AMYRIS, INC.
Form 10-Q
November 09, 2016

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 September 30, 2016

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	x
Non-accelerated filer	o	Smaller reporting company	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 October 31, 2016**
Common Stock, $0.0001 par value per share	263,016,079

AMYRIS, INC.

QUARTERLY REPORT ON FORM 10-Q

For the Quarterly Period Ended September 30, 2016

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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)

	September 30, 2016	December 31, 2015
Assets		
Current assets:		
Cash and cash equivalents	$ 582	$ 11,992
Restricted cash	279	216
Short-term investments	1,713	1,520
Accounts receivable, net of allowance of $23 and $479, respectively	5,707	4,004
Related party accounts receivable, net of allowance of $478 and $490, respectively	651	1,176
Inventories, net	7,899	10,886
Prepaid expenses and other current assets	4,286	4,583
Total current assets	21,117	34,377
Property, plant and equipment, net	63,093	59,797
Restricted cash	958	957
Equity and loans in affiliates	34	68
Other assets	13,657	10,357
Goodwill and intangible assets	560	560
Total assets	$ 99,419	$ 106,116
Liabilities and Stockholders' Deficit		
Current liabilities:		
Accounts payable	$ 13,756	$ 7,943
Deferred revenue	7,105	6,509
Accrued and other current liabilities	34,912	24,268
Capital lease obligation, current portion	942	523
Debt, current portion	48,559	36,281
Related party debt	26,457	—
Total current liabilities	131,731	75,524
Capital lease obligation, net of current portion	56	176
Long-term debt, net of current portion	63,615	72,854
Related party debt	37,000	42,839
Deferred rent, net of current portion	9,123	9,682
Deferred revenue, net of current portion	4,469	4,469
Derivative liabilities	6,711	51,439
Other liabilities	4,212	7,589
Total liabilities	256,917	264,572
Mezzanine Equity		

Contingently redeemable common stock	5,000	—
Commitments and contingencies (Note 6)		
Stockholders’ deficit:		
Preferred stock - $0.0001 par value, 5,000,000 shares authorized, none issued and outstanding	—	—
Common stock - $0.0001 par value, 500,000,000 and 400,000,000 shares authorized as of September 30, 2016 and December 31, 2015, respectively; 253,364,428 and 206,130,282 shares issued and outstanding as of September 30, 2016 and December 31, 2015, respectively	25	21
Additional paid-in capital	963,075	926,216
Accumulated other comprehensive loss	(39,801)	(47,198)
Accumulated deficit	(1,085,683)	(1,037,104)
Total Amyris, Inc. stockholders’ deficit	(162,384)	(158,065)
Noncontrolling interest	(114)	(391)
Total stockholders' deficit	(162,498)	(158,456)
Total liabilities, mezzanine equity and stockholders' deficit	$ 99,419	$ 106,116

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

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Amyris, Inc.

Condensed Consolidated Statements of Operations

(In Thousands, Except Shares and Per Share Amounts)

(Unaudited)

	Three Months Ended September 30, 2016	2015	Nine Months Ended September 30, 2016	2015
Revenues				
Renewable product sales	$5,430	$4,226	$13,493	$9,661
Related party renewable product sales	1,390	2	1,390	2
Total product sales	6,820	4,228	14,883	9,663
Grants and collaborations revenue	19,724	4,363	30,071	14,643
Total revenues	26,544	8,591	44,954	24,306
Cost and operating expenses				
Cost of products sold	14,876	8,455	33,945	26,057
Loss on purchase commitments and impairment of property, plant and equipment	—	7,259	—	7,259
Research and development	12,315	10,343	37,397	33,521
Sales, general and administrative	11,381	14,103	35,055	42,859
Total cost and operating expenses	38,572	40,160	106,397	109,696
Loss from operations	(12,028)	(31,569)	(61,443)	(85,390)
Other income (expense):				
Interest income	68	61	207	205
Interest expense	(7,927)	(16,559)	(25,989)	(71,027)
Gain (loss) from change in fair value of derivative instruments	(786)	(21,690)	41,826	(10,268)
Loss upon extinguishment of debt	(217)	(5,984)	(866)	(5,984)
Other income (expense), net	1,334	(168)	(1,912)	(1,204)
Total other income (expense)	(7,528)	(44,340)	13,266	(88,278)
Loss before income taxes and loss from investments in affiliates	(19,556)	(75,909)	(48,177)	(173,668)
Provision for income taxes	(148)	(119)	(402)	(355)
Net loss before loss from investments in affiliates	(19,704)	(76,028)	(48,579)	(174,023)
Loss from investments in affiliates	—	(660)	—	(2,089)
Net loss	(19,704)	(76,688)	(48,579)	(176,112)
Net loss attributable to noncontrolling interest	—	24	—	78
Net loss attributable to Amyris, Inc. common stockholders	$(19,704)	$(76,664)	$(48,579)	$(176,034)
Net loss per share attributable to common stockholders:				
Basic	$(0.08)	$(0.55)	$(0.21)	$(1.76)
Diluted	$(0.08)	$(0.55)	$(0.28)	$(1.76)
Weighted-average shares of common stock outstanding used in computing net loss per share of				

common stock:				
Basic	249,190,339	140,374,297	226,772,159	100,103,007
Diluted	249,190,339	140,374,297	268,375,111	100,103,007

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

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Amyris, Inc.

Condensed Consolidated Statements of Comprehensive Loss

(In Thousands)

(Unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2016	2015	2016	2015
Comprehensive loss:				
Net loss	$(19,704)	$(76,688)	$(48,579)	$(176,112)
Foreign currency translation adjustment, net of tax	(1,884)	(10,459)	7,397	(18,562)
Total comprehensive loss	(21,588)	(87,147)	(41,182)	(194,674)
Loss attributable to noncontrolling interest	—	24	—	78
Foreign currency translation adjustment attributable to noncontrolling interest	—	(145)	—	(393)
Comprehensive loss attributable to Amyris, Inc.	$(21,588)	$(87,268)	$(41,182)	$(194,989)

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)

	Common Stock							
	Shares	Amount	Additional Paid-in Capital	Accumulated Deficit	Accumulated Other Comprehensive Loss	Noncontrolling Interest	Total Deficit	Mezzanine Equity
December 31, 2015	206,130,282	$ 21	$ 926,216	$ (1,037,104)	$ (47,198)	$ (391)	$ (158,456)	$ —
Issuance of common stock upon exercise of stock options, net of restricted stock	134	—	—	—	—	—	—	—
Issuance of common stock upon conversion of debt	10,430,815	1	9,471	—	—	—	9,472	—
Issuance of common stock for settlement of debt principal payments	30,935,344	3	13,506	—	—	—	13,509	—
Issuance of warrants with debt private placement and collaboration agreements	—	—	4,387	—	—	—	4,387	—
Shares issued from restricted stock settlement	1,255,066	—	(202)	—	—	—	(202)	—
Stock-based compensation	—	—	5,645	—	—	—	5,645	—
Contribution upon restructuring of Fuels JV	—	—	4,252	—	—	—	4,252	—
Issuance of contingently redeemable common stock	4,385,964	—	—	—	—	—	—	5,000
Shares issued upon ESPP purchase	226,823	—	123	—	—	—	123	—
Acquisition of noncontrolling interest	—	—	(323)	—	—	277	(46)	—

Foreign currency translation adjustment	—	—		—	7,397		7,397	—
Net loss	—	—	—	(48,579)	—	—	(48,579)	—
September 30, 2016	253,364,428	$ 25	$963,075	$(1,085,683)	$(39,801)	$(114)	$(162,498)	$5,000

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

Amyris, Inc.

Condensed Consolidated Statements of Cash Flows

(In Thousands)

(Unaudited)

	Nine Months Ended September 30,	
	2016	2015
Operating activities		
Net loss	$ (48,579)	$ (176,112)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	8,561	9,931
(Gain)/loss on disposal of property, plant and equipment	(136)	121
Stock-based compensation	5,645	6,964
Amortization of debt discount and issuance costs	9,190	54,633
Loss upon extinguishment of debt	866	5,984
Loss on purchase commitments and impairment of property, plant and equipment	—	7,259
Change in fair value of derivative instruments	(41,826)	10,268
Loss on foreign currency exchange rates	1,662	—
Loss from investments in affiliates	—	2,089
Other non-cash expenses	416	414
Changes in assets and liabilities:		
Accounts receivable	(1,883)	5,161
Related party accounts receivable	526	(10)
Inventories, net	3,868	3,306
Prepaid expenses and other assets	(1,334)	(3,218)
Accounts payable	4,306	7,302
Accrued and other liabilities	13,552	11,430
Deferred revenue	343	2,666
Deferred rent	(560)	(405)
Net cash used in operating activities	(45,383)	(52,217)
Investing activities		
Purchase of short-term investments	(3,073)	(1,989)
Maturities of short-term investments	3,296	2,023
Change in restricted cash	—	238
Loan to affiliate	—	(1,231)
Purchases of property, plant and equipment, net of disposals	(719)	(2,345)
Net cash used in investing activities	(496)	(3,304)
Financing activities		
Proceeds from exercise of common stock, net of repurchase	123	453
Employees' taxes paid upon vesting of restricted stock units	(202)	(313)
Proceeds from issuance of common stock in private placements, net of issuance costs	—	25,000

Proceeds from issuance of contingently redeemable equity	5,000	—
Principal payments on capital leases	(977)	(594)
Proceeds from debt issued, net of discounts and issuance costs	13,275	1,607
Proceeds from debt issued to related parties	25,000	10,850
Principal payments on debt	(7,442)	(11,249)
Net cash provided by financing activities	34,777	25,754
Effect of exchange rate changes on cash and cash equivalents	(308)	(1,377)
Net decrease in cash and cash equivalents	(11,410)	(31,144)
Cash and cash equivalents at beginning of period	11,992	42,047
Cash and cash equivalents at end of period	$ 582	$ 10,903

Amyris, Inc.

Condensed Consolidated Statements of Cash Flows—(Continued)

(In Thousands)

	Nine Months Ended September 30,	
	2016	2015
Supplemental disclosures of cash flow information:		
Cash paid for interest	$ 4,679	$ 5,859
Supplemental disclosures of non-cash investing and financing activities:		
Acquisitions of property, plant and equipment under accounts payable, accrued liabilities and notes payable	$ (1,485)	$ (692)
Financing of equipment	$ 1,276	$ 613
Financing of insurance premium under notes payable	$ (315)	$ (236)
Interest capitalized to debt	$ 2,052	$ 6,354
Purchase of property, plant and equipment via deposit	$ 24	$ (392)
Private placement issuance costs	$ —	$ (374)
Issuance of common stock upon conversion of debt	$ 9,471	$ —
Issuance of common stock for settlement of debt principal payments	$ 13,506	$ —
Cancellation of debt and accrued interest on disposal of interest in affiliate	$ 4,252	$ —
Non-cash investment in joint venture	$ 600	$ —

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") was incorporated in California on July 17, 2003 and reincorporated in Delaware on June 10, 2010 for the purpose of leveraging breakthroughs in bioscience technology to develop and provide renewable compounds for a variety of markets. The Company is currently applying its industrial synthetic biology platform to engineer, manufacture and sell high performance, low cost products into a variety of consumer and industrial markets, including cosmetics, flavors & fragrances (or "F&F"), solvents and cleaners, polymers, lubricants, healthcare products and fuels, and it is seeking to apply its technology to the development of pharmaceutical products. The Company's first commercialization efforts have been focused on a renewable hydrocarbon molecule called farnesene (Biofene®), which forms the basis for a wide range of products including emollients, flavors and fragrance oils and diesel fuel. While the Company's platform is able to use a wide variety of feedstocks, the Company has focused on Brazilian sugarcane because of its abundance, low cost and relative price stability. The Company has established two principal operating subsidiaries, Amyris Brasil Ltda. (formerly Amyris Brasil S.A., or "Amyris Brasil") for production in Brazil, and Amyris Fuels, LLC (or "Amyris Fuels").

The Company's renewable products business strategy is to focus on direct commercialization of specialty products while moving established commodity products into collaboration or joint venture arrangements with leading industry partners. To commercialize its products, the Company must be successful in using its technology to manufacture products at commercial scale and on an economically viable basis (i.e., low per unit production costs) and developing sufficient sales volume for those products to support its operations. The Company's prospects are subject to risks, expenses and uncertainties frequently encountered by companies in this stage of development.

Liquidity

The Company expects to fund its operations for the foreseeable future with cash and investments currently on hand, cash inflows from collaborations and grants, cash contributions from product sales, and proceeds from new debt and equity financings as well as strategic asset divestments. The Company's planned 2016 and 2017 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, and will also require additional funding from debt or equity financings as well as proceeds from strategic asset divestments.

The Company has incurred significant operating losses since its inception and believes that it will continue to incur losses and negative cash flow from operations into at least 2017. As of September 30, 2016, the Company had negative working capital of $110.6 million, an accumulated deficit of $1,085.7 million, and cash, cash equivalents and short term investments of $2.3 million. The Company will need to raise cash from additional financings or strategic asset divestments as early as the fourth quarter of 2016 to support its liquidity needs. These factors raise substantial doubt about the Company’s ability to continue as a going concern. The financial statements do not include any adjustments that might result from the outcome of this uncertainty. 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 September 30, 2016, the Company's debt, net of discount and issuance costs of $36.1 million, totaled $175.6 million, of which $75.0 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 $16.2 million of anticipated cash interest payments. The Company's debt agreements contain various covenants, including certain restrictions on the Company's business that could cause the Company to be at risk of defaults, such as the requirement 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 its loan facility with Stegodon Corporation (or “Stegodon”), as assignee of Hercules Capital, Inc. As discussed below, in connection with the execution by the Company and Ginkgo Bioworks, Inc., an affiliate of Stegodon, of certain commercial agreements (see Note 8, “Significant Agreements” for further details), on June 29, 2016, the Company received a waiver of compliance with such covenant through October 31, 2016 and on October 6, 2016, the Company and Stegodon entered into an amendment to the loan facility pursuant to which, among other things, Stegodon waived such covenant until the maturity date of the facility. A failure to comply with the covenants and other provisions of the Company’s debt instruments, including any failure to make a payment when required would generally result in events of default under such instruments, which could permit acceleration of such indebtedness. If such indebtedness is accelerated, it would generally also constitute an event of default under the Company’s other outstanding indebtedness, permitting acceleration of such other outstanding indebtedness. Any required repayment of such indebtedness as a result of acceleration or otherwise would consume current cash on hand such that the Company would not have those funds available for use in its business or for payment of other outstanding indebtedness. Please refer to Note 5, “Debt”, Note 6, “Commitments and Contingencies” and Note 18, “Subsequent Events” for further details regarding the Company's debt service obligations and commitments. The Company also has significant outstanding debt and contractual obligations related to capital and operating leases, as well as purchase commitments.

In addition to the need for financing described above, the Company may take the following actions to support its liquidity needs through the remainder of 2016 and into 2017:

- 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 the Company’s 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 the Company's ability to continue its business as currently contemplated, including, without limitation, delays or failures in its 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 the Company's ability to meet contractual requirements, including obligations to maintain manufacturing operations, and increase the severity of the consequences described above.

2. Summary of Significant Accounting Policies

Basis of Presentation

The accompanying interim condensed consolidated financial statements have been prepared in accordance with the accounting principles generally accepted in the United States of America (or “GAAP”) and with the instructions for Form 10-Q and Regulation S-X. Accordingly, they do not include all of the information and notes required for complete financial statements. These interim condensed consolidated financial statements should be read in conjunction with the consolidated financial statements and notes thereto contained in the Company’s Form 10-K for the fiscal year ended December 31, 2015 as filed with the Securities and Exchange Commission (or the “SEC”) on March 30, 2016. The unaudited condensed consolidated financial statements include the accounts of the Company and its consolidated subsidiaries. All intercompany accounts and transactions have been eliminated in consolidation.

The Company uses the equity method to account for investments in companies, if its investments provide it with the ability to exercise significant influence over operating and financial policies of the investee. Consolidated net income or loss includes the Company’s proportionate share of the net income or loss of these companies. Judgments made by the Company regarding the level of influence over each equity method investment include considering key factors such as the Company’s ownership interest, representation on the board of directors, participation in policy-making decisions and material intercompany transactions.

Principles of Consolidation

The condensed consolidated financial statements of the Company include the accounts of Amyris, Inc., its subsidiaries and two consolidated variable interest entities (or “VIEs”), with respect to which the Company is considered the primary beneficiary, after elimination of intercompany accounts and transactions. Disclosure regarding the Company’s participation in the VIEs is included in Note 7, "Joint Ventures and Noncontrolling Interest."

Variable Interest Entities

The Company has interests in joint venture entities that are VIEs. Determining whether to consolidate a VIE requires judgment in assessing (i) whether an entity is a VIE and (ii) if the Company is the entity’s primary beneficiary and thus required to consolidate the entity. To determine if the Company is the primary beneficiary of a VIE, the Company evaluates whether it has (i) the power to direct the activities that most significantly impact the VIE’s economic performance and (ii) the obligation to absorb losses or the right to receive benefits of the VIE that could potentially be significant to the VIE. The Company’s evaluation includes identification of significant activities and an assessment of its ability to direct those activities based on governance provisions and arrangements to provide or receive product and process technology, product supply, operations services, equity funding and financing and other applicable agreements and circumstances. The Company’s assessment of whether it is the primary beneficiary of its VIEs requires significant assumptions and judgment.

Use of Estimates

In preparing the unaudited condensed consolidated financial statements, management must make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities as of the date of the unaudited condensed consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Unaudited Interim Financial Information

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 quarter ended March 31, 2016 the Company adopted Accounting Standards Update (“ASU”) No. 2015-01, *Simplifying Income Statement Presentation by Eliminating the Concept of Extraordinary Items,* ASU No. 2015-02, *Consolidation* (Topic 810), ASU No. 2015-03, *Interest - Imputation of Interest* (Subtopic 835-30): *Simplifying the Presentation of Debt Issuance Costs*, ASU 2015-05, *Intangibles - Goodwill and Other - Internal-Use Software* (Subtopic 350-40) and ASU No. 2015-15, *Presentation and Subsequent Measurement of Debt Issuance Costs Associated with Line-of-Credit Arrangements*. Refer to Note 5. "Debt" for the impact of adoption of ASU No. 2015-03 on the Company's condensed consolidated financial statements. None of the other ASU’s adopted had a material impact on the Company’s condensed consolidated financial statements.

The year-end condensed consolidated balance sheet data was derived from audited financial statements, but does not include all disclosures required by GAAP. The condensed consolidated results of operations for any interim period are not necessarily indicative of the results to be expected for the full year or for any other future year or interim period.

Recent Accounting Pronouncements

In October 2016, the Financial Accounting Standards Board (or "FASB") issued **ASU 2016-16,** *Intra-Entity Transfers of Assets Other Than Inventory* on simplifying the accounting for income taxes related to intra-entity asset transfers. The new guidance allows an entity to recognize the tax expense from the sale of an asset in the seller's tax jurisdiction when the transfers occurs, even though the pre-tax effects of that transaction are eliminated in consolidation. This guidance will be effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2017. Early adoption is permitted only in the first quarter of 2017. The Company is evaluating the impact of adopting this new accounting standard update on the financial statements and related disclosures.

In August 2016, the FASB issued ASU 2016-15 *Classification of Certain Cash Receipts and Cash Payments* on the statement of cash flows. The new guidance clarifies classification of certain cash receipts and cash payments in the statement of cash flows. This guidance will be effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2017 and interim periods within those fiscal years. Early adoption is permitted. The Company is evaluating the impact of adopting this new accounting standard update on the financial statements and related disclosures.

In June 2016, the Financial Accounting Standards Board (or "FASB") issued ASU No. 2016-13, *Allowance for Loan and Lease Losses (Financial Instruments - Credit Losses Topic 326.)*. New impairment guidance for certain financial instruments (including trade receivables) will replace the current "incurred loss" model for estimating credit losses with a forward looking "expected loss" model. The ASU is effective for the Company for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years. Early application is permitted as of the fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. The Company is evaluating the impact of this standard on its consolidated financial statements.

In March 2016, the FASB issued ASU No. 2016-09, *Compensation - Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting*. This ASU identifies areas for simplification involving several aspects of accounting for share-based payment transactions, including the income tax consequences, classification of awards as either equity or liabilities, an option to recognize gross stock compensation expense with actual forfeitures recognized as they occur, as well as certain classifications on the statement of cash flows. This ASU will be effective for fiscal years beginning after December 15, 2016, and interim periods within those annual periods. The Company is currently assessing the potential impact of this ASU on its consolidated financial statements. Early adoption is permitted. The Company is currently assessing the potential impact of this ASU on its consolidated financial statements. Early adoption is permitted.

In March 2016, the FASB issued ASU No. 2016-06, *Contingent Put and Call Options in Debt Instruments*. The amendments in this ASU clarify the requirements for assessing whether contingent call (put) options that can accelerate the payment of principal on debt instruments are clearly and closely related to their debt hosts. An entity performing the assessment under the amendments in this ASU is required to assess the embedded call (put) options solely in accordance with the four-step decision sequence. The ASU is effective for financial statements issued for fiscal years beginning after December 15, 2016, and interim periods within those fiscal years. Early adoption is permitted. The Company is currently assessing the potential impact of this ASU on its financial statements.

In February 2016, the FASB issued Accounting Standards Update (or "ASU") 2016-02-*Leases* with fundamental changes 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 standard is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2018. Early adoption is permitted. The new standard must be adopted using a modified retrospective transition, and provides for certain practical expedients. The new standard may materially impact the Company's financial statements.

In January 2016, the FASB issued ASU 2016-01 *Financial Instruments-Overall*, which address certain aspects of recognition, measurement, presentation, and disclosure of financial instruments. The amendments in this Update are effective for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. Earlier application is permitted under specific circumstances. The Company is currently assessing the potential impact of this standard on its consolidated financial statements.

In July 2015, the FASB issued ASU 2015-11, *Simplifying the Measurement of Inventory*, which requires that inventory within the scope of the guidance be measured at the lower of cost and net realizable value. The new standard is being issued as part of the simplification initiative. Prior to the issuance of the standard, inventory was measured at the lower of cost or market (where market was defined as replacement cost, with a ceiling of net realizable value and floor of net realizable value less a normal profit margin). The new guidance will be effective for fiscal years beginning after December 15, 2016, including interim periods within those years. Prospective application is required and early adoption is permitted. The Company is currently assessing the impact of adopting this new accounting standard on its financial statements.

In August 2014, the FASB issued new guidance related to the disclosure around going concern. The new standard provides guidance around management's responsibility to evaluate whether there is substantial doubt about an entity's ability to continue as a going concern and to provide related footnote disclosure if substantial doubt exists. The new standard is effective for annual periods ending after December 15, 2016 and for annual periods and interim periods thereafter. Early adoption is permitted. The adoption of this standard is not expected to have a material impact on the Company's financial statements.

In May 2014, the FASB issued new guidance related to revenue recognition. In March, April and May 2016, the FASB issued additional amendments to the new revenue guidance relating to reporting revenue on a gross versus net basis, identifying performance obligations, licensing arrangements, collectability, noncash consideration, presentation of sales tax, and transition. This new standard will replace all current GAAP guidance on this topic and eliminate all industry-specific guidance. The new revenue recognition update guidance provides a unified model to determine how revenue is recognized. The core principle of the guidance is that an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. The FASB has issued several updates to the standard which i) clarify the application of the principal versus agent guidance (ASU 2016-08); ii) clarify the guidance on inconsequential and perfunctory promises and licensing (ASU 2016-10) and iii) narrow-scope improvements and practical expedients (ASU 2016-12). On July 9, 2015, the FASB voted to defer the effective date by one year to December 15, 2017 for interim and annual reporting periods beginning after that date and permitted early adoption of the standard, but not before the original effective date of December 15, 2016. Entities have the option of using either a full retrospective or a modified retrospective approach to adopt the new standard. Therefore, the new standard will be effective commencing with our quarter ending March 31, 2018. The Company is currently assessing the potential impact of this new standard on its consolidated financial statements and has not selected the transition method.

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.

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There were no transfers between the levels, and as of September 30, 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 September 30, 2016
Financial Assets				
Money market funds	$59	$—	$—	$ 59
Certificates of deposit	1,713	—	—	1,713
Total financial assets	$1,772	$—	$—	$ 1,772
Financial Liabilities				
Loans payable [(1)]	$—	$34,146	$—	$ 34,146
Credit facilities [(1)]	—	19,310	—	19,310
Convertible notes [(1)]	—	—	109,885	109,885
Compound embedded derivative liabilities	—	—	3,827	3,827
Currency interest rate swap derivative liability	—	3,471	—	3,471
Total financial liabilities	$—	$56,927	$113,712	$ 170,639

[(1)] These liabilities are carried on the condensed consolidated balance sheet on a historical cost basis.

