Fanucci Marsha Form 4 February 23, 2012

FORM 4

UNITED STATES SECURITIES AND EXCHANGE COMMISSION Washington, D.C. 20549

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF

SECURITIES

OMB

Number:

3235-0287 January 31,

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OMB APPROVAL

Section 16. Form 4 or Form 5 obligations may continue.

See Instruction

Check this box

if no longer

subject to

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934, Section 17(a) of the Public Utility Holding Company Act of 1935 or Section

30(h) of the Investment Company Act of 1940

1(b).

(Print or Type Responses)

1. Name and Address of Reporting Person *

Fanucci Marsha

2. Issuer Name and Ticker or Trading

Symbol

ALNYLAM

PHARMACEUTICALS, INC.

[ALNY]

02/21/2012

(Last) (First) (Middle)

(State)

3. Date of Earliest Transaction (Month/Day/Year)

Code V

 $P^{(1)}$

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

Issuer

10% Owner Other (specify

Officer (give title below)

X_ Director

300 THIRD ST

(City)

(Street) 4. If Amendment, Date Original

Filed(Month/Day/Year)

6. Individual or Joint/Group Filing(Check

5. Relationship of Reporting Person(s) to

(Check all applicable)

Applicable Line)

X Form filed by One Reporting Person Form filed by More than One Reporting

D

Person

Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned

CAMBRIDGE, MA 02142

1.Title of 2. Transaction Date 2A. Deemed Security (Month/Day/Year) Execution Date, if (Instr. 3) Code (Instr. 8) (Month/Day/Year)

(Zip)

4. Securities Acquired Transaction(A) or Disposed of (D) (Instr. 3, 4 and 5)

5. Amount of Securities Beneficially Owned Following Reported (Instr. 4)

6. 7. Nature of Ownership Indirect Form: Direct Beneficial (D) or Ownership Indirect (I) (Instr. 4)

or Amount (D) Price

(A)

Transaction(s) (Instr. 3 and 4)

10.75

10,000

Common Stock

02/21/2012

10,000

SEC 1474

(9-02)

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Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)

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1. Title of	2.	3. Transaction Date		4.	5.	6. Date Exerc		7. Titl		8. Price of	9. Nu
Derivative	Conversion	(Month/Day/Year)	Execution Date, if	Transacti	orNumber	Expiration D	ate	Amou	int of	Derivative	Deriv
Security	or Exercise		any	Code	of	(Month/Day/	Year)	Under	lying	Security	Secui
(Instr. 3)	Price of		(Month/Day/Year)	(Instr. 8)	Derivative	e		Securi	ities	(Instr. 5)	Bene
	Derivative		•		Securities			(Instr.	3 and 4)		Owne
	Security				Acquired						Follo
					(A) or						Repo
					Disposed						Trans
					of (D)						(Instr
					(Instr. 3,						(
					4, and 5)						
					.,						
									Amount		
						Date	Expiration		or		
						Exercisable	Date	Title Nu of	Number		
									of		
				Code V	(A) (D)				Shares		

Reporting Owners

Reporting Owner Name / Address	Relationships						
r g	Director	10% Owner	Officer	Other			
Fanucci Marsha							
300 THIRD ST	X						
CAMBRIDGE, MA 02142							

Signatures

/s/ Michael P. Mason, Attorney-in-Fact for Marsha H.
Fanucci 02/23/2012

**Signature of Reporting Person Date

Explanation of Responses:

- * 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).
- (1) The purchase reported on this Form 4 was made by the reporting person in connection with the Company's Public Offering of Common Stock

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, *see* Instruction 6 for procedure. Potential persons who are to respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB number.

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