SHARP PHILIP A

Form 4

December 14, 2007

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

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF

SECURITIES

OMB

3235-0287 Number:

OMB APPROVAL

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Check this box if no longer subject to Section 16.

Form 4 or

Form 5 obligations may continue.

See Instruction

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 *

SHARP PHILIP A

2. Issuer Name and Ticker or Trading

Symbol

ALNYLAM

PHARMACEUTICALS, INC.

[ALNY]

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

(Month/Day/Year) 12/12/2007

Filed(Month/Day/Year)

5. Relationship of Reporting Person(s) to

Issuer

(Check all applicable)

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

300 THIRD STREET

(Street)

4. If Amendment, Date Original

6. Individual or Joint/Group Filing(Check Applicable Line)

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

Person

CAMBRIDGE, MA 02142

Security

(Zip) (State) (City)

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

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

(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 SEC 1474 information contained in this form are not (9-02)required to respond unless the form displays a currently valid OMB control number.

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

1. Title of 2 3. Transaction Date 3A. Deemed 5. Number of 6. Date Exercisable and Derivative Conversion (Month/Day/Year) Execution Date, if TransactionDerivative **Expiration Date**

7. Title and Amor

Underlying Secur

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Security (Instr. 3)	or Exercise Price of Derivative Security		any (Month/Day/Year)	Code (Instr. 8)	Securities Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5)	(Month/Day/Year)		(Instr. 3 and 4)	
				Code V	(A) (D)	Date Exercisable	Expiration Date	Title	Am or Nu of S
Non-Qualified Stock Option (right to buy)	\$ 31.29	12/13/2007		A	25,000	12/12/2008	12/13/2017	Common Stock	25
Non-Qualified Stock Option (right to buy)	\$ 31.39	12/12/2007		A	15,000	12/12/2008	12/12/2017	Common Stock	15

Reporting Owners

Reporting Owner Name / Address	Relationships						
•	Director	10% Owner	Officer	Other			
SHARP PHILIP A 300 THIRD STREET CAMBRIDGE, MA 02142	X						

Signatures

By: /s/ Patricia L. Allen, Attorney-in-Fact For: Phillip A. Sharp

**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).

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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