Reid Laurence Form 4 December 10, 2010

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

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF

SECURITIES

OMB APPROVAL OMB

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if no longer subject to Section 16. Form 4 or Form 5

obligations

Check this box

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934, may continue. See Instruction

(Middle)

(Zip)

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).

(Last)

(City)

Stock

(Print or Type Responses)

1. Name and Address of Reporting Person * 2. Issuer Name and Ticker or Trading Reid Laurence

Symbol

ALNYLAM

PHARMACEUTICALS, INC.

[ALNY]

3. Date of Earliest Transaction

_X__ Officer (give title below) SVP, Chief Business Officer

Director

Issuer

Other (specify below)

10% Owner

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

(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

Person

CAMBRIDGE, MA 02142

300 THIRD STREET

(First)

(State)

Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned 1.Title of 2. Transaction Date 2A. Deemed Security (Month/Day/Year) Execution Date, if (Instr. 3) (Month/Day/Year)

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

5. Amount of Securities Beneficially Owned Following Reported

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

Ownership (Instr. 4)

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

175

Code V Amount (D) Price

Common

by I

Managed Account (1)

(9-02)

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

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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 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. Transactio 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)	\$ 9.14	12/08/2010		A	27,589	(2)	12/08/2020	Common Stock	27,589

Reporting Owners

Reporting Owner Name / Address Relationships

Director 10% Owner Officer Other

Reid Laurence 300 THIRD STREET CAMBRIDGE, MA 02142

SVP, Chief Business Officer

Signatures

/s/ Patricia L. Allen, Attorney-in-Fact for Laurence Reid

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 reporting person owns 175 shares of ALNY common stock under the ALNY 401(k) plan as a result of the ALNY 401(k) matching contribution program.
- (2) The stock option vests as to 25% of the shares on the 1st anniversary 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.

Reporting Owners 2