ALNYLAM PHARMACEUTICALS, INC.

Form 4

December 11, 2008

FORM 4 UNITED STATES SECURITIES AND EXCHANGE COMMISSION Washington, D.C. 20549

OMB APPROVAL

OMB Number: 3235-0287

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if no longer subject to Section 16. Form 4 or

Check this box

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF SECURITIES

Form 5 obligations may continue. See Instruction 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).

(City)

Stock

(State)

(Zip)

(Print or Type Responses)

1. Name and Address of Reporting Person * 5. Relationship of Reporting Person(s) to 2. Issuer Name and Ticker or Trading SHARP PHILIP A Issuer Symbol **ALNYLAM** (Check all applicable) PHARMACEUTICALS, INC. [ALNY] X_ Director 10% Owner Other (specify Officer (give title (Last) (First) (Middle) 3. Date of Earliest Transaction below) (Month/Day/Year) 300 THIRD STREET 12/09/2008 (Street) 4. If Amendment, Date Original 6. Individual or Joint/Group Filing(Check Filed(Month/Day/Year) Applicable Line) _X_ Form filed by One Reporting Person Form filed by More than One Reporting CAMBRIDGE, MA 02142 Person

(City)	(State)	Table	e I - No	n-D	erivative Se	curitie	es Acqu	nred, Disposed of	f, or Beneficial	ly Owned
1.Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	2A. Deemed Execution Date, if any (Month/Day/Year)	Code	Γransaction(A) or Disposed of (D)			5. Amount of Securities Beneficially Owned Following Reported Transaction(s)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Indirect Beneficial Ownership (Instr. 4)	
			Code	V	Amount	or (D)	Price	(Instr. 3 and 4)		
Common Stock	09/23/2008		G	V	176,830	D	\$0	75,800	D	
Common	09/23/2008		G	V	176,830	A	\$0	176,830	I	by Trust

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)

(1)

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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 or 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 Underlying Securities (Instr. 3 and 4)	
				Code V	(A) (D)	Date Exercisable	Expiration Date	Title	Amount or Number of Shares
Stock Option (right to buy)	\$ 21.35	12/09/2008		A(2)	15,000	12/09/2009	12/08/2018	Common Stock	15,000

Reporting Owners

Reporting Owner Name / Address	Relationships						
Transfer de la companya de la compan	Director	10% Owner	Officer	Other			
SHARP PHILIP A							
300 THIRD STREET	X						
CAMBRIDGE, MA 02142							

Signatures

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

**Signature of Reporting Person

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 176,830 shares were previously reported as directly beneficially owned. On 9/23/2008, the shares were contributed to the "Phillip A. Sharp 2008 Grantor Retained Annuity Trust" (GRAT).

Date

(2) The option was granted to Dr. Sharp in connection with his service as Chairman of the Alnylam Scientific Advisory Board 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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