INTERMOLECULAR INC Form SC 13G/A February 13, 2014

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

SCHEDULE 13G (Amendment No. 1)*

Under the Securities Exchange Act of 1934

Intermolecular, Inc.

(Name of Issuer)

Common Stock, par value \$0.001 per share

(Title of Class of Securities)

45882D 109

(CUSIP Number)

December 31, 2013

(Date of Event Which Requires Filing of this Statement)

Check the appropriate box to designate the rule pursuant to which this Schedule is filed:

o Rule 13d-1(b) x Rule 13d-1(c) o Rule 13d-1(d)

*The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter the disclosures provided in a prior cover page.

The information required in the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 (the "Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

CUSIP No. 45882D 109 SCHEDULE 13G Page 2 of 9 Pages NAME OF REPORTING PERSONS I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY) 1 Mubadala Development Company PJSC CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (See Instructions) 2 (a) o (b) o SEC USE ONLY 3 CITIZENSHIP OR PLACE OF ORGANIZATION 4 The Emirate of Abu Dhabi, United Arab Emirates SOLE VOTING POWER 5 NUMBER OF Not applicable SHARES SHARED VOTING POWER BENEFICIALLY 6 **OWNED BY** 2,720,893 EACH REPORTING SOLE DISPOSITIVE POWER PERSON 7 WITH Not applicable SHARED DISPOSITIVE POWER 8 2,720,893 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 9 2,720,893 CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES 0 **CERTAIN SHARES (See Instructions)** 10 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 11 5.90% **TYPE OF REPORTING PERSON (See Instructions)** 12 CO

CUSIP No. 45882D 109 SCHEDULE 13G Page 3 of 9 Pages NAME OF REPORTING PERSONS I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY) 1 Advanced Technology Investment Company LLC CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (See Instructions) 2 (a) o (b) o SEC USE ONLY 3 CITIZENSHIP OR PLACE OF ORGANIZATION 4 The Emirate of Abu Dhabi, United Arab Emirates SOLE VOTING POWER 5 NUMBER OF Not applicable SHARES SHARED VOTING POWER BENEFICIALLY 6 **OWNED BY** 1,614,624 EACH REPORTING SOLE DISPOSITIVE POWER PERSON 7 WITH Not applicable SHARED DISPOSITIVE POWER 8 1,614,624 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 9 1,614,624 CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES 0 **CERTAIN SHARES (See Instructions)** 10 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 11 3.50% **TYPE OF REPORTING PERSON (See Instructions)** 12 CO, IV

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1	NAME OF REPO I.R.S. IDENTIFI		SONS . OF ABOVE PERSONS (ENTITIES	S ONLY)		
	MDC Capital (Cayman) Limited, as trustee for Fifty First Investment Company LLC					
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (See Instructions) (a) o (b) o					
3	SEC USE ONLY	,				
4		OR PLACE OF	ORGANIZATION			
	Cayman Islands NUMBER OF SHARES ENEFICIALLY	5	SOLE VOTING POWER Not applicable SHARED VOTING POWE	R		
WITH	OWNED BY EACH REPORTING PERSON	7 8	1,106,269 SOLE DISPOSITIVE POW Not applicable SHARED DISPOSITIVE PO			
9	1,106,269 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 1,106,269					
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES o CERTAIN SHARES (See Instructions)					
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 2.40%					
12	TYPE OF REPORTING PERSON (See Instructions)					

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This Amendment No. 1 amends and restates in its entirety the statement on Schedule 13G filed by the Reporting Persons listed in Item 2 with the Securities and Exchange Commission (the "Commission") on February 13, 2013 which relates to the Common Stock, par value \$0.001 per share, of Intermolecular, Inc. (the "Issuer"). The information set forth herein regarding percentages of beneficial ownership is based upon information obtained from the Issuer regarding the number of shares of Common Stock, par value \$0.001 per share, disclosed as outstanding as of November 4, 2013 by the Issuer in its amended quarterly report on Form 10-Q/A for the quarterly period ended September 30, 2013, and filed with the Commission on December 13, 2013.

Item 1.

(a)

Name of Issuer:

Address of Issuer's Principal Executive Offices:

Name of Person Filing:

Mubadala Development Company PJSC.

Intermolecular, Inc.

