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

DIVISION OF
CORPORATION FINANCE

June 24, 2020

Axel Bolte
President and Chief Executive Officer
Inozyme Pharma, Inc.
321 Summer Street
Suite 400
Boston, Massachusetts 02210

> **Re: Inozyme Pharma, Inc.**
> **Amendment No. 1 to**
> **Draft Registration Statement on Form S-1**
> **Submitted June 12, 2020**
> **CIK No. 0001693011**

Dear Mr. Bolte:

We have reviewed your amended draft registration statement and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter by providing the requested information and either submitting an amended draft registration statement or publicly filing your registration statement on EDGAR. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing the information you provide in response to these comments and your amended draft registration statement or filed registration statement, we may have additional comments.

Draft Registration Statement on Form S-1 Amendment No. 1

Prospectus Summary
Our Solution: INZ-701, page 3

1. We note your response to comment 4. The pyramid graphic is not based on comparable figures and places disproportionate emphasis on the information it contains, and should be further revised for proportionality and balance. In addition, while we understand that investors may be interested in your potential gene therapy products, they are not sufficiently developed to highlight in the summary and pipeline table a this time. Revise the table and summary accordingly.

Pipeline, page 5

2.   We note your response to prior comment 7 and that you have revised the pipeline table to include your potential gene therapy program using the AAV construct, but it does not appear that you have selected a development candidate or a targeted indication for that program at this time, and it does not appear that you have allocated a material portion of the proceeds of your offering for the development of that program. As that program may be too preliminary to be emphasized in your summary and pipeline table, please provide us with your analysis supporting your determination to feature that program in your summary and pipeline table at this time. If this program is material, please revise your table to more specifically identify the product candidate and the targeted indication or revise your disclosure as appropriate.

Principal Stockholders, page 190

3.   Please revise footnote 7 to your table to identify the natural persons who have or share beneficial ownership of the securities held by the Cowen Entities.

Consolidated Financial Statements
Unaudited Pro Forma Information, page F-11

4.   We note that your pro forma balance sheet reflects the issuance of the June 2020 preferred stock and the conversion of all your preferred stock, inclusive of the June 2020 preferred stock. However, your pro forma earnings per share calculations only reflect the conversion of your preferred stock that was outstanding as of March 31, 2020. Please explain why you have not included the June 2020 preferred stock issuance and conversion in your pro forma earnings per share calculations. In this regard, we note that for transactions involving the issuance of securities subsequent to the latest balance sheet presented, you should give pro forma effect to those shares as being outstanding as of the beginning of the earliest period presented. Please advise or revise your pro forma earnings per share information throughout the filing.

You may contact Gary Newberry at (202) 551-3761 or Jeanne Baker at (202) 551-3691 if you have questions regarding comments on the financial statements and related matters. Please contact Abby Adams at (202) 551-6902 or Tim Buchmiller at (202) 551-3635 with any other questions.

Sincerely,

Division of Corporation Finance
Office of Life Sciences

cc: Brian A. Johnson, Esq.