MARAGANORE JOHN

Form 4

December 10, 2010

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Check this box

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

OMB Number:

3235-0287

0.5

if no longer

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF **SECURITIES**

January 31, Expires: 2005 Estimated average

OMB APPROVAL

subject to Section 16. Form 4 or Form 5

obligations

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

burden hours per response...

may continue. See Instruction

30(h) of the Investment Company Act of 1940

1(b).

(Print or Type Responses)

1. Name and Address of Reporting Person *

MARAGANORE JOHN

2. Issuer Name and Ticker or Trading

Symbol

ALNYLAM

PHARMACEUTICALS, INC.

[ALNY]

(Last) (First) (Middle) 3. Date of Earliest Transaction

(Month/Day/Year) 12/08/2010

X_ Director 10% Owner X_ Officer (give title Other (specify

5. Relationship of Reporting Person(s) to

(Check all applicable)

below) below) **CEO**

300 THIRD STREET

(Street) 4. If Amendment, Date Original

Filed(Month/Day/Year)

6. Individual or Joint/Group Filing(Check

Applicable Line)

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

Person

Issuer

CAMBRIDGE, MA 02142

(Zip) (State) (City)

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

1.Title of 2. Transaction Date 2A. Deemed Security (Instr. 3)

(Month/Day/Year) Execution Date, if

(Month/Day/Year)

4. Securities TransactionAcquired (A) or Disposed of (D) Code (Instr. 8) (Instr. 3, 4 and 5) 5. Amount of Securities Beneficially Owned Following

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

Reported (A) Transaction(s) or (Instr. 3 and 4)

Code V Amount (D) Price

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

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 control number.

SEC 1474 (9-02)

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 Derivative Conversion 3. Transaction Date 3A. Deemed

(Month/Day/Year) Execution Date, if

5. Number of TransactionDerivative

6. Date Exercisable and **Expiration Date**

7. Title and Amount of **Underlying Securities**

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Security (Instr. 3)	or Exercise Price of Derivative Security		any (Month/Day/Year)	Code (Instr. 8	8) A C	Securities Acquired (Acquired of Oisposed	f (D))		(Instr. 3 and 4)	
				Code	V	(A)	(D)	Date Exercisable	Expiration Date	Title	Amount or Number of Shares
Stock Option (right to buy)	\$ 9.14	12/08/2010		A	1	150,000		<u>(1)</u>	12/08/2020	Common Stock	150,000

Reporting Owners

Reporting Owner Name / Address	Relationships						
r g	Director		Other				
MARAGANORE JOHN			an.				
300 THIRD STREET	X		CEO				
CAMBRIDGE, MA 02142							

Signatures

By: /s/ Patricia L. Allen, Attorney-in-Fact For: John M.
Maraganore

12/10/2010

**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 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.

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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