BioAmber Inc.
Form 10-Q
May 15, 2013
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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 10-Q

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

For the quarterly period ended March 31, 2013

OR

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

For the transition period from _____ to _____

Commission file number: 001-35905

BIOAMBER INC.

(Exact name of registrant as specified in its charter)

Delaware	**98-0601045**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**

Jean-François Huc

President and Chief Executive Officer

BioAmber Inc.

1250 Rene Levesque West, Suite 4110

Montreal, Quebec, Canada H3B 4W8

Telephone: (514) 844-8000

(Address, Including Zip Code, and Telephone Number, Including Area Code, of Registrant s 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 ¨ No x

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 pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ¨ No x

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

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

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

As of May 13, 2013, there were 18,412,815 shares of the registrant s Common Stock, $0.01 par value per share, outstanding.

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BIOAMBER INC.

Form 10-Q

For the Quarter Ended March 31, 2013

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PART I FINANCIAL INFORMATION

Item 1. Financial Statements

BIOAMBER INC.

(a development stage company)

Consolidated Statements of Operations

For the three months ended March 31, 2013 and 2012

and the period from October 15, 2008 (inception) to March 31, 2013

(unaudited)

	3 Months ended March 31,		Period from October 15, 2008(inception) to March 31, 2013
	2013 $	2012 $	$
Revenues			
Licensing revenue from related parties (Note 14)			1,300,580
Product sales	330,722	380,237	3,182,341
Total revenues	330,722	380,237	4,482,921
Cost of goods sold	198,516	954,142	2,781,400
Gross profit (loss)	132,206	(573,905)	1,701,521
Operating expenses			
General and administrative	2,338,313	2,458,203	24,564,681
Research and development, net	6,099,140	5,617,355	49,936,236
Sales and marketing	1,095,430	836,395	7,921,438
Depreciation of property and equipment and amortization of intangible assets (Notes 5 and 6)	533,178	515,682	4,180,711
Impairment loss and write-off of intangible assets			1,341,338
Foreign exchange (gain) loss	(88,236)	80,584	165,089
Operating expenses	9,977,825	9,508,219	88,109,493
Operating loss	9,845,619	10,082,124	86,407,972
Amortization of deferred financing costs and debt discounts	69,313		354,822
Financial charges		12,744	5,642,935
Gain on debt extinguishment (Note 8)	(314,305)		(314,305)
Interest revenue from related parties (Note 14)			(161,771)
Income taxes (Note 12)			(736,935)
Equity participation in losses of equity method investments (Note 3)	15,339	36,272	7,062,920
Gain on re-measurement of Bioamber S.A.S.			(6,215,594)
Net loss	9,615,966	10,131,140	92,040,044

Net loss attributable to:			
BioAmber Inc. shareholders	9,500,257	10,093,288	91,326,449
Non-controlling interest	115,709	37,852	713,595
	9,615,966	10,131,140	92,040,044
Net loss per share attributable to BioAmber Inc. shareholders basic (Note 1)	$ 0.92	$ 0.99	
Weighted-average of common shares outstanding basic (Note 1)	10,370,815	10,170,494	

The accompanying notes are an integral part of the consolidated financial statements.

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BIOAMBER INC.

(a development stage company)

Consolidated Statements of Comprehensive Loss

For the three months ended March 31, 2013 and 2012

and the period from October 15, 2008 (inception) to March 31, 2013

(unaudited)

	3 Months ended March 31,		Period from October 15, 2008 (inception) to March 31, 2013
	2013	2012	
	$	$	$
Net loss	9,615,966	10,131,140	92,040,044
Foreign currency translation adjustment	616,486	(751,816)	609,854
Total comprehensive loss	10,232,452	9,379,324	92,649,898
Total comprehensive loss attributable to:			
BioAmber Inc. shareholders	10,161,382	9,341,472	92,082,544
Non-controlling interest	71,070	37,852	567,354
	10,232,452	9,379,324	92,649,898

The accompanying notes are an integral part of the consolidated financial statements.

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BIOAMBER INC.

(a development stage company)

Consolidated Balance Sheets

March 31, 2013 and December 31, 2012

(unaudited)

	As at March 31, 2013 $	As at December 31, 2012 $
Assets		
Current assets		
Cash	11,531,113	25,072,337
Accounts receivable	592,270	596,171
Inventories (Note 4)	3,210,748	1,894,319
Prepaid expenses and deposits (Note 4)	7,847,631	2,364,934
Valued added tax, income taxes and other receivables	2,476,908	1,969,681
Deferred financing costs	1,176,153	16,741
Total current assets	26,834,823	31,914,183
Property and equipment, net (Note 5)	3,081,910	3,650,984
Investment in equity method investments (Note 3)	710,190	725,529
Intangible assets, net (Note 6)	12,329,080	13,050,153
Goodwill	644,369	662,972
Total assets	43,600,372	50,003,821
Liabilities		
Current liabilities		
Accounts payable and accrued liabilities (Note 7)	5,661,063	4,677,920
Income taxes payable (Note 12)	969,340	982,658
Accounts payable Agro-Industries Recherches et Développements (ARD) (Note 14)	512,614	197,019
Deferred grants (Note 9)	3,634,552	3,711,356
Short-term portion of long-term debt (Note 8)		183,177
Total current liabilities	10,777,569	9,752,130
Long-term debt (Note 8)	2,931,564	2,416,616
Other long-term liabilities	48,750	37,500
Total liabilities	13,757,883	12,206,246
Commitments and contingencies (Note 10)		
Shareholders equity		
Share capital		
Common stock:		
$0.01 par value per share; 17,500,000 authorized, 10,412,815 and 10,349,815 issued and outstanding at March 31, 2013 and December 31, 2012, respectively	104,128	103,498
Additional paid-in capital	116,057,582	113,780,846
Warrants	3,074,957	3,074,957

Deficit accumulated during the development stage	(91,326,449)	(81,826,192)
Accumulated other comprehensive income (loss)	(756,094)	(94,969)
Total BioAmber Inc. shareholders equity	27,154,124	35,038,140
Non-controlling interest	2,688,365	2,759,435
Total shareholders equity	29,842,489	37,797,575
Total liabilities and equity	43,600,372	50,003,821

The accompanying notes are an integral part of the consolidated financial statements.

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BIOAMBER INC.

(a development stage company)

Consolidated Statements of Shareholders Equity

for the period from June 30, 2009 to March 31, 2013

(in U.S. dollars, except for shares data)

(unaudited)

	Common stock		Additional paid-in capital	Warrants		Deficit accumulated during the development stage	Accumulated other comprehensive income (loss)	Non-controlling interest	Total Shareholders equity
	Shares	Par value $	$	Shares	Value $	$	$	$	$
Balance, June 30, 2010	3,764,950	37,650	15,482,334	1,477,245	2,296,865	(9,843,122)	(650,944)	261,836	7,584,619
Expired warrants (Note 11)			7,879	(7,350)	(7,879)				
Issuance of common stock pursuant to the acquisition of Bioamber S.A.S.	1,107,540	11,075	7,333,149						7,344,224
Stock-based compensation (Note 11)			635,284						635,284
Net loss						(2,010,861)		(101,923)	(2,112,784)
Foreign currency translation							403,302		403,302
Balance, December 31, 2010	4,872,490	48,725	23,458,646	1,469,895	2,288,986	(11,853,983)	(247,642)	159,913	13,854,645
Balance, December 31, 2010	4,872,490	48,725	23,458,646	1,469,895	2,288,986	(11,853,983)	(247,642)	159,913	13,854,645
Issuance of common stock pursuant to private placement, net of issuance costs of $231,374 (Note 11)	3,887,485	38,875	40,730,500						40,769,375
Issuance of common stock pursuant to private placement, net of	702,135	7,021	19,962,566						19,969,587

issuance costs of $31,230 (Note 11)									
Issuance of common stock pursuant to conversion of unsecured convertible notes, net of costs of $8,626 (Note 11)	379,155	3,792	3,986,475						3,990,267
Issuance of warrants pursuant to a private placement (Note 11)				94,745	810,448				810,448
Release of common stock to Sinoven owners (Note 2)	70,000	700	1,228,400						1,229,100
Warrants exercised	45,500	455	97,164	(45,500)	(9,902)				87,717
Warrants expired			14,254	(59,850)	(14,254)				
Stock options exercised (Note 11)	7,000	70	7,434						7,504
Stock-based compensation (Note 11)			3,905,478						3,905,478
Net loss						(30,621,159)		(231,244)	(30,852,403)
Acquisition of non-controlling interest (Note 2)			2,984,550					3,950	2,988,500
Contribution by non-controlling interest								2,912,628	2,912,628
Foreign currency translation							(257,615)		(257,615)
Balance, December 31, 2011	9,963,765	99,638	96,375,467	1,459,290	3,075,278	(42,475,142)	(505,257)	2,845,247	59,415,231

The accompanying notes are integral part of the consolidated financial statements.

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BIOAMBER INC.

(a development stage company)

Consolidated Statements of Shareholders Equity

for the period from June 30, 2009 to March 31, 2013

(in U.S. dollars, except for shares data)

(unaudited)

	Common stock		Series A Participating Convertible Preferred shares		Additional paid-in capital	Warrants		Deficit accumulated during the development stage	Accumulated other comprehensive loss	Non-controlling interest	Total Shareholders equity
	Shares	Par value $	Shares	Par value $	$	Shares	Value $	$	$	$	$
Balance, June 30, 2009	408,100	4,081	1,177,925	11,779	3,691,382	1,522,465	2,118,563	(1,850,906)	(4,120)		3,970,779
Issuance of shares of common stock pursuant to the conversion of warrants (Note 11)	696,500	6,965			3,992,935						3,999,900
Issuance of shares of common stock pursuant to private placement, net of issuance costs of $589,854 (Note 11)	1,393,070	13,931			7,396,417						7,410,348
Issuance of warrants pursuant to private placement (Note 11)					(244,373)	66,185	244,373				
Conversion of preferred shares to shares of common stock pursuant to private placement (Note 11)	1,177,925	11,779	(1,177,925)	(11,779)							
	82,355	824			156,445	(82,355)	(54,302)				102,967

Warrants exercised									
Warrants expired			11,769	(29,050)	(11,769)				
Stock options exercised (Note 11)	7,000	70	7,434						7,504
Acquisition of Sinoven Biopolymers Inc (Note 2)								339,142	339,142
Stock-based compensation (Note 11)			470,325						470,325
Net loss						(7,992,216)		(77,306)	(8,069,522)
Foreign currency translation							(646,824)		(646,824)
Balance, June 30, 2010	3,764,950	37,650	15,482,334	1,477,245	2,296,865	(9,843,122)	(650,944)	261,836	7,584,619

The accompanying notes are integral part of the consolidated financial statements.

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BIOAMBER INC.

(a development stage company)

Consolidated Statements of Shareholders Equity

for the period from June 30, 2009 to March 31, 2013

(in U.S. dollars, except for shares data)

(unaudited)

	Common stock		Additional paid-in capital	Warrants		Deficit accumulated during the development stage	Accumulated other comprehensive income (loss)	Non-controlling interest	Total Shareholders equity
	Shares	Par value $	$	Shares	Value $	$	$	$	$
Balance, December 31, 2011	9,963,765	99,638	96,375,467	1,459,290	3,075,278	(42,475,142)	(505,257)	2,845,247	59,415,231
Issuance of common stock pursuant to private placement, net of issuance costs of $22,254 (Note 11)	351,050	3,510	9,974,146						9,977,656
Release of shares held in trust (Note 2)	35,000	350	(350)						
Warrants expired (Note 11)			321	(1,435)	(321)				
Stock-based compensation (Note 11)			7,431,262						7,431,262
Net loss						(39,351,050)		(187,413)	(39,538,463)
Foreign currency translation							410,288	101,601	511,889
Balance, December 31, 2012	10,349,815	103,498	113,780,846	1,457,855	3,074,957	(81,826,192)	(94,969)	2,759,435	37,797,575
Balance, December 31, 2012	10,349,815	103,498	113,780,846	1,457,855	3,074,957	(81,826,192)	(94,969)	2,759,435	37,797,575
Release of shares held in	63,000	630	(630)						

trust (Note 2)									
Cancelation of shares (Note 2)			(140,000)						(140,000)
Stock-based compensation (Note 11)			2,417,366						2,417,366
Net loss						(9,500,257)		(115,709)	(9,615,966)
Foreign currency translation							(661,125)	44,639	(616,486)
Balance, March 31, 2013	10,412,815	104,128	116,057,582	1,457,855	3,074,957	(91,326,449)	(756,094)	2,688,365	29,842,489

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BIOAMBER INC.

(a development stage company)

Consolidated Statements of Cash Flows

For the three months ended March 31, 2013 and 2012

and the period from October 15, 2008 (inception) to March 31, 2013

(unaudited)

	3 Months ended March 31,		Period from October 15, 2008 (inception) to March 31, 2013
	2013 $	2012 $	$
Cash flows from operating activities			
Net loss	(9,615,966)	(10,131,140)	(92,040,044)
Adjustments to reconcile net loss to cash:			
Stock-based compensation	2,417,366	1,813,808	15,056,712
Depreciation of property and equipment and amortization of intangible assets	533,178	515,682	4,180,711
Impairment loss and write-off of intangible assets			1,341,338
Amortization of deferred financing costs and debt discounts	69,313		354,822
Write-off of IPO costs			1,828,074
Equity participation in losses of equity method investments	15,339	36,272	7,062,920
Other long-term liabilities	11,250		48,750
Gain on re-measurement of Bioamber S.A.S.			(6,215,594)
Financial charges		12,744	5,642,935
(Gain) loss on debt extinguishment	(314,305)		(314,305)
Deferred income taxes			(736,935)
Changes in operating assets and liabilities			
Change in accounts receivable	3,901	(214,208)	(592,270)
Change in accounts receivable from Bioamber S.A.S.			(5,963,869)
Change in inventories	(1,353,155)	(485,756)	(3,247,474)
Change in prepaid expenses and deposits	(5,512,135)	(3,688,424)	(7,914,255)
Change in research and development tax credits receivable, value added tax, income taxes and other receivables	(531,745)	(280,442)	4,439
Change in accounts payable to ARD	313,143	687,433	866,420
Change in accounts payable and accrued liabilities	(104,527)	(653,075)	1,191,669
Net cash used in operating activities	(14,068,343)	(12,387,106)	(79,445,956)
Cash flows from investing activities			
Acquisition of property and equipment	(38,769)	(641,524)	(6,767,074)
Cash consideration paid on the acquisition of Sinoven			(20)
Investment in equity method investments		(1,000,000)	(1,000,000)
Net cash from acquisition of Bioamber S.A.S.			1,016,969
Net cash used in investing activities	(38,769)	(1,641,524)	(6,750,125)

The accompanying notes are integral part of the consolidated financial statements.

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BIOAMBER INC.

(a development stage company)

Consolidated Statements of Cash Flows

For the three months ended March 31, 2013 and 2012

and the period from October 15, 2008 (inception) to March 31, 2013

(unaudited)

	3 Months ended March 31, 2013 $	2012 $	Period from October 15, 2008 (inception) to March 31, 2013 $
Cash flows from financing activities			
Issuance of bridge loan			585,000
Repayment of bridge loan			(585,000)
Deferred financing costs related to IPO	(146,713)	(32,043)	(1,529,069)
Issuance of long-term debt	610,636		3,343,620
Government grants (Note 9)	502,567		6,917,651
Proceeds from issuance of convertible notes, net of financing costs			7,805,798
Net proceeds from issuance of common shares		9,977,656	78,331,448
Proceeds from issuance of shares by a subsidiary			2,912,628
Cancellation of shares (Note 2)	(140,000)		(140,000)
Net cash provided by financing activities	826,490	9,945,613	97,782,076
Foreign exchange impact on cash	(260,602)	(62,102)	85,118
Increase (decrease) in cash	(13,541,224)	(4,145,119)	11,531,113
Cash, beginning of period	25,072,337	47,956,141	
Cash, end of period	**11,531,113**	**43,811,022**	**11,531,113**
Supplemental cash flow information:			
Non-cash transactions:			
Shares and warrants issued in connection with the spin-off transaction			4,011,220
Conversion of convertible notes into common shares (Note 8)			5,999,347
Forgiveness of convertible note			100
Conversion of preferred shares into common shares			11,779
Acquisition of Sinoven contingent consideration (Note 2)			1,005,000
Acquisition of Bioamber S.A.S. common stock			7,344,224
Warrants issued in connection with the bridge loan and closing of private placement (Note 11)			810,448
Deferred financing costs related to IPO not yet paid	1,029,440	467,565	1,491,899
Construction in Progress costs not yet paid			162,226

The accompanying notes are an integral part of the consolidated financial statements.

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BIOAMBER INC.

(a development stage company)

Notes to Consolidated Financial Statements

For the three months ended March 31, 2013 and 2012, year ended December 31, 2012 and

the period from October 15, 2008 (inception) to March 31, 2013

(unaudited)

1. Summary of significant accounting policies

Basis of presentation

The accompanying unaudited consolidated financial statements have been prepared in accordance with SEC rules and regulations and using the same accounting policies as described in Note 2 of the 2012 audited consolidated financial statements. Accordingly, these unaudited consolidated financial statements should be read in conjunction with the audited consolidated financial statements and notes included in our annual consolidated financial statements for the year ended December 31, 2012.

The preparation of financial statements in conformity with generally accepted accounting principles in the United States of America (GAAP) requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Management bases its estimates on various assumptions and historical experience, which are believed to be reasonable; however, due to the inherent nature of estimates, actual results may differ significantly due to changed conditions or assumptions. The results of operations for the three months ended March 31, 2013 are not necessarily indicative of results to be expected for the year ended December 31, 2013 or any other future period.

Going concern assumption

The accompanying consolidated financial statements have been prepared on a going concern basis. The going concern basis of presentation assumes that the Company will continue in operation for the foreseeable future and will be able to realize its assets and discharge its liabilities and commitments in the normal course of business.

There is substantial doubt about the appropriateness of the use of the going concern assumption because of the Company s recurring operating losses, negative cash flows from operating activities, the uncertainty of efforts to raise additional capital and the ability to execute on the Company s plans. As such, the realization of assets and the discharge of liabilities in the ordinary course of business are uncertain.

In order to address the uncertainties described above, the Company s ongoing plans include some or all of the following:

- Raise additional equity capital and debt financing
- Delay capital expenditures on the planned facility
- Reduce or delay operating expenses as deemed appropriate in order to conserve cash

The Company continues to seek additional capital and to that end, on May 9, 2013, the Company completed an Initial Public Offering of 8,000,000 units for estimated net cash of $71,900,000 (see Note 16 Subsequent events).

During the fourth quarter of 2012, the Company halted further construction activities of the planned manufacturing facility in Sarnia, Ontario, until sufficient capital was raised. In addition, the Company will continue to assess its operating costs and to spend only on those costs deemed

critical to the operating plan.

The Company believes that with the above plans it will be able to continue as a going concern.

If the going concern basis was not appropriate for these consolidated financial statements, significant adjustments would be necessary in the carrying value of assets and liabilities, the reported revenue and expenses and the classifications used in the consolidated balance sheets.

Revenue

The Company s revenues represent sales of bio-succinic acid to a limited number of customers. Revenues from two customers represented 74% and 87% of the consolidated revenue for the three months ended March 31, 2013 and 2012, respectively.

Deferred financing costs

During the first quarter of 2013, the Company incurred $1.2 million of deferred financing costs associated with a planned IPO, which became effective May 9, 2013 (see Note 16).

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Recent accounting pronouncements

In February 2013, the FASB amended the guidance on the presentation of comprehensive income in order to improve the reporting of reclassifications out of accumulated other comprehensive income. The amendment does not change the current requirements for reporting net income or other comprehensive income in financial statements. Rather, it requires the entity to present, either on the face of the statement where net income is presented or in the notes, significant amounts reclassified out of accumulated other comprehensive income by the respective line items of net income but only if the amount being reclassified is required under GAAP to be reclassified in its entirety to net income in the same reporting period. For other amounts that are not required under GAAP to be reclassified in their entirety to net income, an entity is required to cross-reference to other disclosures required under GAAP that provide additional detail about those amounts. The new guidance is effective prospectively for reporting periods beginning after December 15, 2012. The standard does not impact the Company.

2. Sinoven Biopolymers Inc. (Sinoven)

On March 1, 2013, the Company and Sinoven s selling shareholders entered into a Termination and Release Agreement (the Agreement), whereby their employment was terminated. Pursuant to the Agreement, the 70,000 shares held in trust on behalf of the selling shareholders were dealt with as follows:

i) 63,000 shares were released and,

ii) 7,000 shares were forfeited in exchange for cash consideration of $140,000

The shares held in trust were considered deferred stock-based compensation and expensed in accordance with FASB ASC 718, ratably over the period in which the shares vested. As a result of entering into the Agreement, the Company recognized the remaining deferred compensation as an expense in the amount of $872,375 on March 1, 2013 and recorded the $140,000 paid in cash as a decrease of additional paid-in capital.

3. Investment in AmberWorks LLC

For the three months ended March 31, 2013, AmberWorks had no revenue and a net loss of $30,678. Sinoven s share of the net loss amounted to $15,339. As of March 31, 2013, AmberWorks had total assets of $1,420,380 and no liabilities. Sinoven s share of net assets amounted to $710,190.

