AMYRIS, INC.
Form 10-Q
August 14, 2017

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington D.C. 20549

FORM 10-Q

(Mark One)

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

For the quarterly period ended June 30, 2017

OR

o **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	**55-0856151**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**

Amyris, Inc.

5885 Hollis Street, Suite 100

Emeryville, CA 94608

(510) 450-0761

(Address and telephone number of principal executive offices)

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 x No o

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuance 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 and post such files). Yes x No o

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

Large accelerated filer	o	Accelerated filer	o
Non-accelerated filer	o	Smaller reporting company	x
Emerging growth company	o		

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. o

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

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date.

Class	**Outstanding at August 11, 2017**
Common Stock, $0.0001 par value per share	37,606,558

AMYRIS, INC.

QUARTERLY REPORT ON FORM 10-Q

For the Quarterly Period Ended June 30, 2017

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PART I

ITEM 1. FINANCIAL STATEMENTS

Amyris, Inc.

Condensed Consolidated Balance Sheets

(In Thousands, Except Shares and Per Share Amounts)

(Unaudited)

	June 30, 2017	December 31, 2016
Assets		
Current assets:		
Cash and cash equivalents	$5,078	$27,150
Restricted cash	3,815	4,326
Short-term investments	1,556	1,374
Accounts receivable, net of allowance of $501 and $478, respectively	15,958	13,105
Related party accounts receivable, net of allowance of $23 and $23, respectively	1,431	872
Inventories	5,729	6,213
Prepaid expenses and other current assets	7,440	6,083
Total current assets	41,007	59,123
Property, plant and equipment, net	49,303	53,735
Restricted cash, non-current	958	957
Equity and loans in affiliates	94	34
Other assets	20,783	15,464
Goodwill and intangible assets	560	560
Total assets	$112,705	$129,873
Liabilities, Mezzanine Equity and Stockholders' Deficit		
Current liabilities:		
Accounts payable	$14,657	$15,315
Deferred revenue	5,001	5,288
Accrued and other current liabilities	29,275	29,188
Capital lease obligation, current portion	598	922
Debt, current portion	7,954	25,853
Related party debt, current portion	5,331	33,302
Total current liabilities	62,816	109,868
Capital lease obligation, net of current portion	33	334
Long-term debt, net of current portion	111,112	128,744
Related party debt, net of current portion	40,920	39,144
Deferred rent, net of current portion	8,445	8,906
Deferred revenue, net of current portion	6,650	6,650

Derivative liabilities	58,606	6,894
Other liabilities	5,639	7,841
Total liabilities	294,221	308,381
Commitments and contingencies (Note 6)		
Mezzanine Equity:		
Contingently redeemable common stock (Note 5)	5,000	5,000
Convertible preferred stock (Note 5)	12,830	—
Stockholders’ deficit:		
Preferred Stock - $0.0001 par value, 5,000,000 and 5,000,000 shares authorized as of June 30, 2017 and December 31, 2016, respectively, and 3,330 and 0 shares issued and outstanding as of June 30, 2017 and December 31, 2016, respectively	—	—
Common stock - $0.0001 par value, 250,000,000 and 500,000,000 shares authorized as of June 30, 2017 and December 31, 2016, respectively; 25,272,420 and 18,273,921 shares issued and outstanding as of June 30, 2017 and December 31, 2016, respectively	3	2
Additional paid-in capital - common stock and other	1,012,906	990,895
Accumulated other comprehensive loss	(42,003)	(40,904)
Accumulated deficit	(1,171,189)	(1,134,438)
Total Amyris, Inc. stockholders’ deficit	(200,283)	(184,445)
Noncontrolling interest	937	937
Total stockholders' deficit	(199,346)	(183,508)
Total liabilities, mezzanine equity and stockholders' deficit	$112,705	$129,873

See the accompanying notes to the unaudited condensed consolidated financial statements.

Amyris, Inc.

Condensed Consolidated Statements of Operations

(In Thousands, Except Shares and Per Share Amounts)

(Unaudited)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2017	2016	2017	2016
Revenues				
Renewable product sales	$12,729	$4,922	$21,021	$8,062
Grants and collaborations revenue	12,950	4,677	17,639	10,347
Total revenues	25,679	9,599	38,660	18,409
Cost and operating expenses				
Cost of products sold	17,279	7,891	30,047	19,068
Research and development	14,249	13,176	28,956	25,082
Sales, general and administrative	15,949	11,408	28,799	23,674
Total cost and operating expenses	47,477	32,475	87,802	67,824
Loss from operations	(21,798)	(22,876)	(49,142)	(49,415)
Other income (expense):				
Interest income	43	82	105	139
Interest expense	(9,303)	(9,704)	(21,486)	(18,062)
Gain from change in fair value of derivative instruments	35,775	20,934	38,114	42,612
Loss upon extinguishment of debt	(3,624)	(433)	(3,528)	(649)
Other expense, net	(163)	(1,431)	(545)	(3,246)
Total other income	22,728	9,448	12,660	20,794
Income (loss) before income taxes	930	(13,428)	(36,482)	(28,621)
Provision for income taxes	(310)	(138)	(269)	(253)
Net income (loss) attributable to Amyris, Inc.	$620	$(13,566)	$(36,751)	$(28,874)
Less deemed dividend (capital distribution to related parties)	(8,648)	—	(8,648)	—
Less deemed dividend related to beneficial conversion feature on Series A preferred stock	(562)	—	(562)	—
Less cumulative dividends on Series A and Series B preferred stock	(1,675)	—	(1,675)	—
Net loss attributable to Amyris, Inc. common stockholders	$(10,265)	$(13,566)	$(47,636)	$(28,874)
Net loss per share attributable to common stockholders:				
Basic	$(0.44)	$(0.91)	$(2.24)	$(2.00)
Diluted	$(0.44)	$(1.67)	$(2.24)	$(3.46)
Weighted-average shares of common stock outstanding used in computing net loss per share of common stock:				
Basic	23,155,874	14,874,135	21,226,013	14,426,247
Diluted	23,155,874	17,526,410	21,226,013	17,253,961

See the accompanying notes to the unaudited condensed consolidated financial statements.

Amyris, Inc.

Condensed Consolidated Statements of Comprehensive Loss

(In Thousands)

(Unaudited)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2017	2016	2017	2016
Comprehensive loss:				
Net loss attributable to Amyris, Inc. common stockholders	$ (10,265)	$ (13,566)	$ (47,636)	$ (28,874)
Foreign currency translation adjustment, net of tax	(1,422)	4,593	(1,099)	9,281
Comprehensive loss attributable to Amyris, Inc. common stockholders	(11,687)	(8,973)	(48,735)	(19,593)

See the accompanying notes to the unaudited condensed consolidated financial statements.

Amyris, Inc.

Condensed Consolidated Statements of Stockholders' Deficit and Mezzanine Equity

(In Thousands, Except Shares)

(Unaudited)

	Preferred Stock		Common Stock								
	Shares	Amount	Shares	Amount	Additional Paid-in Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Noncontrolling Interest	Total Deficit	Mezzanine Equity - Common Stock	Mezzanine Equity - Preferred Stock
December 31, 2015			13,742,019	21	$926,216	$(47,198)	$(1,037,104)	$(391)	$(158,456)		
Issuance of common stock upon conversion of debt			547,992	1	8,637				8,638		
Issuance of common stock for settlement of debt principal payments			566,049		3,289				3,289		
Issuance of contingently redeemable common stock			292,398						—	5,000	
Issuance of warrants with debt private placement			—		3,971				3,971		
Acquisition of noncontrolling interest			—		(323)			277	(46)		
Contribution upon restructuring of Fuels JV			—		4,251				4,251		
Issuance of common stock upon exercise of stock options, net of			9						—		

restricted stock											
Shares issued from restricted stock settlement			64,305		(201)				(201)		
Shares issued upon ESPP purchase			15,122		123				123		
Stock-based compensation			—		3,840				3,840		
Foreign currency translation adjustment			—			9,281			9,281		
Net loss			—				(28,874)		(28,874)		
June 30, 2016	—	$—	15,227,894	$22	$949,803	$(37,917)	$(1,065,978)	$(114)	$(154,184)	$5,000	$—
December 31, 2016	—	$—	18,273,921	$2	$990,895	$(40,904)	$(1,134,438)	$937	$(183,508)	$5,000	$—
Issuance of Series A preferred stock for cash, net of issuance costs of $562	22,140	—	—	—	—	—	—	—	—	—	—
Issuance of Series B preferred stock upon conversion of debt, net of issuance costs of $634	40,204	—	—	—	—	—	—	—	—	—	11,53
Issuance of Series B preferred stock for cash	30,700	—	—	—	—	—	—	—	—	—	1,300
Issuance of shares due to rounding from reverse stock split	—	—	6,473	—	—	—	—	—	—	—	—
Issuance of common stock upon conversion of preferred stock	(18,840)	—	2,990,374	—	—	—	—	—	—	—	—
Issuance of common stock upon conversion of	—	—	2,257,786	—	14,154	—	—	—	14,154	—	—

debt											
Issuance of common stock for settlement of debt principal payments	—	—	1,246,165	1	10,707	—	—	—	10,708	—	—
Issuance of common stock for settlement of debt interest payments	—	—	400,967	—	3,436	—	—	—	3,436	—	—
Deemed dividend upon conversion of debt into Series A and Series B preferred stock	—	—	—	—	(8,648)	—	—	—	(8,648)	—	—
Issuance of common stock upon exercise of stock options	—	—	134	—	—	—	—	—	—	—	—
Shares issued from restricted stock settlement	—	—	79,841	—	(391)	—	—	—	(391)	—	—
Shares issued upon ESPP purchase	—	—	16,759	—	69	—	—	—	69	—	—
Stock-based compensation	—	—	—	—	2,684	—	—	—	2,684	—	—
Foreign currency translation adjustment	—	—	—	—	—	(1,099)	—	—	(1,099)	—	—
Net loss	—	—	—	—	—	—	(36,751)	—	(36,751)	—	—
June 30, 2017	74,204	$—	25,272,420	$3	$1,012,906	$(42,003)	$(1,171,189)	$937	$(199,346)	$5,000	$12,83

See the accompanying notes to the unaudited condensed consolidated financial statements.

Amyris, Inc.

Condensed Consolidated Statements of Cash Flows

(In Thousands)

(Unaudited)

	Six Months Ended June 30,	
	2017	2016
Operating activities		
Net loss	$(36,751)	$(28,874)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	5,550	5,720
Loss on disposal of property, plant and equipment	(161)	(122)
Stock-based compensation	2,684	3,840
Amortization of debt discount and issuance costs	7,637	7,415
Receipt of equity in connection with collaboration arrangements revenue	(2,660)	—
Loss upon extinguishment of debt	3,528	649
Gain from change in fair value of derivative instruments	(38,115)	(42,612)
Loss on foreign currency exchange rates	63	1,083
Changes in assets and liabilities:		
Accounts receivable	(3,723)	(183)
Related party accounts receivable	214	587
Inventory	409	1,910
Prepaid expenses and other assets	(4,220)	1,695
Accounts payable	(1,739)	1,190
Accrued and other liabilities	8,392	8,132
Deferred revenue	(838)	939
Deferred rent	(449)	(344)
Net cash used in operating activities	(60,179)	(38,975)
Investing activities		
Purchase of short-term investments	(3,966)	(2,366)
Maturities of short-term investments	3,895	2,585
Change in restricted cash	(982)	7
Purchases of property, plant and equipment, net of disposals	(264)	(400)
Net cash used in investing activities	(1,317)	(174)
Financing activities		
Proceeds from sale of convertible preferred stock	50,661	—
Proceeds from exercises of common stock options, net of repurchase	69	123
Employees' taxes paid upon vesting of restricted stock units	(110)	(201)
Proceeds from issuance of contingently redeemable equity	—	5,000
Principal payments on capital leases	(764)	(506)
Change in restricted cash related to contingently redeemable equity	1,478	(5,000)
Proceeds from debt issued	12,455	9,950
Proceeds from debt issued to related party	—	25,000

Principal payments on debt	(24,372)	(6,573)
Net cash provided by financing activities	39,417	27,793
Effect of exchange rate changes on cash and cash equivalents	7	186
Net decrease in cash and cash equivalents	(22,072)	(11,170)
Cash and cash equivalents at beginning of period	27,150	11,992
Cash and cash equivalents at end of period	$5,078	$822

See the accompanying notes to the unaudited condensed consolidated financial statements.

Amyris, Inc.

Condensed Consolidated Statements of Cash Flows—(Continued)

(In Thousands)

	Six Months Ended June 30,	
	2017	2016
Supplemental disclosures of cash flow information:		
Cash paid for interest	$4,526	$3,735
Supplemental disclosures of non-cash investing and financing activities:		
Acquisition of property, plant and equipment under accounts payable, accrued liabilities and notes payable	$(1,189)	$(521)
Financing of equipment	$138	$1,276
Financing of insurance premium under notes payable	$(191)	$(315)
Issuance of common stock for settlement of debt principal and interest payments	$3,233	$3,289
Issuance of convertible preferred stock upon conversion of debt	$40,204	$—
Issuance of common stock upon conversion of debt	$28,702	$8,638
Interest capitalized to debt	$1,745	$2,052
Non-cash investment in joint venture	$—	$600
Cancellation of debt and accrued interest on disposal of interest in affiliate	$—	$4,252

See the accompanying notes to the unaudited condensed consolidated financial statements.

Amyris, Inc.

Notes to Unaudited Condensed Consolidated Financial Statements

1. The Company

Amyris, Inc. (or the Company) is a leading industrial biotechnology company that is applying its technology platform to engineer, manufacture and sell high performance products into the Health and Nutrition, Personal Care and Performance Materials 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 chemical manufacturing processes. The Company has successfully used its technology to develop and produce at commercial volumes five distinct molecules. The Company was incorporated in California on July 17, 2003 and reincorporated in Delaware on April 15, 2010.

The Company believes 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, and animal- or plant-derived ingredients. The Company continues to build demand for its current portfolio of products through a sales network comprised of direct sales and distributors, and are engaged in collaborations across each of its three market focus areas to drive additional product sales and partnership opportunities. Via its partnership model, the Company's partners invest in the development of each molecule to bring it from the lab to commercial scale. The Company then captures long term revenue both through the production and sale of the molecule to its partners and through value sharing of the partners' product sales.

Liquidity

The Company expects to fund its operations for the foreseeable future with cash and investments currently on hand, with cash inflows from collaborations and grants, with cash contributions from product sales, and if needed, with new equity and debt financings. For the remainder of 2017 and 2018, the Company's planned working capital needs and its planned operating and capital expenditures are dependent on significant inflows of cash from new and existing collaboration partners and from cash generated from renewable product sales.

The Company has incurred significant operating losses since its inception and expects to continue to incur losses and negative cash flows from operations into 2018. As of June 30, 2017, the Company had negative working capital of $21.8 million, an accumulated deficit of $1.2 billion, and cash, cash equivalents and short term investments of $6.6

million. 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 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 next 12 months and extend existing debt maturities, which is uncertain. Our operating plan for the remainder of 2017 and 2018 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.

If the Company is unable to continue as a going concern, it may be unable to meet its obligations under its existing debt facilities, which could result in an acceleration of its obligation to repay all amounts outstanding under those facilities, and it may be forced to liquidate its assets.

As of June 30, 2017, the Company's debt (including related party debt), net of deferred discount and issuance costs of $26.0 million, totaled $165.3 million, of which $13.3 million is classified as current. In addition to upcoming debt maturities, the Company's debt service obligations over the next twelve months are significant, including $11.2 million of anticipated cash interest payments.

Subsequent to June 30, 2017, the Company has issued additional common stock and convertible preferred stock for net proceeds of approximately $50 million; see Note 14, “Subsequent Events” for details regarding these financing transactions.

2. Summary of Significant Accounting Policies

Basis of Presentation and Principles of Consolidation

The consolidated financial statements include the results of wholly-owned and partially-owned subsidiaries in which the Company has a controlling interest with all significant intercompany accounts and transactions eliminated in consolidation.

Unaudited Interim Financial Information

The accompanying unaudited consolidated financial statements have been prepared in accordance with U.S. generally accepted accounting principles (or U.S. GAAP) for interim financial information and Article 10 of Regulation S-X issued by the U.S. Securities and Exchange Commission (or the SEC). Accordingly, they do not include all of the information and footnotes required by U.S. GAAP for complete financial statements. In the opinion of management, the interim financial information reflects all adjustments consisting only of items of a normal recurring nature, necessary for a fair presentation of the Company's financial position at June 30, 2017, the results of operations and comprehensive loss for the three and six months ended June 30, 2017 and 2016, the cash flows and changes in stockholders' deficit for the six months ended June 30, 2017 and 2016. The consolidated balance sheet at December 31, 2016 has been derived from the audited financial statements at that date, but does not include all of the information and footnotes required by U.S. GAAP for complete financial statements. This Form 10-Q should be read in conjunction with the consolidated financial statements and accompanying notes contained in the Company's Annual Report on Form 10-K for the year ended December 31, 2016.

Reverse Stock Split

On June 5, 2017, the Company effected a 1 for 15 reverse stock split of the Company's common stock, par value $0.0001 per share, as well as a reduction in the total number of authorized shares of common stock from 500,000,000 to 250,000,000. The par value of the common stock was not adjusted as a result of the stock split. Unless otherwise noted, all common stock share quantities and per-share amounts for all periods presented in the financial statements and notes thereto have been retroactively adjusted for the stock split as if such stock split had occurred on the first day of the first period presented. Certain amounts in the notes to the financial statements may be slightly different from previously reported due to rounding of fractional shares as a result of the reverse stock split.

The par value, number of shares outstanding and number of authorized shares of preferred stock were not adjusted as a result of the reverse stock split.

Use of Estimates

The preparation of the financial statements in conformity with U.S. GAAP requires management to make estimates 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 periods reported. Actual results could differ from these estimates, and such differences may be material to the financial statements.

The accompanying interim condensed consolidated financial statements and related disclosures are unaudited, have been prepared on the same basis as the annual consolidated financial statements, except for the impact of adoption of certain accounting standards as described below, and in the opinion of management, reflect all adjustments, which include only normal recurring adjustments, necessary for a fair statement of the results of operations for the periods presented. In the six months ended June 30, 2017 the Company adopted these Accounting Standards Updates (ASUs):

- ASU 2015-11, *Inventory (Topic 330): Simplifying the Measurement of Inventory*
- ASU 2016-06, *Derivatives and Hedging (Topic 815): Contingent Put and Call Options in Debt Instruments*
- ASU 2016-09, *Compensation—Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting*

None of the ASUs adopted had a material impact on the Company's condensed consolidated financial statements.

Recent Accounting Pronouncements

Revenue Recognition In May 2014, the Financial Accounting Standards Board (FASB) issued ASU 2014-09, which creates ASC Topic 606*, Revenue from Contracts with Customers* and supersedes ASC Topic 605, *Revenue Recognition*. The new standard, which along with amendments issued in 2015 and 2016, will supersede nearly all current U.S. GAAP guidance on this topic and will eliminate industry-specific guidance. The underlying principle is to recognize revenue when promised goods or services are transferred to customers, in an amount that reflects the consideration that is expected to be received for those goods or services. This accounting standard update, as amended, will be effective for the Company beginning in the first quarter of fiscal 2018. The new revenue standard may be applied retrospectively to each prior period presented or retrospectively with the cumulative effect recognized in retained earnings as of the date of adoption ("modified retrospective basis"). The Company plans to adopt this accounting standard update in the first quarter of fiscal 2018. The Company is in the process of reviewing its revenue arrangements and the anticipated effect the new standard will have on the consolidated financial statements, accounting policies, processes and system requirements. The timing of revenue recognition may change in amounts that have not yet been determined. In addition, the Company expects additional revenue-related disclosures.

Financial Instruments In January 2016, the 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 accounting standard update will be effective for the Company beginning in the first quarter of fiscal 2018. The Company expects ASU 2016-01 to impact the extent of its disclosures of financial instruments, particularly in relation to fair value disclosures, but otherwise does not expect this accounting standard update to significantly impact the Consolidated Financial Statements.

Leases In February 2016, the FASB issued ASU 2016-02, *Leases (Topic 842),* 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 accounting standard update will be effective for the Company beginning in the first quarter of fiscal 2019 using a modified retrospective approach, which requires lessees and lessors to recognize and measure leases at the beginning of the earliest period presented. The Company is in the initial stages of evaluating the impact of the new standard on its accounting policies, processes and system requirements.

Credit Losses of Financial Instruments In June 2016, the FASB issued ASU 2016-13, *Financial Instruments-Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*, which requires measurement and recognition of expected credit losses for financial assets held based on historical experience, current conditions, and reasonable and supportable forecasts that affect the collectability of the reported amount. ASU 2016-13 replaces the existing incurred loss impairment model with an expected loss methodology, which will result in more timely recognition of credit losses. The accounting standard update will be effective for the Company beginning in the first quarter of fiscal 2020 on a modified retrospective basis. The Company is in the initial stages of evaluating the impact of the new standard on its accounting policies and processes.

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. The accounting standard update will be effective for the Company beginning in the first quarter of fiscal 2018 on a retrospective basis. The Company is currently evaluating the impact of this accounting standard update on its Consolidated Statements of Cash Flows.

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 will be effective for the Company beginning in the first quarter of fiscal 2018 using a retrospective transition method to each period presented. Upon adoption, ASU 2016-18 will result in a change in the presentation of restricted cash in the statement of cash flows.

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 the Company's: (1) contracts to transfer to a noncustomer a nonfinancial asset or group of nonfinancial assets, or an ownership interest in a consolidated subsidiary that is not a business or nonprofit activity; and (2) contributions of nonfinancial assets that are not a business to a joint venture or other noncontrolled investee. The accounting standard update will be effective for the Company beginning in the first quarter of fiscal 2018 on either a full or modified retrospective basis. The Company is currently evaluating the impact of this accounting standard update on its Consolidated Financial Statements.

When Changes to Share-based Payment Awards Must Be Accounted for as Modifications In May 2017, the FASB issued ASU 2017-09, *Compensation—Stock Compensation (Topic 718): Scope of Modification Accounting,* which clarifies when changes to the terms or conditions of a share-based payment award must be accounted for as modifications. The accounting standard update will allow companies to make certain changes to awards without accounting for them as modifications. It does not change the accounting for modifications. The accounting standard update will be effective for the Company beginning in the first quarter of fiscal 2018 on a prospective basis. The Company is currently evaluating the impact of this accounting standard update on its Consolidated Financial Statements.

3. Fair Value of Financial Instruments

The inputs to the valuation techniques used to measure fair value are classified into the following categories:

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.

There were no transfers between the levels, and as of June 30, 2017, the Company’s financial assets and financial liabilities at fair value were classified within the fair value hierarchy as follows (in thousands):

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	Level 1	Level 2	Level 3	Balance as of June 30, 2017
Financial Assets				
Money market funds	$5,078	$ —	$—	$5,078
Certificates of deposit	5,371	—	—	5,371
Total financial assets	$10,449	$ —	$—	$10,449
Financial Liabilities				
Compound embedded derivative liability	$—	$ —	$56,222	$56,222
Currency interest rate swap derivative liability	—	—	2,384	2,384
Total financial liabilities	$—	$ —	$58,606	$58,606

As of December 31, 2016, the Company’s financial assets and financial liabilities at fair value were classified within the fair value hierarchy as follows (in thousands):

	Level 1	Level 2	Level 3	Balance as of December 31, 2016
Financial Assets				
Money market funds	$1,549	$ —	$—	$ 1,549
Certificates of deposit	1,373	—	—	1,373
Total financial assets	$2,922	$ —	$—	$ 2,922
Financial Liabilities				
Compound embedded derivative liability	$—	$ —	$4,135	$ 4,135
Currency interest rate swap derivative liability	—	—	3,343	3,343
Total financial liabilities	$—	$ —	$7,478	$ 7,478

The Company’s assessment of the significance of a particular input to the fair value measurement in its entirety requires management to make judgments 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 fair values of the currency interest rate swaps are based on the present value of expected future cash flows and assumptions about current interest rates and the Company's creditworthiness. The method of determining the fair value of the compound embedded derivative liabilities is described subsequently in this note. Market risk associated with the fixed and variable rate long-term loans payable, credit facilities and convertible notes relates to the potential reduction in fair value and negative impact to future earnings, from an increase in interest rates. Market risk associated with the compound embedded derivative liabilities relates to the potential reduction in fair value and negative impact to future earnings from a decrease in interest rates.

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 were recorded at carrying value, which was

representative of fair value at the date of acquisition. The Company estimates the fair value of loans payable and credit facilities using market observable inputs (Level 2) and estimates the fair value of convertible notes based on rates currently offered for instruments with similar maturities and terms (Level 3). The loans payable, credit facilities and convertible notes at June 30, 2017 were $16.6 million, $49.8 million and $99.0 million, respectively. The fair value of the loans payable, credit facilities and convertible notes at June 30, 2017 were $13.4 million, $32.6 million and $95.8 million, respectively.

The following table provides a reconciliation of the beginning and ending balances for the compound embedded derivative liabilities measured at fair value using significant unobservable inputs (Level 3) (in thousands):

	2017
Balance at January 1	$ 4,135
Gain from change in fair value of derivative liabilities (in statements of operations)	(32,210)
Additions	93,675
Derecognition on extinguishment or conversion	(9,378)
Balance at June 30	$ 56,222

The compound embedded derivative liabilities represent the fair value of the equity cash warrants, conversion options and "make-whole" provisions of the May 2017 Purchase Agreement (as defined below), as well as the down round conversion price adjustment or conversion rate adjustment provisions of the May 2017 Purchase Agreement (as defined below), R&D Notes, the Temasek Funding Warrants, the Tranche I Notes, the Tranche II Notes, the 2014 144A Notes and the 2015 144A Notes (see Note 5, “Debt and Mezzanine Equity”). As of June 30, 2017 and December 31, 2016, included in "Derivative Liabilities" on the condensed consolidated balance sheets are compound embedded derivative liabilities of $56.2 million and $4.1 million, respectively.

The market-based assumptions and estimates used in applying a Monte Carlo simulation approach and Black-Scholes-Merton option value approach for valuing the compound embedded derivative liabilities include amounts in the following ranges/amounts:

	June 30, 2017	May 11, 2017	December 31, 2016
Risk-free interest rate	1.29% - 1.93%	1.93%	0.55% - 1.31%
Risk-adjusted yields	4.50% - 28.93%	—	12.80% - 22.93%
Stock-price volatility	45% - 80%	80%	45%
Probability of change in control	5%	5%	5%
Stock price	$3.18	$4.95	$0.73
Credit spread	3.15% - 27.57%	—	11.59% - 21.64%
Estimated conversion dates	2017 - 2022	2017 - 2022	2017 - 2019

Changes in valuation assumptions can have a significant impact on the valuation of the embedded derivative liabilities. 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 also include conversion price adjustment features whereby, for example, issuances of equity or equity-linked securities by the Company at prices lower than the conversion price then in effect for such notes result in a reset or adjustment of the conversion price of such notes,

which increases the value of the embedded derivative liabilities. See Note 5, "Debt and Mezzanine Equity" for further details of conversion price adjustment features.

On April 21, 2017, the Company received 850,115 unregistered shares of SweeGen common stock in satisfaction of Blue California’s payment obligation under the Intellectual Property License and Strain Access Agreement. The Company obtained an independent valuation of the shares which established a historical cost of $3.2 million. The appraisal assumed, discounted cash flows at 40%, risk free interest rate of 0.92%, zero dividends and equity volatility of 45%.

In June 2012, the Company entered into a loan agreement with Banco Pine S.A. ("Banco Pine") under which Banco Pine provided the Company with a loan (the "Banco Pine Bridge Loan") (see Note 5, "Debt and Mezzanine Equity"). At the time of the Banco Pine Bridge Loan, the Company also entered into a currency interest rate swap arrangement with Banco Pine with respect to the repayment of R$22.0 million (US$6.7 million based on the exchange rate as of June 30, 2017) of the Banco Pine Bridge Loan. The swap arrangement exchanges the principal and interest payments under the Banco Pine Bridge Loan for alternative principal and interest payments that are subject to adjustment based on fluctuations in the foreign exchange rate between the U.S. dollar and Brazilian real. The swap has a fixed interest rate of 3.94%.

