

FORM 4

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

☐ 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

OMB APPROVAL

OMB Number: 3235-0287

Estimated average burden hours per response: 0.5

1. Name and Address of Reporting Person* <u>Poulton Jeffrey V.</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 Financial Officer</u>		
(Last)	(First)	(Middle)	3. Date of Earliest Transaction (Month/Day/Year) <u>02/27/2024</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		
<u>675 WEST KENDALL STREET</u> <u>HENRI A. TERMEER SQUARE</u>			4. If Amendment, Date of Original Filed (Month/Day/Year)					
(Street) <u>CAMBRIDGE MA 02142</u>								
(City) (State) (Zip)			Rule 10b5-1(c) Transaction Indication <input type="checkbox"/> 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.					

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	02/27/2024		M		1,908	A	\$0.0	20,052	D	
Common Stock	02/28/2024		S ⁽¹⁾		247	D	\$154.54 ⁽²⁾	19,805	D	
Common Stock	02/28/2024		S ⁽¹⁾		194	D	\$155.45 ⁽³⁾	19,611	D	
Common Stock	02/28/2024		S ⁽¹⁾		115	D	\$156.38 ⁽⁴⁾	19,496	D	
Common Stock	02/28/2024		S ⁽¹⁾		17	D	\$157.3 ⁽⁵⁾	19,479	D	
Common Stock	02/28/2024		S ⁽¹⁾		1	D	\$158.09	19,478	D	
Common Stock								57	I	by Managed Account ⁽⁶⁾

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	Amount or Number of Shares				
Restricted Stock Units	(7)	02/27/2024		M			1,908	(8)	(8)	Common Stock	1,908	\$0.0	3,816	D	

Explanation of Responses:

1. Represents shares automatically sold by the Company on behalf of the reporting person pursuant to a mandatory sell-to-cover provision in the award agreement required to cover minimum statutory tax withholding obligations that became due upon the vesting and settlement of restricted stock units reported in this form.
2. The price reported represents the weighted average sales price of shares sold in multiple transactions at prices ranging from \$153.94 to \$154.94. The reporting person will provide to the issuer, any security holder of the issuer or the SEC staff, upon request, information regarding the number of shares sold at each price within the range.
3. The price reported represents the weighted average sales price of shares sold in multiple transactions at prices ranging from \$154.95 to \$155.95. The reporting person will provide to the issuer, any security holder of the issuer or the SEC staff, upon request, information regarding the number of shares sold at each price within the range.
4. The price reported represents the weighted average sales price of shares sold in multiple transactions at prices ranging from \$155.96 to \$156.91. The reporting person will provide to the issuer, any security holder of the issuer or the SEC staff, upon request, information regarding the number of shares sold at each price within the range.
5. The price reported represents the weighted average sales price of shares sold in multiple transactions at prices ranging from \$157.01 to \$157.99. The reporting person will provide to the issuer, any security holder of the issuer or the SEC staff, upon request, information regarding the number of shares sold at each price within the range.
6. Reflects shares of ALNY common stock acquired by the reporting person under the issuer 401(k) plan as a result of the issuer 401(k) matching contribution program.
7. Each restricted stock unit represents a contingent right to receive one share of ALNY common stock.
8. On February 27, 2023, the reporting person was granted 5,724 restricted stock units that vest ratably on each of the first, second and third anniversaries of the Grant Date. On February 27, 2024, the first tranche of restricted stock units from the February 27, 2023 grant vested and was released, as reported on this Form 4.

By: Stephen Hall, Attorney-in-Fact For: Jeffrey V. Poulton 02/29/2024

** 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.

