

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

1. Name and Address of Reporting Person* <u>Mason Michael</u> <hr/> (Last) (First) (Middle) 300 THIRD STREET <hr/> (Street) CAMBRIDGE MA 02142 <hr/> (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) Director 10% Owner Officer (give title below) Other (specify below) X VP, Finance and Treasurer
	3. Date of Earliest Transaction (Month/Day/Year) 01/04/2018	
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	01/04/2018		M ⁽¹⁾		1,388	A	\$42.22	6,352	D	
Common Stock	01/04/2018		M ⁽¹⁾		1,667	A	\$63	8,019	D	
Common Stock	01/04/2018		M ⁽¹⁾		3,600	A	\$88.95	11,619	D	
Common Stock	01/04/2018		M ⁽¹⁾		2,750	A	\$96.45	14,369	D	
Common Stock	01/04/2018		M ⁽¹⁾		2,750	A	\$96.45	17,119	D	
Common Stock	01/04/2018		M ⁽¹⁾		10,000	A	\$97.72	27,119	D	
Common Stock	01/04/2018		M ⁽¹⁾		6,187	A	\$96.45	33,306	D	
Common Stock	01/04/2018		M ⁽¹⁾		3,439	A	\$63	36,745	D	
Common Stock	01/04/2018		S ⁽¹⁾		5,249	D	\$130.42 ⁽²⁾	31,496	D	
Common Stock	01/04/2018		S ⁽¹⁾		16,500	D	\$131.2 ⁽³⁾	14,996	D	
Common Stock	01/04/2018		S ⁽¹⁾		12,405	D	\$132.18 ⁽⁴⁾	2,591	D	
Common Stock	01/04/2018		S ⁽¹⁾		1,591	D	\$132.98 ⁽⁵⁾	1,000	D	
Common Stock	01/04/2018		S ⁽¹⁾		400	D	\$133.83 ⁽⁶⁾	600	D	
Common Stock	01/04/2018		S ⁽¹⁾		600	D	\$135 ⁽⁷⁾	0	D	
Common Stock								226	I	by Managed Account ⁽⁸⁾

**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				
Performance Stock Option 2013 (right to buy)	\$63	01/04/2018		M ⁽¹⁾			1,667	09/20/2017	12/17/2023	Common Stock	1,667	\$0.0	0	D	
Performance Stock Option 2014 (right to buy)	\$96.45	01/04/2018		M ⁽¹⁾			2,750	02/01/2016	12/17/2024	Common Stock	2,750	\$0.0	2,750	D	
Performance Stock Option 2014 (right to buy)	\$96.45	01/04/2018		M ⁽¹⁾			2,750	07/07/2017	12/17/2024	Common Stock	2,750	\$0.0	0	D	
Stock Option (right to buy)	\$42.22	01/04/2018		M ⁽¹⁾			1,388	(9)	12/20/2026	Common Stock	1,388	\$0.0	4,162	D	
Stock Option (right to buy)	\$63	01/04/2018		M ⁽¹⁾			3,439	(9)	12/18/2023	Common Stock	3,439	\$0.0	0	D	
Stock Option (right to buy)	\$88.95	01/04/2018		M ⁽¹⁾			3,600	(9)	12/18/2025	Common Stock	3,600	\$0.0	3,600	D	
Stock Option (right to buy)	\$96.45	01/04/2018		M ⁽¹⁾			6,187	(9)	12/17/2024	Common Stock	6,187	\$0.0	2,063	D	
Stock Option (right to buy)	\$97.72	01/04/2018		M ⁽¹⁾			10,000	12/07/2015	12/07/2025	Common Stock	10,000	\$0.0	0	D	

Explanation of Responses:

- All sales reported on this Form 4 were made pursuant to a Rule 10b5-1 trading plan adopted by the reporting person on October 2, 2017.
- Sale prices ranged from \$129.74 to \$130.72.
- Sale prices ranged from \$130.74 to \$131.73.
- Sale prices ranged from \$131.75 to \$132.71.
- Sale prices ranged from \$132.75 to \$133.71.
- Sale prices ranged from \$133.78 to \$134.11.
- Sale prices ranged from \$134.94 to \$135.10
- The reporting person owns 226 shares of ALNY common stock under the ALNY 401(k) plan as a result of the ALNY 401(k) matching contribution program.
- The stock option vests as to 25% of the shares on the 1st anniversary of the date of the stock option grant and as to an additional 6.25% of the shares each successive three month period thereafter.

/s/ Michael P. Mason 01/08/2018

** 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.