Changes in the fair value of the compound embedded derivative liabilities are recognized in “Gain from change in fair value of derivative instruments" in the condensed consolidated statements of operations are as follows (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
Type of Derivative Contract	2017	2016	2017	2016
Compound embedded derivative liabilities	$35,814	$19,659	$36,315	$40,492
Currency interest rate swaps	(39)	1,275	1,799	2,120
Total gain from change in fair value of derivative instruments	$35,775	$20,934	$38,114	$42,612

4. Balance Sheet Components

Inventories

Inventories are stated at the lower of cost or net realizable value and are comprised of the following (in thousands):

	June 30, 2017	December 31, 2016
Raw materials	$2,937	$ 3,159
Work-in-process	1,379	1,848
Finished goods	1,413	1,206
Inventories	$5,729	$ 6,213

Property, Plant and Equipment, net

Property, plant and equipment, net is comprised of the following (in thousands):

	June 30, 2017	December 31, 2016
Machinery and equipment	$84,785	$ 82,688
Leasehold improvements	38,770	38,785
Computers and software	9,619	9,585
Buildings	4,630	4,699
Furniture and office equipment	2,324	2,333
Vehicles	133	164
Land	460	460
Construction in progress	367	2,216
	141,088	140,930
Less: accumulated depreciation and amortization	(91,785)	(87,195)
Property, plant and equipment, net	$49,303	$ 53,735

Property, plant and equipment, net includes $3.4 million and $3.1 million of machinery and equipment under capital leases as of June 30, 2017 and December 31, 2016, respectively. Accumulated amortization of assets under capital leases totaled $0.3 million and $0.6 million as of June 30, 2017 and December 31, 2016, respectively.

Depreciation and amortization expense, including amortization of assets under capital leases was $2.7 million and $2.8 million for the three months ended June 30, 2017 and 2016, respectively, and $5.4 million and $5.7 million for the six months ended June 30, 2017 and 2016, respectively.

Other Assets (noncurrent)

Other assets are comprised of the following (in thousands):

	June 30, 2017	December 31, 2016
Recoverable taxes from Brazilian government entities	$15,443	$ 13,723
Cost-method investment	3,233	—
Deposits on property and equipment, including taxes	909	291

Other	1,198	1,450
Total other assets	$20,783	$ 15,464

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Accrued and Other Current Liabilities

Accrued and other current liabilities are comprised of the following (in thousands):

	June 30, 2017	December 31, 2016
Withholding tax related to conversion of related party notes	$1,370	$ 1,370
Professional services	5,943	6,876
SMA relocation accrual	3,587	3,641
Accrued interest	4,133	4,847
Tax-related liabilities	2,741	2,610
Accrued vacation	2,274	2,034
Payroll and related expenses	3,512	4,310
Deferred rent, current portion	1,122	1,111
Contractual obligations to contract manufacturers	2,698	—
Other	1,895	2,389
Total accrued and other current liabilities	$29,275	$ 29,188

5. Debt and Mezzanine Equity

Debt and mezzanine equity are comprised of the following (in thousands):

	June 30, 2017	December 31, 2016
Senior secured loan facility	$ 27,999	$ 27,658
BNDES credit facility	577	1,172
FINEP credit facility	534	696
Guanfu credit facility	20,645	19,564
Total credit facilities	49,755	49,090
Convertible notes	54,471	78,981
Loans payable	14,592	26,527
Related party convertible notes	44,499	42,754
Related party loan payable	2,000	29,691
Total debt	165,317	227,043
Less: current portion	(13,285)	(59,155)
Long-term debt, net of current portion	$ 152,032	$ 167,888
Mezzanine equity		
Contingently redeemable common stock	$ 5,000	$ 5,000
Convertible preferred stock	$ 12,830	$ —

Senior Secured Loan Facility

In March 2014, the Company entered into a Loan and Security Agreement (or the LSA) with Hercules Technology Growth Capital, Inc. (or Hercules) to make available to Amyris a secured loan facility (or 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 extend additional credit facilities to the Company in an aggregate amount of up to $30,960,000, of which $15,960,000 was drawn by the Company, extend the maturity date of the loans, and remove, add and/or modify certain covenants and agreements under the LSA. In connection with such amendments, the Company paid aggregate fees of $1,450,000 to Hercules.

In June 2016, the Company was notified by Hercules that it had transferred and assigned its rights and obligations under the Senior Secured Loan Facility to Stegodon Corporation (or Stegodon), an affiliate of Ginkgo Bioworks, Inc. (or Ginkgo), and in connection with the execution by the Company and Ginkgo of an initial strategic partnership agreement, the Company received a deferment from Stegodon of all scheduled principal repayments under the Senior Secured Loan Facility, as well as a waiver of the Minimum Cash Covenant as defined in the LSA. Refer to Note 8, “Significant Agreements” for additional details. In October 2016, in connection with the execution by the Company and

Ginkgo of a definitive collaboration agreement (or the Ginkgo Collaboration Agreement), the Company and Stegodon entered into a fourth amendment of the LSA, pursuant to which the parties agreed to (i) extend the maturity date of the Senior Secured Loan Facility, subject to the Company extending the maturity of certain of its other outstanding indebtedness (or the Extension Condition), (ii) make the Senior Secured Loan Facility interest-only until maturity, subject to the requirement that the Company apply certain monies received by it under the Ginkgo Collaboration Agreement to repay the amounts outstanding under the Senior Secured Loan Facility, up to a maximum amount of $1 million per month and (iii) waive the Minimum Cash Covenant until the maturity date of the Senior Secured Loan Facility. On January 11, 2017, the maturity date of the Senior Secured Loan Facility was extended to October 15, 2018 due to the Extension Condition being met as a result of the Fidelity Exchange (as defined below). See below under “Fidelity” for additional details. This modification of the Senior Secured Loan Facility was accounted for as a troubled debt restructuring with the future undiscounted cash flows being greater than the carrying value of the debt prior to extension. No gain was recorded and a new effective interest rate was established based on the carrying value of the debt and the revised cash flows. In addition, in January 2017, in connection with Stegodon granting certain waivers of the debt and transfer covenants under the LSA, the Company and Stegodon entered into a fifth amendment of the LSA, pursuant to which the Company agreed to apply additional monies received by it under the Ginkgo Collaboration Agreement towards repayment of the outstanding loans under the Senior Secured Loan Facility, up to a maximum amount of $3 million.

As of June 30, 2017, $27.8 million was outstanding under the Senior Secured Loan Facility, net of deferred discount and issuance costs of $0.6 million. The Senior Secured Loan Facility is secured by liens on the Company's assets, including on certain Company intellectual property. The Senior Secured Loan Facility includes customary events of default, including failure to pay amounts due, breaches of covenants and warranties, material adverse effect events, certain cross defaults and judgments, and insolvency. If an event of default occurs, Stegodon may require immediate repayment of all amounts outstanding under the Senior Secured Loan Facility.

FINEP Credit Facility

As of June 30, 2017 and December 31, 2016, the total outstanding loan balance under the credit facility with Financiadora de Estudos e Projetos (or the FINEP Credit Facility) was R$1.8 million (US$0.5 million) and R$2.3 million (US$0.7 million), respectively. The Company entered into the FINEP Credit Facility to finance a research and development project on sugarcane-based biodiesel, which is guaranteed by a chattel mortgage on certain equipment of the Company. The Company's total acquisition cost for the equipment under this guarantee is R$6.0 million (US$1.8 million based on the exchange rate as of June 30, 2017).

Guanfu Credit Facility

On October 26, 2016, the Company and Guanfu Holding Co., Ltd. (or, together with its subsidiaries, Guanfu), an existing commercial partner of the Company, entered into a credit agreement (or the Guanfu Credit Agreement) to make available to the Company an unsecured credit facility (or the Guanfu Credit Facility) with an aggregate principal amount of up to $25.0 million, which the Company could borrow from time to time in up to three closings. Upon the effectiveness of the Guanfu Credit Agreement in November 2016, the Company granted to Guanfu the global exclusive purchase right with respect to the Company products subject to the parties' pre-existing commercial relationship. On December 31, 2016, the Company borrowed the full amount under the Guanfu Credit Facility and issued to Guanfu a note in the principal amount of $25.0 million (or the Guanfu Note). The Guanfu Note has a term of five years and is accruing interest at a rate of 10% per annum, payable quarterly beginning March 31, 2017. The Company may, at its option, repay the Guanfu Note before its 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.

Upon the occurrence of certain specified events of default under the Guanfu Credit Facility, the Company will grant to Guanfu an exclusive, royalty-free, global license to certain intellectual property useful in connection with Guanfu's existing commercial relationship with the Company. In addition, in the event the Company fails to pay interest or principal under the Guanfu Note within ten days of when due, the Company will also be required, subject to applicable laws and regulations, to repay the outstanding principal amount under the Guanfu Note, together with accrued and unpaid interest, in the form of shares of the Company's common stock at a per share price equal to 90% of the volume weighted average closing sale price of the Company's common stock for the 90 trading days ending on and

including the trading day that is two trading days preceding such default.

Convertible Notes

Fidelity

In February 2012, the Company sold $25.0 million in aggregate principal amount of 3% senior unsecured convertible promissory notes with a March 1, 2017 maturity date and an initial conversion price equal to $106.023 per share of the Company's common stock (or the Fidelity Notes) in a private placement pursuant to a securities purchase agreement between the Company and certain investment funds affiliated with FMR LLC (or the Fidelity Securities Purchase Agreement). In October 2015, the Company issued and sold $57.6 million of convertible senior notes (as described below under “2015 Rule 144A Convertible Note Offering”) and used $8.8 million of the proceeds therefrom to repurchase $9.7 million aggregate principal amount of outstanding Fidelity Notes. On December 28, 2016, the Company entered into an Exchange Agreement (or the Fidelity Exchange Agreement) with the holders of the outstanding Fidelity Notes pursuant to which the Company and the holders agreed to exchange (or the Fidelity Exchange) all outstanding Fidelity Notes, together with accrued and unpaid interest thereon, for $19.1 million in aggregate principal amount of additional 2015 144A Notes (as defined below), representing an exchange ratio of approximately 1:1.25 (*i.e.*, each $1.00 of Fidelity Notes was exchanged for approximately $1.25 of additional 2015 144A Notes), in a private exchange exempt from registration under the Securities Act of 1933, as amended (or the Securities Act). The closing of the Fidelity Exchange occurred on January 11, 2017. At the closing, the Company issued $19.1 million in aggregate principal amount of its 2015 144A Notes to the holders in exchange for the cancellation of the outstanding Fidelity Notes. The Company did not receive any cash proceeds from the Fidelity Exchange. The exchange has been accounted for as an extinguishment of the Fidelity Notes and issuance of the additional 2015 144A Notes. A gain of $0.1 million was recognized in the first quarter to recognize the deficit of the fair value of the additional 2015 144A Notes (including related embedded derivatives) compared to the carrying value of the Fidelity Notes at the time of extinguishment. Pursuant to the Fidelity Exchange Agreement, upon the closing of the Fidelity Exchange, the Fidelity Securities Purchase Agreement terminated. In addition, upon the closing of the Fidelity Exchange, in accordance with the terms of the fourth amendment to the LSA, the maturity date of all outstanding loans under the LSA was extended to October 15, 2018. See above under “Senior Secured Loan Facility” for details regarding the fourth amendment to the LSA.

2014 Rule 144A Convertible Note Offering

In May 2014, the Company sold $75.0 million aggregate in principal amount of 6.50% Convertible Senior Notes due 2019 (or the 2014 144A Notes) to certain qualified institutional buyers in a private placement. The net proceeds from the offering were $72.0 million after payment of the initial purchaser’s discounts and offering expenses. Certain of the Company's affiliated entities purchased $24.7 million in aggregate principal amount of 2014 144A Notes (described further below under "Related Party Convertible Notes"), including $9.7 million by Total in the form of cancellation of existing indebtedness. In October 2015, the Company issued $57.6 million of convertible senior notes (as described below under “2015 Rule 144A Convertible Note Offering”) and used $18.3 million of the net proceeds therefrom to repurchase $22.9 million aggregate principal amount of outstanding 2014 144A Notes. The 2014 144A Notes bear interest at a rate of 6.50% per year, payable semiannually in arrears on May 15 and November 15 of each year. The 2014 144A Notes mature on May 15, 2019, unless earlier converted or repurchased. The 2014 144A Notes are convertible into shares of the Company's common stock at a conversion rate of 17.8073 shares of common stock per $1,000 principal amount of 2014 144A Notes (subject to adjustment in certain circumstances), representing an effective initial conversion price of approximately $56.16 per share of common stock. Refer to the “Exchange” and “Maturity Treatment Agreement” sections of this Note 5, "Debt and Mezzanine Equity" for details of the impact of the Maturity Treatment and Exchange Agreements on the 2014 144A Notes.

2015 Rule 144A Convertible Note Offering

In October 2015, the Company sold $57.6 million aggregate principal amount of 9.50% Convertible Senior Notes due 2019 (or the 2015 144A Notes) to certain qualified institutional buyers in a private placement. The net proceeds from the offering of the 2015 144A Notes were $54.4 million after payment of the offering expenses and placement agent fees. The Company used $18.3 million of the net proceeds to repurchase $22.9 million aggregate principal amount of outstanding 2014 144A Notes and $8.8 million to repurchase $9.7 million aggregate principal amount of outstanding Fidelity Notes, in each case held by purchasers of the 2015 144A Notes. The 2015 144A 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 144A Notes is payable, at the Company’s option, entirely in cash or entirely in common stock. The Company elected to make the April 15, 2016 interest payment in shares of common stock, the October 15, 2016 interest payment in cash and the April 15, 2017 interest payment in shares of common stock. The 2015 144A Notes will mature on April 15, 2019 unless earlier converted or repurchased.

The 2015 144A Notes are convertible into shares of the Company's common stock at a conversion rate of 48.3395 shares of Common Stock per $1,000 principal amount of 2015 144A Notes as of June 6, 2017, representing an effective conversion price of approximately $20.69 per share of common stock. Upon conversion, noteholders are entitled to receive a payment equal to the present value of the remaining scheduled payments of interest on the 2015 144A Notes being converted through maturity (April 15, 2019), computed using a discount rate of 0.75%. The Company may make such payment (the “Early Conversion Payment”) either in cash or in common stock, at its election subject to certain conditions, with the stock valued at 92.5% of the simple average of the daily volume-weighted average price per share for the 10 trading days ending on and including the trading day immediately preceding the conversion date. Through June 30, 2017, 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 144A Notes (or the Additional 2015 144A Notes) in exchange for the cancellation of $15.3 million in aggregate principal amount of outstanding Fidelity Notes. Unless and until the Company obtains stockholder approval to issue a number of shares of the Company's common Stock in excess of the Additional 2015 144A Notes Exchange Cap (as defined below), holders of the Additional 2015 144A Notes will not have the right to receive shares of the Company's common stock upon conversion of the Additional 2015 144A Notes, and the Company will not have the right to issue shares of common stock as payment of interest on the Additional 2015 144A Notes, including any Early Conversion Payment, if the aggregate number of shares issued with respect to the Additional 2015 144A Notes (and any other transaction aggregated for such purpose) after giving effect to such conversion or payment, as applicable, would exceed 19.99% of the number of shares of the Company's common stock outstanding as of December 28, 2016 (or the Additional 2015 144A Notes Exchange Cap). The Company will pay cash in lieu of any shares that would otherwise be deliverable in excess of the Additional 2015 144A Notes Exchange Cap.

May 2016 Convertible Note Offering

In May 2016, the Company entered into a securities purchase agreement (or the May 2016 Purchase Agreement) between the Company and a private investor relating to the sale of up to $15.0 million aggregate principal amount of convertible notes (or the May 2016 Convertible Notes).

Pursuant to the May 2016 Purchase Agreement, the full amount of the May 2016 Convertible Notes was issued in three separate closing in May 2016, September, 2016 and October 2016 for net proceeds of $14.9 million.

The May 2016 Convertible Notes were fully repaid in October 2016.

December 2016 and April 2017 Convertible Note Offerings

On December 1, 2016, the Company entered into a securities purchase agreement (or the December 2016 Purchase Agreement) with a private investor (or the Purchaser) and issued and sold a convertible note in principal amount $10.0 million (or the December 2016 Convertible Note) to the Purchaser, resulting in net proceeds to the Company of $9.9 million. The December 2016 Convertible Note was fully repaid in May 2017.

On April 13, 2017, the Company entered into a securities purchase agreement (or the April 2017 Purchase Agreement) with the Purchaser relating to the sale of up to an additional $15.0 million aggregate principal amount of convertible notes (or the April 2017 Convertible Notes). The April 2017 Purchase Agreement provides the Purchaser with a right of first refusal with respect to any variable rate transaction, subject to certain exceptions, on the same terms and conditions as are offered to a third-party purchaser for as long as the Purchaser holds any April 2017 Convertible Notes or shares of common stock underlying the April 2017 Convertible Notes.

On April 17, 2017, the Company issued and sold an April 2017 Convertible Note in the principal amount of $7.0 million (or the $7 Million Note) to the Purchaser, for proceeds to the Company of $6.9 million. The $7 Million Note was fully repaid in May 2017.

On May 2, 2017, in connection with the Purchaser agreeing to extend the time period for certain obligations of the Company under the April 2017 Purchase Agreement, the Company and the Purchaser entered into an Amendment Agreement (or the Amendment Agreement) with respect to the December 2016 Purchase Agreement, the April 2017 Purchase Agreement, the December 2016 Convertible Note and the April 2017 Convertible Notes (or the Amended Notes), pursuant to which the Company and the Purchaser agreed, among other things, to amend the December 2016 Convertible Note and the April 2017 Convertible Notes to (i) reduce the price at which the Company may pay monthly installments under the Amended Notes in shares of common stock from a 10% discount to a market-based price to a 20% discount to a market-based price and (ii) reduce the price floor related to any such payment from 80% of, in the case of the December 2016 Convertible Note, the volume-weighted average price per share (or VWAP) of the Company's common stock on the trading day immediately preceding the applicable installment date and, in the case of the April 2017 Convertible Notes, the arithmetic average of the VWAP of the Company's common stock for the five trading days immediately preceding the applicable installment date, to 70% of the arithmetic average of the VWAP of the Company's common stock for the five trading days immediately preceding the applicable installment date.

On June 30, 2017, the Company issued and sold an Amended Note under the April 2017 Purchase Agreement in the principal amount of $3.0 million (or the $3 Million Note) to the Purchaser, for proceeds to the Company of $3.0 million. In connection with the issuance and sale of the $3 Million Note, the Company and the Purchaser entered into a letter agreement, pursuant to which, among other things, the Purchaser has the right to cause the Company to redeem all of the outstanding principal amount of the $3 Million Note in cash in accordance with the redemption provisions set forth in the $3 Million Note, as described below, upon the written request of the Purchaser within 10 days after the Company publicly announces the closing of the Second Tranche Funding (as defined below). See Note 14, "Subsequent Events", for more details.

The Amended Notes are general unsecured obligations of the Company. Unless earlier converted or redeemed, the Amended Notes will mature on or about the 18-month anniversary of their respective issuance, subject to the rights of the holders to extend the maturity date in certain circumstances.

The Amended Notes are payable in monthly installments, in either cash at 118% of such installment amount or, at the Company's option, subject to the satisfaction of certain equity conditions, shares of common stock at a discount to the then-current market price, subject to a price floor, as described above. In addition, in the event that the Company elects to pay all or any portion of a monthly installment in common stock, the holders of the Amended Notes have the right to require that the Company repay in common stock an additional amount of the Amended Notes not to exceed 50% of the cumulative sum of the aggregate amounts by which the dollar-weighted trading volume of the common stock for all trading days during the applicable installment period exceeds $200,000.

The Amended Notes contain customary terms and covenants, including certain events of default after which the holders may require the Company to redeem all or any portion of their Amended Notes in cash at a price equal to the greater of (i) 118% of the amount being redeemed and (ii) the intrinsic value of the shares of common stock issuable upon an installment payment of the amount being redeemed in shares.

In the event of a Fundamental Transaction (as defined in the Amended Notes), holders of the Amended Notes may require the Company to redeem all or any portion of their Amended Notes at a price equal to the greater of (i) 118% of the amount being redeemed and (ii) the intrinsic value of the shares of common stock issuable upon an installment payment of the amount being redeemed in shares.

The Company has the right to redeem the Amended Notes for cash, in whole, at any time, or in part, from time to time, at a redemption price equal to 118% of the principal amount of the Amended Notes to be redeemed.

The Amended Notes are convertible from time to time, at the election of the holders, into shares of common stock at an conversion price of $28.50 per share.

Notwithstanding the foregoing, the holders will not have the right to convert any portion of an Amended Note, 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, or (b) the aggregate number of shares issued with respect to the Amended Notes (and any other transaction aggregated for such purpose) after giving effect to such conversion or payment, as applicable, would exceed 3,792,779 shares of common stock (or the Amended Notes Exchange Cap). In the event that the Company is prohibited from issuing any shares of common stock under the Amended Notes as a result of the Amended Notes Exchange Cap, the Company will pay cash in lieu of any shares that would otherwise be deliverable in excess of the Amended Notes Exchange Cap. In addition, pursuant to the April 2017 Purchase Agreement, in the event that the aggregate number of shares of common stock issuable with respect to the April 2017 Convertible Notes (and any other transaction aggregated for such purpose) would equal or exceed 218,817 of shares of common stock, the Company will be required to take all actions necessary for, and use its reasonable best efforts to solicit and obtain, stockholder approval for the issuance of shares of common stock in excess of the Amended Notes Exchange Cap.

For as long as they hold Amended Notes or shares of common stock issued under the Amended Notes, the holders may not sell any shares of common stock at a price less than $15.75 per share; provided, that with respect to any shares of common stock issued under the Amended Notes at a price less than $15.00, the holders may sell such shares at a price not less than the price floor applicable to the installment period with respect to which such shares were issued.

As of June 30, 2017, the balance of the Amended Notes was $19.1 million. At December 31, 2016, the balance of the December 2016 Convertible Note was $9.9 million.

See Note 14, “Subsequent Events”, for details regarding financing transactions completed subsequent to June 30, 2017.

Related Party Convertible Notes

Total R&D Convertible Notes

In July 2012 and December 2013, the Company entered into a series of agreements (or the Total Fuel Agreements) with an affiliate of Total S.A. (or, together with its affiliates, Total) to, among other things, establish (i) a research and development program and (ii) a convertible debt structure for the collaboration funding for the program from Total. The purchase agreement for the notes related to the collaboration funding from Total provided for the purchase and sale of an aggregate of $105.0 million of 1.5% Senior Convertible Notes due March 2017 (or the R&D Notes), which

by January 2015 had been fully funded by Total.

In July 2015, Total exchanged all but $5.0 million of the R&D Notes then held by Total, such canceled notes having an aggregate principal amount of $70 million, in exchange for approximately 2.0 million shares of the Company's common stock in connection with the Exchange. Refer to the "Exchange" section of this Note 5, "Debt and Mezzanine Equity", for additional details of the impact of the Exchange on the R&D Notes.

In March 2016, in connection with the restructuring of Total Amyris BioSolutions B.V. (or TAB), the fuels joint venture between the Company and Total, the Company sold to Total one half of the Company's ownership stake in TAB (giving Total an aggregate ownership stake of 75% of TAB and giving the Company an aggregate ownership stake of 25% of TAB) in exchange for Total canceling (i) $1.3 million of the remaining R&D Notes, plus all paid-in-kind and accrued interest under all outstanding R&D Notes ($2.8 million, including all such interest that was outstanding as of July 29, 2015) and (ii) a note in the principal amount of Euro 50,000, plus accrued interest, issued to Total in connection with the original capitalization of TAB, and in connection therewith, Total surrendered to the Company the remaining R&D Note of $5.0 million in principal amount, and the Company executed and delivered to Total a new R&D Note in the principal amount of $3.7 million (or the Remaining R&D Note), with substantially similar terms and conditions to the previous R&D Notes other than it is unsecured and its payment terms are severed from TAB's business performance. The disposal of the 25% ownership stake in TAB resulted in a gain to the Company of $4.2 million, which was recognized as a capital contribution from Total within equity.

As of June 30, 2017 and December 31, 2016, $3.7 million and $3.7 million, respectively, of the Remaining R&D Note were outstanding.

In February 2017, the Company and Total amended the Remaining R&D Note to extend the maturity of the Remaining R&D Note from March 1, 2017 to May 15, 2017. Subsequently, in May 2017, the Company and Total entered into a second amendment of the Remaining R&D Note, pursuant to which the parties agreed (i) to extend the maturity date of the Remaining R&D Note from May 15, 2017 to March 31, 2018, (ii) to increase the interest rate on the amounts outstanding under the Remaining R&D Note from 1.5% to 12.0%, beginning May 16, 2017, together with a corresponding increase to the default interest rate, and (iii) that accrued and unpaid interest on the amounts outstanding under the Remaining R&D Note will be payable on December 31, 2017 and the maturity date. The Remaining R&D Note is convertible into the Company's common stock, at a conversion price of $46.20 per share, (i) within 10 trading days prior to maturity, (ii) on a change of control of the Company, and (iii) on a default by the Company. The conversion price of the Remaining R&D Note is subject to adjustment for proportional adjustments to outstanding common stock and under anti-dilution provisions in case of certain dividends and distributions.

August 2013 Financing Convertible Notes

In August 2013, the Company entered into a Securities Purchase Agreement (or the August 2013 SPA) with Total and Maxwell (Mauritius) Pte Ltd (or Temasek) to sell up to $73.0 million in convertible promissory notes in private placements (or the August 2013 Financing), with such notes to be sold and issued over a period of up to 24 months from the date of signing.

In October 2013, the Company sold and issued a senior secured promissory note to Temasek (or the Temasek Bridge Note) in exchange for a bridge loan of $35.0 million due on February 2, 2014 at an interest rate of 5.5% quarterly. The Temasek Bridge Note was canceled on October 16, 2013 as payment for Temasek's purchase of Tranche I Notes in the first tranche of the August 2013 Financing, as further described below.

In October 2013, the Company amended the August 2013 SPA to include the investment by certain entities affiliated with FMR LLC in the first tranche of the August 2013 Financing of $7.6 million, and to proportionally increase the amount of first tranche notes acquired by exchange and cancellation of outstanding R&D Notes held by Total in connection with its exercise of pro rata rights up to $9.2 million in the first tranche. Also in October 2013, the Company completed the closing of the first tranche of senior convertible notes provided for in the August 2013 Financing (or the Tranche I Notes), issuing a total of $51.8 million in Tranche I Notes for cash proceeds of $7.6 million and exchange and cancellation of outstanding convertible promissory notes of $44.2 million, of which $35.0 million resulted from the exchange and cancellation of the Temasek Bridge Note and the remaining $9.2 million from the exchange and cancellation of an outstanding R&D Note held by Total. As a result of the exchange and cancellation of the $35.0 million Temasek Bridge Note and the $9.2 million R&D Note held by Total for the Tranche I Notes, the Company recorded a loss from extinguishment of debt of $19.9 million. The Tranche I Notes are due sixty months from the date of issuance (October 16, 2018) and were initially convertible into the Company's common stock

at a conversion price equal to $2.44 per share, which represented a 15% discount to the trailing 60-day weighted-average closing price of the common stock on The NASDAQ Stock Market (or NASDAQ) through August 7, 2013, subject to certain adjustments as described below. Interest accrues on the Tranche I Notes at a rate of 5% per six months, compounded semiannually, and is payable in kind by adding to the principal every six months or in cash. Through June 30, 2017, the Company has elected to pay interest on the Tranche I Notes in kind. The Tranche I Notes may be prepaid by the Company without penalty or premium every six months at the date of payment of the semi-annual coupon.

