

# INTERMOLECULAR INC

## FORM 10-Q (Quarterly Report)

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**UNITED STATES**  
**SECURITIES AND EXCHANGE COMMISSION**  
Washington, D.C. 20549  
**FORM 10-Q**

(Mark One)

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

For the quarterly period ended March 31, 2017

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 001-35348

**Intermolecular, Inc.**

(Exact Name of Registrant as Specified in its Charter)

Delaware

(State or Other Jurisdiction of  
Incorporation or Organization)

3011 N. First Street

San Jose, California

(Address of Principal Executive Offices)

20-1616267

(I.R.S. Employer  
Identification No.)

95134

(Zip Code)

(408) 582-5700

(Registrant's Telephone Number, Including Area Code)

N/A

(Former Name, Former Address and Former Fiscal Year, if Changed Since Last Report)

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

Indicate by check mark whether the registrant has submitted electronically 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

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

Large accelerated filer	<input type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input checked="" type="checkbox"/> (Do not check if a smaller reporting company)	Smaller reporting company	<input type="checkbox"/>
Emerging growth company	<input type="checkbox"/>		

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

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

**Shares outstanding of the registrant's common stock:**

Class	Outstanding as of May 1, 2017
Common stock, \$0.001 par value	49,559,701

INTERMOLECULAR, INC.  
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**PART I — FINANCIAL INFORMATION**

**ITEM 1. FINANCIAL STATEMENTS**

INTERMOLECULAR, INC. AND SUBSIDIARIES

Condensed Consolidated Balance Sheets

(In thousands, except share and per share data)

(Unaudited)

	<u>March 31, 2017</u>	<u>December 31, 2016</u>
<b>ASSETS</b>		
Current assets:		
Cash and cash equivalents	\$ 7,631	\$ 5,759
Short-term investments	19,953	20,035
Accounts receivable, net of allowance for doubtful accounts of \$0 as of March 31, 2017 and December 31, 2016	3,815	5,063
Prepaid expenses and other current assets	1,217	1,397
<b>Total current assets</b>	<b>32,616</b>	<b>32,254</b>
Long-term investments	400	1,995
Materials inventory	3,273	3,357
Property and equipment, net	9,807	10,964
Intangible assets, net	3,341	4,001
Other assets	586	597
<b>Total assets</b>	<b>\$ 50,023</b>	<b>\$ 53,168</b>
<b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>		
Current liabilities:		
Accounts payable	\$ 746	\$ 309
Accrued liabilities	2,673	1,451
Accrued compensation and employee benefits	1,890	1,663
Deferred revenue	1,717	1,533
<b>Total current liabilities</b>	<b>7,026</b>	<b>4,956</b>
Deferred rent, net of current portion	3,104	3,149
Other long-term liabilities	61	67
<b>Total liabilities</b>	<b>10,191</b>	<b>8,172</b>
Commitments and contingencies (note 5)		
Stockholders' equity:		
Common stock, par value \$0.001 per share—200,000,000 shares authorized; 49,572,201 and 49,513,528 shares issued and outstanding as of March 31, 2017 and December 31, 2016, respectively	50	50
Additional paid-in capital	213,973	213,313
Accumulated other comprehensive loss	(21)	(32)
Accumulated deficit	(174,170)	(168,335)
<b>Total stockholders' equity</b>	<b>39,832</b>	<b>44,996</b>
<b>Total liabilities and stockholders' equity</b>	<b>\$ 50,023</b>	<b>\$ 53,168</b>

See accompanying notes to unaudited condensed consolidated financial statements

INTERMOLECULAR, INC. AND SUBSIDIARIES

Condensed Consolidated Statements of Operations

(In thousands, except share and per share data)

(Unaudited)

	<b>Three Months Ended March 31,</b>	
	<b>2017</b>	<b>2016</b>
<b>Revenue:</b>		
Program revenue	\$ 6,812	\$ 11,961
Licensing and royalty revenue	3,133	2,557
Total revenue	9,945	14,518
<b>Cost of revenue:</b>		
Cost of program revenue	2,697	4,736
Cost of licensing and royalty revenue	290	60
Total cost of revenue	2,987	4,796
Gross profit	6,958	9,722
<b>Operating expenses:</b>		
Research and development	7,108	6,904
Sales and marketing	1,481	1,943
General and administrative	3,008	2,600
Restructuring charges	1,348	—
Total operating expenses	12,945	11,447
Loss from operations	(5,987)	(1,725)
<b>Other income (expense):</b>		
Interest income (expense), net	55	32
Other income (expense), net	97	16
Total other income (expense), net	152	48
Loss before provision for income taxes	(5,835)	(1,677)
Provision for income taxes	1	3
Net loss	\$ (5,836)	\$ (1,680)
Net loss per share, basic and diluted	\$ (0.12)	\$ (0.03)
Weighted-average number of shares used in computing net loss per share, basic and diluted	49,519,251	49,286,456

Related Party Transactions

The Condensed Consolidated Statements of Operations include the following related party transactions:

	<b>Three Months Ended March 31,</b>	
	<b>2017</b>	<b>2016</b>
<b>Revenue:</b>		
Program revenue	\$ —	\$ 267
Licensing and royalty revenue	383	714
Total revenue	\$ 383	\$ 981
<b>Cost of Revenue:</b>		
Cost of program revenue	\$ —	\$ 102
Cost of licensing and royalty revenue	1	23
Total cost of revenue	\$ 1	\$ 125

See accompanying notes to unaudited condensed consolidated financial statements

Condensed Consolidated State ments of Comprehensive Loss

(In thousands)

(Unaudited)

	<b>Three Months Ended March 31,</b>	
	<b>2017</b>	<b>2016</b>
Net loss	\$ (5,836)	\$ (1,680)
Change in unrealized gain (loss) on available-for-sale-securities, net of tax	11	30
Other comprehensive income (loss)	11	30
Comprehensive loss, net of income tax	<u>\$ (5,825)</u>	<u>\$ (1,650)</u>

See accompanying notes to unaudited condensed consolidated financial statements

## INTERMOLECULAR, INC. AND SUBSIDIARIES

## Condensed Consolidated Statements of Cash Flows

(In thousands)

(Unaudited)

	<b>Three Months Ended March 31,</b>	
	<b>2017</b>	<b>2016</b>
<b>Cash flows from operating activities:</b>		
Net loss	\$ (5,836)	\$ (1,680)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation, amortization, and accretion	1,977	1,972
Stock-based compensation	656	1,122
(Gain) / loss on disposal of property and equipment	(4)	3
Gain on disposal of intangible assets	(1,239)	—
Changes in operating assets and liabilities:		
Prepaid expenses and other assets	215	82
Materials inventory	78	201
Accounts receivable	1,248	(1,369)
Accounts payable	381	(655)
Accrued and other liabilities	1,394	(2,236)
Deferred revenue	183	51
Net cash used in operating activities	<u>(947)</u>	<u>(2,509)</u>
<b>Cash flows from investing activities:</b>		
Purchase of investments	(2,827)	(5,134)
Redemption of investments	4,408	13,816
Purchase of property and equipment	(264)	(1,356)
Proceeds from sale of equipment	7	2
Proceeds from sale of intangible assets	1,500	—
Purchased and capitalized intangible assets	—	(45)
Net cash provided by investing activities	<u>2,824</u>	<u>7,283</u>
<b>Cash flows from financing activities:</b>		
Payment of capital leases	(5)	—
Proceeds from exercise of common stock options	—	693
Net cash (used in) provided by financing activities	<u>(5)</u>	<u>693</u>
Net increase in cash and cash equivalents	1,872	5,467
Cash and cash equivalents at beginning of period	5,759	11,676
Cash and cash equivalents at end of period	<u>\$ 7,631</u>	<u>\$ 17,143</u>
<b>Supplemental disclosure of cash flow information:</b>		
Cash paid for interest	<u>\$ 3</u>	<u>—</u>
Cash paid for income taxes, net of refunds received	<u>\$ 1</u>	<u>—</u>
<b>Noncash investing/operating activities:</b>		
Transfer of property and equipment to materials inventory	<u>\$ 172</u>	<u>\$ 401</u>
Transfer of materials inventory to property and equipment	<u>\$ 178</u>	<u>\$ 763</u>
Additions to property, equipment and intangible assets not paid at the end of the period	<u>\$ 155</u>	<u>\$ 419</u>

See accompanying notes to unaudited condensed consolidated financial statements

(Unaudited)

## 1. Summary of Significant Accounting Policies

### Basis of Presentation

The accompanying condensed consolidated financial statements of Intermolecular, Inc. and subsidiaries (the Company) have been prepared in accordance with accounting principles generally accepted in the United States of America (GAAP) for interim financial information, the instructions to Form 10-Q and Article 10 of Regulation S-X of the Securities and Exchange Commission (SEC). Accordingly, certain information and disclosures normally included in complete financial statements prepared in accordance with GAAP have been condensed or omitted. The information in this report should be read in conjunction with the Company's audited consolidated financial statements and notes thereto included in its Annual Report on Form 10-K for the fiscal year ended December 31, 2016, as filed with the SEC on March 3, 2017. Certain amounts in the prior year's presentations have been reclassified to conform to the current presentation. These reclassifications had no effect on previously reported net income.

In the opinion of management, the accompanying unaudited condensed consolidated financial statements reflect all adjustments (consisting only of normal recurring adjustments) necessary to present fairly the Company's financial position, results of operations and cash flows for the interim periods presented. The operating results for the three months ended March 31, 2017 are not necessarily indicative of the results that may be expected for any other future interim period or full year. The condensed consolidated balance sheet as of December 31, 2016 is derived from the audited consolidated financial statements.

### Use of Estimates

The preparation of the accompanying condensed consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions about future events. These estimates and the underlying assumptions affect the amounts of assets and liabilities reported, disclosures about contingent assets and liabilities, and reported amounts of revenue and expenses. Management uses estimates and judgments in determining recognition of revenues, valuations of accounts receivable, inventories, intangible assets, warrants and assumptions used in the calculation of income taxes and stock-based compensation, among others. These estimates and assumptions are based on management's best estimates and judgment. Management evaluates its estimates and assumptions on an ongoing basis using historical experience and other factors, and adjusts such estimates and assumptions when facts and circumstances dictate. As future events and their effects cannot be determined with precision, actual results could differ significantly from these estimates.

### Concentration of Credit Risk

Financial instruments that potentially subject the Company to concentration of credit risk consist of cash, cash equivalents, investments and accounts receivable. The Company's cash, cash equivalents and investments consist of demand deposits, money market accounts, certificates of deposit, corporate bonds and commercial paper maintained with high quality financial institutions. The Company's accounts receivable consist of non-interest bearing balances due from credit-worthy customers.

### Significant Accounting Policies

There has been no significant changes to the Company's accounting policies since it filed its audited consolidated financial statements in its Annual Report on Form 10-K for the year ended December 31, 2016.

### Materials Inventory

Materials inventories consist of raw materials in the amount of \$3.3 million and \$3.4 million as of March 31, 2017 and December 31, 2016, respectively.

### Accounts Receivable and Allowance for Doubtful Accounts

The Company did not have any allowance for doubtful accounts as of March 31, 2017 and December 31, 2016.

## Concentration of Revenue and Accounts Receivable

Significant customers are those that represent more than 10% of the Company's total revenue or accounts receivable. For each significant customer, including related parties, revenue as a percentage of total revenue and accounts receivable as a percentage of total accounts receivable are as follows:

	Revenue		Accounts Receivable	
	Three Months Ended March 31,		As of March 31,	As of December 31,
	2017	2016	2017	2016
Customer A	13%	25%	*	*
Customer B	19%	*	*	*
Customer C	*	16%	*	*
Customer D	50%	21%	77%	69%
Customer I	*	12%	*	14%
Customer O	*	*	12%	*

\* less than 10%

## Recent Accounting Pronouncements

In May 2014, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update No. 2014-09 (ASU 2014-09) "Revenue from Contracts with Customers." ASU 2014-09 supersedes the revenue recognition requirements in "Revenue Recognition (Topic 605)", and requires entities to recognize revenue when it transfers promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled to in exchange for those goods or services. As currently issued, the standard is effective beginning in the first quarter of fiscal year 2018. The Company is currently in the process of evaluating the impact of the adoption of ASU 2014-09 on the consolidated financial statements.

In January 2016, the FASB issued ASU No. 2016-01, Financial Instruments - Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities. The new guidance enhances the reporting model for financial instruments, which includes amendments to address aspects of recognition, measurement, presentation and disclosure. The update to the standard is effective for the Company in the first quarter of fiscal 2018, with early adoption permitted under limited circumstances. The Company is currently evaluating the effect the Standard will have on its consolidated financial statements.

In February 2016, the FASB issued ASU No. 2016-02, Leases. ASU 2016-02 requires that lease arrangements longer than 12 months result in an entity recognizing an asset and liability. The updated guidance is effective for interim and annual periods beginning after December 15, 2018, and early adoption is permitted. The Company is currently evaluating the effect the Standard will have on its consolidated financial statements.

## 2. Fair Value of Financial Instruments

The Company measures and reports its cash equivalents and investments at fair value. The carrying amounts for cash equivalents and investments approximate their fair values due. The following tables set forth the fair value of the Company's cash equivalents and investments by level within the fair value hierarchy (in thousands):

	As of March 31, 2017			
	Fair Value	Level I	Level II	Level III
<b>Assets:</b>				
Money market funds	\$ 2,440	\$ 2,440	\$ —	\$ —
Corporate debt securities and commercial paper	20,353	—	20,353	—
Total assets measured at fair value	\$ 22,793	\$ 2,440	\$ 20,353	\$ —
	As of December 31, 2016			
	Fair Value	Level I	Level II	Level III
<b>Assets:</b>				
Money market funds	\$ 2,669	\$ 2,669	\$ —	\$ —
Corporate debt securities and commercial paper	22,030	—	22,030	—
Total assets measured at fair value	\$ 24,699	\$ 2,669	\$ 22,030	\$ —

Investments are classified as “available-for-sale” and are carried at fair value based on quoted markets or other readily available market information. The Company's investment policy requires investments to have a less than twenty four month maturity term and a minimum credit rating of A-. Unrealized gains and losses, net of taxes, are included in accumulated other comprehensive income (loss). Gains and losses are determined using the specific identification method. Cash, cash equivalents, and investments consisted of the following as of March 31, 2017 (in thousands):

	As of March 31, 2017			
	Amortized Cost	Unrealized Gains	Unrealized Losses	Estimated Fair Value
<b>Assets:</b>				
Cash	\$ 5,191	\$ —	\$ —	\$ 5,191
Money market funds	2,440	—	—	2,440
Corporate debt securities and commercial paper	20,374	—	(21)	20,353
<b>Total cash, cash equivalents and investments</b>	<b>\$ 28,005</b>	<b>\$ —</b>	<b>\$ (21)</b>	<b>\$ 27,984</b>

As of December 31, 2016, the Company had \$32,000 of unrealized losses.

### 3. Property and Equipment

Property and equipment consist of the following (in thousands):

	As of	
	March 31, 2017	December 31, 2016
Lab equipment and machinery (1)	\$ 58,633	\$ 58,289
Leasehold improvements	6,248	6,246
Computer equipment and software	4,773	4,640
Furniture and fixtures	221	219
Construction in progress	423	590
Total property and equipment	70,298	69,984
Less accumulated depreciation	(60,491)	(59,020)
Property and equipment, net	\$ 9,807	\$ 10,964

- (1) Includes \$85,000 and \$90,000 (in net book value) of lab equipment and machinery acquired under capital leases, as of March 31, 2017 and December 31, 2016, respectively. See Note 5 for detailed lease information.

