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June 6, 2019

CERTAIN PORTIONS OF THIS LETTER AS FILED VIA EDGAR HAVE BEEN OMITTED AND FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION. CONFIDENTIAL TREATMENT HAS BEEN REQUESTED FOR THE OMITTED PORTIONS, WHICH HAVE BEEN REPLACED WITH THE FOLLOWING PLACEHOLDER: "[*]."

VIA EDGAR AND OVERNIGHT DELIVERY

Securities and Exchange Commission Division of Corporation Finance Office of Healthcare & Insurance 100 F Street, NE Washington, DC 20549

Attention: SiSi Cheng

Jim Rosenberg Jeffrey Gabor Joe McCann

Re: Morphic Holding, Inc.

Registration Statement on Form S-1

Filed May 30, 2019 File No. 333-231837

Ladies and Gentlemen:

On behalf of Morphic Holding, Inc. (the "Company"), we submit this letter to assist the staff (the "Staff") of the Securities and Exchange Commission (the "Commission") in its review of the Company's Registration Statement on Form S-1 (File No. 333-231837) (the "Registration Statement"), to further address comment 6 of your letter dated May 10, 2019 (the "Comment Letter") concerning valuation considerations related to the Company's recent equity awards. For the convenience of the Staff, we are providing to the Staff by overnight delivery copies of this letter.

Because of the commercially sensitive nature of 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 and the Freedom of Information Act.

The Company advises the Staff that the Company currently anticipates that it will include an expected price range in its preliminary prospectus (the "*Preliminary Prospectus*") for the proposed initial public offering (the "*IPO*") that will be between approximately \$[*] and \$[*] per share after effecting a proposed approximate [*]-to-1 reverse stock split (the "*Preliminary Price Range*"). The Company plans to effect the reverse stock split in connection with its IPO pursuant to a future amendment of the Company's

certificate of incorporation that will be filed with the Secretary of State of the State of Delaware before filing the Preliminary Prospectus with the Commission (the "*Stock Split*"). The share numbers and stock prices set forth in this letter reflect the Stock Split and are all post-split. Prior to June 3, 2019, the underwriters did not deliver the Preliminary Price Range for the Offering.

The Preliminary Price Range does not take into account the current lack of liquidity for the Company's common stock and assumes a successful initial public offering as of the date of that discussion with no weighting attributed to any other outcome for the Company's business, such as remaining a privately held company.

The Company expects to include the actual price range in an amendment to the Registration Statement (which will comply with the Staff's interpretation regarding the parameters of a bona fide price range) that would shortly precede the commencement of the Company's public marketing process, which it anticipates could commence as soon as [*]. Such price range could differ from the Preliminary Price Range based on then-current market conditions, continuing discussions with representatives of the underwriters, and further business developments impacting the Company. However, the Company believes that the foregoing Preliminary Price Range will not be subject to significant change.

We supplementally advise the Staff that, as described on pages 88-89 of the Registration Statement, for all periods prior to the IPO, the fair values of the shares of common stock underlying the Company's stock-based awards were estimated on each grant date by the Board. In order to determine the fair value of the Company's common stock underlying incentive unit and option grants, the Board considered, among other things, timely valuations of the Company's common stock prepared by an unrelated third-party valuation firm in accordance with the guidance provided by the American Institute of Certified Public Accountants Practice Guide, *Valuation of Privately-Held-Company Equity Securities Issued as Compensation*. Given the absence of a public trading market for the Company's common stock, the Board exercised reasonable judgment and considered a number of objective and subjective factors to determine the best estimate of the fair value of the Company's common stock, including important developments in the Company's operations, its stage of development, valuations performed by an independent third party valuation firm, sales of the Company's convertible preferred stock, actual operating results and financial performance, the conditions in the biotechnology industry and the economy in general, the stock price performance and volatility of companable public companies, the lack of liquidity of the Company's common stock, the likelihood of achieving a liquidity event, such as an initial public offering or sale, and the analysis of IPO's and the market performance of similar companies in the biotechnology industry.

The following table summarizes the grant of awards by the Company since January 1, 2018 (on a post-Stock Split basis).

	Type of	Shares	Valuation Report	Per Unit Strike Price or Per Share Exercise	Fair Value of Common Stock for Accounting
Award Date	Award	Underlying	Date	Price	Purposes
June 21, 2018	Incentive Unit	[*]	August 31, 2017	\$[*]	\$[*]
December 7, 2018	Stock Option	[*]	October 31, 2018	\$[*]	\$[*]
December 14, 2018	Stock Option	[*]	October 31, 2018	\$[*]	\$[*]
April 11, 2019	Stock Option	[*]	January 31, 2019	\$[*]	\$[*]

The Company used the following valuation and allocation methods for each of the valuation reports:

	August 31, 2017	October 31, 2018	January 31, 2019
Equity value determination	Probability Weighted	Probability Weighted	Probability Weighted
	Expected Returns Method	Expected Returns Method	Expected Returns Method
Allocation method	Option Pricing Method	Option Pricing Method	Option Pricing Method
Estimated Fair Value of common stock	\$[*]	\$[*]	\$[*]

The August 31, 2017 valuation was prepared on a minority, non-marketable interest basis using the probability weighted expected returns method, which included the following three scenarios: i) the Company completes an IPO in 2021, ii) the Company is acquired in 2020, iii) the Company has a liquidation event in 2018.

