

FORM 4

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

☐ Check this box to indicate that a transaction was made pursuant to a contract, instruction or written plan that is intended to satisfy the affirmative defense conditions of Rule 10b5-1(c). See Instruction 10.

UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF
SECURITIES

OMB APPROVAL
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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 * Greenstreet Yvonne (Last) (First) (Middle) 675 WEST KENDALL STREET (Street) CAMBRIDGE MASSACHUSETTS 02142 (City) (State) (Zip/Postal Code) UNITED STATES (Country)	2. Issuer Name and Ticker or Trading Symbol ALNYLAM PHARMACEUTICALS, INC. [ALNY] 3. Date of Earliest Transaction (MM/DD/YYYY) 9/19/2026 4. If Amendment, Date Original Filed (MM/DD/YYYY)	5. Relationship of Reporting Person(s) to Issuer (Check all applicable) ☒ Director ☐ 10% Owner ☒ Officer (give title below) ☐ Other (specify below) Chief Executive Officer 6. Individual or Joint/Group Filing (Check Applicable Line) ☒ Form filed by One Reporting Person ☐ Form filed by More than One Reporting Person
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Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned										
1. Title of Security (Instr. 3)	2. Trans. Date	2A. Deemed Execution Date, if any	3. Trans. 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	9/19/2026		A ⁽¹⁾		107	A	\$0	95,802	D	
Common Stock								407	I	by Managed Account ⁽²⁾

Table II - Derivative Securities Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)														
1. Title of Derivate Security (Instr. 3)	2. Conversion or Exercise Price of Derivative Security	3. Trans. Date	3A. Deemed Execution Date, if any	4. Trans. 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		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 of Derivative Security: Direct (D) or Indirect (I) (Instr. 4)	11. Nature of Indirect Beneficial Ownership (Instr. 4)
				Code	V		(A)	(D)	Date Exercisable	Expiration Date				

Explanation of Responses:

- (1) On February 23, 2016, the People, Culture, and Compensation Committee of the issuer approved the issuance of shares of Company common stock having an aggregate value of USD \$50,000 to each employee who completes 10 consecutive years of employment. The shares issued and reported here on Form 4, net of the minimum statutory tax liability, were issued to the reporting person in recognition of 10 years of continuous employment on September 19, 2026.
- (2) 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.

Reporting Owners

Reporting Owner Name / Address	Relationships			
	Director	10% Owner	Officer	Other
Greenstreet Yvonne 675 WEST KENDALL STREET CAMBRIDGE MASSACHUSETTS	X		Chief Executive Officer	

02142				
UNITED STATES				

Signatures

Brett Budzinski, Attorney-in-Fact For: Yvonne Greenstreet	9/22/2026
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 control number.

* Form 4: SEC 1474 (03-26).