FORM 4

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

OMB APPROVAL

3235-0287 Estimated average burden hours per response: 0.5

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

1. Name and Address of Reporting Person* Tanguler Tolga (Last) (First) (Middle) 675 WEST KENDALL STREET HENRI A. TERMEER SQUARE						2. Issuer Name and Ticker or Trading Symbol ALNYLAM PHARMACEUTICALS, INC. [ALNY] 3. Date of Earliest Transaction (Month/Day/Year) 06/24/2024 4. If Amendment, Date of Original Filed (Month/Day/Year)							5. Relationship of Reporting Person(s) to Issuer (Check all applicable) Director 10% Owner Officer (give title Other (specify below) EVP, Chief Commercial Officer 6. Individual or Joint/Group Filing (Check Applicable Line)			
(Street) CAMBRIDGE MA 02142					Form filed by One Reporting Person Form filed by More than One Reporting Person											
(City) (State) (Zip)					Rule 10b5-1(c) Transaction Indication 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.											
		Tabl	e I - N	Non-Deriva	tive	Secur	ities	Acqui	ed, [Disposed o	of, or l	Benefici	ially	Owned		
1. Title of Security (Instr. 3) 2. Transaction Date (Month/Day/Y				ear) E	2A. Deemed Execution Date, if any (Month/Day/Year)		Code	action (Instr.	4. Securities Acquir Disposed Of (D) (Ins				5. Amount of Securities Beneficially Owned Following	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Indirect Beneficial Ownership	
								Code	v	Amount	(A) or (D)	Price		Reported Transaction(s) (Instr. 3 and 4)		(Instr. 4)
Common	Stock			06/24/202	24			A ⁽¹⁾		3,278	A	\$0.0)	13,265	D	
Common Stock				06/25/2024				S ⁽²⁾		59	D	\$221.7	1(3)	13,206	D	
Common Stock				06/25/2024				S ⁽²⁾		13	D	\$224.1	7(4)	13,193	D	
Common Stock				06/25/2024				S ⁽²⁾		18	D	\$225.5	5 ⁽⁵⁾	13,175	D	
Common Stock				06/25/2024				S ⁽²⁾		34	D	\$226.8	2(6)	13,141	D	
Common Stock				06/25/2024				S ⁽²⁾		129	D	\$228.3	3 (7)	13,012	D	
Common Stock				06/25/2024				S ⁽²⁾		266	D	\$229.0	6(8)	12,746	D	
Common Stock				06/25/2024				S (2)		304	D	\$229.9	3(9)	12,442	D	
Common Stock				06/25/2024				S ⁽²⁾		99	D	\$231.59	9(10)	12,343	D	
Common Stock				06/25/2024				S ⁽²⁾		216	D	\$232.54	4 ⁽¹¹⁾	12,127	D	
Common Stock 06/2				06/25/202	24			S ⁽²⁾		115	D	\$233.53	3(12)	12,012	D	
Common Stock 06/25/202				24			S ⁽²⁾		185	D	\$234.60	6(13)	11,827	D		
Common	Stock			06/25/202	24			S ⁽²⁾		167	D	\$235.19	9(14)	11,660	D	
		Ta	able I	II - Derivati						sposed of,				wned		
1. Title of Derivative Conversion or Exercise Price of Derivative Security			3A. Deemed Execution Date,		4. Transa	ansaction ode (Instr. E				vercisable and	7. Tit Amo Secu Unde Deriv	le and unt of urities erlying rative urity (Instr. d 4)	8. Pr		Ownership Form: Direct (D) or Indirect (I) (Instr. 4	Beneficial Ownership (Instr. 4)
					Code	v	(A)	(D) Da	te ercisal	Expiration Date	Title	or Number of Shares				

Explanation of Responses:

- 1. On February 23, 2022, the reporting person was granted a performance-based stock unit (PSU) under the 2018 Stock Incentive Plan. The shares subject to the PSU vest based on the achievement of three specified performance measures. The shares reported were issued to the reporting person upon vesting of one-third of the shares subject to the PSU based on the issuer publicly reporting of a positive, statistically significant result on a clinical outcomes endpoint from a Phase 3 clinical study in ATTR amyloidosis with cardiomyopathy, as determined by The People, Culture and Compensation Committee of the Issuer Board of Directors on June 24, 2024.
- 2. 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.
- 3. The price reported represents the weighted average sales price of shares sold in multiple transactions at prices ranging from \$221.37 to \$222.00. 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 \$223.92 to \$224.43. 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 \$224.99 to \$225.98. The reporting person will provide to the issuer, any ecurity holder of the issuer or the SEC staff, upon request, information regarding the number of shares sold at each price within the range
- 6. The price reported represents the weighted average sales price of shares sold in multiple transactions at prices ranging from \$226.45 to \$227.35. 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.

- 7. The price reported represents the weighted average sales price of shares sold in multiple transactions at prices ranging from \$227.72 to \$228.71. 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.
- 8. The price reported represents the weighted average sales price of shares sold in multiple transactions at prices ranging from \$228.75 to \$229.72. 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.
- 9. The price reported represents the weighted average sales price of shares sold in multiple transactions at prices ranging from \$229.76 to \$230.70. 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.
- 10. The price reported represents the weighted average sales price of shares sold in multiple transactions at prices ranging from \$230.92 to \$231.78. 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.
- 11. The price reported represents the weighted average sales price of shares sold in multiple transactions at prices ranging from \$231.97 to \$232.97. 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.

 12. The price reported represents the weighted average sales price of shares sold in multiple transactions at prices ranging from \$233.00 to \$234.00. 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.

 13. The price reported represents the weighted average sales price of shares sold in multiple transactions at prices ranging from \$234.06 to \$235.04. 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.

 14. The price reported represents the weighted average sales price of shares sold in multiple transactions at prices ranging from \$235.10 to \$235.73. The reporting person will provide to the issuer, any

14. The price reported represents the weighted average sales price of shares sold in multiple transactions at prices ranging from \$235.10 to \$235.73. 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.

<u>By: Brett Budzinski,</u> <u>Attorney-in-Fact For: Tolga</u> <u>06/26/2024</u> <u>Tanguler</u>

** 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.