#### ALNYLAM PHARMACEUTICALS, INC.

Form SC 13G/A February 14, 2005

SECURITIES AND EXCHANGE COMMISSION Washington, D.C. 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 13d-2 (b)

(Amendment No. 1)\*

Alnylam Pharmaceuticals, Inc. (Name of Issuer)

Common Stock (Title of Class of Securities)

02043Q107 (CUSIP Number)

December 31, 2004 (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)
- [X] 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 on 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).

(Continued on following pages)

Page 1 of 18 Exhibit Index on Page 15

CUSIP NO. 02043Q107

13 G

Page 2 of 18

1 NAME OF REPORTING

SS OR I.R.S. IDENTIFICATION NO. OF ABOVE PERSON

Polaris Venture Partners III, L.P. ("PVP III") Tax ID Number:

2	CHECK THE	E APF	PROPRIATE BOX IF A MEMBER OF A GROUP*	(a) (b)	[ ] [X]
3	SEC USE (	NLY			
4	CITIZENS	HIP C	OR PLACE OF ORGANIZATION		
	Delaware				
		 5	SOLE VOTING POWER		
	NUMBER OF		2,313,914 shares, except that Polaris Venture Manag III, L.L.C. ("Polaris III"), the general partner of may be deemed to have sole power to vote these shar Jonathan A. Flint ("Flint"), Terrance G. McGuire ("Stephen D. Arnold ("Arnold") and Alan G. Spoon ("Sp managing members of Polaris III, may be deemed to h shared power to vote these shares.	PVP I es, and McGuir oon"),	II, d e"),
BENI	SHARES EFICIALLY WNED BY	6	SHARED VOTING POWER		
	EACH EPORTING		See response to row 5.		
	PERSON	7	SOLE DISPOSITIVE POWER		
	WITH		2,313,914 shares, except that Polaris III, the gene partner of PVP III, may be deemed to have sole powe dispose of these shares, and Flint, McGuire, Arnold Spoon, the managing members of Polaris III, may be have shared power to dispose of these shares.	r to and	to
		8	SHARED DISPOSITIVE POWER		
			See response to row 7.		
9	AGGREGATI		OUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON		
,	2,313,914		ONI BENEFICIALLI ONNED BI BION NELONITRO LENGON		
10	CHECK BOX	 K IF	THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHA	 RES*	
	[ ]				
11	PERCENT (	F CI	ASS REPRESENTED BY AMOUNT IN ROW 9		
	11.1%				
12	TYPE OF I	 REPOF	RTING PERSON*		
	PN				
CUS	IP NO. 0204			ge 3 o	f 18

1	NAME OF REPORTING SS OR I.R.S. IDENTIFICATION NO. OF ABOVE PERSON						
		Venture Partners Entrepreneurs' Fund III, L.P. preneurs' III") Jumber:					
2	CHECK THE	API	PROPRIATE BOX IF A MEMBER OF A GROUP* (a) [				
3	SEC USE C	NLY					
4	CITIZENSH	IP (	DR PLACE OF ORGANIZATION				
	Delaware						
		5	SOLE VOTING POWER				
			60,124 shares, except that Polaris III, the general partner of Entrepreneurs' III, may be deemed to have sole power to vote these shares, and Flint, McGuire, Arnold and Spoon, the managing members of Polaris III, may be deemed thave shared power to vote these shares.				
	UMBER OF SHARES	6	SHARED VOTING POWER				
BEN:	EFICIALLY WNED BY		See response to row 5.				
	EACH	7	SOLE DISPOSITIVE POWER				
	REPORTING PERSON WITH		60,124 shares, except that Polaris III, the general partner of Entrepreneurs' III, may be deemed to have sole power to dispose of these shares, and Flint, McGuire, Arnold and Spoon, the managing members of Polaris III, may be deemed thave shared power to dispose of these shares.				
		8	SHARED DISPOSITIVE POWER				
			See response to row 7.				
9	AGGREGATE	AMO	OUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON				
	60,124						
10	CHECK BOX	IF	THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES*				
	[ ]						
11	PERCENT C	F CI	LASS REPRESENTED BY AMOUNT IN ROW 9				
	0.3%						

