Statement of Changes in Beneficial Ownership

1. Name and Address of Reporting Person
Reitan Colleen F
675 WEST KENDALL STREET
HENRI A. TERMEER SQUARE
CAMBRIDGE MA 02142

2. Issuer Name and Ticker or Trading Symbol
ALNYLAM PHARMACEUTICALS, INC. [ALNY]

3. Date of Earliest Transaction (Month/Day/Year)
05/16/2024

4. If Amendment, Date of Original Filed (Month/Day/Year)
05/20/2024

5. Relationship of Reporting Person(s) to Issuer
X Director 10% Owner
Officer (give title below) Other (specify below)

6. Individual or Joint/Group Filing (Check Applicable Line)
X Form filed by One Reporting Person
Form filed by More than One Reporting Person

Rule 10b5-1(c) Transaction Indication
☐

Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned

<table>
<thead>
<tr>
<th>1. Title of Security (Instr. 3)</th>
<th>2. Transaction Date (Month/Day/Year)</th>
<th>2A. Deemed Execution Date, if any (Month/Day/Year)</th>
<th>3. Transaction Code (Instr. 8)</th>
<th>4. Securities Acquired (A) or Disposed Of (D) (Instr. 3 and 4)</th>
<th>5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4)</th>
<th>6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)</th>
<th>7. Relationship of Reporting Person(s) to Issuer</th>
<th>8. Securities Beneficially Owned and Exercisable (Instr. 3 and 4)</th>
<th>9. Ownership Code: 000 (Instr. 4)</th>
<th>10. Other Information (specify)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common Stock</td>
<td>05/20/2024</td>
<td>A</td>
<td>5,228</td>
<td>05/16/2025(1)</td>
<td>5,228</td>
<td>Common Stock</td>
<td>5,228</td>
<td>5,228</td>
<td>D</td>
<td>5,228</td>
</tr>
</tbody>
</table>

Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)

<table>
<thead>
<tr>
<th>1. Title of Derivative Security (Instr. 3)</th>
<th>2. Conversion or Exercise Price of Derivative Security</th>
<th>3. Transaction Date (Month/Day/Year)</th>
<th>3A. Deemed Execution Date, if any (Month/Day/Year)</th>
<th>4. Transaction Code (Instr. 5)</th>
<th>5. Number of Derivative Securities Acquired (A) or Disposed Of (D) (Instr. 3 and 4)</th>
<th>6. Date Exercisable and Expiration Date (Month/Day/Year)</th>
<th>7. Title and Amount of Securities Underlying Derivative Security (Instr. 3 and 4)</th>
<th>8. Price of Derivative Security (Instr. 5)</th>
<th>9. Number of derivative Securities Beneficially Owned Following Reported Transaction(s) (Instr. 4)</th>
<th>10. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)</th>
<th>11. Nature of Indirect Beneficial Ownership (Instr. 4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stock Option (right to buy)</td>
<td>$151.22</td>
<td>05/16/2024</td>
<td>A</td>
<td>5,228</td>
<td>05/16/2025(1)</td>
<td>05/16/2034</td>
<td>Common Stock</td>
<td>5,228</td>
<td>5,228</td>
<td>D</td>
<td>5,228</td>
</tr>
</tbody>
</table>

Explanation of Responses:
1. This award vests in full upon the earlier of the first anniversary of the grant date and the date of any earlier retirement or resignation of the Reporting Person, provided such date of retirement or resignation occurs no more than 90 days prior to the first anniversary of the grant date.

Remarks:
Exhibit List: Exhibit 24 - Power of Attorney

By: Brett Budzinski, Attorney-in-Fact For: Colleen F. Reitan
05/20/2024
*Signature of Reporting Person*

Date

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.
* If the form is filed by more than one reporting person, see Instruction 4 (b)(v).
Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.
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 Number.
LIMITED POWER OF ATTORNEY
FOR SECTION 16 REPORTING OBLIGATIONS

Know all of these presents, that the undersigned hereby
revokes and nullifies any prior power of attorney for Section
16 reporting obligations, and makes, constitutes and appoints
each of Jeffrey Poulton, Brett Budzinski, Gisele Dion, and
Stephen Hall signing singly and each acting individually,
as the undersigned's true and lawful attorney-in-fact
with full power and authority as hereinafter described to:

(1) execute for and on behalf of the undersigned, in the
undersigned's capacity as an officer and/or director of Alnylam
Pharmaceuticals, Inc. (the Company), Forms 3, 4 and 5
(including any amendments thereto) in accordance with Section
16(a) of the Securities and Exchange Act of 1934, as amended,
and the rules thereunder (the Exchange Act);

(2) do and perform any and all acts for and on behalf of the
undersigned which may be necessary or desirable to prepare,
complete and execute any such Form 3, 4, or 5, prepare, complete
and execute any amendment or amendments thereto, and timely
deliver and file such form with the United States Security and
Exchange Commission and any stock exchange or similar authority;

(3) seek or obtain, as the undersigned's representative and on
the undersigned's behalf, information regarding transactions in
the Company's securities from any third party, including
brokers, employee benefit plan administrators and trustees, and
the undersigned hereby authorizes any such person to release any
such information to such attorney-in-fact and approves and
ratifies any such release of information; and

(4) take any other action of any type whatsoever in connection
with the foregoing which, in the opinion of such attorney-in-
fact, may be of benefit to, in the interest of, or legally
required by, the undersigned, it being understood that the
documents executed by such attorney-in-fact on behalf of the
undersigned pursuant to this Power of Attorney shall be in such
form and shall contain such terms and conditions as such
attorney-in-fact may approve in such attorney-in-facts
discretion.

The undersigned hereby grants to each such attorney-in-fact full
power and authority to do and perform any and every act and
thing whatsoever requisite, necessary, or proper to be done in
the exercise of any of the rights and powers herein granted, as
fully to all intents and purposes as to the undersigned might or
could do of personally present, with full power of substitution
or revocation, hereby ratifying and confirming all that such
attorney-in-fact or such attorney-in-facts substitute or
substitutes, shall lawfully do or cause to be done by virtue of
this power of attorney and the rights and powers herein granted.

The undersigned acknowledges that the foregoing attorneys-in-
fact, in serving in such capacity at the request of the
undersigned, are not assuming nor relieving, nor is the Company
assuming nor relieving, any of the undersigned's
responsibilities to comply with Section 16 of the Exchange Act.
The undersigned Acknowledges that neither the company nor the
foregoing attorneys-in-fact assume (i) any liability of the
undersigned's responsibility to comply with the requirements of
the Exchange Act, (ii) any liability of the undersigned for any
failure to comply with such requirements, or (iii) any
obligation or liability of the undersigned for profit
disgorgement under Section 16(b) of the Exchange Act.

This Power of Attorney shall remain in full force and effect
until the undersigned is no longer required to file Forms 3, 4,
and 5 with respect to the undersigned's holdings of and
transactions in securities issued by the Company, unless earlier
revoked by the undersigned in a signed writing delivered to the
foregoing attorneys-in-fact.

IN WITNESS WHEREOF, the undersigned has caused this Power of
Attorney to be executed as of this 16th day of May 2024.

Colleen F. Reitan
Print Name

/s/ Colleen F. Reitan
Signature