2, dated November 14, 2018, to Loan and Security Agreement, dated June 29, 2018, among registrant, certain of registrant's subsidiaries and GACP Finance Co., LLC, as

Exhibit No.	Description
	administrative agent and lender
10.34	Amendment No. 3, dated December 14, 2018, to Loan and Security Agreement, dated June 29, 2018, among registrant, certain of registrant's subsidiaries and GACP Finance Co., LLC, as administrative agent and lender
10.35 <sup>b</sup>	Supply Agreement, dated December 28, 2017, between registrant and DSM Produtos Nutricionais Brasil S.A.
10.36 <sup>b</sup>	Amendment No. 1, dated November 19, 2018, to Supply Agreement, dated December 28, 2017, between registrant and DSM Nutritional Products AG, as assignee of DSM Produtos Nutricionais Brasil S.A.
10.37	Assignment Agreement, dated December 31, 2018, between registrant and Hangzhou Xinfu Science & Tech Co. Ltd
10.38 <sup>f</sup>	Offer Letter dated September 27, 2006 between registrant and John Melo
10.39 <sup>f</sup>	Amendment, dated December 18, 2008, to Offer Letter, dated September 27, 2006, between registrant and John Melo
10.40 <sup>f</sup>	Performance Stock Option Award Agreement, dated May 29, 2018, between the registrant and John Melo
10.41 <sup>f</sup>	Amendment #1, dated May 30, 2018, to Executive Severance Plan Participation Agreement, dated December 18, 2013, between the registrant and John Melo
10.42 <sup>f</sup>	Offer Letter, dated November 23, 2016, between registrant and Kathleen Valiasek
10.43 <sup>f</sup>	Amendment, dated March 6, 2017, to Offer Letter, dated November 23, 2016, between registrant and Kathleen Valiasek
10.44 <sup>f</sup>	Offer Letter, dated June 5, 2017, between registrant and Nicole Kelsey
10.45 <sup>f</sup>	Amendment, dated September 18, 2017, to Offer Letter, dated June 5, 2017, between registrant and Nicole Kelsey
10.46 <sup>f</sup>	Offer Letter, dated October 5, 2017, between registrant and Eduardo Alvarez
10.47 <sup>f</sup>	2005 Stock Option/Stock Issuance Plan, as amended on July 19, 2011
10.48 <sup>f</sup>	Form of Notice of Grant of Stock Option under registrant's 2005 Stock Option/Stock Issuance Plan
10.49 <sup>f</sup>	Form of Notice of Grant of Stock Option (non-Exempt) under registrant's 2005 Stock Option/Stock Issuance Plan
10.50 <sup>f</sup>	Form of Notice of Grant of Stock Option (non-US) under registrant's 2005 Stock Option/Stock Issuance Plan
10.51 <sup>f</sup>	Form of Stock Option Agreement under registrant's 2005 Stock Option/Stock Issuance Plan
10.52 <sup>f</sup>	Form of Stock Option Agreement (non-US) under registrant's 2005 Stock Option/Stock Issuance Plan
10.53 <sup>f</sup>	Form of Stock Purchase Agreement under registrant's 2005 Stock Option/Stock Issuance Plan
10.54 <sup>f</sup>	Form of Stock Purchase Agreement (non-US) under registrant's 2005 Stock Option/Stock Issuance Plan
10.55 <sup>f</sup>	2010 Equity Incentive Plan, as amended on May 22, 2018, and forms of award agreements thereunder
10.56 <sup>f</sup>	2010 Employee Stock Purchase Plan, as amended on May 22, 2018, and form of subscription agreement thereunder
10.57 <sup>f</sup>	Executive Severance Plan, effective November 6, 2013
10.58 <sup>f</sup>	Compensation arrangements between registrant and its non-employee directors
10.59 <sup>f</sup>	Compensation arrangements between registrant and its executive officers

Exhibit No.	Description
10.60 <sup>f</sup>	Registrant's 2018 Cash Bonus Plan
10.61 <sup>f</sup>	Form of Indemnity Agreement between registrant and its directors and executive officers
16.1	Letter of PricewaterhouseCoopers LLP dated June 15, 2017
21.01	List of subsidiaries
23.01	Consent of Macias Gini & O'Connell LLP, independent registered public accounting firm
23.02	Consent of BDO USA, LLP, independent registered public accounting firm
24.01	Power of Attorney
31.01	Certification of Chief Executive Officer pursuant to Securities Exchange Act Rules 13a-14(c) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
31.02	Certification of Chief Financial Officer pursuant to Securities Exchange Act Rules 13a-14(c) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
32.01 <sup>g</sup>	Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
32.02 <sup>g</sup>	Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

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- a Portions of this exhibit, which have been granted confidential treatment by the Securities and Exchange Commission, have been omitted.
- b Portions of this exhibit have been omitted pursuant to Item 601(b)(10)(iv) of Regulation S-K promulgated under the Exchange Act.
- c Registrant issued substantially identical warrants to the purchasers under that certain Securities Purchase Agreement entered into on July 24, 2015. Registrant has filed the warrant issued to Total Energies Nouvelles Activites USA and has included with such exhibit a schedule (Schedule A to Exhibit 4.11) identifying each of the warrants and setting forth the material details in which the other warrants differ from the filed warrant (i.e., the names of the purchasers, the certificate numbers and the respective numbers of shares underlying the warrants).
- d Substantially identical warrants were issued to three separate investors. Registrant has filed the warrant issued to Foris Ventures, LLC, which is substantially identical in all material respects to all of such warrants except as to the parties thereto, the issue date and the number of underlying shares.
- e Translation to English from Portuguese in accordance with Rule 12b-12(d) of the regulations promulgated by the Securities and Exchange Commission under the Exchange Act.
- f Indicates management contract or compensatory plan or arrangement.
- g This certification shall not be deemed "filed" for purposes of Section 18 of the Exchange Act or otherwise subject to the liability of that section, nor shall it be deemed incorporated by reference into any filing under the Securities Act or the Exchange Act.