12 TYPE OF	TYPE OF REPORTING PERSON*							
PN								
CUSIP NO. 02	43Q107	13 G	Page	e 4 of 18				
	REPORTING	TIFICATION NO. OF ABOVE PERSO	n					
	Polaris Venture Partners Founders' Fund III, L.P. ("Founders' III") Tax ID Number:							
2 CHECK T	E APPROPR	IATE BOX IF A MEMBER OF A GRO	UP*	(a) [ ] (b) [X]				
3 SEC USE	ONLY							
4 CITIZEN	CITIZENSHIP OR PLACE OF ORGANIZATION							
Delawar								
	5 SOI	E VOTING POWER						
	of the man	492 shares, except that Polar Founders' III, may be deemed se shares, and Flint, McGuire aging members of Polaris III, er to vote these shares.	to have sole power to , Arnold and Spoon, t	vote the				
NUMBER OF SHARES	6 SHA	RED VOTING POWER						
BENEFICIALLY OWNED BY	See	response to row 5.						
EACH REPORTING PERSON	7 SOL	E DISPOSITIVE POWER						
WITH	of of man	492 shares, except that Polar Founders' III, may be deemed these shares, and Flint, McGuaging members of Polaris III, er to dispose of these shares	to have sole power to ire, Arnold and Spoor may be deemed to hav	o dispose n, the we shared				
	8 SHA	RED DISPOSITIVE POWER						
	See	response to row 7.						
9 AGGREGA	E AMOUNT	BENEFICIALLY OWNED BY EACH RE	PORTING PERSON					
36,492								
10 CHECK B	X IF THE	AGGREGATE AMOUNT IN ROW (9) E.	XCLUDES CERTAIN SHARI	 ES*				
[ ]								

11 PE	ERCENT O	F CLA	ASS REPRESENTED BY AMOUNT IN ROW 9	
0.	.2%			
12 TY	PE OF R	EPORT	FING PERSON*	
P1	1			
CUSIP N	NO. 0204	3Q107	7 13 G Pag	ge 5 of 18
	AME OF R		FING IDENTIFICATION NO. OF ABOVE PERSON	
	olaris V ax ID Nu		re Management Co. III, L.L.C. ("Polaris III")	
2 CF	HECK THE	APPI	ROPRIATE BOX IF A MEMBER OF A GROUP*	(a) [ ] (b) [X]
3 SE	EC USE O	NLY		
4 Cl	TIZENSH	IP OF	R PLACE OF ORGANIZATION	
De	elaware			
		5	SOLE VOTING POWER	
			2,410,530 shares, of which 2,313,914 are directly owned by III, 60,124 are directly owned by Entrepreneurs' 36,492 are directly owned by Founders' III. Polaris general partner of PVP III, Entrepreneurs' III and FIII, may be deemed to have sole power to vote these and Flint, McGuire, Arnold and Spoon, the managing medianis III, may be deemed to have shared power to value.	III and III, the Founders' shares, members of
	BER OF	6	SHARED VOTING POWER	
	NEFICIALLY OWNED BY EACH REPORTING PERSON WITH		See response to row 5.	
E.A		7	SOLE DISPOSITIVE POWER	
PEF			2,410,530 shares, of which 2,313,914 are directly owned by Entrepreneurs' 36,492 are directly owned by Founders' III. Polaris general partner of PVP III, Entrepreneurs' III and FIII, may be deemed to have sole power to vote these and Flint, McGuire, Arnold and Spoon, the managing melaris III, may be deemed to have shared power to these shares.	III and III, the Founders' shares, members of
			SHARED DISPOSITIVE POWER	

See response to row 7. AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 2,410,530 10 CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES\* [ ] 11 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9 11.6% 12 TYPE OF REPORTING PERSON\* 00 CUSIP NO. 02043Q107 13 G Page 6 of 18 \_\_\_\_\_\_ NAME OF REPORTING SS OR I.R.S. IDENTIFICATION NO. OF ABOVE PERSON Jonathan A. Flint ("Flint") Tax ID Number: CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP\* (a) [ ] (b) [X] \_\_\_\_\_\_ SEC USE ONLY CITIZENSHIP OR PLACE OF ORGANIZATION U.S. Citizen \_\_\_\_\_ 5 SOLE VOTING POWER 0 shares. \_\_\_\_\_\_ SHARED VOTING POWER 2,410,530 shares, of which 2,313,914 are directly owned by PVP III, 60,124 are directly owned by Entrepreneurs' III and 36,492 are directly owned by Founders' III. Polaris III is the general partner of PVP III, Entrepreneurs' III and Founders' III. Flint is a managing member of Polaris III, and SHARES may be deemed to have shared power to vote these shares. BENEFICIALLY OWNED BY \_\_\_\_\_\_ 7 SOLE DISPOSITIVE POWER

