

VIA EDGAR

August 8, 2022

United States Securities and Exchange Commission
Division of Corporation Finance
100 F Street, N.E.
Washington, D.C. 20549

**Re: Deciphera Pharmaceuticals, Inc.
Acceleration Request for Registration Statement on Form S-3
File No. 333-266523**

Ladies and Gentlemen:

Pursuant to Rule 461 under the Securities Act of 1933, as amended (the “**Act**”), Deciphera Pharmaceuticals, Inc. (the “**Company**”) hereby requests that the effective date of the above-referenced registration statement (the “**Registration Statement**”) be accelerated to August 10, 2022, at 4:30 pm Eastern Time, or as soon thereafter as practicable, unless we or our outside counsel, Goodwin Procter LLP, request by telephone that such Registration Statement be declared effective at some other time. In making this acceleration request, the Company acknowledges that it is aware of its responsibilities under the Act.

If you have any questions regarding this request, please contact Alicia Tschirhart of Goodwin Procter LLP at (415) 733-6156.

Sincerely,
DECIPHERA PHARMACEUTICALS, INC.

/s/ Steven L. Hoerter

Name: Steven L. Hoerter

Title: President and Chief Executive Officer

cc: Thomas P. Kelly, *Deciphera Pharmaceuticals, Inc.*

Jeff Held, *Deciphera Pharmaceuticals, Inc.*

Sarah Ashfaq, *Goodwin Procter LLP*

Alicia Tschirhart, *Goodwin Procter LLP*