The following table presents depreciation expense included in the Condensed Consolidated Statement of Operations and includes amortization of leasehold improvements (in thousands):

	Three Months Ended March 31,	
	2017	2016
Depreciation expense	\$ 1,470	\$ 1,637

### 4. Intangible Assets

Intangible assets consist of the following (in thousands):

	As of	
	March 31, 2017	December 31, 2016
Patents issued	\$ 4,401	\$ 4,892
Patents pending	244	385
Trademarks	40	40
Total intangible assets	4,685	5,317
Less patent amortization	(1,344)	(1,316)
Intangible assets, net	\$ 3,341	\$ 4,001

The following table presents patent amortization expense included in the Condensed Consolidated Statement of Operations (in thousands):

	Three Months Ended March 31,	
	2017	2016
Amortization expense	\$ 85	\$ 148

## 5. Commitments and Contingencies

### Leases

The Company entered into an operating lease agreement in May 2010 for its San Jose headquarters that was subsequently modified in Nov 2013 & May 2015. The building lease expires in June 2025. Rent expense is being recognized on a straight-line basis over the lease term.

The following table presents rent expense included in the Condensed Consolidated Statement of Operations (in thousands):

	Three Months Ended March 31,	
	2017	2016
Rent expense	\$ 561	\$ 563

During the first quarter of 2017, the Company made payments of \$0.6 million related to this operating lease.

In December 2015, the Company signed a sublease to lease out a portion of office space. The term of the lease is for three years and annual gross rent is approximately \$0.3 million. The sublessee moved in during the second quarter of 2016. The Company received \$0.1 million in rent payment under the agreement in the first quarter of 2017.

### Capital Lease Obligations

During the third quarter of 2016, the Company leased a Camco Furnace under a three year lease agreement which was accounted for as a capital lease under ASC 840-30; the underlying asset is included in lab equipment and machinery. The current portion of the capital lease obligations of \$24,000 is included in accrued liabilities and the non-current portion of \$33,000 is included in other long-term liabilities in the accompanying Condensed Consolidated Balance Sheets as of March 31, 2017. The capital lease is discounted using an annual rate of 16.7%. The lease agreement requires annual payments of \$31,000, contains a cancellation option after 12 months and automatically transfers ownership of the property to the Company, the lessee, at the end of the lease term.

Depreciation expense of the Camco Furnace recorded under the capital lease obligations was \$5,000 for the three months ended March 31, 2017, and none for the three months ended March 31, 2016.

## 6. Stockholders' Equity

### Stock-Based Compensation

The fair value of the employee stock options granted during the period was estimated on the respective grant date using a Black-Scholes option-pricing model with the following weighted-average assumptions:

	Three Months Ended March 31,	
	2017	2016
Expected term (in years)	6.0	5.6
Risk-free interest rate	2.1%	1.3%
Expected volatility	55%	45%
Expected dividend rate	—%	—%

Stock-based compensation expense, net of estimated forfeitures, was included in the following line items on the Condensed Consolidated Statements of Operations (in thousands):

	<u>Three Months Ended March 31,</u>	
	<u>2017</u>	<u>2016</u>
Cost of revenue	\$ 65	\$ 206
Research and development	182	330
Sales and marketing	59	142
General and administrative	350	444
<b>Total stock-based compensation</b>	<b>\$ 656</b>	<b>\$ 1,122</b>

The following table presents stock-based compensation expense, net of estimated forfeitures, by grant type (in thousands):

	<u>Three Months Ended March 31,</u>	
	<u>2017</u>	<u>2016</u>
Stock options	\$ 581	\$ 860
Restricted stock awards and restricted stock units (RSUs)	75	262
<b>Total stock-based compensation</b>	<b>\$ 656</b>	<b>\$ 1,122</b>

The following table presents unrecognized compensation expense, net of estimated forfeitures, related to the Company's equity compensation plans as of March 31, 2017, which is expected to be recognized over the following weighted-average periods (in thousands, except for weighted-average period):

	<u>Unrecognized Compensation Expense</u>	<u>Weighted- Average Period (in years)</u>
Stock options	\$ 2,377	2.9
RSUs	\$ 423	2.8

The following table presents details on grants made by the Company for the following periods:

	<u>March 31, 2017</u>		<u>March 31, 2016</u>	
	<u>Shares Granted</u>	<u>Weighted- Average Grant Date Fair Value</u>	<u>Shares Granted</u>	<u>Weighted- Average Grant Date Fair Value</u>
Stock options	1,106,500	\$ 0.60	184,000	\$ 0.90
RSUs	300,000	\$ 0.96	—	\$ —

The total intrinsic value of stock options exercised during the three months ended March 31, 2017 and 2016 was \$0 million and \$0.2 million, respectively.

RSUs that vested during the three months ended March 31, 2017 and 2016 had fair values of \$0.1 million and \$0.5 million, respectively, as of the vesting date.

### Common Stock

As of March 31, 2017 and December 31, 2016, the Company had reserved shares of common stock for issuance as follows:

	<u>As of March 31, 2017</u>	<u>As of December 31, 2016</u>
Number of stock options outstanding	10,208,689	10,048,607
Number of RSUs outstanding	563,140	323,663
Shares available for future grant	6,933,263	5,163,386
<b>Total shares reserved</b>	<b>17,705,092</b>	<b>15,535,656</b>

## 7. Net Loss per Share

The following outstanding shares of common stock equivalents were excluded from the computation of diluted net loss per share for the periods presented because including them would have been antidilutive:

	Three Months Ended March 31,	
	2017	2016
Stock options to purchase common stock	10,208,689	10,935,662
RSUs	580,640	171,059

## 8. Income Taxes

The Company follows FASB ASC 740, Income Taxes, for the computation and presentation of its tax provision.

Income tax expense for the three months ended March 31, 2017 was \$800 or -0.0137%, on a pretax loss of \$5.8 million. The difference between the Company's effective tax rate and the federal statutory rate of 35% is primarily attributable to the differential in nondeductible stock-based compensation expense, other currently nondeductible items and movement in its valuation allowance. The Company maintained a valuation allowance as of March 31, 2017 against all of its deferred tax assets. The Company intends to maintain a full valuation allowance until sufficient positive evidence exists to support its reduction.

## 9. Related Party Transactions

In November 2006, the Company entered into an Alliance Agreement with a related party that was a beneficial owner of more than 5% of the Company's common stock at the time. During 2016, this related party sold all its holdings of the Company's stock and owned no Company's common stock as of December 31, 2016. Since November 2006, the agreement has been amended numerous times with the last amendment signed in December 2013. The other party and the Company each have an independent board member that serves on both companies' boards of directors.

As of March 31, 2017 and December 31, 2016, the Company had no accounts receivable and deferred revenue balance in either period with respect to its related party relationships. The following table presents related party revenue included in the Condensed Consolidated Statement of Operations (in thousands):

	Three Months Ended March 31,	
	2017	2016
Related party revenue	\$ 383	\$ 580
Related party cost of revenue	\$ 1	\$ 123

At the annual stockholders meeting in May 2016, a new member was elected to the board of directors of the Company. This independent board member is a managing partner of an investment firm which holds a significant ownership position of the Company. As of March 31, 2017, the investment firm was a beneficial owner of approximately 29.7% of the Company's common stock. The Company incurred a director fees expense of \$13,000 to the investment firm for the three months ended March 31, 2017.

## 10. Information about Geographic Areas

### Revenue

Revenue by geography is based on the billing address of the customer. The following table sets forth revenue by geographic area (in thousands):

	Three Months Ended March 31,	
	2017	2016
United States	\$ 4,572	\$ 8,489
Japan	—	313
Asia-Pacific ex Japan	5,373	5,685
Europe and Middle East	—	31
Total	\$ 9,945	\$ 14,518

## Long-Lived Assets

Substantially all of the Company's long-lived assets are located in the U.S. An insignificant amount of long-lived assets reside in the Company's foreign subsidiaries and branches in Hong Kong, Japan and Taiwan.

## 11. Restructuring Charges

In March, 2017, the Company initiated a reduction in force to reduce non-core activities and operating costs and to improve profitability. The reduction in force constituted approximately 18% of the Company's global workforce. As a result of the reduction in force, the Company recorded expenses related to employee severance and termination benefits of approximately \$1.3 million, which was recognized during the three months ended March 31, 2017. The restructuring charges are scheduled to be substantially paid before June 30, 2017. All such related expenses are recorded within "Restructuring charges" on the Condensed Consolidated Statements of Operations, and related accruals are included in accrued liabilities and accrued compensation and employee benefits on the Condensed Consolidated Balance Sheets. The following table presents severance and related expenses and payments (in thousands) as of March 31, 2017.

	<u>As of</u> <u>December 31, 2016</u>	<u>Charge</u>	<u>Cash Payments</u>	<u>As of</u> <u>March 31, 2017</u>
Severance and related expenses	\$ —	\$ 1,348	\$ (56)	\$ 1,292

During September 2016, Company initiated a reduction in force to improve its cost structure and align spending with continuing operations plans. The reduction constituted approximately 13% of the company's global workforce. As a result of reduction in force, the company recorded expenses related to employee severance and termination benefits of approximately \$1.1 million. All of the expenses related to September 2016 reduction in force has been paid out as of March 2017.

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

Our Management's Discussion and Analysis of Financial Condition and Results of Operations (MD&A) is provided in addition to the accompanying consolidated condensed financial statements and notes to assist readers in understanding our results of operations, financial condition and cash flows. Our MD&A is organized as follows:

- *Overview.* Discussion of our business and overall analysis of financial and other highlights affecting our company in order to provide context for the remainder of MD&A.
- *Strategy.* Our overall strategy.
- *Basis of Presentation.* A summary of the primary elements of our financial results.
- *Critical Accounting Estimates.* Accounting estimates that we believe are most important to understanding the assumptions and judgments incorporated in our reported financial results and forecasts.
- *Results of Operations.* An analysis of our financial results comparing the three months ended March 31, 2017 to the three months ended March 31, 2016.
- *Liquidity and Capital Resources.* An analysis of changes in our balance sheets and cash flows, and discussion of our financial condition and sources of liquidity.

The following discussion and analysis should be read in conjunction with our condensed consolidated financial statements and related notes included elsewhere in this Quarterly Report on Form 10-Q (Form 10-Q) and our audited consolidated financial statements and related notes included in our Annual Report on Form 10-K for our fiscal year ended December 31, 2016 (2016 Form 10-K), as filed with the Securities and Exchange Commission. This Form 10-Q contains forward-looking statements that involve risks and uncertainties, as well as assumptions that, if they never materialize or prove incorrect, could cause our results to differ materially from those expressed or implied by such forward-looking statements. The statements contained in this Form 10-Q that are not purely historical are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. Forward-looking statements are often identified by the use of words such as, but not limited to, "may," "will," "expect," "believe," "anticipate," "intend," "could," "should," "estimate," or "continue," and similar expressions or variations intended to identify forward-looking statements. These statements are based on the beliefs and assumptions of our management based on information currently available to management. Such forward-looking statements are subject to risks, uncertainties and other important factors that could cause actual results and the timing of certain events to differ materially from future results expressed or implied by such forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those identified below, and those discussed in the section titled "Risk Factors" in Part II, Item 1A of this Form 10-Q and in our 2016 Form 10-K. Furthermore, such forward-looking statements speak only as of the date of this Form 10-Q. Except as required by law, we undertake no obligation to update any forward-looking statements to reflect events or circumstances after the date of such statements.

### Overview

We are a partner for the innovation of advanced materials using high throughput experimentation. Advanced materials are critical to sustaining and advancing many industries, including the semiconductor, consumer electronics, aerospace and automotive industries. Using traditional experimental techniques, it can take many years to discover new advanced materials and many more years to deploy them in the marketplace. By leveraging our proprietary HPC platform and multi-disciplinary development team, we strive to enable our customers to more rapidly discover advanced materials and tailor them to suit their needs.

We were founded in 2004 and are headquartered in San Jose, California. Our total revenue decreased to \$9.9 million for the three months ended March 31, 2017 from \$10.5 million for the three months ended December 31, 2016. Our net loss increased to \$5.8 million for the three months ended March 31, 2017 from a net loss of \$3.0 million for the three months ended December 31, 2016. Since inception, we have incurred net losses leading to an accumulated deficit of \$174.2 million as of March 31, 2017.

## Strategy

We currently target large markets that rely on advanced materials for differentiation. Within these broad markets, we target customers that have track records of technological innovation, have significant materials-based research and development (R&D), and are pursuing technical advancements that are critical to their success and strategy. Generally, our approach is most relevant to industries that rely heavily upon advanced thin film materials such as those achieved using physical vapor deposition (PVD) and atomic layer deposition (ALD) processing tools; however, our approach is also relevant to discovering and understanding advanced materials more broadly, including advanced bulk materials such as metal alloys. Historically, we have partnered most extensively in the semiconductor industry and particularly in the area of semiconductor memory such as dynamic RAM (DRAM) and new non-volatile memory (NVM) technologies. Going forward, we currently plan to continue growing our footprint within semiconductors, while expanding our engagements in areas such as architectural glass, industrial coating and alloys.

## Basis of Presentation

### *How We Generate Revenue*

Our customer engagement process primarily generates revenue in two ways: program revenue; and licensing and royalty revenue. Programs are our primary engagement model with customers and are structured to result in program fees, and in some cases licensing and/or royalty revenue arrangements.

- *Program revenue.* Program revenue may include payments for research services, milestone payments, and subscription payments for dedicated and shared workflow tools used in the programs and reimbursed payments for consumables and outside services from third parties. Individual programs typically range from six months up to three years. We recognize program revenue in a manner consistent with activities performed. As we engage new customers and negotiate extensions for existing customer agreements that are nearing completion, we expect program revenue to continue to fluctuate.
- *Licensing and royalty revenue.* Licensing and royalty revenue consists of licensing fees and royalties for granting our customers rights to our proprietary technology and intellectual property (IP). Specifically, this includes licensing the HPC capabilities of our workflows, licensing our informatics and analysis software, and licensing fees and royalties on products commercialized by our customers that incorporate technology developed through our programs. In certain instances, minimum license fees and royalties may be guaranteed by customer contracts and are recognized as revenue ratably over the related periods. In addition, licensing and royalty revenue may include sale of intellectual property when title transfers if there are no remaining deliverables related to the intellectual property transfer. We anticipate our licensing and royalty revenue to continue to fluctuate based on the timing and amount of minimum license fees guaranteed by certain customer contracts and the timing of customer reported volume-based royalties.

### *Cost of Revenue*

Our cost of revenue is variable and depends on the product mix and type of revenue earned in each period relating to our customer programs.

- *Cost of program revenue.* Our cost of program revenue primarily consists of salaries and other personnel-related expenses, including stock-based compensation, for our research and development scientists, engineers and development fab process operations employees. Additionally, our cost of revenue includes costs of wafers, targets, materials, program-related supplies, third-party professional fees and depreciation of equipment used in programs. We include inventory obsolescence and customer related asset impairments in cost of program revenue.
- *Cost of licensing and royalty revenue.* Our cost of licensing and royalty revenue has, and we expect will continue to, primarily consist of the amortization of acquired patents, which were acquired as part of our Symyx asset purchase in November 2011, and licensing obligations.