REPORTING

PERSON		0 shares.							
V	NITH	8 SHARED DISPOSITIVE POWER							
		2,410,530 shares, of which 2,313,914 are directly PVP III, 60,124 are directly owned by Entrepreneur 36,492 are directly owned by Founders' III. Polari the general partner of PVP III, Entrepreneurs' III Founders' III. Flint is a managing member of Polar may be deemed to have shared power to dispose of t shares.	s' III and s III is and is III, and						
9	AGGREGATE REPORTING	AMOUNT BENEFICIALLY OWNED BY EACH PERSON							
	2,410,530								
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES*								
	[ ]								
11	PERCENT OF	F CLASS REPRESENTED BY AMOUNT IN ROW 9							
	11.6%								
12	TYPE OF RI	EPORTING PERSON*							
	IN								
CUSI	P NO. 02043	3Q107 13 G P	age 7 of 18						
1		.S. IDENTIFICATION NO. OF ABOVE PERSON							
	Tax ID Nur	G. McGuire ("McGuire") mber:							
2	CHECK THE	APPROPRIATE BOX IF A MEMBER OF A GROUP*	(a) [] (b) [X]						
3	SEC USE ON	NLY							
4	CITIZENSH	IP OR PLACE OF ORGANIZATION							
	U.S. Citi:	zen							
		5 SOLE VOTING POWER							
		0 shares.							
		6 SHARED VOTING POWER							

SHARES BENEFICIALLY OWNED BY			2,410,530 shares, of which 2,313,914 are directly PVP III, 60,124 are directly owned by Entreprener 36,492 are directly owned by Founders' III. Polar the general partner of PVP III, Entrepreneurs' II Founders' III. McGuire is a managing member of PC and may be deemed to have shared power to vote the	ers' III and ris III is III and land land			
	EACH REPORTING PERSON		SOLE DISPOSITIVE POWER				
1	WITH		0 shares.				
		8	SHARED DISPOSITIVE POWER				
			2,410,530 shares, of which 2,313,914 are directly PVP III, 60,124 are directly owned by Entrepreneu 36,492 are directly owned by Founders' III. Polar the general partner of PVP III, Entrepreneurs' II Founders' III. McGuire is a managing member of PC and may be deemed to have shared power to dispose shares.	ers' III and ris III is III is III is III,			
9	AGGREGATE REPORTING		UNT BENEFICIALLY OWNED BY EACH				
	2,410,530						
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES*						
	[ ]						
11	PERCENT O	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9					
	11.6%						
12	TYPE OF R	 EPOR	TING PERSON*				
	IN						
CUS	IP NO. 0204	3Q10	7 13 G	Page 8 of 18			
1		NAME OF REPORTING SS OR I.R.S. IDENTIFICATION NO. OF ABOVE PERSON					
	Stephen D Tax ID Nu		nold ("Arnold") :				
2			ROPRIATE BOX IF A MEMBER OF A GROUP*	(a) [ ] (b) [X]			
3	SEC USE O	 NLY					

4	CITIZENSE U.S. Citi		OR PLACE OF ORGANIZATION				
		5	SOLE VOTING POWER				
			0 shares.				
		6	SHARED VOTING POWER				
NUMBER OF SHARES BENEFICIALLY OWNED BY			2,410,530 shares, of which 2,313,914 are directly owned by PVP III, 60,124 are directly owned by Entrepreneurs' III and 36,492 are directly owned by Founders' III. Polaris III is the general partner of PVP III, Entrepreneurs' III and Founders' III. Arnold is a managing member of Polaris III, and may be deemed to have shared power to vote these shares.				
	EACH EPORTING	7	SOLE DISPOSITIVE POWER				
Ι	PERSON WITH		0 shares.				
		8	SHARED DISPOSITIVE POWER				
			2,410,530 shares, of which 2,313,914 are directly owned by PVP III, 60,124 are directly owned by Entrepreneurs' III and 36,492 are directly owned by Founders' III. Polaris III is the general partner of PVP III, Entrepreneurs' III and Founders' III. Arnold is a managing member of Polaris III, and may be deemed to have shared power to dispose of these shares.				
9	AGGREGATE	AM(	DUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON				
	2,410,530	)					
10	CHECK BOX	 : IF	THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES*				
	[ ]						
11	PERCENT (	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9					
	11.6%						
12	TYPE OF I	REPOI	RTING PERSON*				
	IN						
CUS	IP NO. 0204	3Q1(	07 13 G Page 9 of 1				
1	NAME OF F		RTING IDENTIFICATION NO. OF ABOVE PERSON				

Alan G. Spoon ("Spoon")
Tax ID Number:

2	CHECK THE			[ ] [X]				
3	SEC USE O	NLY						
4	CITIZENSH	ZIP OR PLACE OF ORGANIZATION						
		5 SOLE VOTING POWER						
		0 shares.						
		6 SHARED VOTING POWER						
NUMBER OF SHARES BENEFICIALLY		2,410,530 shares, of which 2,313,914 are directly owned PVP III, 60,124 are directly owned by Entrepreneurs' II 36,492 are directly owned by Founders' III. Polaris III the general partner of PVP III, Entrepreneurs' III and Founders' III. Spoon is a managing member of Polaris II and may be deemed to have shared power to vote these shared power to vote the vote t	II ā	and				
1	NED BY EACH PORTING	7 SOLE DISPOSITIVE POWER						
Pl	ERSON WITH	0 shares.						
		8 SHARED DISPOSITIVE POWER						
		2,410,530 shares, of which 2,313,914 are directly owned PVP III, 60,124 are directly owned by Entrepreneurs' II 36,492 are directly owned by Founders' III. Polaris III the general partner of PVP III, Entrepreneurs' III and Founders' III. Spoon is a managing member of Polaris II and may be deemed to have shared power to dispose of the shares.	II á	and				
9	AGGREGATE	AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON						
	2,410,530							
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES*							
	[ ]							
11	PERCENT O	OF CLASS REPRESENTED BY AMOUNT IN ROW 9						
	11.6%							
12	TYPE OF R	EPORTING PERSON*						
	IN							

CUSIP NO. 020430107

13 G

Page 10 of 18

ITEM 1(A). NAME OF ISSUER

Alnylam Pharmaceuticals, Inc.

ITEM 1(B). ADDRESS OF ISSUER'S PRINCIPAL EXECUTIVE OFFICES

300 Third Street Cambridge, Massachusetts 02142

ITEM 2(A). NAME OF PERSONS FILING

This Statement is filed by Polaris Venture Partners III, L.P., a Delaware limited partnership ("PVP III"), Polaris Venture Partners Entrepreneurs' Fund III, L.P., a Delaware limited partnership ("Entrepreneurs' III"), Polaris Venture Partners Founders' Fund III, L.P., a Delaware limited partnership ("Founders' III"), Polaris Venture Management Co. III, L.L.C., a Delaware limited liability company ("Polaris III"), Jonathan A. Flint ("Flint"), Terrance G. McGuire ("McGuire"), Stephen D. Arnold ("Arnold") and Alan G. Spoon ("Spoon"). Flint, McGuire, Arnold and Spoon are the managing members of Polaris III. The foregoing entities and individuals are collectively referred to as the "Reporting Persons."

Polaris III, the general partner of PVP III, Entrepreneurs' III and Founders' III, may be deemed to have sole power to vote and sole power to dispose of shares of the issuer directly owned by PVP III, Entrepreneurs' III and Founders' III. Flint, McGuire, Arnold and Spoon are the managing members of Polaris III and may be deemed to have shared power to vote and shared power to dispose of shares of the issuer directly owned by PVP III, Entrepreneurs' III and Founders' III.

ITEM 2(B). ADDRESS OF PRINCIPAL OFFICE

The address for each of the Reporting Persons is:

Polaris Venture Partners 1000 Winter Street, Suite 3350 Waltham, Massachusetts 02451

ITEM 2(C) CITIZENSHIP

PVP III, Entrepreneurs' III and Founders' III are Delaware limited partnerships; Polaris III is a Delaware Limited Liability Company; Flint, McGuire, Arnold and Spoon are United States citizens.

ITEM 2(D) AND (E). TITLE OF CLASS OF SECURITIES AND CUSIP NUMBER

Common Stock
CUSIP # 02043Q107

ITEM 3. Not Applicable

ITEM 4. OWNERSHIP

The following information with respect to the ownership of the Common Stock of the issuer by the persons filing this Statement is

provided as of December 31, 2004:

CUSIP NO. 02043Q107 13 G Page 11 of 18

- (a) Amount beneficially owned:
  - See Row 9 of cover page for each Reporting Person.
- (b) Percent of Class:
  - See Row 11 of cover page for each Reporting Person.
- (c) Number of shares as to which such person has:
  - (i) Sole power to vote or to direct the vote:
    See Row 5 of cover page for each Reporting Person.
  - (ii) Shared power to vote or to direct the vote:
    See Row 6 of cover page for each Reporting Person.
  - (iii) Sole power to dispose or to direct the disposition of:
    - See Row 7 of cover page for each Reporting Person.
  - (iv) Shared power to dispose or to direct the disposition of:
    - See Row 8 of cover page for each Reporting Person.
- ITEM 5. OWNERSHIP OF FIVE PERCENT OR LESS OF A CLASS.

