FORM 4

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

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

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

OMB APPROVAL OMB Number: Estimated average burden hours per response: 0.5

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* Schenkein David P | | | | | | 2. Issuer Name and Ticker or Trading Symbol AGIOS PHARMACEUTICALS INC [AGIO | | | | | | | | Relationship of Reporting Person(s) to Issuer (Check all applicable) X Director 10% Owner | | | | |
|--|---|------------|--|----------|-----------------------------|---|-----|--------|------------------------------|--------|---|-----------------|--|---|---|---|---|--|
| (Last) (First) (Middle) C/O AGIOS PHARMACEUTICALS, INC. 88 SIDNEY STREET | | | | | | 3. Date of Earliest Transaction (Month/Day/Year) 05/01/2018 | | | | | | | | X Officer (give title Other (specify below) Chief Executive Officer | | | | |
| (Street) CAMBRIDGE MA 02139 (City) (State) (Zip) | | | | | | 4. If Amendment, Date of 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 | | | | | | | | | | | | 1 |
| Table I - Non-Deriva 1. Title of Security (Instr. 3) 2. Transacti Date (Month/Day | | | | | action | on 2A. Deemed Execution Date | | | 3. Transa Code (8) | ction | 4. Securities Acquired (A) or Disposed Of (D) (Instr. 3, 4 and | | | 5. Amount of | | 6. Owners Form: Dir (D) or Ind (I) (Instr. 4 | ect In | 7. Nature of Indirect Beneficial Ownership |
| | | | | | | | | ,, | Code | v | Amount | (A) or (D) | Price | Reported Transacti (Instr. 3 a | on(s) | (1) (| | nstr. 4) |
| Common stock | | | | | 05/01/2018 | | | | M ⁽¹⁾ | | 13,000 | A | \$0.3025 | 13,0 | 000 | | | |
| Common stock | | | | | 05/01/2018 | | | | S ⁽²⁾ | | 10,086 | D | \$82.88 | 2,9 | 14 | D | | |
| Common stock (| | | | | 05/01/2018 | | | | S ⁽²⁾ | | 2,814 | D | \$83.56 | 10 | 00 | D | | |
| Common stock 0 | | | | | 5/01/2018 | | | | S ⁽²⁾ | | 100 | D | \$84.35 | C |) | D | | |
| Common stock | | | | | | | | | | | | | 271,772 | | I | 1. | ee ootnote ⁽⁵⁾ | |
| Common stock | | | | | | | | | | | | | | 79,0 |)82 | I | | ee ootnote ⁽⁶⁾ |
| 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) | tive Conversion Date Execution Date or Exercise (Month/Day/Year) if any | | | on Date, | Date, Transaction Code (Ins | | | | 6. Date Expirat (Month | ion Da | | | ties g e Security | 8. Price of Derivative Security (Instr. 5) | 9. Numbe derivative Securitie Beneficia Owned Following Reported Transacti (Instr. 4) | e Oversially Dispersion or (I) | vnership rm: rect (D) Indirect (Instr. 4) | 11. Nature of Indirect Beneficial Ownership (Instr. 4) |
| | | | | | Code | de V | (A) | (D) | Date Exercis | sable | Expiration Date | Title | Amount or Number of Shares | ber | | | | |
| Stock option (right to buy) | \$0.3025 | 05/01/2018 | | | M ⁽¹⁾ | | | 13,000 | (7) | | 08/12/2019 | Common stock | 13,000 | \$0.00 | \$0.00 65,563 | | D | |

Explanation of Responses:

- 1. This exercise was effected pursuant to a Rule 10b5-1 trading plan adopted by the reporting person.
- 2. This sale was effected pursuant to a Rule 10b5-1 trading plan adopted by the reporting person.
- 3. The price reported is the weighted average of the shares sold. The shares were sold at varying prices in the range of \$82.29 to \$83.28. 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.
- 4. The price reported is the weighted average of the shares sold. The shares were sold at varying prices in the range of \$83.29 to \$84.20. 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.
- 5. Shares held by David P. Schenkein 2004 Revocable Trust, of which the reporting person is trustee and beneficiary.
- 6. Shares held by Amy P. Schenkein 2004 Revocable Trust, of which the reporting person's spouse is trustee and beneficiary.
- 7. This option was granted on August 13, 2009. The option vested as to 50% of the underlying shares upon the achievement of a performance milestone, as determined by the issuer's Board of Directors on June 3, 2010, and as to the remaining 50% of the underlying shares in equal monthly installments through June 3, 2013.

Remarks:

/s/ William Cook, as Attorney in Fact for David Schenkein

05/03/2018

** 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.