In December 2013, the Company further amended the August 2013 SPA to sell $3.0 million of senior convertible notes under the second tranche of the August 2013 Financing (or the Tranche II Notes) to funds affiliated with Wolverine Asset Management, LLC (or Wolverine). In January 2014, the Company sold and issued $34.0 million of Tranche II Notes in the second tranche of the August 2013 Financing, with Temasek purchasing $25.0 million of the Tranche II Notes and funds affiliated with Wolverine purchasing $3.0 million of the Tranche II Notes, each for cash, and Total purchasing $6.0 million of the Tranche II Notes through exchange and cancellation of the same amount of principal R&D Notes held by Total. As a result of the exchange and cancellation of the $6.0 million of R&D Note held by Total for the Tranche II Notes, the Company recorded a loss from extinguishment of debt of $9.4 million. The Tranche II Notes will be due sixty months from the date of issuance (January 15, 2019). Interest accrues on the Tranche II Notes at a rate per annum equal to 10%, compounded annually, and is payable in kind by adding to the principal every twelve months or in cash. Through June 30, 2017, the Company has elected to pay interest on the Tranche II Notes in kind.

The conversion price of the Tranche I Notes and Tranche II Notes is approximately $7.425 per share as of June 30, 2017.

As of June 30, 2017 and December 31, 2016, the related party convertible notes outstanding under the Tranche I Notes and Tranche II Notes were $22.1 million and $21.8 million, respectively, net of debt discount of $0.0 million and $0.0 million, respectively. Refer to the “Exchange” and “Maturity Treatment Agreement” sections of this Note 5, "Debt and Mezzanine Equity", for details of the impact of the Maturity Treatment and Exchange agreements on the Tranche I Notes and Tranche II Notes.

Loans Payable

In July 2012, the Company entered into a Note of Bank Credit and a Fiduciary Conveyance of Movable Goods Agreement (or, together, the July 2012 Bank Agreements) with each of Nossa Caixa Desenvolvimento (or Nossa Caixa) and Banco Pine S.A. (or Banco Pine). Under the July 2012 Bank Agreements, the Company pledged certain farnesene production assets as collateral for the loans of R$52.0 million (US$15.7 million based on the exchange rate as of June 30, 2017). The Company's total acquisition cost for such pledged assets was R$68.0 million (US$20.6 million based on the exchange rate as of June 30, 2017). The Company is also a parent guarantor for the payment of the outstanding balance under these loan agreements. Under the July 2012 Bank Agreements, the Company could borrow an aggregate of R$52.0 million (US$15.7 million based on the exchange rate as of June 30, 2017) as financing for capital expenditures relating to the Company's manufacturing facility located in Brotas, Brazil. The funds for the loans are provided by BNDES, but are guaranteed by the lenders. The loans have a final maturity date of July 15, 2022 and bear a fixed interest rate of 5.5% per year. The loans are also subject to early maturity and delinquency charges upon occurrence of certain events including interruption of manufacturing activities at the Company's manufacturing facility in Brotas, Brazil for more than 30 days, except during the sugarcane off-season. For the first two years that the loans were outstanding, the Company was required to pay interest only on a quarterly basis. Since August 15, 2014, the Company has been required to pay equal monthly installments of both principal and interest for the remainder of the term of the loans. As of June 30, 2017 and December 31, 2016, a principal amount of $10.0 million and $11.1 million, respectively, was outstanding under these loan agreements.

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Exchange (Debt Conversion - Related Party Transaction)

In July 2015, the Company entered into an Exchange Agreement (or the "Exchange Agreement"), with Total and Temasek pursuant to which Temasek exchanged $71.0 million in principal amount of outstanding Tranche Notes (including paid-in-kind and accrued interest through July 29, 2015) and Total exchanged $70.0 million in principal amount of outstanding R&D Notes for shares of our common stock at a price of $34.50 per share (or the "Exchange"). As a result of the Exchange, accretion of debt discount was accelerated based on our estimate of the expected conversion date, resulting in an additional interest expense of $39.2 million for the year ended December 31, 2015.

Under the Exchange Agreement, Total also received the following warrants, each with a five-year term, at the closing of the Exchange:

- A warrant to purchase 1,261,612 shares of the Company’s common stock (or the Total Funding Warrant).
- A warrant to purchase 1,333,334 shares of the Company’s common stock that would only be exercisable if the Company failed, as of March 1, 2017, to achieve a target cost per liter to manufacture farnesene (or the Total R&D Warrant). The Total Funding Warrant and the Total R&D Warrant are collectively referred to as the “Total Warrants.”

Additionally, under the Exchange Agreement, Temasek received the following warrants, each with a ten-year term, at the closing of the Exchange:

- A warrant to purchase 978,525 shares of the Company’s common stock (or the Temasek Exchange Warrant).
- A warrant exercisable for that number of shares of the Company’s common stock equal to (1) (A) the number of shares for which Total exercises the Total Funding Warrant plus (B) the number of additional shares for which the certain convertible notes remaining outstanding following the completion of the Exchange may become exercisable as a result of a reduction in the conversion price of such remaining notes as of a result of and/or subsequent to the date of the Exchange plus (C) that number of additional shares in excess of 133,334, if any, for which the Total R&D Warrant becomes exercisable multiplied by a fraction equal to 30.6% divided by 69.4% plus (2) (A) the number of any additional shares for which certain other outstanding convertible promissory notes may become exercisable as a result of a reduction to the conversion price of such notes multiplied by (B) a fraction equal to 13.3% divided by 86.7% (or the Temasek Funding Warrant).
- A warrant exercisable for that number of shares of the Company’s common stock equal to 58,690 multiplied by a fraction equal to the number of shares for which Total exercises the Total R&D Warrant divided by 133,334 (or the Temasek R&D Warrant). If Total exercises the Total R&D Warrant in full, the Temasek R&D Warrant would be exercisable for 58,690 shares.

The Temasek Exchange Warrant, the Temasek Funding Warrant and the Temasek R&D Warrant are referred to herein as the “Temasek Warrants” and the Temasek Warrants and the Total Warrants are hereinafter collectively referred to as the “Exchange Warrants”.

In addition to the grant of the Exchange Warrants, a warrant issued by the Company to Temasek in October 2013 in conjunction with a prior convertible debt financing (or the 2013 Warrant) became exercisable in full upon the completion of the Exchange. There were 66,667 shares underlying the 2013 Warrant, with an exercise price of $0.01 per share.

In February and May 2016, as a result of adjustments to the conversion price of the Tranche I Notes and Tranche II Notes (or, collectively, the Tranche Notes) discussed above, the Temasek Funding Warrant became exercisable for an additional aggregate of 164,169 shares of common stock. Following the issuance by the Company of shares of convertible preferred stock and warrants to purchase common stock in May 2017, as described below, and a corresponding adjustment to the conversion price of the Tranche I Notes and Tranche II Notes, as described above, the Temasek Funding Warrant became exercisable for an additional 1,125,755 shares of common stock.

As of March 1, 2017, the Company had not achieved the target cost per liter to manufacture farnesene provided in the Total R&D Warrant, and as a result, on March 1, 2017 the Total R&D Warrant became exercisable in accordance with its terms.

As of June 30, 2017, the Total Funding Warrant, the Temasek Exchange Warrant, and the 2013 Warrant had been fully exercised and Temasek had exercised the Temasek Funding Warrant with respect to 846,683 shares of common stock. Neither the Total R&D Warrant nor the Temasek R&D Warrant had been exercised as of June 30, 2017. Warrants to purchase 1,289,924 shares of common stock under the Temasek Funding Warrant were unexercised as of June 30, 2017. The exercise prices of the Exchange Warrants outstanding were $0.15 as of June 30, 2017.

Maturity Treatment Agreement

At the closing of the Exchange, the Company, Total and Temasek also entered into a Maturity Treatment Agreement, dated as of 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 Exchange (or the 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. As of immediately following the closing of the Exchange, Temasek held $10.0 million in aggregate principal amount of Remaining Notes (consisting of 2014 144A Notes) and Total held $25.0 million in aggregate principal amount of Remaining Notes (consisting of $9.7 million of 2014 144A Notes and $15.3 million of Tranche 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 and Temasek 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.

February 2016 Private Placement - Related Party Transaction

On February 12, 2016 and February 15, 2016, the Company issued and sold $18.0 million and $2.0 million, respectively, in aggregate principal amount of unsecured promissory notes (or the February 2016 Notes), as well as warrants to purchase 171,429 and 19,048 shares, respectively, of the Company's common stock at an initial exercise price of $0.15 per share (or the February 2016 Warrants), representing aggregate proceeds to the Company of $20.0 million, in a private placement to certain existing stockholders of the Company that are affiliated with certain members of the Company's Board of Directors: Foris Ventures, LLC (or Foris, an entity affiliated with director John Doerr of Kleiner Perkins Caufield & Byers, a current stockholder), 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. (or 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), 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 (or Biolding), a fund affiliated with director HH Sheikh Abdullah bin Khalifa Al Thani, 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 are unsecured obligations of the Company and are subordinate to the Company's obligations under the Senior Secured Loan Facility pursuant to a Subordination Agreement, dated as of February 12, 2016, by and among the Company, the purchasers and the administrative agent under the Senior Secured Loan Facility. The February 2016 Notes bear interest at a rate of 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 preferred stock and warrants to purchase common stock, as described below, and in connection with such exchange the February 2016 Notes held by Foris and Naxyris were canceled. In addition, in May 2017, the Company and Biolding entered into a first amendment to the February 2016 Note held by Biolding (or the Biolding Note), pursuant to which the parties agreed to extend the maturity date of the Biolding Note from May 15, 2017 to November 15, 2017.

As of June 30, 2017, the February 2016 Warrants purchased by Naxyris had been fully exercised, while none of the February 2016 Warrants purchased by Foris or Biolding had been exercised. The exercise prices of the February 2016 Warrants were $0.15 per share as of June 30, 2017.

As of June 30, 2017, the carrying amount of the February 2016 Notes was $2.0 million.

June 2016 Private Placement - Related Party Transaction

On June 24, 2016, the Company issued and sold $5.0 million in aggregate principal amount of secured promissory notes (or the June 2016 Notes) to Foris in a private placement. The interest rate on the June 2016 Notes was 13.50% per annum and the June 2016 Notes had a maturity date of May 15, 2017. In May 2017, the June 2016 Notes were exchanged for shares of preferred stock and warrants to purchase common stock, as described below, and in connection with such exchange the June 2016 Notes were canceled and the agreements relating thereto (including the security interest relating thereto) were terminated.

October 2016 Private Placements

On October 21 and October 27, 2016, the Company issued and sold $6.0 million and $8.5 million, respectively, in aggregate principal amount of secured promissory notes (or the October 2016 Notes) to Foris and Ginkgo, respectively in private placements (or the October 2016 Private Placements). The interest rate on the October 2016 Notes was 13.50% per annum and the October 2016 Notes had a maturity date of May 15, 2017. In May 2017, the October 2016 Notes purchased by Foris were exchanged for shares of preferred stock and warrants to purchase common stock, as described below, and in connection with such exchange the October 2016 Notes purchased by Foris were canceled and the agreements relating thereto (including the security interest relating thereto) were terminated. The October 2016 Notes purchased by Ginkgo were repaid in full at maturity in May 2017, and the agreements relating thereto (including the security interest relating thereto) were terminated.

Salisbury Note

In December 2016, in connection with the Company's purchase of a manufacturing facility in Leland, North Carolina and related assets (or the Glycotech Assets), the Company issued a purchase money promissory note in the principal amount of $3.5 million (or the Salisbury Note) in favor of Salisbury Partners, LLC. The Salisbury Note (i) bore interest at a rate of 5% per year, (ii) had a term of 13 years, (iii) was payable in equal monthly installments of principal and interest beginning on January 1, 2017 (which payments would be subject to a penalty of 5% if delinquent more than 5 days) and (iv) was secured by a purchase money lien on the Glycotech Assets. In January 2017, the Salisbury Note was repaid with proceeds from the Nikko Note (as defined below) and the agreements relating thereto (including the security interest relating thereto) were terminated.

Nikko Note

In December 2016, in connection with the Company's formation of its cosmetics joint venture (or the Aprinnova JV) with Nikko Chemicals Co., Ltd. (or Nikko), an existing commercial partner of the Company, and Nippon Surfactant Industries Co., Ltd., an affiliate of Nikko, as discussed in Note 7, "Joint Venture and Noncontrolling Interests," Nikko made a loan to the Company in the principal amount of $3.9 million, and the Company in consideration therefor issued a promissory note (or 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 relating to the Company's purchase of the Glycotech Assets, including liabilities under the Salisbury Note. The Nikko Note (i) bears interest at a rate of 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 (which payments are subject to a penalty of 5% if delinquent more than 5 days) and (iv) is collateralized by a first-priority lien on 10% of the Aprinnova JV interests owned by the Company. In addition to the payments under the Nikko Note set forth in the preceding sentence, the Company is required to (i) repay $400,000 of the Nikko Note in equal monthly installments of $100,000 on January 1, 2017, February 1, 2017, March 1, 2017 and April 1, 2017 and (ii) commencing with the distributions from the Aprinnova JV to its members relating to the fourth fiscal year of the Aprinnova JV and continuing for each fiscal year thereafter until the Nikko Note is fully repaid, repay the Nikko Note in an amount equal to the profits, if any, distributed to the Company by the Aprinnova JV. The Nikko Note may be prepaid in full or in part at any time without penalty or premium.

Future minimum payments under the debt agreements as of June 30, 2017 are as follows (in thousands):

Years ending December 31:	Related Party Convertible Debt	Convertible Debt	Loans Payable	Related Party Loans Payable	Credit Facility	Total
2017 (remaining six months)	$ 558	$ 4,123	$ 1,426	$ 2,487	$ 3,480	$ 12,074
2018	20,448	8,636	5,268	—	33,696	68,048
2019	34,913	68,097	2,665	—	2,577	108,252
2020	—	—	2,559	—	2,500	5,059
2021	—	—	2,451	—	27,396	29,847
Thereafter	—	—	4,057	—	—	4,057
Total future minimum payments	55,919	80,856	18,426	2,487	69,649	227,337
Less: amount representing interest[(1)]	(11,421)	(26,385)	(3,834)	(487)	(19,893)	(62,020)
Present value of minimum debt payments	44,498	54,471	14,592	2,000	49,756	165,317
Less: current portion	(3,700)	(1,517)	(5,186)	(2,000)	(882)	(13,285)
Noncurrent portion of debt	$ 40,798	$ 52,954	$ 9,406	$ —	$ 48,874	$ 152,032

(1) includes debt discount & issuance cost associated with related party & non-related party debt which will accrete to interest expense under the effective interest method over the term of the debt.

Bill & Melinda Gates Foundation Investment (Mezzanine Equity)

On May 10, 2016, the Company issued and sold 292,398 shares of common stock at a purchase price per share equal to approximately $17.10 to the Bill & Melinda Gates Foundation (or the Gates Foundation) in a private placement, resulting in aggregate proceeds to the Company of $5.0 million (or the Gates Foundation Investment). In connection with the Gates Foundation Investment, 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. 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, and (ii) the per share price paid by the Gates Foundation for the Gates Foundation Investment shares plus a compounded annual return of 10%. As of June 30, 2017, $5.0 million of the funding received was classified as mezzanine equity. The Company continues to meet its obligation to use the proceeds as set forth above and believes it will continue to do so. The probability of default is low resulting in the equity instrument not being adjusted to its redemption amount.

May 2017 Financing Transactions

On May 8, 2017 and May 31, 2017, the Company entered into separate Securities Purchase Agreements (or the May 2017 Purchase Agreements) with certain investors for the issuance and sale of an aggregate of 22,140 shares of the Company's Series A 17.38% Convertible Preferred Stock, par value $0.0001 per share (or the Series A Preferred Stock), 70,904 shares of the Company's Series B 17.38% Convertible Preferred Stock, par value $0.0001 per share (or the Series B Preferred Stock and, together with the Series A Preferred Stock, the Preferred Stock), which Preferred Stock is convertible into the Company's common stock, par value $0.0001 per share as described below, and Cash Warrants (as defined below) to purchase an aggregate of 14,768,380 shares of common stock and Dilution Warrants (as defined below) (or, collectively, the May 2017 Warrants, and the shares of common stock issuable upon exercise of the Warrants, the May 2017 Warrant Shares) (or the May 2017 Offerings).

The May 2017 Offerings closed on May 11, 2017 (or the May 11 Offering) and May 31, 2017, respectively. The net proceeds to the Company from the May 2017 Offerings were $50.2 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 $22,140,000, 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 $30,700,000 and (ii) the cancellation of $40.2 million of outstanding indebtedness and including

accrued interest thereon, owed by the Company to such purchasers, of which $33.1 million was from related parties, as further described below.

The May 2017 Purchase Agreements include customary representations, warranties and covenants of the parties. In addition, pursuant to the May 2017 Purchase Agreements, the Company, subject to certain exceptions, including the issuance of the Second Tranche Securities (as defined below), (i) may not issue, enter into any agreement to issue or announce the issuance or proposed issuance of any shares of Common Stock or securities convertible into or exercisable or exchangeable for common stock until July 31, 2017 and (ii) may not enter into an agreement to effect any issuance by the Company involving a variable rate transaction until one year from the closing of the May 11 Offering.

Series A Preferred Stock (Permanent Equity)

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 conversion price of $17.25 per share (or the 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 will be automatically converted, without any further action by the holder, on October 9, 2017, the 90th day following the date that the Stockholder Approval (as defined below) was obtained and effected.

Dividends, at a rate per year equal to 17.38% of the stated value of the Series A Preferred Stock, will be payable semi-annually 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. In addition, 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 semi-annual dividends paid on such converted Series A Preferred Stock prior to the relevant conversion date (the Preferred Stock 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.

In the event of a fundamental transaction, the holders of the Series A 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 A Preferred Stock is convertible immediately prior to such fundamental transaction (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.

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.

Notwithstanding the foregoing, the holders (other than the Designated Holder (as defined below)) will not have the right to convert any Series A Preferred Stock, and the Company shall not effect any conversion of the Series A Preferred Stock, if 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 the issuance of shares of common stock issuable upon conversion of such Series A Preferred Stock (or the Beneficial Ownership Limitation).

The Series A Preferred Stock were offered and sold pursuant to a prospectus filed with the SEC on April 9, 2015 and a prospectus supplement dated May 8, 2017, in connection with a takedown from the Company's effective shelf registration statement on Form S-3 (File No. 333-203216) declared effective by the SEC on April 15, 2015.

On May 8, 2017, the Company filed the Certificate of Designation of Preferences, Rights and Limitations of Series A 17.38% Convertible Preferred Stock with the Secretary of State of Delaware.

The Series A preferred stock has been 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 Series A preferred stock is converted into common stock and the make whole payment is paid or until the make whole payment is paid through declared dividends or cash. The Series A preferred stock also contains a beneficial conversion feature which has been recognized up to the amount of proceeds allocated to the preferred stock ($0.6 million). Subsequent to the recognition of the beneficial conversion feature, the net proceeds allocated to the Series A preferred stock was $0.0 million.

As of June 30, 2017, 18,840 shares of Series A preferred stock had converted into common stock, resulting in the recognition of a gain in the change in fair value of derivative liabilities of $9.4 million.

Series B Preferred Stock (Mezzanine Equity)

The Series B Preferred Stock has substantially identical terms to the Series A Preferred Stock (as described above), except that the issuance of the shares of common stock issuable upon conversion of the Series B Preferred Stock or as payment of dividends or the Make-Whole Payment on the Series B Preferred Stock (or the Series B Conversion Shares) was initially subject to the Stockholder Approval (as defined below).

The Series B Preferred Stock was accounted for as Mezzanine equity as the embedded conversion options are not able to be settled in shares under circumstances within the Company's control.

The investors of the Series B Preferred Stock included related parties affiliated with certain members of the Company's Board of Directors (or the Affiliated Investors). Foris exchanged an aggregate principal amount of $27.0 million of indebtedness, plus accrued interest thereon, issued to Foris by the Company on February 12, 2016, June 24, 2016 and October 21, 2016, as described above, for 30,728.589 shares of Series B Preferred Stock and May 2017 Warrants to purchase 4,877,386 shares of Common Stock. Naxyris exchanged an aggregate principal amount of $2.0 million of indebtedness, plus accrued interest thereon, issued to Naxyris by the Company on February 15, 2016, as described above, for 2,333.216 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, embedded make whole payment and related warrants exceeded the carrying value of the related party debt and accrued interest exchanged by $8.6 million which has been recorded as a reduction to Additional Paid in Capital and considered a deemed dividend, increasing net loss attributable to Amyris, Inc. common stockholders.

Certain investors of the Series B Preferred Stock included holders of certain of the Company's existing indebtedness, including the 2014 144A Notes and the 2015 144A 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 144A Notes and $3.7 million of 2015 144A Notes, for Series B Preferred Stock and May 2017 Warrants in the May 2017 Offering. Upon the closing of the May 11 Offering, such 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. The fair value of the Series B preferred stock, embedded make whole payment and related warrants exceeded the carrying value of the debt and accrued interest exchanged by $1.9 million which has been recognized as a loss on extinguishment of debt in other income (expense).

The remaining Series B preferred stock was purchased in exchange for cash proceeds of $30.7 million. The Series B preferred stock issued to the Designated Holder contains a contingent beneficial conversion feature that will be recognized when Stockholder Approval has been obtained and the conversion is no longer contingent. The conversion feature (the right to negotiate the Second Tranche Funding Option) is not a separate unit of account requiring bifurcation.

A derivative liability has been recognized at fair value on the date of issuance for the make whole payment in the amount of $34.7 million. Changes in the fair value of this derivative from the date of issuance through June 30, 2017 have been recorded in earnings. Issuance costs of $0.8 million have been recognized in Sales, General and Administrative expenses.

May 2017 Warrants

Pursuant to the May 2017 Purchase Agreements, the Company issued to each investor (i) a warrant, with an exercise price of $7.80 per share as of June 30, 2017, to purchase a number of shares of Common Stock equal to 50% of the shares of common stock into which such investor's shares of Preferred Stock were initially convertible (including shares of common stock issuable as payment of the Make-Whole Payment, assuming that the Make-Whole Payment is made in common stock), representing warrants to purchase 7,384,190 shares of common stock in the aggregate for all investors and (ii) a warrant, with an exercise price of $9.30 per share as of June 30, 2017, to purchase an equal number of shares of common stock, representing warrants to purchase 7,384,190 shares of common stock in the aggregate for all investors (or, collectively, the Cash Warrants). The exercise price of the 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 Cash Warrants at a per share price (including any conversion or exercise price, if applicable) less than the then-current exercise price of the Cash Warrants, subject to certain exceptions.

In addition, the Company issued to each investor a warrant, with an exercise price of $0.0015 per share as of June 30, 2017 (or, collectively, the 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 three-year period following the issuance of the Dilution Warrants at a per share price (including any conversion or exercise price, if applicable) less than $6.30 per share, the effective per share price paid by the investors for the shares of common stock issuable upon conversion of the Preferred Stock purchased by the investors in the May 2017 Offerings (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.

The exercise of the May 2017 Warrants was subject to the Stockholder Approval (as defined below). The May 2017 Warrants each have a term of five years from the date such warrants are initially exercisable. The exercise of the May 2017 Warrants is subject to the Beneficial Ownership Limitation.

The 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. Subsequent changes to their fair value will be recorded in earnings until the warrants are exercised or expire in May 2022.

The full-ratchet anti-dilution protection of the Cash Warrants are also freestanding financial instruments that have been accounted for as derivative liabilities and recognized at their fair value on the date of issuance of $4.4 million. Subsequent changes to their fair value will be recorded in earnings until they are exercised or expire in May 2020.

Stockholder Approval

Pursuant to the May 2017 Purchase Agreements, the Company agreed to solicit from the Company's stockholders (i) any approval for the transactions contemplated by the May 2017 Purchase Agreement required by the rules and regulations of the NASDAQ Stock Market, including without limitation the issuance of shares of common stock upon conversion of the Series B Preferred Stock and upon exercise of the May 2017 Warrants (or the NASDAQ Approval) and (ii) approval to effect a reverse stock split of the common stock (together with the NASDAQ Approval, collectively, the 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 Stockholder Approval. The Stockholder Approval was obtained on July 7, 2017.

Registration Rights

Pursuant to the May 2017 Purchase Agreements, within 30 calendar days of the date of the Stockholder Approval, the Company has agreed to file a registration statement on Form S-3 (or other appropriate form if the Company is not then S-3 eligible) providing for the resale by the investors of the Series B Conversion Shares and May 2017 Warrant Shares. The Company has also agreed to use commercially reasonable efforts to cause such registration statement to become effective within 181 days following the Closing and commercially reasonable efforts to keep such registration statement effective at all times until (i) no Investor owns any Series B Conversion Shares or May 2017 Warrant Shares or (ii) the Series B Conversion Shares and May 2017 Warrant Shares are eligible for resale under Rule 144 without regard to volume limitations. On August [4], 2017, the Company filed a registration statement on Form S-3 with the SEC to register the Series B Conversion Shares and May 2017 Warrant Shares for resale by the investors in accordance with the May 2017 Purchase Agreements.

Stockholder Agreement

In connection with the May 2017 Purchase Agreements, on May 11, 2017, the Company and one of the investors, DSM International B.V. (or the Designated Holder), a subsidiary of Koninklijke DSM N.V., entered into a Stockholder Agreement (or the Stockholder Agreement) setting forth certain rights and obligations of the Designated Holder and the Company. The Designated Holder purchased 25,000 shares of Series B Preferred Stock, Cash Warrants for the purchase of 3,968,116 shares of Common Stock and Dilution Warrants in the May 2017 Offering in exchange for aggregate cash consideration of $25,000,000. Pursuant to the Stockholder Agreement, the Designated Holder has the right to designate one director selected by the Designated Holder (or a Designated Holder Director), subject to certain restrictions, to the Company's Board of Directors (or the Board). The Company agreed to appoint the Designated Holder Director, such appointment occurring on May 18, 2017, and to use reasonable efforts, consistent with the Board's fiduciary duties, to cause the Designated Holder Director to be re-nominated in the future; provided, that the Designated Holder will no longer have the right to designate any Designated Holder Director at such time as the Designated Holder holds less than 4.5% of the Company's outstanding common stock. In addition, for as long as there is a Designated Holder Director serving on the Board, the Company agreed not to engage in certain commercial or financial transactions or arrangements without the consent of any then-serving Designated Holder Director. The Company also agreed to provide the Designated Holder with certain exclusive negotiating rights in connection with certain future commercial projects and arrangements, whereby the Designated Holder will have a 60-day negotiation period with respect to any such projects, as well as a right to use a portion of the Company's manufacturing capacity for toll manufacturing of the Designated Holder's products, subject to certain conditions, including, with respect to the toll manufacturing option, that the Designated Holder provide the Company with a minimum annual level of cash funding in connection with commercial activity between the Company and the Designated Holder, beginning in 2018. The Designated Holder 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. In connection with the Stockholder Agreement, the Company and the Designated Holder entered into licenses granted by the Company to the Designated Holder with respect to certain Company intellectual property useful in the Designated Holder's business (or the License Agreements), which licenses will become effective upon the occurrence of certain events specified therein.

Pursuant to the Stockholder Agreement, the Designated Holder agreed not to sell or transfer any of the shares of Series B Preferred Stock or May 2017 Warrants purchased by the Designated Holder in the May 2017 Offerings, any Second Tranche Securities (as defined below), or any shares of common stock issuable upon conversion or exercise thereof (or the Transfer Restricted Shares), other than to its affiliates, without the consent of the Company during the one-year period following the entry into the Stockholder Agreement. Thereafter, the Designated Holder will have the right to sell or transfer the Transfer Restricted Shares to any third party, other than a competitor of the Company or any controlled affiliate of a competitor of the Company; provided, that the Company will have a customary right of first offer with respect to any such sale or transfer other than to affiliates of the Designated Holder. In addition, the Designated Holder agreed that, other than in connection with the purchase, conversion or exercise of (i) the Series B Preferred Stock or May 2017 Warrants purchased by the Designated Holder pursuant to the May 2017 Purchase Agreement or (ii) the Second Tranche Securities (as defined below) in accordance with their terms or the exercise of its pre-emptive rights, until three months after there is no Designated Holder Director on the Board, the Designated Holder will not, without the prior consent of the Board, among other things, purchase any Common Stock, any options or other rights to acquire Common Stock or any indebtedness of the Company, or make any public offer to acquire common stock, options or other rights to acquire common stock or indebtedness of the Company, that would result in the Designated Holder and its affiliates beneficially owning more than 33% of the Company's outstanding voting securities at the time of acquisition (assuming the exercise or conversion, whether then exercisable or convertible, of any shares of Series B Preferred Stock, May 2017 Warrants or Second Tranche Securities beneficially owned by the Designated Holder and/or its affiliates), join in any solicitation of proxies for any matter not previously approved by the Board, or join any "group" (as such term is defined in Section 13(d)(3) of the Securities Exchange Act of 1934) with respect to any of the foregoing.