### *Research and Development*

Our R&D expenses consist of costs incurred for development and continuous improvement of our HPC platform, expansion of software capabilities and application research and development that are not associated with customer programs. R&D costs include personnel-related expenses, including stock-based compensation expenses, for our technical staff as well as consultant costs, parts and prototypes, wafers, chemicals, supply costs, facilities costs, utilities costs related to laboratories and offices occupied by technical staff, depreciation on equipment used by technical staff, long-lived R&D assets impairment, and outside services, such as machining and third-party R&D costs. We recognize R&D overhead costs that are not allocated to a customer program as expenses within R&D.

### ***Sales and Marketing***

Our sales and marketing expenses consist primarily of personnel-related costs, including stock-based compensation, for our sales and marketing employees, as well as payments of commissions to our sales employees, facility costs and professional expenses. Professional expenses consist of external website and marketing communication consulting costs and market research.

### ***General and Administrative***

General and administrative expenses consist primarily of personnel-related costs, including stock-based compensation, as well as professional services and facilities costs related to our executive, finance, legal, human resources, management information systems and information technology functions. Professional services consist of outside accounting, information technology, consulting and legal costs. We also incur significant accounting and legal costs related to compliance with rules and regulations enacted by the Securities and Exchange Commission, including the costs of maintaining compliance with Section 404 of the Sarbanes-Oxley Act, as well as insurance, investor relations and other costs associated with being a public company .

### ***Interest income (expense), net***

Interest expense consists primarily of interest on a capital lease initiated in July 2016. Interest income represents interest earned on our cash, cash equivalents and investments. We expect interest income will vary each reporting period depending on our average investment balances during the period and market interest rates.

### ***Other Income, net***

Other income primarily consisted of sublease income that we receive from subleasing a portion of our office space under a sublease agreement entered into in December 2015. The term of the lease is for three years and annual gross rent is approximately \$0.3 million. The sublessee moved in and occupied the space during the second quarter of 2016. Other income (expense) also includes foreign exchange gains and losses that have not been significant.

### **Critical Accounting Estimates**

Our consolidated financial statements have been prepared in conformity with generally accepted accounting principles in the United States and include our accounts and the accounts of our wholly-owned subsidiaries. The preparation of our consolidated financial statements requires our management to make estimates, assumptions and judgments that affect the reported amounts of assets and liabilities and disclosures for contingent assets and liabilities as of the date of the financial statements, and the reported amounts of revenue and expenses during the applicable periods. Management bases its estimates, assumptions and judgments on historical experience and on various other factors that are believed to be reasonable under the circumstances. Different assumptions and judgments would change the estimates used in the preparation of our consolidated financial statements which, in turn, could change the results from those reported. Our management evaluates its estimates, assumptions and judgments on an ongoing basis.

There have been no material changes in the matters for which we make critical accounting estimates in the preparation of our condensed consolidated financial statements during the three months ended March 31, 2017 as compared to those disclosed in our 2016 Form 10-K. For further information on our critical and other significant accounting policies, see our 2016 Form 10-K.

### **Recent Accounting Pronouncements**

See Note 1 of the Notes to Condensed Consolidated Financial Statements included in this Form 10-Q for recent accounting pronouncements that could have an effect on us.

## Results of Operations

### Comparison of the Three Ended March 31, 2017 and 2016

	Three Months Ended March 31,		\$ Change	% Change
	2017	2016		
	(in thousands)			
<b>Revenue:</b>				
Program revenue	\$ 6,812	\$ 11,961	\$ (5,149)	-43%
Licensing and royalty revenue	3,133	2,557	576	23%
Total revenue	9,945	14,518	(4,573)	-31%
<b>Cost of revenue:</b>				
	2,987	4,796	(1,809)	-38%
Gross profit	6,958	9,722	(2,764)	-28%
<b>Operating expenses:</b>				
Research and development	7,108	6,904	204	3%
Sales and marketing	1,481	1,943	(462)	-24%
General and administrative	3,008	2,600	408	16%
Restructuring charges	1,348	—	1,348	
Total operating expenses	12,945	11,447	1,498	13%
Loss from operations	(5,987)	(1,725)	(4,262)	
<b>Other income (expense):</b>				
Interest income (expense), net	55	32	23	
Other income (expense), net	97	16	81	
Total other income (expense), net	152	48	104	
Loss before provision for income taxes	(5,835)	(1,677)	(4,158)	
Provision for income taxes	1	3	(2)	
Net loss	<u>\$ (5,836)</u>	<u>\$ (1,680)</u>	<u>\$ (4,156)</u>	

#### Revenue

Our revenue decreased by 31% during the three months ended March 31, 2017, as compared to the three months ended March 31, 2016, due to a 43% decline in program revenue, partially offset by a 23% increase in licensing and royalty revenue. The decrease in program revenue was driven by the scheduled completion and reduction of program agreements. The increase in licensing and royalty revenue was primarily due to the sale of certain patents to a customer for \$1.5 million.

We expect our revenue to fluctuate from period to period based on demand for, and our resources to fulfill, our services, project completion schedules and end-market sales.

The following table presents revenue by geographic region, based on invoiced locations, during the three months ended March 31, 2017 and 2016 in dollars (in thousands) and as a percentage of revenue for the periods presented:

	Three Months Ended March 31,			
	2017		2016	
	Revenues	% of Revenues	Revenues	% of Revenues
United States	\$ 4,572	46%	\$ 8,489	59%
Japan	—	0%	313	2%
APAC ex Japan	5,373	54%	5,685	39%
Europe and Middle East	—	0%	31	0%
Total	<u>\$ 9,945</u>	<u>100%</u>	<u>\$ 14,518</u>	<u>100%</u>

The decrease in revenue from the United States region in the three months ended March 31, 2017, compared to the same period ended March 31, 2016, is due to scheduled completion and reduction of program arrangements.

#### Cost of Revenue

Cost of revenue decreased by 38% during the three months ended March 31, 2017, as compared to the same periods ended March 31, 2016, due to decreases in labor and personnel-related expenses, depreciation, materials and other costs associated with

programs. Stock-based compensation, which was included in personnel-related expenses, decreased by \$0.1 million for the three months ended March 31, 2017, compared to the three months ended March 31, 2016.

#### *Gross Margin*

Our gross profit as a percentage of net revenues, or gross margin, has been and will continue to be affected by a variety of factors, including the mix of program revenue and licensing and royalty revenue recognized during the period. We achieve a higher gross margin on licensing and royalty revenue as compared to program revenue.

Gross margin was 70% during the three months ended March 31, 2017, compared to 67% for the three months ended March 31, 2016. The increase was primarily attributable to our increased mix of licensing and royalty revenue and decreased direct labor, materials and other costs associated with programs.

#### *Research and Development*

R&D expenses increased by 3% during the three months ended March 31, 2017, compared to the three months ended March 31, 2016. The changes were primarily attributable to a \$0.3 million increase in patent abandonment costs.

#### *Sales and Marketing*

Sales and marketing expenses decreased by 24% during the three months ended March 31, 2017, compared to the three months ended March 31, 2016. The decrease was attributable to lower personnel costs related to reduced headcount, wages and other related benefits.

#### *General and Administrative*

General and administrative expenses increased by 16% during the three months ended March 31, 2017, as compared to the three months ended March 31, 2016. The increase was primarily attributable to higher professional fees.

#### *Restructuring Charges*

Restructuring expenses were \$1.3 million during the three months ended March 31, 2017. In March 2017, we initiated a restructuring plan to reduce workforce by 18%, pursuant to which charges of \$1.3 million were incurred for severance and other personnel related costs. There was no restructuring activity during the three months ended March 31, 2016.

#### *Loss from Operations*

Our operating loss increased by \$4.3 million during the three months ended March 31, 2017, compared to the three months ended March 31, 2016, driven by a lower revenue and higher expenses. Total operating expenses increased by \$1.5 million during the three months ended March 31, 2017, mostly due to restructuring expense of \$1.3 million, compared to the three months ended March 31, 2016.

#### *Interest Income (Expense), net*

The increases in interest income during the three months ended March 31, 2017, compared to the three months ended March 31, 2016 was primarily related to income on our investments.

#### *Other Income (Expense), net*

Other Income, net, for the three months ended March 31, 2017 consisted principally of sublease income that we recorded from subleasing a portion of our office space under an agreement entered into in December 2015. The sublessee moved in and occupied the space during the second quarter of 2016.

#### *Provision for Income Taxes*

Provision for Income Taxes during the three months ended March 31, 2017 and 2016 consisted of income taxes on our US and foreign entities and were not significant during these periods.

### *Net Loss*

Our net loss increased by \$4.2 million during the three months ended March 31, 2017, compared to the three months ended March 31, 2016. The increase was primarily due to lower revenues & restructuring expenses of \$1.3 million during the three months ended March 31, 2017, compared to the three months ended March 31, 2016.

### **Liquidity and Capital Resources**

Prior to our initial public offering in November 2011, we substantially satisfied our capital and liquidity needs through private placements of redeemable convertible preferred stock and, to a lesser extent, cash flow from operations. As of March 31, 2017, we had \$28.0 million of cash, cash equivalents and investments and \$25.6 million of net working capital.

To date, we have incurred significant losses. During the three months ended March 31, 2017 and 2016, we incurred net losses of \$5.8 million and \$1.7 million, respectively. As of March 31, 2017, our accumulated deficit was \$174.2 million.

We believe that we have the financial resources needed to meet business requirements for the next 12 months. However, our forecast of the period of time through which our financial resources will be adequate to meet business requirements are forward-looking statements and involve risks and uncertainties. Our future capital requirements will depend on many factors, many of which are set forth in greater detail under the caption "Risk Factors," but generally include without limitation our rate of revenue growth, our expansion of our sales and marketing activities and overhead expenses, the timing and extent of our spending to support our R&D efforts and our ability to expand programs in the semiconductor industry, whether we are successful in obtaining payments from customers, the financial stability of our customers, whether we can enter into additional contracts in our target industries, the progress and scope of R&D projects performed by us and our customers, the effect of any acquisitions of other businesses or technologies that we may make in the future, the filing, prosecution and enforcement of patent claims, how much funding we may need to develop or enhance our solutions or HPC platform and any necessary responses to competitive pressures. To the extent that existing cash, cash equivalents, investments and cash from operations are insufficient to fund our operations, we may need to raise additional funds through public or private equity or debt financing. We may also seek to invest in or acquire complementary businesses, applications or technologies, any of which could also require us to seek additional equity or debt financing. Additional funds may not be available on terms favorable to us or at all. We maintain almost all of our cash and investments in the United States and therefore are not generally subject to restrictions or tax obligations as we access the cash.

### **Cash Flows**

The following summary of our cash flows for the periods indicated has been derived from our condensed consolidated financial statements included elsewhere in this filing (in thousands):

	<b>Three Months Ended March 31,</b>	
	<b>2017</b>	<b>2016</b>
Net cash used in operating activities	\$ (947)	\$ (2,509)
Net cash provided by investing activities	\$ 2,824	\$ 7,283
Net cash (used in) provided by financing activities	\$ (5)	\$ 693

### **Cash Flows from Operating Activities**

We experienced negative cash flows from operating activities during three months ended March 31, 2017 and March 31, 2016, primarily due to operating results.

Net cash \$0.9 million used in operating activities during the three months ended March 31, 2017 was primarily attributable to our net loss of \$5.8 million, partially offset by non-cash charges of \$2.0 million for depreciation, amortization, and accretion, \$0.7 million for stock-based compensation and increase in accrued liabilities of \$1.4 million due to accrual of restructuring cost. Net cash used in operating activities during the three months ended March 31, 2016 of \$2.5 million was attributable to our net loss of \$1.7 million, offset by non-cash charges of \$2.0 million for depreciation, amortization, and accretion and \$1.1 million for stock-based compensation. The net decrease in cash flow from operating assets and liabilities of \$3.9 million was primarily a result of \$1.4 million increase in accounts receivable and a \$2.9 million decrease in accrued and other liabilities.

We expect that cash flows from operating activities will fluctuate in future periods due to a number of factors, including our operating results, amounts of non-cash charges, the timing of our billings, collections and disbursements.

### ***Cash Flows from Investing Activities***

Our investing activities consist primarily of purchases and maturities of short-term investments, capital expenditures to purchase property and equipment and sale of intangible assets. In the future, we expect we will continue to make modest capital expenditures to support our operations, and to incur costs to protect our investment in our developed technology and IP.

During the three months ended March 31, 2017, cash provided by investing activities was \$2.8 million as a result of \$1.5 million received from sale of intangible assets and \$1.6 million received in the net redemption of our investments, partially offset by purchase of property, plant and equipment of \$0.3 million. During the three months ended March 31, 2016, cash provided by investing activities was \$7.3 million, a result of \$8.7 million in the net redemptions of short-term investments, offset by \$1.4 million in capital expenditures.

### ***Cash Flows from Financing Activities***

To date, we have financed our operations primarily with proceeds from the sale of our redeemable convertible preferred stock and proceeds received from our initial public offering.

During the three months ended March 31, 2017, cash used by financing activities was \$5,000 compared to cash provided of \$0.7 million for the three months ended March 31, 2016, primarily from proceeds of common stock option exercises.

### **Contractual Obligations and Commitments**

The following summarizes our contractual obligations as of March 31, 2017 (in thousands):

	Payments Due by Period				
	Total	Less Than One Year	1 - 3 Years	3 - 5 Years	More Than 5 Years
Operating lease obligations	\$ 21,823	\$ 2,208	\$ 5,216	\$ 5,264	\$ 9,135
Capital lease obligations	68	29	39	—	—
Purchase obligations	287	287	—	—	—
Total	<u>\$ 22,178</u>	<u>\$ 2,524</u>	<u>\$ 5,255</u>	<u>\$ 5,264</u>	<u>\$ 9,135</u>

Operating lease agreements represent our obligations to make payments under our non-cancelable lease agreement for our facility in San Jose, California. During the three months ended March 31, 2017, we made regular lease payments of \$0.6 million under this operating lease agreement. Capital lease agreements represent our obligations to make payments under the lease agreement for a Camco furnace which is scheduled to end in the second quarter of 2019. Purchase obligations consist of firm, non-cancelable agreements to purchase property and equipment and inventory items.

### **Off-Balance Sheet Arrangements**

As of March 31, 2017, we did not have any relationships with unconsolidated entities or financial partnerships, such as entities often referred to as structured finance or special purpose entities, which are established for the purpose of facilitating off-balance sheet arrangements or other contractually narrow or limited purposes.

### **ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK**

We are exposed to market risks in the ordinary course of our business. Market risk represents the risk of loss that may impact our financial position due to adverse changes in financial market prices and rates. Our market risk exposure is primarily a result of fluctuations in interest rates and foreign currency exchange rates. We do not hold or issue financial instruments for trading purposes.

#### **Interest Rate Sensitivity**

The primary objectives of our investment activities are to preserve principal, provide liquidity and maximize income without exposing us to significant risk of loss. The securities we invest in are subject to market risk and a change in prevailing interest rates may cause the principal amount of our investments to fluctuate. We maintain our portfolio of cash equivalents and investments in a variety of securities, including commercial paper, corporate debt securities and money market funds. As of March 31, 2017, our investments were primarily in commercial paper, corporate notes and bonds and money market funds. If overall interest rates fell 10% for the three months ended March 31, 2017, our interest income would have decreased by an immaterial amount, assuming consistent investment levels.

