

☐ 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> (Last) (First) (Middle) <u>675 WEST KENDALL STREET</u> <u>HENRI A. TERMEER SQUARE</u> (Street) <u>CAMBRIDGE</u> <u>MA</u> <u>02142</u> (City) (State) (Zip)	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>
	3. Date of Earliest Transaction (Month/Day/Year) <u>03/01/2024</u>	
	4. If Amendment, Date of Original Filed (Month/Day/Year)	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	03/01/2024		A		7,741 ⁽¹⁾	A	\$0.0	27,219 ⁽²⁾	D	
Common Stock								57	I	by Managed Account ⁽³⁾

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					
Stock Option (right to buy)	\$152.61	03/01/2024		A		15,118		(4)	03/01/2034	Common Stock 15,118	\$0.0	15,118	D	

Explanation of Responses:

1. These shares are represented by restricted stock units (RSUs) granted under the Amended and Restated 2018 Stock Incentive Plan. Each RSU represents a contingent right to receive one share of common stock. The RSUs will vest over a three-year period, with one third vesting on each of the first, second and third anniversaries of the grant date, subject to the Reporting Persons continuous service with the Issuer as of each such vesting date.
2. The Reporting Person has reported prior awards of RSUs in Table II of Form 4. The total reported in Column 5 includes the 7,741 newly awarded RSUs and 19,478 shares of common stock. The Reporting Person also holds 3,816 unvested RSUs that were previously reported in Table II.
3. 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.
4. The stock option vests as to 25% of the shares on the first anniversary of the grant date and the remaining shares vesting in equal installments at the end of each successive three-month period thereafter until the fourth anniversary of the grant date, subject to the Reporting Persons continuous service with the Issuer as of each such vesting date.

By: Stephen Hall, Attorney-in-Fact For: Jeffrey V. Poulton 03/05/2024

** 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.

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.