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October 20, 2017

By Electronic Submission

Securities and Exchange Commission
Division of Corporation Finance
100 F Street, N.E.
Washington, DC 20549

Attention: Dorrie Yale

Re: Arsanis, Inc.
Registration Statement on Form S-1

Ladies and Gentlemen:

Submitted herewith for filing on behalf of Arsanis, Inc. (the "Company") is a Registration Statement on Form S-1 (the "Registration Statement") relating to the registration under the Securities Act of 1933, as amended (the "Securities Act"), of $57,500,000 of Common Stock of the Company. The filing of the Registration Statement is being effected by direct transmission to the EDGAR System of the Securities and Exchange Commission (the "Commission"). On October 20, 2017, in anticipation of this filing, the Company caused the filing fee of $7,158.75 to be wire transferred to the Commission's account at US Bank. The Registration Statement relates to the Company's initial public offering of securities. It is the intent of the Company and the managing underwriters of the proposed offering to have the Registration Statement declared effective as early as possible. Acceleration requests may be made orally, and the Company and the managing underwriters of the proposed offering have authorized us to represent on their behalf that they are aware of their obligations under the Securities Act with respect thereto.

The Registration Statement is also being filed in response to comments contained in the letter dated October 3, 2017 (the "Letter") from the Staff (the "Staff") of the Office of Healthcare & Insurance of the Division of Corporate Finance of the Commission to René Russo, the Company's President and Chief Executive Officer, relating to Amendment No. 1 to the Confidential Draft Registration Statement on Form S-1 (File No. 377-01662) submitted by the Company to the Commission on September 20, 2017, and we are responding on behalf of the Company to the comments of the Staff contained in the Letter.

The responses set forth below are based upon information provided to us by representatives of the Company. The responses are keyed to the numbering of the comments and the headings used in the Letter. Where appropriate, the Company has responded to the Staff's comments by making changes to the disclosure in the Registration Statement. Page numbers referred to in the responses reference the Registration Statement.

On behalf of the Company, we advise you as follows:

Prospectus Summary
Our Pipeline, page 1

1. *We refer to your revised disclosure on page 4 in response to prior comment 1 that you are currently conducting preclinical studies for your ASN300 program. However, we note that you state on your website that you are "currently set to enter preclinical development" for this program. Please reconcile this discrepancy, and if the ASN300 program remains in the discovery phase, please revise your table here and in the Business section to remove this program as it would be premature to include it.*

   Response: In response to the Staff's comment, the Company has updated its website to reflect that its ASN300 program is currently in preclinical development.

Key Advantages of ASN100, page 2

2. *We acknowledge your revised disclosure and response to prior comment 3. Your revised disclosure indicates that you expect to conduct an interim analysis to assess the probability that the trial will succeed as currently designed. To balance your disclosure in the fourth bullet on page 2, please also include a brief reference in the bullet to this expected interim analysis.*

   Response: In response to the Staff's comment, the Company has revised the disclosure on pages 3 and 98 of the Registration Statement.

ASN300 and ASN200, page 4

3. *We refer to your revised disclosure that in early studies, you have observed "efficacy" and "potentiation of antibiotic efficacy." As efficacy determinations are solely within the FDA's authority, please remove these statements here and elsewhere in your prospectus regarding these product candidates' efficacy.*

   Response: In response to the Staff's comment, the Company has revised the disclosure on pages 4 and 103 of the Registration Statement.

Use of Proceeds, page 60

4. *We acknowledge your response to prior comment 10. Please also clarify that the proposed use described in the third bullet of the third paragraph is not expected to apply to the ASN500 program.*

Response: In response to the Staff's comment, the Company has revised the disclosure on page 60 of the Registration Statement.

Business, Phase 2 Clinical Trial, page 99

5. *We acknowledge your revised disclosure, but we note that your discussion in the first paragraph on page 99 states that your trial is designed to detect a "statistically significant" reduction in the occurrence of S. aureus pneumonia, and that you note the risk on page 43 that clinical trial results may not meet the level of statistical significance required for FDA approval. Please expand your discussion to explain the term and discuss how statistical significance relates to the FDA's evidentiary standards of efficacy. Refer to prior comment 13.*

Response: In response to the Staff's comment, the Company has revised the disclosure on page 99 of the Registration Statement to delete the reference to statistical significance. The Company supplementally advises the Staff that the Food and Drug Administration (the "FDA") does not provide guidance on powering of Phase 2 clinical trials for statistical significance and, accordingly, any statistical significance of data from the Company's Phase 2 trial will not be dispositive with respect to the FDA's evidentiary standards of efficacy. If the Company's Phase 2 trial meets its primary endpoint, the FDA will review the totality of the evidence to determine the degree to which the results of the trial support the potential for safety and efficacy of ASN100 and what additional clinical trials will be required to demonstrate safety and efficacy.

Collaboration and License Agreements, page 108

6. *We acknowledge your revised disclosure in response to prior comment 17. Please further revise your disclosure to provide investors with a sense of understanding of when the Adimab Option Agreement will expire if you do not exercise the option. Additionally, with respect to both of the Adimab agreements, please revise your disclosure to clarify the expiration of the royalty terms.*

Response: In response to the Staff's comment, the Company has revised the disclosure on pages 110, 111, F-23, F-24 and F-25 of the Registration Statement.

Transactions with Related Persons, page 159

7. *Please file as an exhibit the Stockholders´ Agreement discussed on page 162 or advise why you believe the agreement is not required to be filed.*

Response: In response to the Staff's comment, the Company has filed the Stockholders' Agreement as an exhibit to the Registration Statement.

If you have any further questions or comments, or if you require any additional information, please contact the undersigned by telephone at (617) 526-6393 or facsimile at (617) 526-5000. Thank you for your assistance.

Very truly yours,

/s/ Cynthia T. Mazareas
Cynthia T. Mazareas

cc: René Russo, Arsanis, Inc.