



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

DIVISION OF
CORPORATION FINANCE

October 9, 2018

Michael D. Taylor
President and Chief Executive Officer
Deciphera Pharmaceuticals, Inc.
500 Totten Pond Road
Waltham, MA 02451

Re: Deciphera Pharmaceuticals, Inc.
Registration Statement on Form S-3
Filed October 1, 2018
File No. 333-227638

Dear Dr. Taylor:

This is to advise you that we have not reviewed and will not review your registration statement.

Please refer to Rules 460 and 461 regarding requests for acceleration. We remind you that the company and its management are responsible for the accuracy and adequacy of their disclosures, notwithstanding any review, comments, action or absence of action by the staff.

Please contact Christine Westbrook at 202-551-5019 with any questions.

Sincerely,

Division of Corporation Finance
Office of Healthcare & Insurance

cc: Edwin O'Connor, Esq.