## **Foreign Currency Exchange Risk**

As we expand internationally, our consolidated results of operations and cash flows will become increasingly subject to fluctuations due to changes in foreign currency exchange rates. Our revenue is denominated in U.S. dollars. Our expenses are generally denominated in the currencies in which our operations are located, which is primarily in the United States, with an insignificant portion of expenses incurred in the local currencies of our wholly-owned subsidiaries in Hong Kong and Japan and our wholly-owned branch in Taiwan. The effect of a hypothetical 10% change in foreign currency exchange rates applicable to our business would not have a material impact on our consolidated financial statements. To date, we have not entered into any material foreign currency hedging contracts, although we may do so in the future.

## **ITEM 4. CONTROLS AND PROCEDURES**

### **Evaluation of Disclosure Controls and Procedures**

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of the design and operation of our disclosure controls and procedures, as such term is defined in Rule 13a-15(e) promulgated under the Securities Exchange Act of 1934, as amended, as of March 31, 2017.

The term "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), means controls and other procedures that are designed to ensure that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is (i) recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission's rules and forms and (ii) accumulated and communicated to our management, including the Chief Executive Officer and Chief Financial Officer, as the principal executive and financial officers, respectively, to allow timely decisions regarding required disclosures.

Based on this evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective as of the end of the period covered by this report.

### **Changes in internal control over financial reporting**

We made no changes to our internal control over financial reporting during the quarterly period ended March 31, 2017 that has materially affected, or that is reasonably likely to materially affect, our internal control over financial reporting.

### **Inherent Limitations on Effectiveness of Controls**

Our management, including our Chief Executive Officer and our Chief Financial Officer, does not expect that our disclosure controls and procedures or our internal control over financial reporting will prevent or detect all errors and all fraud. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of internal control will be met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of the controls must be considered relative to their costs. While our disclosure controls and procedures and internal control over financial reporting are designed to provide reasonable assurance of their effectiveness, 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, will be detected. These inherent limitations include the realities that judgments in decision making can be faulty and that breakdowns can occur because of simple errors or mistakes. Controls can also be circumvented by the individual acts of some persons, by collusion of two or more people or by management override of the controls. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and may not be detected. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

## **PART II — OTHER INFORMATION**

### **ITEM 1. LEGAL PROCEEDINGS**

From time to time, we may become involved in legal proceedings and claims arising in the ordinary course of our business, including but not limited to legal proceedings and claims brought by employees or former employees relating to working conditions or other issues. We are not currently a party to any legal proceedings the outcome of which, if determined adversely to us, we believe would individually or in the aggregate have a material adverse effect on our business, operating results, financial condition or cash flows.

**ITEM 1A. RISK FACTORS**

The risks described in Part I, Item 1A, "Risk Factors," in our Annual Report on Form 10-K for the year ended December 31, 2016, could materially and adversely affect our business, financial condition or future results. These risk factors are not the only risks facing our company. Risks and uncertainties not currently known to us or that we currently deem to be immaterial also may materially adversely affect our business, financial condition and operating results. The Risk Factors section of our 2016 Annual Report on Form 10-K remains current in all material respects.

**ITEM 6. EXHIBITS**

<b>Exhibit Number</b>	<b>Exhibit Description</b>	<b>Incorporated by Reference</b>			<b>Filed Herewith</b>
		<b>Form</b>	<b>Date</b>	<b>Number</b>	
10.1+	Amended and Restated Change in Control and Severance Agreement between Bill Roeschlein and Intermolecular, Inc.				X
10.2+	Bill Roeschlein updated offer letter				X
10.3+	Separation Agreement by and between Dr. Bruce M. McWilliams and Intermolecular, Inc.				X
10.4+	Separation Agreement by and between C. Richard Neely, Jr. and Intermolecular, Inc.				X
31.1	Certification of Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				X
31.2	Certification of Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				X
32.1	Certification of Chief Executive Officer pursuant to 18 U.S.C. §1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.				X
32.2	Certification of Chief Financial Officer pursuant to 18 U.S.C. §1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.				X
101.INS	XBRL Instance Document				X
101.SCH	XBRL Taxonomy Extension Schema Document				X
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document				X
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document				X
101.LAB	XBRL Taxonomy Extension Label Linkbase Document				X
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document				X

+ Indicates a management contract or compensatory plan.

**SIGNA TURES**

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

Date: May 4, 2017

INTERMOLECULAR, INC.  
(Registrant)

By: /s/ Bill Roeschlein

Bill Roeschlein

Chief Financial Officer

## INTERMOLECULAR, INC.

## AMENDED AND RESTATED CHANGE IN CONTROL AND SEVERANCE AGREEMENT

This Amended and Restated Change in Control and Severance Agreement (the “Agreement”) is made and entered into by and between Bill Roeschlein (“Executive”) and Intermolecular, Inc. (the “Company”), effective as of April 3, 2017 (the “Effective Date”).

RECITALS

A. The Executive and the Company are parties to a Change in Control and Severance Agreement effective as of the date of the closing of the Company’s initial public offering of shares of its common stock (the “Prior Agreement”) and desire to amend and restate the Prior Agreement in its entirety and to accept the rights and covenants under this Agreement in lieu of their rights and covenants under the Prior Agreement.

B. It is expected that the Company from time to time will consider the possibility of an acquisition by another company or other change in control. The Compensation Committee (the “Compensation Committee”) of the Board of Directors of the Company (the “Board”) recognizes that the possibility of an involuntary termination (either outside of or in connection with such an acquisition or other change in control) can be a distraction to Executive and can cause Executive to consider alternative employment opportunities.

C. The Compensation Committee believes that it is in the best interests of the Company and its stockholders to (1) assure that the Company will have the continued dedication and objectivity of Executive, notwithstanding the possibility, threat or occurrence of such an event and (2) provide Executive with an incentive to continue Executive’s employment with the Company and to motivate Executive to maximize the value of the Company upon a Change in Control (as defined below) for the benefit of its stockholders.

D. The Compensation Committee also believes that it is in the best interests of the Company and its stockholders to provide Executive with severance benefits upon certain terminations of Executive’s service to the Company that enhance Executive’s financial security and provide incentive and encouragement to Executive to remain with the Company notwithstanding the possibility of such an event.

E. Certain capitalized terms used in this Agreement are defined in Section 7 below.

The parties hereto agree as follows:

1. Term of Agreement. This Agreement shall become effective as of the Effective Date and shall terminate upon the date that all obligations of the parties hereto with respect to this Agreement have been satisfied.

2. At-Will Employment. The Company and Executive acknowledge that Executive's employment is and shall continue to be "at-will," as defined under applicable law. If Executive's employment terminates for any reason, Executive shall not be entitled to any payments, benefits, damages, awards or compensation other than as provided by this Agreement.

3. Termination without Cause or for Good Reason Outside of a Change in Control Period. If, on or after the first anniversary of Executive's commencement of employment with the Company, (i) Executive's employment with the Company is terminated after the Effective Date by the Company other than for Cause or by Executive for Good Reason and (ii) the date of Executive's termination of employment (the "Termination Date") occurs outside of a Change in Control Period, then, subject to Executive executing a general release of all claims against the Company and its affiliates in a form acceptable to the Company (a "Release of Claims") and such Release of Claims becoming effective and irrevocable within sixty (60) days following the Termination Date, then in addition to any accrued but unpaid salary, bonus, vacation and expense reimbursement payable in cash in accordance with applicable law ("Accrued Obligations"), the Company shall provide Executive with the following:

(a) Severance. Executive shall be entitled to receive an amount equal to six (6) months of Executive's base salary at the rate in effect immediately prior to Executive's termination of employment, which shall be paid in a cash lump sum on the payroll date that immediately follows the date the Release of Claims is first effective and irrevocable.

(b) Continued Healthcare. If Executive elects to receive continued healthcare coverage pursuant to the provisions of the Consolidated Omnibus Budget Reconciliation Act of 1985, as amended ("COBRA"), the Company shall directly pay, or reimburse Executive for (on an after-tax basis), the applicable COBRA premiums for Executive and Executive's covered dependents during the period commencing on the Termination Date and ending on the earlier to occur of (i) the six (6)-month anniversary of the Termination Date and (ii) the date on which Executive and Executive's covered dependents, if any, become eligible for healthcare coverage under another employer's group health plan(s) (of which eligibility Executive hereby agrees to give prompt notice to the Company). After the Company ceases to pay or reimburse COBRA premiums pursuant to the preceding sentence, Executive may, if eligible, elect to continue healthcare coverage at Executive's expense in accordance with the provisions of COBRA.

4. Certain Terminations During a Change in Control Period. If, on or after the first anniversary of Executive's commencement of employment with the Company, (i) Executive's employment with the Company is terminated by the Company for other than Cause or by Executive for Good Reason and (ii) the Termination Date occurs during a Change in Control Period, then, subject to Executive executing a Release of Claims and such Release of Claims becoming effective and irrevocable within sixty (60) days following the Termination Date, in addition to the Accrued Obligations, the Company shall provide Executive with the following:

(a) Severance. Executive shall be entitled to receive an amount equal to the sum of (i) Executive's annual base salary at the rate in effect immediately prior to Executive's termination of employment and (ii) Executive's target annual bonus for the year in which the

Termination Date occurs, which shall be paid in a cash lump sum on the payroll date that immediately follows the date the Release of Claims is first effective and irrevocable.

(b) Continued Healthcare. If Executive elects to receive continued healthcare coverage pursuant to the provisions of COBRA, the Company shall directly pay, or reimburse Executive for (on an after-tax basis), the applicable COBRA premiums for Executive and Executive's covered dependents during the period commencing on the Termination Date and ending on the earlier to occur of (i) the twelve (12)-month anniversary of the Termination Date and (ii) the date on which Executive and Executive's covered dependents, if any, become eligible for healthcare coverage under another employer's group health plan(s) (of which eligibility Executive hereby agrees to give prompt notice to the Company). After the Company ceases to pay or reimburse COBRA premiums pursuant to the preceding sentence, Executive may, if eligible, elect to continue healthcare coverage at Executive's expense in accordance with the provisions of COBRA.

(c) Equity Awards. Each outstanding equity award, including, without limitation, each stock option and restricted stock award, then-held by Executive shall automatically become vested and, if applicable, exercisable and any forfeiture restrictions or rights of repurchase thereon shall immediately lapse, in each case, with respect to all of the shares of Company common stock subject to such equity award.

5. Other Termination. If Executive's employment with the Company is terminated after the Effective Date by the Company for Cause or by Executive other than for Good Reason at any time (outside of or within a Change in Control Period) or if Executive fails to execute a Release of Claims or if such Release of Claims fails to become effective and irrevocable within sixty (60) days following the Termination Date, then Executive shall be entitled to receive the Accrued Obligations and to elect any continued healthcare coverage as may be required under COBRA or similar state law.

#### 6. Limitation on Payments.

(a) Parachute Payments. Any provision of this Agreement to the contrary notwithstanding, if any payment or benefit received or to be received by Executive from the Company pursuant to this Agreement or otherwise (all such payments and benefits, the "Payments") would be subject (in whole or in part) to the excise tax imposed by Section 4999 of the Internal Revenue Code of 1986, as amended (the "Code" and such excise tax, the "Excise Tax"), then, after taking into account any reduction in the Payments provided by reason of Section 280G of the Code in another plan, arrangement or agreement, the Payments will be equal to the Reduced Amount (as defined below). The "Reduced Amount" will be the largest portion of the Payments that would result in no portion of the Payments (after reduction) being subject to the Excise Tax but only if (i) the Reduced Amount, after taking into account all applicable federal, state and local employment taxes and income taxes (all computed at the highest applicable marginal rate, net of the maximum reduction in federal income taxes which could be obtained from a deduction of such state and local taxes) on the Reduced Amount (and after taking into account the phase out itemized deductions and personal exemptions attributable to such Payments) is greater than or equal to (ii) the net amount of the Payments without reduction (but after taking into account all applicable federal, state and local

employment taxes, income taxes and the Excise Tax (all computed at the highest applicable marginal rate, net of the maximum reduction in federal income taxes which could be obtained from a deduction of such state and local taxes), and after taking into account the phase out itemized deductions and personal exemptions attributable to such Payments. If a reduction in the Payments is to be made so that the Payments equals the Reduced Amount, Executive will have no rights to any additional payments and/or benefits constituting the Payments, and the reduction in payments and/or benefits will occur in the following order: (1) reduction of cash payments; (2) cancellation of accelerated vesting of equity awards other than stock options; (3) cancellation of accelerated vesting of stock options; and (4) reduction of other benefits paid to Executive, in each case beginning with payments that would be made last in time.

(b) Accounting Firm. The accounting firm engaged by the Company for general tax purposes as of the day prior to the Change in Control will perform the calculations set forth in Section 6(a). If the firm so engaged by the Company is serving as accountant or auditor for the acquiring company, the Company will appoint a nationally recognized accounting firm to make the determinations required hereunder. The Company will bear all expenses with respect to the determinations by such firm required to be made hereunder. The accounting firm engaged to make the determinations hereunder will provide its calculations, together with detailed supporting documentation, to the Company within fifteen (15) days before the consummation of a Change in Control (if requested at that time by the Company) or such other time as requested by the Company. If the accounting firm determines that no Excise Tax is payable with respect to a Payment, either before or after the application of the Reduced Amount, it will furnish the Company with documentation reasonably acceptable to the Company that no Excise Tax will be imposed with respect to such Payment. Any good faith determinations of the accounting firm made hereunder will be final, binding and conclusive upon the Company and Executive.

7. Definition of Terms. The following terms referred to in this Agreement shall have the following meanings:

(a) Cause. “Cause” shall mean (i) theft, dishonesty or falsification of any employment or Company records; (ii) malicious or reckless disclosure of the Company’s confidential or proprietary information; (iii) commission of any immoral or illegal act or any gross or willful misconduct, where the Board reasonably determines that such act or misconduct has (A) seriously undermined the ability of the Company’s Board or management to entrust Executive with important matters or otherwise work effectively with Executive, (B) contributed to the Company’s loss of significant revenues or business opportunities, or (C) significantly and detrimentally effected the business or reputation of the Company or any of its subsidiaries; and/or (iv) the failure or refusal by Executive to follow the reasonable and lawful directives of the Board, provided such failure or refusal continues after Executive’s receipt of reasonable notice in writing of such failure or refusal and an opportunity to correct the problem. Notwithstanding the foregoing, “Cause” shall not exist where any of the foregoing are due to Executive’s physical or mental disability.

(b) Change in Control. “Change in Control” shall have the meaning set forth in Section 2.8 of the Company’s 2011 Incentive Award Plan, *provided*, that in no event shall a Change

in Control be deemed to have occurred unless such Change in Control constitutes a “change in control event” as defined in Treasury Regulation Section 1.409A-3(i)(5).

(c) Change in Control Period. “ Change in Control Period ” means that period of time commencing on the date that is one (1) month prior to the date of the consummation of a Change in Control and ending on the first (1<sup>st</sup>) anniversary of such Change in Control.