4. Inventories and Prepaid expenses and deposits

The Company had $3.2 million and $1.9 million of finished goods inventory as of March 31, 2013 and December 31, 2012, respectively.

The Company had $7.8 million and $2.4 million of prepaid expenses and deposits as of March 31, 2013 and December 31, 2012, respectively, which was comprised primarily of deposits made to secure the purchase of equipment and advances for the planned construction of the manufacturing facility in Sarnia, Ontario.

5. Property and equipment

	Estimated Useful Life (years)	March 31, 2013	December 31, 2012
		$	$
Land		331,544	338,550
Furniture and fixtures	5 - 8	54,003	51,354
Machinery and equipment	5 - 15	335,583	328,595
Computers, office equipment and peripherals	3 - 7	204,014	180,689
Construction in-progress		5,728,414	5,851,247
Grants applied to construction in-progress		(3,419,614)	(2,978,689)

	3,233,944	3,771,746
Less: accumulated depreciation	(152,034)	(120,762)
Property and equipment, net	3,081,910	3,650,984

During the first quarter of 2013 $502,567 of these grants has been applied to reduce the cost of construction in-progress.

Depreciation expense is recorded as an operating expense in the consolidated statements of operations and amounted to $31,272 and $10,059 as for the three months ended March 31, 2013 and 2012, respectively.

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6. Intangible assets

	March 31, 2013 $	December 31, 2012 $
Intellectual property, patents and licenses:		
Beginning balance	12,664,197	5,006,495
Completion of in-process research and development		8,056,451
Write-off of Patents		(398,749)
	12,664,197	12,664,197
Less: accumulated amortization	(4,028,678)	(3,526,771)
Intellectual property, patents and licenses, net	8,635,520	9,137,426
Acquired in-process research and development:		
Beginning balance	3,594,545	12,464,937
Completion of in-process research and development		(8,056,451)
Write-off of in-process research and development		(813,941)
Acquired in-process research and development, net	3,594,545	3,594,545
Foreign currency translation adjustment	99,015	318,182
Intangible assets, net	12,329,080	13,050,153

Amortization expense is recorded as an operating expense in the consolidated statements of operations and amounted to $501,906 and $505,623 for the three months ended March 31, 2013 and 2012, respectively.

7. Accounts payable and accrued liabilities

Accounts payable and accrued liabilities consisted of the following:

	March 31, 2013 $	December 31, 2012 $
Trade accounts payable	2,922,956	3,196,160
Accrued payroll and bonus	1,122,305	1,122,566
Consulting and legal fees	1,449,746	167,774
Other	166,056	191,420
Total	5,661,063	4,677,920

8. Long-term debt

Project Financing

The Company entered into the following facilities to fund the construction of a manufacturing facility in Sarnia, Ontario, Canada:

i) Sustainable Jobs and Investment Fund (SJIF)

During March 2013, BioAmber Sarnia Inc. received the first disbursement of CAD$929,000, or $914,000 when converted into U.S. dollars as of March 31, 2013. The loan was originally recorded at $490,310 when converted into U.S. dollars as of March 31, 2013, being the discounted amount of the future cash payments of principal and interest over the term of the loan. The discount rate used was 15%, being the interest rate a loan with similar terms and conditions would carry.

The difference between the face value of the loan and the discounted amount of the loan of $424,603 when converted into U.S. dollars as of March 31, 2013 was recorded as a deferred grant (see Note 9).

The discounted loan is being accreted to its face value through a charge in the consolidated statement of operations using the effective interest method over the term of the loan.

ii) Federal Economic Development Agency (FEDDEV)

During January 2013, BioAmber Sarnia Inc. received a second disbursement for CAD$221,000, or $218,000 when converted into U.S. dollars as of March 31, 2013. The loan was originally recorded at $139,951 when converted into U.S. dollars as of March 31, 2013, being the discounted amount of the future cash payments of principal and interest over the term of the loan. The discount rate used was 15%, being the interest rate a loan with similar terms and conditions would carry.

The difference between the face value of the loan and the discounted amount of the loan of $77,963 when converted into U.S. dollars as of March 31, 2013 was recorded as a deferred grant (see Note 9).

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The discounted loan is being accreted to its face value through a charge in the consolidated statement of operations using the effective interest method over the term of the loan.

On March 20, 2013, the Company agreed with FEDDEV to amend the repayment of principal from the period October 2013 to October 2018, to the period October 2014 to October 2019. The Company recorded the impact of the amendment in accordance with FASB ASC 470-50, *Debt Modifications and extinguishments*. Accordingly, the amendment was recorded as a debt extinguishment and the issuance of new debt, with new terms. As a result, the Company recognized a gain on debt extinguishment of CAD$318,923, or $314,305 when converted into U.S. dollars as of March 31, 2013.

The balance of the outstanding long term debt is as follows:

	March 31, 2013 $	December 31, 2012 $
Sustainable Chemistry Alliance:		
Face value (CAD $500,000)	492,150	502,550
Less: debt discount	(236,845)	(241,474)
Amortization of debt discount	54,016	43,614
	309,321	304,690
Sustainable Jobs and Investment Fund:		
Face value (CAD $929,000)	914,913	
Less: debt discount	(424,603)	
	490,310	
Federal Economic Development Agency:		
Face value (CAD $3,866,000)	3,805,647	3,663,548
Less: debt discount	(1,473,243)	(1,424,764)
Less: short-term portion of debt		(183,177)
Gain on debt extinguishment	(313,916)	
Amortization of debt discount	113,445	56,319
	2,131,933	2,111,926
Long-term debt, net	**2,931,564**	**2,416,616**

The principal repayments of the outstanding loans payable to the Sustainable Chemistry Alliance (SCA), FEDDEV and SJIF are as follows:

	SCA $	FEDDEV $	SJIF $	Total $
March 2013 - March 2014				
March 2014 - March 2015		380,565		380,565
March 2015 - March 2016	24,608	761,129		785,737
March 2016 - March 2017	98,430	761,129		859,559
March 2017 and thereafter	369,113	1,902,824	914,913	3,186,850
Total	492,150	3,805,647	914,913	5,212,711

9. Deferred Grants

As of December 31, 2012, the Company has received the following grants:

a) Sustainable Development Technology Canada

Grant from Sustainable Development Technology Canada to BioAmber Sarnia in the amount of CAD$7,500,000, or $7,538,000 when converted into U.S. dollars as of December 31, 2012, with progressive disbursements according to the terms of the agreement and milestones, as follows:

i) Detailed Engineering Package, Construction and Procurement. The Company fulfilled this Milestone in October 2012

ii) Procurement of Equipment and Construction of the manufacturing facility, expected to be prior to December 2013.

iii) Commissioning, Start-up and Optimization of the manufacturing facility, expected to be prior to June 2014.

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The grant is non-reimbursable by BioAmber Sarnia, except upon the occurrence of certain events of default defined in the agreement.

An advance on Milestone I of CAD$1,982,726, or $1,993,000 when converted into U.S. dollars as of December 31, 2012, was received in December 2011 (net of 10% holdback) and was recorded as deferred grant and presented in current liabilities as of December 31, 2011. During October 2012, Milestone I was fulfilled and as a result BioAmber Sarnia Inc. received CAD$3,015,000, or $3,030,000 when converted into U.S. dollars as of December 31, 2012, as advance on Milestone II. Accordingly, the advance on Milestone I was reclassified from deferred grants reducing the cost of construction in-progress, whereas the advance in Milestone II has been recorded as a deferred grant and presented in current liabilities.

b) Sustainable Chemistry Alliance

The loan received from the Sustainable Chemistry Alliance is to be used primarily for maintenance and operation of the Company s facility, staff salaries and commercialization costs. As the loan bears a below market interest rate, it has been recorded at a discount and a portion of the proceeds has been recorded as a deferred grant. The expenses for which the loan was received have not yet been incurred as of December 31, 2012, but are expected to be incurred during 2013. Accordingly, the grant portion of the loan in the amount of $236,647 has been deferred and will be reclassified as a reduction of such expenses as they are incurred in the future. The deferred grant has been presented in current liabilities.

c) Federal Economic Development Agency

The loan proceeds received from the Federal Economic Development Agency are being used to finance the construction and start-up of the Company s bio-based succinic acid plant in Sarnia, Ontario. The terms of the loan agreement require the Company to submit a claim for eligible expenses incurred for subsequent reimbursement by the Federal Economic Development Agency. As the loan bears a zero interest rate, it was recorded at a discount and a portion of the proceeds in the amount of $1,424,764 when converted into U.S. dollars as of December 31, 2012, was recorded as a short term deferred grant. Subsequently, the Company reclassified a portion of the deferred grant in the amount of $985,851 to reduce the cost of the construction in progress. The remaining balance of the deferred grant for $438,913 is presented in current liabilities.

During the first quarter of 2013, the Company received the following grants:

a) Federal Economic Development Agency

The loan proceeds received in January 2013 from the Federal Economic Development Agency (see Note 8) are being used to finance the construction and start-up of the Company s bio-based succinic acid plant in Sarnia, Ontario. The terms of the loan agreement require the Company to submit a claim for eligible expenses incurred for subsequent reimbursement by the Federal Economic Development Agency. As the loan bears no interest, it was recorded at a discount and a portion of the proceeds in the amount of $77,963 when converted into U.S. dollars as of March 31, 2013, was recorded as a short term deferred grant and subsequently reclassified to reduce the cost of construction in progress.

b) Sustainable Jobs and Investment Fund

The loan proceeds received from the Sustainable Jobs and Investment Fund (see Note 8) are being used to finance the construction and start-up of the Company s bio-based succinic acid plant in Sarnia, Ontario. The terms of the loan agreement require the Company to submit a claim for eligible expenses incurred for subsequent reimbursement by the Sustainable Jobs and Investment Fund. As the loan bears a below market interest rate, it was recorded at a discount and a portion of the proceeds in the amount of $424,603 when converted into U.S. dollars as of March 31, 2013, was recorded as a short term deferred grant and subsequently reclassified to reduce the cost of construction in progress.

10. Commitments and contingencies

Leases

The Company leases its premises and other assets under various operating leases. Future lease payments aggregate $1,121,638 as at December 31, 2012 and include the following future amounts payable on a twelve month basis:

	December 31, 2012
	$

2013	355,422
2014	339,941
2015	330,428
2016	95,847
2017	

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Royalties

The Company has entered into exclusive license agreements that provide for the payment of royalties in the form of up-front payments, minimum annual royalties, and milestone payments. The Company has the right to convert such exclusive agreements into non-exclusive agreements without the right to sublicense and without the obligation to pay minimum royalties. As of December 31, 2012, the Company has commitments related to royalty payments as follows:

	December 31, 2012 $
2013	1,123,272
2014	592,790
2015	638,917
2016	643,500
2017 and thereafter	8,423,834

The Company had such contractual agreements with ten partners: Cargill Inc., DuPont, Michigan State University, UT-Batelle on behalf of the U.S. National Laboratories and the US DOE, Seton Hall University, Celexion LLC, University of Guelph, MuCell Extrusion LLC, Gene Bridges GmbH, the University of North Dakota and the National Research Council of Canada in partnership with the INRS University.

The royalties which the Company owes are in return for use or development of proprietary tools, patents and know-how and the actual expenses incurred amounted to a total of $343,414 and $419,491 for the three months ended March 31, 2013 and 2012, respectively. These amounts form part of the expenses recorded in research and development in the consolidated statements of operations.

Litigation

As of March 31, 2013 and for each preceding periods, there are no outstanding claims or litigations.

11. Share capital

On April 10, 2013, the Company s Board of Directors approved a 35-for-1 forward stock split of the Company s outstanding common stock, with a post-split par value of $0.01 per share of common stock, which became effective May 2, 2013, upon the filing of the Company s amended and restated certificate of incorporation. All share and per share information in the accompanying consolidated financial statements and related notes have been retroactively adjusted to reflect the stock split for all periods presented.

Authorized

The Company was authorized to issue from the date of inception to April 13, 2011, 9,310,000 shares of common stock and 1,190,000 preferred shares, issuable in series, each with a par value of $0.01 per share.

On April 14, 2011, the Board of Directors resolved (i) to increase the total number of authorized shares of common stock to 17,500,000 and (ii) to eliminate the authorization for issuance of preferred shares.

Common stock dividends and voting rights

Each share entitles the record holders thereof to one vote per share on all matters on which shareholders shall have the right to vote. The holders of shares shall be entitled to such dividends, if any, as may be declared thereon by the Board of Directors at its sole discretion.

Preferred stock dividends and voting rights

Holders of series A of preferred stock were entitled to dividends and votes on the same basis as the common stock, and had a liquidation preference of $2.72 per share. In addition, the A series participating convertible stock were convertible, at the option of the holders, into shares of common stock on a one-to-one basis. As of June 30, 2010 all preferred stock were converted into shares of common stock.

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Liquidation, dissolution and winding up rights

In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Company, the holders of shares of common stock shall be entitled to receive all of the remaining assets of the Company available for distribution to its shareholders, ratably in proportion to the number of shares held by them.

Private placements period ended December 31, 2012

On February 6, 2012, the Company completed a private placement for gross proceeds of $9,999,910, pursuant to which 351,050 shares of common stock were issued at a price per share of $28.49.

Share issue costs incurred amounted to $22,254 consisting principally of legal fees.

Private placements period ended December 31, 2011

On April 15, 2011 the Company completed a private placement for gross proceeds of approximately $45,000,000, pursuant to which 4,266,640 shares of common stock were issued at a price per share of $10.55. The private placement consisted of the following:

Issuance of 379,155 shares of common stock resulting from the conversion of $3,998,893 in unsecured convertible notes

Issuance of 3,887,485 shares of common stock for gross cash proceeds of $41,000,749;

Issuance of 94,745 warrants with fair value of $810,448 recorded as a financial charge. Each warrant expires 10 years from the warrant issue date and entitles the holder to purchase one share of common stock at a price of $10.55 per share. The fair value of the warrants was determined using the Black-Scholes option pricing model using the following assumptions:

Risk-free interest rate	2.62%
Expected life	10 years
Volatility	78.25%
Expected dividend yield	0%

Share issue costs incurred amounted to approximately $240,000 consisting principally of legal fees, of which $231,374 were allocated to the share issuance and $8,626 were allocated to the conversion of the unsecured convertible note.

On November 4, 2011 the Company completed a private placement for gross proceeds of approximately $20,000,817, pursuant to which 702,135 shares of common stock were issued at a price per share of $28.49.

Share issue costs incurred amounted to $31,230 consisting principally of legal fees.

Private placement period ended June 30, 2010

In October 2009, the Company completed a private placement for gross proceeds of approximately $12,000,000, pursuant to which 2,089,570 shares of common stock were issued at a price of $5.74 per share as follows:

Conversion of a secured convertible note, for a total amount of $4,000,000, into 696,500 shares of common stock, at $5.74 per share price totaling $3,999,900. The remaining $100 was forgiven (see Note 8);

Issuance of 1,393,070 shares of common stock for gross cash proceeds of $8,000,102;

Issuance of 66,185 warrants as broker fees with a fair value of $244,373. Each warrant expires five years from the warrant issue date and entitles the holder to purchase one share of common stock at a price of $5.74 per share. The fair value of the warrants was determined using the Black-Scholes option pricing model, using the following assumptions:

Risk-free interest rate	2.62%
Expected life	5 years
Volatility	78.25%
Expected dividend yield	0%

In October 2009, as part of the private placement transaction, all outstanding issued preferred stock were converted into 1,177,925 shares of common stock.

Share issue costs incurred amounted to $589,854 consisting principally of legal fees and commissions.

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Stock option plan

On December 8, 2008, the Board of Directors approved the Company s Employee Stock Option Plan (the Plan), available to certain employees, outside directors and consultants of the Company and its affiliated companies. The options under the Plan are granted for the purchase of common stock at exercise prices determined by the Board of Directors and generally vest two, three and four years from the date of grant and expire in 10 years. The total number of options allowable in the plan is 2,121,000, of which 974,750 under the initial plan, 1,050,000 approved by the Board on June 27, 2011 and 96,250 approved by the Board on December 6, 2011.

Stock-based compensation expense was allocated as follows:

	3 Months ended March 31,		Cumulative from inception to March 31, 2013
	2013 $	2012 $	$
General and administrative	759,199	579,528	5,341,265
Research and development	1,453,924	1,026,685	7,987,030
Sales and marketing	204,244	207,595	1,728,417
Total compensation expense	2,417,367	1,813,808	15,056,712

The following table summarizes activity under the Plan:

	3 Months ended			
	March 31, 2013		March 31, 2012	
	Number of options	Weighted Average Exercise price $	Number of options	Weighted Average Exercise price $
Options outstanding, beginning of period	2,072,000	10.89	1,898,750	9.25
Granted	3,500	28.49	78,750	28.49
Forfeited	(14,000)	28.49		
Options outstanding, end of period	2,061,500	10.80	1,977,500	10.02
Options exercisable, end of period	1,220,220	7.22	658,840	2.77
Per share weighted average grant-date fair value of options granted		21.92		22.44

As of March 31, 2013, the weighted-average remaining contractual life of options outstanding and options exercisable were 7.5 years and 7.1 years, respectively.

The fair value of options granted during the first quarter of 2013 and 2012, was determined using the Black-Scholes option pricing model and the following weighted-average assumptions:

	3 Months ended March 31,

	2013	2012
Risk-free interest rate	1.990%	1.990%
Expected life	10 years	10 years
Volatility	71.99%	75.14%
Expected dividend yield	0%	0%
Forfeiture rate	0%	0%

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Warrants

As at March 31, 2013, the Company had the following warrants outstanding to acquire common shares:

Number	Exercise price	Expiration date
474,950	$ 1.07	February 2014 - September 2019
620,060	$ 1.43	February 2019
268,100	$ 5.74	October 2014 - June 2019
94,745	$ 10.55	April 2021
1,457,855		

12. Income taxes

During the quarters ended March 31, 2013 and 2012, there were no material changes to the recorded income tax balances.

13. Financial instruments

Currency risk

The Company is exposed to foreign currency risk as result of foreign-denominated transactions and balances. The Company does not hold any financial instruments that mitigate this risk.

Credit risk

The Company s exposure to credit risk as of March 31, 2013, is equal to the carrying amount of its financial assets. As of March 31, 2013, amounts due from one customer represented approximately 80% of the total accounts receivable.

14. Related party transactions

Transactions with related parties not disclosed elsewhere were as follows:

	3 Months ended March 31,		Cumulative from inception to March 31, 2013
	2013 $	2012 $	$
Licensing fees charged to Bioamber S.A.S.			1,300,580
Interest revenue from Bioamber S.A.S.			161,771
Product sales to companies under the common control of a shareholder		128,250	257,865
Toll manufacturing services provided by ARD recorded as research and development expenses	138,000	134,000	2,591,052
Toll Manufacturing services provided by ARD recorded as cost and goods sold	198,516	954,142	1,989,616
Toll manufacturing services provided by ARD initially recorded as inventory	1,328,528	485,756	5,197,787
Land purchased from Lanxess			338,550
			387,440

Services provided by Saltigo, a subsidiary of Lanxess, recorded as research and development expenses	

As mentioned in Note 10, the Company entered into an agreement with ARD, whereby ARD granted the Company exclusive access to a demonstration plant in France to develop and produce succinic acid. The Company purchases 100% of the succinic acid produced by the demonstration plant from ARD. ARD remains a shareholder of the Company.

The related party transactions noted above were undertaken in the normal course of operations and were measured at the exchange amount, which is the amount of consideration established and agreed to by the parties.

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15. Business segments

The Company allocates, for the purpose of geographic segment reporting, its revenue based on the location of the seller. The Company s licensing revenues have been generated in the United States while the product sales have been generated in France.

For the purpose of geographic segment reporting, the non-current assets of the Company are allocated as follows:

	Europe	
	March 31, 2013 $	December 31, 2012 $
Accounts receivable	592,270	596,171
Property and equipment, net	5,585	4,638
Investment in equity method investments		
Intangible assets, net	9,830,386	10,439,305
Goodwill	644,369	662,972

	North America	
	March 31, 2013 $	December 31, 2012 $
Accounts receivable		
Property and equipment, net	3,076,325	3,646,346
Investment in equity method investments	710,190	725,529
Intangible assets, net	2,498,694	2,610,848
Goodwill		

	Consolidated	
	March 31, 2013 $	December 31, 2012 $
Accounts receivable	592,270	596,171
Property and equipment, net	3,081,910	3,650,984
Investment in equity method investments	710,190	725,529
Intangible assets, net	12,329,080	13,050,153
Goodwill	644,369	662,972

16. Subsequent events

The Company has evaluated subsequent events through May 15, 2013, the date of issuance of the consolidated financial statements.

Initial Public Offering

On May 9, 2013, the Company completed an initial public offering (IPO) of 8,000,000 units, each unit consisting of one share of common stock and one warrant to purchase half of one share of common stock at a price of $10.00 per unit for an aggregate offering price of $80 million. Each warrant will be exercisable during the period commencing on August 8, 2013 and ending on May 9, 2017 at an exercise price of $11.00 per whole share of common stock. The Company received approximately $71.9 million in net proceeds from the IPO after estimated payment of fees, expenses and underwriting discounts of approximately $8.1 million.

