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

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**FORM S-8  
REGISTRATION STATEMENT  
UNDER THE  
SECURITIES ACT OF 1933**

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**MORPHIC HOLDING, INC.**

*(Exact name of registrant as specified in its charter)*

**Delaware**  
*(State or other jurisdiction of  
Incorporation or Organization)*

**47-3878772**  
*(I.R.S. Employer  
Identification No.)*

**35 Gatehouse Drive, A2  
Waltham, Massachusetts 02451  
(781) 996-0955**

*(Address, including zip code, and telephone number, including area code, of Registrant's principal executive offices)*

**2019 Equity Incentive Plan  
2019 Employee Stock Purchase Plan**  
*(Full title of the plans)*

**Praveen P. Tipirneni, M.D.  
President and Chief Executive Officer  
Morphic Holding, Inc.  
35 Gatehouse Drive, A2  
Waltham, Massachusetts 02451  
(781) 996-0955**

*(Name, address, including zip code, and telephone number, including area code, of agent for service)*

**Please send copies of all communications to:**

**Effie Toshav, Esq.  
Robert Freedman, Esq.  
Julia Forbess, Esq.**

**Fenwick & West LLP  
555 California Street, 12th Floor  
San Francisco, California 94104  
(415) 875-2300**

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer   
Non-accelerated filer

Accelerated filer   
Smaller reporting company   
Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Exchange Act.

**REGISTRATION OF ADDITIONAL SHARES  
PURSUANT TO GENERAL INSTRUCTION E**

Morphic Holding, Inc. (the “Registrant”) is filing this Registration Statement with the Securities and Exchange Commission (the “Commission”) to register (a) 1,483,415 additional shares of common stock available for issuance under the Registrant’s 2019 EIP, pursuant to the provision of the 2019 EIP providing for an annual 4% automatic increase in the number of shares reserved for issuance and (b) 370,853 additional shares of common stock available for issuance under the Registrant’s 2019 ESPP, pursuant to the provision of the 2019 ESPP providing for an annual 1% automatic increase in the number of shares reserved for issuance.

In accordance with General Instruction E of Form S-8, and only with respect to the common stock issuable under the 2019 EIP and 2019 ESPP, this Registration Statement hereby incorporates by reference the contents of the Registrant’s Registration Statements on Form S-8 filed with the Commission on June 27, 2019 (Registration No. 333-232372), on February 27, 2020 (Registration No. 333-236727) and on March 1, 2021 (Registration No. 333-253678), to the extent not superseded hereby.

**PART II**  
**INFORMATION REQUIRED IN THE REGISTRATION STATEMENT**

**Item 3. Incorporation of Documents by Reference.**

The following documents filed by the Registrant with the Commission pursuant to the Securities Act and the Securities Exchange Act of 1934, as amended (the "Exchange Act") are incorporated herein by reference:

- (a) the Registrant's Annual Report on Form 10-K for the year ended December 31, 2021, filed with the Commission on February 24, 2022 pursuant to Section 13 of the Exchange Act;
- (b) all other reports filed pursuant to Section 13(a) or 15(d) of the Exchange Act since the end of the fiscal year covered by the Registrant's Annual Report on Form 10-K referred to in (a) above; and
- (c) The description of the Registrant's common stock contained in the Registrant's registration statement on Form 8-A (File No. 001-38940) filed on June 14, 2019 under Section 12(b) of the Exchange Act, including any amendment or report filed for the purpose of updating such description.

All documents filed by the Registrant pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act subsequent to the filing of this Registration Statement and prior to the filing of a post-effective amendment which indicates that all securities offered hereby have been sold or which deregisters all securities then remaining unsold, shall be deemed to be incorporated by reference into this Registration Statement and to be a part hereof from the date of filing such documents, except as to specific sections of such documents as set forth therein. Any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes of this Registration Statement to the extent that a statement contained in any subsequently filed document which also is deemed to be incorporated by reference herein modifies or supersedes such statement.

**Item 5. Interests of Named Experts and Counsel.**

Not applicable.

**Item 8. Exhibits.**

The following exhibits are filed herewith:

<b>Exhibit Number</b>	<b>Exhibit Description</b>	<b>Incorporated by Reference Form</b>	<b>File No.</b>	<b>Exhibit</b>	<b>Filing Date</b>	<b>Filed Herewith</b>
4.1	<a href="#">Restated Certificate of Incorporation of the Registrant</a>	10-Q	001-38940	3.1	8/13/2019	
4.2	<a href="#">Restated Bylaws of the Registrant as amended</a>	10-Q	001-38940	3.2	5/6/2020	
4.3	<a href="#">Form of Registrant's Common Stock certificate</a>	S-1/A	333-231837	4.1	6/14/2019	
5.1	<a href="#">Opinion of Fenwick &amp; West LLP</a>					X
23.1	<a href="#">Consent of Fenwick &amp; West LLP (contained in Exhibit 5.1)</a>					X
23.2	<a href="#">Consent of Ernst &amp; Young LLP, Independent Registered Public Accounting Firm</a>					X
24.1	<a href="#">Power of Attorney (included on the signature page to this Registration Statement)</a>					X
99.1	<a href="#">2019 Equity Incentive Plan and forms of award agreements thereunder</a>	S-1/A	333-231837	10.3	6/14/2019	
99.2	<a href="#">2019 Employee Stock Purchase Plan and forms of award agreements thereunder</a>	S-1/A	333-231837	10.4	6/14/2019	
107	<a href="#">Filing Fee Table</a>					X

### SIGNATURES

Pursuant to the requirements of the Securities Act, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Waltham, Commonwealth of Massachusetts, on this 24th day of February, 2022.

