

| OMB APPROVAL                                 |           |
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**STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP**

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

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

|   |  |   |
|---|--|---|
| 1. Name and Address of Reporting Person*<br><u>Schenkein David P</u><br><br>(Last) (First) (Middle)<br><u>C/O AGIOS PHARMACEUTICALS, INC.</u><br><u>88 SIDNEY STREET</u><br><br>(Street)<br><u>CAMBRIDGE MA 02139</u><br><br>(City) (State) (Zip) | 2. Issuer Name and Ticker or Trading Symbol<br><u>AGIOS PHARMACEUTICALS INC [ AGIO ]</u> | 5. Relationship of Reporting Person(s) to Issuer (Check all applicable)<br><input checked="" type="checkbox"/> Director 10% Owner<br><input checked="" type="checkbox"/> Officer (give title below) Other (specify below)<br><u>Chief Executive Officer</u> |
|   | 3. Date of Earliest Transaction (Month/Day/Year)<br><u>10/02/2017</u>                    |   |
|   | 4. If Amendment, Date of 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  |

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

| 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 Indirect Beneficial Ownership (Instr. 4) |
|---------------------------------|--------------------------------------|--|--------------------------------|---|---|------------|------------------------|---|--|---|
|                                 |                                      |  | Code                           | V | Amount  | (A) or (D) | Price                  |   |  |   |
| Common stock                    | 10/02/2017                           |  | M <sup>(1)</sup>               |   | 6,000   | A          | \$0.3025               | 6,000   | D  |   |
| Common stock                    | 10/02/2017                           |  | S <sup>(2)</sup>               |   | 6,000   | D          | \$66.76 <sup>(3)</sup> | 0   | D  |   |
| Common stock                    |                                      |  |                                |   |   |            |                        | 271,772   | I  | See footnote <sup>(4)</sup>                           |
| Common stock                    |                                      |  |                                |   |   |            |                        | 79,082  | I  | See footnote <sup>(5)</sup>                           |

**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 Securities Underlying Derivative Security (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: Direct (D) or Indirect (I) (Instr. 4) | 11. Nature of Indirect Beneficial Ownership (Instr. 4) |         |                            |  |
|--|--|--------------------------------------|--|--------------------------------|---|--|-------|--|-----------------|---|--|--|---|--|---------|----------------------------|--|
|  |  |                                      |  | Code                           | V | (A)  | (D)   | Date Exercisable   | Expiration Date |   |  |  |   |  | Title   | Amount or Number of Shares |  |
| Stock option (right to buy)                | \$0.3025   | 10/02/2017                           |  | M <sup>(1)</sup>               |   |  | 6,000 |  |                 | (6)   | 08/12/2019                                 | Common stock   | 6,000   | \$0.00   | 112,656 | D                          |  |

**Explanation of Responses:**

- This exercise was effected pursuant to a Rule 10b5-1 trading plan adopted by the reporting person.
- This sale was effected pursuant to a Rule 10b5-1 trading plan adopted by the reporting person.
- The price reported is the weighted average of the shares sold. The shares were sold at varying prices in the range of \$66.21 to \$67.18. The reporting person undertakes, upon request by the staff of the Securities and Exchange Commission, the issuer, or a security holder of the issuer, to provide full information regarding the number of shares sold at each separate price.
- Shares held by David P. Schenkein 2004 Revocable Trust, of which the reporting person is trustee and beneficiary.
- Shares held by Amy P. Schenkein 2004 Revocable Trust, of which the reporting person's spouse is trustee and beneficiary.
- This option was granted on August 13, 2009. The shares underlying this option vest as to 25% of the shares on August 1, 2010, with the remaining 75% vesting in 36 equal monthly installments thereafter.

**Remarks:**

/s/ Andrew Hirsch, as Attorney in Fact for David Schenkein 10/04/2017

\*\* Signature of Reporting Person Date

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

\* 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).

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.

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 Number.