Pursuant to the Stockholder Agreement, the Company and the Designated Holder agreed to negotiate in good faith during the 90-day period following the entry into the Stockholder Agreement to mutually agree on certain terms and conditions upon which the Designated Holder shall purchase additional shares of Series B Preferred Stock and warrants (or the Second Tranche Securities), in an amount to be agreed by the Company and the Designated Holder, provided such amount is no less than $25 million and no more than $30 million (such amount, the Second Tranche Funding Amount) prior to the end of such 90-day period (or the Second Tranche Funding). The Second Tranche Funding is subject to approval of the Designated Holder's managing board. In connection with the Second Tranche Funding, the Company and the Designated Holder shall enter into an amendment to the Stockholder Agreement providing for a second Designated Holder Director on terms to be agreed by the parties, and certain of the License Agreements will become effective. If the Second Tranche Funding occurs, the parties will thereafter negotiate in good faith regarding an agreement concerning the development of certain products in the health and nutrition field. In the event that the parties do not reach such agreement prior to the earlier of 90 days after the Second Tranche Funding or December 31, 2017, (a) the exclusive negotiating right granted to the Designated Holder in connection with certain future commercial projects and arrangements of the Company will expire, (b) on the first anniversary of the closing of the Second Tranche Funding and each subsequent anniversary thereof, the Company will make a $5 million cash payment to the Designated Holder, provided that the aggregate amount of such payments shall not exceed the Second Tranche Funding Amount, and (c) an intellectual property escrow agreement relating to the License Agreements, entered into by the Company and the Designated Holder upon the entry into the Stockholder Agreement, will become effective. See Note 14, "Subsequent Events", for more details regarding the Second Tranche Funding.

Series C Preferred Stock

Exchange

In connection with the transactions contemplated by the May 2017 Purchase Agreements, on May 8, 2017, the Company entered into a Security Holder Agreement with Foris and Naxyris. Pursuant to the Security Holder Agreement, Foris and Naxyris agreed to exchange (or the 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 (or the Series C Preferred Stock). In addition, pursuant to the Security Holder Agreement, Foris and Naxyris agreed to not convert any of their outstanding convertible promissory notes, warrants or any other equity-linked securities of the Company until the Stockholder Approval. The May 2017 Exchange was consummated on May 11, 2017.

Each share of Series C Preferred Stock has a stated value of $1,000 and automatically converts into common stock, at a conversion price of $15 per share (or the Series C Conversion Rate), upon the approval by the Company's stockholders and implementation of the reverse stock split. The Series C 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.

The Series C Preferred Stock is 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.

The Series C Preferred Stock shall vote together as one class with the common stock on an as-converted basis, and shall also vote with respect to matters specifically affecting the Series C Preferred Stock.

In the event of a fundamental transaction, the holders of the Series C 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 C Preferred Stock is convertible immediately prior to such fundamental transaction (without regard to whether such Series C Preferred Stock is convertible at such time), which amount shall be paid pari passu with all holders of common stock.

Upon any liquidation, dissolution or winding-up of the Company, the holders of the Series C Preferred stock shall be entitled to receive out of the assets of the Company an amount equal to the greater of (i) the par value of each share of Series C Preferred Stock, plus any accrued and unpaid dividends or other amounts due on such Series C Preferred Stock, prior to any distribution or payment to the holders of common stock or (ii) the amount that a holder would

receive if the Series C Preferred Stock were fully converted to common stock immediately prior to such liquidation, dissolution or winding-up (without regard to whether such Series C Preferred Stock is convertible at such time), which amount shall be paid pari passu with all holders of Common Stock.

The shares of Series C Preferred Stock automatically converted to common stock on June 6, 2017 as a result of the 15:1 reverse stock split becoming effective. The Company accounted for the Series C Preferred Stock as a non-monetary transaction that had no impact on the interim financial statements.

6. 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 4, "Balance Sheet Components"). The Company recognizes rent expense on a straight-line basis over the noncancelable lease term and records the difference between 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 a straight-line rent expense over the lease term. The Company has noncancelable operating lease agreements for office, research and development, and manufacturing space, and equipment, that expire at various dates, with the latest expiration in February 2031. Rent expense under operating leases was $1.4 million and $1.4 million for the three months ended June 30, 2017 and 2016, respectively, and $2.8 million and $2.7 million for the six months ended June 30, 2017 and 2016, respectively.

Future minimum payments under the Company's lease obligations as of June 30, 2017 are as follows (in thousands):

Years ending December 31:	Capital Leases	Operating Leases	Total Lease Obligations
2017 (remaining six months)	$ 530	$ 3,406	$ 3,936
2018	106	6,889	6,995
2019	22	6,776	6,798
2020	—	7,006	7,006
2021	—	7,242	7,242
Thereafter	—	10,958	10,958
Total future minimum payments	$ 658	$ 42,277	$ 42,935
Less: amount representing interest	(27)		
Present value of minimum lease payments	631		
Less: current portion	(598)		
Long-term portion	$ 33		

Guarantor Arrangements

The Company has agreements whereby it indemnifies its officers and directors for certain events or occurrences while the officers or directors are serving in their official capacities. The indemnification period remains enforceable for the 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 June 30, 2017 and December 31, 2016.

Purchase Obligations

As of June 30, 2017 and December 31, 2016, the Company had $0.9 million and $0.8 million, respectively, in purchase obligations which included $0.6 million and $0.6 million, respectively, of noncancelable contractual obligations and construction commitments.

Production Cost Commitment

As of June 30, 2017, the Company was committed to manufacture and supply squalane and hemisqualane to the Aprinnova JV at specified cost targets. The Company is obligated to pay all manufacturing costs above the production cost target but is not obligated to produce squalane and hemisqualane at a loss. The Company’s obligations under this arrangement for the three and six months ended June 30, 2017 were offset by its entitlement to all of the profits of the Aprinnova JV for the periods, which entitlement continues for the three year period following the date of the Joint Venture Agreement relating to the Aprinnova JV, up to a maximum of $10 million.

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 judgment. 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.

The Company has levied indirect taxes on sugarcane-based biodiesel sales by Amyris Brasil to customers in Brazil based on advice from external legal counsel. In the absence of definitive rulings from the Brazilian tax authorities on the appropriate indirect tax rate to be applied to such product sales, the actual indirect rate to be applied to such sales could differ from the rate we levied.

In April 2017, a securities class action complaint was filed against Amyris and our CEO, John G. Melo, and CFO, 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 individuals who acquired our common stock between March 2, 2017 and April 17, 2017. The complaint alleges securities law violations based on statements made by the Company in its earnings press release issued on March 2, 2017 and Form 12b-25 filed with the SEC on April 3, 2017. We believe the complaint lacks merit, and intend to defend ourselves vigorously.

In June 2017, an alleged shareholder, Pedro Gutierrez, caused a purported shareholder derivative suit entitled *Gutierrez v John G. Melo et al*, Case No. BC 665782, to be filed in the Superior Court for the State of California, County of Los Angeles. The lawsuit names Amyris Inc. as a nominal defendant and names a number of the Company's current 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. It 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. This purported shareholder derivative action is based on substantially the same facts as the securities class action described above. We do not believe the claims in the complaint have merit, and intend to defend ourselves vigorously.

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 condensed consolidated financial statements for the relevant reporting period could be materially adversely affected.

7. Joint Ventures and Noncontrolling Interests

Aprinnova JV

The Company is a 50% owner of a joint venture, Aprinnova, LLC (the Aprinnova JV), which the Company has determined is a VIE and that the Company is the VIE's primary beneficiary because of the Company's significant ongoing involvement in the Aprinnova JV's operational decision making and the Company's guarantee of production costs for squalane/hemisqualane. Accordingly, the Company accounts for the Aprinnova JV under the consolidation method of accounting.

The table below reflects the carrying amount of the Aprinnova JV's assets and liabilities, for which the Company is the primary beneficiary at June 30, 2017:

(In thousands)	June 30, 2017	December 31, 2016
Assets	$ 32,541	$ 30,778
Liabilities	2,221	333

The change in the Company's noncontrolling interest in Aprinnova JV for the six months ended June 30, 2017 and 2016, is summarized below (in thousands):

	2017	2016
Balance at January 1	$937	$—
Acquisition of noncontrolling interest	—	114
Balance at June 30	$937	$114

8. Significant Agreements

Research and Development Activities

Firmenich Collaboration Agreement

In March 2013, the Company entered into a Collaboration Agreement (or, as amended, the Firmenich Collaboration Agreement) with Firmenich SA (or Firmenich), a global flavors and fragrances company, to establish a collaboration arrangement for the development and commercialization of multiple renewable flavors and fragrances compounds. Under the Firmenich Collaboration Agreement, except for rights granted under pre-existing collaboration relationships, the Company granted Firmenich exclusive access to specified Company intellectual property for the development and commercialization of flavors and fragrances compounds in exchange for research and development funding and a profit sharing arrangement. The Firmenich Collaboration Agreement superseded and expanded the November 2010 Master Collaboration and Joint Development Agreement between the Company and Firmenich. Unless sooner terminated in accordance with its terms, the Firmenich Collaboration Agreement 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 and until a party provides the other party written notice, at least twelve months before the end of the then-current term, of its desire to terminate the agreement at the end of the then-current term.

The Firmenich Collaboration Agreement provided for annual, up-front funding to the Company by Firmenich of $10.0 million for each of the first three years of the collaboration. Payments of $10.0 million were received by the Company in each of March 2013, 2014 and 2015. The Firmenich Collaboration Agreement contemplates additional funding by Firmenich of up to $5.0 million under four potential milestone payments, as well as additional funding by the collaboration partner on a discretionary basis. Through June 2017, the Company achieved all four performance milestones under the Firmenich Collaboration Agreement and recognized collaboration revenues of $2.1 million and

$1.3 million for the three months ended June 30, 2017 and 2016, respectively, and $3.2 million and $4.3 million for the six months ended June 30, 2017 and 2016, respectively. The Firmenich Collaboration Agreement does not impose any specific research and development obligations on either party after year six, but provides that if the parties mutually agree to perform research and development activities after year six, the parties will fund such activities equally.

Under the Firmenich Collaboration Agreement, the parties agreed to jointly select target compounds, subject to final approval of compound specifications by Firmenich. During the development phase, the Company would be required to provide labor, intellectual property and technology infrastructure and Firmenich would be required to contribute downstream polishing expertise and market access. The Firmenich Collaboration Agreement provides that the Company will own research and development and strain engineering intellectual property, and Firmenich will own blending and, if applicable, chemical conversion intellectual property. Under certain circumstances, such as the Company’s insolvency, Firmenich would gain expanded access to the Company’s intellectual property. The Firmenich Collaboration Agreement contemplates that, following development of flavors and fragrances compounds, the Company will manufacture the initial target molecules for the compounds and Firmenich will perform any required downstream polishing and distribution, sales and marketing. The Firmenich Collaboration Agreement provides that the parties will mutually agree on a supply price for each compound developed under the agreement and, subject to certain exceptions, will share product margins from sales of each such compound on a 70/30 basis (70% for Firmenich) until Firmenich receives $15.0 million more than the Company in the aggregate from such sales, after which time the parties will share the product margins 50/50. The Company also 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 been met as of June 30, 2017.

In September 2014, the Company entered into a supply agreement with Firmenich for compounds developed under the Firmenich Collaboration Agreement. The Company recognized $0.9 million and $2.6 million of revenues from product sales under this agreement for the three months ended June 30, 2017 and 2016, respectively and $2.1 million and $4.6 million for the six months ended June 30, 2017 and 2016, respectively.

In December 2016, 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 permit the Company to engage in certain activities relating to such excluded compounds with a third party, in exchange for a ten percent royalty on net sales by the Company to such third party of products related to such excluded compounds, as well as (i) the transfer of certain technical materials relating to the Firmenich Collaboration Agreement, previously held in escrow, to Firmenich, (ii) a credit to Firmenich against products previously ordered from the Company under the parties' existing supply agreement, (iii) a reduced price for the sale of additional products to Firmenich under such supply agreement, and (iv) training for the employees of Firmenich at the Company's manufacturing plant located in Brotas, Brazil. As a result of the 2016 amendment, the Company's arrangements are considered for revenue recognition purposes to comprise a single multiple-element arrangement.

Kuraray Collaboration Agreement

In July 2011, the Company entered into a collaboration agreement with Kuraray Co., Ltd (or Kuraray), with an initial focus on using farnesene-based polymers to replace petroleum-derived additives in tires. In March 2014, the Company entered into the Second Amended and Restated Collaboration Agreement with Kuraray in order to extend the term of the original collaboration agreement between the Company and Kuraray for an additional two years and add additional fields and products to the scope of development. In consideration for the Company's agreement to extend the term of the original collaboration agreement and add additional fields and products, Kuraray agreed to pay the Company $4.0 million in two equal installments of $2.0 million. The first installment was paid on April 30, 2014 and the second installment was due on April 30, 2015. In March 2015, the Company and Kuraray entered into the First Amendment to the Second Amended and Restated Collaboration Agreement to extend the term of the collaboration agreement until December 31, 2016 and to accelerate payment to the Company of the second installment of $2.0 million due from Kuraray under the Second Amended and Restated Collaboration Agreement to March 31, 2015. Subsequently, in November 2016 the Company and Kuraray entered into Amendment #3 to the Second Amended and Restated Collaboration Agreement to, among other things, extend the term of the collaboration agreement to December 31, 2018 as well as extend certain exclusive rights granted to Kuraray under the collaboration agreement. In connection with such extensions, Kuraray agreed to pay the Company $1.0 million in two equal installments of $500,000 on or before January 15, 2017 and January 15, 2018, respectively.

Under this agreement, the Company recognized (i) collaboration revenues of $0.1 million and $0.4 million for the three months ended June 30, 2017 and 2016, respectively, and $0.3 million and $0.8 million for the six months ended June 30, 2017 and 2016, respectively, and (ii) revenues from product sales of $1.9 million and $0.2 million for the three months ended June 30, 2017 and 2016, respectively, and $3.6 million and $0.2 million for the six months ended June 30, 2017 and 2016, respectively.

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DARPA Technology Investment Agreement

In September 2015, the Company entered into a Technology Investment Agreement (or, as amended, the 2015 TIA) with The Defense Advanced Research Projects Agency (or DARPA), under which the Company, with the assistance of five specialized subcontractors, will work to create new research and development tools and technologies for strain engineering and scale-up activities. The program that is the subject of the 2015 TIA will be performed and funded on a milestone basis, where DARPA, upon the Company's successful completion of each milestone event in the 2015 TIA, will pay the Company the amount set forth in the 2015 TIA corresponding to such milestone event. Under the 2015 TIA, the Company and its subcontractors could collectively receive DARPA funding of up to $35.0 million over the program's 4-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 $15.5 million toward the program over its four year term (primarily by providing specified labor and/or purchasing certain equipment). The Company can elect to retain title to the patentable inventions it produces under the program, but DARPA receives certain data rights as well as a government purposes license to certain of such inventions. Either party may, upon written notice and subject to certain consultation obligations, terminate the 2015 TIA upon a reasonable determination that the program will not produce beneficial results commensurate with the expenditure of resources.

The Company recognized collaboration revenues of $ 4.7 million and $2.3 million under this agreement for the three months ended June 30, 2017 and 2016, respectively, and $5.7 million and $3.5 million for the six months ended June 30, 2017 and 2016, respectively.

Nenter Agreements

In April 2016, the Company entered into a Renewable Farnesene Supply Agreement (or, as amended, the Nenter Supply Agreement) with Nenter & Co., Inc. (or Nenter) to establish the terms of a supply and value-share arrangement between the Company and Nenter related to farnesene. Under the Nenter Supply Agreement and related agreements, the Company has agreed to supply Nenter with farnesene at prices and on delivery terms set forth in the Nenter Supply Agreement and to provide Nenter with certain exclusive purchase rights, and Nenter has agreed to annual minimum purchase volume requirements and to provide the Company with quarterly value-share payments representing a portion of Nenter's profit on the sale of products produced using farnesene purchased under the Nenter Supply Agreement. For the remaining six months of 2017, Nenter agreed to pay the Company $2.4 million under the value-share arrangement. Unless earlier terminated in accordance with its terms, the Nenter Supply Agreement will remain in effect until December 31, 2020 and will automatically renew at the end of such initial term for an additional 5-year term unless a party provides the other party written notice, no later than July 1, 2020, of its desire to terminate the agreement at the end of the initial term.

The Company recognized revenues from product sales under the Nenter Supply Agreement of $6.6 million and zero for the three months ended June 30, 2017 and 2016, respectively, and $8.9 million and $0.03 million for the six months ended June 30, 2017 and 2016, respectively.

In October 2016, the Company entered into a Cooperation Agreement (or the Nenter Cooperation Agreement) with Nenter. Under the Nenter Cooperation Agreement, the parties agreed to collaborate to create and develop certain compounds and, in the event the parties achieve certain specified development targets, the parties would establish and implement a worldwide manufacturing and commercialization plan relating thereto. In connection with the transactions contemplated by the May 2017 Purchase Agreements and the Stockholder Agreement, as described in Note 5, "Debt and Mezzanine Equity", on May 8, 2017, the Company and Nenter entered into a letter agreement to terminate the Cooperation Agreement, dated as of October 26, 2016, between the Company and Nenter, pursuant to which the parties had agreed to collaborate to create and develop certain compounds and, in the event the parties achieved certain specified development targets, to establish and implement a worldwide manufacturing and commercialization plan relating thereto. In connection with the termination of the Cooperation Agreement, the Company agreed to pay Nenter a fee of $2.5 million on or before June 22, 2017. Subsequently, the parties agreed that such payment would be due within 40 days of June 28, 2017.

Givaudan Agreements

In June 2016, the Company entered into a Collaboration Agreement with Givaudan to establish a collaboration for the development and commercialization of certain renewable compounds for use in the fields of active cosmetics and flavors (or the Givaudan Collaboration Agreement). Under the Givaudan Collaboration Agreement, the Company agreed to use its labor, intellectual property and technology infrastructure to develop and commercialize certain compounds for Givaudan. In exchange, Givaudan agreed to pay to the Company $12.0 million in semi-annual installments of $3.0 million each, beginning on June 30, 2016. The Company received installments of $3.0 million in June 2016, December 2016 and June 2017, and these amounts were recognized in deferred revenue as of such dates.

Pursuant to the Givaudan Collaboration Agreement, the Company agreed to grant to Givaudan an exclusive license to the intellectual property that the Company generates under the agreement. Such license will include the rights to make, use and sell compounds in the active cosmetics and flavors fields, and is subject to certain ‘claw back’ rights by the Company if a compound is not commercialized by Givaudan during the term of the agreement. The Company also agreed to grant Givaudan non-exclusive rights to certain portions of the Company’s existing intellectual property in order to facilitate activities under the Givaudan Collaboration Agreement. Givaudan, on the other hand, agreed to grant the Company a non-exclusive license to the intellectual property that is generated under the Givaudan Collaboration Agreement. Such non-exclusive license will include the rights to make, use and sell compounds in all fields except active cosmetics and flavors.

Subject to certain rights granted to a third party, Givaudan will have the exclusive right to commercialize the compounds in the active cosmetics and flavors markets during the term of the agreement. Further, the Company has agreed that it will not assist any third party in the development or commercialization of other compounds for sale or use in the active cosmetics or flavors markets during the term of the Givaudan Collaboration Agreement. In addition, the Givaudan Collaboration Agreement contemplates that the Company will be the primary supplier of commercial quantities of the compounds to Givaudan pursuant to supply agreements to be mutually negotiated by the parties. Unless sooner terminated in accordance with its terms, the Givaudan Collaboration Agreement has an initial term of 2 years and, prior to the expiration of the initial term, the parties will meet and discuss in good faith the extension of the agreement beyond the initial term.

The Company recognized collaboration revenues under the Givaudan Collaboration Agreement of $1.5 million and $0 for the three months ended June 30, 2017 and 2016, respectively, and $3.0 million and $0 for the six months ended June 30, 2017 and 2016, respectively.

Ginkgo Initial Strategic Partnership Agreement and Collaboration Agreement

In June 2016, the Company entered into an Initial Strategic Partnership Agreement (Initial Ginkgo Agreement) with Ginkgo Bioworks, Inc. (or 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 ten percent royalty on net revenue, including without limitation net sales, royalties, fees and any other amounts received by Ginkgo related directly to such license. The first installment of $15.0 million was received on July 25, 2016. The second installment, in the amount of $5.0 million, has not been received as of June 30, 2017, and accordingly, no revenue has been recognized.

In addition, pursuant to the Initial Ginkgo Agreement, (i) the Company and Ginkgo agreed to pursue the negotiation and execution of a detailed definitive partnership and license agreement setting forth the terms of a commercial partnership and collaboration arrangement between the parties (Ginkgo Collaboration), (ii) the Company agreed to issue to Ginkgo an option to purchase 333,334 shares of the Company’s common stock at an exercise price of $7.50, exercisable for one year from the date of issuance, in connection with the execution of such definitive agreement for the Ginkgo Collaboration, (iii) the Company received a deferment of all scheduled principal repayments under the Senior Secured Loan Facility, the lender and administrative agent under which is an affiliate of Ginkgo, as well as a waiver of the Minimum Cash Covenant, through October 31, 2016 and (iv) in connection with the execution of the definitive agreement for the Ginkgo Collaboration, the parties would effect an amendment of the LSA to (x) extend the maturity date of all outstanding loans under the Senior Secured Loan Facility, (y) waive any required amortization payments under the Senior Secured Loan Facility until maturity and (z) eliminate the Minimum Cash Covenant under the Senior Secured Loan Facility. See Note 5, “Debt and Mezzanine Equity” for details regarding the amendments to the LSA entered into in connection with the Initial Ginkgo Agreement and Ginkgo Collaboration Agreement (as defined below).

On August 6, 2016, the Company issued to Ginkgo a warrant to purchase 333,334 shares of the Company's common stock at an exercise price of $7.50 per share, exercisable for one year from the date of issuance. The warrant was issued prior to the execution of the definitive agreement for the Ginkgo Collaboration in connection with the transfer of certain information technology from Ginkgo to the Company.

On September 30, 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 will collaborate to develop, manufacture and sell commercial products and will share in the value created thereby. The Ginkgo Collaboration Agreement provides 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 will 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 will be allocated between the parties on a project-by-project basis, and the Company will be principally responsible for the commercial scale-up and production of such products, with each party generally bearing their own respective costs and expenses relating to the Ginkgo Collaboration, including capital expenditures. Notwithstanding the foregoing, subject to the Company sourcing funding and breaking ground on a new production facility by March 30, 2017, Ginkgo will pay the Company a fee of $5.0 million. The Company has met the conditions to receive the second installment. That amount has not yet been received as of June 30, 2017, and accordingly, no revenue has been recognized.

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 will 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.

The initial term of the Ginkgo Collaboration Agreement is three years, and will automatically renew for successive one-year terms unless either party provides written notice of termination not less than 90 days prior to the expiration of the then-current term. In addition, the Ginkgo Collaboration Agreement provides that the parties will evaluate the performance of the Ginkgo Collaboration as of the 18-month anniversary of the Ginkgo Collaboration Agreement, and if either party has been repeatedly unable to perform or meet its commitments under the Ginkgo Collaboration Agreement, the other party will have the right to terminate the Ginkgo Collaboration Agreement on 30 days written notice.

In April 2017, the Company issued a secured promissory note to Ginkgo, in the principal amount of $3 million, in satisfaction of certain payments owed by the Company to Ginkgo under the Ginkgo Collaboration Agreement, as described in more detail in Note 5, "Debt and Mezzanine Equity."

The Company recognized zero and zero of collaboration revenues under the Initial Ginkgo Agreement and the Ginkgo Collaboration Agreement for the three months ended June 30, 2017 and June 30, 2016, respectively, and zero and zero of collaboration revenues for the six months ended June 30, 2017 and June 30, 2016, respectively. As of June 30, 2017, $1.5 million is payable by the Company to Ginkgo under the Ginkgo Collaboration Agreement for its share of collaboration payments and license fees.

Blue California Agreements

In December 2016, the Company entered into an Intellectual Property License and Strain Access Agreement with Phyto Tech Corp. (d/b/a Blue California), a food ingredients and nutraceuticals company. Pursuant to the agreement, the Company granted Blue California a royalty-free, non-exclusive, worldwide, license to access and use certain Company intellectual property for the purpose of research and development, scale-up, manufacturing and commercialization activities. In exchange for such license, Blue California agreed to pay the Company a fee of $10 million in cash. On March 31, 2017, the Company entered into a subsequent agreement with Blue California whereby, among other things, Blue California's affiliates agreed to provide the Company with access to their fermentation manufacturing capacity in China and the Company agreed to transfer additional intellectual property to Blue California for use in collaboration activities between the parties. On April 17, 2017, the Company and Blue California entered into a further agreement pursuant to which, among other things, the Company granted Blue California certain exclusive rights in connection with the manufacture of Company products in China, and certain non-exclusive rights worldwide to manufacture Company products, in each case subject to certain conditions. In April 2017, the Company announced that it had agreed to take a minority equity stake in SweeGen, Inc. (or SweeGen), one of Blue California's affiliates focused on the sweetener market, in lieu of the $10 million cash payment due under the terms of the Intellectual Property License and Strain Access Agreement. On April 21, 2017, the Company received 850,115 shares of SweeGen common stock in satisfaction of Blue California's payment obligation under the Intellectual Property License and Strain Access Agreement.

The Company recognized revenues of $2.7 million and $0 under this agreement for the three months ended June 30, 2017 and 2016, respectively and $2.7 million and $0 for the six months ended June 30, 2017 and 2016, respectively.

Financing Agreements

At Market Issuance Sales Agreement

On March 8, 2016, the Company entered into an At Market Issuance Sales Agreement (or the ATM Sales Agreement) with FBR Capital Markets & Co. and MLV & Co. LLC (or the Agents) under which the Company may issue and sell shares of its common stock having an aggregate offering price of up to $50.0 million (or the 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, if any, will be made by any method that is deemed an "at the market offering" as defined in Rule 415 under the Securities Act, including by means of ordinary brokers' transactions at market prices, in block transactions, or as otherwise agreed by the Company and the Agents. Each time that the Company wishes to issue and sell ATM Shares under the ATM Sales Agreement, the Company will notify one of the Agents of the number of ATM Shares to be issued, the dates on which such sales are anticipated to be made, any minimum price below which sales may not be made and other sales parameters as the Company deems appropriate. The Company will pay the designated Agent a commission rate of up to 3.0% of the gross proceeds from the sale of any ATM Shares sold through such Agent as agent under the ATM Sales Agreement. The ATM Sales Agreement contains customary terms, provisions, representations and warranties. The ATM Sales Agreement includes no commitment by other parties to purchase shares the Company offers for sale.

During the six months ended June 30, 2017, the Company did not sell any shares of common stock under the ATM Sales Agreement. As of the date hereof, $50.0 million remained available for future sales under the ATM Sales Agreement.

See Note 14, "Subsequent Events", for information regarding financing agreements subsequent to June 30, 2017.

9. Goodwill and Intangible Assets

The following table presents the components of the Company's intangible assets (in thousands):

	June 30, 2017	December 31, 2016

	Useful Life in Years	Gross Carrying Amount	Accumulated Amortization	Net Carrying Value	Gross Carrying Amount	Accumulated Amortization	Net Carrying Value
In-process research and development	Indefinite	$8,560	$ (8,560)	$ —	$8,560	$ (8,560)	$ —
Acquired licenses and permits	2	772	(772)	—	772	(772)	—
Goodwill	Indefinite	560	—	560	560	—	560
		$9,892	$ (9,332)	$ 560	$9,892	$ (9,332)	$ 560

The Company has a single reportable segment. Consequently, all of the Company's goodwill is attributable to that single reportable segment.

