

Mason Michael  
Form 3  
March 03, 2011

**FORM 3 UNITED STATES SECURITIES AND EXCHANGE COMMISSION**  
**Washington, D.C. 20549**

OMB APPROVAL

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**INITIAL STATEMENT OF BENEFICIAL OWNERSHIP OF SECURITIES**

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

(Print or Type Responses)

1. Name and Address of Reporting Person *		2. Date of Event Requiring Statement	3. Issuer Name <b>and</b> Ticker or Trading Symbol	
Mason Michael		(Month/Day/Year)	ALNYLAM PHARMACEUTICALS, INC. [ALNY]	
(Last)	(First)	(Middle)	02/28/2011	
300 THIRD STREET			4. Relationship of Reporting Person(s) to Issuer	5. If Amendment, Date Original Filed(Month/Day/Year)
(Street)			(Check all applicable)	
CAMBRIDGE, MA 02142			<input type="checkbox"/> Director <input type="checkbox"/> 10% Owner	6. Individual or Joint/Group Filing(Check Applicable Line)
(City)	(State)	(Zip)	<input checked="" type="checkbox"/> Officer <input type="checkbox"/> Other	<input checked="" type="checkbox"/> Form filed by One Reporting Person
			(give title below) (specify below)	<input type="checkbox"/> Form filed by More than One Reporting Person
			VP, Finance and Treasurer	

**Table I - Non-Derivative Securities Beneficially Owned**

1. Title of Security (Instr. 4)	2. Amount of Securities Beneficially Owned (Instr. 4)	3. Ownership Form: Direct (D) or Indirect (I) (Instr. 5)	4. Nature of Indirect Beneficial Ownership (Instr. 5)
Common Stock	708	I	by Managed Account <sup>(1)</sup>

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly. SEC 1473 (7-02)

**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.**

**Table II - Derivative Securities Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)**

1. Title of Derivative Security (Instr. 4)	2. Date Exercisable and Expiration Date (Month/Day/Year)	3. Title and Amount of Securities Underlying Derivative Security (Instr. 4)	4. Conversion or Exercise Price of Derivative Security	5. Ownership Form of Derivative Security: Direct (D) or Indirect	6. Nature of Indirect Beneficial Ownership (Instr. 5)
	Date Exercisable	Title	Amount or Number of		

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				Shares		(I) (Instr. 5)	
Stock Option (right to buy)	Â (2)	12/08/2020	Common Stock	17,500	\$ 9.14	D	Â
Stock Option (right to buy)	Â (2)	12/07/2015	Common Stock	17,500	\$ 13.12	D	Â
Stock Option (right to buy)	Â (2)	12/10/2019	Common Stock	16,000	\$ 16.43	D	Â
Stock Option (right to buy)	Â (2)	12/09/2018	Common Stock	12,000	\$ 21.35	D	Â
Stock Option (right to buy)	Â (2)	12/14/2016	Common Stock	15,000	\$ 22.75	D	Â
Stock Option (right to buy)	Â (2)	12/12/2017	Common Stock	14,200	\$ 31.39	D	Â

## Reporting Owners

Reporting Owner Name / Address	Relationships			
	Director	10% Owner	Officer	Other
Mason Michael 300 THIRD STREET CAMBRIDGE, MA 02142	Â	Â	Â VP, Finance and Treasurer	Â

## Signatures

/s/ Michael P.  
Mason

03/03/2011

\*\*Signature of  
Reporting Person

Date

## Explanation of Responses:

- \* If the form is filed by more than one reporting person, *see* Instruction 5(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 708 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 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.