

# FORM 4

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

| OMB APPROVAL                                   |           |
|--|-----------|
| OMB Number:                                    | 3235-0287 |
| Estimated average burden hours per response... | 0.5       |

**STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF SECURITIES**

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934 or Section 30(h) of the Investment Company Act of 1940

Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

(Print or Type Responses)

|  |         |   |   |  |   |
|--|---------|---|---|--|---|
| 1. Name and Address of Reporting Person*<br>Poma Eric E        |         | 2. Issuer Name and Ticker or Trading Symbol<br>Molecular Templates, Inc. [MTEM] |   | 5. Relationship of Reporting Person(s) to Issuer<br>(Check all applicable)<br><input checked="" type="checkbox"/> Director <input type="checkbox"/> 10% Owner<br><input checked="" type="checkbox"/> Officer (give title below) <input type="checkbox"/> Other (specify below) |   |
| (Last)   | (First) | (Middle)  | 3. Date of Earliest Transaction (Month/Day/Year)<br>05/31/2018                          |  | See Remarks   |
| C/O MOLECULAR TEMPLATES, INC., 9301 AMBERGLEN BLVD., SUITE 100 |         |   |   |  |   |
| (Street)<br>AUSTIN, TX 78729                                   |         |   | 4. If Amendment, Date Original Filed(Month/Day/Year)                                    |  | 6. Individual or Joint/Group Filing(Check Applicable Line)<br><input checked="" type="checkbox"/> Form filed by One Reporting Person<br><input type="checkbox"/> Form filed by More than One Reporting Person |
| (City)   | (State) | (Zip)   | <b>Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned</b> |  |   |

| 1. Title of Security (Instr. 3) | 2. Transaction Date (Month/Day/Year) | 2A. Deemed Execution Date, if any (Month/Day/Year) | 3. Transaction Code (Instr. 8) |   | 4. Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5) |            | 5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4) | 6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | 7. Nature of Beneficial Ownership (Instr. 4) |
|---------------------------------|--------------------------------------|--|--------------------------------|---|---|------------|---|--|--|
|                                 |                                      |  | Code                           | V | Amount  | (A) or (D) |   |  |  |

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

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

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

| 1. Title of Derivative Security (Instr. 3) | 2. Conversion or Exercise Price of Derivative Security | 3. Transaction Date (Month/Day/Year) | 3A. Deemed Execution Date, if any (Month/Day/Year) | 4. Transaction Code (Instr. 8) |   | 5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5) | 6. Date Exercisable and Expiration Date (Month/Day/Year) |            | 7. Title and Amount of Underlying Securities (Instr. 3 and 4) |                 | 8. Price of Derivative Security (Instr. 5) | 9. Number of Derivative Securities Beneficially Owned Following Reported Transaction(s) (Instr. 4) | 10. Ownership Form of Derivative Security: Direct (D) or Indirect (I) (Instr. 4) | 11. Nature of Indirect Beneficial Ownership (Instr. 4) |
|--|--|--------------------------------------|--|--------------------------------|---|---|--|------------|---|-----------------|--|--|--|--|
|  |  |                                      |  | Code                           | V |   | (A)  | (D)        | Date Exercisable  | Expiration Date |  |  |  |  |
| Stock Option (right to buy)                | \$ 6.31  | 05/31/2018                           |  | A                              |   | 200,000   | (1)  | 05/31/2028 | Common Stock  | 200,000         | \$ 0                                       | 200,000  | D  |  |

## Reporting Owners

| Reporting Owner Name / Address  | Relationships |           |             |       |
|---|---------------|-----------|-------------|-------|
|   | Director      | 10% Owner | Officer     | Other |
| Poma Eric E<br>C/O MOLECULAR TEMPLATES, INC.<br>9301 AMBERGLEN BLVD., SUITE 100<br>AUSTIN, TX 78729 | X             |           | See Remarks |       |

## Signatures

|                                    |            |
|------------------------------------|------------|
| /s/ Jason S. Kim, Attorney-in-fact | 06/04/2018 |
| **Signature of Reporting Person    | Date       |

## 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).

(1) 25% of the total number of shares subject to the option shall vest on May 31, 2019, and thereafter, the remaining 75% of the shares subject to the option shall vest pro rata on a monthly basis over 36 months.

**Remarks:**

Chief Executive Officer and Chief Scientific Officer

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.