10. Stock-Based Compensation

The Company’s stock option activity and related information for the six months ended June 30, 2017 was as follows:

	Number Outstanding	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Life (Years)	Aggregate Intrinsic Value (in thousands)
Outstanding - December 31, 2016	875,021	$ 55.20		
Options granted	192,569	$ 6.94	—	$ —
Options exercised	(133)	$ 4.20	—	$ —
Options forfeited	(70,182)	$ 27.03	—	$ —
Outstanding - June 30, 2017	997,275	$ 47.87	7.01	$ 440
Vested and expected to vest after June 30, 2017	895,140	$ 51.99	6.76	$ 310
Exercisable at June 30, 2017	539,738	$ 76.14	5.36	$ —

The Company’s restricted stock units (or "RSUs") and restricted stock activity and related information for the six months ended June 30, 2017 are as follows:

	RSUs	Weighted-Average Grant-Date Fair Value	Weighted Average Remaining Contractual Life (Years)
Outstanding - December 31, 2016	454,923	$ 17.48	
Awarded	354,117	$ 6.74	—
Vested	(106,833)	$ 22.33	—
Forfeited	(35,871)	$ 13.76	—
Outstanding - June 30, 2017	666,336	$ 11.20	1.64
Expected to vest after June 30, 2017	501,550	$ 11.56	1.45

Stock-based Compensation Expense

Stock-based compensation expense related to options and restricted stock units granted to employees and non-employees was allocated to research and development expense and sales, general and administrative expense as follows (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2017	2016	2017	2016
Research and development	$ 441	$ 485	$ 925	$ 976
Sales, general and administrative	597	1,304	1,759	2,864
Total stock-based compensation expense	$ 1,038	$ 1,789	$ 2,684	$ 3,840

As of June 30, 2017, there was unrecognized compensation expense of $8.5 million related to stock options and RSUs. The Company expects to recognize this expense over a weighted-average period of 2.9 years.

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. 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 their fair-value using the Black-Scholes option pricing model. The fair value of employee stock options is being amortized on a straight-line basis over the requisite service period of the awards. The fair value of employee stock options was estimated using the following weighted-average assumptions:

	Three Months Ended June 30,				Six Months Ended June 30,			
	2017		2016		2017		2016	
Expected dividend yield	—	%	—	%	—	%	—	%
Risk-free interest rate	1.82	%	1.4	%	1.82	%	1.4	%
Expected term (in years)	5.38		6.16		5.38		6.16	
Expected volatility	85.7	%	72.5	%	85.7	%	72.5	%

11. Related Party Transactions

Related Party Financings

See Note 5, “Debt and Mezzanine Equity” for a description of related party financings and related transactions during the three and six months ended June 30, 2017. In addition, see Note 14, “Subsequent Events” for related party financings and related transactions subsequent to June 30, 2017.

As of June 30, 2017 and December 31, 2016, convertible notes and loans with related parties were outstanding in aggregate amounts of $46.3 million and $72.4 million, respectively, net of debt discount and issuance costs of $5.1 million and $6.7 million, respectively.

The fair value of the derivative liability in connection with the related party convertible notes and preferred stock as of June 30, 2017 and December 31, 2016 was $41.0 million and $0.8 million, respectively. For the three months ended June 30, 2017 and 2016, the Company recognized gains from change in fair value of the derivative instruments of $22.3 million and $3.9 million, respectively. For the six months ended June 30, 2017 and 2016, the Company recognized gains from change in fair value of the derivative instruments of $20.0 million and $8.4 million, respectively (see Note 3, "Fair Value of Financial Instruments", for further details).

Related Party Revenues

During the three and six months ended June 30, 2017 and 2016, the Company recognized $0.1 million of related party revenues from R&D services to DSM. Related party accounts receivable as of June 30, 2017 and December 31, 2016, were $0.6 million and $0.8 million, respectively.

Joint Venture with Cosan and American Refining Group

In June 2017, the Company made a $60,000 equity contribution to its investment in Novvi LLC.

Pilot Plant Agreements with Total

The Company and Total are parties to two five-year agreements, each dated April 4, 2014 and subsequently amended, under which the Company leases space in its pilot plants to Total and provides Total with fermentation and downstream separation scale-up services in such space and training to Total employees, and utilizes Total employees to perform certain research and development services for the Company. At June 30, 2017 and December 31, 2016, the net amounts on our condensed consolidated balance sheets in connection with these agreements were payables to Total of $1.4 million and $1.8 million, respectively.

12. Income Taxes

The Company recorded income tax provisions of $0.3 million and $0.1 million for the three months ended June 30, 2017 and 2016, respectively and $0.3 million and $0.3 million for the six months ended June 30, 2017 and 2016, respectively. The provisions for income taxes for all periods presented consisted of accrued Brazilian withholding tax on interest on intercompany loans. Other than the above mentioned income tax amounts, no additional provision for income taxes has been made, net of the valuation allowance, due to cumulative losses since commencement of the Company's operations.

13. Net Loss per Share Attributable to Common Stockholders

Basic net loss per share attributable to common stockholders 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 attributable to common stockholders is computed by giving effect to all potentially dilutive securities, including stock options, restricted stock units, common stock warrants and convertible promissory notes using the treasury stock method or the as-converted method, as applicable. For the three and six months ended June 30, 2017, basic net loss per share attributable to common stockholders was the same as diluted net loss per share attributable to common stockholders because the inclusion of all potentially dilutive securities outstanding was anti-dilutive.

The following table presents the calculation of basic and diluted net loss per share attributable to common stockholders (in thousands, except share and per share amounts):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2017	2016	2017	2016
Numerator:				
Net income (loss)	$620	$(13,566)	$(36,751)	$(28,874)
Less deemed dividend (capital distribution to related parties)	(8,648)	—	(8,648)	—
Less deemed dividend related to beneficial conversion feature on Series A preferred stock	(562)	—	(562)	—
Less cumulative dividends on Series A and Series B preferred stock	(1,675)	—	(1,675)	—
Net loss attributable to Amyris, Inc. common stockholders, basic	(10,265)	(13,566)	(47,636)	(28,874)
Interest on convertible debt	—	1,591	—	3,501
Accretion of debt discount	—	1,846	—	3,479
Loss (gain) from change in fair value of derivative instruments	—	(19,116)	—	(37,803)
Net loss attributable to Amyris, Inc. common stockholders, diluted	$(10,265)	$(29,245)	$(47,636)	$(59,697)
Denominator:				
Weighted-average shares of common stock outstanding used in computing net loss per share of common stock, basic	23,155,874	14,874,135	21,226,013	14,426,247
Basic loss per share	$(0.44)	$(0.91)	$(2.24)	$(2.00)
Weighted-average shares of common stock outstanding	23,155,874	14,874,135	21,226,013	14,426,247
Effect of dilutive convertible promissory notes	—	2,652,275	—	2,827,714
	23,155,874	17,526,410	21,226,013	17,253,961

Weighted-average common stock equivalents used in computing net loss per share of common stock, diluted				
Diluted loss per share	$(0.44)	$(1.67)	$(2.24)	$(3.46)

The following outstanding shares of potentially dilutive securities were excluded from the computation of diluted net loss per share of common stock because including them would have been anti-dilutive:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2017	2016	2017	2016
Period-end stock options to purchase common stock	997,275	948,603	997,275	948,603
Convertible promissory notes (1)	6,270,734	4,489,743	6,270,734	4,489,743
Period-end common stock warrants	16,871,700	193,429	16,871,700	193,429
Period-end restricted stock units	666,336	520,602	666,336	520,602
Total	24,806,045	6,152,377	24,806,045	6,152,377

(1) The potentially dilutive effect of convertible promissory notes was computed based on conversion ratios in effect as of the respective period end dates. 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.

14. Subsequent Events

August 2017 Financing Transactions

DSM Purchase Agreement

On August 2, 2017, the Company entered into a Securities Purchase Agreement (or the DSM Purchase Agreement) with DSM for the issuance and sale of 25,000 shares of Series B Preferred Stock and an August 2017 DSM Cash Warrant (as defined below) to purchase 3,968,116 shares of Common Stock and an August 2017 DSM Dilution Warrant (as defined below) (or, collectively, the August 2017 DSM Warrants and the shares of common stock issuable upon exercise of the DSM Warrants, the August 2017 DSM Warrant Shares) 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 (or the August 2017 DSM Offering).

On August 7, 2017, the Company and DSM closed the issuance and sale of 25,000 shares of Series B Preferred Stock and the DSM Warrants (or the August 2017 DSM Closing), resulting in net proceeds to the Company of approximately $24.8 million after payment of offering expenses. In addition, on August 7, 2017, the Company and DSM entered into the Amended and Restated Stockholder Agreement (as defined below) and certain of the License Agreements became effective. The August 2017 DSM Offering represented the “Second Tranche Funding” described above in Note 5, “Debt and Mezzanine Equity.”

The DSM Purchase Agreement includes customary representations, warranties and covenants of the parties. In addition, the Company, subject to certain exceptions, (i) may not issue, enter into any agreement to issue or announce the issuance or proposed issuance of any shares of Common Stock or securities convertible into or exercisable or exchangeable for Common Stock until October 31, 2017, (ii) may not enter into an agreement to effect any issuance by the Company involving a variable rate transaction until May 11, 2018 and (iii) may 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 (as defined below) without DSM’s consent.

DSM Warrants

At the August 2017 DSM Closing, the Company issued to DSM a warrant, with an exercise price of $6.30 per share, to purchase 3,968,116 shares of common stock (or the August 2017 DSM Cash Warrant). 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 the DSM

Closing (or the DSM Dilution Period) at a per share price (including any conversion or exercise price, if applicable) less than the then-current exercise price of the DSM Cash Warrant, subject to certain exceptions.

In addition, at the DSM Closing, the Company issued to DSM a warrant, with an exercise price of $0.0001 per share (or the August 2017 DSM Dilution Warrant), 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 (including any conversion or exercise price, if applicable) less than $6.30 per share, the effective per share price paid by DSM for the shares of common stock issuable upon conversion of the Series B Preferred Stock purchased by DSM in the August 2017 DSM Offering (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 and subject to a price floor of $0.10 per share (or the Dilution Floor).

The effectiveness of the anti-dilution adjustment provision of the August 2017 DSM Cash Warrant and the exercise of the August 2017 DSM Dilution Warrant will be subject to the August 2017 Offerings Stockholder Approval (as defined below). The August 2017 DSM Warrants will each have a term of five years from the date the August 2017 DSM Warrants are initially exercisable.

The August 2017 DSM Warrants were 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.

Registration

Pursuant to the DSM Purchase Agreement, the Company on August 4, 2017 filed a registration statement on Form S-3 providing for the resale by DSM of the shares of common stock issuable upon conversion of the Series B Preferred Stock issued in the August 2017 DSM Offering, and the August 2017 DSM Warrant Shares.

Amended and Restated Stockholder Agreement

In connection with the August 2017 DSM Closing, the Company and DSM entered into an amendment to the stockholder agreement dated May 11, 2017 between the Company and DSM (or the Amended and Restated Stockholder Agreement) providing, among other things, that DSM will have the right to designate two directors selected by DSM (or the DSM Directors), subject to certain restrictions, to the Board. The Company will agree to appoint the DSM Directors and to use reasonable efforts, consistent with the Board's fiduciary duties, to cause the DSM Directors to be re-nominated in the future; provided, that (i) DSM will only have the right to designate one DSM Director at such time as DSM beneficially owns less than 10% of the Company's outstanding voting securities and (ii) DSM will no longer have the right to designate any DSM Director at such time as DSM beneficially owns less than 4.5% of the Company's outstanding voting securities. The Amended and Restated Stockholder Agreement also provides that the Series B Conversion Shares and August 2017 DSM Warrant Shares will (i) be entitled to the registration rights provided for in the Stockholder Agreement and (ii) be subject to the transfer restrictions set forth in the Stockholder Agreement.

Following the August 2017 DSM Closing, the parties will negotiate in good faith regarding an agreement concerning the development of certain products in the health and nutrition field and, in the event that the parties do not reach such agreement prior to 90 days after the August 2017 DSM Closing, (a) certain exclusive negotiating rights granted to DSM in connection with the entry into the Stockholder Agreement will expire, (b) on the first anniversary of the August 2017 DSM Closing and each subsequent anniversary thereof, the Company will make a $5 million cash payment to DSM, provided that the aggregate amount of such payments shall not exceed $25 million, and (c) an intellectual property escrow agreement relating to the License Agreements, entered into by the Company and DSM in connection with the entry into the Stockholder Agreement, will become effective.

Vivo Purchase Agreement

On August 2, 2017, the Company entered into a Securities Purchase Agreement (or the August 2017 Vivo Purchase Agreement and, together with the DSM Purchase Agreement, the August 2017 Purchase Agreements) with affiliates of Vivo Capital LLC (or, together with its affiliates, Vivo) for the issuance and sale of an aggregate of 2,826,711 shares of common stock at a price of $4.26 per share, an aggregate of 12,958 shares of the Company's Series D Convertible Preferred Stock, par value $0.0001 per share (or the Series D Preferred Stock), which Series D Preferred Stock is convertible into common stock as described below, and August 2017 Vivo Cash Warrants (as defined below) to purchase an aggregate of 5,575,118 shares of common stock and August 2017 Vivo Dilution Warrants (as defined below) (or, collectively, the Vivo Warrants and the shares of common stock issuable upon exercise of the August 2017 Vivo Warrants, the August 2017 Vivo Warrant Shares) 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 (or the August 2017 Vivo Offering).

On August 3, 2017, the Company and Vivo closed the issuance and sale of an aggregate of 2,826,711 shares of Common Stock, an aggregate of 12,958 shares of Series D Preferred Stock and the Vivo Warrants (or the August 2017 Vivo Closing), resulting in net proceeds to the Company of approximately $24.8 million after payment of offering expenses. In addition, on August 3, 2017, the Company and Vivo entered into the Vivo Stockholder Agreement (as defined below).

The August 2017 Vivo Purchase Agreement includes customary representations, warranties and covenants of the parties. In addition, pursuant to the August 2017 Vivo Purchase Agreement, the Company, subject to certain exceptions, may 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.

Series D Preferred Stock

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 Vivo, into common stock (such shares, the Series D Conversion Shares) at a conversion price of $4.26 per share (or the Series D Conversion Rate). 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.

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.

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.

Notwithstanding the foregoing, the holders will not have the right to convert any Series D Preferred Stock, and the Company shall not effect any conversion of the Series D Preferred Stock, if the holder, together with its affiliates, would beneficially own in excess of 9.99% of the number of shares of common stock outstanding immediately after giving effect to the issuance of shares of Common Stock issuable upon conversion of such Series D Preferred Stock (or the August 2017 Vivo Offering Beneficial Ownership Limitation). The holders may waive the August 2017 Vivo Offering Beneficial Ownership Limitation upon notice to the Company, provided that such waiver (i) will not be effective until the 61st day after such notice is delivered to the Company, (ii) shall only apply to such holder and no other holder and (iii) will not be effective to the extent such waiver would require the prior approval of the Company's stockholders, unless such approval has been obtained.

On August 3, 2017, the Company filed the Certificate of Designation of Preferences, Rights and Limitations of Series D Convertible Preferred Stock with the Secretary of State of Delaware.

Vivo Warrants

At the August 2017 Vivo Closing, the Company issued to Vivo warrants, each with an exercise price of $6.39 per share, to purchase an aggregate of 5,575,118 shares of common stock (or the August 2017 Vivo Cash Warrants). 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 the August Vivo Closing (or the Vivo Dilution Period) at a per share price (including any conversion or exercise price, if applicable) less than the then-current exercise price of the August 2017 Vivo Cash Warrants, subject to certain exceptions.

In addition, at the August 2017 Vivo Closing the Company issued to Vivo warrants, with an exercise price of $0.0001 per share (or the August 2017 Vivo Dilution Warrants), 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 (including any conversion or exercise price, if applicable) less than $4.26 per share, subject to certain exceptions and subject to the Dilution Floor.

The effectiveness of the anti-dilution adjustment provisions of the August 2017 Vivo Cash Warrants and the exercise of the August 2017 Vivo Dilution Warrants will be subject to the August 2017 Offerings Stockholder Approval. The August 2017 Vivo Warrants will each have a term of five years from the date the August 2017 Vivo Warrants are initially exercisable. In addition, the exercise of the August 2017 Vivo Warrants will be subject to the August 2017 Vivo Offering Beneficial Ownership Limitation.

The August 2017 Vivo Warrants were 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.

Vivo Stockholder Agreement

In connection with the August 2017 Vivo Closing, the Company and Vivo entered into a Stockholder Agreement (or the Vivo Stockholder Agreement) that sets forth certain rights and obligations of Vivo and the Company. Pursuant to the Vivo Stockholder Agreement, Vivo will have the right to designate one director selected by Vivo (or the Vivo Director), subject to certain restrictions, to the Board. The Company agreed to appoint the Vivo Director and to use reasonable efforts, consistent with the Board’s fiduciary duties, to cause the Vivo Director to be re-nominated in the

future; provided, that Vivo will no longer have the right to designate any Vivo Director at such time as Vivo beneficially owns less than 4.5% of the Company's outstanding voting securities. In addition, for so long as Vivo beneficially owns at least 4.5% of the Company's outstanding voting securities, a representative of Vivo shall be entitled to attend all Board meetings in a nonvoting observer capacity and to receive copies of all materials that the Company provides to its directors, at the same time and in the same manner, 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 (or the Vivo Pre-Emptive Rights).

Pursuant to the Vivo Stockholder Agreement, Vivo will agree not to sell or transfer any of the shares of common stock, Series D Preferred Stock or August 2017 Warrants purchased by Vivo in the August 2017 Vivo Offering, or any shares of common stock issuable upon conversion or exercise thereof (the Vivo Transfer Restricted Shares), other than to its affiliates, without the consent of the Company during the one-year period following the August 2017 Vivo Closing. Thereafter, Vivo will have the right to sell or transfer the Vivo Transfer Restricted Shares to any third party, other than a competitor of the Company or any controlled affiliate of a competitor of the Company; provided, that the Company will have a limited right of first offer with respect to any such sale or transfer other than to affiliates of Vivo. In addition, Vivo will agree that, other than in connection with the purchase, conversion or exercise of (i) the Series D Preferred Stock or August 2017 Vivo Warrants or (ii) the exercise of Vivo Pre-Emptive Rights, until the later of (i) three years from the August 2017 Vivo Closing and (ii) three months after there is no Vivo Director on the Board, Vivo will not, without the prior consent of the Board, among other things, purchase any common stock, any options or other rights to acquire common stock or any indebtedness of the Company, or make any public offer to acquire common stock, options or other rights to acquire common stock or indebtedness of the Company, that would result in Vivo and its affiliates beneficially owning more than 33% of the Company's outstanding voting securities at the time of acquisition (assuming the exercise or conversion, whether then exercisable or convertible, of any shares of Series D Preferred Stock or August 2017 Vivo Warrants beneficially owned by Vivo and/or its affiliates), join in any solicitation of proxies for any matter not previously approved by the Board, or join any "group" (as such term is defined in Section 13(d)(3) of the Securities Exchange Act of 1934) with respect to any of the foregoing.

In addition, the Company has agreed to register, via one or more registration filed with the SEC under the Securities Act, the shares of common stock purchased in the August 2017 Vivo Offering, as well as the Series D Conversion Shares and August 2017 Vivo Warrant Shares. Under the terms of the Vivo Stockholder Agreement, the Company is required to use its reasonable efforts to prepare and file such registration statement as soon as practicable and no later than November 7, 2017, and to use its reasonable best efforts to cause the registration statement to be declared effective by the SEC as soon as practicable and no later than December 22, 2017. In addition, Vivo may request that up to three of such registrations provide for an underwritten offering of such shares. In addition, if the Company registers any of its securities for public sale under the Securities Act, Vivo will have the right to include their shares in the registration statement, subject to certain exceptions. The managing underwriter of any underwritten offering will have the right to limit, due to marketing reasons, the number of shares registered by Vivo to 25% of the total shares covered by the registration statement. The Company will agree to pay all expenses incurred in connection with the exercise of such demand and piggyback registration rights, except for legal costs of Vivo, stock transfer taxes and underwriting discounts and commissions.

Stockholder Approval

Pursuant to the August 2017 Purchase Agreements, the Company has agreed to solicit from the Company's stockholders such approval as may be required by the applicable rules and regulations of the NASDAQ Stock Market with respect to the anti-dilution provisions of the August 2017 DSM Warrants and the August 2017 Vivo Warrants (or the August 2017 Offerings Stockholder Approval) at an annual or special meeting of stockholders to be held on or prior to the date of the Company's 2018 annual meeting of stockholders, and to use commercially reasonable efforts to secure the August 2017 Offerings Stockholder Approval. DSM and Vivo may, at their option, upon at least 90 days' prior written notice, require the Company to hold a stockholder meeting prior to the Company's 2018 annual meeting of stockholders. Pursuant to the August 2017 Purchase Agreements, if the Company does not obtain the August 2017 Offerings Stockholder Approval at the first stockholder meeting, the Company will call a stockholder meeting every four months thereafter to seek the August 2017 Offerings Stockholder Approval until the earlier of the date the August 2017 Offerings Stockholder Approval is obtained or the August 2017 DSM Warrants and the August 2017 Vivo Warrants are no longer outstanding. In addition, pursuant to the August 2017 Purchase Agreements, until the August 2017 Offerings Stockholder Approval has been obtained and deemed effective, the Company may not issue any shares of common stock or securities convertible into or exercisable or exchangeable for common stock if such issuance would have triggered the anti-dilution adjustment provisions in the August 2017 DSM Warrants or the August 2017 Vivo Warrants (if the August 2017 Offerings Stockholder Approval had been obtained prior to such issuance) without the prior written consent of DSM and Vivo, respectively.

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Forward-Looking Statements

The following discussion and analysis should be read in conjunction with our condensed consolidated financial statements and the related notes that appear elsewhere in this Quarterly Report on Form 10-Q. These discussions contain forward-looking statements reflecting our current expectations that involve risks and uncertainties which are subject to safe harbors under the Securities Act of 1933, as amended (the Securities Act), and the Securities Exchange Act of 1934 (the Exchange Act). These forward-looking statements include, but are not limited to, statements concerning our strategy of achieving a significant reduction in net cash outflows in 2017, future production capacity and other aspects of our future operations, ability to improve our production efficiencies, future financial position, future revenues, projected costs, expectations regarding demand and acceptance for our technologies, growth opportunities and trends in the market in which we operate, prospects and plans and objectives of management. 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 in the forward-looking statements, including, without limitation, the risks set forth in Part II, Item 1A, "Risk Factors," in this Quarterly Report on Form 10-Q and in our other filings with the Securities and Exchange Commission. We do not assume any obligation to update any forward-looking statements.

Overview

Amyris, Inc. (the "Company," "Amyris," "we," "us," or "our") is a leading industrial biotechnology company that is applying i technology platform to engineer, manufacture and sell high performance products into the Health and Nutrition, Personal Care and Performance Materials markets. Our proven technology platform allows us to rapidly engineer microbes and use them as catalysts to metabolize renewable, plant-sourced sugars into large volume, high-value ingredients. Our biotechnology platform and industrial fermentation process replace existing complex and expensive chemical manufacturing processes. The Company has successfully used its technology to develop and produce at commercial volumes five distinct molecules.

We believe industrial synthetic biology represents a third industrial revolution, bringing together biology and engineering to generate new, more sustainable materials to meet the growing global demand for bio-based

replacements for petroleum, and animal- or plant-derived ingredients. We continue to build demand for our current portfolio of products through a sales network comprised of direct sales and distributors, and are engaged in collaborations across each of our three market focus areas to drive additional product sales and partnership opportunities. Via our partnership model, our partners invest in the development of each molecule to bring it from the lab to commercial scale. We then capture long term revenue both through the production and sale of the molecule to our partners and through value sharing of our partners' product sales.

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

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

We have invested over $500 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 five distinct molecules, leading to more than 15 commercial products used in over 500 consumer products. 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 2008, and has been integrated with our commercial production since 2011, creating a seamless organism development process that we believe makes Amyris an industry leader in the successful scale-up and commercialization of biotech produced molecules. The key performance characteristics of our platform that we believe differentiate Amyris include our proprietary computational tools, strain construction tools, screening and analytics tools, and advanced lab automation and data integration. Our state-of-the-art infrastructure includes industry leading strain engineering and lab automation located in Emeryville, 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 Brotas, Brazil.

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

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

Sales and Revenues

Our revenues are comprised of grant and collaboration revenues that fund our R&D activities and product and value share revenues that provide a long-term revenue stream for Amyris.

We have entered into research and development collaboration arrangements pursuant to which we receive payments from our collaborators, which include DSM Nutritional Products Ltd, DARPA, Firmenich SA, PureCircle Ltd. and Givaudan International SA and others. Some of our collaboration arrangements provide for advance payments in consideration for grants of exclusivity or research efforts to be performed by us. Once a collaboration agreement has

been signed, receipt of payments may depend on our achievement of milestones. See Note 8, “Significant Agreements” to our unaudited condensed consolidated financial statements included in this report for more details regarding these agreements and arrangements.

Our Biofene derived product sales consist of direct-to-consumer sales of our Biossance product line sold in the cosmetics sector, and from business-to-business product sales to customers sold directly through Amyris and also via distributors. Our direct-to-consumer sales of our Biossance product line are continuing to grow through our Sephora sales channel as well as our online sales from our website Biossance.com. Biossance was initially launched with Sephora on their online store where it was the most successful brand launch for Sephora.com. We then carried the unprecedented success for a new brand into their brick and mortar stores in the second quarter of this year with 35 stores. Sephora has committed an additional 47 stores for the rollout of Biossance in the second half of this year. And Sephora Canada has committed to carrying the Biossance brand in all of their stores starting in the first half of 2018. The line consists of six products that utilize squalane in their formulation with a pipeline of additional products to further grow and underpin the DNA of the brand. To commercialize, market and distribute our initial Biofene-derived product, squalane, in the cosmetics sector for use as an emollient, we have established a joint venture with Nikko Chemicals Co., Ltd. and Nippon Surfactant Industries Co., Ltd, called Aprinnova LLC. The production facility in Leland, North Carolina that we acquired in December 2016, performs chemical conversion and production of our end products and was transferred to the joint venture. See Note 7 "Joint Ventures and Noncontrolling Interest" to our unaudited condensed consolidated financial statements included in this report for more details regarding our joint ventures. We have also entered into certain supply agreements with customers in the Health and Nutrition, Personal Care and Performance Materials markets, including Nenter & Co., and Kuraray Co. Ltd., to commercialize products derived from Biofene.

We have several other collaboration molecules in our development pipeline with partners, such as Givaudan, Firmenich and DSM that will contribute product sales and value share revenues once they are commercialized.

Financing

We have taken actions to improve our liquidity by issuing additional stock for cash and converting debt and accrued interest to equity. See the "Liquidity and Capital Resources" section below for more information.

Results of Operations

Comparison of Three Months Ended June 30, 2017 and 2016

Revenues

	Three Months Ended June 30,	Period-to-period Change	Percentage Change

	2017	2016		
	(In thousands)			
Revenues				
Renewable product sales	$ 12,729	$ 4,922	$ 7,807	159 %
Grants and collaborations revenue	12,950	4,677	8,273	177 %
Total revenues	$ 25,679	$ 9,599	$ 16,080	168 %

Total revenues increased by $16.1 million to $25.7 million for the three months ended June 30, 2017, as compared to the same period in the prior year.

Product sales increased by $7.8 million to $12.7 million for the three months ended June 30, 2017, as compared to the same period in the prior year, driven by increases in sales of $6.6 million in the Health and Nutrition market, $1.4 million in Performance Materials markets, $0.9 million in Direct to Consumer sales and $0.8 million in the Cosmetics market, partially offset by a reduction of $1.9 million in sales in the Flavor and Fragrance market.

Grants and collaborations revenues increased by $8.3 million to $13.0 million for the three months ended June 30, 2017, as compared to the same period in the prior year, primarily due to increases of $2.7 million in the Health and Nutrition market, $2.4 million for DARPA and $1.5 million in the Flavor and Fragrance market.