(d) Good Reason. “ Good Reason ” means Executive’s voluntary resignation following the occurrence of any of the following without Executive’s consent (i) the delegation to Executive of any duties or the reduction of Executive’s duties, either of which materially reduces the nature, responsibility, or character of Executive’s position, when taken as a whole, to a level below that generally associated with a similar position in a company of a similar size, in the same industry and with the same general characteristics as the Company at the time; (ii) a material reduction of Executive’s salary (other than in connection with a similar reduction in the salaries of all executive level employees) from that immediately prior to such reduction; (iii) a relocation of Executive’s principal office to a place that increases Executive’s one-way commute by more than thirty-five (35) miles as compared to Executive’s one-way commute as of immediately prior to such relocation; or (iv) the material breach by the Company of this Agreement. Notwithstanding the foregoing, in no event shall Executive have Good Reason to terminate Executive’s employment unless Executive provides to the Company written notice of the condition giving rise to Good Reason within sixty (60) days after the initial occurrence of such condition, such condition continues beyond thirty (30) days after the Company receives such notice (the “ Cure Period ”) and Executive’s resignation for Good Reason is effective within thirty (30) days after the end of the Cure Period.

#### 8. Successors.

(a) Company’s Successors. Any successor to the Company (whether direct or indirect and whether by purchase, merger, consolidation, liquidation or otherwise) to all or substantially all of the Company’s business and/or assets shall assume the obligations under this Agreement and agree expressly to perform the obligations under this Agreement in the same manner and to the same extent as the Company would be required to perform such obligations in the absence of a succession. For all purposes under this Agreement, the term “Company” shall include any successor to the Company’s business and/or assets.

(b) Executive’s Successors. This Agreement is personal to Executive and without the prior written consent of the Company shall not be assignable by Executive otherwise than by will or the laws of descent and distribution. The terms of this Agreement and all rights of Executive hereunder shall inure to the benefit of, and be enforceable by, Executive’s personal or legal representatives, executors, administrators, successors, heirs, distributees, devisees and legatees.

9. Notices. Any notice to be given under the terms of this Agreement shall be addressed to the Company in care of the Secretary of the Company at the Company’s principal office, and any notice to be given to Executive shall be addressed to Executive at Executive’s last address reflected on the Company’s records. Any notice shall be deemed duly given when sent via email or when sent

by reputable overnight courier or by certified mail (return receipt requested) through the United States Postal Service.

10. Restrictive Covenants.

(a) Proprietary Information Agreement. Executive shall remain bound by Executive's obligations under the Company's standard Employee Confidentiality and Inventions Assignment Agreement (the "Proprietary Information Agreement").

(b) Proprietary Information. Without limiting the Proprietary Information Agreement, except as Executive reasonably and in good faith determines to be required in the faithful performance of Executive's duties to the Company, Executive shall at all times before and after Executive's termination of employment maintain in confidence and shall not directly or indirectly, use, disseminate, disclose or publish, for Executive's benefit or the benefit of any other person or entity, any confidential or proprietary information or trade secrets of or relating to the Company, including, without limitation, information with respect to the Company's operations, processes, protocols, products, inventions, business practices, finances, principals, vendors, suppliers, customers, potential customers, marketing methods, costs, prices, contractual relationships, regulatory status, compensation paid to employees or other terms of employment ("Proprietary Information"), or deliver to any person or entity, any document, record, notebook, computer program or similar repository of or containing any such Proprietary Information. Executive's obligation to maintain and not use, disseminate, disclose or publish, or use for Executive's benefit or the benefit of any other person or entity, any Proprietary Information after the date Executive terminates employment will continue so long as such Proprietary Information is not, or has not by legitimate means become, generally known and in the public domain (other than by means of Executive's direct or indirect disclosure of such Proprietary Information) and continues to be maintained as Proprietary Information by the Company. The parties hereby stipulate and agree that as between them, the Proprietary Information identified herein is important, material and affects the successful conduct of the businesses of the Company (and any successor or assignee of the Company).

(c) Nonsolicitation. Without limiting the Proprietary Information Agreement, Executive hereby agrees that Executive shall not while employed or otherwise providing services to the Company and with respect to subsection (ii) below, within the one (1) year period immediately following the termination of Executive's employment with or other service to the Company, directly or indirectly, either for Executive or on behalf of any other person or entity, (i) recruit or otherwise solicit or induce any employee, customer or supplier of the Company to terminate its employment or arrangement with the Company, or otherwise change its relationship with the Company, or (ii) hire, or cause to be hired, any person who was employed by the Company at any time during the twelve (12)-month period immediately prior to the date Executive terminates employment with or other service to the Company, or who thereafter becomes employed by the Company.

(d) Return of Materials. Upon termination of Executive's employment with the Company for any reason, Executive will promptly deliver to the Company (i) all correspondence, drawings, manuals, letters, notes, notebooks, reports, programs, plans, proposals, financial

documents, or any other documents that are Proprietary Information, including all physical and digital copies thereof, and (ii) all other Company property (including, without limitation, any personal computer or wireless device and related accessories, keys, credit cards and other similar items) which is in Executive's possession, custody or control.

(e) Exception to Restrictive Covenants. Notwithstanding anything in this Section 10 to the contrary, Executive may respond to a lawful and valid subpoena or other legal process but shall give the Company the earliest possible notice thereof, and shall, as much in advance of the return date as possible, make available to the Company and its counsel the documents and other information sought, and shall assist such counsel in resisting or otherwise responding to such process.

(f) Nondisparagement. Executive agrees not to disparage the Company, any of its products or practices, or any of its directors, officers, agents, representatives, partners, members, equity holders or affiliates, either orally or in writing, at any time, *provided*, that Executive may confer in confidence with Executive's legal representatives and make truthful statements as required by law.

(g) Subsequent Employment. Prior to accepting other employment or any other service relationship prior to the first (1<sup>st</sup>) anniversary of Executive's termination of employment, Executive shall provide a copy of this Section 10 to any recruiter who assists Executive in obtaining other employment or any other service relationship and to any employer or other person or entity with which Executive discusses potential employment or any other service relationship.

(h) Enforceability. In the event the terms of this Section 10 shall be determined by any court of competent jurisdiction to be unenforceable by reason of its extending for too great a period of time or over too great a geographical area or by reason of its being too extensive in any other respect, it will be interpreted to extend only over the maximum period of time for which it may be enforceable, over the maximum geographical area as to which it may be enforceable, or to the maximum extent in all other respects as to which it may be enforceable, all as determined by such court in such action. Any breach or violation by Executive of the provisions of this Section 10 shall toll the running of any time periods set forth in this Section 10 for the duration of any such breach or violation.

(i) Affiliates. As used in this Section 10, the term "Company" shall include the Company and any parent, affiliated, related and/or direct or indirect subsidiary entity thereof.

11. Dispute Resolution. To ensure the timely and economical resolution of disputes that arise in connection with this Agreement, Executive and the Company agree that any and all controversies, claims and disputes arising out of or relating to this Agreement, including without limitation any alleged violation of its terms, shall be resolved by final and binding arbitration before a single neutral arbitrator in Santa Clara County, California, in accordance with the Employment Dispute Resolution Rules of the American Arbitration Association ("AAA"). The arbitration shall be commenced by filing a demand for arbitration with the AAA within fourteen (14) days after the filing party has given notice of such breach to the other party. The arbitrator shall award the prevailing party attorneys' fees and expert fees, if any. Notwithstanding the foregoing, it is

acknowledged that it will be impossible to measure in money the damages that would be suffered if the parties fail to comply with any of the obligations imposed on them under Section 10 hereof, and that in the event of any such failure, an aggrieved person will be irreparably damaged and will not have an adequate remedy at law. Any such person shall, therefore, be entitled to injunctive relief, including specific performance, to enforce such obligations, and if any action shall be brought in equity to enforce any of the provisions of Section 10 of this Agreement, none of the parties hereto shall raise the defense that there is an adequate remedy at law.

## 12. Miscellaneous Provisions.

### (a) Section 409A.

(i) General. To the extent applicable, this Agreement shall be interpreted and applied consistent and in accordance with Section 409A of the Internal Revenue Code of 1986, as amended (the “Code”), and Department of Treasury regulations and other interpretive guidance issued thereunder. If, however, the Company determines that any compensation or benefits payable under this Agreement may be or become subject to Section 409A of the Code, the Company may in its sole discretion adopt such amendments to this Agreement or to adopt other policies and procedures (including amendments, policies and procedures with retroactive effect), or take such other actions, as the Company determines necessary or appropriate to (i) exempt the compensation and benefits payable under this Agreement from Section 409A of the Code and/or preserve the intended tax treatment of such compensation and benefits, or (ii) comply with the requirements of Section 409A of the Code ; *provided, however* , that this Section 12(a)(i) shall not create any obligation on the part of the Company to adopt any such amendment, policy or procedure or take any such other action.

(ii) Separation from Service. Notwithstanding any provision to the contrary in this Agreement, no amount deemed deferred compensation subject to Section 409A of the Code shall be payable pursuant to Sections 3 or 4 of this Agreement unless Executive’s termination of employment constitutes a “separation from service” with the Company within the meaning of Section 409A of the Code and the Department of Treasury regulations and other guidance promulgated thereunder (a “Separation from Service”) and, except as provided under Section 12(a)(iii) of this Agreement, any such amount shall be paid, or in the case of installments, payments shall commence, on the sixtieth (60<sup>th</sup>) day following Executive’s Separation from Service.

(iii) Specified Employee. Notwithstanding any provision to the contrary in this Agreement, if Executive is deemed at the time of Executive’s Separation from Service to be a “specified employee” for purposes of Section 409A(a)(2)(B)(i) of the Code, to the extent delayed commencement of any portion of the benefits to which Executive is entitled under this Agreement is required in order to avoid a prohibited distribution under Section 409A(a)(2)(B)(i) of the Code, such portion of Executive’s benefits shall not be provided to Executive until the earlier of (a) the expiration of the six (6)-month period measured from the date of Executive’s Separation from Service or (b) the date of Executive’s death. Upon the first business day following the expiration of the applicable Code Section 409A(a)(2)(B)(i) period, all payments deferred pursuant to this Section 12(a)(iii) shall be paid in a lump sum to Executive, and any remaining payments due under this Agreement shall be paid as otherwise provided herein.

(iv) Expense Reimbursements. To the extent that any reimbursements payable pursuant to this Agreement are subject to the provisions of Section 409A of the Code, any such reimbursements payable to Executive pursuant to this Agreement shall be paid to Executive no later than December 31 of the year following the year in which the expense was incurred, the amount of expenses reimbursed in one year shall not affect the amount eligible for reimbursement in any subsequent year, and Executive's right to reimbursement under this Agreement will not be subject to liquidation or exchange for another benefit.

(v) Installments. Any right to a series of installment payments pursuant to this Agreement is to be treated as a right to a series of separate payments. To the extent permitted under Section 409A of the Code, any separate payment or benefit under this Agreement or otherwise shall not be deemed "nonqualified deferred compensation" subject to Section 409A of the Code and Sections 3 or 4 of this Agreement to the extent provided in the exceptions in Treasury Regulation Section 1.409A-1(b)(4), Section 1.409A-1(b)(9) or any other applicable exception or provision of Section 409A of the Code.

(b) Waiver. No provision of this Agreement shall be modified, waived or discharged unless the modification, waiver or discharge is agreed to in writing and signed by Executive and by an authorized officer of the Company (other than Executive). No waiver by either party of any breach of, or of compliance with, any condition or provision of this Agreement by the other party shall be considered a waiver of any other condition or provision or of the same condition or provision at another time.

(c) Whole Agreement. This Agreement and the Proprietary Information Agreement represent the entire understanding of the parties hereto with respect to the subject matter hereof and supersede all prior arrangements and understandings regarding same including, without limitation, any severance provisions of any offer letter agreement or employment agreement between Executive and the Company.

(d) Choice of Law. The validity, interpretation, construction and performance of this Agreement shall be governed by the laws of the State of California.

(e) Severability. The invalidity or unenforceability of any provision or provisions of this Agreement shall not affect the validity or enforceability of any other provision hereof, which shall remain in full force and effect.

(f) Counterparts. This Agreement may be executed in counterparts, each of which shall be deemed an original, but all of which together will constitute one and the same instrument.

*( Signature page follows )*

IN WITNESS WHEREOF, each of the parties has executed this Agreement, in the case of the Company by its duly authorized officer, as of the day and year set forth below.

**INTERMOLECULAR, INC.**

By: /s/ Christian F. Kramer

Title: Chief Executive Officer

Date: 3/29/17

**EXECUTIVE**

/s/ Bill Roeschlein

Bill Roeschlein

Date: 3/29/17



March 29, 2017

Bill Roeschlein  
Intermolecular, Inc.  
3011 N. First Street  
San Jose, CA 95134

Dear Bill:

On behalf of Intermolecular, Inc. (the "Company"), I set forth the certain terms of your updated employment with the Company:

1. Effective April 3, 2017, you will serve on a full-time basis as the Company's Chief Financial Officer and principal financial and accounting officer ("CFO"). As CFO, you will be responsible for performing those duties customary of someone in such position plus such other duties as may from time to time be assigned to you by the Company's Board of Directors or its authorized committee (the "Board"). Except as discussed below, you agree to devote your full business time, best efforts, skill, knowledge, attention and energies to the advancement of the Company's business and interests and to the performance of your duties and responsibilities as an employee of the Company. You agree to abide by the rules, regulations, instructions, personnel practices and policies of the Company and any changes therein that may be adopted from time to time by the Company.

2. Your base salary will be at the rate of \$270,000 per year, less all applicable taxes and withholdings. Such base salary may be adjusted from time to time in accordance with normal business practices and in the sole discretion of the Board of Directors.

3. Following the end of each calendar year, you may be eligible for a retention and performance bonus of up to \$135,000.00, less applicable taxes and withholdings. Any such annual bonus will be based on the Company's performance and your performance (as measured against management objectives to be established by the Board each year) during the applicable year, as determined by the Board in its sole discretion. In any event, you must be an active employee of the Company on the date any annual bonus is distributed in order to be eligible for and to earn any bonus award, as it also serves as an incentive to remain employed by the Company. Any bonus would be pro-rated for the initial year in which you are employed by the Company in this role.

4. You may continue to participate in any and all benefit programs that the Company establishes and makes available to its employees from time to time, provided you are eligible under (and subject to all provisions of) the plan documents governing those programs. Benefits are subject to change (including termination) at any time in the Company's sole discretion.

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5. You and the Company have agreed to enter into the Amended and Restated Change in Control and Severance Agreement, attached hereto as Exhibit A, and shall also enter into the Company's form indemnity agreement.

6. This letter supersedes all prior understandings, whether written or oral, relating to the terms of your employment as CFO.

If you agree with the terms set forth in this letter, please sign this letter in the space provided below and return it to Rick Neely along with signed copies of the indemnity agreement and the Amended and Restated Change in Control and Severance Agreement.

Very Truly Yours,

By: /s/ Christian F. Kramer  
Name: Christian F. Kramer  
Title: Chief Executive Officer

The foregoing correctly sets forth the terms of my at-will employment with Intermolecular, Inc. I am not relying on any representations other than those set forth above.

/s/ Bill Roeschlein  
Bill Roeschlein

Date: 3/29/17

**SEPARATION AGREEMENT**

This Separation Agreement (the “Agreement”) by and between Dr. Bruce M. McWilliams (“Executive”) and Intermolecular, Inc., a Delaware corporation (the “Company”), is made effective as of the eighth (8<sup>th</sup>) day following the date Executive signs this Agreement (the “Effective Date”) with reference to the following facts:

A. Executive’s employment with the Company and status as an officer and employee of the Company and each of its affiliates will end effective upon the Termination Date (as defined below).

B. Executive and the Company want to end their relationship amicably and also to establish the obligations of the parties including, without limitation, all amounts due and owing to Executive.