(b)

3011 N. First Street, San Jose, California 95134.

Item 2.

(b)

(c)

(a) (i)

(ii) Advanced Technology Investment Company LLC.

(iii) MDC Capital (Cayman) Limited, as trustee for Fifty First Investment Company LLC.

Address of Principal Business Office or, if none, Residence:
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(i) P.O. Box 45005, Abu Dhabi, United Arab Emirates.

(ii) P.O. Box 114540, Abu Dhabi, United Arab Emirates.

(iii)Intertrust Corporate Services (Cayman) Limited, 190 Elgin Avenue, George Town, Grand Cayman KY1-9005, Cayman Islands

Citizenship: (i) The Emirate of Abu Dhabi, United Arab Emirates. (ii) The Emirate of Abu Dhabi, United Arab Emirates.

(iii) Cayman Islands.

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(d)

Title of Class of Securities:

Common Stock, par value \$0.001 per share

(e)

CUSIP Number:

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Item 3.

Not applicable.

Item 4. Ownership.

(a)

Amount Beneficially Owned:

1,614,624 shares are held of record by Advanced Technology Investment Company LLC ("ATIC"). 1,106,269 shares are held of record by MDC Capital (Cayman) Limited ("MDC Capital (Cayman)"), as trustee for Fifty First Investment Company LLC. ATIC, MDC Capital (Cayman) and Fifty First Investment Company LLC are wholly-owned subsidiaries of Mubadala Development Company PJSC.

(b)	Percent of Class:	See line 11 of the cover sheets.

(c) Number of shares as to which the person has:

- (i) sole power to vote or to direct the vote: See line 5 of the cover sheets.
- (ii) shared power to vote or to direct the vote: See line 6 of the cover sheets.
- (iii) sole power to dispose or to direct the disposition of: See line 7 of the cover sheets.
- (iv) shared power to dispose or to direct the disposition of: See line 8 of the cover sheets.
- Item 5. Ownership of Five Percent or Less of a Class.

Not applicable.

Item 6. Ownership of More than Five Percent on Behalf of Another Person.

Not applicable.

Item 7. Identification and Classification of the Subsidiary Which Acquired the Security Being Reported on By the Parent Holding Company.

Not applicable.

Item 8. Identification and Classification of Member of the Group.

Not applicable.

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Item 9. Notice of Dissolution of Group.

Not applicable.

Item 10. Certification.

By signing below I certify that, to the best of my knowledge and belief, the securities referred to above were not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect.

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SIGNATURE

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

MUBADALA DEVELOPMENT COMPANY PJSC

February 13, 2014 Date

/s/ Samer Halawa Signature

Samer Halawa / Attorney in Fact Name/Title

ADVANCED TECHNOLOGY INVESTMENT COMPANY LLC

February 13, 2014 Date

/s/ Ibrahim Ajami Signature

Ibrahim Ajami / CEO Name/Title

MDC CAPITAL (CAYMAN) LIMITED, AS TRUSTEE FOR FIFTY FIRST INVESTMENT COMPANY LLC

> February 13, 2014 Date

/s/ Rodney Cannon /s/ Moiz Chakkiwala Signature

Rodney Cannon / Moiz Chakkiwala / Director Director Name/Title

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AGREEMENT OF JOINT FILING

Pursuant to Rule 13d-1(k)(1) of the Securities and Exchange Commission under the Securities Exchange Act of 1934, as amended, each of the undersigned agrees that the statement on Schedule 13G filed herewith shall be filed on behalf of each of the undersigned.

MUBADALA DEVELOPMENT COMPANY PJSC

February 13, 2014 Date

/s/ Samer Halawa Signature

Samer Halawa / Attorney in Fact Name/Title

ADVANCED TECHNOLOGY INVESTMENT COMPANY LLC

February 13, 2014 Date

/s/ Ibrahim Ajami Signature

Ibrahim Ajami / CEO Name/Title

MDC CAPITAL (CAYMAN) LIMITED, AS TRUSTEE FOR FIFTY FIRST INVESTMENT COMPANY LLC

> February 13, 2014 Date

/s/ Rodney Cannon /s/ Moiz Chakkiwala Signature

Rodney Cannon / Moiz Chakkiwala / Director Director Name/Title