

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>Greenstreet Yvonne</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) <u>EVP, Chief Operating Officer</u>		
(Last)	(First)	(Middle)	3. Date of Earliest Transaction (Month/Day/Year) <u>08/13/2018</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</u>	<u>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	08/13/2018		A <sup>(1)</sup>		7,500	A	\$0.0	7,500	D	
Common Stock	08/13/2018		F		3,084	D	\$90.95	4,416	D	
Common Stock	04/16/2018		J <sup>(2)</sup>	V	37	A	\$0.0 <sup>(2)</sup>	270	I	by Managed Account <sup>(2)</sup>
Common Stock	07/10/2018		J <sup>(2)</sup>	V	38	A	\$0.0 <sup>(2)</sup>	308	I	by Managed Account <sup>(2)</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					
Performance Stock Option 2016 (right to buy)	\$77.1	08/13/2018		A <sup>(3)</sup>		25,000		08/13/2018	09/19/2026	Common Stock	\$0.0	25,000	D	

**Explanation of Responses:**

- On June 29, 2017, the reporting person was granted a restricted stock unit (RSU) to purchase shares of ALNY common stock. One half of the shares subject to release will vest upon the achievement of each of two specific commercial events as approved by our compensation committee. Effective August 13, 2018, the compensation committee of the Company determined the first performance criterion has been met and one half of the shares have vested.
- 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.
- On September 19, 2016, the reporting person was granted a performance based stock option to purchase shares of ALNY common stock. The shares subject to the option will vest upon the commercial launch of Alnylams first internally developed product, as approved by our compensation committee. Effective August 13, 2018, the compensation committee of the Company determined the performance criterion has been met and the option shares have vested.

By: /s/ Michael P. Mason,  
Attorney-in-Fact For: Yvonne 08/14/2018  
Greenstreet

\*\* 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.**