

FORM 4

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

OMB APPROVAL

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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

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

1. Name and Address of Reporting Person* <b>PAUL STEVEN M</b> <hr/> (Last) (First) (Middle) <b>675 WEST KENDALL STREET</b> <b>HENRI A. TERMEER SQUARE</b> <hr/> (Street) <b>CAMBRIDGE MA 02142</b> <hr/> (City) (State) (Zip)			2. Issuer Name and Ticker or Trading Symbol <b>ALNYLAM PHARMACEUTICALS, INC.</b> <b>[ ALNY ]</b>		5. Relationship of Reporting Person(s) to Issuer (Check all applicable) <input checked="" type="checkbox"/> Director 10% Owner Officer (give title below) Other (specify below)	
			3. Date of Earliest Transaction (Month/Day/Year) <b>12/18/2020</b>			
			4. If Amendment, Date of Original Filed (Month/Day/Year)		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	

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	12/18/2020		M <sup>(1)</sup>		15,000	A	\$9.3	16,000	D	
Common Stock	12/18/2020		S <sup>(1)</sup>		15,000	D	\$140	1,000	D	

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		Date Exercisable	Expiration Date	Title	Amount or Number of Shares				
Stock Option (right to buy)	\$9.3	12/18/2020		M <sup>(1)</sup>		15,000	06/09/2012	06/09/2021	Common Stock	15,000	\$0.0	0	D	

Explanation of Responses:

1. All sales reported on this Form 4 were made pursuant to a Rule 10b5-1 trading plan adopted by the reporting person on August 12, 2020. The 15,000 options exercised and sold by the reporting person were due to expire on June 9, 2021.

By: /s/ Mary Beth DeLena,  
Attorney-in-Fact For: Steven M. Paul  
12/22/2020

\*\* 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.