

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* <u>MARAGANORE JOHN</u> (Last) (First) (Middle) 675 WEST KENDALL STREET HENRI A. TERMEER SQUARE (Street) CAMBRIDGE MA 02142 (City) (State) (Zip)	2. Issuer Name and Ticker or Trading Symbol <u>ALNYLAM PHARMACEUTICALS, INC.</u> [ALNY]	5. Relationship of Reporting Person(s) to Issuer (Check all applicable) <input checked="" type="checkbox"/> Director 10% Owner <input checked="" type="checkbox"/> Officer (give title below) Other (specify below) Chief Executive Officer
	3. Date of Earliest Transaction (Month/Day/Year) 02/11/2021	
4. If Amendment, Date of Original Filed (Month/Day/Year)		

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	02/11/2021		A ⁽¹⁾		14,166	A	\$0.0	211,755	D	
Common Stock	02/12/2021		F ⁽²⁾		5,412	D	\$156	206,343	D	
Common Stock	02/12/2021		F ⁽²⁾		307	D	\$151.937	206,036	D	
Common Stock								3,133	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						Title
Performance Stock Option 2017 (right to buy)	\$119.13	02/11/2021		A ⁽⁴⁾		17,504		02/11/2021	03/01/2028	Common Stock	17,504	\$0.0	52,500	D	

Explanation of Responses:

- On February 28, 2019, the reporting person was granted performance-based restricted stock units (PSU) in connection with the 2018 year-end compensation review. One third of the PSU award vests upon the achievement of each of three specific clinical development, regulatory or commercial events. The People, Culture and Compensation Committee of the Board determined that the second performance criterion was met and an additional one-third of the PSU award vested as of February 11, 2021.
- Represents shares automatically sold by the Company on behalf of the reporting person pursuant to a mandatory sell-to-cover provision in the PSU award agreement required to cover minimum statutory tax withholding obligations that became due upon the vesting event.
- 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.
- On March 1, 2018, the reporting person was granted a performance based stock option to purchase shares of ALNY common stock in connection with the 2017 year-end compensation review. One third of the shares subject to the option vests upon the achievement of each of three specific clinical development, regulatory or commercial events. The People, Culture and Compensation Committee of the Board determined that the third performance criterion was met and the option vested as to the final one third of the shares as of February 11, 2021.

By: /s/ Mary Beth DeLena,
Attorney-in-Fact For: John M. Maraganore 02/16/2021

** 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.