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 loans payable, convertible notes, credit facilities and currency interest rate swaps are based on the present value of expected future cash flows and assumptions about current interest rates and the creditworthiness of the Company. 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.

As of December 31, 2015, the Company's financial assets and financial liabilities are presented below at fair value and were classified within the fair value hierarchy as follows (in thousands):

	Level 1	Level 2	Level 3	Balance as of December 31,

				2015
Financial Assets				
Money market funds	$2,078	$—	$—	$ 2,078
Certificates of deposit	1,520	—	—	1,520
Total financial assets	$3,598	$—	$—	$ 3,598
Financial Liabilities				
Loans payable [1]	$—	$9,541	$—	$ 9,541
Credit facilities [1]	—	34,893	—	34,893
Convertible notes [1]	—	—	96,291	96,291
Compound embedded derivative liabilities	—	—	46,430	46,430
Currency interest rate swap derivative liability	—	5,009	—	5,009
Total financial liabilities	$—	$49,443	$142,721	$ 192,164

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[1] These liabilities are carried on the consolidated balance sheet on a historical cost basis (noting that the Remaining Notes subject to the Maturity Treatment Agreement were revalued to fair value on July 29, 2015, see Note 5 “Debt” for details).

The following table provides a reconciliation of the beginning and ending balances for the convertible notes disclosed at fair value using significant unobservable inputs (Level 3) (in thousands):

	2016
Balance at January 1	$96,291
Additions of convertible notes	13,000
Conversion/extinguishment of convertible notes	(21,579)
Change in fair value of convertible notes	22,173
Balance at September 30	$109,885

Derivative Instruments

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):

	2016
Balance at January 1	$46,430
Derecognition on conversion/extinguishment	(2,734)
Gain from change in fair value of derivative liabilities	(39,869)
Balance at September 30	$3,827

The compound embedded derivative liabilities represent the fair value of the equity conversion options and "make-whole" provisions, as well as the down round conversion price adjustment or conversion rate adjustment provisions of the R&D Notes, the Tranche I Notes, the Tranche II Notes, the 2014 144A Notes and the 2015 144A Notes (see Note 5, "Debt"). There is no current observable market for these types of derivatives and, as such, the Company determined the fair value of the embedded derivatives using a Monte Carlo simulation valuation model for the R&D Notes and the binomial lattice model for the Tranche I Notes, the Tranche II Notes, the 2014 144A Notes and the 2015 144A Notes (collectively, "the Convertible Notes"). A Monte Carlo simulation valuation model combines expected cash outflows with market-based assumptions regarding risk-adjusted yields, stock price volatility, probability of a change of control and the trading information of the Company's common stock into which the notes are or may be convertible. A binomial lattice model generates two probable outcomes - one up and another down - arising at each point in time, starting from the date of valuation until the maturity date. A lattice model was used to determine if the Convertible Notes would be converted, called or held at each decision point. Within the lattice model, the following assumptions are made: (i) the Convertible Notes will be converted early if the conversion value is greater than the holding value and (ii) the Convertible Notes will be called if the holding value is greater than both (a) redemption price and (b) the conversion value at the time. If the Convertible Notes are called, then the holder will maximize their value by finding the optimal decision between (1) redeeming at the redemption price and (2) converting the Convertible Notes. Using this lattice method, the Company valued the embedded derivatives using the "with-and-without method", where the fair value of the Convertible Notes including the embedded derivative is defined as the "with", and the fair value of the Convertible Notes excluding the embedded derivatives is defined as the "without". This method estimates the fair value of the embedded derivatives by looking at the difference in the values between the Convertible Notes with the embedded derivatives and the fair value of the Convertible Notes without the embedded derivatives. The lattice model uses the stock price, conversion price, maturity date, risk-free interest rate, estimated stock volatility and estimated credit spread. The Company marks the compound embedded derivatives to market due to the conversion price not being indexed to the Company's own stock. As of September 30, 2016 and December 31, 2015, included in "Derivative Liabilities" on the condensed consolidated balance sheet are the Company's compound embedded derivative liabilities of $3.8 million and $46.4 million, respectively.

The market-based assumptions and estimates used in valuing the compound embedded derivative liabilities include amounts in the following ranges/amounts:

	September 30, 2016			September 30, 2015		
Risk-free interest rate	0.20%	-	0.84%	0.93%	-	1.07%
Risk-adjusted yields	17.30%	-	27.43%	24.40%	-	39.90%
Stock-price volatility		45%			45%	
Probability of change in control		5%			5%	
Stock price		$0.58			$2.01	
Credit spread	16.49%	-	26.60%	28.81%	-	38.83%
Estimated conversion dates	2016	-	2019	2015	-	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. The conversion price of certain of the Convertible Notes also include conversion price adjustment features where, for example, issuances of common stock by the Company at prices lower than the conversion price result in a reset of the conversion price of such notes, which increases the value of the embedded derivative liabilities. See Note 5, "Debt" for further details of conversion price adjustment features.

In June 2012, the Company entered into a loan agreement with Banco Pine S.A. (or "Banco Pine") under which Banco Pine provided the Company with a loan (or the "Banco Pine Bridge Loan") (see Note 5, "Debt"). 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 (approximately US$6.8 million based on the exchange rate as of September 30, 2016) 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 swap are recognized in “Gain (loss) from change in fair value of derivative instruments" in the condensed consolidated statements of operations are as follows (in thousands):

	Income Statement Classification	Three Months Ended September 30,		Nine Months Ended September 30,	
Type of Derivative Contract		2016	2015	2016	2015
Currency interest rate swap	Gain (loss) from change in fair value of derivative instruments	$ (145)	$ (1,796)	$ 1,957	$ (3,201)

Derivative instruments measured at fair value as of September 30, 2016 and December 31, 2015, and their classification on the condensed consolidated balance sheets are as follows (in thousands):

	September 30, 2016	December 31, 2015
Fair market value of compound embedded derivative liabilities	$ 3,827	$ 46,430
Fair value of swap obligations	3,471	5,009
Total derivative liabilities	$ 7,298	$ 51,439

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4. Balance Sheet Components

Inventories, net

Inventories, net are stated at the lower of cost or market and comprise of the following (in thousands):

	September 30, 2016	December 31, 2015
Raw materials	$ 2,664	$ 2,204
Work-in-process	1,809	3,583
Finished goods	3,426	5,099
Inventories, net	$ 7,899	$ 10,886

Property, Plant and Equipment, net

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

	September 30, 2016	December 31, 2015
Machinery and equipment	$ 85,538	$ 72,876
Leasehold improvements	38,791	38,519
Computers and software	9,545	9,117
Buildings	4,718	3,922
Furniture and office equipment	2,335	2,234
Vehicles	195	215
Construction in progress	6,430	5,736
	147,552	132,619
Less: accumulated depreciation and amortization	(84,459)	(72,822)
Property, plant and equipment, net	$ 63,093	$ 59,797

The Company's first, purpose-built, large-scale Biofene production plant in southeastern Brazil commenced operations in December 2012. This plant is located at Brotas in the state of São Paulo, Brazil and is adjacent to an existing sugar and ethanol mill, Tonon Bioenergia S.A. (or “Tonon”) (formerly Paraíso Bioenergia) with which the Company has an agreement to purchase a certain number of tons of sugarcane per year, along with specified water and vapor volumes.

Property, plant and equipment, net includes $2.3 million and $2.7 million of machinery and equipment under capital leases as of September 30, 2016 and December 31, 2015, respectively. Accumulated amortization of assets under capital leases totaled $0.4 million and $0.5 million as of September 30, 2016 and December 31, 2015, respectively.

Depreciation and amortization expense, including amortization of assets under capital leases was $2.9 million and $3.1 million for the three months ended September 30, 2016 and 2015, respectively, and $8.6 million and $9.9 million for the nine months ended September 30, 2016 and 2015, respectively.

Other Assets (non-current)

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

	September 30, 2016	December 31, 2015
Recoverable taxes from Brazilian government entities	$ 11,955	$ 8,887
Deposits on property and equipment, including taxes	292	243
Other	1,410	1,227
Total other assets	$ 13,657	$ 10,357

Accrued and Other Current Liabilities

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

	September 30, 2016	December 31, 2015
Withholding tax related to conversion of related party notes	$ 4,964	$ 4,723
Professional services	5,406	4,017
SMA relocation accrual	4,380	3,641
Accrued interest	8,283	1,984
Tax-related liabilities	2,325	2,505
Accrued vacation	1,932	2,023
Payroll and related expenses	4,268	3,122
Deferred rent, current portion	1,110	1,111
Contractual obligations to contract manufacturers	680	—
Fair value swap short-term	586	—
Other	978	1,142
Total accrued and other current liabilities	$ 34,912	$ 24,268

5. Debt and Mezzanine Equity

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

	September 30, 2016	December 31, 2015
Senior secured loan facility	$ 28,438	$ 31,590
BNDES credit facility	1,471	1,956
FINEP credit facility	777	840
Total credit facilities	30,686	34,386
Convertible notes	68,533	61,233
Related party convertible notes	40,611	42,749
Related party loan payable	22,847	—
Loans payable	12,954	13,606
Total debt	175,631	151,974
Less: current portion	(75,016)	(36,281)
Long-term debt	$ 100,615	$ 115,693
Mezzanine equity[(1)]	5,000	—

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(1) See Note 8, "Significant Agreements" for details regarding the Bill & Melinda Gates Foundation Investment, classified as mezzanine equity.

Senior Secured Loan Facility

In March 2014, the Company entered into a Loan and Security Agreement with Hercules Technology Growth Capital, Inc. (or “Hercules”) to make available to Amyris a loan facility in the aggregate principal amount of up to $25.0 million (or the "Senior Secured Loan Facility"), which loan facility was fully drawn at the closing. The initial loan of $25.0 million under the Senior Secured Loan Facility accrues interest at a rate per annum equal to the greater of either the prime rate reported in the Wall Street Journal plus 6.25% or 9.50%. The Company may repay the outstanding amounts under the Senior Secured Credit Facility before the maturity date (February 1, 2017) if it pays an additional fee of 1% of the outstanding loans. The Company was also required to pay a 1% facility charge at the closing of the Senior Secured Credit Facility, and is required to pay a 10% end of term charge with respect to the initial loan of $25.0 million. In connection with the execution of the Senior Secured Loan Facility, Amyris agreed to certain customary representations and warranties and covenants, as well as certain covenants that were subsequently amended (as described below).

In June 2014, the Company and Hercules entered into a first amendment of the Senior Secured Loan Facility. Pursuant to the first amendment, the parties agreed to adjust the term loan maturity date from May 31, 2015 to February 1, 2017 and remove (i) a requirement for the Company to pay a forbearance fee of $10.0 million in the event certain covenants were not satisfied, (ii) a covenant that the Company maintain positive cash flow commencing with the fiscal quarter beginning October 1, 2014, (iii) a covenant that, beginning with the fiscal quarter beginning July 1, 2014, the Company and its subsidiaries achieve certain projected cash product revenues and projected cash product gross profits, and (iv) an obligation for the Company to file a registration statement on Form S-3 with the SEC by no later than June 30, 2014 and complete an equity financing of more than $50.0 million by no later than September 30, 2014. The Company further agreed to include a new covenant 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 then outstanding under the Senior Secured Loan Facility (or the “Minimum Cash Covenant”) and borrow an additional $5.0 million. The additional $5.0 million borrowing was completed in June 2014, and accrues 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%.

In March 2015, the Company and Hercules entered into a second amendment of the Senior Secured Loan Facility. Pursuant to the second amendment, the parties agreed to, among other things, establish an additional credit facility in the principal amount of up to $15.0 million, which would be available to be drawn by the Company through the earlier of March 31, 2016 or such time as the Company raised an aggregate of at least $20.0 million through the sale of new equity securities. Under the terms of the second amendment, the Company agreed to pay Hercules a 3.0% facility availability fee on April 1, 2015. The Company had the ability to cancel the additional facility at any time prior to June 30, 2015 at its own option, and the additional facility would terminate upon the Company securing a new equity financing of at least $20.0 million. If the facility was not canceled, and any outstanding borrowings were not repaid, before June 30, 2015, an additional 5.0% facility fee would become payable on June 30, 2015. The Company did not cancel the facility prior to June 30, 2015, and the 5.0% facility fee became payable as of June 30, 2015. The Company did not pay the additional facility fee and thereafter received a waiver from Hercules with respect thereto. The additional facility was cancelled undrawn upon the completion of the Company’s private offering of common stock and warrants in July 2015.

In November 2015, the Company and Hercules entered into a third amendment of the Senior Secured Loan Facility. Pursuant to the third amendment, the Company borrowed $10,960,000 (or the “Third Amendment Borrowed Amount”) from Hercules on November 30, 2015. As of December 1, 2015, after the funding of the Third Amendment Borrowed Amount (and including repayment of $9.1 million of principal that had occurred prior to the third amendment), the aggregate principal amount outstanding under the Senior Secured Loan Facility was approximately $31.7 million. The Third Amendment Borrowed Amount accrues interest at a rate per annum equal to the greater of (i) 9.5% and (ii) the prime rate reported in the Wall Street Journal plus 6.25%, and, like the previous loans under the Senior Secured Loan Facility, has a maturity date of February 1, 2017. Upon the earlier of the maturity date, prepayment in full or such obligations otherwise becoming due and payable, in addition to repaying the outstanding Third Amendment Borrowed Amount (and all other amounts owed under the Senior Secured Loan Facility, as amended), the Company is also required to pay an end-of-term charge of $767,200. Pursuant to the third amendment, the Company also paid Hercules fees of $1.0 million, $750,000 of which was owed in connection with the expired $15.0 million facility under the second amendment and $250,000 of which was related to the Third Amendment Borrowed Amount. Under the third amendment, the parties agreed that the Company would, commencing on December 1, 2015, be required to pay only the interest accruing on all outstanding loans under the Senior Secured Loan Facility until February 29, 2016. Commencing on March 1, 2016, the Company would have been required to begin repaying principal of all loans under the Senior Secured Loan Facility, in addition to the applicable interest. However, pursuant to the third amendment, the Company could, by achieving certain cash inflow targets in 2016, extend the interest-only period to December 1, 2016. Upon the issuance by the Company of $20.0 million of unsecured promissory notes and warrants in a private placement in February 2016 for aggregate cash proceeds of $20.0 million, the Company satisfied the conditions for extending the interest-only period to May 31, 2016. On June 1, 2016, the Company commenced the repayment of outstanding principal under the Senior Secured Loan Facility. 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”). On June 29, 2016, in connection with the execution by the Company and Ginkgo Bioworks, Inc., an affiliate of Stegodon, 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, through October 31, 2016. Refer to Note 8, “Significant Agreements” for additional details. On October 6, 2016, in connection with the execution by the Company and Ginkgo Bioworks, Inc. of a definitive collaboration agreement, the Company and Stegodon entered into a fourth amendment of the Senior Secured Loan Facility, pursuant to which the parties agreed to (i) subject to the Company extending the maturity of certain of its other outstanding indebtedness, 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 the Company apply certain monies received under the collaboration agreement between the Company and Ginkgo Bioworks, Inc. 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. Refer to Note 8, “Significant Agreements” and Note 18, “Subsequent Events” for additional details.

As of September 30, 2016, $28.4 million was outstanding under the Senior Secured Loan Facility, net of discount and issuance costs of $0.1 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. The Company was in compliance with the covenants under the Senior Secured Loan Facility as of September 30, 2016.

BNDES Credit Facility

In December 2011, the Company entered into a credit facility with the Brazilian Development Bank (or “BNDES” and such credit facility, the “BNDES Credit Facility”) in the amount of R$22.4 million (approximately US$6.9 million based on the exchange rate as of September 30, 2016). This BNDES Credit Facility was extended as project financing for a production site in Brazil. The credit line was divided into an initial tranche of up to approximately R$19.1 million and an additional tranche of approximately R$3.3 million that would become available upon delivery of additional guarantees. The credit line was cancelled in 2013.

The principal of the loans under the BNDES Credit Facility is required to be repaid in 60 monthly installments, with the first installment paid in January 2013 and the last due in December 2017. Interest was due initially on a quarterly basis with the first installment due in March 2012. From and after January 2013, interest payments are due on a monthly basis together with principal payments. The loaned amounts carry interest of 7% per annum. 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 a first priority security interest in certain of the Company's equipment and other tangible assets totaling R$24.9 million (approximately $7.7 million based on the exchange rate as of September 30, 2016). The Company is a parent guarantor for the payment of the outstanding balance under the BNDES Credit Facility. Additionally, the Company was 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. For advances of the second tranche (above R$19.1 million), the Company is required to provide additional bank guarantees equal to 90% of each such advance, plus additional Company guarantees equal to at least 130% of such advance. The BNDES Credit Facility contains customary events of default, including payment failures, failure to satisfy other obligations under this 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. As of September 30, 2016 and December 31, 2015, the Company had R$4.8 million (approximately US$1.5 million based on the exchange rate as of September 30, 2016) and R$7.6 million (approximately US$1.9 million based on the exchange rate as of December 31, 2015), respectively, in outstanding advances under the BNDES Credit Facility.

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FINEP Credit Facility

In November 2010, the Company entered into a credit facility with Financiadora de Estudos e Projetos (or the “FINEP Credit Facility”). The FINEP Credit Facility was extended to partially fund expenses related to the Company’s 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 (approximately US$2.0 million based on the exchange rate as of September 30, 2016), which is secured by a chattel mortgage on certain equipment of Amyris Brasil as well as by bank letters of guarantee. All available credit under this facility is fully drawn.

Interest on loans drawn under the FINEP Credit Facility is fixed at 5% 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% plus a TJLP adjustment factor, otherwise the interest will be 11% per annum. In addition, a fine of up to 10% shall apply to the amount of any obligation in default. Interest on late balances will be 1% 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. As of September 30, 2016 and December 31, 2015, the total outstanding loan balance under this credit facility was R$2.5 million (approximately US$0.8 million based on the exchange rate as of September 30, 2016) and R$3.4 million (approximately US$0.9 million based on exchange rate as of December 31, 2015), respectively.

Convertible Notes

Fidelity

In February 2012, the Company completed the sale of senior unsecured convertible promissory notes in an aggregate principal amount of $25.0 million pursuant to a securities purchase agreement, between the Company and certain investment funds affiliated with FMR LLC (or the "Fidelity Securities Purchase Agreement"). The offering consisted of the sale of 3% senior unsecured convertible promissory notes with a March 1, 2017 maturity date and an initial conversion price equal to $7.0682 per share of the Company's common stock, subject to proportional adjustment for adjustments to outstanding common stock and anti-dilution provisions in case of dividends and distributions (or the "Fidelity Notes"). In October 2015, the Company issued $57.6 million of convertible senior notes and used approximately $8.8 million of the proceeds therefrom to repurchase $9.7 million aggregate principal amount of outstanding Fidelity Notes. As of September 30, 2016, the Fidelity Notes were convertible into an aggregate of up to 2,165,898 shares of the Company's common stock. The holders of the Fidelity Notes have a right to require repayment of 101% of the principal amount of the Fidelity Notes in an acquisition of the Company, and the Fidelity Notes provide for payment of unpaid interest on conversion following such an acquisition if the note holders do not require such repayment. The Fidelity Securities Purchase Agreement and Fidelity Notes include covenants regarding payment of interest, maintaining the Company's listing status, limitations on debt, maintenance of corporate existence, and timely filing of SEC reports. The Fidelity Notes include standard events of default resulting in acceleration of indebtedness, including failure to pay, bankruptcy and insolvency, cross-defaults and breaches of the covenants in the Fidelity Securities Purchase Agreement and Fidelity Notes, with default interest rates and associated cure periods applicable to the covenant regarding SEC reporting. Furthermore, the Fidelity Notes include restrictions on the amount of debt the Company is permitted to incur. With exceptions for certain existing debt, refinancing of such debt and certain other exclusions and waivers, the Fidelity Notes provide that the Company's total outstanding debt at any time cannot exceed the greater of $200.0 million or 50% of its consolidated total assets and its secured debt cannot exceed the greater of $125.0 million or 30% of its consolidated total assets. In connection with the Company’s closing of a short-term bridge loan for $35.0 million in October 2013, holders of the Fidelity Notes waived compliance with the debt limitations outlined above as to the $35.0 million bridge loan (or the “Temasek Bridge Note”) and the August 2013 Financing (defined below). In consideration for such waiver, the Company granted to holders of the Fidelity Notes or their affiliates the right to purchase up to an aggregate of $7.6 million worth of convertible promissory notes in the first tranche of the August 2013 Financing.

Pursuant to a Securities Purchase Agreement among the Company, Maxwell (Mauritius) Pte Ltd (or “Temasek”) and Total, dated as of August 8, 2013 (or, as amended, the “August 2013 SPA”), as amended in October 2013 to include certain entities affiliated with FMR LLC (or the “Fidelity Entities”), the Company sold and issued certain senior convertible notes (or the “Tranche I Notes”) pursuant to a financing (or the “August 2013 Financing”) exempt from registration under the Securities Act of 1933, as amended (or the “Securities Act”), in an aggregate principal amount of $7.6 million to the Fidelity Entities. See "Related Party Convertible Notes" in this Note 5, "Debt."