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Item 2. Management s Discussion and Analysis of Financial Condition and Results of Operations

The information included in this management s discussion and analysis of financial condition and results of operations should be read in conjunction with our consolidated financial statements and the notes included in this Quarterly Report on Form 10-Q.

Forward-Looking Statements

This Quarterly Report on Form 10-Q contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These forward-looking statements reflect the views of our management regarding current expectations and projections about future events and are based on currently available information. Actual results could differ materially from those contained in these forward-looking statements for a variety of reasons, including, but not limited to, those discussed in Part II, Item 1A. Risk Factors as well as those discussed elsewhere in this report. Other unknown or unpredictable factors also could have a material adverse effect on our business, financial condition and results of operations. Accordingly, readers should not place undue reliance on these forward-looking statements. The use of words such as anticipates, estimates, expects, intends, plans and believes, among others, generally identify forward-looking statements; however, these words are not the exclusive means of identifying such statements. In addition, any statements that refer to expectations, projections or other characterizations of future events or circumstances are forward-looking statements. These forward-looking statements are inherently subject to uncertainties, risks and changes in circumstances that are difficult to predict. We are not under any obligation to, and do not intend to, publicly update or review any of these forward-looking statements, whether as a result of new information, future events or otherwise, even if experience or future events make it clear that any expected results expressed or implied by those forward-looking statements will not be realized. Please carefully review and consider the various disclosures made in this report and in our other reports filed with the Securities and Exchange Commission that attempt to advise interested parties of the risks and factors that may affect our business, prospects and results of operations.

Overview

We are a next-generation chemicals company. Our proprietary technology platform combines industrial biotechnology and chemical catalysis to convert renewable feedstocks into sustainable chemicals that are cost-competitive replacements for petroleum-derived chemicals. We currently sell our first product, bio-succinic acid, to customers in a variety of chemical markets. We intend to produce bio-succinic acid that is cost-competitive with succinic acid produced from petroleum at our planned facility in Sarnia, Ontario, which we plan to build pursuant to a joint venture agreement with Mitsui. We currently produce our bio-succinic acid in a large-scale demonstration facility using a 350,000 liter fermenter in Pomacle, France, which we believe to be among the largest bio-based chemical manufacturing facilities in the world. We have produced over 1.84 million pounds, or 836 metric tons, of bio-succinic acid at this facility from inception to March 31, 2013. We sold approximately 50,900 pounds and 137,800 pounds of bio-succinic acid to our customers during the three month periods ended March 31, 2013 and 2012, respectively.

We believe we can produce bio-succinic acid that is cost-competitive with succinic acid produced from oil priced as low as $35 per barrel, based on management s estimates of production costs at our planned facility in Sarnia, Ontario and an assumed corn price of $6.50 per bushel. While we can provide no assurance that we will be able to secure corn at $6.50 per bushel given the fluctuations in corn prices, we believe this assumption is reasonable given the historic price of corn and management s expectations as to their ability to manage the cost of corn and other inputs for our planned facility in Sarnia, Ontario. Over the past five years, the price of corn ranged from a low of $2.68 per bushel to a high of $8.44 per bushel. As of April 1, 2013, the spot price was $6.55 per bushel and the six month forward price was $5.51 per bushel. We estimate that a $1.00 increase or decrease in the per bushel price of corn would result in just a $0.024 per pound change in the variable cost of our bio-succinic acid. We expect the productivity of our yeast and on-going process improvements to further reduce our production costs. Our ability to compete on cost is not dependent on government subsidies or tariffs. We intend to build our first facility in cooperation with Mitsui in Sarnia, Ontario. We expect this facility to be mechanically complete in 2014, at which time we plan to begin commissioning and start-up. We also intend to build and operate two additional facilities over the next three to four years.

We have been manufacturing our bio-succinic acid at a large-scale demonstration facility in Pomacle, France for over three years. In 2011, in connection with our product and market development efforts, we sold 144,500 pounds, or 66 metric tons, of our bio-succinic acid to 14 customers. During the year ended December 31, 2012, we sold 356,900 pounds, or 161 metric tons, of our bio-succinic acid to 16 customers. For the three months ended March 31, 2013, we sold 50,900 pounds or 23 metric tons, of our bio-succinic acid to 5 customers. We shipped commercial quantities to these customers, such as shipments of one ton super sacks and container loads. We and our customers used the products produced at the facility as part of our efforts to validate and optimize our process and to continue to refine and improve our bio-succinic acid to meet our customers specifications. We expect to move from a development stage enterprise to a commercial enterprise as our planned principal operations begin in the Sarnia, Ontario facility.

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As we scale-up our manufacturing capacity and prepare to manufacture and commercialize, we expect the majority of our revenue will initially come from sales of bio-succinic acid. We also intend to leverage our proprietary technology platform and expertise in the production of bio-succinic acid to target additional high value-added products, such as bio-based 1,4 BDO, bioplastics, de-icing solutions and plasticizers. In addition, we are also working to expand our product portfolio to additional building block chemicals, including adipic acid and caprolactam.

Since our inception, we have raised an aggregate of $89.0 million from private placements of equity securities, shares issued by a subsidiary and convertible notes.

Manufacturing Expansion Plan

In order to support our growth, we plan to rapidly expand our manufacturing capacity beyond the current production at the large-scale demonstration facility we operate in Pomacle, France. We have entered into a joint venture with Mitsui to finance, build and operate a manufacturing facility in Sarnia, Ontario through our BioAmber Sarnia subsidiary in which we own a 70% equity interest and Mitsui owns the remaining 30%. The joint venture agreement also establishes our intent to build and operate two additional facilities with Mitsui, which we expect to occur over the next three to four years. For future facilities, we expect to enter into agreements with partners on terms similar to those in our agreement with Mitsui and we intend to partially finance these facilities with debt. We expect to fund the initial phase of our planned facility in Sarnia, Ontario using available cash, a portion of the net proceeds of our initial public offering (IPO), equity from our partner Mitsui, low-interest loans and government grants. We also intend to enter into a proposed credit facility with HTGC, the proposed terms and conditions of which are described in the section below entitled Liquidity and Capital Resources. For additional future facilities, we currently expect to fund the construction of these facilities using internal cash flows and project financing.

Sarnia Facility

The first facility we plan to build in cooperation with Mitsui will be located in a bio-industrial park in Sarnia, Ontario. We have commenced engineering and substantially completed permitting for this facility and the initial phase is expected to be mechanically complete in 2014, at which time we plan to begin commissioning and start-up. The facility will be constructed to have an initial projected capacity of 30,000 metric tons of bio-succinic acid and could subsequently be expanded to produce another 20,000 metric tons of bio-succinic acid. A portion of our aggregate capacity could be further converted to produce bio-based 1,4 BDO. As an example, we estimate that approximately 30,000 metric tons of bio-succinic acid production could be converted into approximately 22,000 metric tons of bio-based 1,4 BDO production. Completion of this initial phase of our planned facility in Sarnia is expected to cost approximately $125.0 million, which we plan to fund through capital contributions of $63.0 million and $27.0 million from us and from Mitsui, respectively, and an additional CAD $35.0 million in low-interest loans and governmental grants that have been committed, subject to our meeting certain milestones, by various governmental authorities in Canada. The milestones vary depending on the government grant or loan. We have received loan proceeds in the amount of CAD $5.3 million and grant proceeds in the amount of CAD $5.0 million. We are also in discussions with Canadian government agencies for approximately CAD $25.0 million in additional low-interest loans, which would reduce our and Mitsui s capital contributions to $45.5 million and $19.5 million respectively. Our loans and government grants are further described under Business Manufacturing Operations Government Grants and Loans Related to Sarnia Facility. We also intend to enter into a proposed credit facility with Hercules Technology Growth Capital and its affiliates and assignees, or HTGC, pursuant to which HTGC is expected to make available to us term loans in an aggregate principal amount of up to $25.0 million. The terms and conditions of this proposed credit facility are described in the section below entitled Liquidity and Capital Resources.

We intend to complete the second phase of our planned facility in Sarnia by 2016, which entails increasing the capacity of the plant by an additional 20,000 metric tons of bio-succinic acid. This expansion is estimated to cost approximately $31.0 million of which we expect to contribute a maximum amount of approximately $21.7 million. Our portion could be reduced by project financing or by obtaining low-interest loans, government grants similar to those we have obtained for the initial construction phase.

Additional Facilities

Our agreement with Mitsui contemplates the potential construction and operation of two additional manufacturing facilities. We expect these facilities to produce bio-based 1,4 BDO, tetrahydrofuran, or THF, and/or gammabutyrolactone, or GBL, with the exact ratio of such end products being a function of the demand we secure. We anticipate that Mitsui will be an equity partner in these facilities, but we may also secure other minority partners and may also seek low interest loans and government grants to fund the facility, which would substantially reduce our equity funding requirement. Based on current estimates and assumptions, we expect our second manufacturing facility to have a projected initial bio-based 1,4 BDO / GBL capacity in the range of 50,000 to 100,000 metric tons, construction costs of approximately $210.0 million to $330.0 million, and be mechanically complete in 2016 or 2017.

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In addition to the facilities we plan to build in cooperation with Mitsui, we have entered into a non-binding letter of intent with Tereos, a leading European feedstock producer, for joint construction of two additional facilities.

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

Performance Drivers

We expect that the fundamental drivers of our results of operations going forward will be the following:

Commercialization of our products. We commenced recognizing revenue from sales of our existing bio-succinic acid product in 2011. In 2012, we increased revenue from the sale of our bio-succinic acid from $560,000 in 2011 to $2.3 million. Our ability to further grow revenue from this product will be dependent on expanding the addressable market for succinic acid using our low-cost, bio-based alternative. We also expect to grow our revenue base by developing new high value-added products, such as bio-based 1,4 BDO, bioplastics and plasticizers, in order to target additional large and established chemicals markets. Our revenue for future periods will also be impacted by our ability to introduce new products and the speed with which we are able to bring our products to market. To accelerate this process, we are developing our sales and marketing capability and entering into distribution and joint development agreements with strategic partners. We are also engaging in a collaborative process with our customers to test and optimize our new products in order to ensure that they meet specifications in each of their potential applications.

Production capacity. Our ability to further lower our production costs and drive customer adoption of our product is dependent on our manufacturing expansion strategy. In particular, in our planned facility in Sarnia, Ontario, we expect to benefit from significantly lower operating expenses than those in the large-scale demonstration facility in Pomacle, France due to lower expected raw material, utility and other costs. For example, we project that during 2013 our costs of glucose from wheat used in the large-scale demonstration facility we operate in Pomacle, France will be 270% higher than the expected costs of glucose from corn wet millers to be used in our planned facility in Sarnia, Ontario. We project our cost of steam in Pomacle, France will be 651% higher than the expected cost in Sarnia, Ontario. We also project direct labor costs, electricity costs and other raw material costs in Pomacle, France will be higher than in Sarnia, Ontario. If we were to adjust the current costs of goods sold in the large-scale demonstration facility we operate in Pomacle, France for the lower expected raw material and utility costs, the economies of scale and the engineering design improvements we have incorporated into our planned facility in Sarnia, Ontario, our gross profit from products sold would increase significantly. As a result, we expect to produce bio-succinic acid that is cost-competitive with succinic acid produced from oil priced as low as $35 per barrel. We expect to further reduce costs by transitioning from our *E. coli* to our yeast and by implementing on-going process improvements. We intend to capitalize on our first-to-market advantage by rapidly expanding our production capacity and building additional facilities. Our results will be impacted by the speed with which we execute on this strategy and the capital costs and operating expenses of each of these facilities.

Feedstock and other manufacturing input prices. We use sugars that can be derived from wheat, corn and other feedstocks. We intend to locate our facilities near readily available sources of sugars and other inputs, such as steam, electricity, hydrogen and carbon dioxide, in order to ensure reliable supply of cost-competitive feedstocks and utilities. While our process requires less sugar than most other renewable products and is therefore less vulnerable to sugar price increases relative to other bio-based processes, our margins will be affected by significant fluctuations in these required inputs.

Petroleum prices. We expect sales of our bio-based products to be impacted by the price of petroleum. In the event that petroleum prices increase, we may see increased demand for our products as chemical manufacturers seek lower-cost alternatives to petroleum-derived chemicals. Conversely, a long-term reduction in petroleum prices below $35 per barrel may result in our products being less competitive with petroleum-derived alternatives. In addition, oil prices may also impact the cost of certain feedstocks we use in our process, which may affect our margins.

Financial Operations Overview

Revenue

Revenue comprises the fair value of the consideration received or receivable for the sale of products and services in the ordinary course of our activities and is presented net of discounts.

Licensing revenue from related parties was derived from services rendered to Bioamber S.A.S. Following our acquisition of Bioamber S.A.S. on and after September 30, 2010, licensing revenue from related parties is eliminated upon consolidation.

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We recognized revenue from sales of bio-succinic acid of $331,000 and $380,000 during the three month periods ended March 31, 2013 and 2012, respectively. Supply contracts generated $290,000 and $332,000 of these revenues during the three month periods ended March 31, 2013 and 2012, respectively. Non-contracted sales generated $41,000 and $48,000 of these revenues during the three month periods ended March 31, 2013 and 2012, respectively. We expect these revenues to grow as our sales and marketing efforts continue and our planned facility in Sarnia, Ontario reaches the stage of being mechanically complete in 2014, at which time we will begin commissioning and start-up.

Cost of goods sold

Cost of goods sold consists of the cost to produce finished goods at the large-scale demonstration facility in Pomacle, France under a tolling arrangement. Cost of goods sold decreased from $954,000 for the three months ended March 31, 2012 to $199,000 for the three months ended March 31, 2013 due to the setup of a selling reserve for $562,000 that was expensed to cost of goods sold during the first quarter of the prior year and to a decrease in volume sold. Going forward, we expect our cost of goods sold as a percent of revenues to decrease as we increase volumes produced, transition from a development stage entity to a full scale commercial enterprise and benefit from efficiencies in utilizing our yeast in our fermentation process.

Operating Expenses

Operating expenses consist of general and administrative expenses, research and development expenses, net, sales and marketing expenses, depreciation of property and equipment and amortization of intangible assets, impairment losses and foreign exchange gains and losses.

General and Administrative Expenses

General and administrative expenses consist of personnel costs (salaries, and other personnel-related expenses, including stock-based compensation), recruitment and relocation expenses, accounting and legal fees, business travel expenses, rent and utilities for the administrative offices, web site design, press releases, membership fees, office supplies, insurance and other miscellaneous expenses.

Our general and administrative expenses have increased and we expect these expenses will continue to increase substantially in the future as we hire additional management and operational employees, expand our finance and accounting staff, add infrastructure and incur additional compliance and related costs associated with being a public company.

Research and Development Expenses, Net

Research and development expenses, net consist primarily of fees paid for contract research and internal research costs in connection with the development, expansion and enhancement of our proprietary technology platform. These costs also include personnel costs (salaries and other personnel-related expenses, including stock-based compensation), expenses incurred in our facility located in Plymouth, Minnesota, laboratory supplies, research consultant costs, patent and trademark maintenance costs, royalties, professional and consulting fees and business travel expenses.

We expect research and development expenses, including our patent maintenance expenses, to increase significantly as we continue to invest in the deployment and implementation of our bio-succinic acid and derivatives technologies in a commercial scale manufacturing facility. We expect more research to be performed in-house than was previously the case by utilizing our 27,000 square feet facility in Plymouth, Minnesota. In support of our efforts to move more research in-house we added 10 additional research and development personnel resulting in a total of 20 research and development staff at the end of 2012.

Sales and Marketing Expenses

Sales and marketing expenses consist primarily of personnel costs (salaries, and other personnel-related expenses, including stock-based compensation), marketing services, product development costs, advertising and feasibility study fees.

We expect to increase our sales and marketing efforts as we look to establish additional strategic alliances, grow our commercial customer base and expand our product offerings. As we transition from a developmental stage company and commence commercial operations, we expect to significantly increase our sales and marketing personnel and programs to support the expected expansion of our business.

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Depreciation of Property and Equipment and Amortization of Intangible Assets

Depreciation of property and equipment consists primarily of the depreciation of our office furniture and computer equipment, which is depreciated using the straight-line method over their estimated useful lives. Amortization of intangible assets consists primarily of the amortization of certain in-process research and development acquired technology, patents and technology licenses, which are amortized using the straight-line method over their estimated useful lives.

We expect depreciation of property and equipment to increase significantly as our planned manufacturing facilities are put in to use. During 2012, we received $6.7 million in government grants and loans in relation to our planned facility in Sarnia, Ontario, of which $3.0 million was applied at year-end to reduce the cost of construction in progress. During the three months ended March 31, 2013 we received a further $1.1 million of government grants and loans, of which $441,000 was applied to reduce the cost of construction in progress. This will result in reduced depreciation expense over the useful life of the asset.

As of January 1, 2012, a portion of acquired in-process research and development from the acquisition of Bioamber S.A.S. was deemed to be substantially complete. The related intangible asset was no longer considered to have an indefinite life and is being amortized over a five year useful life. We expect amortization of intangible assets to increase as our acquired in-process research and development is deemed to be substantially complete at a future date. At that time we will start to amortize the assets using the straight-line method over their estimated useful lives.

Impairment Loss and Write-off of Intangible Assets

Impairment loss and write-off of intangible assets includes impairment losses related to intellectual property (patents and in-process research and development). As we develop and deploy new technologies in our production processes, old technologies may become obsolete and may need to be written-off.

Foreign Exchange (Gain) Loss

We expect to conduct operations throughout the world. Our financial position and results of operations will be affected by economic conditions in countries where we plan to operate and by changing foreign currency exchange rates. We are exposed to changes in exchange rates in Europe and Canada. The Euro and the Canadian dollar are our most significant foreign currency exchange risks. A strengthening of the Euro and the Canadian dollar against the U.S. dollar may increase our revenues and expenses since they are expressed in U.S. dollars. As we move our production to our planned facility in Sarnia, Ontario we expect our foreign currency risk to decrease as our sources and uses of cash will be primarily in U.S. dollars. We will monitor foreign currency exposures and will look to mitigate exposures through normal business operations such as manufacturing and selling in the same currencies.

Amortization of Deferred Financing Costs and Debt Discounts

Amortization of deferred financing costs consists primarily of costs from past financings that were recognized over the life of the funding instrument and will continue to increase in line with the expenses incurred to obtain future financing. Costs are deferred and amortized on a straight-line basis over the term of the related debt.

In addition, amortization of deferred financing costs includes the debt discount on the loans received from the Sustainable Chemistry Alliance and the Federal Economic Development Agency for Southern Ontario as the loans bear a below market interest rate and a zero interest rate, respectively.

Financial Charges

Financial charges consist primarily of accreted interest resulting from warrants attached to the convertible notes issued in June 2009 and November 2010. Financial charges also include the recording of the fair value of the contingent share consideration in connection with the acquisition of Sinoven and held in escrow until September 30, 2011. The terms of the escrow were modified on October 1, 2011 when we acquired the remaining 25% of Sinoven.

Gain on debt extinguishment

On March 20, 2013, we agreed with FEDDEV to amend the repayment of principal from the period October 2013 to October 2018, to the period October 2014 to October 2019. We recorded the impact of the amendment in accordance with FASB ASC 470-50, *Debt Modifications and extinguishments*. Accordingly, the amendment was recorded as a debt extinguishment and the issuance of new debt, with new terms. As a result, we recognized a gain on debt extinguishment of CAD$318,923, or $314,305 when converted into U.S. dollars as of March 31, 2013.

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Income Taxes

We are subject to income taxes in France, Luxembourg, the United States, Canada and China. As a development stage company we have incurred significant losses and have not generated taxable income in these jurisdictions. In the future, we expect to become subject to taxation based on the statutory rates in effect in the countries we operate and our effective tax rate could fluctuate accordingly. We have incurred net losses since our inception and have not recorded any federal, state or foreign current income tax provisions other than for unrecognized tax benefits in the years ended December 31, 2011 and 2012, and a recovery of income taxes in the 258 day period ended June 30, 2009. We have a full valuation allowance against our net deferred tax assets. Additionally, under the U.S. Internal Revenue Code, our net operating loss carryforwards and tax credits may be limited if a cumulative change in ownership of more than 50% is deemed to have occurred within a three year period. We have not performed a detailed analysis to determine whether an ownership change under Section 382 of the Internal Revenue Code has occurred after each of our previous issuances of shares of common stock and warrants.

Equity Participation in Losses of Equity Method Investments

Equity participation in losses of equity method investments consist primarily of our share of losses incurred by Bioamber S.A.S. and AmberWorks LLC. We recognized our 50% share of losses incurred by Bioamber S.A.S. from the date of the spin-off transaction on December 31, 2008 and until we acquired full control on September 30, 2010. We started fully consolidating the results of Bioamber S.A.S. into our financial statements on October 1, 2010.