Cost and Operating Expenses

	Three Months Ended June 30,		Period-to-period Change	Percentage Change
	2017	2016		
	(In thousands)			
Cost of products sold	$17,279	$7,891	$ 9,388	119 %
Research and development	14,249	13,176	1,073	8 %
Sales, general and administrative	15,949	11,408	4,541	40 %
Total cost and operating expenses	$47,477	$32,475	$ 15,002	46 %

Our cost of products sold includes cost of raw materials, labor and overhead, amounts paid to contract manufacturers, period costs related to inventory write-downs resulting from applying lower of cost or market inventory valuations, and costs related to scale-up in production of such products. Our cost of products sold increased by $9.4 million to $17.3 million for the three months ended June 30, 2017, as compared to the same period in the prior year, primarily driven by higher volumes of products sold, foreign currency exchange, and product mix. As a result, there are fluctuations to our cost of sales and gross margins.

Research and Development Expenses

Our research and development expenses increased by $1.1 million to $14.2 million for the three months ended June 30, 2017, as compared to the same period in the prior year, due to increases of $0.6 million for lab supplies and equipment and $0.5 million in personnel expenses.

Sales, General and Administrative Expenses

Our sales, general and administrative expenses increased by $4.5 million to $15.9 million for the three months ended June 30, 2017, as compared to the same period in the prior year, due to a $2.5 million charge related to a collaboration agreement termination fee, $1.6 million increase in personnel expenses and $0.4 million increase in professional services.

Other Income

	Three Months Ended June 30,		Change	Percentage Change
	2017	2016		
	(In thousands)			
Other income (expense):				
Interest income	$43	$82	$(39)	(48)%
Interest expense	(9,303)	(9,704)	401	(4)%
(Loss) gain from change in fair value of derivative instruments	35,775	20,934	14,841	71 %
Loss upon extinguishment of debt	(3,624)	(433)	(3,191)	737 %
Other expense, net	(163)	(1,431)	1,268	(89)%
Total other income	$22,728	$9,448	$13,280	141 %

Total other income increased by $13.3 million to $22.7 million for the three months ended June 30, 2017, as compared to total other income of $9.4 million for the same period in the prior year. The increase was primarily attributable to a $14.8 million increase in fair value of derivative instruments, which are comprised of two elements – compound embedded derivative liabilities associated with our senior secured convertible promissory notes, and interest rate swap derivative liabilities.

Other expense, net decreased by $1.3 million, primarily due to foreign currency exchange gains for the three months ended June 30, 2017.

Comparison of Six Months Ended June 30, 2017 and 2016

Revenues

	Six Months Ended June 30,		Period-to-period Change	Percentage Change
	2017	2016		
	(In thousands)			
Revenues				
Renewable product sales	$21,021	$8,062	$ 12,959	161 %
Grants and collaborations revenue	17,639	10,347	7,292	70 %
Total revenues	$38,660	$18,409	$ 20,251	110 %

Total revenues increased by $20.3 million to $38.7 million for the six months ended June 30, 2017, as compared to the same period in the prior year.

Product sales increased by $13.0 million to $21.0 million for the six months ended June 30, 2017, as compared to the same period in the prior year, driven by increases of $8.9 million in the Health and Nutrition market, $3.1 million in the Performance Materials market, $1.7 million in Cosmetic markets, and $1.5 million in the Direct to Consumer market, partially offset by a reduction of $2.2 million in Flavor and Fragrances.

Grants and collaborations revenues increased by $7.3 million to $17.6 million for the six months ended June 30, 2017, compared to the same period in the prior year due to increases of $6.3 million in collaboration revenues, $4.6 million in the Health and Nutrition market, and $3.0 million in the Cosmetics market, partially offset by a $2.6 million decrease in the Flavor and Fragrances market. Additionally, we achieved major milestones under a government contract, resulting in grants and collaborations revenues for the six months ended June 30, 2017 of $2.2 million.

Cost and Operating Expenses

	Six Months Ended June 30,	Period-to-period Change	Percentage Change

	2017	2016		
	(In thousands)			
Cost of products sold	$30,047	$19,068	$ 10,979	58 %
Research and development	28,956	25,082	3,874	15 %
Sales, general and administrative	28,799	23,674	5,125	22 %
Total cost and operating expenses	$87,802	$67,824	$ 19,978	29 %

Our cost of products sold increased by $11.0 million to $30.0 million for the six months ended June 30, 2017, as compared to the same period in the prior year, primarily driven by higher volumes of products sold, foreign currency exchange, and product mix. As a result, there are fluctuations to our cost of sales and gross margins.

Research and Development Expenses

Our research and development expenses increased by $3.9 million to $29.0 million for the six months ended June 30, 2017, as compared to the same period in the prior year, due to increases of $1.6 million in consulting fees relating to a revenue sharing agreement, $1.4 million in personnel expenses, and $0.9 million in lab supplies.

Sales, General and Administrative Expenses

Our sales, general and administrative expenses increased by $5.1 million to $28.8 million for the six months ended June 30, 2017, as compared to the same period in the prior year, due to a $2.5 million charge related to a collaboration agreement termination fee, a $1.4 million increase in personnel expenses, and a $1.8 million increase in professional fees, partially offset by a $1.1 million reduction in stock-based compensation expense.

Other Income

	Six Months Ended June 30,			
	2017	2016	Change	Percentage Change
	(In thousands)			
Other income (expense):				
Interest income	$105	$139	$(34)	(24)%
Interest expense	(21,486)	(18,062)	(3,424)	19 %
Gain from change in fair value of derivative instruments	38,114	42,612	(4,498)	(11)%
Loss upon extinguishment of debt	(3,528)	(649)	(2,879)	444 %
Other expense, net	(545)	(3,246)	2,701	(83)%
Total other income	$12,660	$20,794	$(8,134)	(39)%

Total other income decreased by $8.1 million to $12.7 million for the six months ended June 30, 2017, as compared to total income of $20.8 million for the same period in the prior year. The change was primarily attributable to two items: (i) an unfavorable $4.5 million change in fair value of derivative instruments, which are comprised of two elements – compound embedded derivative liabilities associated with our senior secured convertible promissory notes, and interest rate swap derivative liabilities; and (ii) a $3.4 million increase in interest expense, which was primarily due to a 21% increase in average debt, partially offset by a one percentage point decrease in effective interest rates on our outstanding debt.

Liquidity and Capital Resources

	June 30, 2017	December 31, 2016
	(Dollars in thousands)	
Working capital deficit, excluding cash and cash equivalents	$(26,887)	$(77,895)
Cash and cash equivalents and short-term investments	$6,634	$28,524
Debt and capital lease obligations	$165,948	$228,299

Accumulated deficit	$(1,171,189)	$(1,134,438)

	Six Months Ended June 30,	
	2017	2016
	(Dollars in thousands)	
Net cash used in operating activities	$ (60,179)	$ (38,975)
Net cash used in investing activities	$ (1,317)	$ (174)
Net cash provided by financing activities	$ 39,417	$ 27,793

Working Capital Deficit. Our working capital deficit, excluding cash and cash equivalents, was $26.9 million at June 30, 2017, which represents a decrease of $51.0 million compared to a working capital deficit of $77.9 million at December 31, 2016. The decrease in the working capital deficit during the six months ended June 30, 2017 is primarily due to a decrease of $45.9 million in the current portion of long-term debt, including related party debt (see Note 5, “Debt and Mezzanine Equity” to our unaudited condensed consolidated financial statements included in this report for more details), along with increases of $3.4 million in accounts receivable and related party accounts receivable, and $1.4 million in prepaid expenses and other current assets.

To support production of our products in contract manufacturing and dedicated production facilities, we have incurred, and we expect to continue to incur, capital expenditures as we invest in these facilities. We plan to continue to seek external debt and equity financing from U.S. and Brazilian sources to help fund our investment in these contract manufacturing and dedicated production facilities.

We expect to fund our operations for the foreseeable future with cash and investments currently on hand, cash inflows from collaborations, grants, product sales and if needed, equity and debt financings. Some of our anticipated financing sources, such as research and development collaborations and equity and debt financings, if needed, are subject to risk that we cannot meet milestones, are not yet subject to definitive agreements or mandatory funding commitments and, if needed, we may not be able to secure additional types of financing in a timely manner or on reasonable terms, if at all. Our planned 2017 and 2018 working capital needs and our planned operating and capital expenditures for 2017 are dependent on significant inflows of cash from renewable product sales and existing collaboration partners, as well as additional funding from new collaborations. We will continue to need to fund our research and development and related activities and to provide working capital to fund production, storage, distribution and other aspects of our business.

Liquidity. We have incurred significant losses since our inception and believe that we will continue to incur losses and have negative cash flow from operations through first half 2018. As of June 30, 2017, we had an accumulated deficit of $1.2 billion and had cash, cash equivalents and short term investments of $6.6 million.

As of June 30, 2017, our debt (including related party debt), net of discount and issuance costs of $26.0 million, totaled $165.3 million, of which $13.3 million is classified as current. In addition to upcoming debt maturities, our debt service obligations over the next twelve months are significant, including $11.2 million of anticipated interest payments. Our debt agreements also contain various covenants, including 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 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. 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. Refer to Note 5, "Debt and Mezzanine Equity" and Note 6, “Commitments and Contingencies” to our unaudited condensed consolidated financial statements included in this report for further details regarding our debt arrangements.

In March 2016, we entered into an At Market Issuance Sales Agreement with third party agents (or the Agents) under which we may issue and sell shares of our common stock through the Agents having an aggregate offering price of up to $50.0 million from time to time in “at the market” offerings under our Registration Statement on Form S-3 (File No. 333-203216). This agreement includes no commitment by other parties to purchase shares we offer for sale. See Note 8, “Significant Agreements” to our unaudited condensed consolidated financial statements included in this report. As of the date hereof, $50.0 million remained available for future issuance under this facility. In addition, for the six

months ended June 30, 2017, we issued $50.7 million of additional stock, issued $12.5 million of debt, and converted $68.9 million of debt to equity. We have significant outstanding debt and contractual obligations related to capital and operating leases, as well as purchase commitments.

Our condensed consolidated financial statements as of and for the three months ended June 30, 2017 have been prepared on the basis that the Company 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 the Company's ability to continue as a going concern within one year after the date that these financial statements 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 next 12 months and extend existing debt maturities, 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 the remainder of 2017 and 2018 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 (see Note 14 “Subsequent Events” for details of financing transactions subsequent to June 30, 2017).

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 may need to obtain additional funding from equity or debt financings, 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 2018:

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

Collaboration Funding. For the six months ended June 30, 2017, we received $6.4 million in cash from collaborations, including $3.0 million under a collaboration agreement with a cosmetics partner.

We depend on collaboration funding to support our research and development and operating expenses. While part of this funding is committed based on existing collaboration agreements, we will be required to identify and obtain funding from additional collaborations. In addition, some of our existing collaboration funding is subject to our achievement of milestones or other funding conditions.

If we cannot secure sufficient collaboration funding to support our operating expenses in excess of cash contributions from product sales and existing debt and equity financings, we may need to issue additional preferred and/or discounted equity, agree to onerous 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 to us. If we fail to secure such funding, we could be forced to curtail our operations, which would have a material adverse effect on our ability to continue with our business plans.

Government Contracts. We are party to two U.S. government contracts, one with the Defense Advanced Research Project Agency (or DARPA), and the other with the United States Department of Energy (or DOE). For more information, see Note 8, “Significant Agreements” to our unaudited condensed consolidated financial statements included in this report, and our 10-K for the year ended December 31, 2016.

Convertible Note Offerings. In January 2017, we issued an additional $19.1 million in aggregate principal amount of 9.50% Convertible Senior Notes due 2019 (or the 2015 144A Notes) in exchange for the cancellation of $15.3 million in aggregate principal amount of outstanding Fidelity Notes, as described in more detail in Note 5, "Debt and Mezzanine Equity" to our unaudited condensed consolidated financial statements included in this report.

In February 2017 and May 2017, we and Total agreed to amend the remaining R&D Note, as described in more detail in Note 5, “Debt and Mezzanine Equity” to our unaudited condensed consolidated financial statements included in this report.

In May, September, October and December 2016 and April and June 2017, we issued $35.0 million in aggregate principal amount of convertible promissory notes to a private investor in offerings registered under the Securities Act, as described in more detail in Note 5, “Debt and Mezzanine Equity” to our unaudited condensed consolidated financial statements included in this report.

Banco Pine/Nossa Caixa Financing. In July 2012, we entered into a Note of Bank Credit and a Fiduciary Conveyance of Movable Goods agreement with each of Nossa Caixa and Banco Pine. Under these instruments, we borrowed an aggregate of R$52.0 million (U.S.$15.7 million based on the exchange rate as of June 30, 2017) as financing for capital expenditures relating to our manufacturing facility in Brotas, Brazil. The loans have a final maturity date of July 15, 2022 and bear a fixed interest rate of 5.5% per year. The loans are also subject to early maturity and delinquency charges upon occurrence of certain events including interruption of manufacturing activities at our manufacturing facility in Brotas, Brazil for more than 30 days, except during sugarcane off-season. The loans are secured by certain of our farnesene production assets at the manufacturing facility in Brotas, Brazil and we were required to provide parent guarantees to each of the lenders. As of June 30, 2017 and December 31, 2016, a principal amount of $12.3 million and $11.0 million, respectively, was outstanding under these loan agreements.

BNDES Credit Facility. In December 2011, we entered into a credit facility with Banco Nacional de Desenvolvimento Econômico e Social (or BNDES), a government-owned bank headquartered in Brazil (or the BNDES Credit Facility) to finance a production site in Brazil. The BNDES Credit Facility was for up to R$22.4 million (U.S.$6.8 million based on the exchange rate as of June 30, 2017), including an initial tranche for R$19.1 million. As of June 30, 2017 and December 31, 2016, we had R$2.9 million (U.S.$0.9 million) and R$7.6 million (U.S.$1.9 million), respectively, in outstanding advances under the BNDES Credit Facility.

The principal of loans under the BNDES Credit Facility is required to be repaid in 60 monthly installments, with the first installment due in January 2013 and the last due in December 2017. Interest payments are due on a monthly basis together with principal payments. The loaned amounts carry interest of 7% per year. Additionally, there is a credit reserve charge of 0.1% on the unused balance from each credit installment from the day immediately after it is made available through its date of use, when it is paid.

The BNDES Credit Facility is collateralized by first priority security interest in certain of our equipment and other tangible assets totaling R$24.9 million (U.S.$7.5 million based on the exchange rate as of December 31, 2016). We are a parent guarantor for the payment of the outstanding balance under the BNDES Credit Facility. Additionally, we were required to provide a bank guarantee equal to 10% of the total approved amount (R$22.4 million in total debt) available under the BNDES Credit Facility. The BNDES Credit Facility contains customary events of default, including payment failures, failure to satisfy other obligations under the credit facility or related documents, defaults in respect of other indebtedness, bankruptcy, insolvency and inability to pay debts when due, material judgments, and changes in control of Amyris Brasil. If any event of default occurs, BNDES may terminate its commitments and declare immediately due all borrowings under the facility.

FINEP Credit Facility. In November 2010, we entered into a credit facility with Financiadora de Estudos e Projetos (or FINEP), a state-owned company subordinated to the Brazilian Ministry of Science and Technology (or the FINEP Credit Facility) to finance a research and development project on sugarcane-based biodiesel (or the FINEP Project) and provided for loans of up to an aggregate principal amount of R$6.4 million (U.S.$1.9 million based on the exchange rate as of June 30, 2017) which are secured by a chattel mortgage on certain equipment of Amyris as well as by bank letters of guarantee. All available credit under this facility was fully drawn. As of June 30, 2017 and December 31, 2016, the total outstanding loan balance under this credit facility was R$2.0 million (U.S.$0.6 million) and R$2.3 million (U.S.$0.7 million), respectively.

Interest on loans drawn under the FINEP Credit Facility is fixed at 5.0% per annum. In case of default under, or non-compliance with, the terms of the agreement, the interest on loans will be dependent on the long-term interest rate as published by the Central Bank of Brazil (such rate, the TJLP). If the TJLP at the time of default is greater than 6%, then the interest will be 5.0% plus a TJLP adjustment factor, otherwise the interest will be at 11.0% per annum. In addition, a fine of up to 10.0% will apply to the amount of any obligation in default. Additional interest on late balances will be 1.0% interest per month, levied on the overdue amount. Payment of the outstanding loan balance is being made in 81 monthly installments, which commenced in July 2012 and extends through March 2019. Interest on loans drawn and other charges are paid on a monthly basis and commenced in March 2011.

Senior Secured Loan Facility. In March 2014, we entered into a Loan and Security Agreement (or the LSA) with Hercules Technology Growth Capital, Inc. (or Hercules) to make available to Amyris a secured loan facility (or the Senior Secured Loan Facility) in an initial aggregate principal amount of up to $25.0 million, which loan facility was fully drawn at the closing. The LSA was subsequently amended in June 2014, March 2015 and November 2015 to extend additional credit facilities in an aggregate amount of up to $30,960,000, of which $15,960,000 was drawn, extend the maturity date of the loans, and remove, add and/or modify certain covenants and agreements under the LSA. In connection with such amendments, we paid aggregate fees of $1,450,000 to Hercules.

In June 2016, we were notified by Hercules that it had transferred and assigned its rights and obligations under the Senior Secured Loan Facility to Stegodon Corporation (or Stegodon), an affiliate of Ginkgo Bioworks, Inc. (or Ginkgo). In June 2016, in connection with the execution of an initial strategic partnership agreement with Ginkgo, we received a deferment from Stegodon of all scheduled principal repayments under the Senior Secured Loan Facility, as well as a waiver of the covenant in the LSA requiring us to maintain unrestricted, unencumbered cash in defined U.S. bank accounts in an amount equal to at least 50% of the principal amount of the loans then outstanding under the Senior Secured Loan Facility (or the Minimum Cash Covenant), through October 31, 2016. Refer to Note 8, “Significant Agreements” to our unaudited condensed consolidated financial statements included in this report for additional details. In October 2016, in connection with the execution of a definitive collaboration agreement with Ginkgo (or the Ginkgo Collaboration Agreement), we entered into a fourth amendment of the LSA with Stegodon, pursuant to which the parties agreed to (i) subject to our extending the maturity of certain of our other outstanding indebtedness (or the Extension Condition), extend the maturity date of the Senior Secured Loan Facility, (ii) make the Senior Secured Loan Facility interest-only until maturity, subject to the requirement that we apply certain monies received by us under the Ginkgo Collaboration Agreement to repay the amounts outstanding under the Senior Secured Loan Facility, up to a maximum amount of $1 million per month and (iii) waive the Minimum Cash Covenant until the maturity date of the Senior Secured Loan Facility. On January 11, 2017, the maturity date of the Senior Secured Loan Facility was extended to October 15, 2018 due to the Extension Condition being met as a result of the Fidelity

Exchange (as defined below). See below under “Fidelity” for additional details. This modification of the Senior Secured Loan Facility was accounted for as a troubled debt restructuring with the future undiscounted cash flows being greater than the carrying value of the debt prior to extension. No gain was recorded and a new effective interest rate was established based on the carrying value of the debt and the revised cash flows. Subsequently, in January 2017, in connection with Stegodon granting certain waivers of the debt and transfer covenants under the LSA, we entered into a fifth amendment of the LSA with Stegodon, pursuant to which we agreed to apply additional monies received by us under the Ginkgo Collaboration Agreement towards repayment of the outstanding loans under the Senior Secured Loan Facility, up to a maximum amount of $3 million.

Certain of the loans under the Senior Secured Loan Facility accrue interest at a rate per annum equal to the greater of (i) the prime rate reported in the Wall Street Journal plus 6.25% and (ii) 9.50%, and certain of the loans under the Senior Secured Loan Facility accrued interest at a rate per annum equal to the greater of (i) the prime rate reported in the Wall Street Journal plus 5.25% and (ii) 8.5%. We may repay the outstanding amounts under the Senior Secured Loan Facility in full before the maturity date (October 15, 2018) if we pay an additional fee equal to 1% of the outstanding loans as well as an end of term charge in an aggregate amount of $3,267,200. In addition, we have agreed to pay (i) a fee of $425,000 on or prior to December 31, 2017 and (ii) a fee of $450,000 on or prior to the maturity date of the loans under the Senior Secured Loan Facility in connection with certain waivers and releases under the LSA granted in connection with the formation of our cosmetics joint venture in December 2016.

As of June 30, 2017, $27.8 million was outstanding under the Senior Secured Loan Facility, net of discount and issuance costs of $0.7 million. The Senior Secured Loan Facility is secured by liens on our assets, including on certain intellectual property. The Senior Secured Loan Facility includes customary events of default, including failure to pay amounts due, breaches of covenants and warranties, material adverse effect events, certain cross defaults and judgments, and insolvency. If an event of default occurs, Stegodon may require immediate repayment of all amounts outstanding under the Senior Secured Loan Facility.

February 2016 Private Placement. In February 2016, we sold and issued to certain purchasers affiliated with members of our board of directors an aggregate of $20.0 million of unsecured promissory notes and warrants for the purchase of an aggregate of 190,477 shares of our common stock, as described in more detail in in Note 5, “Debt and Mezzanine Equity” to our unaudited condensed consolidated financial statements included in this report. In May 2017, $18.0 million of such notes were exchanged for preferred stock and warrants to purchase common stock in the May 2017 Offerings, as described in more detail in Note 5, “Debt and Mezzanine Equity” to our unaudited condensed consolidated financial statements included in this report.

June 2016 Private Placement. In June 2016, we sold and issued $5.0 million in aggregate principal amount of secured promissory notes to Foris Ventures, LLC (or Foris), an entity affiliated with director John Doerr of Kleiner Perkins Caufield & Byers, a current stockholder, as described in more detail in Note 5, “Debt and Mezzanine Equity” to our unaudited condensed consolidated financial statements included in this report. In May 2017, these notes were exchanged for preferred stock and warrants to purchase common stock in the May 2017 Offerings, as described in more detail in Note 5, “Debt and Mezzanine Equity” to our unaudited condensed consolidated financial statements included in this report.

October 2016 Private Placements. In October 2016, we sold and issued to Foris and Ginkgo, respectively, $6.0 million and $8.5 million in principal amount of secured promissory notes, as described in more detail in Note 5, “Debt and Mezzanine Equity” to our unaudited condensed consolidated financial statements included in this report. In May 2017, $11.0 million of such notes held by Foris were exchanged for preferred stock and warrants to purchase common stock in the May 2017 Offerings, as described in more detail in Note 5, “Debt and Mezzanine Equity” to our unaudited condensed consolidated financial statements included in this report.

Guanfu Credit Facility. In October 2016, we entered into a credit agreement with Guanfu Holding Co., Ltd. to make available to the Company an unsecured credit facility with an aggregate principal amount of up to $25.0 million, which amount was fully drawn on June 30, 2017, as described in more detail in Note 5, “Debt and Mezzanine Equity” to our unaudited condensed consolidated financial statements included in this report.

Salisbury Purchase Money Promissory Note. In December 2016, we sold and issued a purchase money promissory note in the principal amount of $3.5 million to Salisbury Partners, LLC in connection with our purchase of a production facility in Leland, North Carolina, as described in more detail in Note 5, “Debt and Mezzanine Equity” to our unaudited condensed consolidated financial statements included in this report. The loan was repaid in January 2017

using the proceeds of the Nikko Promissory Note.

Nikko Promissory Note. In December 2016, we sold and issued a promissory note in the principal amount of $3.9 million to Nikko Chemicals Co., Ltd. in connection with the formation of our Aprinnova joint venture, as described in more detail in Note 5, “Debt and Mezzanine Equity” to our unaudited condensed consolidated financial statements included in this report.

Ginkgo Collaboration Note. In April 2017, we issued a secured promissory note to Ginkgo, in the principal amount of $3 million, in satisfaction of certain payments owed to Ginkgo under the Ginkgo Collaboration Agreement, as described in more detail in Note 5, “Debt and Mezzanine Equity” and Note 8, “Significant Agreements” to our unaudited condensed consolidated financial statements included in this report.

Equity Offerings. In December 2012, we completed a private placement of approximately 945,190 shares of our common stock for aggregate cash proceeds of $37.2 million, of which $22.2 million was received in December 2012 and $15.0 million was received in January 2013. Of the 945,190 shares issued in the private placement, 111,857 of such shares were issued to Total in exchange for cancellation of $5.0 million of an outstanding convertible promissory note we previously issued to Total.

In March 2013, we completed a private placement of 102,250 shares of our common stock to Biolding Investment SA (or Biolding), which is affiliated with one of our directors, for aggregate proceeds of $5.0 million. This private placement represented the final tranche of Biolding's preexisting contractual obligation to fund $15.0 million upon satisfaction by us of certain criteria associated with the commissioning of our production plant in Brotas, Brazil.

In March 2014, we completed a private placement of 62,894 shares of our common stock to Kuraray for aggregate proceeds of $4.0 million.

In July 2015, we entered into a Securities Purchase Agreement with certain purchasers, including entities affiliated with members of our board of directors, under which we agreed to sell approximately 1,068,377 shares of our common stock at a price of $23.40 per share, for aggregate proceeds to the Company of $25 million. The sale of common stock under the Securities Purchase Agreement was completed on July 29, 2015. Pursuant to the Securities Purchase Agreement, the Company granted to each of the purchasers a warrant for the purchase of a number of shares of the Company’s common stock equal to 10% of the shares purchased by such investor. As of June 30, 2017, 10,685 of such warrants had been exercised.

In May 2016, we sold and issued 292,398 shares of our common stock to the Bill & Melinda Gates Foundation in a private placement at a purchase price per share equal to approximately $17.10, for aggregate proceeds to the Company of $5.0 million.

In May 2017, we sold and issued shares of preferred stock and warrants to purchase common stock to investors, as described in more detail in Note 5, “Debt and Mezzanine Equity” to our unaudited condensed consolidated financial statements included in this report.

See Note 14, “Subsequent Events” to our unaudited condensed consolidated financial statements included in this report for details regarding equity offerings completed subsequent to June 30, 2017.

Cash Flows during the Six Months Ended June 30, 2017 and 2016

Cash Flows from Operating Activities

Our primary uses of cash from operating activities are costs related to production and sales of our products and personnel-related expenditures, offset by cash received from product sales, grants and collaborations. Cash used in operating activities was $60.2 million and $39.0 million for the six months ended June 30, 2017 and 2016, respectively.

Net cash used in operating activities of $60.2 million for the six months ended June 30, 2017 was attributable to our net loss of $36.8 million, a gain from a change in the fair value of derivative instruments of $38.1 million, net unfavorable non-cash adjustments of $21.5 million and a net increase in operating assets of $2.0 million. The $21.5 net unfavorable non-cash adjustments to net loss were primarily comprised of $7.6 million of amortization of debt discount and issuance costs, $5.6 million of depreciation and amortization, and $2.7 million of stock-based compensation, offset by a $2.7 million receipt of equity in another company in connection with a collaboration arrangement. The $2.0 million increase in net operating assets was primarily comprised of a $4.2 million increase in prepaid expenses and a $3.7 million increase in accounts receivable, partly offset by a $8.4 million increase in accrued and other liabilities.

Net cash used in operating activities of $39.0 million for the six months ended June 30, 2016 was attributable to our net loss of $28.9 million and non-cash adjustments of $24.0 million, which were primarily comprised of a $42.6 million gain on change in the fair value of derivative instruments related to the embedded derivative liabilities associated with our senior convertible promissory notes and currency interest rate swap derivative liability. A $13.9 million net decrease in net operating assets was primarily comprised of an $8.1 million increase in accrued and other liabilities, a $1.9 million decrease in inventory and a $1.7 million decrease in prepaid expense and other assets.

Cash Flows from Investing Activities

Our investing activities consist primarily of capital expenditures and changes in our restricted cash balances. Net cash used by investing activities was $1.3 million for the six months ended June 30, 2017, primarily resulting from a $1.0 million increase in restricted cash and $0.3 million of purchases of property, plant and equipment.

Net cash used in investing activities was $0.2 million for the six months ended June 30, 2016, primarily resulting from $0.4 million of purchases of property, plant and equipment, net of net investment activity of $0.2 million.

Cash Flows from Financing Activities

Net cash provided by financing activities was $39.4 million for the six months ended June 30, 2017, primarily due to the receipt of $50.7 million of proceeds from common and preferred stock issued and $12.5 million of proceeds from debt issued, partly offset by $24.4 million of principal payments on debt.