**CERTIFICATION OF PERIODIC REPORT UNDER SECTION 302 OF  
THE SARBANES-OXLEY ACT OF 2002**

I, John G. Melo, certify that:

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

/s/ John G. Melo

John G. Melo

*President and Chief Executive Officer*

October 4, 2019

**CERTIFICATION OF PERIODIC REPORT UNDER SECTION 302 OF  
THE SARBANES-OXLEY ACT OF 2002**

I, Jonathan Wolter, certify that:

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

/s/ Jonathan Wolter

Jonathan Wolter

*Interim Chief Financial Officer*

October 4, 2019



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

I, John G. Melo, President and Chief Executive Officer of Amyris, Inc. (Company), do hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

- the Annual Report on Form 10-K of the Company for the year ended December 31, 2018, as amended (Report) fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company for the periods presented therein.

/s/ John G. Melo

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John G. Melo

*President and Chief Executive Officer*

October 4, 2019

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

I, Jonathan Wolter, Interim Chief Financial Officer of Amyris, Inc. (Company), do hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

- the Annual Report on Form 10-K of the Company for the year ended December 31, 2018, as amended (Report) fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company for the periods presented therein.

/s/ Jonathan Wolter

Jonathan Wolter

*Interim Chief Financial Officer*

October 4, 2019

## EXECUTIVE OFFICERS

John Melo  
President and Chief Executive  
Officer

Jonathan Wolter  
Interim Chief Financial Officer

Eduardo Alvarez  
Chief Operating Officer

Nicole Kelsey  
General Counsel and Secretary

Kathleen Valiasek  
Chief Business Officer

## BOARD OF DIRECTORS

John Doerr  
Director and Chair of the  
Nominating and Governance  
Committee

Geoffrey Duyk, M.D., Ph.D.  
Director and Interim Chair of the  
Board

Philip Eykerman  
Director

Christoph Goppelsroeder  
Director

Frank Kung, Ph.D.  
Director

James McCann  
Director

John Melo  
Director, President and Chief  
Executive Officer

Steven Mills  
Director and Chair of the  
Operations and Finance Committee

Carole Piwnica  
Director and Chair of the Leadership  
Development and Compensation  
Committee

Lisa Qi  
Director

R. Neil Williams  
Director and Chair of the Audit  
Committee

Patrick Yang, Ph.D.  
Director

## STOCKHOLDER INFORMATION

### Corporate Headquarters

*USA*  
Amyris, Inc.  
5885 Hollis Street, Ste. 100  
Emeryville, CA 94608  
Main Phone: +1 (510) 450-0761  
Main Fax: +1 (510) 225-2645

### *Brazil*

Amyris Biotecnologia do Brasil Ltda.  
Campinas, Brasil  
Rua John Dalton, 301 – Bloco B –  
Edificio 3 – Condomínio  
Techno Plaza  
Campinas, SP 13069-330  
Main Telephone: +55 (19) 3783 9450

### Transfer Agent

EQ Shareowner Services  
1110 Centre Pointe Curve, Suite 101  
Mendota Heights, MN 55120  
+1 (855) 217-6361

### Independent Auditor

Macias Gini & O'Connell LLP  
San Francisco, California

### Stock Listing

NASDAQ: AMRS

### Annual Meeting

The 2019 Annual Meeting of Stockholders is scheduled to take place at 2:00 p.m. Pacific Time on Tuesday, November 19, 2019 at our headquarters in Emeryville, California.

### Investor Relations

We welcome inquiries from our stockholders and other interested investors. To obtain a paper copy of our Annual Report on Form 10-K for fiscal year 2018, including the financial statements and the financial statement schedules contained in the Form 10-K, at no charge, please submit your request in writing by sending an e-mail request to Amyris Investor Relations at [investor@amyris.com](mailto:investor@amyris.com), calling (510) 740-7481, or writing to Amyris Investor Relations at 5885 Hollis Street, Suite 100, Emeryville, California 94608. We also make our Annual Report on Form 10-K, as well as our other SEC filings, available free of charge through the investor relations section of our website located at <http://investors.amyris.com> as soon as reasonably practicable after they are filed with or furnished to the Securities and Exchange Commission.

### Certifications

The certifications by our Chief Executive Officer and Chief Financial Officer pursuant to Sections 302 and 906 of the Sarbanes-Oxley Act of 2002 are filed as exhibits to our Annual Report on Form 10-K for fiscal year 2018. A copy of our Annual Report on Form 10-K for fiscal year 2018, including such certifications, is enclosed with this report.