NOW, THEREFORE, in consideration of the mutual covenants and agreements hereinafter set forth, the parties agree as follows:

1. Termination Date. Executive acknowledges and agrees that his status as an officer and employee of the Company will end effective as of April 3, 2017 (the “Termination Date”). Executive hereby agrees to execute such further document(s) as shall be determined by the Company as necessary or desirable to give effect to the termination of Executive’s status as an officer of the Company and each of its subsidiaries; *provided* that such documents shall not be inconsistent with any of the terms of this Agreement.

2. Board of Directors. Executive shall continue to serve as a member of the Company’s board of directors (the “Board”) following the Termination Date and shall also serve as the Non-Executive Chairman of the Board effective as of the Termination Date. From and after the Termination Date, in consideration for Executive continuing to serve as a member of the Board, Executive’s outstanding equity awards shall continue to vest and be outstanding in accordance with their original terms and conditions based on Executive’s continued service to the Company. Upon the date Executive ceases to serve as a member of the Board, Executive’s outstanding equity awards shall cease vesting and any unvested shares as of such date shall automatically terminate. Executive acknowledges that each unexercised “incentive stock option” within the meaning of the Internal Revenue Code of 1986, as amended (the “Code”) that remains unexercised following the three (3)-month anniversary of the Termination Date shall no longer qualify for favorable tax treatment as an incentive stock option.

3. Final Paycheck; Payment of Accrued Wages and Expenses.

(a) *Final Paycheck*. As soon as administratively practicable on or after the Termination Date, the Company will pay Executive all accrued but unpaid base salary and all accrued and unused vacation earned through the Termination Date, subject to standard payroll deductions and withholdings. Executive is entitled to these payments regardless of whether Executive executes this Agreement.

(b) *Business Expenses*. The Company shall reimburse Executive for all outstanding expenses incurred prior to the Termination Date which are consistent with the Company’s policies in effect from time to time with respect to travel, entertainment and

other business expenses, subject to the Company's requirements with respect to reporting and documenting such expenses. Executive is entitled to these reimbursements regardless of whether Executive executes this Agreement.

(c) *Change in Control*. In the event a Change in Control (as defined in that certain employment agreement by and between you and the Company effective as of October 12, 2014 (the "Employment Agreement")) occurs within one (1) month following the Termination Date, then Executive shall be eligible for the separation payments and benefits in Section 4(f) of the Employment Agreement, which shall be reduced by any separation payments and benefits already paid in Section 4 below.

(d) *Subsequent Employment*. While Executive serves as a member of the Board, Executive hereby acknowledges and agrees to notify the Company in writing if he accepts employment with any Competitor to the Company. "Competitor" to the Company shall mean any business engaged in any business activity which is directly or indirectly in competition with the business of the Company or which is directly or indirectly detrimental to the business or business plans of the Company or its affiliates in any market where the Company has primary or secondary service areas.

4. Separation Payments and Benefits. Without admission of any liability, fact or claim, the Company hereby agrees, subject to the execution of this Agreement and Executive's performance of his continuing obligations pursuant to this Agreement and that certain Employee Confidentiality and Inventions Assignment Agreement entered into between Executive and the Company on or about March 27, 2017 (the "Confidentiality Agreement"), to provide Executive the severance benefits set forth below, in full satisfaction of any amounts owed under the Employment Agreement. Specifically, the Company and Executive agree as follows:

(a) *Severance*. Pursuant to the Employment Agreement, Executive shall be entitled to receive an amount equal to three (3) months of base salary (the aggregate amount, \$150,000), payable in a cash lump sum on the payroll date that immediately follows the Effective Date.

(b) *Healthcare Continuation Coverage*. If Executive elects to receive continued healthcare coverage pursuant to the provisions of the Consolidated Omnibus Budget Reconciliation Act of 1985, as amended ("COBRA"), the Company shall directly pay, or reimburse Executive for, the premiums for Executive and Executive's covered dependents during the period commencing on the Termination Date and ending on the earlier to occur of (i) the twelve (12)-month anniversary of the Termination Date (whereby six (6) months were originally provided under the Employment Agreement and an additional six (6) months was approved by the Board in connection with this Agreement) and (ii) the date Executive becomes eligible for comparable coverage under another employer's plans, provided that Executive submits documentation to the Company substantiating his payments for COBRA coverage. Any such reimbursement payments, if applicable, shall be made to Executive no later than twenty (20) days after Executive's submission of documentation to the Company substantiating his payments for COBRA coverage. After the Company ceases to pay premiums pursuant to the preceding sentence, Executive may, if eligible, elect to continue healthcare coverage at Executive's expense in accordance with the provisions of COBRA.

(c) *Taxes*. Executive understands and agrees that all payments under this Agreement will be subject to appropriate tax withholding and other deductions. To the

extent any taxes may be payable by Executive for the benefits provided to him by this Agreement beyond those withheld by the Company, Executive agrees to pay them himself and to indemnify and hold the Company and the other entities released herein harmless for any tax claims or penalties, and associated attorneys' fees and costs, resulting from any failure by him to make required payments.

(d) *Sole Separation Benefit*. Executive agrees that the payments provided by this Section 3 are not required under the Company's normal policies and procedures and are provided as a severance solely in connection with this Agreement. Executive acknowledges and agrees that the payments referenced in this Section 3 constitute adequate and valuable consideration, in and of themselves, for the promises contained in this Agreement. Executive acknowledges that the payment and arrangements herein shall constitute full and complete satisfaction of any and all amounts properly due and owing to him as a result of his employment with the Company and the termination thereof, including, without limitation, under the Employment Agreement.

5. Full Payment. Executive acknowledges that the payment and arrangements herein shall constitute full and complete satisfaction of any and all amounts properly due and owing to Executive as a result of his employment with the Company and the termination thereof. Executive further acknowledges that, other than the Confidentiality Agreement and the Indemnification Agreement by and between the Company and Executive (the "Indemnification Agreement"), this Agreement shall supersede each agreement entered into between Executive and the Company regarding Executive's employment, including, without limitation, the Employment Agreement and any severance and/or change in control agreement, and each such agreement (other than the agreements evidencing Executive's Equity Awards) shall be deemed terminated and of no further effect as of the Termination Date.

6. Executive's Release of the Company. Executive understands that by agreeing to the release provided by this Section 5, Executive is agreeing not to sue, or otherwise file any claim against, the Company or any of its employees or other agents for any reason whatsoever based on anything that has occurred as of the date Executive signs this Agreement.

(a) On behalf of Executive and Executive's heirs, assigns, executors, administrators, trusts, spouse and estate, Executive hereby releases and forever discharges the "Releasees" hereunder, consisting of the Company, and each of its owners, affiliates, subsidiaries, predecessors, successors, assigns, agents, directors, officers, partners, employees, and insurers, and all persons acting by, through, under or in concert with them, or any of them, of and from any and all manner of action or actions, cause or causes of action, in law or in equity, suits, debts, liens, contracts, agreements, promises, liability, claims, demands, damages, loss, cost or expense, of any nature whatsoever, known or unknown, fixed or contingent (hereinafter called "Claims"), which Executive now has or may hereafter have against the Releasees, or any of them, by reason of any matter, cause, or thing whatsoever from the beginning of time to the date hereof, including, without limiting the generality of the foregoing, any Claims arising out of, based upon, or relating to Executive's hire, employment, service as a director, remuneration or resignation by the Releasees, or any of them, Claims arising under federal, state, or local laws relating to employment, Claims of any kind that may be brought in any court or administrative agency, including any Claims arising under Title VII of the Civil Rights Act of 1964, as amended, 42 U.S.C. § 2000, et seq.; Americans with Disabilities Act, as amended, 42 U.S.C. § 12101 et seq.; the Rehabilitation Act of 1973, as amended, 29 U.S.C. § 701 et seq.; Age Discrimination in Employment Act, as amended, 29 U.S.C. § 621, et seq.; Civil Rights Act of 1866, and Civil

Rights Act of 1991; 42 U.S.C. § 1981, et seq.; Equal Pay Act, as amended, 29 U.S.C. § 206(d); regulations of the Office of Federal Contract Compliance, 41 C.F.R. Section 60, et seq.; the Family and Medical Leave Act, as amended, 29 U.S.C. § 2601 et seq.; the Fair Labor Standards Act of 1938, as amended, 29 U.S.C. § 201 et seq.; the Employee Retirement Income Security Act, as amended, 29 U.S.C. § 1001 et seq.; the Worker Adjustment and Retraining Notification Act, as amended, 29 U.S.C. § 2101 et seq.; the California Fair Employment and Housing Act, as amended, Cal. Lab. Code § 12940 et seq.; the California Equal Pay Law, as amended, Cal. Lab. Code §§ 1197.5(a), 199.5; the Moore-Brown-Roberti Family Rights Act of 1991, as amended, Cal. Gov't Code §§ 12945.2, 19702.3; California Labor Code §§ 1101, 1102; the California WARN Act, California Labor Code §§ 1400 et. seq; California Labor Code §§ 1102.5(a),(b); claims for wages under the California Labor Code and any other federal, state or local laws of similar effect ; the employment and civil rights laws of California; Claims for breach of contract; Claims arising in tort, including, without limitation, Claims of wrongful dismissal or discharge, discrimination, harassment, retaliation, fraud, misrepresentation, defamation, libel, infliction of emotional distress, violation of public policy, and/or breach of the implied covenant of good faith and fair dealing; and Claims for damages or other remedies of any sort, including, without limitation, compensatory damages, punitive damages, injunctive relief and attorney's fees .

(b) Notwithstanding the generality of the foregoing, Executive does not release the following claims:

(i) Claims for unemployment compensation or any state disability insurance benefits pursuant to the terms of applicable state law;

(ii) Claims for workers' compensation insurance benefits under the terms of any worker's compensation insurance policy or fund of the Company;

(iii) Claims to continued participation in certain of the Company's group benefit plans pursuant to the terms and conditions of COBRA;

(iv) Claims to any benefit entitlements vested as the date of Executive's employment termination, pursuant to written terms of any Company employee benefit plan;

(v) Claims for indemnification under the Indemnification Agreement, the Company's Bylaws, California Labor Code Section 2802 or any other applicable law;

(vi) Claims for retainers payable to Executive in connection with his continuing role as the Non-Executive Chairman of the Board; and

(vii) Executive's right to bring to the attention of the Equal Employment Opportunity Commission claims of discrimination; *provided, however*, that Executive does release Executive's right to secure any damages for alleged discriminatory treatment.

(c) *Acknowledgement.* In accordance with the Older Workers Benefit Protection Act of 1990, Executive has been advised of the following:

- (i) Executive should consult with an attorney before signing this Agreement;
- (ii) Executive has been given at least forty-five (45) days to consider this Agreement (although Executive may choose to voluntarily execute this Agreement earlier);
- (iii) Executive has received with this Agreement a detailed list of the job titles and ages of all employees who were terminated in this group termination and the ages of all employees of the Company in the same job classification or organizational unit who were not terminated, attached hereto as **Exhibit A** ;
- (iv) Executive has seven (7) days after signing this Agreement to revoke it. If Executive wishes to revoke this Agreement, Executive must deliver notice of Executive's revocation in writing, no later than 5:00 p.m. on the 7th day following Executive's execution of this Agreement to Bill Roeschlein, Chief Financial Officer, at 3011 N. First Street, San Jose, California 95134, fax (408) 582-5401. Executive understands that if he revokes this Agreement, it will be null and void in its entirety, and he will not be entitled to any payments or benefits provided in this Agreement, other than as provided in Section 2.

(d) EXECUTIVE ACKNOWLEDGES THAT EXECUTIVE HAS BEEN ADVISED OF AND IS FAMILIAR WITH THE PROVISIONS OF CALIFORNIA CIVIL CODE SECTION 1542, WHICH PROVIDES AS FOLLOWS:

**“A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS OR HER FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH, IF KNOWN BY HIM OR HER, MUST HAVE MATERIALLY AFFECTED HIS OR HER SETTLEMENT WITH THE DEBTOR.”**

BEING AWARE OF SAID CODE SECTION, EXECUTIVE HEREBY EXPRESSLY WAIVES ANY RIGHTS EXECUTIVE MAY HAVE THEREUNDER, AS WELL AS UNDER ANY OTHER STATUTES OR COMMON LAW PRINCIPLES OF SIMILAR EFFECT.

7. Non-Disparagement, Transition and Transfer of Company Property. Executive further agrees that:

(a) *Non-Disparagement* . Executive agrees not to disparage the Company, any of its products or practices, or any of its directors, officers, agents, representatives, partners, members, equity holders or affiliates, either orally or in writing, at any time, *provided* , that Executive may confer in confidence with Executive's legal representatives and make truthful statements as required by law. The Company agrees that it shall not, and it shall instruct its officers and members of its Board to not disparage, Executive, either publicly or privately. For the purposes of this Agreement, “disparage” means to state a negative opinion of another person that could reasonably be expected to harm the personal, business or professional reputation of that person. Notwithstanding the

foregoing, nothing in this Section 6(a) shall prevent Executive or the Company from making any truthful statement to the extent (i) necessary to rebut any untrue public statements made about him or it ; (ii) necessary with respect to any litigation, arbitration or mediation involving this Agreement and the enforcement thereof; or (iii) required by law or by any court, arbitrator, mediator or administrative or legislative body (including any committee thereof) with jurisdiction over such person. In addition, nothing in this Agreement shall be construed to prohibit Executive or the Company from engaging in any lawfully protected activity or conduct, including reporting possible violations of law or regulation to any governmental agency or regulatory body (including but not limited to the Equal Employment Opportunity Commission, the Department of Justice, the Securities and Exchange Commission, the Congress, any agency Inspector General, or making other disclosures that are protected under the whistleblower provisions of federal law or regulation), filing a charge with or participating in any investigation or proceeding conducted by any governmental agency or regulatory body, or making other disclosures that are protected under any law or regulation. Executive or the Company do not need the prior authorization of the other party to engage in any such lawfully protected activity, nor is Executive or the Company required to notify the other party that he or it has done so.

(b) *Transition* . Each of the Company and Executive shall use their respective reasonable efforts to cooperate with each other in good faith to facilitate a smooth transition of Executive's duties to other executive(s) of the Company.

(c) *Transfer of Company Property* . On or before the Termination Date, Executive shall turn over to the Company all files, memoranda, records, and other documents, and any other physical or personal property which are the property of the Company and which he had in his possession, custody or control at the time he signed this Agreement; *provided* , *however* , that Executive shall retain possession of his cellular phone and laptop computer for use during his continued service on the Board.

8. Executive Representations . Executive warrants and represents that (a) he has not filed or authorized the filing of any complaints, charges or lawsuits against the Company or any affiliate of the Company with any governmental agency or court, and that if, unbeknownst to Executive, such a complaint, charge or lawsuit has been filed on his behalf, he will immediately cause it to be withdrawn and dismissed, (b) he has reported all hours worked as of the date of this Agreement and has been paid all compensation, wages, bonuses, commissions, and/or benefits to which he may be entitled and no other compensation, wages, bonuses, commissions and/or benefits are due to him, except as provided in this Agreement, (c) he has no known workplace injuries or occupational diseases and has been provided and/or has not been denied any leave requested under the Family and Medical Leave Act or any similar state law, (d) the execution, delivery and performance of this Agreement by Executive does not and will not conflict with, breach, violate or cause a default under any agreement, contract or instrument to which Executive is a party or any judgment, order or decree to which Executive is subject, and (e) upon the execution and delivery of this Agreement by the Company and Executive, this Agreement will be a valid and binding obligation of Executive, enforceable in accordance with its terms.