During the three months ended March 31, 2013, we recognized $15,000 or our 50% share of losses incurred by AmberWorks LLC, a joint venture formed on February 15, 2012

Comparison of Three Months Ended March 31, 2012 and Three Months Ended March 31, 2013

The following table shows the amounts of the listed items from our consolidated statements of operations for the periods presented, showing period-over-period changes:

	3 months ended March 31, 2012	3 months ended March 31, 2013 (in thousands)	$ Increase (decrease)
Revenues			
Licensing revenue from related parties	$	$	$
Product sales	380	331	(49)
Total revenues	380	331	(49)
Cost of goods sold	954	199	(755)
Gross (loss) profit	(574)	132	706
Operating expenses			
General and administrative	2,458	2,338	(120)
Research and development, net	5,617	6,099	482
Sales and marketing	836	1,095	259
Depreciation of property and equipment and amortization of intangible assets	516	533	17
Foreign exchange (gain) loss	81	(88)	(169)
Operating expenses	9,508	9,977	469
Operating loss	10,082	9,845	(237)
Amortization of deferred financing costs and debt discounts		69	69
Financial charges	13		(13)

Gain on debt extinguishment		(314)	(314)
Equity participation in losses of equity method investments	36	16	(20)
Net loss	$ 10,131	$ 9,616	$ (515)
Net loss attributable to:			
BioAmber Inc. shareholders	$ 10,093	$ 9,500	$ (593)
Non-controlling interest	38	116	78
	$ 10,131	$ 9,616	$ (515)

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Product sales

Product sales decreased from $380,000 for the three months ended March 31, 2012 to $331,000 for the three months ended March 31, 2013 due to a decrease in the volume sold, partially offset by an increase in the average selling price. For the three months ended March 31, 2013, we sold 50,900 pounds, or 23 metric tons, of bio-succinic acid to our customers versus 137,800 pounds, or 62.5 metric tons, during the three months ended March 31, 2012.

Supply contracts generated $290,000 and $332,000 for the three months ended March 31, 2013 and 2012, respectively. Non-contracted sales generated $41,000 and $48,000 of these revenues for the three months ended March 31, 2013 and 2012, respectively.

Cost of goods sold

Cost of goods sold decreased from $954,000 for the three months ended March 31, 2012 to $199,000 for the three months ended March 31, 2013 mainly due to the setup of a selling reserve that was expensed to cost of goods sold during March 2012, and to the decrease in the volume sold.

General and administrative expenses

General and administrative expenses decreased by $120,000 to $2.3 million for the three months ended March 31, 2013 as compared to $2.4 million for the three months ended March 31, 2012. The decrease is primarily due to $299,000 decrease in payroll expenses as a result of lower bonuses paid in 2013 compared to 2012. This is partially offset by an increase in the stock-based compensation expense attributable to administrative staff which increased by $179,000 due to new stock options being granted as signing bonuses.

Research and development expenses, net

Research and development expenses, net, increased by $482,000 to $6.1 million for the three months ended March 31, 2013 as compared to $5.6 million for the three months ended March 31, 2012. This was driven primarily by the increase in personnel costs of $1.1 million, which resulted from hiring additional personnel to continue our research and development of bio-succinic acid, bio-based 1,4 BDO, and adipic acid. Salaries and benefits increased by $627,000 due to the increase in headcount. The stock based compensation expense attributable to research and development staff increased by $427,000 due to new stock options being granted as signing bonuses. The increase attributable to our intensification of our development work in adipic acid was $306,000. Royalties and legal and maintenance costs associated with patents increased by $333,000, which is mostly attributable to the adipic acid platform and a higher number of applications filed during the period. The foregoing increases were partially offset by a decrease in research expenses due to completion of projects, costs performed by third parties which decreased by $1.4 million and other costs such as consulting fees which decreased by $196,000.

Sales and marketing expenses

Sales and marketing expenses increased by $259,000 to $1.1 million for the three months ended March 31, 2013 as compared to $0.8 million for the three months ended March 31, 2012 primarily due to a $132,000 increase in market research, conference, subscription and communication expenses. Salaries and benefits increased by $85,000 and travel expenses increased by $46,000.

Depreciation of property and equipment and amortization of intangible assets

Depreciation of property and equipment and amortization of intangible assets expense increased by $17,000 to $533,000 for the three months ended March 31, 2013 as compared to $516,000 for the three months ended March 31, 2012. This increase is primarily due to the acquisition of property and equipment which is in line with our expansion strategy. Amortization of patents and trademarks was stable from period to period with $506,000 for the three months ended March 31, 2012 and $502,000 for the three months ended March 31, 2013.

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Gain on debt extinguishment

On March 20, 2013, we agreed with FEDDEV to amend the repayment of principal from the period October 2013 to October 2018, to the period October 2014 to October 2019. We recorded the impact of the amendment in accordance with FASB ASC 470-50, *Debt Modifications and extinguishments*. Accordingly, the amendment was recorded as a debt extinguishment and the issuance of new debt, with new terms. As a result, we recognized a gain on debt extinguishment of CAD$319,000, or $314,000 when converted into U.S. dollars as of March 31, 2013.

Equity participation in losses of equity method investments

Equity participation in losses of equity method investments decreased by $20,000 to $16,000 for the three months ended March 31, 2013 as compared to $36,000 for the three months ended March 31, 2012. This decrease is due to lower losses incurred by AmberWorks LLC, a joint venture that was formed on February 15, 2012.

Liquidity and Capital Resources

From inception through March 31, 2013, we have funded our operations primarily through an aggregate of $81.2 million from issuance of common stock, exercised warrants and options and $7.8 million from issuance of convertible notes. In addition, we received a loan with a face value of $494,000 and a $2.0 million advance on a grant in December 2011 and during the fourth quarter of 2012 we received a loan with a face value of $3.7 million and an additional advance on the grants of $3.0 million. As of March 31, 2013, our cash totaled $11.5 million.

We intend to enter into a proposed credit facility with HTGC pursuant to which HTGC is expected to make available to us term loans in an aggregate principal amount of up to $25.0 million. The proposed $25.0 million credit facility provides for a mandatory initial advance at closing of the credit facility of $5.0 million, with interest-only payments for six months. Interest-only payments will continue for 12 months upon the beginning of capital contributions from our partner Mitsui. The proposed credit facility is expected to bear a floating rate per annum interest based on the prime rate plus 6.75% and contains an upfront facility fee of 2.5% and an end of term (based on commitment) charge of 11.5%. We will be required to draw down additional term loan advances of at least $15.0 million on or before December 31, 2013 subject to the initial phase of our planned facility in Sarnia being fully funded in HTGC s sole discretion.

We will be required to repay the aggregate principal balance of the loan that is outstanding 36 months after the closing of the credit facility in monthly installments starting 30 months after the closing of the credit facility or 24 months after the closing of the credit facility if the interest-only period is extended. The entire term loan principal balance and all accrued but unpaid interest will be due and payable 36 months after the closing of the credit facility. At our option, we may prepay all or any part of the outstanding advances subject to a prepayment charge.

In connection with entry into the proposed credit facility, we expect to grant HTGC a security interest in all of our assets now owned or hereafter acquired, including intellectual property, excluding licenses from third parties, subject in each case to the consent of Mitsui and the Ontario Minister of Economic Development and Trade, or MEDT. In addition, we expect that we will be required to maintain at least $10.0 million in unrestricted cash and limit our capital expenditures to the initial phase of our planned facility in Sarnia until we raise additional capital to fully fund the second phase of our planned facility in Sarnia. Under the terms of the proposed credit facility, the initial phase of our planned facility in Sarnia will be required to be mechanically complete on or before December 31, 2014.

Closing of the proposed credit facility is subject to satisfactory completion of due diligence by HTGC and formal approval by HTGC s investment committee.

The expected cash needs for the construction of our planned facility in Sarnia, Ontario are $125.0 million, of which $45.5 million is expected to be funded by us through a portion of the net proceeds of the IPO, available cash, low-interest loans, governmental grants and our proposed credit facility with HTGC. The remainder will be funded from equity from our joint venture partner. We plan to begin commissioning and start-up of this facility in 2014. In addition, we will require funds of $26.0 million over the next 15 months to fund our research and development programs and for general corporate purposes.

There are certain covenants in our debt and grant agreements, which are discussed in the notes to our consolidated financial statements. We are in compliance with all of covenants provided in each of these agreements. None of these covenants have any financial ratio or debt ratio requirements. We expect to continue to be in compliance with these covenants in the future.

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The following table sets forth the major sources and uses of cash for each of the periods set forth below:

	3 Months ended March 31, 2012	3 Months ended March 31, 2013
	(in thousands)	
Net cash (used in) operating activities	$ (12,387)	$ (14,068)
Net cash (used in)/provided by investing activities	(1,642)	(39)
Net cash provided by financing activities	9,946	826

Operating activities

The cash from operating activities is primarily used for general and administrative expenses and research and development activities. These include expenses on research and development projects, consultancy and advisory fees from third parties, licensing and royalty expenses, payroll expenses, legal and accounting expenses and office rent and utilities.

Cash used in operating activities during the three months ended March 31, 2012 of $12.4 million reflected our net loss of $10.1 million, which was adjusted for non-cash charges of $2.4 million and a negative change in operating assets and liabilities of $4.6 million. Non-cash adjustments included depreciation and amortization of assets of $0.5 million, stock-based compensation of $1.8 million and equity participation in losses of equity method investments of $36,000. The amount of operating assets and liabilities is a net outflow of $4.6 million due to an increase in current assets which offsets a minor increase in current liabilities.

Cash used in operating activities during the three months ended March 31, 2013 of $14.1 million reflected our net loss of $9.6 million, which was adjusted for non-cash charges of $2.7 million and a negative change in operating assets and liabilities of $7.2 million. Non-cash adjustments included depreciation and amortization of assets of $0.5 million, stock-based compensation of $2.4 million, gain on debt extinguishment of $314,000, amortization of debt discounts of $69,000 and equity participation in losses of equity method investments of $15,000. The amount of operating assets and liabilities is a net outflow of $7.3 million due to an increase in current assets which offsets an increase in current liabilities.

Investing activities

Cash used in investing activities during the three months ended March 31, 2012 of $1.6 million included $1.0 million for an equity method investment and $0.6 million of property and equipment purchases related to building our planned facility in Sarnia, Ontario.

Cash used in investing activities during the three months ended March 31, 2013 of $39,000 represented property and equipment purchases for our facilities in Plymouth, USA.

Financing activities

Cash provided by financing activities during the three months ended March 31, 2012 of $9.9 million represented mainly proceeds from the issuance of shares of common stock through a private placement.

Cash provided by financing activities during the three months ended March 31, 2013 of $0.8 million included $1.1 million from loans and grants for the construction of our planned facility in Sarnia, Ontario and $140,000 of a cash consideration paid for the forfeiture of 70,000 shares by Sinoven s selling shareholders.

Off-balance Sheet Arrangements

During the periods presented, we did not have, and we do not currently have, any relationships with unconsolidated entities, such as entities often referred to as structured finance or special purpose entities, established for the purpose of facilitating off-balance sheet arrangements or other contractually narrow or limited purposes.

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Critical Accounting Policies and Estimates

We prepare our consolidated financial statements in accordance with accounting principles generally accepted in the United States of America. As such, management is required to make certain estimates, judgments and assumptions that it believes are reasonable based on the information available. These estimates and assumptions affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses for the periods presented. The significant accounting policies which management believes are the most critical to aid in fully understanding and evaluating our reported financial results include fair value determination of assets, liabilities and consideration paid or payable in connection with business acquisitions, contingent consideration, fair value of intangible assets and goodwill, useful lives of intangible assets, income taxes, stock-based compensation and value of certain equity and debt instruments. These critical accounting policies are the same as those detailed in the annual consolidated financial statements for the year ended December 31, 2012.

Going Concern Assumption

The accompanying consolidated financial statements have been prepared on a going concern basis. The going concern basis of presentation assumes that we will continue in operation for the foreseeable future and will be able to realize our assets and discharge our liabilities and commitments in the normal course of business.

There is substantial doubt about the appropriateness of the use of the going concern assumption because of our recurring operating losses, negative cash flows from operating activities, the uncertainty of efforts to raise additional capital and the ability to execute on our plans. As such, the realization of assets and the discharge of liabilities in the ordinary course of business are uncertain.

In order to address the uncertainties described above, our ongoing plans include some or all of the following:

Raise additional equity capital and debt financing

Delay capital expenditures on the planned facility

Reduce or delay operating expenses as deemed appropriate in order to conserve cash

We continue to seek additional capital and to that end, on May 9, 2013, we completed an Initial Public Offering of 8,000,000 units for estimated net cash of $71,900,000 (see Note 16 Subsequent events). During the fourth quarter of 2012, we halted further construction activities of the planned manufacturing facility in Sarnia, Ontario, until sufficient capital was raised. In addition, we will continue to assess our operating costs and continue to spend only on those costs deemed critical to the operating plan.

We believe that with the above plans we will be able to continue as a going concern.

If the going concern basis was not appropriate for these consolidated financial statements, significant adjustments would be necessary in the carrying value of assets and liabilities, the reported revenue and expenses and the classifications used in the consolidated balance sheets.

Revenue recognition

Licensing revenue from related parties includes the fees charged to Bioamber S.A.S. for the use of BioAmber Inc. s proprietary technologies and know-how. Following the acquisition of Bioamber S.A.S. on September 30, 2010, intercompany revenues are eliminated on a consolidated basis for reporting purposes. The licensing revenue is recognized on an accruals basis in accordance with the substance of the relevant agreements.

Revenue is recognized when persuasive evidence of an arrangement exists, the fee is determinable, collectability is reasonably assured and when delivery has occurred.

In-process research and development

In-process research and development acquired through business combinations is accounted for as an indefinite-lived intangible asset until completion or abandonment of the associated research and development efforts. Therefore, such assets are not amortized, but are tested for impairment at least annually. Once the research and development activities are completed, the assets will be amortized over the related product s useful life. If the project is abandoned, the assets will be written off if they have no alternative future use. We review our portfolio of acquired in-process research and development taking into consideration events or circumstances that may affect its recoverable value.

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On September 30, 2010, we acquired the 50% share capital of Bioamber S.A.S. that we did not own for $12.7 million. As a result of the transaction, consideration allocated to in-process research and development was $12.2 million of which $11.1 million related to bio-succinic acid and $1.1 million related to derivative products. The acquired in-process research and development was allocated based on a project related to bio-succinic acid and its derivatives that we were developing for future sale in commercial markets. This value was calculated using the income method, which measures the expected economic benefit of the asset based on reasonable estimated future cash flows (net of expenses) discounted back at an appropriate discount rate. The volumes of product included in the valuation were dependent upon building a commercial scale plant capacity that incorporated the additional technology and process improvements, in order to be realized. These projects were initially deemed to require significant additional research and development efforts before the products could be deemed ready for commercial use and therefore the intangible assets were deemed to have indefinite lives.

Following the introduction of our products, we expect research and development expenses related to those products to decrease significantly and become more directed at keeping those products competitive in the markets they served. The valuation was performed using future cash flows over a 10 year time frame. The risk adjusted rate used for the research and development of the bio-succinic acid portion of this project was 17% and the rate used for the research and development of the derivatives portion of this project was 36%.

As of January 1, 2012, $8.1 million of the acquired in-process research and development associated with the acquisition of Bioamber S.A.S. was deemed to be substantially complete. Due to the status of the research and development efforts, this intangible asset is no longer considered to have an indefinite life and is being amortized over a five year useful life. The research and development continues on the remaining projects and there are no material changes to the estimates used in the valuation for the timing of completion of those projects. We expect to incur an additional $10.7 million for research and development expenses related to the indefinite-lived in-process research and development.

On February 1, 2010, we acquired 75% of the share capital of Sinoven. As a result of the transaction, consideration allocated to in-process research and development was $814,000 and relates to the production of modified polybutylene succinate. The completion of this project will require significant additional research and development efforts before the products could be deemed ready for commercial use.

In-process research and development resulting from the Sinoven and Bioamber S.A.S. acquisitions are tested for impairment annually on June 30. In testing for impairment of in-process research and development we use the income method and accordingly, we make assumptions regarding estimated future cash flows to be derived from sales of products and royalties. The performance of the test involves comparing the present value of the future cash flows to the in-process research and development book value. If the net book value exceeds the present value of future cash flows, an impairment loss is recognized.

During the fourth quarter of 2012, we adopted ASU 2012-02, *Intangibles-Goodwill and Other (Topic 350); Testing Indefinite-Lived Intangible Assets for Impairment.* Under this update, we have the option to first assess qualitative factors to determine whether it is more likely than not that the asset is impaired. If we believe, as a result of the qualitative assessment, that it is more likely than not that the fair value of an indefinite-lived intangible asset is less than its carrying amount, the quantitative impairment test is required. Otherwise, no further testing is required. We can choose to perform the qualitative assessment on none, some or all of our indefinite-lived intangible assets.

In the fourth quarter of 2012, we wrote-off $1.2 million of unamortized value of the Sinoven patents and in-process research and development related to the proprietary technology for modifying PBS. We carried out testing and concluded that the technology would not meet regulatory approval in the near term for its intended initial application and that alternatives would take significant incremental cost and time. As a result of this assessment, we decided to suspend development indefinitely, given other market development priorities. Accordingly, in the fourth quarter of 2012, we wrote-off the remaining unamortized value of the Sinoven patents in the amount of $399,000 and in-process research and development in the amount of $814,000.

Goodwill

Goodwill represents the excess purchase price over the fair value of identifiable net assets acquired in business combinations. Goodwill is not amortized, but is reviewed for impairment on an annual basis, or whenever events occur or circumstances change that would more likely than not reduce the fair value of a reporting unit below its carrying amount, using a discounted cash flow model.

Our goodwill is attributed to our one reporting unit and we have selected June 30 as the date to perform our annual impairment test. In testing for impairment of our goodwill, we may first assess qualitative factors to determine whether it is necessary to perform the two-step impairment test described below. If we believe, as a result of the qualitative assessment, that it is more likely

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than not that the fair value of the reporting unit is less than its carrying amount, the quantitative impairment test is required. Otherwise, no further testing is required. If the quantitative impairment test is required, we must make assumptions regarding estimated future cash flows to be derived from the reporting unit. The performance of the test involves a two-step process. The first step of the impairment test involves comparing the fair value of the reporting unit to its net book value, including goodwill.

If the net book value exceeds its fair value, then we perform the second step of the goodwill impairment test to determine the amount of the impairment loss. In calculating the fair value of the reporting unit s goodwill, the fair value of the reporting unit is allocated to all of the other assets and liabilities based on their fair values. The excess of the fair value of the reporting unit over the amount assigned to its other assets and liabilities is the fair value of goodwill. An impairment loss is recognized when the carrying amount of goodwill exceeds its fair value. There was no impairment of goodwill recorded for the periods ended March 31, 2013, December 31, 2012, December 31, 2011 or December 31, 2010.

Research and development tax credits

From its inception date and until December 31, 2010, Bioamber S.A.S. applied for a research and development tax credit for our research in France. Bioamber S.A.S. s research and development expenses consist of amounts payable to ARD for the purpose of using the large-scale demonstration facility in France owned by ARD and leased to Bioamber S.A.S. to develop and commercialize bio-succinic acid as well as amounts paid to consultants. These tax credits are a reimbursement for our qualified research and development expenses. These credits are not dependent on our ongoing tax status or tax position and accordingly are not considered part of income taxes. We account for these tax credits as a reduction of research and development expenses, based on the best estimate of the amount considered probable of being received from the French tax authorities.

Pursuant to the French finance act in effect on January 1, 2011, all outsourced research and development expenses are no longer eligible to claim research and development tax credits. As we did not conduct in-house research and development in France during the year ended December 31, 2011 we were no longer in a position to claim such tax credits.

Inventories

Inventories are stated at the lower of cost or market. Cost is determined on a first-in, first-out (FIFO) basis. Prior to our having any customer orders for sample product, all production and development costs were expensed as part of our research and development efforts. As a result, certain sales in 2011 and 2012 of product produced in prior periods had a cost basis of zero.

Long-lived asset impairment

We assess the fair value of our long-lived assets in accordance with FASB ASC 360, *Property, Plant, and Equipment* (previously FASB Statement No. 144, Accounting for the Impairment or Disposal of Long-Lived Assets). At the end of each reporting period, we evaluate whether there is objective evidence of events or changes in business conditions which suggest that an asset should be impaired. Examples of such events or indications could include a decrease in the market price of the assets, adverse changes in the business climate, legal or regulatory factors, obsolescence or significant damage to the assets. In such cases we determine the fair value based upon forecasted, undiscounted cash flows which the assets are expected to generate and the net proceeds expected from their expected sale. If the carrying amount exceeds the fair value of the asset, it is decreased by the difference between the two being the amount of the impairment. As of March 31, 2013 and each prior balance sheet date presented, we have not identified evidence of impairment of our long-lived assets.

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Stock-based compensation

We account for our stock-based compensation expense in accordance with FASB ASC 718, Compensation Stock Compensation. Stock options are granted to employees at exercise prices equal to the estimated fair value of our stock at the grant dates. Stock options vest over two, three or four years and have a term of ten years. Each stock option entitles the holder to purchase one share of common stock which comes from our authorized shares. Compensation expense is recognized over the period during which an employee is required to provide services in exchange for the award, generally the vesting period.

