Chiang Tony P. Form 4 February 09, 2012

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

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF

OMB APPROVAL

OMB 3235-0287 Number: January 31,

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Check this box if no longer subject to Section 16. Form 4 or Form 5

SECURITIES Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934,

obligations Section 17(a) of the Public Utility Holding Company Act of 1935 or Section may continue. 30(h) of the Investment Company Act of 1940 See Instruction

1(b).

(Last)

(Print or Type Responses)

1. Name and Address of Reporting Person * Chiang Tony P.

2. Issuer Name and Ticker or Trading Symbol

INTERMOLECULAR INC [IMI]

5. Relationship of Reporting Person(s) to

Issuer

(Middle)

3. Date of Earliest Transaction

(Month/Day/Year)

01/23/2012

Director 10% Owner

(Check all applicable)

X_ Officer (give title Other (specify below) below) Chief Technology Officer

INTERMOLECULAR, INC., 3011 NORTH FIRST STREET

(Street)

(First)

4. If Amendment, Date Original Filed(Month/Day/Year)

6. Individual or Joint/Group Filing(Check

Applicable Line)

X Form filed by One Reporting Person Form filed by More than One Reporting Person

SAN JOSE, CA 95134-2004

(City) (State) (Zip)

Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned

1. Title of 2. Transaction Date 2A. Deemed Security (Month/Day/Year) (Instr. 3)

Execution Date, if (Month/Day/Year)

3. 4. Securities TransactionAcquired (A) or Code Disposed of (D) (Instr. 3, 4 and 5) (Instr. 8)

5. Amount of Securities Beneficially Owned Following

6. Ownership 7. Nature of Form: Direct Indirect (D) or Indirect Beneficial (I) Ownership (Instr. 4) (Instr. 4)

Reported (A) Transaction(s) (Instr. 3 and 4)

Code V Amount (D) Price

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

Persons who respond to the collection of SEC 1474 information contained in this form are not (9-02)required to respond unless the form displays a currently valid OMB control number.

Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)

1. Title of Derivative Conversion Security or Exercise

3. Transaction Date 3A. Deemed (Month/Day/Year)

Execution Date, if any

4. 5. Number of TransactionDerivative Code Securities

6. Date Exercisable and **Expiration Date** (Month/Day/Year)

7. Title and Amount of 8 **Underlying Securities** (Instr. 3 and 4)

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| (Instr. 3) | Price of Derivative Security | | (Month/Day/Year) | (Instr. | - | Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5) | | | | | |
|------------------------|------------------------------------|------------|------------------|---------|---|--|-----|---------------------|--------------------|-----------------|-------------------------------------|
| | | | | Code | V | (A) | (D) | Date Exercisable | Expiration Date | Title | Amount or Number of Shares |
| Stock Option (right to | \$ 8.84 | 01/23/2012 | | A | | 40,000 | | <u>(1)</u> | 01/23/2022 | Common Stock | 40,000 |

Reporting Owners

Reporting Owner Name / Address Relationships

Director 10% Owner Officer Other

Chiang Tony P. INTERMOLECULAR, INC. 3011 NORTH FIRST STREET SAN JOSE, CA 95134-2004

Chief Technology Officer

Signatures

/s/ Peter L. Eidelman as Attorney in Fact for Mr. Chiang

02/06/2012

Date

**Signature of Reporting Person

Explanation of Responses:

- * If the form is filed by more than one reporting person, see Instruction 4(b)(v).
- ** Intentional misstatements or omissions of facts constitute Federal Criminal Violations. See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

The shares subject to the option will vest and become exercisable as to 25% of the shares on the first anniversary measured from February 1, 2012 (the "Vesting Commencement Date") and the remaining shares subject to the option vest in 36 successive, equal monthly installments thereafter on each monthly anniversary of the Vesting Commencement Date, subject to the Reporting Person's continued employment or service relationship with the Issuer on each such vesting date.

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, *see* Instruction 6 for procedure. Potential persons who are to respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB number.

Reporting Owners 2