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April 23, 2018

53rd at Third 885 Third Avenue New York, New York 10022-4834 Tel: +1.212.906.1200 Fax: +1.212.751.4854 www.lw.com

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VIA EDGAR AND HAND DELIVERY

CONFIDENTIAL

Securities and Exchange Commission Division of Corporation Finance Office of Healthcare & Insurance 100 F Street, N.E. Mail Stop 4720 Washington, D.C. 20549 Attention: Mr. Chris Edwards and Ms. Mary Beth Breslin FOIA Confidential Treatment Request Under 17 C.F.R. §200.83

Re: Evelo Biosciences, Inc. | Anticipated Price Range | Registration Statement on Form S-1 (File No. 333-224278)

Ladies and Gentlemen:

On behalf of Evelo Biosciences, Inc. (the "*Company*"), we submit this letter to the Staff (the "*Staff*") of the Division of Corporation Finance of the Securities and Exchange Commission (the "*Commission*"). The Company originally submitted the above-referenced Registration Statement (the "*Registration Statement*") to the Commission on March 5, 2018. Because of the commercially sensitive nature of the information contained herein, this submission is accompanied by the Company's request for confidential treatment of selected portions of this letter pursuant to Rule 83 of the Commission's Rules on Information and Requests, 17 C.F.R. § 200.83. A redacted letter has been filed on EDGAR, omitting the confidential information contained in this letter. For the convenience of the Staff, we are providing to the Staff copies of this letter by hand delivery.

ESTIMATED IPO PRICE RANGE

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To assist the Staff in its review, the Company advises the Staff that, although not yet reflected in the Registration Statement, based on discussions with the Company's board of directors and reflecting input from the lead underwriters (the "*Underwriters*") for the Company's initial public offering ("*IPO*"), if the Company were to commence marketing of the transaction today, the Company presently anticipates that the estimated price range would be approximately \$[***] to \$[***] per share for the Company's common stock (the "*Preliminary IPO Price Range*") with a midpoint of the anticipated range of approximately \$[***] per share (the "*Preliminary Assumed IPO Price*"). The Preliminary IPO Price Range and Preliminary Assumed IPO Price the reverse stock split that the Company intends to effect prior to the Commission's declaration of effectiveness of the Registration Statement. The Company advises the Staff that the final range to be included in a pre-effective amendment to the Registration Statement, after giving effect to an appropriate reverse stock split, will include a price range of no more than \$2.00, if the maximum price is \$10.00 per share or less, or 20%, if the maximum price is greater than \$10.00 per share, unless otherwise approved by the Staff.

The Company's final post-split Preliminary IPO Price Range remains under discussion between the Company and the Underwriters, and a bona fide price range will be included in an amendment to the Registration Statement prior to any distribution of the preliminary prospectus in connection with the Company's road show.

The Company expects that additional option grants made prior to the offering shall have an exercise price equal to the IPO price per share for shares of common stock sold in the IPO pursuant to the Registration Statement.

COMPARISON OF APRIL 4, 2018 VALUATION AND PRELIMINARY ASSUMED IPO PRICE

As described in the Registration Statement under the heading "Management's Discussion and Analysis of Financial Condition and Results of Operations—Critical Accounting Policies and Use of Estimates—Option Grants," the Company's most recent grants of stock options were made on April 4, 2018 with an exercise price of \$2.57 per share, which the Company determined to be the fair value of its common stock on that date based on a contemporaneous third-party valuation of its common stock conducted as of March 30, 2018. The March 30, 2018 valuation analysis was performed using the hybrid method, which considered an IPO scenario and a sale scenario. For those two future-event scenarios, the Company's management determined that the probability for the IPO scenario was 70% and for the sale scenario was 30%.

In determining the enterprise value for the IPO scenario, the Company applied the recent transaction method, as the Company had recently completed its Series C preferred stock financing. For the IPO scenario, the Company estimated time to completion for the IPO was 0.12 years and applied a risk-adjusted discount rate of 25%, which was determined based on a weighted average cost of capital model. The estimate of 0.12 years for completion of the IPO was based on the public equity markets for biopharmaceutical companies and the Registration Statement having been confidentially submitted on March 5, 2018.

In determining the enterprise value for the sale scenario, the Company also applied the recent transaction method based on the Series C preferred stock financing. This approach

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estimated the value of the Company in a non-IPO scenario based on the \$3.23/share price of the Series C preferred stock financing. After estimating the value of the Company's equity, the Company valued the common stock by considering the economic and control rights of the preferred stockholders versus common stockholders. The Company estimated time to completion for a sale was 2.75 years.

