

Evelo Biosciences, Inc.
620 Memorial Drive
Cambridge, Massachusetts 02139

June 4, 2019

Via EDGAR Transmission
Securities and Exchange Commission
Division of Corporation Finance
Mail Stop 3010
100 F Street, N.E.
Washington, D.C. 20549

Re: EVELO BIOSCIENCES, INC.

Registration Statement on Form S-3 (Registration No. 333-231911)

Ladies and Gentlemen:

In accordance with Rule 461 under the Securities Act of 1933, as amended, we hereby request acceleration of the effective date of the Registration Statement on Form S-3 (Registration No. 333-231911) (the "Registration Statement") of Evelo Biosciences, Inc. (the "Company"). We respectfully request that the Registration Statement become effective as of 4:30 p.m., Eastern Time, on June 6, 2019, or at such later time as the Company or its counsel may orally request via telephone call to the staff. Once the Registration Statement has been declared effective, please orally confirm that event with our counsel, Latham & Watkins LLP, by calling Peter Handrinis at (617) 948-6060 or Wesley Holmes at (212) 906-1366.

If you have any questions regarding the foregoing, please do not hesitate to contact Peter Handrinis at (617) 948-6060 or Wesley Holmes at (212) 906-1366, of Latham & Watkins LLP. Thank you in advance for your consideration.

Very truly yours,

EVELO BIOSCIENCES, Inc.

By: /s/ Daniel S. Char
Name: Daniel S. Char
Title: General Counsel

cc: Peter N. Handrinis, Latham & Watkins LLP
Wesley C. Holmes, Latham & Watkins LLP