

J.P. Morgan Securities LLC
Piper Jaffray & Co.

As Representatives of the
several Underwriters listed
in Schedule 1 of the Underwriting Agreement

c/o J.P. Morgan Securities LLC
383 Madison Avenue
New York, New York 10179

c/o Piper Jaffray & Co.
345 Park Avenue, 12th Floor
New York, New York 10154

VIA EDGAR

September 25, 2017

Suzanne Hayes
Christine Westbrook
Office of Healthcare and Insurance
Division of Corporate Finance
Securities and Exchange Commission
Division of Corporation Finance
100 F Street, N.E.
Washington, D.C. 20549

**RE: Deciphera Pharmaceuticals, Inc.
Registration Statement on Form S-1
File No. 333-220299**

Ladies and Gentlemen:

In accordance with Rule 461 under the Securities Act of 1933, as amended (the “**Act**”), we, as representative of the several underwriters, hereby join in the request of Deciphera Pharmaceuticals, Inc. (the “**Company**”) for acceleration of the effective date of the above-named Registration Statement so that it becomes effective at 4:00 p.m., Eastern Time, on September 27, 2017 or as soon thereafter as practicable, or at such other time as the Company or its outside counsel, Goodwin Procter LLP, request by telephone that such Registration Statement be declared effective.

Pursuant to Rule 460 under the Act, we, as representative of the several underwriters, wish to advise you that we have effected the following distribution of the Company’s Preliminary Prospectus dated September 18, 2017:

- (i) Dates of distribution: September 18, 2017 through the date hereof
- (ii) Number of prospective underwriters to which the preliminary prospectus was furnished: 4
- (iii) Number of prospectuses furnished to investors: approximately 333
- (iv) Number of prospectuses distributed to others, including the Company, the Company’s counsel, independent accountants, and underwriters’ counsel: approximately 50

We, the undersigned, as representative of the several underwriters, has complied and will comply, and we have been informed by the participating underwriters that they have complied and will comply, with the requirements of Rule 15c2-8 under the Securities Exchange Act of 1934, as amended.

Very truly yours,

J.P. MORGAN SECURITIES LLC
PIPER JAFFRAY & CO.

Acting on behalf of itself and the several underwriters

By: J.P. MORGAN SECURITIES LLC

By: /s/ Benjamin Burdett

Name: Benjamin Burdett

Title: Executive Director

By: PIPER JAFFRAY & CO.

By: /s/ Christie L. Christina

Name: Christie L. Christina

Title: Managing Director

[Signature Page to the Acceleration Request]