2014 Rule 144A Convertible Note Offering

In May 2014, the Company entered into a Purchase Agreement with Morgan Stanley & Co. LLC, as the initial purchaser (or the “Initial Purchaser”), relating to the sale of $75.0 million aggregate in principal amount of its 6.50% Convertible Senior Notes due 2019 (or the "2014 144A Notes") to the Initial Purchaser in a private placement, and for initial resale by the Initial Purchaser to certain qualified institutional buyers (or the "2014 144A Convertible Note Offering"). In addition, the Company granted the Initial Purchaser an option to purchase up to an additional $15.0 million aggregate principal amount of 2014 144A Notes, which option expired unexercised according to its terms. Under the terms of the purchase agreement for the 2014 144A Notes, the Company agreed to customary indemnification of the Initial Purchaser against certain liabilities. The Notes were issued pursuant to an Indenture, dated as of May 29, 2014 (or the “2014 Indenture”), between the Company and Wells Fargo Bank, National Association, as trustee. The net proceeds from the offering of the 2014 144A Notes were approximately $72.0 million after payment of the Initial Purchaser’s discounts and offering expenses. In addition, in connection with obtaining a waiver from Total of its preexisting contractual right to exchange certain senior secured convertible notes previously issued by the Company for new notes issued in the 2014 144A Convertible Note Offering, the Company used approximately $9.7 million of the net proceeds to repay previously issued notes (representing the amount of 2014 144A Notes purchased by Total from the Initial Purchaser). Certain of the Company's affiliated entities purchased $24.7 million in aggregate principal amount of 2014 144A Notes from the Initial Purchaser (described further below under "Related Party Convertible Notes"). In October 2015, as discussed below, the Company issued $57.6 million of convertible senior notes and used approximately $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, beginning November 15, 2014. 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 any time prior to the close of business day on May 15, 2019, at the initial conversion rate of 267.037 shares of Common Stock per $1,000 principal amount of 2014 144A Notes (subject to adjustment in certain circumstances). This represents an effective conversion price of approximately $3.74 per share of common stock. For any conversion on or after May 15, 2015, in the event that the last reported sale price of the Company’s 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 the Company receives a notice of conversion exceeds the then-applicable conversion price per share on each such trading day, the holders, in addition to the shares deliverable upon conversion, noteholders will be entitled to receive a cash payment equal to the present value of the remaining scheduled payments of interest that would have been made on the 2014 144A Notes being converted from the conversion date to the earlier of the date that is three years after the date the Company receives such notice of conversion and maturity (May 15, 2019), which will be computed using a discount rate of 0.75%. In the event of a fundamental change, as defined in the 2014 Indenture, holders of the 2014 144A Notes may require the Company to purchase all or a portion of the 2014 144A Notes at a price equal to 100% of the principal amount of the 2014 144A Notes, plus any accrued and unpaid interest to, but excluding, the fundamental change repurchase date. In addition, holders of the 2014 144A Notes who convert their 2014 144A Notes in connection with a make-whole fundamental change will, under certain circumstances, be entitled to an increase in the conversion rate. Refer to the “Exchange” and “Maturity Treatment Agreement” sections of this Note 5, "Debt", 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 entered into a purchase agreement with certain qualified institutional buyers relating to the sale of $57.6 million aggregate principal amount of its 9.50% Convertible Senior Notes due 2019 (or the “2015 144A Notes”) to the purchasers in a private placement (or the “2015 144A Offering”). The Notes were issued pursuant to an Indenture, dated as of October 20, 2015 (or the “2015 Indenture”), between the Company and Wells Fargo Bank, National Association, as trustee. The net proceeds from the offering of the 2015 144A Notes were approximately $54.4 million after payment of the estimated offering expenses and placement agent fees. The Company used approximately $18.3 million of the net proceeds to repurchase $22.9 million aggregate principal amount of outstanding 2014 144A Notes and approximately $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, beginning April 15, 2016. 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 and the October 15, 2016 interest payment in cash. 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 any time prior to the close of business on April 15, 2019. The 2015 144A Notes had an initial conversion rate of 443.6557 shares of Common Stock per $1,000 principal amount of 2015 144A Notes (subject to adjustment in certain circumstances). This represented an initial effective conversion price of approximately $2.25 per share of common stock. Following the issuance by the Company of warrants to purchase common stock in a private placement transaction in February 2016 and the issuance by the Company of convertible notes in May and September 2016, as described below, the conversion rate of the 2015 144A Notes was 446.6719 shares of Common Stock per $1,000 principal amount of 2015 144A Notes as of September 30, 2016. Furthermore, following the issuance by the Company of additional convertible notes in October 2016, the conversion rate of the 2015 144A Notes is 446.8707 shares of Common Stock per $1,000 principal amount of 2015 144A Notes as of the date hereof. For any conversion on or after November 27, 2015, in addition to the shares deliverable upon conversion, noteholders will be entitled to receive a 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 from the conversion date to the earlier of the date that is three years after the date the Company receives such notice of conversion and maturity (April 15, 2019), which will be 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, provided that it may only make such payment in common stock if such common stock is not subject to restrictions on transfer under the Securities Act by persons other than the Company’s affiliates. If the Company elects to pay an Early Conversion Payment in common stock, then the stock will be 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 September 30, 2016, the Company has elected to make each Early Conversion Payment in shares of common stock. In the event of a fundamental change, as defined in the 2015 Indenture, holders of the 2015 144A Notes may require the Company to purchase all or a portion of the 2015 144A Notes at a price equal to 100% of the principal amount of the 2015 144A Notes, plus any accrued and unpaid interest to, but excluding, the fundamental change repurchase date. In addition, holders of the 2015 144A Notes who convert their 2015 144A Notes in connection with a make-whole fundamental change will, under certain circumstances, be entitled to an increase in the conversion rate. The issuance of shares of common stock upon conversion of the 2015 144A Notes, upon the Company’s election to pay interest on the 2015 144A Notes in shares of common stock and upon the Company’s election to pay the Early Conversion Payment in shares of common stock in an aggregate amount in excess of

38,415,626 shares of the Company’s common stock was subject to stockholder approval, which was obtained on May 17, 2016. With exceptions for certain existing debt, refinancing of such debt and certain other exclusions and waivers, the 2015 144A Notes provide that, as long as the aggregate outstanding principal amount of the 2015 144A Notes exceeds $25.0 million, the Company's outstanding unsecured debt at any time cannot exceed $200.0 million and its secured debt cannot exceed the greater of $65.0 million or 30% of its consolidated total assets.

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 "2016 Convertible Notes") that are convertible into shares of the Company's common stock at an initial conversion price of $1.90 per share. The conversion price will be subject to adjustment in the event of any stock split, reverse stock split, recapitalization, reorganization or similar transaction. The May 2016 Purchase Agreement includes customary representations, warranties and covenants by the Company. The May 2016 Purchase Agreement also provides the purchaser with a right of first refusal with respect to any variable rate transaction on the same terms and conditions as are offered to a third-party purchaser for as long as the purchaser holds any 2016 Convertible Notes or shares of the Company's common stock underlying the 2016 Convertible Notes.

Pursuant to the May 2016 Purchase Agreement, the 2016 Convertible Notes were to be issued and sold in two separate closings. The initial closing occurred on May 10, 2016. At the initial closing, the Company issued and sold a 2016 Convertible Note in a principal amount of $10.0 million to the purchaser, resulting in net proceeds to the Company of approximately $9.9 million. The second closing was to occur on the first trading day following the completion of the first three installment periods under the 2016 Convertible Notes and the satisfaction or waiver of certain other closing conditions, including certain equity conditions, such as that no Triggering Event (as defined below) had occurred. At the second closing, the Company was to issue and sell a 2016 Convertible Note in a principal amount of $5.0 million to the purchaser, resulting in expected net proceeds to the Company of approximately $5.0 million. On September 2, 2016, in connection with the Company and the purchaser waiving certain conditions to the second closing under the May 2016 Purchase Agreement, the Company issued and sold an additional 2016 Convertible Note in the principal amount of $3.0 million to the purchaser, for proceeds to the Company of approximately $3.0 million, and granted the purchaser the option to purchase a further 2016 Convertible Note in the principal amount of $2.0 million (the "*$2 Million Note*"), representing the remaining 2016 Convertible Notes provided for in the May 2016 Purchase Agreement, on or before December 31, 2016. On October 13, 2016, the Company issued and sold the $2 Million Note to the purchaser for proceeds to the Company of $2.0 million. See Note 18, "Subsequent Events" for additional details regarding the issuance of the $2 Million Note.

The 2016 Convertible Notes are general unsecured obligations of the Company. Unless earlier converted or redeemed, the 2016 Convertible Notes will mature on the 18-month anniversary of their respective issuance, subject to the rights of the holders to extend the maturity date in certain circumstances.

The 2016 Convertible Notes will be 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. 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 2016 Convertible Notes shall have the right to require that the Company repay in common stock an additional amount of the 2016 Convertible Notes not to exceed 50% of the cumulative sum of the aggregate amounts by which the dollar-weighted trading volume of the Company's common stock for all trading days during the applicable installment period exceeds $200,000. The

Company elected to make the June, July, August and September 2016 installment payments on the 2016 Convertible Notes in shares of common stock.

The 2016 Convertible 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 2016 Convertible 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 2016 Convertible Notes), holders of the 2016 Convertible Notes may require the Company to redeem all or any portion of their 2016 Convertible 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 2016 Convertible 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 2016 Convertible Notes being redeemed. In addition, if the volume-weighted average price of the Company’s common stock is (i) less than $1.00 for 30 consecutive trading days or (ii) less than $0.50 for five consecutive trading days (each, a “Triggering Event”) within four months of the issuance of any 2016 Convertible Notes, the Company will have the option to redeem such 2016 Convertible Notes in whole for cash at a redemption price equal to 112% of the principal amount of such 2016 Convertible Notes.

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 Total Energies Nouvelles Activités USA (formerly known as Total Gas & Power USA, SAS, and referred to as “Total”) to establish a research and development program (or the "Program") and form a joint venture (or the "Fuels JV") with Total to produce and commercialize farnesene- or farnesane-based diesel and jet fuels, and established a convertible debt structure for the collaboration funding from Total.

The purchase agreement for the notes related to the funding from Total (or the “Total Purchase Agreement”) provided for the sale of an aggregate of $105.0 million in 1.5% Senior Unsecured Convertible Notes due March 2017 (the “Unsecured R&D Notes”) as follows:

- As part of an initial closing under the purchase agreement (which was completed in two installments), (i) on July 30, 2012, the Company sold an Unsecured R&D Note with a principal amount of $38.3 million, including $15.0 million in new funds and $23.3 million in previously-provided diesel research and development funding by Total, and (ii) on September 14, 2012, the Company sold another Unsecured R&D Note for $15.0 million in new funds from Total. These Unsecured R&D Notes had an initial conversion price of $7.0682 per share.
- At a second closing under the Total Purchase Agreement (also completed in two installments) the Company sold additional Unsecured R&D Notes for an aggregate of $30.0 million in new funds from Total ($10.0 million in June 2013 and $20.0 million in July 2013). These Unsecured R&D Notes had an initial conversion price of $3.08 per share, as described below.
- At a third closing under the Total Purchase Agreement (also completed in two installments) the Company sold additional Unsecured R&D Notes for an aggregate of $21.7 million in new funds from Total ($10.85 million in July 2014 and $10.85 million in January 2015) (or the “Third Closing Notes”). These Unsecured R&D Notes had an initial conversion price of $4.11 per share, as described below.

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In March 2013, the Company entered into a letter agreement with Total (or the March 2013 Letter Agreement) under which Total agreed to waive its right to cease its participation in the parties' fuels collaboration at the July 2013 decision point and committed to proceed with the July 2013 funding tranche of $30.0 million (subject to the Company's satisfaction of the relevant closing conditions for such funding in the Total Purchase Agreement). As consideration for this waiver and commitment, the Company agreed to:

- reduce the conversion price for the $30.0 million in principal amount of Unsecured R&D Notes to be issued in connection with the second closing of the Unsecured R&D Notes (as described above) from $7.0682 per share to a price per share equal to the greater of (i) the consolidated closing bid price of the Company's common stock on the date of the March 2013 Letter Agreement, plus $0.01, and (ii) $3.08 per share, provided that the conversion price would not be reduced by more than the maximum possible amount permitted under the rules of The NASDAQ Stock Market (or “NASDAQ”) such that the new conversion price would require the Company to obtain stockholder consent; and
- grant Total a senior security interest in the Company's intellectual property, subject to certain exclusions and subject to release by Total when the Company and Total enter into final documentation regarding the establishment of the Fuels JV.

In addition to the waiver by Total described above, Total also agreed that, at the Company's request and contingent upon the Company meeting its obligations described above, it would pay advance installments of the amounts otherwise payable at the second closing.

In June 2013, the Company sold and issued $10.0 million in principal amount of Unsecured R&D Notes to Total pursuant to the second closing of the Unsecured R&D Notes as discussed above. In accordance with the March 2013 Letter Agreement, this Unsecured R&D Note had an initial conversion price equal to $3.08 per share of the Company's common stock.

In July 2013, the Company sold and issued $20.0 million in principal amount of Unsecured R&D Notes to Total pursuant to the Total second closing of the Unsecured R&D Notes as discussed above. This purchase and sale completed Total's commitment to purchase $30.0 million of the Unsecured R&D Notes in the second closing by July 2013. In accordance with the March 2013 Letter Agreement, this Unsecured R&D Note has an initial conversion price equal to $3.08 per share of the Company's common stock.

In December 2013, in connection with the Company's entry into a Shareholders Agreement dated December 2, 2013 and License Agreement dated December 2, 2013 (or, collectively, the “JV Documents”) with Total and Total Amyris BioSolutions B.V. (or “TAB”) relating to the establishment of TAB (see Note 7, "Joint Ventures and Noncontrolling Interest"), the Company (i) exchanged the $69.0 million of the then-outstanding Unsecured R&D Notes issued pursuant to the Total Purchase Agreement for replacement 1.5% Senior Secured Convertible Notes due March 2017 (or the “Secured R&D Notes”, and together with the Unsecured R&D Notes, the “R&D Notes”), in principal amounts equal to the principal amount of each cancelled note and with substantially similar terms except that such replacement notes were secured, (ii) granted to Total a security interest in and lien on all Amyris’ rights, title and interest in and to

Company’s shares in the capital of TAB and (iii) agreed that any securities to be purchased and sold at the third closing under the Total Purchase Agreement by Total would be Secured R&D Notes instead of Unsecured R&D Notes. As a consequence of executing the JV Documents and forming TAB, the security interest in all of the Company's intellectual property, granted by the Company in favor of Total, Temasek, and certain Fidelity Entities pursuant to the Restated Intellectual Property Security Agreement dated as of October 16, 2013, were automatically terminated effective as of December 2, 2013 upon Total’s and the Company’s joint written notice to Temasek and the Fidelity Entities.

In April 2014, the Company and Total entered into a letter agreement dated as of March 29, 2014 (or the “March 2014 Total Letter Agreement”) to amend the Amended and Restated Master Framework Agreement entered into as of December 2, 2013 (included as part of JV Documents) and the Total Purchase Agreement. Under the March 2014 Total Letter Agreement, the Company agreed to, (i) amend the conversion price of the Secured R&D Notes to be issued in the third closing under the Total Purchase Agreement from $7.0682 per share to $4.11 per share subject to stockholder approval at the Company's 2014 annual meeting (which was obtained in May 2014), (ii) extend the period during which Total may exchange for other Company securities Secured R&D Notes issued under the Total Fuel Agreements from June 30, 2014 to the later of December 31, 2014 and the date on which the Company shall have raised $75.0 million of equity and/or convertible debt financing (excluding any convertible promissory notes issued pursuant to the Total Purchase Agreement), (iii) eliminate the Company’s ability to qualify, in a disclosure letter to Total, certain of the representations and warranties that the Company must make at the closing of any third closing sale, and (iv) beginning on March 31, 2014, provide Total with monthly reporting on the Company’s cash, cash equivalents and short-term investments. In consideration of these agreements, Total agreed to waive its right not to consummate the closing of the issuance of the Third Closing Notes if it had decided not to proceed with the collaboration and had made a "No-Go" decision with respect thereto.

In July 2014, the Company sold and issued a Secured R&D Note to Total with a principal amount of $10.85 million with a March 1, 2017 maturity date pursuant to the Total Purchase Agreement. This purchase and sale constituted the initial installment of the $21.7 million third closing described above. In accordance with the March 2014 Total Letter Agreement, this Secured R&D Note had an initial conversion price equal to $4.11 per share of the Company's common stock.

In January 2015, the Company sold and issued a Secured R&D Note to Total with a principal amount of $10.85 million with a March 1, 2017 maturity date pursuant to the Total Purchase Agreement. This purchase and sale constituted the final installment of the $21.7 million third closing described above. In accordance with the March 2014 Total Letter Agreement, this Secured R&D Note had an initial conversion price equal to $4.11 per share of the Company's common stock.

In July 2015, Total exchanged all but $5.0 million of R&D Notes then held by Total, such cancelled notes having an aggregate principal amount of $70 million, in exchange for approximately 30.4 million shares of the Company's common stock in connection with the Exchange. Refer to the "Exchange" section of this Note 5, "Debt", for additional details of the impact of the Exchange on the R&D Notes.

In March 2016, in connection with the restructuring of the Fuels JV (see Note 7, "Joint Ventures and Noncontrolling Interest"), the Company sold to Total one half of the Company's ownership stake in the Fuels JV (giving Total an aggregate ownership stake of 75% of the Fuels JV and giving the Company an aggregate ownership stake of 25% of the Fuels JV) in exchange for Total cancelling (i) approximately $1.3 million of 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 the Fuels JV. To satisfy its purchase obligation above, Total surrendered to the Company the remaining R&D Note of approximately $5.0 million in principal amount, and the Company executed and delivered to Total a new, Unsecured R&D Note in the principal amount of $3.7 million. The disposal of the 25% ownership stake in the Fuels JV resulted in a gain to the Company of $4.2 million, which was recognized as a capital contribution from Total within equity.

As of September 30, 2016 and December 31, 2015, $3.7 million and $5.0 million, respectively, of R&D Notes were outstanding, net of debt discount of $0.0 million and $0.0 million, respectively. The R&D Notes have a maturity date of March 1, 2017, an initial conversion price equal to $3.08 per share for the Unsecured R&D Notes, subject to certain adjustments as described below. The R&D Notes bear interest of 1.5% per annum (with a default rate of 2.5%), accruing from the date of issuance and payable at maturity or on conversion or a change of control where Total exercises the right to require the Company to repay the notes, as described below.

The R&D Notes become convertible into the Company's common stock (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 R&D Notes are subject to adjustment for proportional adjustments to outstanding common stock and under anti-dilution provisions in case of certain dividends and distributions. Total has a right to require repayment of 101% of the principal amount of the R&D Notes in the event of a change of control of the Company and the R&D Notes provide for payment of unpaid future interest through the maturity date on conversion following such a change of control if Total does not require such repayment. The Total Purchase Agreement and Unsecured R&D Notes include covenants regarding payment of interest, maintenance of the Company's listing status, limitations on debt, maintenance of corporate existence, and filing of SEC reports. The R&D Notes include standard events of default resulting in acceleration of indebtedness, including failure to pay, bankruptcy and insolvency, cross-defaults, and breaches of the covenants in the Total Purchase Agreement and R&D Notes, with added default interest rates and associated cure periods applicable to the covenant regarding SEC reporting. Furthermore, with exceptions for certain existing debt, refinancing of such debt and certain other exclusions and waivers, the R&D Notes provided that the Company's total outstanding debt at any time may not exceed the greater of $200.0 million or 50% of its consolidated total assets and its secured debt may not exceed the greater of $125.0 million or 30% of its consolidated total assets.

August 2013 Financing Convertible Notes and Temasek Bridge Note

In connection with the August 2013 Financing, the Company entered into the August 2013 Share Purchase Agreement with Total and Temasek to sell up to $73.0 million in convertible promissory notes in private placements, with such notes to be sold and issued over a period of up to 24 months from the date of signing. The August 2013 SPA provided for the August 2013 Financing to be divided into two tranches (the first tranche for $42.6 million and the second tranche for $30.4 million), each with differing closing conditions. Of the total possible purchase price in the financing, $25.0 million was paid in the form of cash by Temasek ($25.0 million in the second tranche), $35.0 million was paid by the exchange and cancellation of the Temasek Bridge Note, as described below, and $13.0 million was paid by the exchange and cancellation of outstanding R&D Notes held by Total in connection with its exercise of pro rata rights ($7.6 million in the first tranche and $5.4 million in the second tranche). The August 2013 SPA included requirements that the Company meet certain production milestones before the second tranche would become available, obtain stockholder approval prior to completing any closing of the transaction, and issue a warrant to Temasek to purchase 1,000,000 shares of the Company's common stock at an exercise price of $0.01 per share, exercisable only if Total converts R&D Notes previously issued to Total in the second closing under the Total Purchase Agreement. In September 2013, prior to the initial closing of the August 2013 Financing, the Company's stockholders approved the issuance in the private placement of up to $110.0 million aggregate principal amount of senior convertible promissory notes, the issuance of a warrant to purchase 1,000,000 shares of the Company's common stock and the issuance of the common stock issuable upon conversion or exercise of such notes and warrant, which approval included the transactions contemplated by the August 2013 Financing.

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. The Temasek Bridge Note was due on February 2, 2014 and accrued interest at a rate of 5.5% quarterly from the October 4, 2013 date of issuance. The Temasek Bridge Note was cancelled 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 the Fidelity Entities 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 the August 2013 Financing, issuing a total of $51.8 million in Tranche I Notes for cash proceeds of $7.6 million and cancellation of outstanding convertible promissory notes of $44.2 million, of which $35.0 million resulted from 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 and were initially convertible into the Company’s common stock at a conversion price equal to $2.44, which represents a 15% discount to a 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. The Tranche I Notes are convertible at the option of the holder: (i) at any time after 18 months from the date of the August 2013 SPA, (ii) on a change of control of the Company and (iii) upon the occurrence of an event of default. Each Tranche I Note accrues interest from the date of issuance until the earlier of the date that such Tranche I Note is converted into the Company’s common stock or is repaid in full. Interest accrues at a rate of 5% per six months, compounded semiannually (with graduated interest rates of 6.5% applicable to the first 180 days and 8% applicable thereafter as the sole remedy should the Company fail to maintain NASDAQ listing status or at 6.5% for all other defaults). Interest for the first 30 months is payable in kind and added to the principal every six months and thereafter, the Company may continue to pay interest in kind by adding to the principal every six months or may elect to pay interest in cash. Through September 30, 2016, the Company has elected to pay interest on the Tranche I Notes in kind. The Tranche I Notes may be prepaid by the Company on the 30-month anniversary of the issuance date, and thereafter every six months at the date of payment of the semi-annual coupon.

In January 2014, the Company sold and issued, for face value, approximately $34.0 million of convertible promissory notes in the second tranche of the August 2013 Financing (or the "Tranche II Notes"). At the closing, Temasek purchased $25.0 million of the Tranche II Notes and funds affiliated with Wolverine Asset Management, LLC purchased $3.0 million of the Tranche II Notes, each for cash. Total purchased approximately $6.0 million of the Tranche II Notes through cancellation of the same amount of principal of previously outstanding R&D Notes held by Total. As a result of the exchange and cancellation of the $6.0 million 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 and were initially convertible into shares of common stock at a conversion price equal to $2.87 per share, which represents a trailing 60-day weighted-average closing price of the common stock on NASDAQ through August 7, 2013, subject to certain adjustments, as described below. Specifically, the Tranche II Notes are convertible at the option of the holder (i) at any time 12 months after issuance, (ii) on a change of control of the Company, and (iii) upon the occurrence of an event of default. Each Tranche II Note will accrue interest from the date of issuance until the earlier of the date that such Tranche II Note is converted into common stock or repaid in full. Interest will accrue at a rate per annum equal to 10%, compounded annually (with graduated interest rates of 13% applicable to the first 180 days and 16% applicable thereafter as the sole remedy should the Company fail to maintain NASDAQ listing status or at 12% for all other defaults). Interest for the first 36 months shall be payable in kind and added to principal every year following the issue date and thereafter, the Company may continue to pay interest in kind by adding to principal on every year anniversary of the issue date or may elect to pay interest in cash. Through September 30, 2016, the Company has elected to pay interest on the Tranche II Notes in kind.

The conversion prices of the Tranche I Notes and Tranche II Notes are subject to adjustment (i) according to proportional adjustments to outstanding common stock of the Company in case of certain dividends and distributions, (ii) according to anti-dilution provisions, and (iii) with respect to notes held by any purchaser other than Total, in the event that Total exchanges existing convertible notes for new securities of the Company in connection with future financing transactions in excess of its pro rata amount. Notwithstanding the foregoing, holders of a majority of the principal amount of the notes outstanding at the time of conversion may waive any anti-dilution adjustments to the conversion price. The purchasers have a right to require repayment of 101% of the principal amount of the notes in the event of a change of control of the Company and the notes provide for payment of unpaid interest on conversion following such a change of control if the purchasers do not require such repayment. The August 2013 SPA, Tranche I Notes and Tranche II Notes include covenants regarding payment of interest, maintenance of the Company's listing status, limitations on debt and on certain liens, maintenance of corporate existence, and filing of SEC reports. The Tranche Notes include standard events of default including failure to pay, bankruptcy and insolvency, cross-defaults, and breaches of the covenants in the August 2013 SPA, Tranche I Notes and Tranche II Notes, after which the Tranche Notes may be due and payable immediately, as well as associated with default interest rates as set forth above.

In July 2015, Temasek exchanged all of the Tranche I and Tranche II Notes then held by Temasek, such notes having an aggregate principal amount of approximately $71.0 million, in exchange for approximately 30.86 million shares of the Company's common stock in connection with the Exchange. Refer to the "Exchange" section of this Note 5, "Debt", for additional details of the impact of the Exchange on the R&D Notes.

The conversion price of the Tranche I Notes and Tranche II Notes was reduced to $1.42 per share upon the completion of a private placement of common stock and warrants to purchase common stock in July 2015, as described below. Following the issuance by the Company of warrants to purchase common stock in a private placement transaction in February 2016, as described below, the conversion price of the Tranche I Notes and Tranche II Notes was further adjusted to $1.40 per share, and following the sale by the Company of shares of common stock to the Bill & Melinda Gates Foundation in May 2016, as described below, the conversion price of the Tranche I Notes and Tranche II Notes was further adjusted to $1.14 per share.

As of September 30, 2016 and December 31, 2015, the related party convertible notes outstanding under the Tranche I Notes and Tranche II Notes were $21.7 million and $23.3 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", for details of the impact of the Maturity Treatment and Exchange agreements on the Tranche I and II Notes.

2014 144A Notes Sold to Related Parties

As of September 30, 2016 and December 31, 2015, the related party convertible notes outstanding under the 2014 Rule 144A Convertible Note Offering were $15.3 million and $14.6 million, respectively, net of discount and issuance costs of $2.4 million and $1.6 million, respectively.

As of September 30, 2016 and December 31, 2015, the total related party convertible notes outstanding were $40.6 million and $42.8 million, respectively, net of discount and issuance costs of $2.6 million and $1.9 million, respectively.