Not applicable.

ITEM 6. OWNERSHIP OF MORE THAN FIVE PERCENT ON BEHALF OF ANOTHER PERSON.

Under certain circumstances set forth in the limited partnership agreements of PVP III, Entrepreneurs' III and Founders' III, the general and limited partners of each of such entities may be deemed to have the right to receive dividends from, or the proceeds from, the sale of shares of the issuer owned by each such entity of which they are a partner.

- ITEM 7. IDENTIFICATION AND CLASSIFICATION OF THE SUBSIDIARY WHICH ACQUIRED THE SECURITY BEING REPORTED ON BY THE PARENT HOLDING COMPANY
  - Not applicable.
- ITEM 8. IDENTIFICATION AND CLASSIFICATION OF MEMBERS OF THE GROUP.

Not applicable.

ITEM 9. NOTICE OF DISSOLUTION OF GROUP.

Not applicable.

CUSIP NO. 02043Q107 13 G Page 12 of 18

ITEM 10. CERTIFICATION.

Not applicable.

Page 13 of 18

#### SIGNATURES

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.

Dated: February 14, 2005

Signature

Kevin Littlejohn Authorized Signatory

POLARIS VENTURE PARTNERS /s/ Kevin Littlejohn
ENTREPRENEURS' FUND III, L.P.,

a Delaware Limited Partnership Signature

Kevin Littlejohn
Authorized Signatory

POLARIS VENTURE PARTNERS /s/ Kevin Littlejohn

FOUNDERS' FUND III, L.P.,

a Delaware Limited Partnership Signature

Kevin Littlejohn Authorized Signatory

POLARIS VENTURE

MANAGEMENT CO. III, L.L.C., /s/ Kevin Littlejohn

a Delaware Limited Liability Company -----

Signature

Kevin Littlejohn Authorized Signatory

JONATHAN A. FLINT /s/ Kevin Littlejohn

\_\_\_\_\_

Signature

Kevin Littlejohn Authorized Signatory

Page 14 of 18

STEPHEN D. ARNOLD /s/ Kevin Littlejohn

\_\_\_\_\_

Signature

Kevin Littlejohn Authorized Signatory

ALAN G. SPOON /s/ Kevin Littlejohn

\_\_\_\_\_

Signature

Kevin Littlejohn Authorized Signatory

Page 15 of 18

#### EXHIBIT INDEX

Exhibit A: Agreement of Joint Filing 16

Exhibit B: Reference to Kevin Littlejohn as Authorized Signatory 18

Page 16 of 18

#### EXHIBIT A

### Agreement of Joint Filing

The undersigned hereby agree that a single Schedule 13G (or any amendment thereto) relating to the Common Stock of Alnylam Pharmaceuticals, Inc. shall be filed on behalf of each of the undersigned and that this Agreement shall be filed as an exhibit to such Schedule 13G.

Dated: February 14, 2005

Kevin Littlejohn
Authorized Signatory

ENTREPRENEURS' FUND III, L.P., a Delaware Limited Partnership /s/ Kevin Littlejohn \_\_\_\_\_ Signature Kevin Littlejohn Authorized Signatory POLARIS VENTURE PARTNERS /s/ Kevin Littlejohn FOUNDERS' FUND III, L.P., a Delaware Limited Partnership Signature Kevin Littlejohn Authorized Signatory POLARIS VENTURE /s/ Kevin Littlejohn MANAGEMENT CO. III, L.L.C., a Delaware Limited Liability Company Signature Kevin Littlejohn Authorized Signatory JONATHAN A. FLINT /s/ Kevin Littlejohn \_\_\_\_\_\_ Signature Kevin Littlejohn Authorized Signatory Page 17 of 18 TERRANCE G. MCGUIRE /s/ Kevin Littlejohn \_\_\_\_\_\_ Signature Kevin Littlejohn Authorized Signatory STEPHEN D. ARNOLD /s/ Kevin Littlejohn \_\_\_\_\_ Signature Kevin Littlejohn Authorized Signatory ALAN G. SPOON /s/ Kevin Littlejohn Signature Kevin Littlejohn Authorized Signatory

Page 18 of 18

#### EXHIBIT B

#### REFERENCE TO KEVIN LITTLEJOHN AS AUTHORIZED SIGNATORY

Kevin Littlejohn has signed the enclosed documents as Authorized Signatory. Note that copies of the applicable Agreement to File Jointly and Statement Appointing Designated Filer And Authorized Signatory are already on file with the appropriate agencies.