9. No Assignment by Executive . Executive warrants and represents that no portion of any of the matters released herein, and no portion of any recovery or settlement to which Executive might be entitled, has been assigned or transferred to any other person, firm or corporation not a party to this Agreement, in any manner, including by way of subrogation or operation of law or otherwise. If any claim, action, demand or suit should be made or instituted against the Company or any other Releasee because of any actual assignment, subrogation or

transfer by Executive, Executive agrees to indemnify and hold harmless the Company and all other Releasees against such claim, action, suit or demand, including necessary expenses of investigation, attorneys' fees and costs. In the event of Executive's death, this Agreement shall inure to the benefit of Executive and Executive's executors, administrators, heirs, distributees, devisees, and legatees. None of Executive's rights or obligations may be assigned or transferred by Executive, other than Executive's rights to payments hereunder, which may be transferred only upon Executive's death by will or operation of law.

10. Non-Solicitation. Without limiting the Confidentiality Agreement, Executive hereby agrees that Executive shall not, at any time within the one (1) year period immediately following the Termination Date, directly or indirectly, either for himself or on behalf of any other person, recruit or otherwise solicit or induce any employee or consultant of the Company to terminate its employment or arrangement with the Company, or otherwise change its relationship with the Company. Notwithstanding the foregoing, nothing herein shall prevent Executive from directly or indirectly hiring any individual who submits a resume or otherwise applies for a position in response to a publicly posted job announcement or otherwise applies for employment with any person with whom Executive may be associated absent any violation of Executive's obligations pursuant to the preceding sentence.

11. Governing Law. This Agreement shall be construed and enforced in accordance with, and the rights of the parties shall be governed by, the laws of the State of California or, where applicable, United States federal law, in each case, without regard to any conflicts of laws provisions or those of any state other than California.

12. Miscellaneous. This Agreement, collectively with the Confidentiality Agreement, the Indemnification Agreement and the agreements evidencing Executive's equity awards comprise the entire agreement between the parties with regard to the subject matter hereof and supersedes, in their entirety, any other agreements between Executive and the Company with regard to the subject matter hereof, including, without limitation, the Employment Agreement. Executive acknowledges that there are no other agreements, written, oral or implied, and that he may not rely on any prior negotiations, discussions, representations or agreements. This Agreement may be modified only in writing, and such writing must be signed by both parties and recited that it is intended to modify this Agreement. This Agreement may be executed in separate counterparts, each of which is deemed to be an original and all of which taken together constitute one and the same agreement.

13. Company Assignment and Successors. The Company shall assign its rights and obligations under this Agreement to any successor to all or substantially all of the business or the assets of the Company (by merger or otherwise). This Agreement shall be binding upon and inure to the benefit of the Company and its successors, assigns, personnel and legal representatives.

14. Maintaining Confidential Information. Executive reaffirms his obligations under the Confidentiality Agreement. Executive acknowledges and agrees that the payments provided in Section 3 above shall be subject to Executive's continued compliance with Executive's obligations under the Confidentiality Agreement.

15. Executive's Cooperation. After the Termination Date, Executive shall cooperate with the Company and its affiliates, upon the Company's reasonable request, with respect to any internal investigation or administrative, regulatory or judicial proceeding involving matters within the scope of Executive's duties and responsibilities to the Company or its affiliates during his employment with the Company (including, without limitation, Executive being available

to the Company upon reasonable notice for interviews and factual investigations, appearing at the Company's reasonable request to give testimony without requiring service of a subpoena or other legal process, and turning over to the Company all relevant Company documents which are or may have come into Executive's possession during his employment); *provided, however*, that any such request by the Company shall not be unduly burdensome or interfere with Executive's personal schedule or ability to engage in gainful employment, and Company shall compensate Executive for his time at his standard consulting rate of \$300 per hour as well as reimburse him for any expenses reasonably incurred in cooperating with the Company, provided that such expenses shall be subject to the Company's prior approval.

16. Section 409A of the Code. This Agreement is intended, to the greatest extent permitted under law, to comply with the short-term deferral exemption and the separation pay exemption provided in Section 409A of the Internal Revenue Code of 1986, as amended, and the regulations and other interpretative guidance issued thereunder ("Section 409A") such that no benefits or payments under this Agreement are subject to Section 409A. Notwithstanding anything herein to the contrary, the timing of any payments under this Agreement shall be made consistent with such exemption. Executive's right to receive a series of installment payments under this Agreement, if any, shall be treated as a right to receive a series of separate payments. To the extent applicable, this Agreement shall be interpreted in accordance with Section 409A, including without limitation any such regulations or other guidance that may be issued after the Termination Date. Notwithstanding any provision of this Agreement to the contrary, in the event that the Company determines that any amounts payable hereunder may be subject to Section 409A, the Company may, to the extent permitted under Section 409A cooperate in good faith to adopt such amendments to this Agreement or adopt other appropriate policies and procedures, including amendments and policies with retroactive effect, that the Company determines are necessary or appropriate to avoid the imposition of taxes under Section 409A; provided, however, that this paragraph shall not create an obligation on the part of the Company to adopt any such amendment, policy or procedure or take any such other action, nor shall the Company have any liability for failing to do so. To the extent that any reimbursements payable pursuant to this Agreement are subject to the provisions of Section 409A, such reimbursements shall be paid to Executive no later than December 31 of the year following the year in which the expense was incurred, the amount of expenses reimbursed in one year shall not affect the amount eligible for reimbursement in any subsequent year, and Executive's right to reimbursement under this Agreement will not be subject to liquidation or exchange for another benefit.

(Signature page(s) follow)

IN WITNESS WHEREOF, the undersigned have caused this Separation Agreement to be duly executed and delivered as of the date indicated next to their respective signatures below which dates shall be after the Termination Date, but on or prior to the forty fifth (45th) day following the date Executive receives this Agreement.

DATED: March 31, 2017

/s/ Bruce M. McWilliams

Dr. Bruce M. McWilliams

INTERMOLECULAR, INC.

DATED: April 3, 2017

By: /s/ Bill Roeschlein

Name: Bill Roeschlein

Title: Chief Financial Officer

S-1

**EXHIBIT A**

**DISCLOSURE CONCERNING SEVERANCE OFFER**

**CLASS, UNIT OR GROUP COVERED BY SEVERANCE OFFER**

All employees of Intermolecular, Inc. (the “Company”) who are executive officers are covered by this severance offer.

**ELIGIBILITY FACTORS FOR THE PROGRAM**

Employees who are covered by the severance offer are eligible to receive the benefits of the offer if they:

- Are provided with a Separation Agreement (the “Agreement”) to which this Disclosure is Exhibit A;
- Timely sign and deliver the Agreement to the Company;
- Do not revoke the Agreement, as permitted by the Agreement; and
- Comply with the terms and conditions of the Agreement.

**TIME LIMITS APPLICABLE TO THE PROGRAM**

The following time limits apply to the program:

- Employees age 40 and over must sign and deliver the Agreement no later than the forty-fifth (45<sup>th</sup>) day after that employee’s receipt of the Agreement.

JOB TITLES AND AGES OF EMPLOYEES SELECTED FOR AND NOT SELECTED FOR THE PROGRAM

TITLE	AGE	JOB ELIMINATED?	ELIGIBLE FOR SEPARATION BENEFITS?
Chief Financial Officer/Principal Financing and Accounting Officer	<input type="checkbox"/>	Yes	Yes
Executive Chairman	<input type="checkbox"/>	Yes	Yes
President and Chief Executive Officer	<input type="checkbox"/>	No	No
New Chief Financial Officer	<input type="checkbox"/>	No	No
Chief Technology Officer	<input type="checkbox"/>	Yes	Yes
Senior Vice President, Programs	<input type="checkbox"/>	No	No
Vice President, Sales	<input type="checkbox"/>	No	No

**SEPARATION AGREEMENT**

This Separation Agreement (the “Agreement”) by and between C. Richard Neely, Jr. (“Executive”) and Intermolecular, Inc., a Delaware corporation (the “Company”), is made effective as of the eighth (8<sup>th</sup>) day following the date Executive signs this Agreement (the “Effective Date”) with reference to the following facts:

A. Executive’s employment with the Company and status as an officer , director and employee of the Company and each of its affiliates will end effective upon the Termination Date (as defined below).

B. Executive and the Company want to end their relationship amicably and also to establish the obligations of the parties including, without limitation, all amounts due and owing to Executive.

NOW, THEREFORE, in consideration of the mutual covenants and agreements hereinafter set forth, the parties agree as follows:

1. Termination Date. Executive acknowledges and agrees that his status as an officer, director and employee of the Company will end effective as of April 3, 2017 (the “Termination Date”). Executive hereby agrees to execute such further document(s) as shall be determined by the Company as necessary or desirable to give effect to the termination of Executive’s status as an officer and, if applicable, director of the Company and each of its subsidiaries; *provided* that such documents shall not be inconsistent with any of the terms of this Agreement.

2. Final Paycheck; Payment of Accrued Wages and Expenses.

(a) *Final Paycheck*. As soon as administratively practicable on or after the Termination Date, the Company will pay Executive all accrued but unpaid base salary and all accrued and unused vacation earned through the Termination Date, subject to standard payroll deductions and withholdings. Executive is entitled to these payments regardless of whether Executive executes this Agreement.

(b) *Business Expenses*. The Company shall reimburse Executive for all outstanding expenses incurred prior to the Termination Date which are consistent with the Company’s policies in effect from time to time with respect to travel, entertainment and other business expenses, subject to the Company’s requirements with respect to reporting and documenting such expenses. Executive is entitled to these reimbursement regardless of whether Executive executes this Agreement.

3. Separation Payments and Benefits . Without admission of any liability, fact or claim, the Company hereby agrees, subject to the execution of this Agreement and Executive's performance of his continuing obligations pursuant to this Agreement and that certain Employee Confidentiality and Inventions Assignment Agreement entered into between Executive and the Company on or about October x , 201 3 (the "Confidentiality Agreement"), to provide Executive the severance benefits set forth below. Specifically, the Company and Executive agree as follows:

(a) *Severance* . Executive shall be entitled to receive an amount equal to six (6) months of base salary (the aggregate amount, \$150,000), payable in a cash lump sum on the payroll date that immediately follows the Effective Date.

(b) *Healthcare Continuation Coverage*. If Executive elects to receive continued healthcare coverage pursuant to the provisions of the Consolidated Omnibus Budget Reconciliation Act of 1985, as amended ("COBRA"), the Company shall directly pay, or reimburse Executive for, the premiums for Executive and Executive's covered dependents during the period commencing on the Termination Date and ending on the earlier to occur of (i) the six-month anniversary of the Termination Date and (ii) the date Executive becomes eligible for comparable coverage under another employer's plans, provided that Executive submits documentation to the Company substantiating his payments for COBRA coverage. Any such reimbursement payments, if applicable, shall be made to Executive no later than twenty (20) days after Executive's submission of documentation to the Company substantiating his payments for COBRA coverage. After the Company ceases to pay premiums pursuant to the preceding sentence, Executive may, if eligible, elect to continue healthcare coverage at Executive's expense in accordance with the provisions of COBRA.

(c) *Taxes* . Executive understands and agrees that all payments under this Agreement will be subject to appropriate tax withholding and other deductions. To the extent any taxes may be payable by Executive for the benefits provided to him by this Agreement beyond those withheld by the Company, Executive agrees to pay them himself and to indemnify and hold the Company and the other entities released herein harmless for any tax claims or penalties, and associated attorneys' fees and costs, resulting from any failure by him to make required payments.

(d) *SEC Reporting* . Executive acknowledges that to the extent required by the Securities Exchange Act of 1934, as amended (the "Exchange Act"), he will have continuing obligations under Sections 16(a) and 16(b) of the Exchange Act to report his transactions in Company common stock for six (6) months following the Termination Date. Executive hereby agrees not to undertake, directly or indirectly, any reportable transactions until the end of such six (6) month period.

(e) *Sole Separation Benefit* . Executive agrees that the payments provided by this Section 3 are not required under the Company's normal policies and procedures and are provided as a severance solely in connection with this Agreement. Executive acknowledges and agrees that the payments referenced in this Section 3 constitute adequate and valuable consideration, in and of themselves, for the promises contained in this Agreement.

4. Full Payment . Executive acknowledges that the payment and arrangements herein shall constitute full and complete satisfaction of any and all amounts properly due and owing to Executive as a result of his employment with the Company and the termination thereof. Executive further acknowledges that, other than the Confidentiality Agreement and the

Indemnification Agreement by and between the Company and Executive (the “Indemnification Agreement”), this Agreement shall supersede each agreement entered into between Executive and the Company regarding Executive’s employment, including, without limitation, any offer letter, employment agreement, severance and/or change in control agreement, and each such agreement other than the agreements evidencing Executive’s equity awards shall be deemed terminated and of no further effect as of the Termination Date.

5. Executive’s Release of the Company. Executive understands that by agreeing to the release provided by this Section 5, Executive is agreeing not to sue, or otherwise file any claim against, the Company or any of its employees or other agents for any reason whatsoever based on anything that has occurred as of the date Executive signs this Agreement.

(a) On behalf of Executive and Executive’s heirs, assigns, executors, administrators, trusts, spouse and estate, Executive hereby releases and forever discharges the “Releasees” hereunder, consisting of the Company, and each of its owners, affiliates, subsidiaries, predecessors, successors, assigns, agents, directors, officers, partners, employees, and insurers, and all persons acting by, through, under or in concert with them, or any of them, of and from any and all manner of action or actions, cause or causes of action, in law or in equity, suits, debts, liens, contracts, agreements, promises, liability, claims, demands, damages, loss, cost or expense, of any nature whatsoever, known or unknown, fixed or contingent (hereinafter called “Claims”), which Executive now has or may hereafter have against the Releasees, or any of them, by reason of any matter, cause, or thing whatsoever from the beginning of time to the date hereof, including, without limiting the generality of the foregoing, any Claims arising out of, based upon, or relating to Executive’s hire, employment, remuneration or resignation by the Releasees, or any of them, Claims arising under federal, state, or local laws relating to employment, Claims of any kind that may be brought in any court or administrative agency, including any Claims arising under Title VII of the Civil Rights Act of 1964, as amended, 42 U.S.C. § 2000, et seq.; Americans with Disabilities Act, as amended, 42 U.S.C. § 12101 et seq.; the Rehabilitation Act of 1973, as amended, 29 U.S.C. § 701 et seq.; Age Discrimination in Employment Act, as amended, 29 U.S.C. § 621, et seq.; Civil Rights Act of 1866, and Civil Rights Act of 1991; 42 U.S.C. § 1981, et seq.; Equal Pay Act, as amended, 29 U.S.C. § 206(d); regulations of the Office of Federal Contract Compliance, 41 C.F.R. Section 60, et seq.; the Family and Medical Leave Act, as amended, 29 U.S.C. § 2601 et seq.; the Fair Labor Standards Act of 1938, as amended, 29 U.S.C. § 201 et seq.; the Employee Retirement Income Security Act, as amended, 29 U.S.C. § 1001 et seq.; the Worker Adjustment and Retraining Notification Act, as amended, 29 U.S.C. § 2101 et seq.; the California Fair Employment and Housing Act, as amended, Cal. Lab. Code § 12940 et seq.; the California Equal Pay Law, as amended, Cal. Lab. Code §§ 1197.5(a), 199.5; the Moore-Brown-Roberti Family Rights Act of 1991, as amended, Cal. Gov’t Code §§ 12945.2, 19702.3; California Labor Code §§ 1101, 1102; the California WARN Act, California Labor Code §§ 1400 et. seq; California Labor Code §§ 1102.5(a),(b); claims for wages under the California Labor Code and any other federal, state or local laws of similar effect; the employment and civil rights laws of California; Claims for breach of contract; Claims arising in tort, including, without limitation, Claims of wrongful dismissal or discharge, discrimination, harassment, retaliation, fraud, misrepresentation, defamation, libel, infliction of emotional distress, violation of public policy, and/or breach of the implied covenant of good faith and fair dealing; and Claims for damages or other remedies of any sort, including, without limitation, compensatory damages, punitive damages, injunctive relief and attorney’s fees.