Loans Payable

In July 2012, the Company entered into a Note of Bank Credit and a Fiduciary Conveyance of Movable Goods Agreement (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. The Company's total acquisition cost for such pledged assets was approximately R$68.0 million (approximately US$20.9 million based on the exchange rate as of September 30, 2016). 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 (approximately US$16.0 million based on the exchange rate as of September 30, 2016) as financing for capital expenditures relating to the Company's manufacturing facility located in Brotas, Brazil. Specifically, Banco Pine, agreed to lend R$22.0 million and Nossa Caixa agreed to lend R$30.0 million. 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 are outstanding, the Company is 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 September 30, 2016 and December 31, 2015, a principal amount of R$37.9 million (approximately US$11.7 million based on the exchange rate as of September 30, 2016) and R$43.0 million (approximately US$11.0 million based on the exchange rate as of December 30, 2015), respectively, was outstanding under these loan agreements.

In March 2014, the Company entered into an export financing agreement with Banco ABC Brasil S.A. (or “ABC”) for approximately $2.2 million to fund exports through March 2015. This loan is collateralized by future exports from the Company's subsidiary in Brazil. In April, 2015, we entered into an additional export financing agreement with ABC for approximately $1.6 million to fund exports through March 2016. This loan is collateralized by future exports from the Company's subsidiary in Brazil. As of September 30, 2016, the aggregate principal amount outstanding under the ABC financing agreements was zero ($1.6 million at December 31, 2015). The Company was also a parent guarantor for the payment of the outstanding balance under these loan agreements.

Exchange (debt conversion)

On July 29, 2015, the Company closed the "Exchange" pursuant to that certain Exchange Agreement, dated as of July 26, 2015 (or the “Exchange Agreement”), among the Company, Temasek and Total.

Under the Exchange Agreement, at the closing, Temasek exchanged $71.0 million in principal amount of outstanding Tranche I and Tranche II 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 the Company’s common stock. The exchange price was $2.30 per share (the “Exchange Price”) and was paid by the exchange and cancellation of such outstanding convertible promissory notes, and Temasek and Total received 30,860,633 and 30,434,782 shares of the Company’s common stock, respectively, in the Exchange. As a result of the Exchange, accretion of debt discount was accelerated based on the Company’s 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 at the closing the following warrants, each with a five-year term:

- A warrant to purchase 18,924,191 shares of the Company's Common Stock (or the "Total Funding Warrant").

- A warrant to purchase 2,000,000 shares of the Company's common stock that will only be exercisable if the Company fails, 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:

- A warrant to purchase 14,677,861 shares of the Company's common stock. (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 2,000,000, 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 880,339 multiplied by a fraction equal to the number of shares for which Total exercises the Total R&D Warrant divided by 2,000,000. If Total is entitled to, and does, exercise the Total R&D Warrant in full, this warrant would be exercisable for 880,339 shares (or the "Temasek R&D Warrant").

The Temasek Exchange Warrant, the Temasek Funding Warrant and the Temasek R&D Warrant each have ten-year terms and are referred to herein as the "Temasek Warrants" and, the Temasek Warrants and Total Warrants are hereinafter collectively referred to as the "Exchange Warrants". All of the Exchange Warrants have an exercise price of $0.01 per share.

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 (the "2013 Warrant") became exercisable in full upon the completion of the Exchange. There were 1,000,000 shares underlying the 2013 Warrant, with an exercise price of $0.01 per share.

The exercisability of all of the Exchange Warrants was subject to stockholder approval, which was obtained on September 17, 2015.

In February and May 2016, as a result of the adjustments to the Tranche I and Tranche II Notes conversion prices discussed above under “Related Party Convertible Notes”, the Temasek Funding Warrant became exercisable for an additional 127,194 and 2,335,342 shares of common stock, respectively.

As of September 30, 2016, 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 12,700,244 shares of common stock. Neither the Total R&D Warrant nor the Temasek R&D Warrant were exercisable as of September 30, 2016. Warrants to purchase 2,462,536 shares of common stock under the Temasek Funding Warrant were unexercised as of September 30, 2016.

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 I Notes, Tranche II Notes or 2014 144A Notes held by them that were not cancelled in the Exchange (the “Remaining Notes”) into shares of the Company’s common stock in accordance with the terms of such Remaining Notes upon maturity, provided that certain events of default have not occurred with respect to the applicable Remaining Notes prior to such maturity. 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 approximately $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 I and II Notes).

February 2016 Private Placement

On February 12, 2016, the Company entered into a Note and Warrant Purchase Agreement (the “February 2016 Purchase Agreement”) with the purchasers named therein for the sale of $18.0 million in aggregate principal amount of unsecured promissory notes (or the “February 2016 Notes”) to the purchasers, as well as warrants to purchase 2,571,428 shares of the Company’s common stock at an exercise price of $0.01 per share, representing aggregate proceeds to the Company of $18 million (the “Initial Sale”). On February 15, 2016, an additional purchaser joined the Purchase Agreement and purchased $2.0 million in aggregate principal amount of the February 2016 Notes, as well as warrants to purchase 285,714 shares of the Company’s common stock at an exercise price of $0.01 per share, representing aggregate proceeds to the Company of $2 million (or the “Subsequent Sale” and together with the Initial Sale, the “February 2016 Private Placement”). The February 2016 Notes and the warrants were issued in a private placement pursuant to the exemption from registration under Section 4(2) of the Securities Act and Regulation D promulgated under the Securities Act. The purchasers are existing stockholders of the Company and affiliated with certain members of the Company’s Board of Directors: Foris Ventures, LLC (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 Notes and warrants to purchase 2,285,714 shares of the Company’s common stock; Naxyris S.A. (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 Notes and warrants to purchase 285,714 shares of the Company’s common stock; and Biolding Investment SA, a fund affiliated with director HH Sheikh Abdullah bin Khalifa Al Thani, which purchased $2.0 million aggregate principal amount of the Notes and warrants to purchase 285,714 shares of the Company’s common stock. The Initial Sale closed on February 12, 2016, and the Subsequent Sale closed on February 15, 2016.

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. Interest will accrue on the February 2016 Notes from and including, with respect to the Initial Sale, February 12, 2016, and with respect to the Subsequent Sale, February 15, 2016, at a rate of 13.50% per annum and is payable on May 15, 2017, the maturity date of the February 2016 Notes, unless the February 2016 Notes are prepaid in accordance with their terms prior to such date. The February 2016 Purchase Agreement and the February 2016 Notes contain customary terms, provisions, representations and warranties, including certain events of default after which the February 2016 Notes may be due and payable immediately, as set forth in the February 2016 Notes.

The exercisability of the warrants issued in the February 2016 Private Placement, which each have a term of five years, was subject to stockholder approval, which was obtained on May 17, 2016. As of September 30, 2016, the carrying amount of the February 2016 Notes was $17.8 million.

June 2016 Private Placement

On June 24, 2016, the Company entered into a Note Purchase Agreement (or the "June 2016 Purchase Agreement") with Foris Ventures, LLC for the sale of $5.0 million in aggregate principal amount of secured promissory notes (or the "June 2016 Notes") to Foris Ventures, LLC in exchange for aggregate proceeds to the Company of $5.0 million (or the "June 2016 Private Placement"). The June 2016 Notes were issued in a private placement pursuant to the exemption from registration under Section 4(2) of the Securities Act of 1933, as amended and Regulation D promulgated under the Securities Act. The June 2016 Private Placement closed on June 24, 2016.

The June 2016 Notes are collateralized by a second priority lien on the assets securing the Company's obligations under the Senior Secured Loan Facility, and are subordinate to the Company's obligations under the Senior Secured Loan Facility pursuant to a Subordination Agreement, dated as of June 24, 2016, by and among the Company, Foris Ventures, LLC and the administrative agent under the Company's Senior Secured Loan Facility. Interest will accrue on the June 2016 Notes from and including June 24, 2016 at a rate of 13.50% per annum and is payable in full on May 15, 2017, the maturity date of the June 2016 Notes, unless the June 2016 Notes are prepaid in accordance with their terms prior to such date. The June 2016 Purchase Agreement and the June 2016 Notes contain customary terms, provisions, representations and warranties, including certain events of default after which the June 2016 Notes may be due and payable immediately, as set forth in the June 2016 Notes.

See Note 18, "Subsequent Events" for details regarding debt-related financing transactions completed subsequent to September 30, 2016.

Letters of Credit

In June 2012, the Company entered into a letter of credit agreement for $1.0 million under which it provided a letter of credit to the landlord of its headquarters in Emeryville, California, in order to cover the security deposit on the lease. This letter of credit is secured by a certificate of deposit. Accordingly, the Company has $1.0 million as restricted cash under this arrangement as of September 30, 2016 and December 31, 2015.

Future minimum payments under the debt agreements as of September 30, 2016 are as follows (in thousands):

Years ending December 31:	Related Party Convertible Debt	Convertible Debt	Loans Payable	Related Party Loans payable	Credit Facility	Total
2016 (remaining three months)	$ 312	$ 3,240	$ 1,770	$ 844	$ 33,234	$ 39,400
2017	4,837	23,562	2,870	26,257	1,551	59,077
2018	13,937	17,736	2,450	—	322	34,445
2019	26,080	79,937	2,342	—	78	108,437
2020	—	—	2,234	—	—	2,234
Thereafter	—	—	3,314	—	—	3,314
Total future minimum payments	45,166	124,475	14,980	27,101	35,185	246,907
Less: amount representing interest[1]	(4,555)	(55,942)	(2,026)	(4,254	(4,499)	(71,276)
Present value of minimum debt payments	40,611	68,533	12,954	22,847	30,686	175,631
Less: current portion present value of minimum debt payments	(3,611)	(15,357)	(3,275)	(22,847	(29,926)	(75,016)
Noncurrent portion of debt	$ 37,000	$ 53,176	$ 9,679	$ —	$ 760	$ 100,615

(1) Including debt discount of $33.0 million related to the embedded derivatives associated with the related party and non-related party debt which will be accreted to interest expense under the effective interest method over the term of the debt and debt issuance costs of $3.0 million.

In the quarter ended March 31, 2016, the Company adopted ASU 2015-03, *Interest - Imputation of Interest: Simplifying the Presentation of Debt Issuance Costs*, which requires debt issuance costs previously reported as a deferred charge within other noncurrent assets and prepaid expenses and other current assets to be presented as a direct reduction from the carrying amount of debt, consistent with debt discounts, applied retrospectively for all periods presented. As of December 31, 2015, this resulted in the reduction of noncurrent debt by $2.8 million, current debt by $1.4 million, other noncurrent assets by $2.8 million and prepaid expenses and other current assets by $1.4 million.

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 non-cancellable 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 non-cancellable operating lease agreements for office, research and development, and manufacturing space that expire at various dates, with the latest expiration in February 2031. Rent expense under operating leases was $1.3 million and $1.4 million for the three months ended September 30, 2016 and 2015, respectively, and was $4.0 million and $3.9 million for the nine months ended September 30, 2016 and 2015, respectively.

Future minimum payments under the Company's lease obligations as of September 30, 2016, are as follows (in thousands):

Years ending December 31:	Capital Leases	Operating Leases	Total Lease Obligations
2016 (remaining three months)	$471	$ 1,762	$ 2,233
2017	525	6,888	7,413
2018	28	6,890	6,918
2019	—	6,777	6,777
2020	—	7,008	7,008
Thereafter	—	18,210	18,210
Total future minimum lease payments	1,024	$ 47,535	$ 48,559
Less: amount representing interest	(26)		
Present value of minimum lease payments	998		
Less: current portion	(942)		
Long-term portion	$56		

Guarantor Arrangements

The Company has agreements whereby it indemnifies its officers and directors for certain events or occurrences while the officer 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 September 30, 2016 and December 31, 2015.

The Company entered into the FINEP Credit Facility to finance a research and development project on sugarcane-based biodiesel (see Note 5, "Debt"). The FINEP Credit Facility 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 approximately R$6.0 million (approximately US$1.8 million based on the exchange rate as of September 30, 2016).

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The Company entered into the BNDES Credit Facility to finance a production site in Brazil (see Note 5, "Debt").The BNDES Credit Facility is collateralized by a first priority security interest in certain of the Company's equipment and other tangible assets with a total acquisition cost of R$24.9 million (approximately US$7.7 million based on the exchange rate as of September 30, 2016). The Company is a parent guarantor for the payment of the outstanding balance under the BNDES Credit Facility. Additionally, the Company is required to provide certain bank guarantees under the BNDES Credit Facility.

The Company entered into loan agreements and security agreements whereby the Company pledged certain farnesene production assets as collateral (the fiduciary conveyance of movable goods) with each of Nossa Caixa and Banco Pine (see Note 5, "Debt"). The Company's total acquisition cost for the farnesene production assets pledged as collateral under these agreements is approximately R$68.0 million (approximately US$20.9 million based on the exchange rate as of September 30, 2016). The Company is also a parent guarantor for the payment of the outstanding balance under these loan agreements.

The Company had an export financing agreement with Banco ABC Brasil S.A for approximately $2.2 million for a one year term to fund exports through March 2015. As of September 30, 2016, the loan was fully repaid. On April 8, 2015, the Company entered into another export financing agreement with the same bank for approximately $1.6 million for a one year term to fund exports through March 2016. The loan was fully repaid as of September 30, 2016. This loan is collateralized by future exports from Amyris Brasil. The Company is also a parent guarantor for the payment of the outstanding balance under these loan agreements.

In October 2013, the Company entered into a letter agreement with Total relating to the Temasek Bridge Note and to the closing of the August 2013 Financing (or the "Amendment Agreement") (see Note 5, "Debt"). In the August 2013 Financing, the Company was required to provide the purchasers under the August 2013 SPA with a security interest in the Company’s intellectual property if Total still held such security interest as of the initial closing of the August 2013 Financing. Under the terms of a previous Intellectual Property Security Agreement by and between the Company and Total (or the "Security Agreement"), the Company had previously granted a security interest in favor of Total to secure the obligations of the Company under the R&D Notes issued and issuable to Total under the Total Purchase Agreement. The Security Agreement provided that such security interest would terminate if Total and the Company entered into certain agreements relating to the formation of the Fuels JV. In connection with Total’s agreement to (i) permit the Company to grant the security interest under the Temasek Bridge Note and the August 2013 Financing and (ii) waive a secured debt limitation contained in the outstanding R&D Notes issued pursuant to the Total Purchase Agreement and held by Total, the Company entered into the Amendment Agreement. Under the Amendment Agreement, the Company agreed to reduce, effective December 2, 2013, the conversion price for the R&D Notes issued in 2012 from $7.0682 per share to $2.20, the market price per share of the Company’s common stock as of the signing of the Amendment Agreement, as determined in accordance with applicable NASDAQ rules, unless the Company and Total entered into the JV Documents on or prior to December 2, 2013. The Company and Total entered into the JV agreements on December 2, 2013 and the Amendment Agreement and all security interests thereunder were automatically terminated and the conversion price of such R&D Notes remained at $7.0682 per share.

In December 2013, in connection with the execution of JV Documents entered into by and among Amyris, Total and TAB relating to the establishment of TAB (see Note 5, "Debt" and Note 7, "Joint Venture and Noncontrolling Interests"), the Company agreed to exchange the $69.0 million outstanding R&D Notes issued pursuant to the Total Purchase Agreement for replacement 1.5% Senior Secured Convertible Notes due March 2017, and grant a security interest to Total in and lien on all the Company’s rights, title and interest in and to the Company’s shares in the capital of TAB. Following execution of the JV Documents, all Unsecured R&D Notes that had been issued were exchanged for Secured R&D Notes. Further, the $10.85 million in principal amount of such notes issued in the initial tranche of the third closing under the Total Purchase Agreement in July 2014 and the $10.85 million in principal amount of such notes issued in the second tranche of the third closing were Secured R&D Notes instead of Unsecured R&D Notes. "See Note 5,"Debt" for details regarding the impact of the Exchange and Maturity Treatment Agreement on the R&D Notes. In March 2016, as a result of the restructuring of TAB discussed under Note 5, "Debt" and Note 7, "Joint Venture and Noncontrolling Interests," the remaining Secured R&D Notes were exchanged for an unsecured R&D Note in the principal amount of $3.7 million.

The Senior Secured Loan Facility and the June 2016 Notes (see Note 5, "Debt") are collateralized by first and second priority liens, respectively, on the Company's assets, including certain Company intellectual property.

Purchase Obligations

As of September 30, 2016 and December 31, 2015, the Company had $1.1 million and $1.3 million, respectively, in purchase obligations which included $0.6 million and $0.5 million, respectively, of non-cancellable contractual obligations and construction commitments.

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 Brasil 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.

The Company is subject to disputes and claims that arise or have arisen in the ordinary course of business and that have not resulted in legal proceedings or have not been fully adjudicated. Such matters that may arise in the ordinary course of business are subject to many uncertainties and outcomes are not predictable with reasonable assurance and therefore an estimate of all the reasonably possible losses cannot be determined at this time. Therefore, if one or more of these legal disputes or claims resulted in settlements or legal proceedings that were resolved against the Company for amounts in excess of management’s expectations, the Company’s consolidated financial statements for the relevant reporting period could be materially adversely affected.

7. Joint Ventures and Noncontrolling Interests

Novvi LLC

In September 2011, the Company and Cosan US, Inc. (or "Cosan U.S.") formed Novvi LLC (or "Novvi"), a U.S. entity that is jointly owned by the Company and Cosan U.S. In March 2013, the Company and Cosan U.S. entered into agreements to (i) expand their base oils joint venture to also include additives and lubricants and (ii) operate their joint venture exclusively through Novvi. Specifically, the parties entered into an Amended and Restated Operating Agreement for Novvi (or the "Operating Agreement"), which sets forth the governance procedures for Novvi and the parties' initial contribution. The Company also entered into an IP License Agreement with Novvi (as amended in March 2016, the "IP License Agreement") under which the Company granted Novvi (i) an exclusive (subject to certain limited exceptions for the Company), worldwide, royalty-free license to develop, produce and commercialize base oils, additives, and lubricants derived from Biofene for use in automotive, commercial, and industrial lubricants markets, and (ii) a non-exclusive, royalty free license, subject to certain conditions, to manufacture Biofene solely for its own products. In addition, both the Company and Cosan U.S. granted Novvi certain rights of first refusal with respect to alternative base oil and additive technologies that may be acquired by the Company or Cosan U.S. during the term of the IP License Agreement. Under these agreements, through September 30, 2016 the Company and Cosan U.S. each owned 50% of Novvi and each party shared equally in any costs and any profits ultimately realized by the joint venture. Novvi is governed by a six member Board of Managers (or the "Board of Managers"). The Board of Managers appoints the officers of Novvi, who are responsible for carrying out the daily operating activities of Novvi as directed by the Board of Managers. The IP License Agreement has an initial term of 20 years from the date of the agreement, subject to standard early termination provisions such as uncured material breach or a party's insolvency. Under the terms of the Operating Agreement, Cosan U.S. was obligated to fund its initial 50% ownership share of Novvi in cash in the amount of $10.0 million and the Company was obligated to fund its initial 50% ownership share of Novvi through the granting of an IP License to develop, produce and commercialize base oils, additives, and lubricants derived from Biofene for use in the automotive, commercial and industrial lubricants markets, which Cosan U.S. and Amyris agreed was valued at $10.0 million. In March 2013, the Company measured its initial contribution of intellectual property to Novvi at the Company's carrying value of the licenses granted under the IP License Agreement, which was zero.

In April 2014, the Company, via its forgiveness of existing receivables due from Novvi related to rent and other services performed by the Company, purchased additional membership units of Novvi for a purchase price of $0.2 million. Concurrently, Cosan U.S. purchased an equal amount of additional membership units of Novvi. Also in April 2014, the Company and Cosan U.S. each contributed $2.1 million in cash in exchange for receiving additional membership units in Novvi. Following such transactions, the Company and Cosan U.S. continued to each own 50% of Novvi's issued and outstanding membership units.

In September 2014, the Company and Cosan U.S. entered into a member senior loan agreement to grant Novvi a loan amounting to approximately $3.7 million. The loan is due on September 1, 2017 and bears interest at a rate of 0.36% per annum. Interest accrues daily and is due and payable in arrears on September 1, 2017. The Company and Cosan U.S. each agreed to provide 50% of the loan. The Company's share of approximately $1.8 million was disbursed in two installments. The first installment of $1.2 million was made in September 2014 and the second installment of $0.6 million was made in October 2014. In November 2014, the Company and Cosan U.S. entered into a second member senior loan agreement to grant Novvi a loan of approximately $1.9 million on the same terms as the loan issued in September 2014, except that the due date is November 10, 2017. The Company and Cosan U.S. each agreed to provide 50% of the loan. The Company disbursed its share of the loan (i.e., approximately $1.0 million) in November 2014. In May 2015, the Company and Cosan U.S. entered into a third member senior loan agreement to grant Novvi a loan of approximately $1.1 million on the same terms as the loan issued in September 2014, except that the due date is May 14, 2018. The Company and Cosan U.S. each agreed to provide 50% of the loan.

In the fourth quarter of 2015, the Company and Cosan U.S. entered into four additional member senior loan agreements to grant Novvi an aggregate loan of approximately $1.6 million on the same terms as the loan issued in September 2014, except that the respective due dates are August 19, 2018, October 15, 2018, November 12, 2018 and December 17, 2018. The Company and Cosan U.S. each agreed to provide 50% of each of these four loans. In July 2016, the Company contributed all outstanding amounts owing by Novvi to the Company under the seven member senior loan agreements in exchange for receiving additional membership units in Novvi.

In February 2016, the Company purchased additional membership units of Novvi for an aggregate purchase price of approximately $0.6 million in the form of forgiveness of existing receivables due from Novvi related to rent and other services performed by the Company, and Cosan U.S. purchased an equal number of additional membership units in Novvi for approximately $0.6 million in cash. Following such transactions, each member continued to own 50% of Novvi's issued and outstanding membership units.

On July 19, 2016, American Refining Group, Inc. (or "ARG") agreed to make a capital contribution of up to $10.0 million in cash to Novvi, subject to certain conditions, in exchange for a one third ownership stake in Novvi. In connection with such investment, the Company agreed to contribute all outstanding amounts owed by Novvi to the Company under the seven existing member senior loan agreements between the Company and Novvi, as well as certain existing receivables due from Novvi to the Company related to rent and other services performance by the Company, in exchange for receiving additional membership units in Novvi. Likewise, Cosan U.S. contributed an equal amount to Novvi as the Company in exchange for receiving an equal amount of additional membership interests in Novvi. Following the ARG investment, assuming it is made in full, and the capital contributions of the Company and Cosan U.S., each of Novvi’s three members (i.e., ARG, the Company and Cosan U.S.) will own one third of Novvi’s issued and outstanding membership units and will each be represented by two members of the Board of Managers. In order to reflect the ARG investment in Novvi and related transactions, the Amended and Restated Operating Agreement of Novvi was amended and restated on July 19, 2016. In addition, the IP License Agreement between Novvi and the Company was also amended on July 19, 2016. As of September 30, 2016, $4.0 million of ARG's capital contribution to Novvi had been funded.

Additional funding requirements to finance the ongoing operations of Novvi are expected to happen through revolving credit or other loan facilities provided by unrelated parties (i.e., such as financial institutions); cash advances or other credit or loan facilities provided by Novvi's members or their affiliates; or additional capital contributions by the existing Novvi members or new investors.

The Company has identified Novvi as a VIE and determined that the power to direct activities, which most significantly impact the economic success of the joint venture (i.e., continuing research and development, marketing, sales, distribution and manufacturing of Novvi products), the Company and Cosan U.S. Accordingly, the Company is not the primary beneficiary and therefore accounts for its investment in Novvi under the equity method of accounting. The Company will continue to reassess its primary beneficiary analysis of Novvi if there are changes in events and circumstances impacting the power to direct activities that most significantly affect Novvi's economic success. Under the equity method, the Company's share of profits and losses and impairment charges on investments in affiliates are included in "Loss from investments in affiliates" in the condensed consolidated statements of operations. The carrying amount of the Company's equity investment in Novvi as of September 30, 2016 and December 31, 2015 was zero and the Company recognized zero and $0.7 million losses for the three months ended September 30, 2016 and 2015, respectively, and zero and $2.1 million for the nine months ended September 30, 2016 and 2015, respectively.

Total Amyris BioSolutions B.V.

