

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

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* <u>Greene Barry E</u>			2. Issuer Name and Ticker or Trading Symbol <u>ALNYLAM PHARMACEUTICALS, INC.</u> [<u>ALNY</u>]			5. Relationship of Reporting Person(s) to Issuer (Check all applicable) Director 10% Owner <input checked="" type="checkbox"/> Officer (give title below) Other (specify below) President		
(Last)	(First)	(Middle)	3. Date of Earliest Transaction (Month/Day/Year) <u>08/06/2019</u>			6. Individual or Joint/Group Filing (Check Applicable Line) <input checked="" type="checkbox"/> Form filed by One Reporting Person Form filed by More than One Reporting Person		
300 THIRD STREET			4. If Amendment, Date of Original Filed (Month/Day/Year)					
(Street) <u>CAMBRIDGE MA 02142</u>								
(City) (State) (Zip)								

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	07/11/2019		J ⁽¹⁾	V	46	A	\$0.0 ⁽¹⁾	3,003	I	by Managed Account ⁽¹⁾
Common Stock								52,938	D	
Common Stock								9,030	I	by Trust ⁽²⁾

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
Performance Stock Option 2015 (right to buy)	\$88.95	08/06/2019		A ⁽³⁾		10,000		08/06/2019	12/18/2025	Common Stock	10,000	\$88.95	40,000	D	
Performance Stock Option 2016 (right to buy)	\$42.22	08/06/2019		A ⁽⁴⁾		6,250		08/06/2019	12/20/2026	Common Stock	6,250	\$0.0	25,000	D	

Explanation of Responses:

- Reflects shares of ALNY common stock acquired by the reporting person under the ALNY 401(k) plan as a result of the ALNY 401(k) matching contribution program.
- The 9,030 shares were previously reported as directly beneficially owned. On 7/31/2018, the shares were contributed to the "Barry E. Greene Qualified Annuity Interest Trust" (GRAT). Barry E. Greene is the sole Trustee
- On December 18, 2015, the reporting person was granted a performance based stock option to purchase shares of ALNY common stock. One quarter of the shares subject to the option vested upon the achievement of each of four specific clinical development or commercial events, as approved by our compensation committee. The compensation committee of the Company determined that the fourth performance criterion was met effective as of August 6, 2019 and the option vested as to the final one-quarter of the shares as of such date.
- On December 20, 2016, the reporting person was granted a performance based stock option to purchase shares of ALNY common stock. One quarter of the shares subject to the option vested upon the achievement of each of four specific clinical development, regulatory or commercial events, as approved by our compensation committee. The compensation committee of the Company determined that the fourth performance criterion was met effective as of August 6, 2019 and the option vested as to the final one-quarter of the shares as of such date.

By: Mary Beth DeLena
 Attorney-in-Fact For: Barry E. Greene 08/07/2019

** 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.