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(i) Claims for unemployment compensation or any state disability insurance benefits pursuant to the terms of applicable state law;

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(c) *Acknowledgement.* In accordance with the Older Workers Benefit Protection Act of 1990, Executive has been advised of the following:

(i) Executive should consult with an attorney before signing this Agreement;

(ii) Executive has been given at least forty-five (45) days to consider this Agreement (although Executive may choose to voluntarily execute this Agreement earlier);

(iii) Executive has received with this Agreement a detailed list of the job titles and ages of all employees who were terminated in this group termination and the ages of all employees of the Company in the same job classification or organizational unit who were not terminated, attached hereto as **Exhibit A** ;

(iv) Executive has seven (7) days after signing this Agreement to revoke it. If Executive wishes to revoke this Agreement, Executive must deliver notice of Executive's revocation in writing, no later than 5:00 p.m. on the 7th day following Executive's execution of this Agreement to Bill Roeschlein, Chief Financial Officer, at 3011 N. First Street, San Jose, California 95134, fax (408) 582-5401. Executive understands that if he revokes this Agreement, it will be null and void in its entirety, and he will not be entitled to any payments or benefits provided in this Agreement, other than as provided in Section 2.

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**“A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS OR HER FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH, IF KNOWN BY HIM OR HER, MUST HAVE MATERIALLY AFFECTED HIS OR HER SETTLEMENT WITH THE DEBTOR.”**

BEING AWARE OF SAID CODE SECTION, EXECUTIVE HEREBY EXPRESSLY WAIVES ANY RIGHTS EXECUTIVE MAY HAVE THEREUNDER, AS WELL AS UNDER ANY OTHER STATUTES OR COMMON LAW PRINCIPLES OF SIMILAR EFFECT.

6. Non-Disparagement, Transition and Transfer of Company Property. Executive further agrees that:

(a) *Non-Disparagement*. Executive agrees not to disparage the Company, any of its products or practices, or any of its directors, officers, agents, representatives, partners, members, equity holders or affiliates, either orally or in writing, at any time, *provided*, that Executive may confer in confidence with Executive’s legal representatives and make truthful statements as required by law. The Company agrees that it shall not, and it shall instruct its officers and members of its Board of Directors to not disparage, Executive, either publicly or privately. For the purposes of this Agreement, “disparage” means to state a negative opinion of another person that could reasonably be expected to harm the personal, business or professional reputation of that person. Notwithstanding the foregoing, nothing in this Section 6(a) shall prevent Executive or the Company from making any truthful statement to the extent (i) necessary to rebut any untrue public statements made about him or it; (ii) necessary with respect to any litigation, arbitration or mediation involving this Agreement and the enforcement thereof; or (iii) required by law or by any court, arbitrator, mediator or administrative or legislative body (including any committee thereof) with jurisdiction over such person. In addition, nothing in this Agreement shall be construed to prohibit Executive or the Company from engaging in any lawfully protected activity or conduct, including reporting possible violations of law or regulation to any governmental agency or regulatory body (including but not limited to the Equal Employment Opportunity Commission, the Department of Justice, the Securities and Exchange Commission, the Congress, any agency Inspector General, or making other disclosures that are protected under the whistleblower provisions of federal law or regulation), filing a charge with or participating in any investigation or proceeding conducted by any governmental agency or regulatory body, or making other disclosures that are protected under any law or regulation. Executive or the Company do not need the prior authorization of the other party to engage in any such lawfully protected activity, nor is Executive or the Company required to notify the other party that he or it has done so.

(b) *Transition*. Each of the Company and Executive shall use their respective reasonable efforts to cooperate with each other in good faith to facilitate a smooth transition of Executive’s duties to other executive(s) of the Company.

(c) *Transfer of Company Property*. On or before the Termination Date, Executive shall turn over to the Company all files, memoranda, records, and other

documents, and any other physical or personal property which are the property of the Company and which he had in his possession, custody or control at the time he signed this Agreement.

7. Executive Representations. Executive warrants and represents that (a) he has not filed or authorized the filing of any complaints, charges or lawsuits against the Company or any affiliate of the Company with any governmental agency or court, and that if, unbeknownst to Executive, such a complaint, charge or lawsuit has been filed on his behalf, he will immediately cause it to be withdrawn and dismissed, (b) he has reported all hours worked as of the date of this Agreement and has been paid all compensation, wages, bonuses, commissions, and/or benefits to which he may be entitled and no other compensation, wages, bonuses, commissions and/or benefits are due to him, except as provided in this Agreement, (c) he has no known workplace injuries or occupational diseases and has been provided and/or has not been denied any leave requested under the Family and Medical Leave Act or any similar state law, (d) the execution, delivery and performance of this Agreement by Executive does not and will not conflict with, breach, violate or cause a default under any agreement, contract or instrument to which Executive is a party or any judgment, order or decree to which Executive is subject, and (e) upon the execution and delivery of this Agreement by the Company and Executive, this Agreement will be a valid and binding obligation of Executive, enforceable in accordance with its terms.

8. No Assignment by Executive. Executive warrants and represents that no portion of any of the matters released herein, and no portion of any recovery or settlement to which Executive might be entitled, has been assigned or transferred to any other person, firm or corporation not a party to this Agreement, in any manner, including by way of subrogation or operation of law or otherwise. If any claim, action, demand or suit should be made or instituted against the Company or any other Releasee because of any actual assignment, subrogation or transfer by Executive, Executive agrees to indemnify and hold harmless the Company and all other Releasees against such claim, action, suit or demand, including necessary expenses of investigation, attorneys' fees and costs. In the event of Executive's death, this Agreement shall inure to the benefit of Executive and Executive's executors, administrators, heirs, distributees, devisees, and legatees. None of Executive's rights or obligations may be assigned or transferred by Executive, other than Executive's rights to payments hereunder, which may be transferred only upon Executive's death by will or operation of law.

9. Non-Solicitation. Without limiting the Confidentiality Agreement, Executive hereby agrees that Executive shall not, at any time within the one (1) year period immediately following the Termination Date, directly or indirectly, either for himself or on behalf of any other person, recruit or otherwise solicit or induce any employee or consultant of the Company to terminate its employment or arrangement with the Company, or otherwise change its relationship with the Company. Notwithstanding the foregoing, nothing herein shall prevent Executive from directly or indirectly hiring any individual who submits a resume or otherwise applies for a position in response to a publicly posted job announcement or otherwise applies for employment with any person with whom Executive may be associated absent any violation of Executive's obligations pursuant to the preceding sentence.

10. Governing Law. This Agreement shall be construed and enforced in accordance with, and the rights of the parties shall be governed by, the laws of the State of California or, where applicable, United States federal law, in each case, without regard to any conflicts of laws provisions or those of any state other than California.

11. Miscellaneous. This Agreement, collectively with the Confidentiality Agreement, the Indemnification Agreement and the agreements evidencing Executive's equity awards comprise the entire agreement between the parties with regard to the subject matter hereof and supersedes, in their entirety, any other agreements between Executive and the Company with regard to the subject matter hereof. Executive acknowledges that there are no other agreements, written, oral or implied, and that he may not rely on any prior negotiations, discussions, representations or agreements. This Agreement may be modified only in writing, and such writing must be signed by both parties and recited that it is intended to modify this Agreement. This Agreement may be executed in separate counterparts, each of which is deemed to be an original and all of which taken together constitute one and the same agreement.

12. Company Assignment and Successors. The Company shall assign its rights and obligations under this Agreement to any successor to all or substantially all of the business or the assets of the Company (by merger or otherwise). This Agreement shall be binding upon and inure to the benefit of the Company and its successors, assigns, personnel and legal representatives.

13. Maintaining Confidential Information. Executive reaffirms his obligations under the Confidentiality Agreement. Executive acknowledges and agrees that the payments provided in Section 3 above shall be subject to Executive's continued compliance with Executive's obligations under the Confidentiality Agreement.

14. Executive's Cooperation. After the Termination Date, Executive shall cooperate with the Company and its affiliates, upon the Company's reasonable request, with respect to any internal investigation or administrative, regulatory or judicial proceeding involving matters within the scope of Executive's duties and responsibilities to the Company or its affiliates during his employment with the Company (including, without limitation, Executive being available to the Company upon reasonable notice for interviews and factual investigations, appearing at the Company's reasonable request to give testimony without requiring service of a subpoena or other legal process, and turning over to the Company all relevant Company documents which are or may have come into Executive's possession during his employment); *provided, however*, that any such request by the Company shall not be unduly burdensome or interfere with Executive's personal schedule or ability to engage in gainful employment, and Company shall compensate Executive for his time at his standard consulting rate of \$300 per hour as well as reimburse him for any expenses reasonably incurred in cooperating with the Company, provided that such expenses shall be subject to the Company's prior approval.

15. Section 409A of the Code. This Agreement is intended, to the greatest extent permitted under law, to comply with the short-term deferral exemption and the separation pay exemption provided in Section 409A of the Internal Revenue Code of 1986, as amended, and the regulations and other interpretative guidance issued thereunder (" Section 409A ") such that no benefits or payments under this Agreement are subject to Section 409A. Notwithstanding anything herein to the contrary, the timing of any payments under this Agreement shall be made consistent with such exemption. Executive's right to receive a series of installment payments under this Agreement, if any, shall be treated as a right to receive a series of separate payments. To the extent applicable, this Agreement shall be interpreted in accordance with Section 409A, including without limitation any such regulations or other guidance that may be issued after the Termination Date. Notwithstanding any provision of this Agreement to the contrary, in the event that the Company determines that any amounts payable hereunder may be subject to Section 409A, the Company may, to the extent permitted under Section 409A cooperate in good faith to adopt such amendments to this Agreement or adopt other appropriate policies and procedures, including amendments and policies with retroactive effect, that the Company determines are necessary or appropriate to avoid

the imposition of taxes under Section 409A; provided, however, that this paragraph shall not create an obligation on the part of the Company to adopt any such amendment, policy or procedure or take any such other action, nor shall the Company have any liability for failing to do so. To the extent that any reimbursements payable pursuant to this Agreement are subject to the provisions of Section 409A, such reimbursements shall be paid to Executive no later than December 31 of the year following the year in which the expense was incurred, the amount of expenses reimbursed in one year shall not affect the amount eligible for reimbursement in any subsequent year, and Executive's right to reimbursement under this Agreement will not be subject to liquidation or exchange for another benefit.

(Signature page(s) follow)

IN WITNESS WHEREOF, the undersigned have caused this Separation Agreement to be duly executed and delivered as of the date indicated next to their respective signatures below which dates shall be after the Termination Date, but on or prior to the forty fifth (45th) day following the date Executive receives this Agreement .

DATED: March 29, 2017

/s/ C. Richard Neely Jr.

C. Richard Neely, Jr.

INTERMOLECULAR, INC.

DATED: April 3, 2017

By: /s/ Bill Roeschlein

Name: Bill Roeschlein

Title: Chief Financial Officer

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**EXHIBIT A**

**DISCLOSURE CONCERNING SEVERANCE OFFER**

**CLASS, UNIT OR GROUP COVERED BY SEVERANCE OFFER**

All employees of Intermolecular, Inc. (the “Company”) who are executive officers are covered by this severance offer.

**ELIGIBILITY FACTORS FOR THE PROGRAM**

Employees who are covered by the severance offer are eligible to receive the benefits of the offer if they:

- Are provided with a Separation Agreement (the “Agreement”) to which this Disclosure is Exhibit A;
- Timely sign and deliver the Agreement to the Company;
- Do not revoke the Agreement, as permitted by the Agreement; and
- Comply with the terms and conditions of the Agreement.

**TIME LIMITS APPLICABLE TO THE PROGRAM**

The following time limits apply to the program:

- Employees age 40 and over must sign and deliver the Agreement no later than the forty-fifth (45<sup>th</sup>) day after that employee’s receipt of the Agreement.

**JOB TITLES AND AGES OF EMPLOYEES SELECTED FOR AND NOT SELECTED FOR THE PROGRAM**

TITLE	AGE	JOB ELIMINATED?	ELIGIBLE FOR SEPARATION BENEFITS?
Chief Financial Officer/Principal Financing and Accounting Officer	<input type="checkbox"/>	Yes	Yes
Executive Chairman	<input type="checkbox"/>	Yes	Yes
President and Chief Executive Officer	<input type="checkbox"/>	No	No
New Chief Financial Officer	<input type="checkbox"/>	No	No

**Certification of Chief Executive Officer**  
**Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002**

I, Christian F. Kramer, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Intermolecular, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
  - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us, particularly during the period in which this report is being prepared;
  - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
  - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
  - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 4, 2017

/s/ CHRISTIAN KRAMER

Christian F. Kramer

*President and Chief Executive Officer*

**Certification of Chief Financial Officer**  
**Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002**

I, Bill Roeschlein, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Intermolecular, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
  - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us, particularly during the period in which this report is being prepared;
  - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
  - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
  - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 4, 2017

/s/ Bill Roeschlein.  
Bill Roeschlein  
*Chief Financial Officer*

**Certification of Chief Executive Officer**  
**Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906**  
**of the Sarbanes-Oxley Act of 2002**

In connection with the Quarterly Report of Intermolecular, Inc. (the "Company") on Form 10-Q for the three months ended March 31, 2017, as filed with the Securities and Exchange Commission (the "Report"), Christian F. Kramer, President and Chief Executive Officer of the Company, does hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

- The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- The information in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: May 4, 2017

By: /s/ CHRISTIAN F. KRAMER

Name: Christian F. Kramer

Title: *President and Chief Executive Officer*

*A signed original of this written statement required by Rule 13a-14(b) of the Securities Exchange Act of 1934 and 18 U.S.C. Section 1350 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.*

*This certification accompanies the Form 10-Q to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of the Company under the Securities Act of 1933 or the Securities Exchange Act of 1934 (whether made before or after the date of the Form 10-Q), irrespective of any general incorporation language contained in such filing.*

**Certification of Chief Financial Officer**  
**Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906**  
**of the Sarbanes-Oxley Act of 2002**

In connection with the Quarterly Report of Intermolecular, Inc. (the "Company") on Form 10-Q for the three months ended March 31, 2017, as filed with the Securities and Exchange Commission (the "Report"), Bill Roeschlein, Chief Financial Officer of the Company, does hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

- The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- The information in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: May 4, 2017

By: /s/ Bill Roeschlein

Name: Bill Roeschlein

Title: Chief Financial Officer

*A signed original of this written statement required by Rule 13a-14(b) of the Securities Exchange Act of 1934 and 18 U.S.C. Section 1350 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.*

*This certification accompanies the Form 10-Q to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of the Company under the Securities Act of 1933 or the Securities Exchange Act of 1934 (whether made before or after the date of the Form 10-Q), irrespective of any general incorporation language contained in such filing.*