In November 2013, the Company and Total formed Total Amyris BioSolutions B.V. (or "TAB"), a joint venture to produce and commercialize farnesene- or farnesane-based jet and diesel fuels. Prior to the restructuring of TAB in March 2016 as described below, the common equity of TAB was owned equally by the Company and Total, and TAB's purpose was limited to executing the License Agreement dated December 2, 2013 between the Company, Total and TAB and maintaining such licenses under it, unless and until either (i) Total elected to go forward with either the full (diesel and jet fuel) TAB commercialization program or the jet fuel component of the TAB commercialization program (or a "Go Decision"), (ii) Total elected to not continue its participation in the R&D Program and TAB (or a "No-Go Decision"), or (iii) Total exercised any of its rights to buy out the Company's interest in TAB. Following a Go Decision, the articles and shareholders' agreement of TAB would be amended and restated to be consistent with the shareholders' agreement contemplated by the Total Fuel Agreements (see Note 5, "Debt" and Note 8, "Significant Agreements").

In July 2015, the Company and Total entered into a Letter Agreement (or, as amended in February 2016, the "TAB Letter Agreement") regarding the restructuring of the ownership and rights of TAB (or the "Restructuring"), pursuant to which the parties agreed to, among other things, enter into an Amended & Restated Jet Fuel License Agreement between the Company and TAB (or the "Jet Fuel Agreement"), a License Agreement regarding Diesel Fuel in the European Union (or the "EU") between the Company and Total (or the "EU Diesel Fuel Agreement"), and an Amended and Restated Shareholders' Agreement among the Company, Total and TAB, and file a Deed of Amendment of Articles of Association of TAB, all in order to reflect certain changes to the ownership structure of TAB and license grants and related rights pertaining to TAB.

On February 12, 2016, the Company and Total entered into an amendment to the TAB Letter Agreement, pursuant to which the parties agreed that, upon the closing of the Restructuring, Total would cancel R&D Notes in an aggregate principal amount of approximately $1.3 million, plus all paid-in-kind and accrued interest as of the closing of the Restructuring under all outstanding R&D Notes (including all such interest that was outstanding as of July 29, 2015), and a note in the principal amount of Euro 50,000, plus accrued interest, issued by the Company to Total in connection with the existing TAB capitalization, in exchange for an additional 25% ownership interest of TAB (giving Total an aggregate ownership stake of 75% of TAB and giving the Company an aggregate ownership stake of 25% of TAB). In connection therewith, Total would surrender to the Company the remaining R&D Notes and the Company would provide to Total a new unsecured senior convertible note, containing substantially similar terms and conditions, in the principal amount of $3.7 million (collectively, the "TAB Share Purchase").

On March 21, 2016, the Company, Total and TAB closed the Restructuring and the TAB Share Purchase. See Note 5, “Debt” for further details of the impact of these transaction on the Company’s condensed consolidated financial statements.

Under the Jet Fuel Agreement, (a) the Company granted exclusive (co-exclusive in Brazil), world-wide, royalty-free rights to TAB for the production and commercialization of farnesene- or farnesane-based jet fuel, (b) the Company granted TAB the option, until March 1, 2018, to purchase the Company’s Brazil jet fuel business at a price based on the fair value of the commercial assets and on the Company’s investment in other related assets, (c) the Company granted TAB the right to purchase farnesene or farnesane for its jet fuel business from the Company on a “most-favored” pricing basis and (d) all rights to farnesene- or farnesane-based diesel fuel previously granted to TAB by the Company reverted back to the Company. As a result of the Jet Fuel Agreement, the Company generally no longer has an independent right to make or sell, without the approval of TAB, farnesene- or farnesane-based jet fuels outside of Brazil.

Upon all farnesene-or farnesane-based diesel fuel rights reverting back to the Company, the Company granted to Total, pursuant to the EU Diesel Fuel Agreement, (a) an exclusive, royalty-free license to offer for sale and sell farnesene- or farnesane-based diesel fuel in the EU, (b) the non-exclusive right to make farnesene or farnesane anywhere in the world, but Total must (i) use such farnesene or farnesane to produce only diesel fuel to offer for sale or sell in the EU and (ii) pay the Company a to-be-negotiated, commercially reasonable, “most-favored” basis royalty and (c) the right to purchase farnesene or farnesane for its EU diesel fuel business from the Company on a “most-favored” pricing basis. As a result of the EU Diesel Fuel Agreement, the Company generally no longer has an independent right to make or sell, without the approval of TAB, farnesene- or farnesane-based diesel fuels in the EU.

As a result of, and in order to reflect, the changes to the ownership structure of TAB described above, on March 21, 2016, (a) the Company, Total and TAB entered into an Amended and Restated Shareholders’ Agreement and filed a Deed of Amendment of Articles of Association of TAB and (b) the Company and Total terminated the Amended and Restated Master Framework Agreement, dated December 2, 2013 and amended on April 1, 2015, between the Company and Total.

As of September 30, 2016, the common equity of TAB was owned 25% by the Company and 75% by Total. TAB has a capitalization as of September 30, 2016 of €0.1 million (approximately US$0.1 million based on the exchange rate as of September 30, 2016). The Company has identified TAB as a VIE and determined that the Company is not the primary beneficiary and therefore accounts for its investment in TAB under the equity method of accounting. Under the equity method, the Company's share of profits and losses are included in “Loss from investment in affiliate” in the consolidated statements of operations.

SMA Indústria Química S.A.

In April 2010, the Company established SMA Indústria Química (or "SMA"), a joint venture with São Martinho S.A. (or "SMSA"), to build a production facility in Brazil. SMA is located at the SMSA mill in Pradópolis, São Paulo state. The joint venture agreements establishing SMA have a 20 year initial term.

SMA was initially managed by a three member executive committee, of which the Company appointed two members, one of whom is the plant manager who is the most senior executive responsible for managing the construction and operation of the facility. SMA was initially governed by a four member board of directors, of which the Company and SMSA each appointed two members. The board of directors had certain protective rights which include final approval of the engineering designs and project work plan developed and recommended by the executive committee.

The joint venture agreements required the Company to fund the construction costs of the new facility and SMSA would reimburse the Company up to R$61.8 million (approximately US$19.0 million based on the exchange rate as of September 30, 2016) of the construction costs after SMA commences production. After commercialization, the Company would market and distribute Amyris renewable products produced by SMA and SMSA would sell feedstock and provide certain other services to SMA. The cost of the feedstock to SMA would be a price that is based on the average return that SMSA could receive from the production of its current products, sugar and ethanol. The Company would be required to purchase the output of SMA for the first four years at a price that guarantees the return of SMSA's investment plus a fixed interest rate. After this four year period, the price would be set to guarantee a break-even price to SMA plus an agreed upon return.

Under the terms of the joint venture agreements, if the Company became controlled, directly or indirectly, by a competitor of SMSA, then SMSA would have the right to acquire the Company's interest in SMA. If SMSA became controlled, directly or indirectly, by a competitor of the Company, then the Company would have the right to sell its interest in SMA to SMSA. In either case, the purchase price would be determined in accordance with the joint venture agreements, and the Company would continue to have the obligation to acquire products produced by SMA for the remainder of the term of the supply agreement then in effect even though the Company would no longer be involved in SMA's management.

The Company initially had a 50% ownership interest in SMA. The Company has identified SMA as a VIE pursuant to the accounting guidance for consolidating VIEs because the amount of total equity investment at risk is not sufficient to permit SMA to finance its activities without additional subordinated financial support, as well as because the related commercialization agreement provides a substantive minimum price guarantee. Under the terms of the joint venture agreement, the Company directed the design and construction activities, as well as production and distribution. In addition, the Company had the obligation to fund the design and construction activities until commercialization was achieved. Subsequent to the construction phase, both parties equally would fund SMA for the term of the joint venture. Based on those factors, the Company was determined to have the power to direct the activities that most significantly impact SMA's economic performance and the obligation to absorb losses and the right to receive benefits. Accordingly, the financial results of SMA are included in the Company's consolidated financial statements and amounts pertaining to SMSA's interest in SMA are reported as noncontrolling interests in subsidiaries.

The Company completed a significant portion of the construction of the new facility in 2012. The Company suspended construction of the facility in 2013 in order to focus on completing and operating the Company's smaller production facility in Brotas, Brazil. In February 2014, the Company entered into an amendment to the joint venture agreement with SMSA which updated and documented certain preexisting business plan requirements related to the recommencement of construction at the joint venture operated plant and sets forth, among other things, (i) the extension of the deadline for the commencement of operations at the joint venture operated plant to no later than 18 months following the construction of the plant no later than March 31, 2017, and (ii) the extension of an option held by SMSA to build a second large-scale farnesene production facility to no later than December 31, 2018 with the commencement of operations at such second facility to occur no later than April 1, 2019. On July 1, 2015 SMSA filed a material fact document with CVM, the Brazilian securities regulator, that announced that certain contractual targets undertaken by the Company have not been achieved, which affects the feasibility of the project. Therefore, SMSA decided not to approve continuing construction of the plant for the joint venture with the Company and its Brazilian subsidiary Amyris Brasil. In July 2015, the Company announced that it was in discussions with SMSA regarding the continuation of the joint venture. In December 2015, the Company and SMSA entered into a Termination Agreement and a Share Purchase and Sale Agreement relating to the termination of the joint venture. Under the Termination Agreement, the parties agreed that the joint venture would be terminated effective upon the closing of a purchase by Amyris Brasil of SMSA's shares of SMA. Under the Share Purchase and Sale Agreement, Amyris Brasil agreed to purchase, for R$50,000 (approximately US$15,426 based on the exchange rate as of September 30, 2016), 50,000 shares of SMA (representing all the outstanding shares of SMA held by SMSA), which purchase and sale was consummated on January 11, 2016. The Share Purchase and Sale Agreement also provided that the Company and Amyris Brasil would have 12 months following the closing of the share purchase to remove assets from SMSA's site, and enter into an extension of the lease for such 12 month period for monthly rental payments of R$9,853 (approximately US$3,040 based on the exchange rate as of September 30, 2016). The Share Purchase and Sale Agreement also clarified that the Company and Amyris Brasil would not be required to demolish or remove the foundations of the plant at the SMSA site. On September 1, 2016, the parties entered into an addendum to the Share Purchase and Sale Agreement (and a corresponding amendment to the lease) which extended the deadline for the Company and Amyris Brasil to remove assets from SMSA's site until December 31, 2017.

Glycotech

In January 2011, the Company entered into a production service agreement (or the "Glycotech Agreement") with Glycotech, Inc. (or "Glycotech"), under which Glycotech provides process development and production services for the manufacturing of various Company products at its leased facility in Leland, North Carolina. The Company products manufactured by Glycotech are owned and distributed by the Company. Pursuant to the terms of the Glycotech Agreement, the Company is required to pay the manufacturing and operating costs of the Glycotech facility, which is dedicated solely to the manufacture of Amyris products. The initial term of the Glycotech Agreement was for a two year period commencing on February 1, 2011 and the Glycotech Agreement renews automatically for successive one-year terms, unless terminated by the Company. Concurrent with the Glycotech Agreement, the Company also entered into a Right of First Refusal Agreement with the lessor of the facility and site leased by Glycotech (or the "ROFR Agreement"). Per conditions of the ROFR Agreement, the lessor agreed not to sell the facility and site leased by Glycotech during the term of the Glycotech Agreement. In the event that the lessor is presented with an offer to sell or decides to sell an adjacent parcel, the Company has the right of first refusal to acquire it.

The Company has determined that the arrangement with Glycotech qualifies as a VIE. The Company determined that it is the primary beneficiary of this arrangement since it has the power through the management committee over which it has majority control to direct the activities that most significantly impact Glycotech's economic performance. In addition, the Company is required to fund 100% of Glycotech's actual operating costs for providing services each month while the facility is in operation under the Glycotech Agreement. Accordingly, the Company consolidates the financial results of Glycotech. The carrying amounts of Glycotech's assets and liabilities were not material to the Company's condensed consolidated financial statements.

The table below reflects the carrying amount of the assets and liabilities of the consolidated VIE for which the Company is the primary beneficiary at September 30, 2016 (two at December 31, 2015). As of September 30, 2016 and December 31, 2015, the assets include $0.1 million and $5.2 million in property, plant and equipment, respectively, $0.4 million and $1.5 million in current assets, respectively, and zero and $0.3 million in other assets as of September 30, 2016 and December 31, 2015 include, respectively. As of September 30, 2016 and December 31, 2015, the liabilities include $0.2 million and $1.1 million, respectively, in accounts payable and accrued current liabilities, and $0.1 million and $0.1 million, respectively, in loan obligations by Glycotech to its shareholders that are non-recourse to the Company. The creditors of each consolidated VIE have recourse only to the assets of that VIE.

(In thousands)	September 30, 2016	December 31, 2015
Assets	$ 493	$ 6,993
Liabilities	$ 257	$ 1,221

The change in noncontrolling interest for the nine months ended September 30, 2016 and 2015, is summarized below (in thousands):

	2016	2015
Balance at January 1	$391	$611
Foreign currency translation adjustment	—	(393)
Income attributable to noncontrolling interest	—	78
Acquisition of noncontrolling interest	(277)	—
Balance at September 30	$114	$296

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8. Significant Agreements

Research and Development Activities

Total Collaboration Arrangement

In June 2010, the Company entered into a technology license, development, research and collaboration agreement (or the "Total Collaboration Agreement") with Total Gas & Power USA Biotech, Inc., an affiliate of Total. This agreement provided for joint collaboration on the development of products through the use of the Company's synthetic biology platform. In November 2011, the Company entered into a first amendment of the Total Collaboration Agreement with respect to development and commercialization of Biofene for fuels. This represented an expansion of the initial collaboration with Total, and established a global, exclusive collaboration for the development of Biofene for fuels and a framework for the creation of a joint venture to manufacture and commercialize Biofene for diesel. In addition, a limited number of other potential products were subject to development by the joint venture on a non-exclusive basis.

The first amendment provided for an exclusive strategic collaboration for the development of renewable diesel products and contemplated that the parties would establish a joint venture (or the "JV") for the production and commercialization of such renewable diesel products on an exclusive, worldwide basis. In addition, the first amendment contemplated providing the JV with the right to produce and commercialize certain other chemical products on a non-exclusive basis. The first amendment further provided that definitive agreements to form the JV had to be in place by March 31, 2012 or such other date as agreed to by the parties or the renewable diesel program, including any further collaboration payments by Total related to the renewable diesel program, would terminate. In the second quarter of 2012, the parties extended the deadline to June 30, 2012, and, through June 30, 2012, the parties were engaged in discussions regarding the structure of future payments related to the program, until the first amendment was superseded by a second amendment in July 2012 (as further described below).

Pursuant to the first amendment, Total agreed to fund the following amounts: (i) the first $30.0 million in research and development costs related to the renewable diesel program incurred since August 1, 2011, which amount would be in addition to the $50.0 million in research and development funding contemplated by the Total Collaboration Agreement, and (ii) for any research and development costs incurred following the JV formation date that were not covered by the initial $30.0 million, an additional $10.0 million in 2012 and up to an additional $10.0 million in 2013, which amounts would be considered part of the $50.0 million contemplated by the Total Collaboration Agreement. In addition to these payments, Total further agreed to fund 50% of all remaining research and development costs for the renewable diesel program under the Amendment.

In July 2012, the Company entered into a second amendment of the Total Collaboration Agreement that expanded Total’s investment in the Biofene collaboration, incorporated the development of certain JV products for use in diesel and jet fuel into the scope of the collaboration, and changed the structure of the funding from Total for the collaboration by establishing a convertible debt structure for the collaboration funding (see Note 5, “Debt”). In connection with such second amendment Total and the Company also executed certain other related agreements. Under these agreements (collectively referred to as the “Total Fuel Agreements”), the parties would grant exclusive manufacturing and commercial licenses to the JV for the JV products (diesel and jet fuel from Biofene) when the JV was formed. The licenses to the JV were to be consistent with the principle that development, production and commercialization of the JV products in Brazil would remain with Amyris unless Total elected, after formation of the operational JV, to have such business contributed to the joint venture. Further, as part of the Total Fuel Agreements, Total's royalty option contingency related to diesel was removed and the jet fuel collaboration was combined with the expanded Biofene collaboration. As a result, $46.5 million of payments previously received from Total that had been recorded as an advance from Total were no longer contingently repayable. Of this amount, $23.3 million was treated as a repayment by the Company and included as part of the senior unsecured convertible promissory note issued to Total in July 2012 and the remaining $23.2 million was recorded as a contract to perform research and development services, which was offset by the reduction of the capitalized deferred charge asset of $14.4 million resulting in the Company recording revenue from a related party of $8.9 million in 2012. On March 21, 2016, the Company and Total consummated a restructuring of the JV pursuant to a letter agreement dated July 26, 2015, as amended on February 12, 2016, which restructuring included, among other things, the parties amending certain of the Total Fuel Agreements and the Company selling part of its ownership stake in the JV to Total in exchange for Total cancelling certain outstanding indebtedness issued to Total by the Company. In July 2016, the Company and Total agreed to extend the term of the Total Collaboration Agreement from July 31, 2016 to March 1, 2017 pursuant to the terms of the Total Collaboration Agreement. See Note 5, "Debt" and Note 7, "Joint Ventures and Noncontrolling Interest" for further details of the Company’s relationship with Total.

F&F Collaboration Agreement

In March 2013, the Company entered into a Master Collaboration Agreement (or, as amended in July 2015, the "F&F Collaboration Agreement") with a collaboration partner to establish a collaboration arrangement for the development and commercialization of multiple renewable flavors and fragrances compounds. Under the F&F Collaboration Agreement, except for rights granted under pre-existing collaboration relationships, the Company granted the collaboration partner 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 F&F Collaboration Agreement superseded and expanded the November 2010 Master Collaboration and Joint Development Agreement between the Company and the collaboration partner.

The F&F Collaboration Agreement provided for annual, up-front funding to the Company by the collaboration partner 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 F&F Collaboration Agreement contemplates additional funding by the collaboration partner 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 September 2016, the Company had achieved the third performance milestone under the F&F Collaboration Agreement and recognized collaboration revenues of $1.3 million under the F&F Collaboration Agreement for the three months ended September 30, 2016 and $5.5 million for the nine months ended September 30, 2016. The F&F 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 F&F Collaboration Agreement, the parties agreed to jointly select target compounds, subject to final approval of compound specifications by the collaboration partner. During the development phase, the Company would be required to provide labor, intellectual property and technology infrastructure and the collaboration partner would be required to contribute downstream polishing expertise and market access. The F&F Collaboration Agreement provides that the Company will own research and development and strain engineering intellectual property, and the collaboration partner will own blending and, if applicable, chemical conversion intellectual property. Under certain circumstances, such as the Company's insolvency, the collaboration partner would gain expanded access to the Company's intellectual property. The F&F Collaboration Agreement contemplates that, following development of flavors and fragrances compounds, the Company will manufacture the initial target molecules for the compounds and the collaboration partner will perform any required downstream polishing and distribution, sales and marketing. The F&F 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 the collaboration partner) until the collaboration partner 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 the collaboration partner of up to $2.5 million if certain commercialization targets are met.

In September 2014, the Company entered into a supply agreement with the collaboration partner for a compound developed under the F&F Collaboration Agreement. The Company recognized $0.1 million and $1.3 million of revenues from product sales under this agreement for the three months ended September 30, 2016 and 2015, respectively and $4.7 million and $1.3 million for the nine months ended September 30, 2016 and 2015.

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Michelin and Braskem Collaboration Agreements

In June 2014, the Company entered into a collaboration agreement with Braskem S.A. (or "Braskem") and Manufacture Francaise de Pnematiques Michelin (or "Michelin") to collaborate to develop the technology to produce and possibly commercialize renewable isoprene. The term of the collaboration agreement commenced on June 30, 2014 and will continue, unless earlier terminated in accordance with the agreement, until the first to occur of (i) the date that is three years following the actual date on which a work plan is completed, which date is estimated to occur on or about December 30, 2020, or (ii) the date of the commencement of commissioning of a production plant for the production of renewable isoprene. The June 2014 collaboration agreement terminated and superseded the September 2011 collaboration agreement between the Company and Michelin and, as a result of the signing of the June 2014 collaboration agreement, the upfront payment by Michelin of $5.0 million under the September 2011 collaboration agreement was rolled forward into the new collaboration agreement as Michelin's funding towards the research and development activities to be performed under the new collaboration agreement. Braskem contributed $4.0 million of funding to the research and development activities under the June 2014 collaboration agreement, of which $2.0 million was received in July 2014 and $2.0 million was received in January 2015.

For this collaboration agreement, the Company recognized collaboration revenues of zero and zero for the three months ended September 30, 2016 and 2015, respectively, and $0.1 million and $1.9 million for the nine months ended September 30, 2016 and 2015, respectively. As of September 30, 2016 and 2015, $6.5 million and $6.3 million, respectively, of deferred revenues were recorded in the condensed consolidated balance sheet related to these agreements.

Kuraray Collaboration Agreement and Securities Purchase Agreement

In March 2014, the Company entered into the Second Amended and Restated Collaboration Agreement with Kuraray Co., Ltd (or "Kuraray") in order to extend the term of the original collaboration agreement between the Company and Kuraray dated July 21, 2011 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 connection with entering into the Second Amended and Restated Collaboration Agreement, Kuraray signed a Securities Purchase Agreement in March 2014 to purchase 943,396 shares of the Company's common stock at a price per share of $4.24 per share, which shares were sold and issued in April 2014 for aggregate cash proceeds to the Company of $4.0 million. 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 original 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.

The Company recognized collaboration revenues of $0.4 million and $0.3 million for the three months ended September 30, 2016 and 2015, and $1.1 million and $1.2 million for the nine months ended September 30, 2016 and 2015, respectively, under this agreement.

DARPA

In September 2015, the Company entered into a Technology Investment Agreement (or 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 four year term if all of the program’s milestones are achieved. In conjunction with DARPA’s funding, the Company and its subcontractors are obligated to collectively contribute approximately $15.5 million toward the program over its four year term (primarily by providing specified labor and/or purchasing certain equipment). 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 $1.3 million and zero under this agreement for the three months ended September 30, 2016 and 2015, respectively, and $4.8 million and zero for the nine months ended September 30, 2016 and 2015, respectively.

Givaudan Collaboration Agreement

In June 2016, the Company entered into a Collaboration Agreement with Givaudan International, SA (or “Givaudan”), a global flavors and fragrances company, to establish a collaboration for the development and commercialization of certain renewable compounds for use in the fields of active cosmetics and flavors. Under this collaboration agreement, the Company will use its labor, intellectual property and technology infrastructure to develop and commercialize certain compounds for Givaudan. In exchange, Givaudan will pay to the Company $12.0 million in semi-annual installments of $3.0 million each, beginning on June 30, 2016. The Company received the first installment of $3.0 million on June 30, 2016 and this amount was recognized in deferred revenue as of that date.

Pursuant to this collaboration agreement, the Company will 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 will also grant to Givaudan non-exclusive rights to certain portions of the Company’s existing intellectual property in order to facilitate activities under the agreement. Givaudan, on the other hand, will grant to the Company a non-exclusive license to the intellectual property that is generated under the 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 agreement. In addition, the 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.

The Company recognized collaboration revenues of $1.6 million under this agreement for the three months ended September 30, 2016.

Ginkgo Initial Strategic Partnership Agreement and Collaboration Agreement

In June 2016, the Company entered into an Initial Strategic Partnership Agreement (or the “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. The first installment of $15.0 million was received on July 25, 2016. The second installment, in the amount of $5.0 million is to be received, based upon the satisfaction of certain conditions as set forth below, by March 31, 2017. The Company recognized $15 million of collaboration revenue under the Initial Ginkgo Agreement for the three months ended September 30, 2016. Furthermore, in connection with the Initial Ginkgo Agreement, on June 29, 2016, 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.

In addition, addition, pursuant to the Initial Ginkgo Agreement, 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 (or the “Collaboration”) and, in connection with the entry into the Initial Ginkgo Agreement, on June 29, 2016, the Company received a deferment of all scheduled principal repayments under the Senior Secured Loan Facility, as well as a waiver of the Minimum Cash Covenant, through October 31, 2016. Furthermore, pursuant to the Initial Ginkgo Agreement, in connection with the execution of the definitive agreement for the Collaboration, (i) the Company would issue to Ginkgo an option to purchase five million shares of common stock of the Company at an exercise price of $0.50, exercisable for one year from the date of issuance and (ii) the parties would effect an amendment of the Company’s Senior Secured Loan Facility 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.

On August 6, 2016, the Company issued to Ginkgo a warrant to purchase five million shares of the Company's common stock at an exercise price of $0.50 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 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 (or the "Ginkgo Collaboration Agreement") setting forth the terms of the 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 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 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 million on or before March 31, 2017.