The fair value of options granted was determined using the Black-Scholes option pricing model and the following weighted-average assumptions:

	3 Months ended March 31,		12 months ended December 31, 2012	12 months ended December 31, 2011	6 months ended December 31, 2010	12 months ended June 30, 2010
	2013 (unaudited)	2012 (unaudited)				
Risk-free interest rate	1.990%	1.990%	1.840%	3.320%	3.375%	3.370%
Expected life	10 years	10 years	10 years	10 years	10 year	10 years
Volatility	71.99%	75.14%	77.34%	77.2%	76.75%	79.83%
Expected dividend yield	0%	0%	0%	0%	0%	0%
Forfeiture rate	0%	0%	0%	0%	0%	0%

The Black-Scholes model we use to calculate option and warrant values, as well as other currently accepted option valuation models, were developed to estimate the fair value of freely tradable, fully transferable options without vesting restrictions, which significantly differ from our stock option awards. These models require highly subjective assumptions, such as the stock price at the date of grant, future stock price volatility and expected time until exercise, which greatly affect the calculated values.

In the absence of a public trading market, we determined a reasonable estimate of the then current fair value of our common stock for the purposes of granting stock based compensation. We determined the fair value of our common stock utilizing methodologies and assumptions consistent with the American Institute of Certified Public Accountants Practice Aid, Valuation of Privately-Held-Company Equity Securities Issued as Compensation (AICPA Practice Aid) as well as several other factors including the nature and history of our business, our historical operations and results as well as investors perception of the value of our business at the time, based on completed equity capital raises.

Warrants

We accounted for all issued warrants to purchase our common stock as equity on our consolidated balance sheets at fair value because the warrants are not redeemable. As such, our warrants are not subject to re-measurement at each balance sheet date. We estimated the fair value of warrants at the respective issuance date utilizing the Black-Scholes pricing model. The Black-Scholes pricing model requires a number of variables that require management judgment including the estimated price of the underlying instrument, the risk-free interest rate, the expected volatility, the expected dividend yield and the expected exercise period of the warrants. Our Black-Scholes assumptions are discussed in greater detail in Stock-based compensation above.

As at March 31, 2013, we had the following warrants outstanding to acquire shares of common stock:

Number	Exercise price	Expiration date
474,950	$ 1.07	February 2014 - September 2019
620,060	$ 1.43	February 2019
268,100	$ 5.74	October 2014 - June 2019
94,745	$ 10.55	April 2021

1,457,855

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Recent Accounting Pronouncements

In February 2013, the FASB amended the guidance on the presentation of comprehensive income in order to improve the reporting of reclassifications out of accumulated other comprehensive income. The amendment does not change the current requirements for reporting net income or other comprehensive income in financial statements. Rather, it requires the entity to present, either on the face of the statement where net income is presented or in the notes, significant amounts reclassified out of accumulated other comprehensive income by the respective line items of net income but only if the amount being reclassified is required under GAAP to be reclassified in its entirety to net income in the same reporting period. For other amounts that are not required under GAAP to be reclassified in their entirety to net income, an entity is required to cross-reference to other disclosures required under GAAP that provide additional detail about those amounts. The new guidance is effective prospectively for reporting periods beginning after December 15, 2012. The standard does not impact us.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

Interest Rate Risk

We had unrestricted cash totaling $11.5 million at March 31, 2013. These amounts were deposited in cash and bank current accounts and were held for working capital purposes. Our primary objective is to preserve our capital for the purpose of funding our operations. We do not enter into investments for trading or speculative purposes.

Commodity Price Risk

We use glucose in our processes, which can be derived from corn, wheat and other feedstocks. Thus, our raw material is sensitive to price fluctuations in feedstock commodities. Prices of corn, wheat and other feedstocks are subject to fluctuations due to unpredictable factors such as weather, quantities planted and harvested, changes in national and global supply and demand, and government programs and policies.

Foreign Currency Risk

We currently conduct our operations in U.S. dollars, Canadian dollars and Euros, which exposes us to fluctuations in foreign currency exchange rates. As we move our production to our planned facility in Sarnia, Ontario, we expect our foreign currency risk to decrease as our sources and uses of cash will be primarily in U.S. dollars. We will monitor foreign currency exposures and will look to mitigate exposures through normal business operations such as manufacturing and selling in the same currencies.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

As of March 31, 2013, our management, with the participation of our President and Chief Executive Officer and our Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures pursuant to Rule 13a-15(b) promulgated under the Securities Exchange Act of 1934, as amended, or the Exchange Act. Based upon that evaluation, our President and Chief Executive Officer and our Chief Financial Officer concluded that, as of March 31, 2013, our disclosure controls and procedures were effective at a reasonable assurance level in ensuring that material information required to be disclosed in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the rules, regulations and forms of the Securities and Exchange Commission, including ensuring that such material information is accumulated and communicated to our management, including our President and Chief Executive Officer and our Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

Changes in Internal Control over Financial Reporting

There were no changes to our internal control over financial reporting that occurred during the quarter ended March 31, 2013 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Inherent Limitations of Internal Controls

Our management does not expect that our disclosure controls and procedures or our internal controls will prevent all error and all fraud. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the

control system are met. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within the company have been detected. These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of a simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of the control. The design of any system of controls also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Over time, controls may become inadequate because of changes in conditions, or the degree of compliance with the policies or procedures may deteriorate. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

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PART II OTHER INFORMATION

Item 1. Legal Proceedings

We are, from time to time, involved in the normal course of business in various legal proceedings. Rules of the Securities and Exchange Commission require the description of material pending legal proceedings, other than ordinary, routine litigation incident to our business, and advise that proceedings ordinarily need not be described if they primarily involve damages claims for amounts (exclusive of interest and costs) not individually exceeding 10% of the current assets of the registrant and its subsidiaries on a consolidated basis. In the judgment of management, none of the pending litigation matters that we and our subsidiaries are defending involves or is likely to involve amounts of that magnitude. There may be claims or actions pending or threatened against us of which we are currently not aware and the ultimate disposition of which would have a material adverse effect on us.

Item 1A. Risk Factors

The following risks and uncertainties, together with all other information in this Quarterly Report on Form 10-Q, including our consolidated financial statements and related notes, should be considered carefully. Any of the risk factors we describe below could adversely affect our business, financial condition or results of operations, and could cause the market price of our common stock to fluctuate or decline.

Risks Related to Our Business and Our Industry

We have a limited operating history, a history of losses, anticipate continuing to incur losses for a period of time, and may never achieve or sustain profitability.

We are a development stage company that has only been in existence since October 2008 and, therefore, we have a limited operating history upon which you can base your evaluation of our business. As a result, any assessments of our current business and predictions you make about our future success or viability may not be as accurate as they could have been if we had a longer operating history. Since our inception, we have incurred substantial net losses, including net losses of $1.9 million from October 15, 2008 through June 30, 2009, $8.1 million for the year ended June 30, 2010, $2.1 million for the six months ended December 31, 2010, $30.9 million for the year ended December 31, 2011 and $39.5 million for the year ended December 31, 2012. We expect these losses to continue. As of December 31, 2012, we had an accumulated deficit of $81.8 million. We expect to continue to incur substantial costs and expenses related to the continued development and expansion of our business, including those related to the development, continuation and operation of our additional manufacturing facilities, research, testing and development of new products and the growth of our sales and marketing efforts. We will need to generate and sustain increased revenues in future periods in order to become profitable. We cannot assure you that we will ever achieve or sustain profitability on a quarterly or annual basis.

To achieve profitability, we need to execute our manufacturing expansion strategy, including the construction of our planned facility in Sarnia, Ontario.

We intend to build our first facility in cooperation with Mitsui in Sarnia, Ontario. We expect this facility to be mechanically complete in 2014, at which time we plan to begin commissioning and start-up. We also intend to build two additional facilities over the next three to four years. We have not yet constructed or operated a commercial-scale production facility, and our technology may not perform as expected when applied at the scale that we plan or we may encounter operational challenges for which we are unable to devise a workable solution. We can provide no assurance that our planned facility in Sarnia, Ontario will be completed on the schedule or within the budget that we intend, or at all. If the construction of our Sarnia facility takes longer than expected, or if we encounter unforeseen issues during construction, testing and operation, we will not be able to sell cost-competitive products within the timeline that we expect, or at all. We currently produce our products at a large-scale demonstration facility in France, which was constructed by ARD. We expect to terminate production at the French facility once we have completed construction of our planned Sarnia facility. Under our agreement with ARD, we have exclusive use of the facility until June 30, 2013, after which we will have access to only 60% of the facility s capacity, which we estimate to be adequate to meet expected customer demand and inventory accumulation during the time period when we are transitioning to our planned Sarnia facility. To the extent customer demand is greater than expected or our transition takes longer than expected, we may not be able to meet the demands of our customers and our customer relationships and commercialization growth may suffer.

Even if we successfully fund, construct and design our planned facility in Sarnia, Ontario, there is no guarantee that this facility will produce at full capacity, and even if we do meet these goals, we may encounter operational challenges for which we are unable to devise a workable

solution or which may result in additional costs. In addition, our technology may not perform as expected when applied at our planned scale and any resulting adjustments to our process may result in additional costs or otherwise adversely affect our business and results of operations. To date, we have entered into agreements that contemplate, but do not obligate, us to

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supply approximately 144,000 metric tons of bio-succinic acid, and we are actively seeking to enter into additional supply agreements. These supply agreements obligate our customers to exclusively fulfill their needs for bio-succinic acid from us, contingent on our ability to meet their price and other requirements, however there are no penalties in the event they do not purchase or we do not supply them with bio-succinic acid in the projected purchase volumes they have indicated in the agreements. Without increasing our production capacity by completing our Sarnia and other future facilities, we will not be able to produce sufficient amounts of bio-succinic acid to deliver the full amounts contemplated by these agreements and execute on our growth strategy.

The funding, construction and operation of our future facilities involve significant risks.

We have limited experience constructing a manufacturing facility of the type and size required to produce commercial quantities of chemicals, and doing so is a complex and lengthy undertaking that requires sophisticated, multi-disciplinary planning and precise execution. The funding, construction and operation of manufacturing facilities are subject to a number of risks, any of which could prevent us from executing on our expansion strategy. In particular, the construction costs associated with future facilities may materially exceed budgeted amounts, which could adversely affect our results of operations and financial condition. We estimate the initial phase of the Sarnia, Ontario plant will cost approximately $125.0 million, and will be mechanically completed in 2014. However, we may suffer construction delays or cost overruns, which may be significant, as a result of a variety of factors, such as labor and material shortages, defects in materials and workmanship, adverse weather conditions, transportation constraints, construction change orders, site changes, labor issues and other unforeseen difficulties, any of which could delay or prevent the completion of our planned facilities. As a result, we may not be able to expand our production capacity and product portfolio as quickly as we planned. While our goal is to negotiate contracts with engineering, procurement and construction firms that minimize risk, any delays or cost overruns we encounter may result in the renegotiation of our construction contracts, which could increase our costs.

Assuming we close our proposed credit facility with Hercules Technology Growth Capital and its affiliates and assignees, or HTGC, in the event that the initial phase of our planned facility in Sarnia, Ontario is not mechanically complete on or before December 31, 2014, we expect that we would be in default under our proposed credit agreement with HTGC, which may require repayment of the borrowed amounts and have a material and adverse impact our ability to fund our manufacturing strategy.

In addition, the construction of our facilities may be subject to the receipt of approvals and permits from various regulatory agencies. Such agencies may not approve the projects in a timely manner or may impose restrictions or conditions on a production facility that could potentially prevent construction from proceeding, lengthen its expected completion schedule and/or increase its anticipated cost. If construction costs, or the costs of operating and maintaining our manufacturing facilities, are higher than we anticipate, we may be unable to achieve our expected investment return, which could adversely affect our business and results of operations.

We may also encounter new design and engineering or operational challenges as we seek to expand the range of organisms and feedstocks we use. Any design and engineering or operational issues at our future facilities may result in diminished production capacity, increased costs of operations or periods in which our facilities are non-operational, all of which could harm our business, financial condition and results of operations. We intend to obtain and maintain insurance to protect against some of the risks relating to the construction of new projects. However, such insurance may not be available or adequate to cover lost revenues or increased costs if we experience construction problems, cost overruns or delays. If we are unable to address these risks in a satisfactory and timely manner, we may not be able to implement our expansion strategy as planned or at all. In addition, in the event that our products are defective or have manufacturing failures, we may have to write off and incur other charges and expenses for products that fail to meet internal or external specifications. We also may have to write off work-in-process materials and incur other charges and expenses associated with contamination and impurities should they occur.

Our failure to comply with milestone covenants contained in certain of our agreements, including certain debt instruments, government grants and government loans, could result in events of default, and if not cured, would require their accelerated or immediate repayment, in which case our assets and cash flow may be insufficient to make such repayments or fund our manufacturing expansion strategy.

The terms of our debt instruments require us to comply with various milestone covenants related to the construction and start-up of our planned facility in Sarnia, Ontario. A breach of any of these covenants could result in an event of default under one or more of these debt instruments which, if not cured or waived, could give the holders of the defaulted indebtedness the right to terminate commitments to lend and cause all amounts outstanding with respect to the indebtedness to be due and payable immediately. In addition, we are party to certain agreements with governmental entities that provide grants and loans in connection with the construction of our planned Sarnia facility. If we fail to meet any of the milestones and project goals contained in these grant and loan agreements, we may not receive additional grant installments, may be forced to repay grants received or the repayment of the loans may be accelerated. If additional government grant amounts are withheld or if we are forced to repay amounts under our government loans, our assets and cash flow may be insufficient to make such repayments or fund our manufacturing expansion strategy.

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Our independent registered chartered professional accountants have expressed substantial doubt about our ability to continue as a going concern.

We are a development stage company and have incurred losses since our inception and have not yet been able to establish a profitable operating company. Because of our recurring operating losses, negative cash flows from operating and investing activities and the uncertainty of efforts to raise additional capital and the ability to execute on our plans, our independent registered chartered professional accountants have expressed substantial doubt as to our ability to continue as a going concern. If we are unable to continue our business, our shares of common stock may have little or no value.

We have generated only limited sales of bio-succinic acid to date, are dependent on a limited number of customers and face challenges to developing our business.

In the aggregate, we only derived revenue from sales of approximately 501,400 pounds of bio-succinic acid to 19 customers in 2011 and 2012. These sales were made in connection with our product and market development efforts and we have not made sales of any other products. In order to generate sales of our bio-succinic acid and our future products, we must be able to reduce our production costs and produce sufficient quantities of our products, both of which are dependent on our ability to build commercial-scale manufacturing operations. If we are not successful in constructing and operating planned manufacturing facilities or otherwise increasing our manufacturing capacity, developing products that meet our customers specifications and further advancing our existing commercial arrangements with strategic partners, we will be unable to generate meaningful revenue from the sale of our products. In addition, we depend, and expect to continue to depend, on a limited number of customers for sales of our bio-succinic acid. During the years ended December 31, 2011 and 2012, 81% and 63%, respectively, of our sales of bio-succinic acid were to Mitsubishi Chemical and International Flavor and Fragrances, Inc., or IFF, and the annual volumes of bio-succinic acid sold to these companies in 2011 and 2012 were 61% and 38% of our total volumes, respectively. In the future, a small number of customers may continue to represent a significant portion of our total revenue in any given period. We cannot be certain that such customers will consistently purchase our products at any particular rate over any subsequent period. A loss of, or any credit issues related to, any of these customers could adversely affect our financial performance.

We may not obtain the additional financing we need in order to grow our business, develop or enhance our products or respond to competitive pressures.

We will need to raise additional funds in the future in order to grow our business. Any required additional financing may not be available on terms acceptable to us, or at all. Our ability to secure financing and the cost of raising such capital are dependent on numerous factors, including general economic and capital markets conditions, credit availability from lenders, investor confidence and the existence of regulatory and tax incentives that are conducive to raising capital. Current turmoil and uncertainty in the financial markets has caused banks and financial institutions to decrease the amount of capital available for lending and has significantly increased the risk premium of such borrowings. In addition, such turmoil and uncertainty has significantly limited the ability of companies to raise funds through the sale of equity or debt securities. If we are unable to raise additional funds, obtain capital on acceptable terms, secure government grants or co-sponsorships for some of our projects or take advantage of federal and state incentive programs to secure favorable financing, we may have to delay, modify or abandon some or all of our expansion strategies.

The amount of any indebtedness that we may raise in the future may be substantial, and we may be required to secure such indebtedness with our assets and may have substantial interest expenses. If we default on any future secured indebtedness, our lenders may foreclose on the facilities securing such indebtedness. The incurrence of indebtedness could require us to meet financial and operating covenants, which could place limits on our operations and ability to raise additional capital, decrease our liquidity and increase the amount of cash flow required to service our debt. If we experience construction problems, cost overruns or delays that adversely affect our ability to generate revenues, we may not be able to fund principal or interest payments under any debt that we may incur.

We intend to enter into a proposed credit facility with Hercules Technology Growth Capital and its affiliates and assignees, or HTGC, pursuant to which HTGC is expected to make available to us term loans in an aggregate principal amount of up to $25.0 million. The terms and conditions of this proposed credit facility are described in detail in Management s Discussion and Analysis of Financial Condition and Results of Operations Liquidity and Capital Resources. Based on our current operating plan, we anticipate that the net proceeds of our initial public offering, equity contributions from Mitsui, a combination of government grants and interest-free loans and our existing cash and cash equivalents, will be sufficient to enable us to maintain our

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currently planned operations, including the funding of the construction of our planned facility in Sarnia, Ontario. Other than the proposed credit facility, we have no committed external sources of funds. Additional financing may not be available when we need it or may not be available on terms that are favorable to us. In addition, we may seek additional capital due to favorable market conditions or strategic considerations, even if we believe we have sufficient funds for our current or future operating plans. If adequate funds are not available to us on a timely basis, or at all, we may be required to halt construction or delay capital expenditures on our planned facility in Sarnia, Ontario, and reduce or delay operating expenses as deemed appropriate in order to conserve cash.

Any effort to sell debt or equity securities may not be successful or may not raise sufficient funds to finance additional facilities. The issuance of additional equity securities could result in dilution to our stockholders and the newly-issued securities may have rights senior to those of the holders of our common stock. If additional financing is not available when required or is not available on acceptable terms, we may need to delay, modify or abandon our expansion strategy and we may be unable to take advantage of business opportunities or respond to competitive pressures, which could have a material adverse effect on our offerings, revenue, results of operations and financial condition.

Our prior success in developing bio-succinic acid may not be indicative of our ability to leverage our bio-succinic acid technology to develop and commercialize derivatives of bio-succinic acid and other bio-based building block chemicals.

The success we have had in manufacturing bio-succinic acid using our four carbon, or C4, platform to date may not be indicative of our future ability to develop and commercialize derivatives of bio-succinic acid, and bio-based six carbon, or C6, building block chemicals. Although we expect to be able to leverage our bio-succinic acid technology for use in higher value-added products, we have never produced derivatives of bio-succinic acid or bio-based C6 building block chemicals at commercial scale. We may find that the new chemicals that we produce using our processes are more complex than we anticipated or require processes that we are unfamiliar with or which require larger scale development facilities than expected. The development of new products has required, and will require, that we expend significant financial and management resources. We have incurred, and expect to continue to incur, significant research and development expenses. If we are unable to devote adequate resources to develop new products or cannot otherwise successfully develop new products or enhancements that meet customer requirements on a timely basis, our products could lose market share, our revenues and/or margins could decline and we could experience operating losses. Although our management team has significant experience with industrial biotechnology, purification processes and chemical catalysis, the skills and knowledge gained in these fields and in the large-scale production of bio-succinic acid does not guarantee that we will be successful in our efforts to cost-effectively produce and commercialize bio-succinic acid derivatives or bio-based C6 building block chemicals at commercial scale.

In addition, each of the chemicals that we plan to manufacture are used in multiple and diverse end-markets and applications, each of which present unique requirements, pricing pressures and competitors. As a result, we may not be able to sufficiently serve each end-market adequately. In order to effectively compete in the chemicals industry, we will need to, among other things, be able to adapt our development and production processes to meet the rapidly changing demands of the industry and our customers and ensure that the quality, performance attributes and cost of our bio-based products compare favorably to their petroleum-derived equivalents. In each end-market, there may also be barriers to entry due to third-party intellectual property rights or difficulties forming and maintaining strategic partnerships. In addition, the products currently derived from our processes and the feedstocks we use in the production of bio-succinic acid and our future products, may not be applicable to or compatible with demands in existing or future markets. We may not be able to identify new opportunities as they arise since future applications of any given product may not be readily determinable.

If we are not able to successfully develop, commercialize, produce and sell new products, we may be unable to expand our business. Consequently, we may not succeed in our strategy to expand our product platform as expected or at all. If our ability to expand our product platform is significantly delayed or if we are unable to leverage our bio-succinic acid platform as expected, our business and financial condition could be materially and adversely affected.

Demand for our bio-succinic acid, bio-based 1,4 BDO and other bio-succinic acid derivatives may take longer to develop or be reduced by technological innovations in our industry that allow our competitors to produce them at a lower cost.

