

| OMB APPROVAL | |
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INITIAL STATEMENT OF BENEFICIAL OWNERSHIP OF SECURITIES

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934, Section 17(a) of the Public Utility Holding Company Act of 1935 or Section 30(h) of the Investment Company Act of 1940

| | | | |
|--|--|--|--|
| 1. Name and Address of Reporting Person* Flagship Ventures Fund 2007, L.P. (Last) (First) (Middle) ONE MEMORIAL DRIVE, 7TH FLOOR (Street) CAMBRIDGE MA 02142 (City) (State) (Zip) | 2. Date of Event Requiring Statement (Month/Day/Year) 07/23/2013 | 3. Issuer Name and Ticker or Trading Symbol AGIOS PHARMACEUTICALS INC [AGIO] | |
| | | 4. Relationship of Reporting Person(s) to Issuer (Check all applicable) Director <input checked="" type="checkbox"/> 10% Owner Officer (give title below) <input type="checkbox"/> Other (specify below) | 5. If Amendment, Date of Original Filed (Month/Day/Year) 6. Individual or Joint/Group Filing (Check Applicable Line) <input type="checkbox"/> Form filed by One Reporting Person <input checked="" type="checkbox"/> Form filed by More than One Reporting Person |

| Table I - Non-Derivative Securities Beneficially Owned | | | |
|--|--|--|---|
| 1. Title of Security (Instr. 4) | 2. Amount of Securities Owned (Instr. 4) | 3. Ownership Form: Direct (D) or Indirect (I) (Instr. 5) | 4. Nature of Indirect Beneficial Ownership (Instr. 5) |
| | | | |

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

| 1. Title of Derivative Security (Instr. 4) | 2. Date Exercisable and Expiration Date (Month/Day/Year) | | 3. Title and Amount of Securities Underlying Derivative Security (Instr. 4) | | 4. Conversion or Exercise Price of Derivative Security | 5. Ownership Form: Direct (D) or Indirect (I) (Instr. 5) | 6. Nature of Indirect Beneficial Ownership (Instr. 5) |
|--|--|-----------------|---|---|--|--|---|
| | Date Exercisable | Expiration Date | Title | Amount or Number of Shares ^M | | | |
| Series A Convertible Preferred Stock | (1) | (1) | Common Stock | 3,636,362 | \$ ⁽¹⁾ | D ⁽²⁾ | |
| Series C-2 Convertible Preferred Stock | (3) | (3) | Common Stock | 224,374 | \$ ⁽³⁾ | D ⁽²⁾ | |

Explanation of Responses:

- The Series A Convertible Preferred Stock is convertible into Common Stock on a 1-for-2.75 basis into the number of shares of Common Stock as shown in column 3 at any time at the holder's election and automatically upon the closing of the Issuer's initial public offering. The shares have no expiration date.
- These shares are held by Flagship Ventures Fund 2007, L.P. ("Flagship 2007"). Flagship Ventures 2007 General Partner, LLC ("Flagship 2007 LLC") is the general partner of Flagship 2007. Noubar B. Afeyan Ph.D. and Edwin M. Kania, Jr. are the managers of Flagship 2007 LLC. Flagship 2007 LLC and each of these individuals may be deemed to share voting and investment power with respect to all shares held by Flagship 2007. Each of the filing persons disclaims beneficial ownership of the shares except to the extent of any pecuniary interest therein.
- The Series C-2 Convertible Preferred Stock is convertible into Common Stock on a 1-for-2.75 basis into the number of shares of Common Stock as shown in column 3 at any time at the holder's election and automatically upon the closing of the Issuer's initial public offering. The shares have no expiration date.

By: /s/ Noubar B. Afeyan
Ph. D., for Flagship
Ventures Fund 2007, L.P.
as Manager of Flagship 07/23/2013
Ventures 2007 General
Partner LLC, its General
Partner

** Signature of Reporting Person Date

By: /s/ Noubar B. Afeyan
Ph. D., as Manager of
Flagship Ventures 2007 07/23/2013
General Partner LLC

** Signature of Reporting Person Date

By: /s/ Noubar B. Afeyan
Ph. D. 07/23/2013

** Signature of Reporting Person Date

By: /s/ Edwin M. Kania, Jr. 07/23/2013

** 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 5(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.