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 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, subject to the right of the parties to terminate the Ginkgo Collaboration Agreement by mutual agreement, in the event of a material breach by the other party, or in the event the other party undergoes a change of control. In addition, the Ginkgo Collaboration Agreement provides that the parties will evaluate the performance of the 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.

The Ginkgo Collaboration Agreement contains customary representations and warranties of the parties, as well as customary terms and provisions regarding, among other things, indemnification, dispute resolution, governing law and confidentiality.

See Note 18, “Subsequent Events” for additional details regarding the amendment to the Company’s Senior Secured Loan Facility entered into in connection with the execution of the Ginkgo Collaboration Agreement.

Financing Agreements

Bill & Melinda Gates Foundation Investment

On April 8, 2016, the Company entered into a Securities Purchase Agreement with the Bill & Melinda Gates Foundation (the “Gates Foundation”), pursuant to which the Company agreed to sell and issue 4,385,964 shares of its common stock to the Gates Foundation in a private placement at a purchase price per share equal to $1.14, the average of the daily closing price per share of the Company’s common stock on the NASDAQ Stock Market for the twenty consecutive trading days ending on April 7, 2016, for aggregate proceeds to the Company of approximately $5,000,000 (the “Gates Foundation Investment”). The Securities Purchase Agreement includes customary representations, warranties and covenants of the parties. The closing of the Gates Foundation Investment occurred on May 10, 2016.

In connection with the entry into the Securities Purchase Agreement, on April 8, 2016, the Company and the Gates Foundation entered into a Charitable Purposes Letter Agreement, pursuant to which the Company agreed to expend an aggregate amount not less than the amount of the Gates Foundation Investment to develop a yeast strain that produces artemisinic acid and/or amorphadiene at a low cost and to supply such artemisinic acid and amorphadiene to companies qualified to convert artemisinic acid and amorphadiene to artemisinin for inclusion in artemisinin combination therapies used to treat malaria commencing in 2017. If the Company defaults in its obligation to use the proceeds from the Gates Foundation Investment as set forth above or defaults under certain other commitments in the Charitable Purposes Letter Agreement, the Gates Foundation will have the right to request that the Company redeem, or facilitate the purchase by a third party of, the Gates Foundation Investment shares then held by the Gates Foundation at a price per share equal to the greater of (i) the closing price of the Company’s common stock on the trading day prior to the redemption or purchase, as applicable, or (ii) an amount equal to $1.14 plus a compounded annual return of 10%. The funding received is classified as mezzanine equity.

2016 Convertible Note Offering

See Note 5, “Debt” for details regarding the 2016 Convertible Note Offering.

February and June 2016 Private Placements

See Note 5, “Debt” for details regarding the February and June 2016 Private Placements.

At Market Issuance Sales Agreement

On March 8, 2016, the Company entered into an At Market Issuance Sales Agreement (the “ATM Sales Agreement”) with FBR Capital Markets & Co. and MLV & Co. LLC (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 (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 nine months ended September 30, 2016, 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.

9. Goodwill and Intangible Assets

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

		September 30, 2016			December 31, 2015		
	Useful Life in Years	Gross Carrying Amount	Accumulated Amortization/ Impairment	Net Carrying Value	Gross Carrying Amount	Accumulated Amortization/ Impairment	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 in-process research and development (IPR&D) of $8.6 million was acquired through the acquisition of Draths in October 2011 and was treated as indefinite lived intangible assets pending completion or abandonment of the projects to which the IPR&D related. The IPR&D was fully impaired in 2015.

The Company has a single reportable segment (see Note 15, “Reporting Segments” for further details). Consequently, all of the Company's goodwill is attributable to that single reportable segment.

10. Stockholders’ Deficit

Unexercised Common Stock Warrants

As of September 30, 2016 and 2015, the Company had 14,663,411 and 50,699,368, respectively, of unexercised common stock warrants with exercise prices ranging from $0.01 to $10.67 per warrant and a weighted average remaining maturity of 5.9 years.

11. Stock-Based Compensation

The Company’s stock option activity and related information for the nine months ended September 30, 2016 was as follows:

	Number Outstanding	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Life (Years)	Aggregate Intrinsic Value
				(in thousands)
Outstanding - December 31, 2015	12,930,112	$ 4.77	7.39	$ 22
Options granted	3,324,775	$ 0.58	—	—
Options exercised	(134)	$ 0.28	—	—
Options cancelled	(2,393,835)	$ 5.59	—	—
Outstanding - September 30, 2016	13,860,918	$ 3.62	7.27	$ —
Vested and expected to vest after September 30, 2016	12,598,270	$ 3.86	7.08	$ —
Exercisable at September 30, 2016	6,788,182	$ 5.84	5.47	$ —

The aggregate intrinsic value of options exercised under all option plans was $0.0 million for each of the three months ended September 30, 2016 and 2015, and $0.0 million for each of the nine months ended September 30, 2016 and 2015, determined as of the date of option exercise.

The Company’s restricted stock units (or "RSUs") and restricted stock activity and related information for the nine months ended September 30, 2016 was as follows:

	RSUs	Weighted-Average Grant-Date Fair Value	Weighted Average Remaining Contractual Life (Years)
Outstanding - December 31, 2015	5,554,844	$ 2.03	1.61
Awarded	4,374,389	$ 0.60	—
Vested	(1,467,569)	$ 2.19	—
Forfeited	(987,109)	$ 1.49	—
Outstanding - September 30, 2016	7,474,555	$ 1.23	1.52
Expected to vest after September 30, 2016	5,898,952	$ 2.72	1.39

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The following table summarizes information about stock options outstanding as of September 30, 2016:

	Options Outstanding			Options Exercisable	
Exercise Price	Number of Options	Weighted-Average Remaining Contractual Life (Years)	Weighted-Average Exercise Price	Number of Options	Weighted-Average Exercise Price
$0.28 – $0.57	372,754	9.71	$ 0.43	3,254	$ 0.28
$0.59 – $0.59	2,574,375	9.62	$ 0.59	—	$ —
$0.81 – $1.73	2,063,938	8.94	$ 1.64	166,987	$ 1.61
$1.75 – $1.96	1,546,638	8.48	$ 1.91	536,904	$ 1.90
$1.98 – $2.81	1,393,357	6.43	$ 2.61	1,079,929	$ 2.66
$2.85 – $3.44	1,369,225	6.49	$ 3.02	1,137,340	$ 3.01
$3.51 – $3.51	1,577,760	7.33	$ 3.51	970,489	$ 3.51
$3.55 – $4.31	1,761,134	3.86	$ 3.97	1,691,542	$ 3.98
$4.35 – $26.84	1,141,737	3.94	$ 17.59	1,141,737	$ 17.59
$30.17 – $30.17	60,000	4.45	$ 30.17	60,000	$ 30.17
$0.28 – $30.17	13,860,918	7.27	$ 3.62	6,788,182	$ 5.84

Stock-Based Compensation Expense

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2016	2015	2016	2015
Research and development	$ 481	$ 530	$ 1,457	$ 1,776
Sales, general and administrative	1,327	1,726	4,191	5,188
Total stock-based compensation expense	$ 1,808	$ 2,256	$ 5,648	$ 6,964

As of September 30, 2016, there was unrecognized compensation expense of $5.2 million and $6.0 million related to stock options and RSUs, respectively. The Company expects to recognize this expense over a weighted average period of 2.86 years and 2.72 years, respectively.

Stock-based compensation expense for RSUs is measured based on the closing fair market value of the Company's common stock on the date of grant. 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 September 30,				Nine Months Ended September 30,			
	2016		2015		2016		2015	
Expected dividend yield	—	%	—	%	—	%	—	%
Risk-free interest rate	1.2	%	2	%	1.32	%	2	%
Expected term (in years)	6.16		6.03		6.23		6.00	
Expected volatility	76.7	%	74	%	73	%	74	%

Expected Dividend Yield—The Company has never paid dividends and does not expect to pay dividends.

Risk-Free Interest Rate—The risk-free interest rate was based on the market yield currently available on United States Treasury securities with maturities approximately equal to the option's expected term.

Expected Term—Expected term represents the period that the Company's stock-based awards are expected to be outstanding. The Company's assumptions about the expected term have been based on that of companies that have similar industry, life cycle, revenue, and market capitalization and the historical data on employee exercises.

Expected Volatility—The expected volatility is based on a combination of historical volatility for the Company's stock and the historical stock volatilities of several of the Company's publicly listed comparable companies over a period equal to the expected terms of the options, as the Company does not have a long trading history.

Forfeiture Rate—The Company estimates its forfeiture rate based on an analysis of its actual forfeitures and will continue to evaluate the adequacy of the forfeiture rate based on actual forfeiture experience, analysis of employee turnover behavior, and other factors. The impact from a forfeiture rate adjustment will be recognized in full in the period of adjustment, and if the actual number of future forfeitures differs from that estimated by the Company, the Company may be required to record adjustments to stock-based compensation expense in future periods.

Each of the inputs discussed above is subjective and generally requires significant management and director judgment.

12. Employee Benefit Plan

The Company established a 401(k) Plan to provide tax deferred salary deductions for all eligible employees. Participants may make voluntary contributions to the 401(k) Plan up to 90% of their eligible compensation, limited by certain Internal Revenue Service (or the "IRS") restrictions. Effective January 2014, the Company implemented a discretionary employer match plan whereby the Company will match employee contributions up to the IRS limit or 90% of compensation, with a minimum one year of service required for vesting. The total matching amount for each of the three months ended September 30, 2016 and 2015 was $0.1 million and $0.1 million, respectively, and $0.3 million and $0.4 million for the nine months ended September 30, 2016 and 2015, respectively.

13. Related Party Transactions

Related Party Financings

See Note 5, “Debt” for a description of the June 2016 Private Placement transaction with Foris Ventures, LLC, a related party of the Company, the February 2016 Private Placement transaction with Foris Ventures, LLC, Naxyris S.A. and Biolding SA, each a related party of the Company, and the March 2016 R&D Note transaction with Total. In addition, see Note 18, “Subsequent Events” for descriptions of additional related party financings subsequent to September 30, 2016.

As of September 30, 2016 and December 31, 2015, convertible notes and loans with related parties were outstanding in aggregate amount of $63.5 million and $43.0 million, respectively, net of debt discount and issuance costs of $2.6 million and $1.9 million, respectively.

The fair value of the derivative liability related to the related party convertible notes as of September 30, 2016 and December 31, 2015 was $1.9 million and $7.9 million, respectively. The Company recognized a loss from change in fair value of the derivative instruments of $0.6 million and $12.4 million for the three months ended September 30, 2016 and September 2015, respectively, and a gain from change in fair value of the derivative instruments of $7.7 million for the nine months ended September 30, 2016 and a loss from change in fair value of the derivative instruments of $0.7 million for the nine months ended September 30, 2015, respectively (see Note 3, "Fair Value of Financial Instruments" for further details).

Related Party Revenues

The Company recognized related party revenues from product sales to Total of zero and $2,000 for the three months ended September 30, 2016 and 2015, respectively, and zero and $2,000 for the nine months ended September 30, 2016 and 2015, respectively. Related party accounts receivable from Total as of September 30, 2016 and December 31, 2015, were $0.7 million and $1.2 million, respectively.

The Company recognized related party revenues from product sales to Novvi of $1.4 million and zero for the three months ended September 30, 2016 and 2015, respectively, and $1.4 million and zero for the nine months ended September 30, 2016 and 2015, respectively. Related party accounts receivable from Novvi as of September 30, 2016 and December 31, 2015, were $0.0 million and $0.5 million, respectively.

Loans to Related Parties

See Note 7, "Joint Ventures and Noncontrolling Interest" for details of the Company's transactions with its affiliate, Novvi LLC.

Joint Venture with Total

In November 2013, the Company and Total formed TAB as discussed above under Note 7, "Joint Ventures and Noncontrolling Interest."

Pilot Plant Agreements

In May 2014, the Company received the final consents necessary for a Pilot Plant Services Agreement (or the “Pilot Plant Services Agreement”) and a Sublease Agreement (or the “Sublease Agreement”), each dated as of April 4, 2014 (collectively the “Pilot Plant Agreements”), between the Company and Total. The Pilot Plant Agreements generally have a term of five years. Under the terms of the Pilot Plant Services Agreement, the Company agreed to provide certain fermentation and downstream separations scale-up services and training to Total in exchange for an aggregate annual fee payable by Total for all services in the amount of up to approximately $0.9 million per annum. In July 2015, Total and the Company entered into Amendment #1 to the Pilot Plant Services Agreement (or the "Pilot Plant Agreement Amendment"), whereby the Company agreed to waive a portion of these fees, up to approximately $2.0 million, over the term of the Pilot Plant Services Agreement in connection with the restructuring of TAB discussed above in Note 7, "Joint Ventures and Non-controlling Interest." Under the Sublease Agreement, the Company receives an annual base rent payable by Total of approximately $0.1 million per annum.

As of September 30, 2016, the Company had received $1.7 million in cash under the Pilot Plant Agreements from Total. In connection with these arrangements, sublease payments and service fees of $0.1 million and $0.3 million for the three months ended September 30, 2016 and 2015, respectively, and $0.3 million and $0.8 million for the nine months ended September 30, 2016 and 2015, respectively, were offset against costs and operating expenses.

14. Income Taxes

The Company recorded a provision for income taxes of $0.1 million for each of the three months ended September 30, 2016 and 2015, and $0.4 million for each of the nine months ended September 30, 2016 and 2015. The provision for income taxes for the nine months ended September 30, 2016 and 2015 consisted of an accrual of Brazilian withholding tax on interest on inter-company loans. Other than the above mentioned provision for income tax, no additional provision for income taxes has been made, net of the valuation allowance, due to cumulative losses since the commencement of the Company's operations.

On December 15, 2011, the IRS completed its audit of the Company for tax year 2008 which concluded that there were no adjustments resulting from the audit. While the statutes are closed for tax year 2008, the US federal tax carryforwards (net operating losses and tax credits) may be adjusted by the IRS in the year in which the carryforward is utilized.

15. Reporting Segments

The chief operating decision maker for the Company is the chief executive officer. The chief executive officer reviews financial information presented on a consolidated basis, accompanied by information about revenue by geographic region, for purposes of allocating resources and evaluating financial performance. The Company has one business activity comprised of research and development and sales of fuels and farnesene-derived products and there are no segment managers who are held accountable for operations, operating results or plans for levels or components below the consolidated unit level. Accordingly, the Company has determined that it has a single reportable segment and operating segment structure.

Revenues by geography are based on the location of the customer. The following tables set forth revenue and long-lived assets by geographic area (in thousands):

Revenues

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2016	2015	2016	2015
Europe	$ 1,899	$ 459	$ 10,527	$ 2,138
United States	20,461	6,177	27,869	15,550
Asia	4,126	991	6,039	2,769
Brazil	46	964	467	3,850

Other	12	—	52	—
Total	$ 26,544	$ 8,591	$ 44,954	$ 24,307

Long-Lived Assets (Property, Plant and Equipment)

	September 30, 2016	December 31, 2015
Brazil	$ 47,348	$ 41,093
United States	15,489	18,401
Europe	256	303
Total	$ 63,093	$ 59,797

16. Comprehensive Loss

Comprehensive loss represents all changes in stockholders' deficit except those resulting from investments or contributions by stockholders. The Company's foreign currency translation adjustments represent the components of comprehensive loss excluded from the Company's net loss and have been disclosed in the condensed consolidated statements of comprehensive loss for the periods presented.

The components of accumulated other comprehensive loss are as follows (in thousands):

	September 30, 2016	December 31, 2015
Foreign currency translation adjustment, net of tax	$ (39,801)	$ (47,198)
Total accumulated other comprehensive loss	$ (39,801)	$ (47,198)

17. Net Loss Attributable to Common Stockholders and Net Loss per Share

The Company computes net loss per share in accordance with ASC 260, “Earnings per Share.” Basic net loss per share of common stock is computed by dividing the Company’s net loss attributable to Amyris, Inc. common stockholders by the weighted average number of shares of common stock outstanding during the period. Diluted net loss per share of common stock is computed by giving effect to all potentially dilutive securities, including stock options, restricted stock units, common stock warrants and convertible promissory notes using the treasury stock method or the as converted method, as applicable. For all periods presented below, other than the nine months ended September 30, 2016, basic net loss per share was the same as diluted net loss per share because the inclusion of all potentially dilutive securities outstanding was anti-dilutive. As such, the numerator and the denominator used in computing both basic and diluted net loss was the same for those periods.

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2016	2015	2016	2015
Numerator:				
Net loss attributable to Amyris, Inc. common stockholders	$ (19,704)	$ (76,664)	$ (48,579)	$ (176,034)
Interest on convertible debt	—	—	5,093	—
Accretion of debt discount	—	—	5,304	—
Gain from change in fair value of derivative instruments	—	—	(37,593)	—
Net loss attributable to Amyris, Inc. common stockholders after assumed conversion	$ (19,704)	$ (76,664)	$ (75,775)	$ (176,034)
Denominator:				
Weighted average shares of common stock outstanding for basic EPS	249,190,339	140,374,297	226,772,159	100,103,007
Basic loss per share	$ (0.08)	$ (0.55)	$ (0.21)	$ (1.76)
Weighted average shares of common stock outstanding	249,190,339	140,374,297	226,772,159	100,103,007
Effect of dilutive securities:				
Convertible promissory notes	—	—	41,602,952	—
Weighted common stock equivalents	—	—	41,602,952	—
Diluted weighted-average common shares	249,190,339	140,374,297	268,375,111	100,103,007
Diluted loss per share	$ (0.08)	$ (0.55)	$ (0.28)	$ (1.76)

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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 September 30,		Nine Months Ended September 30,	
	2016	2015	2016	2015
Period-end stock options to purchase common stock	13,860,918	11,307,679	13,860,918	11,307,679
Convertible promissory notes[1]	66,474,148	43,451,433	23,760,389	43,451,433
Period-end common stock warrants	14,663,411	2,901,926	14,663,411	2,901,926
Period-end restricted stock units	7,474,555	3,558,243	7,474,555	3,558,243
Total	102,473,032	61,219,281	59,759,273	61,219,281

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(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.

18. Subsequent Events

Senior Secured Loan Facility Amendment

On October 6, 2016, in connection with the entry into the Ginkgo Collaboration Agreement, the Company, certain of its subsidiaries and Stegodon, an affiliate of Ginkgo, entered into a fourth amendment of the Senior Secured Loan Facility. Pursuant to the fourth amendment, subject to the Company extending (or the “Extension Condition”) the maturity of the Fidelity Notes, the parties agreed to extend the maturity date of all outstanding loans under the Senior Secured Loan Facility to the business day immediately preceding the earliest maturity of the Fidelity Notes and the outstanding Tranche Notes held by non-affiliates, after giving effect to any extensions thereof at or prior to the satisfaction of the Extension Condition, but in no event later than April 12, 2019. In addition, the parties agreed that the Company would be required to pay only the interest accruing on all outstanding loans under the Senior Secured Loan Facility until the maturity date, provided that the Company would be required to apply certain monies received by the Company under the Ginkgo Collaboration Agreement towards repayment of the outstanding loans under the Senior Secured Loan Facility, up to a maximum amount of $1 million per month. Furthermore, pursuant to the fourth amendment, Stegodon agreed to waive the Minimum Cash Covenant under the Senior Secured Loan Facility until the maturity date. See Note 5, “Debt” for additional details regarding the Senior Secured Loan Facility and Note 8, “Significant Agreements” for additional information regarding the Ginkgo Collaboration Agreement.

2016 Convertible Note Offering

On October 13, 2016, the Company issued and sold the $2.0 Million Note under the May 2016 Purchase Agreement to the purchaser, for proceeds to the Company of $2.0 million. Upon the issuance of the $2 Million Note, all 2016 Convertible Notes provided for under the May 2016 Purchase Agreement had been issued and sold. See Note 5, “Debt” for additional information regarding the May 2016 Purchase Agreement and the 2016 Convertible Notes.

October 2016 Private Placements

On October 21 and October 27, 2016, the Company entered into separate Note Purchase Agreements (or the “October 2016 Purchase Agreements”) with Foris Ventures, LLC and Ginkgo Bioworks, Inc., respectively, for the sale of $6.0 million and $8.5 million, respectively, in aggregate principal amount of secured promissory notes (or the “October 2016 Private Notes”) in exchange for aggregate proceeds to the Company of $6.0 million and $8.5 million, respectively (or the “October 2016 Private Placements”). The October 2016 Private Notes were issued in private placements pursuant to the exemption from registration under Section 4(2) of the Securities Act of 1933, as amended and Regulation D promulgated under the Securities Act. The October 2016 Private Placements closed on October 21 and October 27, 2016, respectively.

The October 2016 Private Notes are collateralized by a second priority lien on the assets securing the Company's obligations under the Senior Secured Loan Facility, and are subordinate to the Company's obligations under the Senior Secured Loan Facility pursuant to Subordination Agreements, dated as of the respective dates of the October 2016 Purchase Agreements, by and among the Company, the applicable purchaser and the administrative agent under the Company's Senior Secured Loan Facility. Interest will accrue on the October 2016 Private Notes from and including October 21 and 27, 2016, respectively, at a rate of 13.50% per annum and is payable in full on May 15, 2017, the maturity date of the October 2016 Private Notes, unless the October 2016 Private Notes are prepaid in accordance with their terms prior to such date. The October 2016 Purchase Agreements and the October 2016 Private Notes contain customary terms, provisions, representations and warranties, including certain events of default after which the October 2016 Private Notes may be due and payable immediately, as set forth in the October 2016 Private Notes.

Guanfu Credit Agreement

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 with an aggregate principal amount of up to $25.0 million (or the "Guanfu Credit Facility"), which the Company may borrow from time to time in up to three closings (each such borrowing, a "Guanfu Loan"). Each Guanfu Loan will have a term of five years and will accrue interest at a rate of 10% per annum, payable quarterly. The Company may at its option repay the Guanfu Loans before their 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.

The Guanfu Credit Agreement contains customary representations, warranties and covenants of the parties, as well as customary provisions regarding, among other things, dispute resolution and governing law. 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 any Guanfu Loan 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 such Guanfu Loan, 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.

The effectiveness of the Guanfu Credit Agreement is subject to the parties obtaining certain required approvals, and upon the effective date of the Guanfu Credit Agreement, the Company will grant to Guanfu the global exclusive purchase right with respect to the Company products subject to the parties' pre-existing commercial relationship. The initial funding of the Guanfu Credit Facility is scheduled to occur on December 1, 2016, subject to Guanfu's right to extend such initial funding to a date no later than December 31, 2016.

Nenter Cooperation Agreement

On October 26, 2016, the Company entered into a Cooperation Agreement (or the "Cooperation Agreement") with Nenter & Co., Inc. (or "Nenter"), a subsidiary of Guanfu. Under the Cooperation Agreement, the parties will 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 (or the "Commercialization Plan") relating thereto. The term of the Cooperation Agreement will be two years from the effectiveness of the Cooperation Agreement (or five years in the event the parties pursue the Commercialization Plan), which will occur upon the parties obtaining certain required approvals, subject to the rights of the parties to terminate the Cooperation Agreement upon a material breach by the other party or the failure to obtain certain governmental approvals or authorizations, as provided in the Cooperation Agreement. The Cooperation Agreement also contains customary representations, warranties and covenants of the parties, as well as customary terms and provisions regarding, among other things, indemnification, dispute resolution, confidentiality and governing law.

In addition, pursuant to the terms of, and as consideration for, the Cooperation Agreement, promptly after the effectiveness of the Cooperation Agreement, the Company will issue to Nenter a warrant to purchase 10 million shares of the Company's common stock at an exercise price of $0.50 per share, exercisable on or before December 31, 2016. The warrant will be issued pursuant to the exemption from registration under Section 4(2) of the Securities Act and Regulation D promulgated under the Securities Act. Furthermore, pursuant to the terms of the warrant, upon the request of Nenter, the Company will use its best efforts to cause the shares of common stock issued upon exercise of the warrant to be registered under the Securities Act within 90 days of the exercise of the warrant.

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 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, or the Securities Act, and the Securities Exchange Act of 1934, as amended, or 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 2016, 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.

Trademarks

Amyris, the Amyris logo, Biofene, Biossance, Dial-A-Blend, Diesel de Cana, Evoshield, µPharm, Muck Daddy, Myralene, Neossance and No Compromise are trademarks or registered trademarks of Amyris, Inc. This report also contains trademarks and trade names of other businesses that are the property of their respective holders.