The development of sufficient customer demand for bio-succinic acid, bio-based 1,4 BDO and other bio-succinic acid derivatives will be affected by the cost competitiveness of our products, and the emergence of more competitive products. The market for bio-based chemicals will require most potential customers to switch from their existing petroleum-based chemical suppliers. In addition, there has been intense growth and interest in bio-based chemicals, and these industries are subject to rapid technological change and product innovation. Our products are based on our proprietary fermentation and purification process, but a number of companies are pursuing alternative processes and technologies and our success will depend on our ability to maintain a competitive position with respect to technological advances. It is possible that those advances could make bio-succinic acid, bio-based 1,4 BDO

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and other bio-succinic acid derivatives less efficient or obsolete, causing the renewable chemicals we produce to be of a lesser quality than competing bio-based chemicals or causing the yield of our products to be lower than that for competing technologies. These advances could also allow our competitors to produce bio-based chemicals at a lower cost than ours. We cannot predict when new technologies may become available, the rate of acceptance of new technologies by our competitors or the costs associated with such new technologies.

Technological breakthroughs in our industry or innovations in alternative sources of bio-based chemicals could reduce demand for our products. Our technologies and products may be rendered uneconomical by technological advances, more efficient and cost-effective biocatalysts or entirely different approaches developed by one or more of our competitors. If we are unable to adopt or incorporate technological advances or adapt our products to be competitive with new technologies, our costs could be significantly higher than those of our competitors, which could make our facilities and technology less competitive or uncompetitive.

Changes we make to our business model, product development and manufacturing process, or changes to our commercial partnerships and collaborations may not yield the benefits we expect and may have adverse impacts that we did not anticipate.

We are continually working to lower our operating costs, improve our product performance, increase our speed to market and access new markets. As a result, we have made and will continue to make changes we believe will accomplish these goals. For example, we are in the process of transitioning from an *E. coli* organism to our yeast. In addition, we have expanded the breadth of products we are seeking to commercialize, and entered into a number of early stage partnerships and collaborations related to those products, that we believe will significantly increase our accessible market. We can give no assurances that these and other changes we make will yield the benefits we expect and will not have adverse impacts that we did not anticipate. If these changes are not successful, we may incur additional costs, experience reputational and competitive harm and our business, financial condition and results of operations may be materially and adversely affected.

We are dependent on our relationships with strategic partners, licensors, collaborators and other third parties for research and development, the funding, construction and operation of our manufacturing facilities and the commercialization of our products. The failure to manage these relationships could delay or prevent us from developing and commercializing our products.

We have built our business largely by forming technology partnerships and licensing and other relationships with market leaders in the industrial biotechnology and chemicals industries. For example, through an exclusive worldwide license from Cargill, we have developed a next-generation yeast microorganism. In addition, we are developing a proprietary purification process that we believe will provide a key cost differentiator to our competitors by reducing the cost profile of our products and the capital intensity of our plants. We have also entered into license agreements with DuPont, entities funded by the DOE, Celexion and others. We expect that our ability to maintain and manage these collaborations will be significant factors in the success of our business.

Also, we expect that our ability to maintain and manage partnerships for the funding, construction and operation of our manufacturing facilities will be a significant factor in the success of our business. The large-scale demonstration facility we operate in Pomacle, France is owned by ARD and is available to us for our exclusive use through a toll-manufacturing agreement with ARD. We have entered into a joint venture agreement with Mitsui for the financing and construction of our planned facility in Sarnia, Ontario. We have commenced engineering and substantially completed permitting and expect this facility to be mechanically complete in 2014. We intend to work with Mitsui to build and operate two additional plants in the future.

We are working with strategic partners and collaborators through whom we either own or license the technology needed to develop new specialty chemical products, such as esterification with Lanxess, compounded polylactic acid/polybutylene succinate, or PLA/PBS, resin grades with NatureWorks, polybutylene succinate, or PBS, with Mitsubishi Chemical and silicone replacements in personal care products with Inolex Chemical Company, or Inolex. We will rely on these partners to commercialize our products and the success of these relationships will impact the market opportunity and demand for our products across our target end-markets.

Our partnering or collaboration opportunities could be harmed and our anticipated timelines could be delayed if:

- we do not achieve our objectives under our arrangements in a timely manner, or at all;
- our existing or potential industry partners become unable, unwilling or less willing to expend their resources on research and development or commercialization efforts with us due to general market conditions, their financial condition, feedstock pricing or other circumstances, many of which are beyond our control;

we disagree with a strategic partner or collaborator regarding strategic direction, economics of our relationship, intellectual property or other matters;

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- we are unable to successfully manage multiple simultaneous partnering arrangements;
- our strategic partners and collaborators breach or terminate their agreements with us or fail to perform their agreed activities or make planned equity contributions;
- our industry partners become competitors of ours or enter into agreements with our competitors;
- applicable laws and regulations, domestic or foreign, impede our ability to enter into strategic arrangements;
- we develop processes or enter into additional partnering arrangements that conflict with the business objectives of our other arrangements; or
- consolidation in our target markets limits the number of potential industry partners.

If any of these events occur, or if we fail to maintain our agreements with our strategic partners and collaborators, we may not be able to commercialize our existing and future products, further develop our business or generate sufficient revenues to support our operations. Additionally, our business could be negatively impacted if any of our industry partners undergoes a change of control or assigns the rights or obligations under any of our agreements.

Our operations are dependent upon certain raw materials and utilities, principally sugars, carbon dioxide, hydrogen, steam and electricity, which make us vulnerable to supply availability and price fluctuations.

We are vulnerable to the supply availability and price fluctuations of certain raw materials and utilities, principally sugars, carbon dioxide, hydrogen, steam and electricity. In many cases, we do not have long-term supply agreements in place, which may result in supply problems in the future. For example, we have not yet finalized supply agreements for the required feedstock or carbon dioxide for our planned facility in Sarnia, Ontario. Our operations may also be adversely impacted by the failure of our suppliers to follow specific protocols and procedures or comply with applicable regulations, equipment malfunctions and environmental factors, any of which could delay or impede their ability to meet our demand. Our reliance on third-party suppliers also subjects us to other risks that could harm our business, including that:

- we may not be able to obtain adequate supply in a timely manner or on commercially reasonable terms;
- we may have difficulty locating and qualifying alternative suppliers for sole-source supplies;
- we may have production delays if products we source from alternative suppliers do not meet our standards;
- we are not, and do not expect to become, a major customer of most of our suppliers and such suppliers may give other customers needs higher priority than ours; and
- our suppliers may encounter financial hardships unrelated to our demand for components, which could inhibit their ability to fulfill our orders and meet our requirements.

In the event one or more of our suppliers are unable to meet our supply demands, we may not be able to quickly replace them or find adequate supply from a different source. Any interruption or delay in the supply of sugars, carbon dioxide, hydrogen, steam or electricity, or our inability to obtain these raw materials and utilities from alternate sources at acceptable prices in a timely manner, could impair our ability to meet the

demands of our customers and expand our operations, which would have a material adverse effect on our business, financial condition and results of operations.

The price of our bio-succinic acid is based in large part on the price of sugars, which can be derived from corn, wheat or other feedstocks. Fluctuations in the commodity prices of sugars or other inputs required in our production processes may reduce our profit margins, especially if we do not have long-term contracts for the sale of our output at fixed or predictable prices. The price and availability of sugars or other inputs may be influenced by factors outside of our control, including general economic, market and regulatory factors.

Our production of bio-succinic acid is currently limited to a single demonstration facility owned by a third party.

Our bio-succinic acid is currently manufactured at a single large-scale demonstration facility in Pomacle, France, which is owned by ARD and is made available for our exclusive use through a toll-manufacturing agreement. We anticipate having access to this facility until our planned facility in Sarnia, Ontario is mechanically complete and we can begin commissioning and start-up. As a result of our current dependence on a single large-scale demonstration facility, our operations and the growth of our business would be severely disrupted in the event of any material interruption at that facility. In addition, our dependence on ARD could also result in severe disruptions in our operations if ARD does not meet its contractual duties, provide quality services, meet expected deadlines or

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otherwise perform as expected under our toll-manufacturing agreement. Material interruptions may result from, among other things, operational difficulties, including equipment failures, contaminated fermentations, labor disputes, human error and cost overruns as well as disagreements with ARD. If operations at the large-scale demonstration facility in Pomacle, France were significantly disrupted or if we were to incur additional costs associated with engineering or operational difficulties, it would have a material adverse effect on our business, financial condition and results of operations.

Our process currently uses an E. coli organism, which is a type of bacteria and therefore has certain inherent disadvantages compared to other organisms. We will continue to be subject to these disadvantages while we are transitioning from E. coli to our yeast.

Given the relatively high sensitivity of *E. coli* to pH, agitation, process disruption and contamination, the maximum size of an *E. coli* fermenter is limited. In addition, because it is necessary for *E. coli* to be fermented at a neutral pH, at the completion of the process the succinic acid is in salt form and needs to be acidified, which results in additional process steps and energy, thereby increasing operating costs. Finally, because *E. coli* is a bacteria, there is a potential for contamination of the fermentation facilities, which can increase operating costs and reduce performance. If we are unable to successfully and completely transition to our yeast, our business model will be subject to limits on the size of fermenters that we can use and higher operating costs.

We may not be able to successfully introduce new organisms and feedstocks into our processes.

We intend to introduce new organisms and feedstocks into our processes and are working to increase our conversion yields, feedstock flexibility, manufacturing efficiency and product range through our research and development efforts and strategic partnerships. We have partnered with Cargill to develop a yeast that will potentially have higher yields and less contamination risk than the *E. coli* bacteria we currently use in our manufacturing processes. We may not, however, succeed in adopting our yeast for use in our manufacturing process for a number of reasons, including our inability to adapt our purification process for our yeast, the failure of our yeast to produce products that meet the quality standards of our customers and a higher than expected production cost as a result of using our yeast. We expect to adopt our yeast in the future. When we do, the transition may not be as seamless as we expect, and our yeast may require different operating conditions or otherwise differ from our expectations. We also plan to expand the range of feedstocks we use from the fermentable sugars from the hydrolysis of starch from a wheat wet mill used in the large-scale demonstration facility in France to fermentable sugars from corn wet mills in our planned facility in Sarnia, Ontario.

We may face unexpected challenges when we run our second-generation purification process and fermentation process at a single facility.

We are piloting a second-generation purification process through our agreement with a strategic technology partner. We have tested this purification process at our partner s facility in conjunction with our fermentation processes in France. However, engineering issues, additional costs or other unforeseen obstacles may arise and create delays when we implement the two processes together at a single manufacturing facility. In addition to the second-generation purification process, we are also working to improve the purification process that we currently use in order to reduce capital expenditures and other purification-related costs, but we cannot assure you that these efforts will be successful.

If we are unable to manage our growth and expand our operations successfully, our business, financial condition and results of operations may be harmed.

We have significantly expanded our business since our inception and have grown to 54 full-time employees as of March 31, 2013. We currently conduct our business in several countries, including the United States, Canada and France, and we expect to continue to expand geographically in the future. In addition, certain key members of our management have recently joined our company. We expect our growth to continue and accelerate in connection with our expansion strategy and as we transition to operating as a public company. As our operations continue to expand, we will need to continue to manage multiple locations and additional relationships with various third parties. We may not be able to maintain or accelerate our current growth rate, manage our expanding operations effectively or achieve planned growth on a timely or profitable basis. Managing our anticipated growth and expanding our operations will require us to do, among other things, the following:

- enhance our operational, financial and management controls and infrastructure, human resource policies, and reporting systems and procedures;

- effectively scale our operations, including successfully constructing our planned manufacturing facilities;

diversify our product line to leverage our bio-succinic acid for use in multiple higher value-added products and other bio-succinic acid derivatives, and develop bio-based C6 building block chemicals;

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successfully identify, recruit, train, maintain, motivate and integrate additional employees and continue to retain, motivate and manage our existing employees;

maintain partnerships with third parties for the development of our technology, funding and construction of our plants and the commercialization of our products; and

maintain and grow our intellectual property portfolio.

These enhancements and improvements will require significant capital expenditures and allocation of valuable management and employee resources, which will place a strain on our operational, financial and management infrastructure. Our future financial performance and our ability to execute on our business plan will depend, in part, on our ability to effectively manage any future growth and expansion. There are no guarantees we will be able to do so in an efficient or timely manner, or at all. Our failure to effectively manage growth and expansion could have a material adverse effect on our business, financial condition and results of operations.

We have entered into certain non-binding letters of intent, memoranda of understanding and other arrangements with future customers and others, and cannot assure you that such arrangements will lead to definitive agreements, which could harm our commercial prospects.

We have entered into non-binding letters of intent, memoranda of understanding and other arrangements with future customers and others. For example, we have entered into a non-binding letter of intent with Tereos Syral S.A., or Tereos, a leading European feedstock producer, for joint construction of two additional facilities. We have also entered several other non-binding memoranda of understanding with third parties related to our development of products such as de-icing solutions. We cannot assure you that we will be able to negotiate final terms and enter into definitive agreements with any of our future customers or others in a timely manner, or at all, and there is no guarantee that the terms of any final, definitive, binding agreement will be favorable to us or reflect the terms currently contemplated under the letters of intent, memoranda of understanding and other arrangements we have. Delays in negotiating final, definitive, binding agreements could slow the development and commercialization of the products in our pipeline, which could prevent us from growing our business, result in wasted resources and cause us to consume capital significantly faster than we currently anticipate.

We cannot assure you that we will be able to meet the product specification requirements of our customers or that our products will be accepted by our target customers.

We are currently selling our bio-succinic acid to customers today after having met their quality, purity, performance and cost requirements and intend to sell our product to other customers in the chemicals industry. These sales were made in connection with our product and market development efforts. We also intend to expand our market reach with the new products that we are developing as alternatives to the chemicals currently in use. Our potential customers include large specialty chemical companies that have well-developed manufacturing processes for the chemicals they use or pre-existing arrangements with suppliers for the chemical components they need. These potential customers frequently impose lengthy and complex product qualification procedures on their suppliers during which time they test and certify our products for use in their processes and, in some cases, determine whether products that contain the chemicals produced using our processes satisfy additional third-party specifications. Meeting these suitability standards could be a time-consuming and expensive process and we may invest substantial time and resources into such qualification efforts without ultimately securing approval by our customers. If we are unable to convince our potential customers that our products are equivalents of or comparable to the chemicals that they currently use or that using our products is otherwise beneficial to them, we will not be successful in expanding our market and our business will be adversely affected.

In addition, agreements for the sale and purchase of our products are customarily subject to the satisfaction of certain technical, commercial and production requirements. These agreements contain conditions that we and our counterparties agree on product specifications for our chemical products and that our products conform to those specifications. If we do not satisfy these contractual requirements, demand for our products and our reputation may be adversely affected.

A significant decline in the price of petroleum and petroleum-based succinic acid and other chemicals may reduce demand for our products.

The bio-succinic acid we produce is a renewable alternative to petroleum-based succinic acid. Based on our current financial modeling with respect to our planned facility in Sarnia, Ontario, we anticipate that if the price of oil falls below $35 per barrel for a sustained period of time, we may be unable to manufacture bio-succinic acid at that facility as a cost-competitive alternative to competing petroleum-based succinic acid products, which would adversely impact our operating results. Significantly higher operating

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expenses at the demonstration facility in Pomacle, France, due to higher raw material, utility and other costs, severely limit our ability to produce cost-competitive products at that location. World prices for oil have fluctuated widely in recent years. For example, during the last five years, the market price per barrel of West Texas Intermediate crude oil ranged from a low of $30.81 to a high of $145.66 and was $97.07 as of April 1, 2013. We expect that prices will continue to fluctuate in the future. Declining oil prices, or the perception of a future decline in oil prices, may adversely affect the prices we can obtain from our potential customers or dissuade potential customers from entering into long-term agreements with us to buy our products.

Some of our competitors have significantly more experience and resources than we do and technology developed by our competitors could become more commercially successful than our technology, which could negatively impact our results of operations and market share.

Competition in the bio-based chemicals business from other chemicals companies is well established, with many substantial entities having well-financed multi-national operations. Our products will compete against those produced by established companies, including a collaborative venture between DSM and Roquette Frères S.A., a collaborative venture between BASF and Purac, Gadiv Petrochemical Industries Ltd. and Kawasaki Kasei Chemicals Ltd. Competition in the bio-based chemicals business is expanding with the growth of the industry and the advent of many new technologies. In addition to competing with new technologies, we also compete against traditional petroleum-derived chemicals, many of which are produced by large companies that have greater financial and other resources than we do. Larger companies, due to their better capitalization, will be better-positioned to develop and commercialize new technologies, build new production facilities and to install existing or more advanced equipment, which could reduce our market share and harm our business. In addition, our products will face competition from those produced by early stage companies, including Genomatica, Inc. and Myriant Corporation. Our ability to compete successfully will depend on our ability to develop proprietary technologies that cost effectively produce renewable alternatives to petroleum-based chemicals. Some of our competitors are developing new technologies that may be more successful than our technology. These competitors may also have substantially greater production, financial, research and development, personnel and marketing resources than we do or may benefit from local government programs and incentives that are not available to us. As a result, our competitors may be able to compete more aggressively and sustain that competition over a longer period of time than we could. Our technologies and products may be rendered less competitive by technological advances or entirely different approaches developed by one or more of our competitors. As more companies develop new intellectual property in our markets, the possibility increases of a competitor acquiring patent or other rights that may limit our products or potential markets, which could lead to litigation. In addition, we may be subject to aggressive competitive tactics from our competitors, who may use their strong positions in the market and established relationships with existing suppliers and customers to take measures that negatively affect our ability to compete effectively in this industry. Our inability to maintain our competitiveness and grow our market share may, adversely affect our results of operations and financial position, and prevent us from achieving or maintaining profitability.

Failure to obtain regulatory approvals or permits could adversely affect our operations.

While our business currently has all necessary operating approvals material to our current operations, we must obtain and maintain numerous regulatory approvals and permits in order to build and operate our planned manufacturing facilities, including our planned facility in Sarnia, Ontario. We may not always be able to obtain modifications to existing regulatory approvals and we may not always be able to maintain all required regulatory approvals. Obtaining necessary approvals and permits could be a time-consuming and expensive process, and we may not be able to obtain them on a timely basis or at all. In the event that we fail to ultimately obtain all necessary permits, we may be forced to delay operations of the facility and the receipt of related revenues or abandon the project altogether and lose the benefit of any development costs already incurred, which would have an adverse effect on our results of operations. In addition, governmental regulatory requirements may substantially increase our construction costs, which could have a material adverse effect on our business, results of operations and financial condition. If there is a delay in obtaining any required regulatory approvals or if we fail to obtain and comply with any required regulatory approvals, the operation of our facilities or the sale of our bio-based chemicals could be delayed. For example, many countries require registration of chemicals before they can be distributed in the country, and a failure to register our chemicals would limit our ability to expedite sales into these markets. In addition, we may be required to make capital expenditures on an ongoing basis to comply with increasingly stringent federal, state, provincial and local environmental, health and safety laws, regulations and permits.

We face risks associated with our international business.

We currently operate one large-scale demonstration facility located in Pomacle, France, plan to build and operate a manufacturing facility in Sarnia, Ontario as well as additional manufacturing facilities in the future. Our international business operations are subject to a variety of risks, including:

- difficulties in staffing and managing foreign and geographically dispersed operations;

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having to comply with various Canadian, U.S. and other laws, including export control laws and the U.S. Foreign Corrupt Practices Act;

changes in or uncertainties relating to foreign rule and regulations that may adversely affect our ability to sell our products, perform services or repatriate profits to the United States;

tariffs, export or import restrictions, restrictions on remittances abroad, imposition of duties or taxes that limit our ability to move our products out of these countries or interfere with the import of essential materials into these countries;

fluctuations in foreign currency exchange rates;

imposition of limitations on production, sale or export of bio-based chemicals in foreign countries;

imposition of limitations on or increase of withholding and other taxes on remittances and other payments by foreign subsidiaries or joint ventures;

imposition of differing labor laws and standards;

economic, political or social instability in foreign countries;

an inability, or reduced ability, to protect our intellectual property, including any effect of compulsory licensing imposed by government action; and

the availability of government subsidies or other incentives that benefit competitors in their local markets that are not available to us.

We expect that we will begin expanding into other target markets, however there can be no assurance that our expansion plans will be realized, or if realized, be successful. We expect each market to have particular regulatory, feedstock sourcing and funding hurdles to overcome and future developments in these markets, including the uncertainty relating to governmental policies and regulations, could have a material adverse effect on us. If we expend significant time and resources on expansion plans that fail or are delayed, our business, reputation and financial condition may be materially and adversely affected.

Natural or man-made disasters, political, social or economic instability, or occurrence of a catastrophic or disruptive event in any of the areas where our existing or planned manufacturing facilities are located may adversely affect our business and results of operations.

