

ALNYLAM PHARMACEUTICALS, INC.  
Form SC 13G/A  
February 13, 2008

SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, DC 20549

SCHEDULE 13G  
(Rule 13d-102)

INFORMATION TO BE INCLUDED IN STATEMENTS FILED PURSUANT TO RULES 13D-1 (B) (C),  
AND (D) AND AMENDMENTS THERETO FILED PURSUANT TO RULE 13D-2(B)

(Amendment No. 4)\*

Alylam Pharmaceuticals, Inc.

(Name of Issuer)

Common Stock, \$0.01 par value per share

(Title of Class of Securities)

02043Q107

(CUSIP Number)

December 31, 2007

(Date of Event Which Requires Filing of this Statement)

Check the appropriate box to designate the rule pursuant to which this Schedule  
is filed:

- Rule 13d-1(b)
- Rule 13d-1(c)
- Rule 13d-1(d)

\* The remainder of this cover page shall be filled out for a reporting  
person's initial filing on this form with respect to the subject class of  
securities, and for any subsequent amendment containing information which would  
alter disclosures provided in a prior cover page.

The information required in the remainder of this cover page shall not be  
deemed to be "filed" for the purpose of Section 18 of the Securities Exchange  
Act of 1934 ("Act") or otherwise subject to the liabilities of that section of  
the Act but shall be subject to all other provisions of the Act (however, see  
the Notes).

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ITEM 1(A). NAME OF ISSUER: Alylam Pharmaceuticals, Inc. (the "Issuer")

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- ITEM 1(B). ADDRESS OF ISSUER'S PRINCIPAL EXECUTIVE OFFICES:  
-----  
300 Third Street, Cambridge, Massachusetts 02142
- ITEM 2(A). NAME OF PERSONS FILING:  
-----  
Abingworth Management Limited ("Abingworth Management"),  
Abingworth Bioventures III A L.P. ("ABV III A"), Abingworth  
Bioventures III B L.P. ("ABV III B"), Abingworth Bioventures III C  
L.P. ("ABV III C"), and Abingworth Bioventures III Executives L.P.  
("ABV III Executives" and together with ABV III A, ABV III B and  
ABV III C, the "ABV III Funds"). The foregoing individuals are  
each a "Reporting Person" and collectively referred to as the  
"Reporting Persons."
- ITEM 2(B). ADDRESS OF PRINCIPAL BUSINESS OFFICE OR, IF NONE, RESIDENCE:  
-----  
The business address for each Reporting Person is c/o Abingworth  
Management Limited, Princess House, 38 Jermyn Street, London,  
England SW1Y 6DN.
- ITEM 2(C). CITIZENSHIP:  
-----  
Abingworth Management is a corporation organized under the laws of  
England. ABV III A, ABV III B and ABV III C are limited  
partnerships organized under the laws of England. ABV III  
Executives is a limited partnership organized under the laws of  
Delaware.
- ITEM 2(D). TITLE OF CLASS OF SECURITIES:  
-----  
Common Stock, \$0.01 par value per share
- ITEM 2(E). CUSIP NUMBER:  
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02043Q107
- ITEM 3. IF THIS STATEMENT IS FILED PURSUANT TO RULE 13D-1(B), OR 13D-2(B)  
-----  
OR (C), CHECK WHETHER THE PERSON FILING IS A:  
-----  
Not applicable.
- ITEM 4. OWNERSHIP.  
-----  
Not applicable.
- ITEM 5. OWNERSHIP OF FIVE PERCENT OR LESS OF A CLASS.  
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Each of the Reporting Persons has ceased to be the beneficial  
owner of more than five percent (5%) of the Issuer's outstanding  
Common Stock.
- ITEM 6. OWNERSHIP OF MORE THAN FIVE PERCENT ON BEHALF OF ANOTHER PERSON.  
-----  
Not applicable.
- ITEM 7. IDENTIFICATION AND CLASSIFICATION OF THE SUBSIDIARY WHICH ACQUIRED  
-----  
THE SECURITY BEING REPORTED ON BY THE PARENT HOLDING COMPANY.

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Not applicable.

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ITEM 8. IDENTIFICATION AND CLASSIFICATION OF MEMBERS OF THE GROUP.  
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Not applicable.

ITEM 9. NOTICE OF DISSOLUTION OF GROUP.  
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Not applicable.

ITEM 10. CERTIFICATION.  
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By signing below I certify that, to the best of my knowledge and belief, the securities referred to above were not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect.

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SIGNATURE

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

Date: February 7, 2008

ABINGWORTH MANAGEMENT LIMITED

By: /s/James Abell  
-----

Name: James Abell

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Title: Executive Director

ABINGWORTH BIOVENTURES III A L.P.

By: Abingworth Management Limited, its Manager

By: /s/James Abell

-----  
Name: James Abell  
Title: Executive Director

ABINGWORTH BIOVENTURES III B L.P.

By: Abingworth Management Limited, its Manager

By: /s/James Abell

-----  
Name: James Abell  
Title: Executive Director

ABINGWORTH BIOVENTURES III C L.P.

By: Abingworth Management Limited, its Manager

By: /s/James Abell

-----  
Name: James Abell  
Title: Executive Director

ABINGWORTH BIOVENTURES III EXECUTIVES L.P.

By: Abingworth Management Limited, its Manager

By: /s/James Abell

-----  
Name: James Abell  
Title: Executive Director

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Exhibit 1  
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AGREEMENT

Pursuant to Rule 13d-1(k) (1) under the Securities Exchange Act of 1934, the undersigned hereby agree that only one statement containing the information required by Schedule 13G need be filed with respect to the ownership by each of the undersigned of shares of Common Stock of Alnylam Pharmaceuticals, Inc.

Date: February 7, 2008

ABINGWORTH MANAGEMENT LIMITED

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By: /s/James Abell  
-----  
Name: James Abell  
Title: Executive Director

ABINGWORTH BIOVENTURES III A L.P.

By: Abingworth Management Limited, its Manager

By: /s/James Abell  
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Name: James Abell  
Title: Executive Director