ALNYLAM PHARMACEUTICALS, INC.

Form 4

February 27, 2006

FORM 4

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

OMB 3235-0287 Number:

Check this box if no longer subject to Section 16.

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

January 31, Expires: 2005

OMB APPROVAL

Form 4 or Form 5 obligations may continue.

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

burden hours per response... 0.5

Estimated average

See Instruction 1(b).

(Last)

(City)

(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 **Barrett Peter** Issuer Symbol **ALNYLAM** (Check all applicable) PHARMACEUTICALS, INC.

> [ALNY] _X__ Director 10% Owner Officer (give title Other (specify 3. Date of Earliest Transaction

890 WINTER STREET, C/O ATLAS VENTURE SUITE 320

(First)

(State)

(Middle)

(Zip)

(Street) 4. If Amendment, Date Original 6. Individual or Joint/Group Filing(Check Applicable Line)

Filed(Month/Day/Year)

(Month/Day/Year)

02/23/2006

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

Table I. Non Derivative Securities Acquired Disposed of or Peneficially Owned

WALTHAM, MA 02451

(Chy)	(State)	Tab	le I - Non-	Derivative	Secui	rities Acquir	ed, Disposed of,	or Beneficiall	y Owned
1.Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	2A. Deemed Execution Date, if any (Month/Day/Year)	3. Transactic Code (Instr. 8)	4. Securit or Dispos (Instr. 3, 4	ed of (`	5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Indirect Beneficial Ownership (Instr. 4)
Common Stock	02/23/2006		S	9,960	D	\$ 15.1416	0	I	See Footnote (1)
Common Stock	02/24/2006		S	18,971	D	\$ 14.797	393,956	I	See Footnote (1)
Common Stock	02/23/2006		S	2,474	D	\$ 15.1416	0	I	See Footnote

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Common Stock	02/24/2006	S	4,713	D	\$ 14.797	97,871	I	See Footnote
Common Stock	02/23/2006	S	166	D	\$ 15.1416	0	I	See Footnote (3)
Common Stock	02/24/2006	S	316	D	\$ 14.797	6,557	I	See Footnote (3)
Common Stock	02/23/2006	S	18,081	D	\$ 15.1416	0	I	See Footnote
Common Stock	02/24/2006	S	34,439	D	\$ 14.797	715,171	I	See Footnote
Common Stock	02/23/2006	S	488	D	\$ 15.1416	0	I	See Footnote (5)
Common Stock	02/24/2006	S	930	D	\$ 14.797	19,314	I	See Footnote (5)
Common Stock	02/23/2006	S	331	D	\$ 15.1416	0	I	See Footnote (6)
Common Stock	02/24/2006	S	631	D	\$ 14.797	13,095	I	See Footnote (6)

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

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SEC 1474

(9-02)

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	4.	5.	6. Date Exercisable and	7. Title and	8. Price of	9. Nu
Derivative	Conversion	(Month/Day/Year)	Execution Date, if	TransactionNumbe		Expiration Date	Amount of	Derivative	Deriv
Security	or Exercise		any	Code	of	(Month/Day/Year)	Underlying	Security	Secui
(Instr. 3)	Price of		(Month/Day/Year)	(Instr. 8)	Derivative	e	Securities	(Instr. 5)	Bene
	Derivative				Securities		(Instr. 3 and 4)		Own
	Security			Acquired				Follo	
					(A) or				Repo
					Disposed				Trans
					of (D)				(Instr
					(Instr. 3,				
					4, and 5)				

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Date Expiration Or Number Of Shares

Reporting Owners

Reporting Owner Name / Address Relationships

Director 10% Owner Officer Other

Barrett Peter 890 WINTER STREET C/O ATLAS VENTURE SUITE 320 WALTHAM, MA 02451

X

Signatures

/s/ Jeanne Larkin Henry - Attorney in Fact

02/27/2006

**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).
 - Sale of shares of the Issuer's Common Stock by Atlas Venture Fund V, L.P. ("Atlas V"). These shares are owned directly by Atlas V.
- (1) Peter Barrett is a Senior Partner of Atlas Venture. Mr. Barrett disclaims beneficial ownership of such shares except to the extent of his pecuniary interest therein.
- Sale of shares of the Issuer's Common Stock by Atlas Venture Parallel Fund V-A, C.V. ("Atlas V-A"). These shares are owned directly (2) by Atlas V-A. Peter Barrett is a Senior Partner of Atlas Venture. Mr. Barrett disclaims beneficial ownership of such shares except to the
- extent of his pecuniary interest therein.
- Sale of shares of the Issuer's Common Stock by Atlas Venture Entrepreneurs' Fund V, L.P. ("AVE V"). These shares are owned directly (3) by AVE V. Peter Barrett is a Senior Partner of Atlas Venture. Mr. Barrett disclaims beneficial ownership of such shares except to the extent of his pecuniary interest therein.
- Sale of shares of the Issuer's Common Stock by Atlas Venture Fund VI, L.P. ("Atlas VI"). These shares are owned directly by Atlas VI.

 (4) Peter Barrett is a Senior Partner of Atlas Venture. Mr. Barrett disclaims beneficial ownership of such shares except to the extent of his pecuniary interest therein.
- Sale of shares of the Issuer's Common Stock by Atlas Venture Entrepreneurs' Fund VI, L.P. ("AVE VI"). These shares are owned directly by AVE VI. Peter Barrett is a Senior Partner of Atlas Venture. Mr. Barrett disclaims beneficial ownership of such shares except to the extent of his pecuniary interest therein.
- Sale of shares of the Issuer's Common Stock by Atlas Venture Fund VI GmbH & Co. KG. ("AV VI KG"). These shares are owned directly by AV VI KG. Peter Barrett is a Senior Partner of Atlas Venture. Mr. Barrett disclaims beneficial ownership of such shares except to the extent of his pecuniary interest therein.

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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