We currently operate a large-scale demonstration facility in Pomacle, France and plan to build and operate manufacturing facilities strategically located throughout the world near sources of feedstock and our target markets. The operation of facilities may be harmed by natural or man-made disasters, including, without limitation, earthquakes, floods, tornadoes, fires, tsunamis, epidemics and nuclear disasters. Our facilities and the manufacturing equipment we use would be very costly to replace and could require substantial lead time to repair or replace. In addition, telecommunications failures or other systems interruptions, such as computer viruses or other cyber-attacks, at any of the locations in which we do business could significantly disrupt our operations, laboratory processes and delay shipments to our customers. Even in the absence of direct damage to our operations, large disasters, terrorist attacks, systems failures or other events could have a significant impact on our partners and customers businesses, which in turn could result in a negative impact on our results of operations. Extensive or multiple disruptions in our operations, or our partners or customers businesses, due to natural disasters or other unanticipated catastrophes could have a material adverse effect on our results of operations.

In the event any of our facilities are affected by a disaster, we may:

be unable to meet the deadlines of our customers;

experience disruptions in our ability to manufacture and ship our products and otherwise operate our business, which could negatively impact our business;

need to expend significant capital and other resources to address any damage caused by the disaster; and

lose customers and we may be unable to regain those customers thereafter.

Our precautions to safeguard our facilities, including insurance and health and safety protocols, may not be adequate to cover our losses in any particular case. Although we possess insurance for damage to our property and the disruption of our business from casualties, this insurance may not be sufficient to cover all of our potential losses and may not continue to be available to us on acceptable terms, or at all. Moreover, our facilities may experience unscheduled downtime or may not otherwise operate as planned or expected, which could have adverse consequences on our business and results of operations.

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

We use biological materials and genetically modified organisms, or GMOs, in our production processes and are subject to a variety of federal, state, and local laws and regulations governing the use, generation, manufacture and disposal of these materials. For example, the Toxic Substances Control Act, or TSCA, and analogous state laws and regulations impose requirements on the production, importation, use and disposal of chemicals and GMOs in the United States. In Canada, similar regulatory programs exist under the Canadian Environmental Protection Act. In particular, a regulatory program similar to TSCA requires that Environment Canada to approve the manufacture of any chemical not already included on the Domestic Substances List, or DSL. We have secured approval from Environment Canada for our use of E. coli and the manufacture of our bio-based succinic acid and the derivatives of succinic acid that we plan to commercialize. Environment Canada is in the process of regulatory review with respect to the use of our yeast, however we do not anticipate any issues obtaining approval. If Environment Canada requires our yeast, or any of our future C6-based products, to undergo extensive testing, which we currently do not anticipate, securing approval to manufacture such products could potentially be subject to significant delays or costs. In the European Union, we are subject to a chemical regulatory program known as REACH (Registration, Evaluation, Authorization, and Restriction of Chemical Substances). Under REACH, we are required to register our products with the European Commission. The registration process requires the submission of information to demonstrate the safety of chemicals as used and could result in significant costs or delay the manufacture or sale of our products in the European Union.

We have currently obtained requisite regulatory approvals for use of E. coli in the large-scale demonstration facility we operate in Pomacle, France as well as in our research and development operations in the United States and Canada. In addition, the Cargill yeast we have licensed has been approved for use in the United States for the production of lactic acid. Although we have implemented safety procedures for the disposal of these materials and waste products to comply with these laws and regulations, we cannot be sure that our safety measures are compliant or capable of eliminating the risk of accidental injury or contamination from the use, generation, manufacture, or disposal of hazardous materials. In the event of contamination or injury, we could be held liable for any resulting damages, and any liability could exceed our insurance coverage. There can be no assurance that violations of environmental, health and safety laws will not occur as a result of human error, accident, equipment failure or other causes.

Compliance with applicable environmental laws and regulations may be expensive, and the failure to comply with past, present or future laws could result in the imposition of fines, regulatory oversight costs, third party property damage, product liability and personal injury claims, investigation and remediation costs, the suspension of production, or a cessation of operations, and our liability may exceed our total assets. We expect to encounter similar laws and regulations in most if not all of the countries in which we may seek to establish production capabilities, and the scope and nature of these regulations will likely be different from country to country. Environmental laws could become more stringent over time, requiring us to change our operations, or imposing greater compliance costs and increasing risks and penalties associated with violations, which could impair our research, development or production efforts and harm our business. Similarly, our business may be harmed if initiatives to reduce emissions of greenhouse gases, which tend to improve the competitiveness of our products relative to petrochemicals, do not become legally enforceable requirements, or if existing legally enforceable requirements relating to greenhouse gases are amended or repealed in the future. The costs of complying with environmental, health and safety laws and regulations and any claims concerning noncompliance, or liability with respect to contamination in the future could have a material adverse effect on our financial condition or operating results.

We use hazardous materials in our business and any claims relating to improper handling, storage or disposal of these materials or noncompliance with applicable laws and regulations could adversely affect our business and results of operations.

We use chemicals and biological materials in our business and are subject to a variety of federal, regional/state and local laws and regulations governing the use, generation, manufacture, storage, handling and disposal of these materials. Although we have implemented safety procedures for handling and disposing of these materials and waste products, we cannot be sure that our safety measures are compliant with legal requirements or adequate to eliminate the risk of accidental injury or contamination. In the event of contamination or injury, we could be held liable for any resulting damages, and any liability could exceed our insurance coverage. There can be no assurance that we will not violate environmental, health and safety laws as a result of human error, accident, equipment failure or other causes. Compliance with applicable environmental laws and regulations is expensive and time consuming, and the failure to comply with past, present, or future laws could result in the imposition of fines, third-party property damage, product liability and personal injury claims, investigation and remediation costs, the suspension of production, or a cessation of operations. Our liability in such an event may exceed our total assets. Liability under environmental laws can be joint and several and without regard to comparative fault. Environmental laws could become more stringent over time, imposing greater compliance costs and increasing risks and penalties associated with violations, which could impair our research, development or production efforts and harm our business. Accordingly, violations of present and future environmental laws could restrict our ability to expand facilities, or pursue certain technologies, and could require us to acquire equipment or incur potentially significant costs to comply with environmental regulations.

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Loss of key personnel or our inability to attract and retain additional key personnel could harm our research and development efforts, delay launch of new products and impair our ability to meet our business objectives.

Our business involves complex operations spanning a variety of disciplines that demands a management team and employee workforce that is knowledgeable in the many areas necessary for our operations. While we have been successful in attracting experienced, skilled professionals to our company, the loss of any key member of our management team or key research and development or operational employees, or the failure to attract and retain additional such employees, could slow our development and commercialization of our products for our target markets and executing our business plans. We may not be able to attract or retain qualified employees due to the intense competition for qualified personnel among biotechnology and other technology-based businesses and the scarcity of personnel with the qualifications or experience necessary for our business. Hiring, training and successfully integrating qualified personnel into our operation is a lengthy and expensive process. The market for qualified personnel is very competitive because of the limited number of people available with the necessary technical skills and understanding of our technology and anticipated products. If we are not able to attract and retain the necessary personnel to accomplish our business objectives, we may experience staffing constraints that will adversely affect our ability to support our internal research and development programs or satisfy customer demands for our products. In particular, our product development and research and development programs are dependent on our ability to attract and retain highly skilled scientific, technical and operational personnel. Competition for such personnel from numerous companies and academic and other research institutions may limit our ability to do so on acceptable terms, or at all. Substantially all of our employees are at-will employees, which means that either the employee or we may terminate their employment at any time.

In the ordinary course of business, we may become subject to lawsuits or indemnity claims, including those related to product liability, which could materially and adversely affect our business and results of operations.

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

In addition, the development, production and sale of our products involve an inherent risk of product liability claims and the associated adverse publicity. Our products may contain undetected defects or impurities that are not discovered until after the products have been used by customers and incorporated into products for end-users. This could result in claims from our customers or others, which could damage our business and reputation and entail significant costs to correct. We may also be sued for defects resulting from errors of our commercial partners or unrelated third parties, but any product liability claim brought against us, regardless of its merit, could result in material expense, divert management s attention and harm our business and reputation. Insurance coverage is expensive, may be difficult to obtain or not available on acceptable terms and may not adequately cover potential claims or losses. If claims or losses exceed our liability insurance coverage, we may go out of business. In addition, insurance coverage may become more expensive, which would harm our results of operations.

Adverse conditions in the global economy and disruption of financial markets may prevent the successful development and commercialization of our products, as well as significantly harm our results of operations and ability to generate revenue and become profitable.

We are subject to the risks arising from adverse changes in global economic and market conditions. The worldwide economy has been experiencing significant economic turbulence, and global credit and capital markets have experienced substantial volatility and disruption. These adverse conditions and general concerns about the fundamental soundness of domestic and international economies could limit our partners or potential partners ability or willingness to invest in new technologies or capital. Moreover, these economic and market conditions could negatively impact our current and prospective customers ability or desire to purchase and pay for our products, or negatively impact our feedstock prices and other operating costs or the prices for our products. Changes in governmental banking, monetary and fiscal policies to address liquidity and increase credit availability may not be effective. Significant government investment and allocation of resources to assist the economic recovery of various sectors which do not include the bio-based chemical industry may reduce the resources available for government grants and related funding that could assist our expansion plans or otherwise benefit us. Any one of these events, and continuation or further deterioration of these financial and macroeconomic conditions, could prevent the successful and timely development and commercialization of our products, as well as significantly harm our results of operations and ability to generate revenue and become profitable.

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If we engage in any acquisitions, we will incur a variety of costs and face numerous potential risks that could adversely affect our business and operations.

If appropriate opportunities become available, we may acquire additional businesses, assets, technologies, or products to enhance our business in the future. In connection with any future acquisitions, we could:

- issue additional equity securities which would dilute our current stockholders;
- incur substantial debt to fund the acquisitions; or
- assume significant liabilities.

Acquisitions involve numerous risks, including problems integrating the purchased operations, technologies or products, unanticipated costs and other liabilities, diversion of management s attention from our core businesses, adverse effects on existing business relationships with current and/or prospective collaborators, customers and/or suppliers, risks associated with entering markets in which we have no or limited prior experience and potential loss of key employees. We do not have experience in managing the integration process and we may not be able to successfully integrate any businesses, assets, products, technologies or personnel that we might acquire in the future without a significant expenditure of operating, financial and management resources, if at all. The integration process could divert management time from focusing on operating our business, result in a decline in employee morale and cause retention issues to arise from changes in compensation, reporting relationships, future prospects or the direction of the business. Acquisitions may also require us to record goodwill and non-amortizable intangible assets that will be subject to impairment testing on a regular basis and potential periodic impairment charges, incur amortization expenses related to certain intangible assets, and incur large and immediate write offs and restructuring and other related expenses, all of which could harm our operating results and financial condition. In addition, we may acquire companies that have insufficient internal financial controls, which could impair our ability to integrate the acquired company and adversely impact our financial reporting. If we fail in our integration efforts with respect to any of our acquisitions and are unable to efficiently operate as a combined organization, our business and financial condition may be adversely affected.

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

As of December 31, 2012, we had approximately $51.5 million of federal tax net operating loss carryforwards, or NOLs. In general, under Section 382 of the U.S. Internal Revenue Code of 1986, as amended, or the Code, a corporation that undergoes an ownership change (as defined in Section 382 of the Code) is subject to limitations on its ability to utilize its pre-change NOLs to offset future taxable income. We have not performed a detailed analysis to determine whether an ownership change has occurred after each of our previous issuances of common stock and warrants. In addition, if we undergo an ownership change, our ability to utilize NOLs could be limited by Section 382 of the Code. Future changes in our stock ownership, some of which are outside of our control, could result in an ownership change. Furthermore, we operate both in the United States and in certain jurisdictions outside the United States. Our non-U.S. operations in France and Canada may in the future generate taxable income that is subject to income or other taxes in the jurisdictions in which those operations are conducted. As of December 31, 2012 we had approximately $22.4 million and $0.9 million of NOLs in France and Canada, respectively. Each jurisdiction in which we operate may have its own limitations on our ability to utilize NOL or tax credit carryovers generated in that jurisdiction. Also, we generally cannot utilize NOLs or tax credits generated in one jurisdiction to reduce our liability for taxes in any other jurisdiction. Accordingly, we may be subject to tax liabilities in certain jurisdictions in which we operate notwithstanding the existence of NOLs or tax credits in other jurisdictions.

Ethical, legal and social concerns about genetically engineered products and processes, and similar concerns about feedstocks grown on land that could be used for food production, could limit or prevent the use of our products, processes and technologies and limit our revenues.

Some of our processes involve the use of genetically modified organisms, or GMOs, such as AFP 184, the bacteria we licensed from entities funded by the DOE, and further modified. The use of GMOs is subject to laws and regulations in many countries, some of which are new and some of which are still evolving. In the United States, the Environmental Protection Agency regulates the commercial use of GMOs as well as potential products from the GMOs. Public attitudes about the safety and environmental hazards of, and ethical concerns over, genetic research and GMOs could influence public acceptance of our technology and products.

While our bacteria licensed from entities funded by DOE has been approved for commercial use in France, the United States and Canada, and has been given the lowest classification in terms of risk, our ability to commercialize this bacteria in other countries and to develop and commercialize new organisms, such as our yeast, could be limited by the following factors:

- public attitudes about the safety and environmental hazards of, and ethical concerns over, genetically engineered products and processes, which could influence public acceptance of our technologies, products and processes;

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- public attitudes regarding, and potential changes to laws governing ownership of genetic material, which could harm our intellectual property rights with respect to our genetic material and discourage others from supporting, developing or commercializing our products, processes and technologies;

- public attitudes and ethical concerns surrounding production of feedstocks on land which could be used to grow food, which could influence public acceptance of our technologies, products and processes;

- governmental reaction to negative publicity concerning genetically engineered organisms, which could result in greater government regulation of genetic research and derivative products; and

- governmental reaction to negative publicity concerning feedstocks produced on land which could be used to grow food, which could result in greater government regulation of feedstock sources.

Any of the risks discussed below could result in increased expenses, delays or other impediments to our programs or the public acceptance and commercialization of products and processes dependent on our technologies or inventions. In addition, the subjects of genetically engineered organisms and food versus fuel have received negative publicity, which has aroused public debate. This adverse publicity could lead to greater regulation and trade restrictions on imports of genetically engineered products or feedstocks grown on land suitable for food production.

Risks Related to Our Intellectual Property

Our inability to adequately protect, or any loss of our intellectual property rights, could materially adversely affect our business, financial condition and results of operations.

Our success will depend, in part, upon our ability to maintain patents and other intellectual property rights to protect our products from competition. We rely principally on a combination of patent, copyright, trademark and trade secret laws, confidentiality agreements, and physical security measures to establish and protect the intellectual property rights relevant to our business. We own or have rights in issued patents and pending patent applications in the U.S. and in certain other jurisdictions. These patents and patent applications cover various aspects of our technologies, including the microorganism (biocatalyst) we use in our fermentation processes, methods of producing our products, and the use of our products in specific applications. In addition, we generally enter into confidentiality and invention assignment agreements with our employees, consultants, contractors, collaboration partners and scientific and other business advisers. These measures, which seek to protect our intellectual property from infringement, misappropriation or other violation, may not be effective for various reasons, including the following:

- we may fail to apply for patents on important technologies or processes in a timely fashion, or at all, or abandon applications when we determine that a product or method is no longer of interest;

- we cannot predict which of our pending patent applications, if any, will result in issued patents for various reasons, including the existence of prior art that we had not been aware of, conflicting patents by others, or defects in our applications;

- we do not know whether the examination of any of our patent applications by the United States Patent and Trademark Office, or USPTO, or any similar foreign patent offices will require us to narrow or even cancel any of the claims in our pending patent applications, or to abandon a patent application altogether;

- even if our patents are granted, they may be challenged by third parties through reexamination or interference proceedings in the U.S., or opposition or cancellation proceedings in Europe, or via similar proceedings in other jurisdictions, which could result in the cancellation of certain of our patent claims or the loss of the challenged patent entirely;

we may not be able to protect some of our technologies, and even if we receive patent or similar protection, the scope of our intellectual property rights may offer insufficient protection against lawful competition or unauthorized use;

our products and processes may rely on the technology of others and, therefore, may require us to obtain intellectual property licenses, if available, from third parties in order for us to manufacture or commercialize our products or practice our processes;

the patents we have been granted or may be granted may not include claims covering our products and processes, may lapse or expire, be challenged, invalidated, circumvented or be deemed unenforceable, or we may abandon them;

our confidentiality agreements may not effectively prevent disclosure or use of confidential information and may not provide an adequate remedy in the event of unauthorized disclosure or use;

the costs associated with enforcing patents, confidentiality and invention assignment agreements or other intellectual property rights may make aggressive enforcement prohibitive;

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- we may not be aware of infringement or misappropriation of our intellectual property rights, or we may elect not to seek to prevent them;

- our efforts to safeguard our trade secrets may be insufficient to prohibit the disclosure of our confidential information;

- even if we enforce our rights aggressively, injunctions, fines and other penalties may be insufficient to deter violations of our intellectual property rights;

- if we seek to enforce our rights, we may be subject to claims that our intellectual property rights are invalid, anti-competitive, otherwise unenforceable, or are already licensed to the party against whom we are asserting the claim; and

- other persons may independently develop proprietary technology, information and processes that are functionally equivalent or superior to our proprietary intellectual property and processes but do not infringe or conflict with our patented or unpatented proprietary rights, or may use their own proprietary intellectual property rights to block us from taking full advantage of the market.

Our patent rights may not protect us against competition.

An important part of our business strategy is to obtain patent protection in the United States and in other countries from patent applications that we own or in-license from others that cover certain technologies used in, or relating to, our products and processes. Interpreting the scope and validity of patents and success in prosecuting patent applications involves complex legal and factual questions, and the issuance, scope, validity, and enforceability of a patent cannot be predicted with any certainty. Patents issued or licensed to us may be challenged, invalidated or circumvented. Moreover, third parties could practice our inventions in secret and/or in territories where we do not have patent protection. Such third parties may then try to sell or import resulting products in and into the United States or other territories. We may be unable to prove that such products were made using our inventions or infringed our intellectual property rights. Additional uncertainty may result from recent changes in the U.S. patent laws under the America Invents Act, which was signed into law on September 16, 2011 and from legal precedent handed down by the U.S. Court of Appeals for the Federal Circuit, the U.S. Supreme Court and the courts of other countries, as they determine legal issues relating to the scope, validity and construction of patent claims. Because patent applications in the U.S. and in many foreign jurisdictions typically are not published until 18 months after filing, if at all, and because the publication of discoveries in the scientific literature often lags behind the actual discoveries, there is additional uncertainty as to the priority dates of our inventions compared to inventions by others, and uncertainty as to the patentability of the claims in our pending patent applications and the validity and enforceability of claims in our issued patents. Accordingly, we cannot be certain that any of our or our licensors patent applications will result in issued patents, or if issued, the validity and/or enforceability of the issued patents. Also, we cannot guarantee that a competing patent application will not be granted with claims that cover our proposed organism or processes, or that our or our licensors patent applications or patents will not be subject to an interference proceeding with a competing patent or patent application.

Moreover, we cannot be sure that any of our or our licensors patent rights will be broad enough in scope to provide commercial advantage and prevent circumvention. Furthermore, patents are enforceable only for a limited term, and some of the U.S. patents that we have in-licensed exclusively relating to our biocatalyst will start to expire in 2015.

We may be involved in lawsuits to protect or enforce our patents or the patents of our licensors, or lawsuits asserted by a third party, which could be expensive, time consuming and unsuccessful.

The success of our business is highly dependent on protecting our intellectual property rights. Unauthorized parties may attempt to copy or otherwise obtain and use our products and/or technology. Policing the unauthorized use of our intellectual property rights is difficult, expensive, time-consuming and unpredictable, as is enforcing these rights against unauthorized use by others. Identifying unauthorized use of our intellectual property rights is difficult because we may be unable to monitor the processes and/or materials being employed by other parties. In addition, in an infringement proceeding, a patent of ours or our licensors may be found invalid, unenforceable, anti-competitive or not infringed. An adverse result in any litigation or defense proceedings could put one or more of our patents at risk of being invalidated or interpreted narrowly and could put our patent applications at risk of not issuing.

Third parties may challenge our or our licensors patents via reexamination proceedings or inter partes review in the United States, opposition or cancellation proceedings in Europe, or similar proceedings in other jurisdictions. The outcome of these proceedings can be unpredictable and may result in the claims being substantially narrowed or cancelled altogether. As a result of changes in U.S. patent law under the America

Invents Act, any U.S. patent that we or our licensors obtain having an effective filing date on or after March 16, 2013 could be challenged by a third party using the new post-grant review process, which could result in the claims of the challenged patents being narrowed or even cancelled. Furthermore, in the United States, patents with an effective filing date prior to March 16, 2013 are awarded to the first person to make an invention rather than to the first person to file a patent

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application, and therefore such patents could be subject to an interference proceeding conducted by the USPTO to determine which party was the first to create an invention. As result, interference proceedings provoked by third parties or brought by the USPTO may be necessary to determine the priority of inventions with respect to our patents or patent applications or those of our collaborators or licensors. An unfavorable outcome could require us to cease using the related technology or to attempt to license rights from the prevailing party. As a result, our business could be harmed if the prevailing party does not offer us a license on commercially reasonable terms. Litigation or interference proceedings may fail and, even if successful, may take several years to resolve, result in substantial costs, and distract our management and other employees, and otherwise interfere with the running of our business. We may be unable to prevent, alone or with our licensors, infringement or misappropriation of our proprietary rights, particularly in countries where the laws may not protect those rights as fully as in the U.S. Furthermore, because of the amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation.