Net cash provided by financing activities was $27.8 million for the six months ended June 30, 2016, primarily due to the receipt of $25.0 million of proceeds from debt issued to a related party, $10.0 million of proceeds from debt issued and $5.0 million from proceeds from issuance of contingently redeemable equity, partly offset by $6.6 million of principal payments on debt and a $5.0 million increase in restricted cash related to contingently redeemable equity.

Off-Balance Sheet Arrangements

We did not have during the periods presented, and we do not currently have, any material off-balance sheet arrangements, as defined under SEC rules, such as relationships with unconsolidated entities or financial partnerships, which are often referred to as structured finance or special purpose entities, established for the purpose of facilitating financing transactions that are not required to be reflected on our condensed consolidated financial statements.

Contractual Obligations

The following is a summary of our contractual obligations as of June 30, 2017 (in thousands):

	Total	2017	2018	2019	2020	2021	Thereafter
Principal payments on debt[1]	$191,020	$4,646	$52,322	$101,107	$2,196	$27,207	$3,542
Interest payments on debt, fixed rate[2]	36,317	7,428	15,726	7,144	2,863	2,640	516
Operating leases	42,277	3,406	6,889	6,776	7,006	7,242	10,958
Principal payments on capital leases	631	511	99	21	—	—	—
Interest payments on capital leases	27	19	7	1	—	—	—
Terminal storage costs	78	39	39	—	—	—	—
Purchase obligations[3]	911	882	29	—	—	—	—
Total	$271,261	$16,931	$75,111	$115,049	$12,065	$37,089	$15,016

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(1) The forecast payments assume no proceeds to be received by the Company under the Ginkgo Collaboration Agreement, which, if received, would need to be applied by the Company towards repayment of the debt due to Stegodon, as described above and in Note 5, "Debt and Mezzanine Equity" to our unaudited condensed consolidated financial statements included in this report. Includes $3.5 million for the remainder of 2017 related to Nomis Bay convertible note which, at the Company's election, may be settled in shares or cash.

(2) Does not include any obligations related to make-whole interest or downround provisions. The fixed interest rates are more fully described in Note 5, ""Debt and Mezzanine Equity" to our unaudited condensed consolidated financial statements included in this report.

(3) Purchase obligations include noncancelable contractual obligations.

Recent Accounting Pronouncements

The information contained in Note 2 to the Unaudited Condensed Consolidated Financial Statements under the heading "Recent Accounting Pronouncements" is hereby incorporated by reference into this Part I, Item 2.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

The market risk inherent in our market risk sensitive instruments and positions is the potential loss arising from adverse changes in: commodity market prices, foreign currency exchange rates, and interest rates as described below.

Interest Rate Risk

Our exposure to market risk for changes in interest rates relates primarily to our investment portfolio and our outstanding debt obligations (including embedded derivatives therein). We generally invest our cash in investments with short maturities or with frequent interest reset terms. Accordingly, our interest income fluctuates with short-term market conditions. As of June 30, 2017, our investment portfolio consisted primarily of money market funds and certificates of deposit, all of which are highly liquid investments. Due to the short-term nature of our investment portfolio, we do not believe that an immediate 10% increase in interest rates would have a material effect on the fair value of our portfolio. Since we believe we have the ability to liquidate this portfolio, we do not expect our operating results or cash flows to be materially affected to any significant degree by a sudden change in market interest rates on our investment portfolio. Additionally, as of June 30, 2017, 100% of our outstanding debt is in fixed rate instruments or instruments which have capped rates. Therefore, our exposure to the impact of variable interest rates is limited. Changes in interest rates may significantly change the fair value of our embedded derivative liabilities.

Foreign Currency Risk

Most of our sales contracts are principally denominated in U.S. dollars and, therefore, our revenues are currently not subject to significant foreign currency risk. The functional currency of our wholly-owned consolidated subsidiary in Brazil is the local currency (Brazilian real) in which recurring business transactions occur. We do not use currency exchange contracts as hedges against amounts permanently invested in our foreign subsidiary. The amount we consider permanently invested in our foreign subsidiary and translated into U.S. dollars using the June 30, 2017 exchange rate is $ 117.6 million as of June 30, 2017 and $119.4 million at December 31, 2016. The increase in the permanent investments in our foreign subsidiary between December 31, 2016 and June 30, 2017 is due to the depreciation of the U.S. dollar versus the Brazilian real. The potential loss in value, which would be principally recognized in Other Comprehensive Loss, resulting from a hypothetical 10% adverse change in quoted Brazilian real exchange rates, is $11.8 million and $11.9 million as of June 30, 2017 and December 31, 2016, respectively. Actual results may differ.

We make limited use of derivative instruments, which include currency interest rate swap agreements, to manage the Company's exposure to foreign currency exchange rate and interest rate related to the Company's Banco Pine loan. In June 2012, we entered into a currency interest rate swap arrangement with Banco Pine for R$22.0 million (US$6.7 million based on the exchange rate as of June 30, 2017). The swap arrangement exchanges the principal and interest

payments under the Banco Pine loan entered into in July 2012 for alternative principal and interest payments that are subject to adjustment based on fluctuations in the foreign exchange rate between the U.S. dollar and Brazilian real. The swap has a fixed interest rate of 3.94%. This arrangement hedges the fluctuations in the foreign exchange rate between the U.S. dollar and Brazilian real.

We analyzed our foreign currency exposure to identify assets and liabilities denominated in other currencies. For those assets and liabilities, we evaluated the effects of a 10% shift in exchange rates between those currencies and the U.S. dollar. We have determined that there would be an immaterial effect on our results of operations from such a shift.

Commodity Price Risk

Our primary exposure to market risk for changes in commodity prices currently relates to our purchases of sugar feedstocks. When possible, we manage our exposure to this risk primarily through the use of supplier pricing agreements.

ITEM 4. CONTROLS AND PROCEDURES

Disclosure Controls and Procedures

Based on management's evaluation (with the participation of our Chief Executive Officer (CEO) and Chief Financial Officer (CFO)), as of the end of the period covered by this report, our CEO and CFO have concluded that our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the Exchange Act)), are effective to provide reasonable assurance that information required to be disclosed by us in reports that we file or submit under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in SEC rules and forms, and is accumulated and communicated to management, including our principal executive officer and principal financial officer, as appropriate, to allow timely decisions regarding required disclosure.

Changes in Internal Control over Financial Reporting

There were no changes to our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) that occurred during the quarter ended June 30, 2017 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Inherent Limitations on the Effectiveness of Internal Controls

Our management, including the CEO and CFO, does not expect that our disclosure controls and procedures or our internal control over financial reporting will prevent or detect all errors and all fraud. A control system, no matter how well-designed and operated, can provide only reasonable, not absolute, assurance that the control system's objectives will be met. The design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Further, because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that misstatements due to error or fraud will not occur or that all control issues and instances of fraud, if any, have been detected. The design of any system of controls is based in part on certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Projections of any evaluation of the effectiveness of controls to future periods are subject to risks. Over time, controls may become inadequate because of changes in conditions or deterioration in the degree of compliance with policies or procedures.

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PART II

ITEM 1. LEGAL PROCEEDINGS

In April 2017, a securities class action complaint was filed against Amyris and our CEO, John G. Melo, and CFO, 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 individuals who acquired our common stock between March 2, 2017 and April 17, 2017. The complaint alleges securities law violations based on statements made by the Company in its earnings press release issued on March 2, 2017 and Form 12b-25 filed with the SEC on April 3, 2017. We believe the complaint lacks merit, and intend to defend ourselves vigorously.

In June 2017, an alleged shareholder, Pedro Gutierrez, caused a purported shareholder derivative suit entitled Gutierrez v. John G. Melo et al., Case. No. BC 665782, to be filed in the Superior Court for the State of California, County of Los Angeles. The lawsuit names Amyris, Inc. as a nominal defendant and names a number of the Company's current 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. It 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. This purported shareholder derivative action is based on substantially the same facts as the securities class action described above. We do not believe the claims in the complaint have merit, and intend to defend ourselves vigorously.

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.

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 Quarterly Report on Form 10-Q, 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

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

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

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

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

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

To commercialize our products, we must be successful in using our yeast strains to produce target molecules at commercial scale and at a commercially viable cost. If we cannot achieve commercially-viable production economics for enough products to support our business plan, including through establishing and maintaining sufficient production scale and volume, we will be unable to achieve a sustainable integrated renewable products business. Virtually all of our production capacity is through a purpose-built, large-scale production plant in Brotas, Brazil. This plant commenced operations in 2013, and scaling and running the plant has been, and continues to be, a time-consuming, costly, uncertain and expensive process. Given our limited experience commissioning and operating our own manufacturing facilities and our limited financial resources, we cannot be sure that we will be successful in achieving production economics that allow us to meet our plans for commercialization of various products we intend to offer. In

addition, our attempts to scale production of new molecules are subject to uncertainty and risk. For example, even to the extent we successfully complete product development in our laboratories and pilot and demonstration facilities, and at contract manufacturing facilities, we may be unable to translate such success to large-scale, purpose-built plants. If this occurs, our ability to commercialize our technology will be adversely affected and we may be unable to produce and sell any significant volumes of our products. Furthermore, with respect to products that we are able to bring to market, we may not be able to lower the cost of production, which would adversely affect our ability to sell such products profitably. In addition, we will likely need to identify and secure access to additional production capacity to satisfy anticipated volume requirements. There can be no assurance that we will be able obtain such capacity on favorable or acceptable terms, if at all, and even if we are successful in obtaining such capacity, there can be no assurance that we will be able to scale and operate any additional plants to allow us to meet our operational goals, which could harm our ability to grow our business.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- we will be required to use a substantial portion of our cash flow from operations to pay principal and interest on our indebtedness, thereby reducing the availability of our cash flow to fund working capital, capital expenditures, product

development efforts, acquisitions, investments and strategic alliances and for other general corporate requirements;

- our substantial leverage increases our vulnerability to economic downturns and adverse competitive and industry conditions and could place us at a competitive disadvantage compared to those of our competitors that are less leveraged;
- our debt service obligations could limit our flexibility in planning for, or reacting to, changes in our business and our industry and could limit our ability to pursue other business opportunities, borrow more money for operations or capital in the future and implement our business strategies;

- our level of indebtedness and the covenants in our debt instruments may restrict us from raising additional financing on satisfactory terms to fund working capital, capital expenditures, product development efforts, strategic acquisitions, investments and alliances, and for other general corporate requirements; and
- our substantial leverage may make it difficult for us to attract additional financing when needed.

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

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

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

Several of our outstanding convertible debt instruments are accounted for under Accounting Standards Codification 815, Derivatives and Hedging, or ASC 815, as an embedded derivative. For instance, with respect to the 2015 144A Notes, if the holders elect convert their 2015 144A Notes, such converting holders will receive an early conversion payment equal to the present value of the remaining scheduled payments of interest that would have been made on the 2015 144A Notes being converted through April 15, 2019, the maturity date of the 2015 144A Notes. Our 6.50% Convertible Senior Notes due 2019, or the 2014 144A Notes, contain a similar early conversion payment feature, provided that the last reported sale price of our common stock for 20 or more trading days (whether or not consecutive) in a period of 30 consecutive trading days ending within five trading days immediately prior to the date we receive a notice of such election to convert exceeds the conversion price in effect on each such trading day. The early conversion payment features of the 2014 144A Notes and the 2015 144A Notes are accounted for under ASC 815 as embedded derivatives. ASC 815 requires companies to bifurcate conversion options from their host instruments and account for them as free standing derivative financial instruments according to certain criteria. The fair value of the derivative is remeasured to fair value at each balance sheet date, with a resulting non-cash gain or loss related to the change in the fair value of the derivative being charged to earnings (loss). We have determined that we must bifurcate and account for the early conversion payment features of the 2014 144A Notes and the 2015 144A Notes, as well as certain other features of our other convertible debt instruments, as embedded derivatives in accordance with ASC 815. We have recorded these embedded derivative liabilities as non-current liabilities on our consolidated balance sheet with a corresponding debt discount at the date of issuance that is netted against the principal amount of the 2014 144A Notes, the 2015 144A Notes or other convertible debt instrument, as applicable. The derivative liabilities are remeasured to fair value at each balance sheet date, with a resulting non-cash gain or loss related to the change in the fair value of the derivative liabilities being recorded in other income or loss. There is no

current observable market for this type of derivative and, as such, we determine the fair value of the embedded derivatives using the binomial lattice model. The valuation model uses the stock price, conversion price, maturity date, risk-free interest rate, estimated stock volatility and estimated credit spread. Changes in the inputs for these valuation models may have a significant impact on the estimated fair value of the embedded derivative liabilities. For example, an increase in our stock price results in an increase in the estimated fair value of the embedded derivative liabilities. The embedded derivative liabilities may have, on a U.S. GAAP basis, a substantial effect on our balance sheet from quarter to quarter and it is difficult to predict the effect on our future U.S. GAAP financial results, since valuation of these embedded derivative liabilities are based on factors largely outside of our control and may have a negative impact on our earnings and balance sheet. The effects of these embedded derivatives may cause our U.S. GAAP operating results to be below expectations, which may cause our stock price to decline.

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

A substantial component of our planned production capacity in the near and long term depends on successful operations at our existing and potential large-scale production plants. We are currently operating our first purpose-built, large-scale production plant in Brotas, Brazil and may complete construction of certain other facilities in the coming years. Delays or problems in the construction, start-up or operation of these facilities will cause delays in our ramp-up of production and hamper our ability to reduce our production costs. Delays in construction can occur due to a variety of factors, including regulatory requirements and our ability to fund construction and commissioning costs. For example, in 2012 we determined it was necessary to delay further construction of our large-scale manufacturing facility with São Martinho in order to focus on the construction and commissioning of our Brotas facility. We have since permanently ceased construction of the São Martinho facility. In 2016 we produced at capacity at our Brotas facility and will likely need to identify and secure access to additional production capacity based on anticipated volume requirements, either by constructing a new custom-built facility, acquiring an existing facility from a third party, retrofitting an existing facility operated by a current or potential partner or increasing our use of contract manufacturing facilities. In December 2016, we acquired a production facility in Leland, North Carolina, which facility had been previously operated by our partner Glycotech to perform chemical conversion and production of our end-products, and which facility was subsequently transferred to our newly-formed joint venture with Nikko Chemicals Co., Ltd. and Nippon Surfactant Industries Co., Ltd., or, collectively, Nikko, as further described in Note 7, “Joint Ventures and Noncontrolling Interest” to our unaudited condensed consolidated financial statements included in this report. In addition, in February 2017 we broke ground on a second custom-built production facility adjacent to our existing Brotas facility. However, there can be no assurance that we will be able to complete such facility on our expected timeline, if at all.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

In June 2016, we entered into an initial strategic partnership agreement with Ginkgo Bioworks, Inc., or Ginkgo, pursuant to which we licensed certain intellectual property to Ginkgo in exchange for a license fee and royalty, and agreed to pursue the negotiation and execution of a definitive partnership agreement setting forth the terms of a long-term commercial partnership and collaboration arrangement between us and Ginkgo, and in September 2016 we executed a definitive collaboration agreement with Ginkgo setting forth the terms of a commercial partnership under which the parties would collaborate to develop, manufacture and sell commercial products and would share in the value of such products. In connection with the entry into such commercial agreements, we received a waiver under, and subsequently entered into an amendment of, our senior secured credit facility, the agent and lender under which is an affiliate of Ginkgo, which amendment extended, subject to certain conditions which were satisfied in January 2017, the maturity of the loans under the senior secured credit facility, eliminated principal repayments under the facility prior to maturity, subject to the requirement that we apply certain monies received by us under the collaboration agreement with Ginkgo to repay the outstanding loans under the facility, and waived the covenant in the senior secured loan facility requiring the Company to maintain unrestricted, unencumbered cash in defined U.S. bank accounts in an amount equal to at least 50% of the principal amount outstanding under the facility until the maturity date. For more details on our transactions with Ginkgo, please see Note 5, "Debt and Mezzanine Equity" and Note 8, "Significant Agreements" to our unaudited condensed consolidated financial statements included in this report.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

We have limited control over our joint ventures.

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

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

We anticipate that the production of our products will require large volumes of feedstock. We have relied on a mixture of feedstock sources for use at our contract manufacturing operations, including cane sugar, corn-based dextrose and beet molasses. For our large-scale production facility in Brazil, we are relying primarily on Brazilian sugarcane. We cannot predict the future availability or price of these various feedstocks, nor can we be sure that our mill partners, which we expect to supply the sugarcane feedstock necessary to produce our products in Brazil, will be able to supply it in sufficient quantities or in a timely manner. For example, in December 2015, Tonon, one of our suppliers of sugarcane juice and syrup, filed for bankruptcy protection in Brazil, which may adversely affect its ability to supply us with sugarcane juice and syrup in the future, or we may not be able reach an arrangement with any successor to, or purchaser of, Tonon’s assets to supply us with sugarcane juice and syrup on satisfactory terms, if at all. Furthermore, to the extent we are required to rely on sugar feedstock other than Brazilian sugarcane, the cost of such feedstock may be higher than we expect, increasing our anticipated production costs. Feedstock crop yields and sugar content depend on weather conditions, such as rainfall and temperature. Weather conditions have historically caused volatility in the ethanol and sugar industries by causing crop failures or reduced harvests. Excessive rainfall can adversely affect the supply of sugarcane and other sugar feedstock available for the production of our products by reducing the sucrose content and limiting growers' ability to harvest. Crop disease and pestilence can also occur from time to time and can adversely affect feedstock growth, potentially rendering useless or unusable all or a substantial portion of affected harvests. With respect to sugarcane, our initial primary feedstock, seasonal availability and price, the limited amount of time during which it keeps its sugar content after harvest, and the fact that sugarcane is not itself a traded commodity, increases these risks and limits our ability to substitute supply in the event of such an occurrence. If production of sugarcane or any other feedstock we may use to produce our products is adversely affected by these or other conditions, our production will be impaired, and our business will be adversely affected.

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

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

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

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

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

- delays or failures in securing licenses, permits or other governmental approvals necessary to build and operate facilities and use our yeast strains to produce products;
- rapid consolidation in the sugar and ethanol industries in Brazil, which could result in a decrease in competition;
- political, economic, diplomatic or social instability in or affecting Brazil;
- changing interest rates;
- tax burden and policies;
- effects of changes in currency exchange rates;
- any changes in currency exchange policy that lead to the imposition of exchange controls or restrictions on remittances abroad;
- inflation;
- land reform or nationalization movements;
- changes in labor related policies;
- export or import restrictions that limit our ability to move our products out of Brazil or interfere with the import of essential materials into Brazil;
- changes in, or interpretations of foreign regulations that may adversely affect our ability to sell our products or repatriate profits to the United States;
- tariffs, trade protection measures and other regulatory requirements;
- compliance with United States and foreign laws that regulate the conduct of business abroad;
- compliance with anti-corruption laws recently enacted in Brazil;
- an inability, or reduced ability, to protect our intellectual property in Brazil including any effect of compulsory licensing imposed by government action; and
- difficulties and costs of staffing and managing foreign operations.

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

Brazil’s economy has recently experienced quarters of slow or negative gross domestic product growth and has experienced high inflation and a growing fiscal deficit of its federal government accounts. In addition, major corruption scandals involving members of the executive, state-controlled enterprises and large private sector companies have been disclosed and are the subject of ongoing investigation by federal authorities. The final outcome

of these investigations and their impact on the Brazilian economy is not yet known and cannot be predicted with certainty.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

We use hazardous chemicals and radioactive and biological materials in our business, and such materials are subject to a variety of federal, state and local laws and regulations governing the use, generation, manufacture, storage, handling and disposal of these materials in the United States and in Brazil. Although we have implemented safety procedures for handling and disposing of these materials and related waste products in an effort to comply with these laws and regulations, we cannot be sure that our safety measures will prevent accidental injury or contamination from the use, storage, handling or disposal of hazardous materials. In the event of contamination or injury, we could be held liable for any resulting damages, and any liability could exceed our insurance coverage. There can be no assurance that violations of environmental, health and safety laws will not occur in the future as a result of human error, accident, equipment failure or other causes. Compliance with applicable environmental laws and regulations may be expensive, and the failure to comply with past, present, or future laws could result in the imposition of fines, third party property damage, product liability and personal injury claims, investigation and remediation costs, the suspension of production, or a cessation of operations, and our liability may exceed our total assets. Liability under environmental laws can be joint and several, without regard to comparative fault, and may be punitive in nature. Furthermore, environmental laws could become more stringent over time, imposing greater compliance costs and increasing risks and penalties associated with violations, which could impair our research, development or production efforts and otherwise harm our business.

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

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

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

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

- achievement, or failure, with respect to technology, product development or manufacturing milestones needed to allow us to enter identified markets on a cost effective basis;
- delays or greater than anticipated expenses associated with the completion, commissioning, acquisition or retrofitting of new production facilities, or the time to ramp up and stabilize production following completion, acquisition or retrofitting of a new production facility or the transition to, and ramp up of, producing new molecules at our existing facilities or a contract manufacturer;
- impairment of assets based on shifting business priorities and working capital limitations;
- disruptions in the production process at any manufacturing facility, including disruptions due to seasonal or unexpected downtime at our facilities as a result of feedstock availability, contamination, safety or other issues or other technical difficulties or the scheduled downtime at our facilities as a result of transitioning our equipment to the production of different molecules;
- losses of, or the inability to secure new, major customers, collaboration partners, suppliers or distributors;
- losses associated with producing our products as we ramp to commercial production levels;
- failure to recover value added tax (VAT) that we currently reflect as recoverable in our financial statements (e.g., due to failure to meet conditions for reimbursement of VAT under local law);
- the timing, size and mix of product sales to customers;
- increases in price or decreases in availability of feedstock;
- the unavailability of contract manufacturing capacity altogether or at reasonable cost;
- exit costs associated with terminating contract manufacturing relationships;
- fluctuations in foreign currency exchange rates;
- gains or losses associated with our hedging activities;
- change in the fair value of derivative instruments;
- fluctuations in the price of and demand for sugar, ethanol, and petroleum-based and other products for which our products are alternatives;
- seasonal variability in production and sales of our products;
- competitive pricing pressures, including decreases in average selling prices of our products;
- unanticipated expenses or delays associated with changes in governmental regulations and environmental, health, labor and safety requirements;
- reductions or changes to existing fuel and chemical regulations and policies;
- departure of executives or other key management employees resulting in transition and severance costs;
- our ability to use our net operating loss carryforwards to offset future taxable income;
- business interruptions such as earthquakes, tsunamis and other natural disasters;
- our ability to integrate businesses that we may acquire;
- our ability to successfully collaborate with joint venture partners;
- risks associated with the international aspects of our business; and
- changes in general economic, industry and market conditions, both domestically and in our foreign markets.

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

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

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

The loss of any key member of our management or key technical and operational employees, or the failure to attract or retain such employees, could prevent us from developing and commercializing our products for our target markets and executing our business strategy. In addition, we may not be able to attract or retain qualified employees in the future due to the intense competition for qualified personnel among biotechnology and other technology-based businesses, particularly in the renewable chemicals area. Furthermore, reductions to our workforce as part of potential cost-saving measures, such as those discussed above with respect to our 2017 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 collaborators and customers in a timely fashion or to support our internal research and development programs and operations. In particular, our product and process development programs depend on our ability to attract and retain highly skilled technical and operational personnel. Competition for such personnel from numerous companies and academic and other research institutions may limit our ability to do so on acceptable terms. All of our employees are "at-will" employees, which means that either the employee or we may terminate their employment at any time.

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

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

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

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

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

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

We apply for patents covering both our technologies and product candidates, as we deem appropriate. However, filing, prosecuting, maintaining and defending patents on product candidates in all countries throughout the world would be prohibitively expensive, and our intellectual property rights in some countries outside the United States are less extensive than those in the United States. We may also fail to apply for patents on important technologies or product candidates in a timely fashion, or at all. Our existing and future patents may not be sufficiently broad to prevent others from practicing our technologies or from designing products around our patents or otherwise developing competing products or technologies. In addition, the patent positions of companies like ours are highly uncertain and involve complex legal and factual questions for which important legal principles remain unresolved. No consistent policy regarding the breadth of patent claims has emerged to date in the United States and the landscape is expected to become even more uncertain in view of recent rule changes by the United States Patent Office, or USPTO. Additional uncertainty may result from legal decisions by the United States Federal Circuit and Supreme Court as they determine legal issues concerning the scope and construction of patent claims and inconsistent interpretation of patent laws or from legislation enacted by the U.S. Congress. The patent situation outside of the United States is even less predictable. As a result, the validity and enforceability of patents cannot be predicted with certainty. Moreover, we cannot be certain whether:

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

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

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

the damages or other remedies awarded, if any, may not be commercially meaningful. Accordingly, our efforts to enforce our intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or license from third parties.

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

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

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

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

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

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

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

Third parties may misappropriate our yeast strains.

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

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

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

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

- infringement and other intellectual property claims, which could be costly and time consuming to litigate, whether or not the claims have merit, and which could delay getting our products to market and divert management attention from our business;
- substantial damages for past infringement, which we may have to pay if a court determines that our product candidates or technologies infringe a third party's patent or other proprietary rights;
- a court prohibiting us from selling or licensing our technologies or future products unless the holder licenses the patent or other proprietary rights to us, which it is not required to do; and
- if a license is available from a third party, such third party may require us to pay substantial royalties or grant cross licenses to our patents or proprietary rights.

The industries in which we operate, and the biotechnology industry in particular, are characterized by frequent and extensive litigation regarding patents and other intellectual property rights. Many biotechnology companies have employed intellectual property litigation as a way to gain a competitive advantage. If any of our competitors have filed patent applications or obtained patents that claim inventions also claimed by us, we may have to participate in interference proceedings declared by the relevant patent regulatory agency to determine priority of invention and, thus, the right to the patents for these inventions in the United States. These proceedings could result in substantial cost to us even if the outcome is favorable. Even if successful, an interference proceeding may result in loss of certain

claims. Our involvement in litigation, interferences, opposition proceedings or other intellectual property proceedings inside and outside of the United States, to defend our intellectual property rights, or as a result of alleged infringement of the rights of others, may divert management time from focusing on business operations and could cause us to spend significant resources, all of which could harm our business and results of operations.

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

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

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

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

We do not have exclusive rights to intellectual property we develop under U.S. federally funded research grants and contracts, including with DARPA and 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.

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

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

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

From time to time, we may in the ordinary course of business be named as a defendant in lawsuits, indemnity claims and other legal proceedings. These actions may seek, among other things, compensation for alleged personal injury, employment discrimination, breach of contract, property damage and other losses or injunctive or declaratory relief. In the event that such actions, claims or proceedings are ultimately resolved unfavorably to us at amounts exceeding our accrued liability, or at material amounts, the outcome could materially and adversely affect our reputation, business and results of operations. In addition, payments of significant amounts, even if reserved, could adversely affect our liquidity position. For more information regarding our current legal proceedings, please refer to the section entitled "Legal Proceedings" in this Quarterly Report on Form 10-Q.

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

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

business.

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

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

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

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

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

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

of our business plan for 2017 and beyond. If we are unable to secure such government contracts, it could harm our business.

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

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

Risks Related to Ownership of Our Common Stock

Our stock price may be volatile.

The market price of our common stock has been, and we expect it to continue to be, subject to significant volatility, and it has declined significantly from our initial public offering price. As of June 30, 2017, the reported closing price of our common stock on The NASDAQ Stock Market was $3.18 per share. Market prices for securities of early stage companies have historically been particularly volatile. Such fluctuations could be in response to, among other things, the factors described in this "Risk Factors" section, or other factors, some of which are beyond our control, such as:

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

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

In the past, many companies that have experienced volatility and sustained declines in the market price of their stock have become subject to securities class action and derivative action litigation. We were involved in two such lawsuits which were dismissed in 2014, are currently involved in one such lawsuit, as described in more detail above 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 The NASDAQ Stock Market, our business, financial condition, results of operations and stock price could be adversely affected, and the liquidity of our stock and our ability to obtain

financing could be impaired.