Overview

Amyris, Inc. (referred to as the "Company," "Amyris," "we," "us," or "our") is a leading integrated industrial biotechnology company applying its technology platform to engineer, manufacture and sell high performance, low cost products into a variety of consumer and industrial markets, including cosmetics, flavors & fragrances (or F&F), solvents and cleaners, polymers, lubricants, healthcare products and fuels, and we are seeking to apply our technology to the development of pharmaceutical products. Our proven technology platform allows us to rapidly engineer microbes and use them as living factories to metabolize renewable, plant-sourced sugars into large volume, high-value hydrocarbon molecules. Using yeast as these living factories, our industrial fermentation process replaces existing complex and expensive chemical manufacturing processes. We believe industrial synthetic biology represents a third industrial revolution, bringing together biology and engineering to generate new, more sustainable materials to meet the growing global demand for bio-based replacements for petroleum, animal-or plant-derived chemicals. We continue to work to build demand for our current portfolio of products through a network of distributors and through direct sales, and are engaged in collaborations across a variety of markets, including personal care, performance chemicals and industrials, to drive additional product sales and partnership opportunities.

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 (or "Sanofi") to produce artemisinic acid using our technology. Since 2013, Sanofi has been distributing millions of artemisinin-based anti-malarial treatments incorporating this artemisinic acid. 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 materials.

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. Using farnesene as a first commercial building block molecule, we have developed a wide range of renewable products for our various target markets, including cosmetics, F&F, healthcare products and fuels, and we are pursuing opportunities for the application of our technology in the pharmaceuticals market. Our technology platform allows us to rapidly develop microbial strains to produce other target molecules, and, in 2014, we began manufacturing additional molecules for the F&F industry.

Amyris' proprietary microbial engineering and screening technologies have industrialized bioengineering of microbes, and most of our efforts to date have been focused on engineering yeast. Our platform provides predictable and efficient "living factories" that allow us to convert plant-sourced sugars, primarily sugarcane syrup, through fermentation, into high-value hydrocarbon molecules instead of low-value alcohol. 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.

We are currently producing four molecules at our industrial fermentation plant: artemisinic acid, farnesene and two fragrance molecules. We and our partners develop products from these molecules for several target markets, including cosmetics, F&F, solvents, polymers, industrials and healthcare products, and we are pursuing arrangements with a number of drug companies for their use of our molecules to develop pharmaceutical products. We are engaged in collaborations with multiple companies that are leaders within their respective markets, including affiliates of Total S.A., the international energy company (or "Total"), and worldwide leaders in specialty chemicals, consumer care, F&F, food ingredients and health, and who sell our ingredients to hundreds of brands that serve millions of consumers.

Our mission is to apply inspired 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 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 non-renewable products.

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

Relationship with Total

In July 2012 and December 2013, we entered into a series of agreements (or the “Total Fuel Agreements”) to establish a research and development program and form a joint venture with Total Energies Nouvelles Activités USA (formerly known as Total Gas & Power USA, SAS, and, together with its affiliates, referred to as “Total”) to produce and commercialize farnesene- or farnesane-based diesel and jet fuels, and formed such joint venture, Total Amyris BioSolutions B.V. (or “TAB”), in November 2013. With an exception for our fuels business in Brazil, the collaboration and joint venture established the exclusive means for us to develop, produce and commercialize farnesene- or farnesane-based diesel and jet fuels. We initially granted TAB exclusive licenses under certain of our intellectual property to make and sell joint venture products. We also granted TAB, in the event of a buy-out of our interest in the joint venture by Total (which Total was entitled to do under certain circumstances), a non-exclusive license to optimize or engineer yeast strains used by us to produce farnesene for the joint venture’s diesel and jet fuels. As a result of these licenses, we generally no longer had an independent right to make or sell farnesene- or farnesane-based diesel and jet fuels fuels outside of Brazil without the approval of TAB.

In addition, our agreements with Total relating to our fuels collaboration created a convertible debt financing structure for funding the research and development program. The Total Fuel Agreements contemplated approximately $105.0 million in financing (or “R&D Notes”) for the collaboration, which as of January 2015, had been completely funded by Total.

In July 2015, we entered into a Letter Agreement with Total (or, as amended in February 2016, the “TAB Letter Agreement”) regarding the restructuring of the ownership and rights of TAB (or the “Restructuring”), pursuant to which the parties agreed to enter into an Amended & Restated Jet Fuel License Agreement between us and TAB (or the “Jet Fuel Agreement”), a License Agreement regarding Diesel Fuel in the European Union (or the “EU”) between us and Total (or the “EU Diesel Fuel Agreement” and together with the Jet Fuel Agreement, the “Commercial Agreements”), and an Amended and Restated Shareholders’ Agreement among us, Total and TAB (or, together with the Commercial Agreements, the “Restructuring Agreements”), and file a Deed of Amendment of Articles of Association of TAB, all in order to reflect certain changes to the ownership structure of TAB and license grants and related rights pertaining to TAB.

Additionally, in connection with the proposed Restructuring, in July 2015, we and Total entered into Amendment #1 (or the "Pilot Plant Agreement Amendment") to that certain Pilot Plant Services Agreement dated as of April 4, 2014 (or, as amended, the "Pilot Plant Agreement") whereby we and Total agreed to restructure the payment obligations of Total under the Pilot Plant Agreement. Under the Pilot Plant Agreement, for a five year period, we are providing certain fermentation and downstream separations scale-up services and training to Total and, as originally contemplated, we were to receive an aggregate annual fee payable by Total for all services in the amount of up to approximately $900,000 per annum. Such annual fee was due in three equal installments payable on March 1, July 1 and November 1 each year during the term of the Pilot Plant Agreement. Under the Pilot Plant Agreement Amendment, in connection with the restructuring of TAB discussed above, we agreed to waive a portion of these fees up to approximately $2.0 million, over the term of the Pilot Plant Agreement.

On March 21, 2016, we, Total and TAB closed the Restructuring and entered into the Restructuring Agreements.

Under the Jet Fuel Agreement, (a) we granted exclusive (co-exclusive in Brazil), world-wide, royalty-free rights to TAB for the production and commercialization of farnesene- or farnesane-based jet fuel, (b) we granted TAB the option, until March 1, 2018, to purchase our Brazil jet fuel business at a price based on the fair value of the commercial assets and on our investment in other related assets, (c) we granted TAB the right to purchase farnesene or farnesane for its jet fuel business from us on a “most-favored” pricing basis and (d) all rights to farnesene- or farnesane-based diesel fuel previously granted to TAB by us reverted back to us.

Upon all farnesene- or farnesane-based diesel fuel rights reverting back to us, we granted to Total, pursuant to the EU Diesel Fuel Agreement, (a) an exclusive, royalty-free license to offer for sale and sell farnesene- or farnesane-based diesel fuel in the EU, (b) the non-exclusive right to make farnesene or farnesane anywhere in the world, but Total must (i) use such farnesene or farnesane to produce only diesel fuel to offer for sale or sell in the EU and (ii) pay us a to-be-negotiated, commercially reasonable, “most-favored” basis royalty and (c) the right to purchase farnesene or farnesane for its EU diesel fuel business from us on a “most-favored” pricing basis.

As a result of these licenses, we generally no longer have an independent right to make or sell, without the approval of Total, farnesene- or farnesane-based jet fuels outside of Brazil or farnesane-based diesel fuels in the EU.

In addition, as part of the closing of the Restructuring and pursuant the TAB Letter Agreement, on March 21, 2016, we sold to Total one half of our ownership stake in TAB (giving Total an aggregate ownership stake of 75% of TAB and giving us an aggregate ownership stake of 25% of TAB) in exchange for Total cancelling (i) approximately $1.3 million of R&D Notes, plus all paid-in-kind and accrued interest under all outstanding R&D Notes (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 TAB capitalization. To satisfy its purchase obligation above, Total surrendered to us the remaining R&D Note of approximately $5 million in principal amount, and we executed and delivered to Total a new, senior convertible note, containing substantially similar terms and conditions other than it is unsecured and its payment terms are severed from TAB's business performance, in the principal amount of $3.7 million.

As a result of, and in order to reflect, the changes to the ownership structure of TAB described above, on March 21, 2016, (a) we, Total and TAB entered into an Amended and Restated Shareholders' Agreement and filed a Deed of Amendment of Articles of Association of TAB and (b) we and Total terminated the Amended and Restated Master Framework Agreement, dated December 2, 2013 and amended on April 1, 2015, between us and Total. See Note 5, "Debt", "Note 7, "Joint Ventures and Noncontrolling Interest" and Note 13, "Related Party Transactions" for additional details regarding our relationship with Total.

Sales and Revenues

Our revenues are comprised of product revenues and grants and collaborations revenues. We generate the substantial majority of our product revenues from sales to distributors or collaborators and only a small portion from direct sales, although we have begun to market and sell some of our products directly to end-consumers, initially in the cosmetics and industrial cleaning markets. To commercialize our initial Biofene-derived product, squalane, in the cosmetics sector for use as an emollient, we have entered into certain marketing and distribution agreements in Europe, Asia, and North America. As an initial step towards commercialization of Biofene-based diesel, we entered into agreements with municipal fleet operators in Brazil. Pursuant to our agreements with Total, as discussed above, future commercialization of our jet fuel products outside of Brazil and our diesel fuel products in the EU would generally occur exclusively through certain agreements entered into by and among Amyris, Total and TAB. For the industrial lubricants market, we established a joint venture with Cosan U.S. for the worldwide development, production and commercialization of renewable base oils in the lubricant sector. We have also entered into certain supply agreements with customers in the F&F industry to commercialize products derived from our fragrance molecules. In addition, we have entered into research and development collaboration arrangements pursuant to which we receive payments from our collaborators, which include Total, Manufacture Francaise de Pnematiques Michelin, The Defense Advanced Research Projects Agency, Givaudan International, SA and Cosan US, Inc. Some of such collaboration arrangements include 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” for more details regarding these agreements and arrangements.

Financing

In 2015, and through the third quarter of 2016, we completed multiple financings involving loans, convertible debt, non-convertible debt, mezzanine equity and equity offerings.

In January 2015, we closed a second installment of the $21.7 million in convertible notes from Total under the Total Fuel Agreements, as described in more detail in Note 5, "Debt" to our unaudited condensed consolidated financial statements included in this report, in the amount of $10.85 million.

In July 2015, we sold to certain purchasers 16,025,642 shares of our common stock at a price per share of $1.56, for aggregate proceeds to us of $25 million. We also granted to the purchasers warrants exercisable at an exercise price of $0.01 per share for the purchase of an aggregate of 1,602,562 shares of our common stock. The exercisability of these warrants was subject to stockholder approval, which was obtained on September 17, 2015.

In October 2015, we issued $57.6 million aggregate principal amount of 9.50% Convertible Senior Notes due 2019 to certain qualified institutional buyers, as described in more detail in Note 5, “Debt” to our unaudited condensed consolidated financial statements included in this report.

In February 2016, we issued to certain purchasers an aggregate of $20.0 million of unsecured promissory notes and warrants for the purchase, at an exercise price of $0.01 per share, of an aggregate of 2,857,142 shares of our common stock, as described in more detail in Note 5, “Debt” to our unaudited condensed consolidated financial statements included in this report. The exercisability of these warrants was subject to stockholder approval, which was obtained on May 17, 2016.

In March 2016, we sold to Total one half of our ownership stake in TAB in exchange for Total cancelling $1.3 million of R&D Notes and certain other indebtedness, as described in more detail under “Relationship with Total” above and in Note 5, “Debt” and Note 7, “Joint Ventures and Noncontrolling Interest” to our unaudited condensed consolidated financial statements included in this report.

In May 2016, we sold and issued 4,385,964 shares of common stock to the Bill & Melinda Gates Foundation at a purchase price per share of $1.14, as described in more detail in Note 8, “Significant Agreements.”

In May and September 2016, we sold and issued $13.0 million in aggregate principal amount of convertible promissory notes to a private investor, as described in more detail in Note 5, “Debt” to our unaudited condensed consolidated financial statements included in this report.

See Note 18, “Subsequent Events” to our unaudited condensed consolidated financial statements included in this report for details regarding financing transactions completed subsequent to September 30, 2016.

Exchange (debt conversion)

On July 29, 2015, we closed the "Exchange" pursuant to that certain Exchange Agreement, dated as of July 26, 2015 (the “ Exchange Agreement ”), among us, Maxwell (Mauritius) Pte Ltd (or “Temasek”) and Total.

Under the Exchange Agreement, at the closing, Temasek exchanged approximately $71.0 million in principal of outstanding convertible promissory notes (including paid-in-kind and accrued interest through July 29, 2015) and Total exchanged $70.0 million in principal amount of outstanding convertible promissory notes for shares of the Company’s common stock. The exchange price was $2.30 per share (the “Exchange Price”) and was paid by the exchange and cancellation of such outstanding convertible promissory notes, and Temasek and Total received 30,860,633 and 30,434,782 shares of the Company’s common stock, respectively, in the Exchange.

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

- A warrant to purchase 18,924,191 shares of our common stock (or the “Total Funding Warrant”).
- A warrant to purchase 2,000,000 shares of our common stock that will only be exercisable if we fail, 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:

- A warrant to purchase 14,677,861 shares of our common stock.

- A warrant exercisable for that number of shares of our 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 a result of and/or subsequent to the date of the Exchange plus (C) that number of additional shares in excess of 2,000,000, 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 our common stock equal to 880,339 multiplied by a fraction equal to the number of shares for which Total exercises the Total R&D Warrant divided by 2,000,000. If Total is entitled to, and does, exercise the Total R&D Warrant in full, this warrant would be exercisable for 880,339 shares (or the “Temasek R&D Warrant”).

The Temasek Exchange Warrant, the Temasek Funding Warrant and the Temasek R&D Warrant each have ten-year terms and are referred to herein as the “Temasek Warrants” and, the Temasek Warrants and Total Warrants are hereinafter collectively referred to as the “Exchange Warrants”. All of the Exchange Warrants have an exercise price of $0.01 per share.

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 1,000,000 shares underlying the 2013 Warrant, which was exercised in full at the exercise price of $0.01 per share.

The exercisability of all of the Exchange Warrants was subject to stockholder approval, which was obtained on September 17, 2015.

In February and May 2016, as a result of the adjustments to the conversion price of our senior convertible notes issued in October 2013 (or the “Tranche I Notes”) and January 2014 (or the “Tranche II Notes”) discussed in Note 5, “Debt” to our unaudited condensed consolidated financial statements included in this report, the Temasek Funding Warrant became exercisable for an additional 127,194 and 2,335,342 shares of common stock, respectively.

As of September 30, 2016, 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 12,700,244 shares of our common stock. Neither the Total R&D Warrant nor the Temasek R&D Warrant were exercisable as of September 30, 2016. Warrants to purchase 2,462,536 shares of common stock under the Temasek Funding Warrant were unexercised as of September 30, 2016.

Maturity Treatment Agreement

At the closing of the Exchange, we, 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 of our convertible promissory notes held by them that were not cancelled in the Exchange (or the “Remaining Notes”) into shares of our common stock in accordance with the terms of such Remaining Notes upon maturity, provided that certain events of default have not occurred with respect to the applicable Remaining Notes prior to such maturity. As of immediately following the closing of the Exchange and September 30, 2016, Temasek held $10.0 million in aggregate principal amount of Remaining Notes and Total held approximately $25.0 million and $28.9 million, respectively, in aggregate principal amount of Remaining Notes.

Liquidity

We have incurred significant losses since our inception and believe that we will continue to incur losses and negative cash flow from operations through at least 2017. As of September 30, 2016, we had an accumulated deficit of $1,085.7 million and had cash, cash equivalents and short term investments of $2.3 million. We have significant outstanding debt and contractual obligations related to capital and operating leases, as well as purchase commitments. Refer to "Liquidity and Capital Resources" for further details.

Results of Operations

Comparison of Three Months Ended September 30, 2016 and 2015

Revenues

	Three Months Ended September 30,		Period-to-period Change	Percentage Change
	2016	2015		
	(Dollars in thousands)			
Revenues				
Renewable product sales	$ 5,430	$ 4,226	$ 1,204	28 %
Related party renewable product sales	1,390	2	$ 1,388	69,400 %
Total product sales	6,820	4,228	2,592	61 %
Grants and collaborations revenues	19,724	4,363	15,361	352 %
Total revenues	$ 26,544	$ 8,591	$ 17,953	209 %

Our total revenues increased by $18.0 million to $26.5 million for the three months ended September 30, 2016, as compared to the same period in the prior year, primarily due to a $15.4 million increase in grants and collaborations revenues.

Product sales increased by $2.6 million to $6.8 million for the three months ended September 30, 2016, as compared to the same period in the prior year, primarily due to the increases in product sales, primarily in the personal care segment.

Grants and collaborations revenues increased by $15.4 million to $19.7 million for the three months ended September 30, 2016, as compared to the same period in the prior year, primarily due to the collaboration revenue for the transfer of certain intellectual property to Ginkgo under the Ginkgo Collaboration Agreement.

Cost and Operating Expenses

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

	2016	2015		
	(Dollars in thousands)			
Cost of products sold	$ 14,876	$ 8,455	$ 6,421	76 %
Loss on purchase commitments and impairment of property, plant and equipment	—	7,259	(7,259)	(100)%
Research and development	12,315	10,343	1,972	19 %
Sales, general and administrative	11,381	14,103	(2,722)	(19)%
Total cost and operating expenses	$ 38,572	$ 40,160	$ (1,588)	(4)%

Our cost of products sold includes cost of raw materials, labor and overhead, amounts paid to contract manufacturers, periodic 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 $6.4 million to $14.9 million for the three months ended September 30, 2016, as compared to the same period in the prior year, primarily driven by product mix, higher inventory provisions and higher excess capacity charges based on timing of production at our manufacturing facilities, and higher raw materials costs.

Research and Development Expenses

Our research and development expenses increased by $2.0 million to $12.3 million for the three months ended September 30, 2016, as compared to the same period in the prior year, primarily as a result of increases of $0.4 million in consulting and outside services expenses, $0.9 million from facilities expenses, $0.4 million related to technology access and $0.3 million in salaries and benefits.

Sales, General and Administrative Expenses

Our sales, general and administrative expenses decreased by $2.7 million to $11.4 million for the three months ended September 30, 2016, as compared to the same period in the prior year, primarily as a result of our cost reduction efforts. The decrease was attributable to a $1.1 million reduction in consulting and outside services, $0.7 million reduction in facilities expenses and $0.9 million reductions in salaries and benefits and depreciation expense.

Other Income (Expense)

	Three Months Ended September 30,		Period-to-period Change	Percentage Change
	2016	2015		
	(Dollars in thousands)			
Other income (expense):				
Interest income	$ 68	$ 61	$ 7	11 %
Interest expense	(7,927)	(16,559)	8,632	(52) %
Gain/(loss) from change in fair value of derivative instruments	(786)	(21,690)	20,904	(96)%
Loss upon extinguishment of debt	(217)	(5,984)	5,767	(96)%
Other income (expense), net	1,334	(168)	1,502	(894)%
Total other income (expense)	$ (7,528)	$ (44,340)	$ 36,812	(83)%

Total other expense decreased by approximately $36.8 million to $7.5 million for the three months ended September 30, 2016, as compared to the same period in the prior year. The decrease was primarily attributable to a $8.6 million decrease in interest expense due to lower accelerated interest accretion and a decrease of $20.9 million in the loss from change in fair value of derivative instruments, attributed to the compound embedded derivative liabilities associated with our senior convertible promissory notes and the change in fair value of our interest rate swap derivative liability. The change was driven by fluctuation of various inputs used in the valuation models from one reporting period to another, such as stock price, credit risk rate and estimated stock volatility.

Comparison of Nine Months Ended September 30, 2016 and 2015

Revenues

	Nine Months Ended September 30,		Period-to-period Change	Percentage Change
	2016	2015		

	(Dollars in thousands)				
Revenues					
Renewable product sales	$ 13,493	$ 9,661	$ 3,832	40	%
Related party renewable product sales	1,390	2	1,388	69,400	%
Total product sales	14,883	9,663	5,220	54	%
Grants and collaborations revenues	30,071	14,643	15,428	105	%
Total revenues	$ 44,954	$ 24,306	$ 20,648	85	%

Our total revenues increased by $20.6 million to $45.0 million for the nine months ended September 30, 2016, as compared to the same period in the prior year, primarily due to a $15.4 million increase in grants and collaborations revenues.

Product sales increased by $5.2 million to $14.9 million for the nine months ended September 30, 2016, as compared to the same period in the prior year, primarily due to the increases in product sales led by personal care business.

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Grants and collaborations revenues increased by $15.4 million to $30.1 million for the nine months ended September 30, 2016, primarily due to the collaboration revenue for the transfer of certain intellectual property to Ginkgo under the Ginkgo Collaboration Agreement.

Cost and Operating Expenses

	Nine Months Ended September 30,		Period-to-period Change	Percentage Change
	2016	2015		
	(Dollars in thousands)			
Cost of products sold	$ 33,945	$ 26,057	$ 7,888	30 %
Loss on purchase commitments and impairment of property, plant and equipment	—	7,259	(7,259)	(100)%
Research and development	37,397	33,521	3,876	12 %
Sales, general and administrative	35,055	42,859	(7,804)	(18)%
Total cost and operating expenses	$ 106,397	$ 109,696	$ (3,299)	(3)%

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 $7.9 million to $33.9 million for the nine months ended September 30, 2016, as compared to the same period in the prior year, primarily driven by product mix and higher excess capacity charges based on timing of production at our manufacturing facilities, and higher materials costs.

Research and Development Expenses

Our research and development expenses increased by $3.9 million to $37.4 million for the nine months ended September 30, 2016, as compared to the same period in the prior year, primarily as a result of an increase of $1.5 million in consulting and outside services and $2.4 million in facilities and rent expense.

Sales, General and Administrative Expenses

Our sales, general and administrative expenses decreased by $7.8 million to $35.1 million for the nine months ended September 30, 2016, as compared to the same period in the prior year, primarily as a result of decrease of $3.6 million in consulting and outside services expenses, $2.0 million in salaries and benefits, $1.3 million in facilities expenses and $1.0 million in stock-based compensation expense, offset by an increase of $0.1 million in office expense.

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Other Income (Expense)

	Nine Months Ended September 30, 2016	2015	Period-to-period Change	Percentage Change
	(Dollars in thousands)			
Other income (expense):				
Interest income	$ 207	$ 205	$ 2	1 %
Interest expense	(25,989)	(71,027)	45,038	(63)%
Gain/(loss) from change in fair value of derivative instruments	41,826	(10,268)	52,094	(507)%
Loss upon extinguishment of debt	(866)	(5,984)	5,118	(86)%
Other income (expense), net	(1,912)	(1,204)	(708)	59 %
Total other income (expense)	$ 13,266	$ (88,278)	$ 101,544	(115)%

Total other income increased by $101.5 million to $13.3 million for the nine months ended September 30, 2016, as compared to the same period in the prior year. The increase was primarily attributable to a $45.0 million decrease in interest expense as a result of lower accelerated interest accretion, and an increase of $52.1 million in the gain from change in fair value of derivative instruments, attributed to the compound embedded derivative liabilities associated with certain of our senior secured convertible promissory notes and the change in fair value of our interest rate swap derivative liability. The decrease in interest expense is due to lower accelerated interest accretion and the change in the fair value of the derivative instruments was driven by fluctuation of various inputs used in the valuation models from one reporting period to another, such as stock price, credit risk rate and estimated stock volatility.

Liquidity and Capital Resources

	September 30, 2016	December 31, 2015
	(Dollars in thousands)	
Working capital deficit, excluding cash and cash equivalents	$ (111,196)	$ (53,139)
Cash and cash equivalents and short-term investments	$ 2,295	$ 13,512
Debt and capital lease obligations	$ 176,629	$ 156,755
Accumulated deficit	$ (1,085,683)	$ (1,037,104)

	Nine Months Ended September 30, 2016	2015
	(Dollars in thousands)	
Net cash used in operating activities	$ (45,383)	$ (52,217)
Net cash used in investing activities	$ (496)	$ (3,304)

Net cash provided by financing activities	$ 34,777	$ 25,754

Working Capital Deficit. Our working capital deficit, excluding cash and cash equivalents, was $111.2 million at September 30, 2016, which represents an increase of $58.1 million compared to a working capital deficit of $53.1 million at December 31, 2015. The increase of $58.1 million in working capital deficit during the nine months ended September 30, 2016 was primarily due to an increase of $38.7 million in current portion of debt, $10.6 million in accrued and other current liabilities, $5.8 million in accounts payable, $0.6 million in deferred revenue and $0.4 million in current capital lease obligations, together with decreases of $3.0 million in inventory, and $0.3 million in other prepaid expense, offset by increases of $1.1 million in accounts receivable, and $0.2 million in short term investments.

