

Actinium Pharmaceuticals, Inc.  
275 Madison Avenue, 7th Floor  
New York, NY 10016

October 3, 2017

VIA EDGAR

Johnny Gharib  
Mary Beth Breslin  
Division of Corporation Finance  
Securities and Exchange Commission  
100 F Street N.E.  
Washington, D.C. 20549

**Re:**  
**Actinium Pharmaceuticals, Inc.**  
**Registration Statement on Form S-3**  
**Filed March 16, 2017**  
**File No. 333-216748**

Dear Mr. Gharib and Ms. Breslin:

We are in receipt of your comment letter dated April 4, 2017 regarding the above referenced filing. As requested in your letter, we have provided responses to the questions raised by the staff. For your convenience, the comments are listed below, followed by Actinium Pharmaceuticals, Inc.'s (the "Company") responses:

Exhibits

1. Please file a revised legal opinion that also opines as to the debt securities being offered under a base prospectus.

**RESPONSE:**

We have filed as an exhibit the revised legal opinion that also opines as to the debt securities being offered under the base prospectus.

2. Please file the Statement of Eligibility on Form T-1 as Exhibit 25.1. To the extent you intend to rely upon Section 305(b)(2) of the Trust Indenture Act to designate a trustee on a delayed basis, please include footnote disclosure to the exhibit index stating that the Form T-1 will be filed separately under the electronic form type "305B2." For guidance, please refer to Question 206.01 of the Trust Indenture Act of 1939 Compliance and Disclosure Interpretations, available at <http://www.sec.gov/divisions/corpfin/guidance/tiinterp.htm>.

**RESPONSE:**

We have filed an amendment No. 1 to S-3 Registration Statement which adds the Statement of Eligibility on Form T-1 as Exhibit 25, and which includes the footnote disclosure stating that the Form T-1 will be filed separately under the electronic form type "305B2."

Sincerely,

Actinium Pharmaceuticals, Inc.

By: /s/ Sandesh Seth  
Sandesh Seth  
Chairman and Chief Executive Officer