Both the October 31, 2018 and January 31, 2019 valuations were prepared on a minority, non-marketable interest basis using the probability weighted expected return method, which included the following three scenarios: i) the Company completes an IPO in 2019, ii) the Company continues operations as a privately held company, iii) the Company has a liquidation event in 2020.

After the present value of common stock was determined on an as if marketable basis for each of the above-mentioned scenarios, a Discount for Lack of Marketability, or DLOM, was applied to the estimated fair value of the Company's common stock. DLOM was applied based on the premise that a private company valuation analysis relies on data from publicly traded companies, which are marketable and the common stock of a private company is not. As a final step, the discounted values were probability-adjusted and totaled to arrive at the values indicated in the table above.

The following table summarized probabilities applied to the scenarios in each valuation:

	August 31, 2017	October 31, 2018	January 31, 2019
Scenario 1 probability	50%	50%	60%
Scenario 2 probability	35%	35%	30%
Scenario 3 probability	15%	15%	10%

For all three valuations, the liquidation event scenario produced a value of \$0.00 for common stock.

For the August 31, 2017 valuation, a term of 3.8 years was used for the IPO scenario while a term of 3.3 years was used for the acquisition scenario, with the estimated values at each event date then discounted back to the valuation date using an appropriate discount rate. After applying the above probabilities, the final step in calculating the value of the Company's common stock was to apply a per share DLOM of 40.0% under all scenarios, which reflects the lower value placed on securities that are not freely transferable, as compared to those that trade frequently in an established market and was determined using an option-based method.

For the October 31, 2018 valuation, a term of 1.3 years was used for the IPO scenario, with the estimated value as of the IPO date of \$[*] million and then discounted back to the valuation date using an appropriate discount rate. The Company estimated a 50% probability of an IPO as there were no discussions regarding a near-term IPO, the Board of Directors had not approved management to begin any IPO activities, and the Company had sufficient capital from closing its Series B financing along with closing its collaboration with AbbVie to fund operations for the near term. In the second scenario, in which the Company continues operations as a privately held company, an option pricing model ("OPM") was run using a term of 4.0 years, a volatility of 70%, and a risk-free rate of 2.72%. The term of 4.0 years was estimated by management as the average expected holding period of the investors in the event an IPO was not completed. Volatility was determined by analyzing historical volatilities of publicly traded companies with operations similar to the Company. After applying the above probabilities, the final step in calculating the value of the Company's common stock was to apply per share DLOMs of 20.0% in the IPO scenario and 40.0% in the scenario where the Company continues to operate as a privately held company, which reflects the lower value placed on securities that are not freely transferable, as compared to those that trade frequently in an established market and were determined using an option-based method.

For the January 31, 2019 valuation, a term of 5.0 months was used for the IPO scenario, with an estimated value as of the IPO date of \$[*] million and then discounted back to the valuation date using an appropriate discount rate. The increase in value for an IPO from \$[*] million to \$[*] million was primarily due to informal discussions with bankers in January 2019 and the anticipated closing of the Janssen collaboration in February 2019. In the second scenario, in which the Company continues operations as a privately held company, an OPM was run using a term of 4.0 years, a volatility of 70%, and a risk-free rate of 2.43%. The term of 4.0 years was estimated by management as the average expected holding period of the investors in the event an IPO was not completed. Volatility was determined by analyzing historical volatilities of publicly traded companies with operations similar to the Company. After applying the above probabilities, the final step in calculating the value of the Company's

common stock was to apply per share DLOMs of 15.0% in the IPO scenario and 40.0% in the scenario where the Company continues to operate as a privately held company, which reflects the lower value placed on securities that are not freely transferable, as compared to those that trade frequently in an established market and were determined using an option-based method.

The Board relied on the valuation report as of August 31, 2017 to determine the fair value of common stock as of June 21, 2018. Given the lack of clarity around a future liquidity event and the lack of significant research program progression, in the judgment of the Board, the fair value of the Company's common stock did not increase from the fair value at August 31, 2017 to June 2018.

In September 2018, the Company raised an additional \$80 million from issuance of the Series B convertible preferred shares at a price of \$[*] per share. The Series B financing was led by unrelated investors. In addition, in October 2018, the Company entered into a Collaboration and Option Agreement with AbbVie (the "*AbbVie Agreement*"), which entitled the Company to the non-refundable \$100 million upfront payment and additional consideration dependent on the progress of research programs in which AbbVie exercises its option rights.