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

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

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

As of June 30, 2017:

- our executive officers and directors together held approximately 7% of our outstanding common stock;
- Temasek (which has a designee on our board of directors) held approximately 13% of our outstanding common stock; and
- Total (which has a designee on our board of directors) held approximately 17% of our outstanding common stock.

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

In addition, certain of our commercial partners, including Total and DSM, hold a significant portion of our capital stock and have various rights in connection with their security ownership in us. These stockholders may have interests that are different from those of our other stockholders, including with respect to commercial transactions between our

company and such commercial partners or their affiliates. While we have a related-party transactions policy that requires certain approvals of any transaction between our company and a significant stockholder or its affiliates, there can be no assurance that our significant stockholders will act in the best interests of our other stockholders, which could harm our results of operations and cause our stock price to decline.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

On May 11, 2017 and May 31, 2017, we sold and issued an aggregate of 70,903.8756 shares of our Series B 17.38% Convertible Preferred Stock, par value $0.0001 per share (or the Series B Preferred Stock), warrants to purchase 14,768,380 shares of common stock (or the Cash Warrants) 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 Series B Preferred Stock (or the Dilution Warrants) to accredited investors, including certain existing stockholders affiliated with members of our Board of Directors (or the May 2017 Offerings), as described in more detail in Note 5, “Debt and Mezzanine Equity” to our unaudited condensed consolidated financial statements included in this report. The Series B Preferred Stock, the Cash Warrants and the Dilution Warrants were sold to the purchasers thereof in exchange for (i) aggregate cash consideration of $30,700,000 and (ii) the cancellation of $40.2 million of outstanding indebtedness (including accrued interest thereon) owed to such purchasers, as described in more detail in Note 5, “Debt and Mezzanine Equity” to our unaudited condensed consolidated financial statements included in this report. Please refer to Note 5, “Debt and Mezzanine Equity” to our unaudited condensed consolidated financial statements included in this report for information regarding the conversion and exercise terms, respectively, of the Series B Preferred Stock and May 2017 Warrants.

On May 11, 2017, the Company exchanged (or the May 2017 Exchange) 1,394,706 shares of common stock held by certain existing stockholders affiliated with members of our Board of Directors for 20,921 shares of our Series C Convertible Preferred Stock, par value $0.0001 per share (or the Series C Preferred Stock). The shares of Series C Preferred Stock automatically converted to common stock pursuant to their terms on June 6, 2017. Please refer to Note 5, “Debt and Mezzanine Equity” to our unaudited condensed consolidated financial statements included in this report for information regarding the conversion terms of the Series C Preferred Stock.

Rodman & Renshaw, a unit of H.C. Wainwright & Co., LLC, acted as placement agent in connection with the May 11, 2017 offering of 65,204 shares Series B Preferred Stock, Cash Warrants to purchase 13,863,648 shares of common stock and Dilution Warrants and received aggregate fees of $499,958.47 in connection therewith. The Series B Preferred Stock and May 2017 Warrants sold in the May 2017 Offerings were issued in private placements pursuant to the exemption from registration under Section 4(a)(2) of the Securities Act of 1933, as amended (or the Securities Act) and Regulation D promulgated under the Securities Act. The Series C Preferred Stock was issued in a private exchange pursuant to the exemption from registration under Section 3(a)(9) of the Securities Act. The investors and stockholders participating in the May 2017 Offerings and the May 2017 Exchange, respectively, acquired the applicable securities 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. These holders had adequate access, through their relationships with us, to information about us.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

Not applicable.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

ITEM 5. OTHER INFORMATION

Not applicable.

ITEM 6. EXHIBITS

The exhibits listed in the Exhibit Index included herein at page 113 (other than exhibits 32.01, 32.02 and 101) are filed as part of this Quarterly Report on Form 10-Q and such Exhibit Index is incorporated herein by reference.

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SIGNATURES

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

Dated: August 14, 2017 AMYRIS, INC.

/s/ JOHN G. MELO
John G. Melo
Director, President and Chief Executive Officer
(Principal Executive Officer)

Dated: August 14, 2017

/s/ KATHLEEN VALIASEK
Kathleen Valiasek
Chief Financial Officer
(Principal Financial Officer)

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EXHIBIT INDEX

Exhibit No.	Description	Previously Filed Form	File No.	Filing Date	Exhibit	Filed Herewith
3.01	Restated Certificate of Incorporation	10-Q	001-34885	November 10, 2010	3.01	
3.02	Certificate of Amendment, dated May 9, 2013, to Restated Certificate of Incorporation	S-8	333-188711	May 20, 2013	4.02	
3.03	Certificate of Amendment, dated May 12, 2014, to Restated Certificate of Incorporation	10-Q	001-34887	August 8, 2014	3.02	
3.04	Certificate of Amendment, dated September 18, 2015, to Restated Certificate of Incorporation	S-3/A	333-206331	November 4, 2015	3.03	
3.05	Certificate of Amendment, dated May 18, 2016, to Restated Certificate of Incorporation	10-Q	001-34885	August 9, 2016	3.05	
3.06	Certificate of Amendment, dated June 5, 2017, to Restated Certificate of Incorporation	S-3	333-219732	August 4, 2017	3.07	
3.07	Form of Certificate of Designation of Preferences, Rights and Limitations of Series A 17.38% Convertible Preferred Stock	8-K	001-34885	May 8, 2017	3.1	
3.08	Form of Certificate of Designation of Preferences, Rights and Limitations of Series B 17.38% Convertible Preferred Stock	8-K	001-34885	May 8, 2017	3.2	
3.09	Form of Certificate of Designation of Preferences, Rights and Limitations of Series C Convertible Preferred Stock	8-K	001-34885	May 8, 2017	3.3	
3.10	Restated Bylaws	10-Q	001-34885	November 10, 2010	3.02	
4.01	Specimen of Common Stock Certificate	S-1	333-166135	July 6, 2010	4.01	
4.02	Specimen of Common Stock Certificate	S-3	333-219732	August 4, 2017	4.01	
4.03	Form of certificate representing the Series A Preferred Stock	8-K	001-34885	May 8, 2017	4.1	
4.04	Form of certificate representing the Series B Preferred Stock	8-K	001-34885	May 8, 2017	4.2	
4.05	Form of certificate representing the Series C Preferred Stock	8-K	001-34885	May 8, 2017	4.5	
4.06	Amended and Restated Investors' Rights Agreement, dated June 21, 2010, among registrant and its security holders listed therein	S-1	333-166135	June 23, 2010	4.02	
4.07	First Amendment to Amended and Restated Investors' Rights Agreement, dated February 23, 2012, among registrant and registrant's security holders listed therein	S-3	333-180005	March 9, 2012	4.06	
4.08	Amendment No. 2 to Amended and Restated Investors' Rights Agreement, dated December 24, 2012, among registrant and registrant's security holders listed therein	10-K	001-34885	March 28, 2013	4.04	

4.09	Amendment No. 3 to Amended and Restated Investors' Rights Agreement, dated March 27, 2013, among registrant and registrant's security holders listed therein	10-Q	001-34885	May 9, 2013	4.02
4.10	Amendment No. 4 to Amended and Restated Investors' Rights Agreement, dated October 16, 2013, among registrant and registrant's security holders listed therein	10-K	001-34885	April 2, 2014	4.06
4.11	Amendment No. 5 to Amended and Restated Investors' Rights Agreement, dated December 24, 2013, among registrant and registrant's security holders listed therein	10-K	001-34885	April 2, 2014	4.07
4.12	Amendment No. 6 to Amended and Restated Investors' Rights Agreement dated July 29, 2015 among registrant and registrant's security holders listed therein	S-3	333-206331	August 12, 2015	4.17
4.13 [a]	Amended and Restated Letter Agreement re: Certain Registration Rights dated May 8, 2014 between registrant and the purchasers listed therein	10-Q	001-34885	August 8, 2014	4.01
4.14	Warrant to Purchase Stock, dated December 23, 2011, issued to ATEL Ventures, Inc.	10-K	001-34885	February 28, 2012	4.07

Exhibit No.	Description	Previously Filed Form	File No.	Filing Date	Exhibit	Filed Herewith
4.15	Side Letter, dated June 21, 2010, between registrant and Total Gas & Power USA, SAS	S-1	333-166135	June 23, 2010	4.19	
4.16	Agreement, dated February 23, 2012, among registrant, Maxwell (Mauritius) Pte Ltd, Naxyris SA, Biolding Investment SA and Sualk Capital Ltd.	10-Q	001-34885	May 9, 2012	4.02	
4.17	Securities Purchase Agreement, dated February 24, 2012, among registrant and certain investment funds affiliated with Fidelity Investments Institutional Services Company, Inc. listed therein (each, a Fidelity Purchaser)	S-3	333-180005	March 9, 2012	4.02	
4.18	Form of Unsecured Senior Convertible Promissory Note issued by registrant to the Fidelity Purchasers in the amounts set forth next to each Fidelity Purchaser's name on Schedule I of Exhibit 4.17 hereof	S-3	333-180005	March 9, 2012	4.03	
4.19	Registration Rights Agreement, dated February 27, 2012, among registrant and the Fidelity Purchasers	S-3	333-180005	March 9, 2012	4.04	
4.20	Exchange Agreement, dated December 28, 2016, among registrant and certain Fidelity Purchasers	10-K	001-34885	April 17, 2017	4.16	
4.21 [c]	Form of Common Stock Purchase Agreement among registrant and certain investors	10-Q	001-34885	August 8, 2012	4.01	
4.22	Securities Purchase Agreement, dated July 30, 2012, between registrant and Total Gas & Power USA, SAS	10-Q	001-34885	November 9, 2012	4.01	
4.23	Registration Rights Agreement, dated July 30, 2012, between registrant and Total Gas & Power USA, SAS	10-Q	001-34885	November 9, 2012	4.03	
4.24	1.5% Senior Secured Convertible Note, dated July 29, 2015 (RS-9) issued by registrant to Total Energies Nouvelles Activités USA	10-Q	001-34885	November 9, 2015	4.21	
4.25	1.5% Senior Convertible Note, dated March 21, 2016 (RS-10) issued by registrant to Total Energies Nouvelles Activités USA	10-Q	001-34885	May 10, 2016	4.19	
4.26	First Amendment, dated February 27, 2017, to 1.5% Senior Convertible Note, dated March 21, 2016 (RS-10) issued by registrant to Total Energies Nouvelles Activités USA	10-Q	001-34885	May 15, 2017	4.22	
4.27	Second Amendment, dated May 15, 2017, to 1.5% Senior Convertible Note, dated March 21, 2016 (RS-10) issued by registrant to Total Energies Nouvelles Activités USA					X
4.28 [a]	Securities Purchase Agreement, dated December 24, 2012, between registrant and certain investors listed therein	10-K	001-34885	March 28, 2013	4.16	
4.29 [a]	Follow-On Investment Agreement, dated December 24, 2012, between registrant and Biolding Investment SA	10-K	001-34885	March 28, 2013	4.17	
4.30	Securities Purchase Agreement, dated March 27, 2013, between registrant and Biolding Investment SA	10-Q	001-34885	May 9, 2013	4.01	
4.31	Securities Purchase Agreement (including Form of Tranche I Senior Convertible Note and Form of Tranche II Senior Convertible Note) , dated August 8, 2013,	10-Q	001-34885	November 5, 2013	4.01	

	between registrant, Maxwell (Mauritius) Pte Ltd and Total Energies Nouvelles Activités USA (f.k.a. Total Gas & Power USA, SAS)				
4.32 [a]	Amendment No. 1, dated October 16, 2013, to the Securities Purchase Agreement, dated August 8, 2013, between registrant and other parties named therein	10-K	001-34885	April 2, 2014	4.24
4.33	Tranche I Note Amendment and Amendment No. 2, dated December 24, 2013, to the Securities Purchase Agreement, dated August 8, 2013, between registrant and other parties named therein	10-K	001-34885	April 2, 2014	4.25
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Exhibit No.	Description	Previously Filed Form	File No.	Filing Date	Exhibit	Filed Herewith
4.34 [ad]	5% Unsecured Convertible Note, dated October 16, 2013 issued to Total Energies Nouvelles Activités USA	10-Q	001-34885	May 9, 2014	4.04	
4.35 [ae]	10% Unsecured Convertible Note, dated January 15, 2014 issued to Total Energies Nouvelles Activités USA	10-Q	001-34885	May 9, 2014	4.06	
4.36	Securities Purchase Agreement, dated September 20, 2013, between registrant and Naxyris S.A.	10-Q	001-34885	November 5, 2013	4.03	
4.37	Securities Purchase Agreement, dated March 28, 2014, between registrant and Kuraray Co. Ltd.	10-Q	001-34885	May 9, 2014	4.01	
4.38	Loan and Security Agreement, dated March 29, 2014, between registrant and Hercules Technology Growth Capital, Inc.	10-Q	001-34885	May 9, 2014	4.02	
4.39	First Amendment, dated June 12, 2014, to Loan and Security Agreement, dated March 29, 2014, between registrant and Hercules Technology Growth Capital, Inc.	10-Q	001-34885	August 8, 2014	4.06	
4.40	Second Amendment, dated March 31, 2015, to Loan and Security Agreement, dated March 29, 2014, between registrant and Hercules Technology Growth Capital, Inc.	10-Q	001-34885	May 7, 2015	10.05	
4.41	Third Amendment, dated November 30, 2015, to Loan and Security Agreement, dated March 29, 2014, between registrant and Hercules Technology Growth Capital, Inc.	10-K	001-34885	March 30, 2016	4.37	
4.42	Fourth Amendment, dated October 6, 2016, to Loan and Security Agreement dated March 29, 2014, between registrant and Stegodon Corporation, as assignee of Hercules Capital, Inc.	10-K	001-34885	April 17, 2017	4.36	
4.43	Fifth Amendment, dated January 10, 2017, to Loan and Security Agreement dated March 29, 2014 between registrant and Stegodon Corporation, as assignee of Hercules Capital, Inc.	10-Q	001-34885	May 15, 2017	4.37	
4.44	Indenture, dated May 29, 2014, between registrant and Wells Fargo Bank, National Association, as Trustee	8-K	001-34885	May 29, 2014	4.01	
4.45	6.5% Convertible Senior Note due 2019, dated May 29, 2014, issued by registrant to Morgan Stanley & Co. LLC	10-Q	001-34885	August 8, 2014	4.02	
4.46 [f]	6.5% Convertible Senior Note due 2019, dated May 29, 2014, issued by registrant to Maxwell (Mauritius) Pte Ltd.	10-Q	001-34885	August 8, 2014	4.03	
4.47	Registration Rights Agreement, dated February 24, 2015, between the registrant and Nomis Bay Ltd	8-K	001-34885	February 26, 2015	4.01	
4.48 [g]	Voting Agreement, dated July 24, 2015, between registrant and Foris Ventures, LLC	10-Q	001-34885	November 9, 2015	4.43	
4.49	Securities Purchase Agreement, dated July 24, 2015, between registrant and the Purchasers listed therein	10-Q	001-34885	November 9, 2015	4.44	
4.50 [h]	Warrant to Purchase Stock issued on July 24, 2015	S-3	333-206331	August 12, 2015	4.21	

4.51	Exchange Agreement, dated July 29, 2015, between registrant and the Investors therein	10-Q	001-34885	November 9, 2015	4.46	
4.52	Maturity Treatment Agreement, dated July 29, 2015, between registrant and the Investors listed therein	10-Q	001-34885	November 9, 2015	4.47	
4.53	Letter Agreement, dated May 4, 2017, between registrant and Maxwell (Mauritius) Pte Ltd					X
4.54	Letter Agreement, dated May 12, 2017, between registrant and Total Raffinage Chimie S.A.					X
4.55	Letter Agreement dated as of July 29, 2015 among registrant and registrant's security holders listed therein	S-3	333-206331	August 12, 2015	4.20	
4.56	Warrant to Purchase Stock issued July 29, 2015 by the registrant to Total Energies Nouvelles Activités USA	S-3	333-206331	August 12, 2015	4.22	

Exhibit No.	Description	Previously Filed Form	File No.	Filing Date	Exhibit	Filed Herewith
4.57	Warrant to Purchase Stock issued July 29, 2015 by the registrant to Total Energies Nouvelles Activités USA	S-3	333-206331	August 12, 2015	4.23	
4.58	Warrant to Purchase Stock issued July 29, 2015 by the registrant to Maxwell (Mauritius) PTE Ltd	S-3	333-206331	August 12, 2015	4.24	
4.59	Warrant to Purchase Stock issued July 29, 2015 by the registrant to Maxwell (Mauritius) PTE Ltd	S-3	333-206331	August 12, 2015	4.25	
4.60	Warrant to Purchase Stock issued July 29, 2015 by the registrant to Maxwell (Mauritius) PTE Ltd	S-3	333-206331	August 12, 2015	4.26	
4.61	Indenture dated October 20, 2015 between registrant and Wells Fargo Bank, National Association, as Trustee	8-K	001-34885	October 20, 2015	4.01	
4.62	9.50% Convertible Senior Note due 2019 dated October 20, 2015 issued by registrant to Cede & Co.	10-K	001-34885	March 30, 2016	4.56	
4.63	First Supplemental Indenture, dated January 11, 2017, between registrant and Wells Fargo Bank, National Association, as Trustee	10-Q	001-34885	May 15, 2017	4.55	
4.64	9.50% Convertible Senior Note due 2019, dated January 11, 2017, issued by registrant to Cede & Co.	10-Q	001-34885	May 15, 2017	4.56	
4.65	Registration Rights Agreement dated October 20, 2015 between the registrant and the registrant's security holders listed therein	8-K	001-34885	October 20, 2015	4.02	
4.66	Note and Warrant Purchase Agreement, dated February 12, 2016, between registrant and the purchasers listed therein	10-Q	001-34885	May 10, 2016	4.50	
4.67 [i]	Unsecured Promissory Note, dated February 12, 2016, between registrant and Foris Ventures, LLC	10-Q	001-34885	May 10, 2016	4.51	
4.68 [j]	Warrant to Purchase Stock, dated February 12, 2016, between registrant and Foris Ventures, LLC	10-Q	001-34885	May 10, 2016	4.52	
4.69	First Amendment, dated May 15, 2017, to the Unsecured Promissory Note, dated February 12, 2016, issued to Biolding Investment S.A.					X
4.70	Form of Convertible Note	8-K	001-34885	May 10, 2016	4.1	
4.71	Form of Additional Note	8-K	001-34885	September 9, 2016	4.1	
4.72	Note Purchase Agreement, dated June 24, 2016, between registrant and Foris Ventures, LLC	10-Q	001-34885	August 9, 2016	4.50	
4.73	Secured Promissory Note, dated June 24, 2016 issued by registrant to Foris Ventures, LLC	10-Q	001-34885	August 9, 2016	4.51	
4.74	Warrant to Purchase Common Stock, dated August 6, 2016, between registrant and Ginkgo Bioworks, Inc.	10-Q	001-34885	November 9, 2016	4.58	
4.75	Note Purchase Agreement, dated October 21, 2016, between registant and Foris Ventures, LLC	10-K	001-34885	April 17, 2017	4.63	
4.76	Secured Promissory Note, dated October 21, 2016, issued by registrant to Foris Ventures, LLC	10-K	001-34885	April 17, 2017	4.64	
4.77 [a]	Credit Agreement, dated October 26, 2016, between registrant and Guanfu Holding Co., Ltd.	10-K	001-34885	April 17, 2017	4.65	

4.78	Note, dated December 31, 2016, issued by registrant to Wutian Supply Chain Corporation Limited	10-K	001-34885	April 17, 2017	4.66	
4.79	Note Purchase Agreement, dated October 27, 2016, between registrant and Ginkgo Bioworks, Inc.	10-K	001-34885	April 17, 2017	4.67	
4.80	Secured Promissory Note , dated October 27, 2016, issued by registrant to Ginkgo Bioworks, Inc.	10-K	001-34885	April 17, 2017	4.68	
4.81	Secured Promissory Note , dated April 13, 2017, issued by registrant to Ginkgo Bioworks, Inc.					X
4.82	Warrant to Purchase Stock, issued November 16, 2016, by the registrant to Nenter & Co., Inc.	S-3	333-215318	December 23, 2016	4.15	
4.83	Form of Convertible Note	8-K	001-34885	December 2, 2016	4.1	

Exhibit		Previously Filed				Filed
No.	**Description**	**Form**	**File No.**	**Filing Date**	**Exhibit**	**Herewith**
4.84	Purchase Money Promissory Note, issued December 5, 2016, by registrant to Salisbury Partners, LLC	10-K	001-34885	April 17, 2017	4.71	
4.85	Purchase Money Promissory Note, issued December 19, 2016, by registrant to Nikko Chemicals Co. Ltd.	10-K	001-34885	April 17, 2017	4.72	
4.86	Form of Convertible Note	8-K	001-34885	April 17, 2017	4.1	
4.87	Form of Amended and Restated December 2016 Note	8-K	001-34885	May 8, 2017	4.1	
4.88	Form of Amended and Restated April 2017 Note	8-K	001-34885	May 8, 2017	4.2	
4.89	Form of Cash Warrant	8-K	001-34885	May 8, 2017	4.3	
4.90	Form of Dilution Warrant	8-K	001-34885	May 8, 2017	4.4	
4.91	Voting Agreement, dated May 4, 2017, between registrant and Total Raffinage Chimie					X
4.92	Voting Agreement, dated May 5, 2017, between registrant and Maxwell (Mauritius) Pte Ltd					X
4.93	Voting Agreement, dated May 8, 2017, between registrant and the investors listed therein					X
4.94	Form of Cash Warrant					X
4.95	Form of Dilution Warrant					X
4.96 [b]	Stockholder Agreement, dated May 11, 2017, between registrant and DSM International B.V.					X
10.01 [b]	Modification No. 4, dated June 29, 2016, to the Technology Investment Agreement, dated September 22, 2015, between registrant and The Defense Advanced Research Projects Agency (DARPA)					X
10.02	Engagement Letter, dated as of April 18, 2017, by and between registrant and Rodman & Renshaw, a unit of H.C. Wainwright & Co., LLC	8-K	001-34885	May 8, 2017	10.2	
10.03	Form of Securities Purchase Agreement	8-K	001-34885	April 17, 2017	10.1	
10.04 [b]	Letter Agreement, dated April 23, 2017, terminating Cooperation Agreement, dated October 26, 2016, between registrant and Nenter & Co., Inc.					X
10.05	Form of Amendment Agreement	8-K	001-34885	May 8, 2017	10.1	
10.06	Form of Securities Purchase Agreement	8-K	001-34885	May 8, 2017	10.1	
10.07	Form of Security Holder Agreement	8-K	001-34885	May 8, 2017	10.3	
10.08	Amendment, dated May 9, 2017, to Engagement Letter, dated as of April 18, 2017, by and between the Company and Rodman & Renshaw, a unit of H.C. Wainwright & Co., LLC					X

10.09	Amendment No.1, dated May 30, 2017, to Securities Purchase Agreement, dated May 8, 2017					X
10.10	Securities Purchase Agreement, dated May 31, 2017, between registrant and the investor named therein	S-3	333-219732	August 4, 2017	10.02	
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					X
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					X
32.01 m	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					X
32.02 m	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					X

Exhibit No.	Description	Previously Filed Form	File No.	Filing Date	Exhibit	Filed Herewith
101 [n]	The following materials from registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2017, formatted in XBRL (Extensible Business Reporting Language): (i) the Consolidated Statements of Operations; (ii) the Consolidated Balance Sheets; (iii) the Consolidated Statements of Comprehensive Income; (iv) the Consolidated Statements of Convertible Preferred Stock, Redeemable Noncontrolling Interest and Equity (Deficit); (v) the Consolidated Statements of Cash Flows; and (vi) Notes to Consolidated Financial Statements					X

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 pending a determination by the Securities and Exchange Commission as to whether these portions should be granted confidential treatment.

c Substantially identical Common Stock Purchase Agreements, each dated May 18, 2012, were entered into with five separate investors. Registrant has filed the form of such Common Stock Purchase Agreements, which is substantially identical in all material respects to all of such Common Stock Purchase Agreements, except as to the parties thereto and the number of shares being purchased.

d Registrant issued substantially identical 5% Unsecured Convertible Notes (the "5% Notes") to Total Gas & Power USA, SAS (“Total’), FIAM Target Date Large Cap Stock Commingled Pool (formerly known as Fidelity Pyramis Lifecycle Large Cap Stock Commingled Pool. Fidelity Variable Insurance Products Fund Ill: Growth & Income Portfolio, Fidelity Hastings Street Trust: Fidelity Advisor Series Growth & Income Fund. Fidelity Securities Fund: Fidelity Growth & Income Portfolio Fidelity Hastings Street Trust: Fidelity Series Growth & Income Fund. Fidelity Commonwealth Trust: Fidelity Large Cap Stock Fund, and Maxwell (Mauritius) Pte Ltd on October 16. 2013. Registrant has filed the 5% Note issued to Total. and has included with Exhibit 4.04 a schedule (Schedule A to Exhibit 4.04 of registrant’s Form 10-Q filed on May 9, 2014) identifying each of the 5% Notes and setting forth the material detail in which the other 5% Note(s) differ from the filed 5% Note (i.e. the Purchasers. the amounts of the 5% Notes. and the conversion price).

e Registrant issued substantially identical 10% Unsecured Convertible Notes (the" 10% Notes") to Total Wolverine Flagship Fund Trading Limited and Maxwell (Mauritius) Pte Ltd on January 15 2014. Registrant has filed the 10% Note issued to Total and has included with Exhibit 4.06. a schedule (Schedule A to Exhibit 4.06 of registrant’s Form 10-Q filed on May 9, 2014) identifying each of the 10% Notes and setting forth the material details in which the other 10% Note(s) differ from the filed 10% Note (i.e. the purchasers and the amounts of the 10% Notes).

f Registrant issued substantially identical 6.5% Senior Convertible Notes due 2019 (the “6.5% Notes”) to Maxwell (Mauritius) Pte Ltd. (“Temasek”), Total Energies Nouvelles Activités USA, and Foris Ventures, LLC on May 29, 2014. Registrant has filed the 6.5% Note issued to Temasek, and has included, with such exhibit, a schedule (Schedule A to Exhibit 4.03 of registrant's Form 10-Q filed August 8, 2014) identifying each of the 6.5% Notes and setting forth the material details in which the other 6.5% Notes differ from the filed 6.5% Note (i.e., the note number, the purchasers, and the amounts of the 6.5% Notes).

g Substantially identical Voting Agreements, each dated July 31, 2015, were entered into with five separate investors. Registrant has filed Voting Agreement entered into by registrant and Foris Ventures LLC, which is substantially identical in all material respects to all of such Voting Agreements, except as to the parties thereto.

h 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 4.03 of registrants Form 10-Q filed on August

8, 2015) identifying each of the warrants and setting forth the material details in which the other warrants differ from the filed form of warrant (i.e. the names of the purchasers. the certificate numbers and the respective amounts of shares underlying the warrants).

i Substantially identical Unsecured Promissory Notes, each dated February 15, 2016 (the "Notes"), were entered into with three separate investors. Registrant has filed the Note entered into by registrant and Foris Ventures LLC, which is substantially identical in all material respects to all of such Notes except as to the parties thereto and the value of the Notes.

j Substantially identical Warrants to Purchase Stock, each dated February 15, 2016 (the "Warrants"), were entered into with three separate investors. Registrant has filed the Warrant entered into by registrant and Foris Ventures LLC, which is substantially identical in all material respects to all of such Warrants, except as to the parties thereto and the amount of underlying shares.

k Translation to English from Portuguese or Dutch, as applicable, in accordance with Rule 12b-12(d) of the regulations promulgated by the Securities and Exchange Commission under the Securities Exchange Act of 1934, as amended (or the Exchange Act).

m 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.

n Pursuant to applicable securities laws and regulations, registrant is deemed to have complied with the reporting obligation relating to the submission of interactive data files in such exhibits and is not subject to liability under any anti-fraud provisions of the federal securities laws as long as registrant has made a good faith attempt to comply with the submission requirements and promptly amends the interactive data files after becoming aware that the interactive data files fails to comply with the submission requirements. These interactive data files are deemed not filed or part of a registration statement or prospectus for purposes of sections 11 or 12 of the Securities Act, are deemed not filed for purposes of section 18 of the Exchange Act and otherwise are not subject to liability under these sections.