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September 14, 2020

VIA EDGAR AND OVERNIGHT DELIVERY

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

Attention: Tracey McKoy

Al Pavot Alan Campbell Mary Beth Breslin

Re: Aziyo Biologics, Inc.

Amendment No. 1 to Draft Registration Statement on Form S-1

Submitted August 17, 2020 CIK No. 0001708527

Ladies and Gentlemen:

On behalf of our client, Aziyo Biologics, Inc., a Delaware corporation (the "Company"), and pursuant to the applicable provisions of the Securities Act of 1933, as amended (the "Securities Act"), and the rules promulgated thereunder, please find enclosed for filing with the Securities and Exchange Commission (the "Commission") a complete copy of the Registration Statement on Form S-1 (the "Registration Statement"), which was initially submitted to the Commission on a confidential basis pursuant to Title I, Section 106 under the Jumpstart Our Business Startups Act on July 10, 2020 (the "Original Draft Submission") and subsequently amended on August 17, 2020 in response to the comment letter from the staff of the Commission (the "Staff") on August 6, 2020 ("Amendment No. 1" and together with the Original Draft Submission, the "Draft Submission").

The Company is concurrently filing the Registration Statement, which reflects certain revisions to the Draft Submission in response to the comment letter from the staff of the Commission (the "*Staff*") to Ronald Lloyd, the Company's President and Chief Executive Officer, dated September 1, 2020. The responses provided herein are based on information provided to Latham & Watkins LLP by the Company. For your convenience we are also providing five copies of the Registration Statement, marked to show changes against Amendment No. 1, in the traditional non-EDGAR format, as well as a copy of this letter.

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The numbered paragraphs in italics below set forth the Staff's comments together with the Company's response. Unless otherwise indicated, capitalized terms used herein have the meanings assigned to them in the Registration Statement and all references to page numbers in such responses are to page numbers in the Registration Statement.

Amendment No. 1 to Draft Registration Statement on Form S-1 submitted August 17, 2020

Prospectus Summary

Overview, page 1

1. We note your response to prior comment 1 and your updates to the disclosure elsewhere in your document regarding your agreements. Please revise your disclosure here and on pages 86 and 105 to clarify that these partnerships are commercial agreements only and do not extend to joint research and development efforts.

Response: In response to the Staff's comment, the Company has revised its disclosure on pages 1, 4, 89, 108 and 111 of the Registration Statement to clarify the commercial nature of these agreements.

Net Cash Used in Operating Activities, page 94

2. We note that your inventory increase had a material adverse impact on your 2020 operating cash flows. Please disclose why your finished goods inventory increased 33% (page F-15) whereas your 2020 net sales decreased 6%. Please address the relevant factors identified in your page 31 inventory management/impairment risk factor. See Item 303(b)(1) of Regulation S-K.

Response: In response to the Staff's comment, the Company has revised its disclosure on page 97 of the Registration Statement to better explain the factors affecting the Company's operating cash flows during the six months ended June 30, 2020, including the reason for the increase in finished goods inventory during such period.

The Company respectfully advises the Staff that while there was an overall decline in the Company's net sales for the six months ended June 30, 2020 as compared to the six months ended June 30, 2019, as disclosed on page 94 of the Registration Statement, net sales from the Company's Core Products increased significantly during the six months ended June 30, 2020 as compared to the six months ended June 30, 2019. This increase was largely attributable to sales volume growth during the six months ended June 30, 2020 related to two of the Company's Core Products that also largely accounted for the increase in finished goods inventory during such period—SimpliDerm (which accounted for \$1.4 million of the increase) and FiberCel (which accounted for \$0.7 million of the increase).

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The Company respectfully advises the Staff that the inventory growth for SimpliDerm and FiberCel during the first half of 2020 was the result of steps taken by the Company to better secure a sufficient supply of these products in light of forecasted demand, and in anticipation of the Company's annual plant maintenance shutdown scheduled to occur shortly following the balance sheet date, as discussed below. With respect to SimpliDerm, as disclosed in the Registration Statement, the Company launched this product during the second half of 2019 and experienced meaningful revenue growth for this product toward the end of 2019. Based on this historical demand and the Company's forecasted increase in demand from its engagement of additional independent sales agents, the Company increased production of SimpliDerm during the first six months of 2020 in order to better ensure that sufficient quantities of this product would be on hand during this extended launch period. Similarly, with respect to FiberCel, the Company experienced considerable growth in demand in the early part of 2020 from its commercial partner Medtronic, as well as from a second customer that sells a privately labeled version of FiberCel. Furthermore, the forecasts the Company received from both Medtronic and this second customer required that the Company undertake a significant inventory build in order to ensure the Company would be able to fulfill such forecasted demand. In addition, the Company further increased its production of both SimpliDerm and FiberCel ahead of the Company was aware that no production would be able to occur, which served to further accelerate production of these products in the first half of 2020.

In addition, in order to address the inventory realizability risks discussed in the "Risk Factors" section of the Registration Statement—most notably the risks related to forecast inaccuracies yielding excess quantities and shelf-life expiries—the Company respectfully advises the Staff that the Company analyzes its inventory positions versus its historical and projected sales at each quarter-end. The sales forecasts analyzed as part of this review also consider the remaining shelf-life on such inventory which, in the case of SimpliDerm and FiberCel, is two years. The Company respectfully advises the Staff that, consistent with its usual practice, it conducted such analysis as of June 30, 2020 and, after considering these expiry dates and sales forecasts versus inventory levels as of such date as discussed above, all amounts recorded on the Company's balance sheet in respect of such inventory were deemed to be realizable.

Note 15, page F-25

3. Please expand the disclosures here and on pages 16 and 85 to address the stock split. Also, please quantify for us the number of converted preferred shares that you expect to include in 2020 pro forma loss per share and the number of preferred stock liquidation shares that you expect to exclude from 2020 pro forma loss per share. We note the 45 million shares amount disclosed in Note 14. Please clarify for us why your pro forma loss per share numbers exclude the liquidation shares.

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Response: In response to the Staff's comment, the Company has revised its disclosure on pages 16, 88 and F-26 of the Registration Statement to clarify that its pro forma net loss per share presentation gives retrospective effect to the reverse stock split. In addition, the Company respectfully advises the Staff that, in addition to the converted preferred shares, the Company also intends to include in its pro forma net loss per share presentation the shares of common stock issuable in respect of the liquidation preference payable to holders of its Series A convertible preferred stock, the shares of common stock issuable upon the assumed net exercise of the common stock warrant and the preferred stock warrants and, in the case of the pro forma net loss per share presentation for the six months ended June 30, 2020, the shares of common stock issuable upon the conversion of the 2020 Bridge Notes (in each case, as described in Note 15 to the Company's consolidated financial statements), and has revised its disclosure on pages F-8, F-9 and F-25 through F-27 of the Registration Statement accordingly.

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Please do not hesitate to contact me at (617) 948-6027 with any questions or further comments you may have regarding this submission or if you wish to discuss the above.

Sincerely,

/s/ Wesley C. Holmes

Wesley C. Holmes of LATHAM & WATKINS LLP

cc: (via e-mail)

Ronald Lloyd, President and Chief Executive Officer, Aziyo Biologics, Inc. Charles Ruck, Esq., Latham & Watkins LLP Alan F. Denenberg, Esq., Davis Polk & Wardwell LLP Ali DeGolia, Esq., Davis Polk & Wardwell LLP