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 collaboration and grant funding, cash contributions from product sales, and proceeds from new debt and equity financings as well as strategic asset divestments. Some of our anticipated financing sources, such as research and development collaborations, debt and equity financings and strategic asset divestments, 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 2016 working capital needs and our planned operating and capital expenditures for 2016 are dependent on significant inflows of cash from renewable product revenues, existing collaboration partners and funds under existing equity facilities, as well as additional funding from new collaborations, new debt and equity financings and expected proceeds from strategic asset divestments. 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 at least 2017. As of September 30, 2016, we had an accumulated deficit of $1,085.7 million and had cash, cash equivalents and short term investments of $2.3 million. In March 2016, we entered into an At Market Issuance Sales Agreement under which we may issue and sell shares of our common stock 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 for further details. As of the date hereof, $50.0 million remained available for future issuance under this facility. In addition, on September 2, 2016, we sold and issued $3.0 million in convertible promissory notes to a private investor. Refer to Note 5, “Debt” to our unaudited condensed consolidated financial statements included in this report for further details. We have significant outstanding debt and contractual obligations related to capital and operating leases, as well as purchase commitments.

As of September 30, 2016, our debt, net of discount and issuance costs of $36.1 million, totaled to $175.6 million, of which $75.0 million is classified as current. In addition to upcoming debt maturities, our debt service obligations over the next twelve months are significant, including $16.2 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 the requirement 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 our Senior Secured Loan Facility. As discussed above, in connection with the execution by the Company and Ginkgo Bioworks, Inc., an affiliate of Stegodon, of certain commercial agreements (see Note 8, “Significant Agreements” to our unaudited consolidated financial statements included in this report for further details), on June 29, 2016, the Company received a waiver of compliance with such covenant through October 31, 2016 and on October 6, 2016, the Company and Stegodon entered into an amendment to the loan facility pursuant to which, among other things, Stegodon waived such covenant until the maturity date of the facility. 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", Note 6, “Commitments and Contingencies” and Note 18, “Subsequent Events” to our unaudited consolidated financial statements included in this report for further details of our debt arrangements.

Our condensed consolidated financial statements as of and for the nine months ended September 30, 2016 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. Our ability to continue as a going concern will depend, in large part, on our ability to obtain necessary financing, 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 2016 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, (iii) increased cash inflows from collaborations, (iv) reduced operating expenses, (v) access to various financing commitments, and (vi) strategic asset divestments (see Note 5, “Debt” and Note 8, “Significant Agreements” to our unaudited condensed consolidated financial statements included in this report for details of financing commitments).

If we are unable to generate sufficient cash contributions from product sales, payments from existing and new collaboration partners and strategic asset divestments and draw sufficient funds from certain financing commitments due to contractual restrictions and covenants, we will 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 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 would take the following actions to support our liquidity needs through the remainder of 2016 and into 2017:

- 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 nine months ended September 30, 2016, we received $23.0 million in cash from collaborations, including $7.8 million under flavors and fragrances collaboration agreements.

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, existing debt and equity financings and strategic asset divestments, we may need to issue preferred and/or discounted equity, agree to onerous covenants, grant further security interests in our assets, and 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. In September 2015, we entered into a Technology Investment Agreement (the “TIA”) with The Defense Advanced Research Project Agency (or “DARPA”) under which we, 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 TIA is being performed and funded on a milestone basis. Under the TIA, we and our subcontractors could collectively receive DARPA funding of up to $35.0 million over the program’s four year term if all of the program’s milestones are achieved. In conjunction with DARPA’s funding, we and our subcontractors are obligated to collectively contribute approximately $15.5 million toward the program over its four year term (primarily by providing specified labor and/or purchasing certain equipment). We can elect to retain title to the patentable inventions we produce in 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 TIA upon a reasonable determination that the program will not produce beneficial results commensurate with the expenditure of resources. We recognized $4.8 million in revenue under this agreement during the nine months ended September 30, 2016. Total cash received under this agreement as of September 30, 2016 was $4.8 million during the nine months ended September 30, 2016.

Convertible Note Offerings. In February 2012, we sold $25.0 million in principal amount of senior unsecured convertible promissory notes due March 1, 2017 as described in more detail in Note 5, "Debt" to our unaudited condensed consolidated financial statements included in this report.

In July and September 2012, we issued $53.3 million worth of 1.5% Senior Unsecured Convertible Notes to Total under the July 2012 Agreements for an aggregate of $30.0 million in cash proceeds and our repayment of $23.3 million in previously-provided research and development funds pursuant to the Total Purchase Agreement as described in more detail under "Related Party Convertible Notes" in Note 5, "Debt" to our unaudited condensed consolidated financial statements included in this report. As part of our December 2012 private placement, we issued

1,677,852 shares of our common stock in exchange for the cancellation of $5.0 million of an outstanding senior unsecured convertible promissory note held by Total.

In June 2013, we issued a 1.5% Senior Unsecured Convertible Note to Total with a principal amount of $10.0 million with a March 1, 2017 maturity date pursuant to the Total Fuel Agreements. In July 2013, we sold and issued a 1.5% Senior Unsecured Convertible Note to Total with a principal amount of $20.0 million with a March 1, 2017 maturity date pursuant to the Total Fuel Agreements.

In August 2013, we entered into an agreement with Total and Temasek to issue up to $73.0 million in convertible promissory notes in private placements over a period of up to 24 months from the date of signing as described in more detail in Note 5, "Debt" to our unaudited condensed consolidated financial statements included in this report (such agreement referred to as the August 2013 SPA and such financing referred to as the August 2013 Financing). The August 2013 Financing was divided into two tranches (one for $42.6 million and one for $30.4 million). Of the total possible purchase price in the financing, $25.0 million was to be paid in the form of cash by Temasek $25.0 million in the second tranche), $35.0 million was paid by the exchange and cancellation of the Temasek Bridge Note, as described below, and $13.0 million was to be paid by cancellation of outstanding convertible promissory notes held by Total in connection with its exercise of pro rata rights ($7.6 million in the first tranche and $5.4 million in the second tranche).

On October 4, 2013, we issued a senior secured promissory note in the principal amount of $35.0 million (or the "Temasek Bridge Note") to Temasek for cash proceeds of $35.0 million. The Temasek Bridge Note was due on February 2, 2014 and accrued interest at a rate of 5.5% per month from October 4, 2013. The Temasek Bridge Note was cancelled as payment for Temasek's purchase of a first tranche convertible note in the initial closing of the August 2013 Financing, as described below.

In October 2013, we amended the August 2013 SPA to include certain entities affiliated with FMR LLC (or the “Fidelity Entities”) in the first tranche closing (participating for a principal amount of $7.6 million), and to proportionally increase the amount acquired by exchange and cancellation of outstanding convertible promissory notes by Total to $14.6 million ($9.2 million in the first tranche and up to $5.4 million in the second tranche). Also in October 2013, we completed the closing of the Tranche I Notes for cash proceeds of $7.6 million and cancellation of outstanding convertible promissory notes of $44.2 million, of which $35.0 million resulted from the cancellation of the Temasek Bridge Note. In December 2013, we amended the August 2013 SPA to sell $3.0 million of senior convertible notes under the second tranche of the August 2013 Financing to funds affiliated with Wolverine Asset Management, LLC and we elected to call $25.0 million in additional funds from Temasek pursuant to its previous commitment to purchase such amount of convertible promissory notes in the second tranche. Additionally, pursuant to that amendment, we sold approximately $6.0 million of convertible promissory notes in the second tranche to Total through cancellation of the same amount of principal of previously outstanding convertible notes held by Total (in respect of Total’s preexisting contractual right to maintain its pro rata ownership position through such cancellation of indebtedness). The closing of the sale of such Tranche II Notes under the December amendment to the August 2013 SPA occurred in January 2014. The August 2013 Financing is more fully described in Note 5, "Debt" to our unaudited condensed consolidated financial statements included in this report.

In December 2013, in connection with our entry into agreements establishing our joint venture with Total, we exchanged the $69.0 million of the then-outstanding Total unsecured convertible notes issued pursuant to the Total Fuel Agreements for replacement 1.5% Senior Secured Convertible Notes, in principal amounts equal to the principal amount of the cancelled notes.

In May 2014, we issued $75.0 million in aggregate principal amount of the Company’s 6.50% Convertible Senior Notes due 2019 to Morgan Stanley & Co. LLC as the Initial Purchaser in a private placement, and for initial resale by the Initial Purchaser to qualified institutional buyers pursuant to Rule 144A of the Securities Act (the “2014 144A Offering”). The 2014 144A Offering is described in more detail in Note 5, "Debt" to our unaudited condensed consolidated financial statements included in this report.

In each of July 2014 and January 2015, we issued 1.5% Senior Secured Convertible Notes to Total pursuant to the Total Fuel Agreements. The aggregate principal amount of these two notes was $21.7 million and each of such notes has a March 1, 2017 maturity date.

In July 2015, Temasek exchanged approximately $71.0 million in principal amount of outstanding convertible promissory notes and Total exchanged $70.0 million in principal amount of outstanding convertible promissory notes for shares of the Company’s common stock, as further described above under “Exchange (debt conversion)”.

In October 2015, we issued $57.6 million in aggregate principal amount of the Company's 9.50% Convertible Senior Notes due 2019 (or the "2015 144A Notes"), which were sold only to qualified institutional buyers and institutional accredited investors in a private placement (or the "2015 144A Offering") under the Securities Act. The 2015 144A Offering is described in more detail in Note 5, "Debt" to our unaudited condensed consolidated financial statements included in this report.

In March 2016, we sold to Total one half of our ownership stake in TAB in exchange for Total cancelling $1.3 million of R&D Notes and certain other indebtedness, as described in more detail under “Relationship with Total” above and in Note 5, “Debt” and Note 7, “Joint Ventures and Noncontrolling Interest” to our unaudited condensed consolidated financial statements included in this report.

In May and September 2016, we issued $13.0 million in aggregate principal amount of convertible promissory notes to a private investor in an offering registered under the Securities Act, as described in more detail in Note 5, “Debt” to our unaudited condensed consolidated financial statements included in this report.

See Note 18, “Subsequent Events” to our unaudited condensed consolidated financial statements included in this report for details regarding convertible note offerings completed subsequent to September 30, 2016.

Export Financing with ABC Brasil. In March 2013, we entered into a one-year export financing agreement with ABC for approximately $2.5 million to fund exports through March 2014. This loan was collateralized by future exports from our subsidiary in Brazil. As of September 30, 2016, the loan was fully paid.

In March 2014, we entered into an additional one-year-term export financing agreement with ABC for approximately $2.2 million to fund exports through March 2015. This loan is collateralized by future exports from our subsidiary in Brazil. As of September 30, 2016, the loan was fully paid.

In April 2015, we entered into an additional one-year-term export financing agreement with ABC for approximately $1.6 million to fund exports through April 2016. This loan is collateralized by future exports from our subsidiary in Brazil. As of September 30, 2016, the loan was fully paid.

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 (approximately US$16.0 million based on the exchange rate as of September 30, 2016) as financing for capital expenditures relating to our manufacturing facility in Brotas, Brazil. Under the loan agreements, Banco Pine agreed to lend R$22.0 million and Nossa Caixa agreed to lend R$30.0 million. 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 September 30, 2016 and December 31, 2015, a principal amount of $11.7 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 R$22.4 million (approximately US$6.9 million based on the exchange rate as of September 30, 2016). The credit line is divided into an initial tranche for up to approximately R$19.1 million and an additional tranche of approximately R$3.3 million that becomes available upon delivery of additional guarantees. As of September 30, 2016 and December 31, 2015, we had R$4.8 million (approximately US$1.5 million based on the exchange rate as of September 30, 2016) and R$7.6 million (approximately US$1.9 million based on the exchange rate as of December 31, 2015), 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 was initially due on a quarterly basis with the first installment due in March 2012. From and after January 2013, 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 (approximately US$7.7 million based on the exchange rate as of September 30, 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. For advances in the second tranche (above R$19.1 million), we are required to provide additional bank guarantees equal to 90% of each such advance, plus additional Amyris guarantees equal to at least 130% of such advance. 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 (approximately US$2.0 million based on the exchange rate as of September 30, 2016) 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 September 30, 2016, the total outstanding loan balance under this credit facility was R$2.5 million (approximately US$0.8 million based on the exchange rate as of September 30, 2016).

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. 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 the Senior Secured Loan Facility to make available a loan facility in the aggregate principal amount of up to $25.0 million, which loan facility was fully drawn at the closing. The initial loan of $25.0 million under the Senior Secured Loan Facility accrues interest at a rate per annum equal to the greater of either the prime rate reported in the Wall Street Journal plus 6.25% or 9.5%. We may repay the outstanding amounts under the Senior Secured Credit Facility before the maturity date (February 1, 2017) if we pay an additional fee of 1% of the outstanding amounts. We were also required to pay a 1% facility charge at the closing of the Senior Secured Credit Facility, and are required to pay a 10% end of term charge with respect to the initial loan of $25.0 million. In connection with the original Senior Secured Loan Facility, Amyris agreed to certain customary representations and warranties and covenants, as well as certain covenants that were subsequently amended (as described below).

In June 2014, we and Hercules entered into a first amendment of the Senior Secured Loan Facility. Pursuant to the first amendment, the parties agreed to adjust the term loan maturity date from May 31, 2015 to February 1, 2017 and remove (i) a requirement for us to pay a forbearance fee of $10.0 million in the event certain covenants were not satisfied, (ii) a covenant that we maintain positive cash flow commencing with the fiscal quarter beginning October 1, 2014, (iii) a covenant that, beginning with the fiscal quarter beginning July 1, 2014, we and our subsidiaries achieve certain projected cash product revenues and projected cash product gross profits, and (iv) an obligation for us to file a registration statement on Form S-3 with the SEC by no later than June 30, 2014 and complete an equity financing of more than $50.0 million by no later than September 30, 2014. We further agreed to include a new covenant requiring us to maintain unrestricted, unencumbered cash in an amount equal to at least 50% of the principal amount then outstanding under the Senior Secured Loan Facility (or the “Minimum Cash Covenant”) and borrow an additional $5.0 million. The additional $5.0 million borrowing was completed in June 2014, and accrues 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%.

In March 2015, the Company and Hercules entered into a second amendment of the Senior Secured Loan Facility. Pursuant to the second amendment, the parties agreed to, among other things, establish an additional credit facility in the principal amount of up to $15.0 million, which would be available to be drawn by the Company through the earlier of March 31, 2016 or such time as the Company raised an aggregate of at least $20.0 million through the sale of new equity securities. The additional facility was cancelled undrawn upon the completion of our private stock and warrant offering in July 2015.

In November 2015, the Company and Hercules entered into a third amendment of the Senior Secured Loan Facility. Pursuant to the third amendment, the Company borrowed an additional $10,960,000 (or the "Third Amendment Borrowed Amount") from Hercules on November 30, 2015. As of December 1, 2015, after the funding of the Third Amendment Borrowed Amount (and including repayment of $9.1 million of principal that had occurred prior to the third amendment), the aggregate principal amount outstanding under the Senior Secured Loan Facility was approximately $31.7 million. The Third Amendment Borrowed Amount accrues interest at a rate per annum equal to the greater of (i) 9.5% and (ii) the prime rate reported in the Wall Street Journal plus 6.25%, and, like the previous loans under the Senior Secured Loan Facility, has a maturity date of February 1, 2017. Upon the earlier of the maturity date, prepayment in full or such obligations otherwise becoming due and payable, in addition to repaying the outstanding Third Amendment Borrowed Amount (and all other amounts owed under the Senior Secured Loan Facility, as amended), the Company is also required to pay an end-of-term charge of $767,200. Pursuant to the third amendment, the Company also paid Hercules fees of $1.0 million, $750,000 of which was owed in connection with the expired $15.0 million facility under the second amendment and $250,000 of which was related to the Third Amendment Borrowed Amount. Under the third amendment, the parties agreed that the Company would, commencing on December 1, 2015, be required to pay only the interest accruing on all outstanding loans under the Senior Secured Loan Facility until February 29, 2016. Commencing on March 1, 2016, the Company would have been required to begin repaying principal of all loans under the Senior Secured Loan Facility, in addition to the applicable interest. However, pursuant to the third amendment, the Company could, by achieving certain cash inflow targets in 2016, extend the interest-only period to December 1, 2016. Upon the issuance by the Company of $20.0 million of unsecured promissory notes and warrants in a private placement in February 2016 for aggregate cash proceeds of $20.0 million, the Company satisfied the conditions for extending the interest-only period to May 31, 2016. On June 1, 2016, the Company commenced the repayment of outstanding principal under the Senior Secured Loan Facility. 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. On June 29, 2016, in connection with the execution by the Company and Ginkgo Bioworks, Inc., an affiliate of Stegodon, of an initial strategic partnership agreement, the Company received a deferment of all scheduled principal repayments under the Senior Secured Loan Facility, as well as a waiver of the Minimum Cash Covenant, through October 31, 2016. Refer to Note 8, "Significant Agreements" to our unaudited consolidated financial statements included in this report for additional details. On October 6, 2016, in connection with the execution by the Company and Ginkgo Bioworks, Inc. of a definitive collaboration agreement, the Company and Stegodon entered into a fourth amendment of the Senior Secured Loan Facility, pursuant to which the parties agreed to (i) subject to the Company extending the maturity of certain of its other outstanding indebtedness, 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 the Company apply certain monies received under the collaboration agreement between the Company and Ginkgo Bioworks, Inc. 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. Refer to Note 8, "Significant Agreements" and Note 18, "Subsequent Events" to our unaudited consolidated financial statements included in this report for additional details.

As of September 30, 2016, $28.4 million was outstanding under the Senior Secured Loan Facility, net of discount and issuance cost of $0.1 million. The Senior Secured Loan Facility is secured by liens on our assets, including on certain of our 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. The Company was in compliance with the covenants under the Senior Secured Loan Facility as of September 30, 2016 and is in compliance with the covenants under the Senior Secured Loan Facility as of the date hereof.

February 2016 Private Placement. In February 2016, we sold and issued to certain purchasers an aggregate of $20.0 million of unsecured promissory notes and warrants for the purchase, at an exercise price of $0.01 per share, of an aggregate of 2,857,142 shares of our common stock, as described in more detail in Note 5, “Debt” to our unaudited condensed consolidated financial statements included in this report. The exercisability of these warrants was subject to stockholder approval, which was obtained on May 17, 2016.

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, as described in more detail in Note 5, “Debt” to our unaudited condensed consolidated financial statements included in this report.

See Note 18, “Subsequent Events” to our unaudited condensed consolidated financial statements included in this report for details regarding financing transactions completed subsequent to September 30, 2016.

Common Stock Offerings. In December 2012, we completed a private placement of 14,177,849 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 14,177,849 shares issued in the private placement, 1,677,852 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 1,533,742 of our common stock to Biolding 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 943,396 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 under which we agreed to sell 16,025,642 shares of our common stock at a price of $1.56 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 exercisable at an exercise price of $0.01 per share for the purchase of a number of shares of the Company’s common stock equal to 10% of the shares purchased by such investor. The exercisability of the warrants was subject to stockholder approval, which was obtained on September 17, 2015.

On May 10, 2016, we sold and issued 4,385,964 shares of our common stock to the Bill & Melinda Gates Foundation in a private placement at a purchase price per share equal to $1.14, for aggregate proceeds to the Company of approximately $5.0 million, as described in more detail in Note 8, “Significant Agreements.”

Cash Flows during the Nine Months Ended September 30, 2016 and 2015

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 $45.4 million and $52.2 million for the nine months ended September 30, 2016 and 2015, respectively.

Net cash used in operating activities of $45.4 million for the nine months ended September 30, 2016 was attributable to our net loss of $48.6 million and net non-cash gain of $15.6 million, offset by net change in our operating assets and liabilities of $18.8 million. Net non-cash gain of $15.6 million for the nine months ended September 30, 2016 consisted primarily of a $41.8 million change in the fair value of derivative instruments related to the embedded derivative liabilities associated with certain of our senior secured convertible promissory notes and currency interest rate swap derivative liability, offset by $8.4 million of depreciation and amortization expenses, $9.2 million of amortization of debt discount and issuance costs, $5.6 million of stock-based compensation, $1.7 million in loss on foreign currency exchange rates, $0.4 million related to technology access, and $0.9 million on loss from extinguishment of debt. Net change in operating assets and liabilities of $18.8 million for the nine months ended September 30, 2016 primarily consisted of a $4.3 million increase in accounts payable, $13.6 million increase in accrued other liabilities, $3.9 million decrease in inventory, and $0.3 increase in deferred revenue, offset by a $1.3 million increase in prepaid expense, $1.4 million increase in accounts receivable, and $0.6 million decrease in deferred rent.

Net cash used in operating activities of $52.2 million for the nine months ended September 30, 2015 was attributable to our net loss of $176.1 million, offset by net non-cash charges of $97.7 million and net change in our operating assets and liabilities of $26.2 million. Net non-cash charges of $97.7 million for the nine months ended September 30, 2015 consisted primarily of a$54.6 million of amortization of debt discount, including a $36.6 million charge due to acceleration of accretion of debt discount on the Total and Temasek convertible notes converted to equity in July 2015, $10.3 million change in the fair value of derivative instruments related to the embedded derivative liabilities associated with our senior secured convertible promissory notes and currency interest rate swap derivative liability, $9.9 million of depreciation and amortization expenses, $7.3 million of loss on purchase commitments and impairment of production assets, $7.0 million of stock-based compensation, $6.0 million of expense associated with extinguishment and cancellation of convertible note, $2.1 million of loss from investment in affiliates, $0.4 million of other noncash expenses and $0.1 million on disposition of property, plant and equipment. Net change in operating assets and liabilities of $26.2 million for the nine months ended September 30, 2015 primarily consisted of $18.7 million increase in accounts payable and accrued other liabilities, $5.1 million decrease in accounts receivable and related party accounts receivable, $2.7 million increase in deferred revenue related to the funds received under collaboration agreements and $3.3 million increase in inventory, offset by $3.6 million decrease in prepaid expenses and other assets and deferred rent.

Cash Flows from Investing Activities

Our investing activities consist primarily of capital expenditures and other investment activities. Net cash used in investing activities of $0.5 million for the nine months ended September 30, 2016, resulted from $0.7 million of purchases of property, plant and equipment, offset by $0.2 million in net proceeds from maturities of short-term investments.

Net cash used in investing activities of $3.3 million for the nine months ended September 30, 2015, resulted from $2.3 million of purchases of property, plant and equipment and $1.2 million in loans made to our equity method investee, Novvi, offset by $0.2 million of change in restricted cash.

Cash Flows from Financing Activities

Net cash provided by financing activities of $34.8 million for the nine months ended September 30, 2016, was a result of the receipt of $25.0 million of proceeds from debt issued to related parties, $13.3 million of proceeds from other debt issued, net of discounts and issuance costs, $5.0 million of proceeds from issuance of contingently redeemable equity, and the receipt of $0.1 million from exercise of common stock options, offset by $7.4 million of principal payments on debt, $1.0 million of principal payments on capital leases, and $0.2 million of employee's taxes paid upon vesting of restricted stock units.

Net cash provided by financing activities of $25.8 million for the nine months ended September 30, 2015, was a result of the receipt of $ 25.0 million from the issuance of common stock in private placements, the receipt of $10.9 million from debt issued to a related party, which related to the closing of the final installment of the Senior Secured Convertible Notes issued to Total under the July 2012 Agreements, the receipt of $1.6 million of proceeds from a one-year term export financing agreement with ABC and the receipt of $0.4 million from exercise of common stock options, offset by $11.2 million of principal payments on debt, $0.6 million of principal payments on capital leases and $0.3 million of employee's taxes paid upon vesting of restricted stock units.

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 September 30, 2016 (in thousands):

	Total	2016	2017	2018	2019	2020	Thereafter
Principal payments on debt	$208,489	$31,603	$47,809	$20,930	$102,975	$2,002	$3,170
Interest payments on debt, fixed rate(1)	38,418	7,797	11,269	13,515	5,462	232	143
Operating leases	47,535	1,762	6,888	6,890	6,777	7,008	18,210
Principal payments on capital leases	998	463	508	27	—	—	—
Interest payments on capital leases	26	9	16	1	—	—	—
Purchase obligations(2)	1,105	268	808	29	—		