For the two scenarios, the Company then applied a discount for lack of marketability of 7.5% under the IPO scenario and of 15% under the sale scenario. The March 30, 2018 valuation analysis resulted in a valuation of the Company's common stock of \$2.57 per share. Based on that result as well as consideration of other qualitative factors, the Company's board of directors determined that the fair value of the Company's common stock was \$2.57 per share as of April 4, 2018, when it granted stock options for the purchase of an aggregate of 5,004,277 shares of common stock.

As noted above, the Preliminary IPO Price Range is \$[***] to \$[***] per share, with a Preliminary Assumed IPO Price of approximately \$[***] per share. The Company notes that, as is typical in IPOs, the estimated price range for this offering was not derived using a formal determination of fair value, but was determined by negotiation between the Company and the Underwriters.

Among the factors that were considered in setting this range were the following:

- An analysis of the typical valuation ranges seen in recent IPOs for companies in the biopharmaceutical industry;
- The general condition of the securities markets and the recent market prices of, and the demand for, publicly traded common stock of generally comparable companies;
- An assumption that there would be a receptive public trading market for a monoclonal microbial company like the Company; and
- An assumption that there would be sufficient demand for the Company's common stock to support an offering of the size contemplated by the proposed IPO.

The Company believes that the difference between the fair value of its common stock as of April 4, 2018 of \$2.57 per share and the Preliminary Assumed IPO Price of approximately \$[***] per share is the result of these factors and the following factors and positive developments with respect to its business that have occurred or will occur subsequent to April 4, 2018 and prior to the proposed IPO:

• The Preliminary IPO Price Range is based only upon a scenario in which the Company completes this offering and is not probability weighted, in contrast to the Company's prior valuations of common stock, which considered other potential outcomes under the probability weighted expected return method, which would have resulted in a lower value of its common stock than an initial public offering.

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- The Preliminary IPO Price Range necessarily assumes that the IPO has occurred and that a public market for the Company's common stock has been created, and, therefore, excludes any discount for lack of marketability of the Company's common stock, which was appropriately taken into account in the Company's determination of the fair value of its common stock on April 4, 2018.
- The Company's preferred stock currently has substantial economic rights and preferences over its common stock. Upon the closing of the IPO, all outstanding shares of the Company's preferred stock will convert into common stock, thus eliminating the superior rights and preferences of its preferred stock as compared to its common stock.
- The significant benefits the Company expects to accrue as a result of becoming publicly traded through the IPO, including (i) a substantial increase in the Company's cash position after receiving the net proceeds from the IPO, (ii) an anticipated improved ability of the Company to raise equity and debt capital going forward, and at a lower expected cost of capital and with reduced borrowing costs, as a result of being a publicly traded company, and (iii) the expected increased attractiveness of the Company's equity as a currency to raise capital, compensate employees and other strategic transactions.
- The Preliminary Assumed IPO Price was determined based on the assumed achievement of each of the following milestones, which occurred subsequent to April 4, 2018, before the completion of the IPO: (i) the Company received all necessary regulatory approvals to initiate its first clinical trial with its product candidate EDP1066 for psoriasis and atopic dermatitis, and it plans to dose the first patients in the trial next week before the launch of the road show for the IPO; (ii) based on preclinical data, the Company selected EDP1066 and EDP1815 as the product candidates for planned inflammatory disease clinical trials in ulcerative colitis/chrohn's colitis and rheumatoid arthritis, respectively, (iii) based on preclinical data, the Company selected EDP1503 as the product candidate for planned oncology clinical trials in colorectal cancer, renal cell carcinoma and pd-1 relapsed cancer and (iv) the Company submitted an investigational new drug application for EDP1503 in melanoma.

In conclusion, the Company respectfully submits that the difference between the latest valuation as of April 4, 2018 and the Preliminary Assumed IPO Price is reasonable. As requested by the Staff, the Company will continue to update its disclosure for all equity related transactions through the effective date of the Registration Statement.

The Company respectfully requests that the information contained in this request letter be treated as confidential information and that the Commission provide timely notice to Balkrishan (Simba) Gil, Ph.D., President and Chief Executive Officer, Evelo Biosciences, Inc., 620 Memorial Drive, Suite 200, Cambridge, Massachusetts 02139, telephone (617) 577-0300, before it permits any disclosure of the underlined and highlighted information contained in this request letter.

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Please direct any questions or comments regarding this letter or the Registration Statement to the undersigned at (212) 906-1366 or to Peter N. Handrinos of this firm at (617) 948-6060. Thank you for your assistance.

Sincerely,

/s/ Wesley C. Holmes

Wesley C. Holmes of LATHAM & WATKINS LLP

Enclosures

cc: (via e-mail)

Balkrishan (Simba) Gil, Ph.D., President and Chief Executive Officer, Evelo Biosciences, Inc. Peter N. Handrinos, Latham & Watkins LLP