

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

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934 or
Section 30(h) of the Investment Company Act of 1940

OMB APPROVAL
OMB Number: 3235-0287
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1. Name and Address of Reporting Person * Arbuckle Stuart A (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) 5/20/2026 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) 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)
Common Stock	5/20/2026		A	671 (1) A \$0	671	D	

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)
Stock Option (Right to Buy)	\$298.48	5/20/2026		A	1,441	5/20/2027 (2) 5/20/2036	Common Stock	1,441	\$0	1,441	D

Explanation of Responses:

- (1) These shares are represented by restricted stock units (RSUs) granted under the Second Amended and Restated 2018 Stock Incentive Plan. Each RSU represents a contingent right to receive one share of common stock. The RSUs will vest in full upon the earlier of the first anniversary of the grant date and the date of any earlier retirement or resignation of the Reporting Person, provided such date of retirement or resignation occurs no more than 90 days prior to the first anniversary of the grant date.
- (2) The stock option will vest in full upon the earlier of the first anniversary of the grant date and the date of any earlier retirement or resignation of the Reporting Person, provided such date of retirement or resignation occurs no more than 90 days prior to the first anniversary of the grant date.

Reporting Owners

Reporting Owner Name / Address	Relationships			
	Director	10% Owner	Officer	Other
Arbuckle Stuart A 675 WEST KENDALL STREET CAMBRIDGE MASSACHUSETTS	X			

02142				
UNITED STATES				

Signatures

Brett Budzinski, Attorney-in-Fact For: Stuart A. Arbuckle

5/22/2026

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).