We may be unable to enforce our intellectual property rights throughout the world, which could negatively affect our rights, competitive position and business.

We may in the future decide to build, or partner with others in building manufacturing facilities using our technologies in countries other than the United States and Canada. We may not have sufficient patent or other intellectual property rights in those countries to prevent a competitor from using our or competing technologies. Furthermore, the laws of some foreign countries do not protect intellectual property rights to the same extent as federal, state and provincial laws in the United States and Canada. Many companies have encountered problems in protecting and enforcing intellectual property rights in certain foreign jurisdictions. The legal systems of certain countries do not favor the enforcement of patents and other intellectual property protection. This could make it difficult for us or our licensors to prevent or stop any infringement of our or our licensors patents or misappropriation of the subject matter of our other proprietary or intellectual property rights. Proceedings to enforce our and our licensors patents and other proprietary rights in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business. Accordingly, our efforts to enforce our intellectual property rights in such countries may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or in-license.

We may be unable to operate our business without infringing the intellectual property rights of others, which could subject us to costly litigation or prevent us from offering certain products which could have a material adverse effect on our business.

Although we are currently unaware of any claims or threatened claims, our ability to manufacture and commercialize our proposed technologies, processes and products depends upon our and our licensors ability to develop, manufacture, market, license and/or sell such technologies, processes and products without violating the proprietary rights of third parties. Numerous U.S. and foreign patents and pending patent applications owned by third parties exist in fields that relate to our proposed technologies, processes and products and our underlying methodologies and discoveries. In addition, many companies actively police and enforce their intellectual property rights, including their patent rights, to gain a competitive advantage. Third parties may allege that our existing or proposed technologies, processes and products or our methods infringe their intellectual property rights. It is possible that the number and frequency of law suits alleging infringement of intellectual property rights may increase as the number of products and competitors in our market increases. In addition, to the extent that we gain greater visibility and market exposure as a public company, we face a greater risk of being the subject of intellectual property infringement claims. We cannot be certain that the conduct of our business does not and will not infringe intellectual property or other proprietary rights of others. If the making, using, selling, offering for sale or importing of our proposed products or practice of our proprietary technologies or processes are found to infringe third party intellectual property rights, including patent rights, we could be prohibited from manufacturing and commercializing the infringing technology, process or product unless we obtain a license under the applicable third party patent and pay royalties or are able to design around such patent.

We may be unable to obtain a license on terms acceptable to us, if at all, and we may be unable to redesign our products, biocatalysts or processes to avoid infringement. Even if we are able to redesign our products, biocatalysts or processes to avoid an infringement claim, our efforts to design around the patent could require significant effort and expense and ultimately may lead to an inferior or more costly product and/or process. Any claim of infringement by a third party, even one without merit, could cause us to incur substantial costs defending against the claim, could distract our management and employees, and generally interfere with our business. Furthermore, if any such claim is successful, a court could order us to pay substantial damages, including compensatory damages for any infringement, plus prejudgment interest and could, in addition, treble the compensatory damages and award attorney fees. These damages could be substantial and could harm our reputation, business, financial condition and operating results. A court also could enter orders that temporarily, preliminarily or permanently prohibit us, our licensees and our customers from making, using, selling, offering to sell or importing one or more of our products or practicing our proprietary technologies or processes, or could enter an order requiring us to undertake certain remedial activities. Any of these events could seriously harm our business, operating results and financial condition.

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We also rely in part on trade secret laws, confidentiality agreements, and security procedures, which can be difficult to protect and enforce, and which may not adequately prevent disclosures of trade secrets and other proprietary information; our failure to obtain or maintain such protections could adversely affect our competitive position.

We rely in part on trade secret laws and contractual agreements to protect some of our confidential and proprietary information, technology and processes, particularly where we do not believe patent protection is appropriate or obtainable. We have taken various measures to protect our trade secrets and other confidential or proprietary information, including requiring new employees and consultants to execute confidentiality agreements upon the commencement of employment or consulting engagement with us. However, trade secrets are difficult to maintain and protect and our security procedures may be insufficient to prevent disclosure of our trade secrets. In addition, discussions with our business partners, including our licensors, may require us to share confidential and proprietary information with them and other third parties. Our business partners employees, consultants, contractors or scientific and other business advisers may unintentionally or willfully breach their confidentiality and/or non-use obligations, including by disclosing our confidential or proprietary information to our competitors. Such agreements may be deemed unenforceable, fail to provide adequate remedies, or become subject to disputes that may not be resolved in our favor. Enforcement of claims that a third party has illegally obtained and is using trade secrets is expensive, time consuming and uncertain. In addition, foreign courts are sometimes less willing than U.S. courts to protect trade secrets. Our failure to obtain or maintain trade secret protection could adversely affect our competitive business position. Furthermore, trade secret laws do not prevent our competitors from independently developing equivalent knowledge, methods and know-how that could be used to compete with us and our products.

We may lose our competitive advantage if our competitors develop similar, analogous or alternative organisms that produce bio-succinic acid or other competing chemical products.

We currently use proprietary microorganisms (biocatalysts) in our production of bio-succinic acid and other cellular metabolites such as C6 compounds. If our organisms are stolen, or misappropriated, they could be used by third parties for their own commercial gain, even though they may be in breach of our intellectual property rights. Furthermore, third parties may use similar or analogous organisms in jurisdictions where we or our licensors do not have patent protection. Third parties may also independently develop similar, analogous or alternative organisms that can also produce bio-succinic acid or other metabolites without infringing our intellectual property rights. If any of these were to occur, it could be difficult for us to discover, challenge or prevent the third party from using their organisms and competing with us in the production of bio-succinic acid or other metabolites.

Our rights to key intellectual property are in-licensed from third parties, and the limitation or termination of these and related agreements would be highly detrimental to us and our business.

We are a party to certain license agreements that provide us with the right to practice key technology used in our business. For example, we have entered into license agreements with UT-Battelle, LLC, or UT-Batelle, and UChicago Argonne, LLC, or UChicago Argonne, for the *E. coli* bacteria we use currently to produce bio-succinic acid, Cargill for our yeast that is being developed to produce bio-succinic acid, DuPont for catalysts and methods for converting our bio-succinic acid into bio-based 1,4 BDO, and Celexion for a procedure to make C6 compounds, such as adipic acid. All of these license agreements impose various obligations on us, including royalty payments and, in certain instances, milestone payments. If we fail to comply with these or other obligations, certain agreements provide that the licensors may have the right to terminate the license or convert the exclusive license to a nonexclusive license, in which case our competitors may gain access to these important licensed technologies, and we may be unable to develop or market products, technologies or processes covered by the licensed intellectual property. Often our licensors have the right to control the filing, prosecution, maintenance and defense of the licensed intellectual property and, if a third party infringes any of the licensed intellectual property, some of our licensors may control the resulting a legal or other proceeding against that third party to stop or prevent such infringement. As a result, our licensors may take actions or make decisions relating to these matters that could harm our business or impact our rights.

Certain key inventions in-licensed by us were made with funing received from U.S. government agencies, which could negatively impact our rights.

Some of the research undertaken on *E. coli* bacteria we have in-licensed from entities funded by the DOE was funded by grants from certain U.S. government agencies. As a result of U.S. government funding, the government obtained certain rights in any resulting patents and technical data, generally including, at a minimum, a nonexclusive license authorizing the government to practice or have practiced the invention or technical data pertaining to microbial production of bio-succinic acid using *E. coli* for or on behalf of the U.S. government. In the United States, government funding must be disclosed in any resulting patent applications, and our rights in such inventions are and will be subject to government license rights, periodic progress reporting, foreign manufacturing restrictions and march-in rights. March-in rights refer to the right of the U.S. government, under certain limited circumstances, to

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require us to grant a license to technology developed under a government grant to a responsible applicant, or, if we refuse, to grant such a license itself. March-in rights can be triggered if the government determines that we have failed to work sufficiently towards achieving practical application of a technology or if action is necessary to alleviate health or safety needs, to meet requirements of federal regulations or to give preference to U.S. industry. If the terms of a funding agreement are breached, the government may gain rights to the intellectual property developed in related research.

Furthermore, the terms of a research grant from a U.S. government agency may prohibit the use of new technologies developed using those grants in non-U.S. manufacturing plants, which could adversely affect our business. Under the Bayh-Dole Act of 1980, a party that acquires an exclusive license for an invention that was funded in whole or in part by a federal research grant is subject to the following government rights:

- products using the invention that are sold in the United States are to be manufactured substantially in the United States, unless a waiver is obtained;
- the U.S. government may force the granting of a license to a third party who will make and sell the needed product if the licensee does not pursue reasonable commercialization of a needed product using the invention; and
- the U.S. government may use the invention for its own needs.

If we fail to meet these guidelines, we could lose our exclusive rights to patents and patent applications in-licensed from UT-Battelle and UChicago Argonne that are directed to the *E. coli* organism currently used in our process for manufacturing bio-succinic acid. Loss of these exclusive rights could be detrimental to our business because we may be required to convert our bio-succinic acid production process to a yeast-based, or other, process for manufacturing bio-succinic acid, and such conversion may interrupt our ability to manufacture bio-succinic acid and require further capital expenditures to adapt our planned manufacturing facility. We believe that our proposed manufacture and sale of bio-succinic acid using the in-licensed *E. coli* organism will be in compliance with requirements of the Bayh-Dole Act. In particular, we have received a waiver from the DOE, as to requirements to manufacture products in the United States, for our planned facility in Sarnia, Ontario. We may need to request additional waivers from the DOE as we expand our manufacturing capabilities.

Risks Related to Our Securities

Future sales of shares by existing stockholders could cause our stock price to decline.

If our existing stockholders sell, or indicate an intent to sell, substantial amounts of our common stock or warrants in the public market after the 180-day contractual lock-up relating to our initial public offering expire and other legal restrictions on resale lapse, the trading price of our common stock or warrants could decline significantly. We cannot predict the effect, if any, that future public sales of these securities or the availability of these securities for sale will have on the market price of our securities. Our officers, directors and certain stockholders have executed lock-up agreements preventing them from selling any units, common stock or warrants they hold for a period of 180 days from May 9, 2013, subject to certain limited exceptions. The representatives of the underwriters of our initial public offering may, in their sole discretion, permit our officers, directors and current stockholders to sell units, common stock or warrants prior to the expiration of these lock-up agreements.

After the lock-up agreements pertaining to our initial public offering expire, an additional 9,742,950 shares of common stock will be eligible for sale in the public market in accordance with and subject to the limitation on sales by affiliates as provided in Rule 144 under the Securities Act of 1933, as amended, or the Securities Act. In addition, shares of common stock reserved for future issuance under our equity incentive plans will become eligible for sale in the public market in the future, subject to certain legal and contractual limitations. Moreover, 180 days after May 9, 2013, holders of 8,488,213 shares of our common stock, including the shares of common stock issuable upon exercise of warrants in existence prior to our initial public offering, will have the right to require us to register these shares under the Securities Act pursuant to a shareholders agreement. If our existing stockholders sell substantial amounts of our common stock or warrants in the public market, or if the public perceives that such sales could occur, this could have an adverse impact on the market price of our securities, even if there is no relationship between such sales and the performance of our business.

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

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

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

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- the level and timing of expenses for product development and sales, general and administrative expenses;
- delays or greater than anticipated expenses associated with the scale-up and the commercialization of chemicals produced using our processes;
- our ability to successfully enter into or maintain partnering arrangements, and the terms of those relationships;
- commercial success with our existing product and success in identifying and sourcing new product opportunities;
- the development of new competitive technologies or products by others and competitive pricing pressures
- fluctuations in the prices or availability of the feedstocks required to produce chemicals using our processes or those of our competitors;
- changes in demand for our products, including any seasonal variations in demand;
- changes in product development costs due to the achievement of certain milestones under third-party development agreements;
- changes in the amount that we invest to develop, acquire or license new technologies and processes;
- business interruptions, including disruptions in the production process at any facility where chemicals produced using our processes are manufactured as well as a result of changes in the technologies we employ, including our transition from our *E. coli* bacteria to our yeast;
- departures of executives or other key management employees;
- foreign exchange fluctuations;
- changes in general economic, industry and market conditions, both domestically and in our foreign markets; and
- changes in governmental, accounting and tax rules and regulations, environmental, health and safety requirements, and other rules and regulations.

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

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

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

- a classified board of directors;
- limitations on the removal of directors;
- advance notice requirements for stockholder proposals and nominations;
- the inability of stockholders to act by written consent or to call special meetings;
- the ability of our board of directors to make, alter or repeal our amended and restated by-laws; and
- the authority of our board of directors to issue blank check preferred stock, the terms of which may be established and the shares of which may be issued without stockholder approval.

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

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

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

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

We have not paid dividends on any of our capital stock to date and we currently intend to retain our future earnings, if any, to fund the development and growth of our business. As a result, capital appreciation, if any, of our common stock will be your sole source of gain for the foreseeable future. Consequently, in the foreseeable future, you will likely only experience a gain from your investment in our securities if the price of our common stock increases.

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

As a public company and particularly after we cease to be an emerging growth company (and cease to take advantage of certain exceptions from reporting requirements that are available under the Jumpstart Our Business Startups Act of 2012, or the JOBS Act, as an emerging growth company), we will incur significant legal, accounting, administrative and other costs and expenses that we did not face as a private company. As a public company, we will be subject to rules and regulations that regulate corporate governance practices of public companies, including the Securities Exchange Act of 1934, as amended, or the Exchange Act, the Sarbanes-Oxley Act of 2002, as amended, or the Sarbanes-Oxley Act, and rules promulgated by NYSE. We expect that compliance with these public company requirements will increase our costs and make some activities more time consuming and may result in a diversion of management s time and attention from revenue-generating activities. For example, we will create new board committees, adopt new internal controls and disclosure controls and procedures, and devote significant management resources to our Securities and Exchange Commission reporting requirements. A number of those requirements will require us to carry out activities we have not done previously. For example, beginning with our Annual Report on Form 10-K filed after our fiscal year ending December 31, 2014, we will need to furnish a report by management on the effectiveness of our internal control over financial reporting. In addition, our independent registered chartered professional accountants will be required to attest to the effectiveness of our internal control over financial reporting beginning with our Annual Report on Form 10-K following the date on which we are no longer an emerging growth company, which may be up to five full years following the date of our initial public offering. Furthermore, if we are unable to build our internal controls and accounting capabilities or subsequently identify any issues in complying with those requirements (for example, if we or our registered public accounting firm identify a material weakness or significant deficiency in our internal control over financial reporting), we could incur additional costs rectifying those issues, and the existence of those issues could adversely affect us, our reputation or investor perceptions of us. We expect that the additional reporting and other obligations imposed on us by these rules and regulations will increase our legal and financial compliance costs and the costs of our related legal, accounting and administrative activities significantly. These increased costs will require us to divert a significant amount of money that we could otherwise use to expand our business and achieve our strategic objectives.

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

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

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We will remain an emerging growth company for up to five years, or until the earliest of (i) the last day of the first fiscal year in which our annual gross revenues exceed $1 billion, (ii) the date that we become a large accelerated filer as defined in Rule 12b-2 under the Exchange Act, which would occur if the market value of our common stock that is held by non-affiliates exceeds $700 million as of the last business day of our most recently completed second fiscal quarter, or (iii) the date on which we have issued more than $1 billion in non-convertible debt during the preceding three year period.

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

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

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

If securities or industry research analysts do not publish or cease publishing research or reports about our business or if they issue unfavorable commentary or downgrade our common stock, the market price of our securities and trading volume could decline.

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

The warrants sold as part of our initial public offering may not have any value, and the holders of those warrants will have no rights as common stockholders until such holders exercise their warrants and acquire our common stock.

The warrants sold as part of our initial public offering will expire at 5:30 p.m. on May 9, 2017 unless we in our sole discretion extend the expiration date. In the event our common stock price does not exceed the exercise price of the warrants during the period when the warrants are exercisable, the warrants may not have any value. Until holders of warrants acquire shares of our

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common stock upon exercise of the warrants, holders of warrants will have no rights with respect to the shares of our common stock underlying such warrants. Upon exercise of the warrants, the holders thereof will be entitled to exercise the rights of a common stockholder only as to matters for which the record date occurs after the exercise date.

Risks Relating to the Listing and Trading of Our Common Stock on NYSE Euronext Paris

We intend to list our common stock on the Professional Segment of NYSE Euronext in Paris under the symbol BIOA. If we list on NYSE Euronext Paris, the risks relating to our common stock, as set out above, will apply in similar respects to investors trading our common stock on NYSE Euronext Paris. In addition, investors trading our common stock on NYSE Euronext Paris should consider the following additional risks relating specifically to the admission to listing and trading of our common stock on NYSE Euronext Paris.

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

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

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

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

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

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

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

Unregistered Sales of Equity Securities

During the quarter ended March 31, 2013, we granted stock options to purchase an aggregate 3,500 shares of our common stock to one of our employees, at an exercise price of $28.49 per share. This issuance was undertaken in reliance upon the exemption from registration requirements of Rule 701, as a transaction pursuant to a compensatory benefit plan, or pursuant to Section 4(2), as a transaction by an issuer not involving a public offering. All recipients had adequate access, through their relationship with us, to information about us. The common stock issued upon exercise of options is deemed restricted securities for the purposes of the Securities Act.

Use of Proceeds

On May 9, 2013, the SEC declared effective our registration statement on Form S-1 (File No. 333-177917) in connection with our initial public offering, pursuant to which we registered an aggregate of 8,000,000 units, each unit consisting of one share of common stock and one warrant to

purchase half of one share of common stock, as well as a maximum of 1,200,000 additional units to cover over-allotments, if any. Each warrant will be exercisable during the period commencing on August 8, 2013 and ending at 5:30 p.m. on May 9, 2017 at an exercise price of $11.00 per whole share of common stock. The managing underwriters were Credit Suisse Securities (USA) LLC, Barclays Capital Inc., Société Générale and Pacific Crest Securities LLC.

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Our net proceeds from the sale of units in this offering was approximately $71,900,000, assuming no exercise by the underwriters of their option to purchase additional units, based upon an initial public offering price of $10.00 per unit, and after deducting underwriting discounts and commissions and estimated offering expenses payable by us. No offering expenses were paid directly or indirectly to any of our directors or officers (or their associates) or persons owning ten percent or more of any class of our equity securities or to any other affiliates. We received these proceeds at a closing held on May 14, 2013. To date, we have not yet used the net proceeds of our initial public offering. We intend to use the net proceeds of our initial public offering as follows:

- approximately $63.0 million for our capital contributions relating to the construction of the initial phase of our planned facility in Sarnia, Ontario with an expected capacity of 30,000 metric tons, which amount may be reduced to $45.5 million based on the outcome of our discussions with Canadian government agencies for approximately CAD $25.0 million in additional low-interest loans; and

- the balance for working capital and other general corporate purposes, which will also include expenses and costs associated with being a public company as well as certain interest and principal payments as they come due under our government loans and our proposed credit facility with HTGC.

There has been no material change in the planned use of proceeds from our initial public offering from that described in our final prospectus, dated May 9, 2013, filed with the SEC pursuant to Rule 424(b).

Item 3. Defaults Upon Senior Securities

None.

Item 4. Mine Safety Disclosures

Not applicable.

Item 5. Other Information

Not applicable.

Item 6. Exhibits

The exhibits listed below are filed as part of this Quarterly Report on Form 10-Q.

Exhibit No.	Exhibit Description	Filed or Furnished Herewith	Incorporated by Reference			
			Form	SEC File No.	Exhibit	Filing Date
3.1	Amended and Restated Certificate of Incorporation		S-1	333-177917	3.1	4/11/13
3.2	Amended and Restated By-laws		S-1	333-177917	3.2	4/11/13
4.1	Specimen Common Stock Certificate		S-1	333-177917	4.1	4/11/13
4.2	Form of Common Stock Purchase Warrant		S-1	333-177917	4.6	5/9/13

4.3	Form of Unit Certificate		S-1	333-177917	4.7	5/9/13
10.1	Amendment to the Exclusive Distributorship Agreement, by and between Bioamber S.A.S. and Mitsui & Co., Ltd., dated January 1, 2013		S-1	333-177917	10.39	2/15/13
31.1	Certification of the Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002	X				
31.2	Certification of the Chief Financial Officer pursuant Section 302 of the Sarbanes-Oxley Act of 2002	X				
32.1*	Certification of the Chief Executive Officer pursuant Section 906 of the Sarbanes-Oxley Act of 2002	X				
32.2*	Certification of the Chief Financial Officer pursuant Section 906 of the Sarbanes-Oxley Act of 2002	X				

* The certification furnished in Exhibit 32.1 and Exhibit 32.2 hereto are deemed to accompany this Quarterly Report on Form 10-Q and will not be deemed filed for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, except to the extent that the Registrant specifically incorporates it by reference.

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SIGNATURES

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

BIOAMBER INC.

May 15, 2013

By: /s/ Jean-François Huc
Jean-François Huc
President and Chief Executive Officer