As discussed above, the Company obtained a third-party valuation report as of October 31, 2018 that indicated the fair value of the Company's common stock as of that date was \$[*] per share. The Board approved option grants on December 7, 2018 and December 14, 2018, with an exercise price of \$[*] per share. In the judgment of the Board, it was reasonable to estimate the common stock fair value at December 7, 2018 and December 14, 2018 based on the valuation report as of October 31, 2018 as that report was of a relatively recent date, and the Series B financing and the AbbVie Agreement were factored into valuation of the common stock as of October 31, 2018. In addition, there were no internal or external developments that would indicate that the fair value of the Company's common stock would have significantly increased from October 31, 2018 for the option grants in December 2018.

In December 2018, the Company affected a reorganization whereby all previously outstanding common units were exchanged for the equal number of common shares and all previously outstanding vested and unvested incentive units were exchanged for an equal number of shares of common stock or restricted common stock, respectively. This reorganization from an LLC to a C Corporation did not change the value of the Company. In January 2019, the Company entered into the Research Collaboration and Option Agreement with Janssen (the "Janssen Agreement"). Additionally, the Company continued to make scientific progress in both internal and partnered programs with AbbVie with a target IND-filing of the lead program in late 2019 and began preliminary board of director discussions about a possible IPO in the first half of 2019. As such, the Company obtained a third-party valuation report as of January 31, 2019 that indicated the fair value of the Company's common stock as of that date was \$[*] per share. The Board approved stock option grants on April 11, 2019, with an exercise price of \$[*] per share. The Board believed it was reasonable to estimate the common stock fair value at April 11, 2019 based on the valuation report as of January 31, 2019 as that report was as of a relatively recent date, and the Janssen Agreement was factored into valuation of the common shares as of January 31, 2019. This valuation considered the preliminary discussions with the board of directors about a possible IPO and therefore, the higher probability was already factored into the value of the Company's common stock. In addition, there were no internal or external developments that would indicate that the fair value of the Company's common stock would have significantly increased from January 31, 2019 to the stock option grant in April 2019.

The Company has not granted any options since April 2019. The Company expects to grant additional options as well as restricted stock subsequent to the pricing of the IPO with an exercise price equal to the market price of the Company's common stock on the date of the grant.

If the lack of marketability discount is removed, the fair value per share would be \$[*] per share or [*]% below the midpoint of the Preliminary Price Range as of January 31, 2019.

The Company submits that additional reasons for the difference between the fair value per share of common stock used for the stock options granted in April 2019 and the midpoint of the Preliminary Price Range include:

- · Differences in the valuation methodologies, assumptions and inputs used by the underwriters in their valuation analysis discussed with the Company and used to determine the Preliminary Price Range, which assumes a successful IPO as of today's date with no weighting attributed to any other outcome for the Company's business, such as remaining a privately held company, compared to the valuation methodologies, assumptions and inputs used in the valuations determined by the Board as described above in connection with the description of methodologies used. At the time of the April 2019 grant, there remained substantial risk that an IPO would be completed due to business, market and other factors.
- · The Company's consideration of various objective and subjective factors in the previous fair value determinations, as described above, that were not applicable to the determination of the Preliminary Price Range.
- · The expected proceeds of a successful IPO would substantially increase the Company's cash balances. In addition, the completion of an IPO would potentially provide the Company with readier access to the public equity markets.
- The Preliminary Price Range assumes the conversion of all of the Company's outstanding preferred stock. The Company's preferred stock currently has substantial economic rights and preferences over the Company's common stock. Upon the closing of this offering, all outstanding shares of the Company's preferred stock will convert into common stock, thus eliminating the superior rights and preferences of the preferred stock as compared to the common stock.
- There have recently been a number of biotechnology companies that successfully completed initial public offerings, suggesting a potentially favorable market for companies similar to the Company in pursuing and completing initial public offerings.

The Preliminary Price Range reflects the fact that investors may be willing to purchase shares in the IPO at a per share price that takes into account other factors that may not have been expressly considered in the Company's prior valuations as a private company and are not objectively determinable and that valuation models are not able to quantify with any level of certainty.

As such, taking into account all of the above, the Company submits that it believes that its determination of the fair value of the common stock for financial reporting purposes is appropriate and it has properly reflected the stock-based compensation expense for its historical grants.

Securities and Exchange Commission
Division of Corporation Finance
June 5, 2019
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Should the Staff have additional questions or comments regarding the foregoing, please do not hesitate to contact the undersigned at (650) 335-7292, or, in his absence, Julia Forbess at (415) 875-2420.

Sincerely,

FENWICK & WEST LLP

/s/ Robert A. Freedman

Robert A. Freedman Partner

cc.

Praveen P. Tipirneni, MD, Chief Executive Officer Robert Farrell, VP of Finance **Morphic Holding, Inc.**

Julia Forbess, Esq. Fenwick & West LLP

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