#### MORPHIC HOLDING, INC.

By: /s/ Praveen Tipirneni  
Praveen Tipirneni  
President and Chief Executive Officer

### POWER OF ATTORNEY

**KNOW ALL PERSONS BY THESE PRESENTS**, that each person whose signature appears below hereby constitutes and appoints Praveen P. Tipirneni and William D. DeVaul, and each of them, as his or her true and lawful attorney-in-fact and agent with full power of substitution, for him or her in any and all capacities, to sign any and all amendments (including post-effective amendments) to this Registration Statement on Form S-8, and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agent full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully for all intents and

purposes as he might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent, or his or her substitute, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act, this Registration Statement has been signed by the following persons in the capacities and on the date indicated.

<b>Signature</b>	<b>Title</b>	<b>Date</b>
<u>/s/ Praveen P. Tipirneni</u> Praveen P. Tipirneni, M.D.	President, Chief Executive Officer and Director (Principal Executive Officer)	February 24, 2022
<u>/s/ Marc Schegerin</u> Marc Schegerin, M.D.	Chief Financial Officer and Chief Operating Officer (Principal Financial Officer)	February 24, 2022
<u>/s/ Robert E. Farrell, Jr.</u> Robert E. Farrell, Jr., CPA	Chief Accounting Officer (Principal Accounting Officer)	February 24, 2022
<u>/s/ Norbert Bischofberger</u> Norbert Bischofberger, Ph.D.	Director	February 24, 2022
<u>/s/ Gustav Christensen</u> Gustav Christensen	Director	February 24, 2022
<u>/s/ Martin Edwards</u> Martin Edwards	Director	February 24, 2022
<u>/s/ Susannah Gray</u> Susannah Gray	Director	February 24, 2022
<u>/s/ Nilesh Kumar</u> Nilesh Kumar, Ph.D.	Director	February 24, 2022
<u>/s/ Nisha Nanda</u> Nisha Nanda, Ph.D.	Director	February 24, 2022
<u>/s/ Amir Nashat</u> Amir Nashat	Director	February 24, 2022
<u>/s/ Joseph P. Slattery</u> Joseph P. Slattery, CPA	Director	February 24, 2022
<u>/s/ Timothy A, Springer</u> Timothy A, Springer, Ph.D.	Director	February 24, 2022

## CALCULATION OF FILING FEE TABLES

Form S-8  
(Form Type)**Morphic Holding, Inc.**

(Exact Name of Registrant as Specified in its Charter)

Table 1 – Newly Registered Securities

Security Type	Security Class Title	Fee Calculation Rule	Amount Registered(1)	Proposed Maximum Offering Price Per Unit	Maximum Aggregate Offering Price	Fee Rate	Amount of Registration Fee
Equity	Common stock, par value \$0.0001 per share	Rule 457(c) and Rule 457(h)	1,483,415 (2)	\$ 39.86(3)	\$ 59,128,922	\$0.0000927	\$ 5,481.25
Equity	Common stock, par value \$0.0001 per share	Rule 457(c) and Rule 457(h)	370,853 (4)	\$ 33.88(5)	\$ 12,564,870	\$0.0000927	\$ 1,164.76
<b>Total Offering Amounts</b>					\$ 71,693,792		\$ 6,646.01
<b>Total Fee Offsets</b>							-
<b>Net Fee Due</b>							\$ 6,646.01

- (1) Pursuant to Rule 416(a) under the Securities Act of 1933, as amended (the “*Securities Act*”), this Registration Statement shall also cover any additional shares of the Registrant’s common stock, par value \$0.0001 per share (“*Shares*”) that becomes issuable in respect of the securities identified in the above table by reason of any stock dividend, stock split, recapitalization or other similar transaction effected without the receipt of consideration that increases the number of the Registrant’s outstanding shares of Shares.
- (2) Represents additional shares of Shares reserved for issuance under the Registrant’s 2019 Equity Incentive Plan (the “*2019 EIP*”).
- (3) Estimated in accordance with Rule 457(c) and (h) under the Securities Act solely for the purpose of calculating the registration fee on the basis of \$39.86, the average of the high and low prices of the Registrant’s Shares as reported on the Nasdaq Exchange on February 18, 2022.
- (4) Represents additional shares of Shares reserved for issuance under the Registrant’s 2019 Employee Stock Purchase Plan (the “*2019 ESPP*”).
- (5) Estimated in accordance with Rule 457(c) and (h) under the Securities Act solely for the purpose of calculating the registration fee on the basis of \$33.89, the average of the high and low prices of the Registrant’s Shares as reported on the Nasdaq Exchange on February 18, 2022, multiplied by 85%, which is the percentage of the trading price per share applicable to purchasers under the 2019 ESPP.



555 California Street  
12th Floor  
San Francisco, CA 94104

415.875.2300  
Fenwick.com

February 24, 2022

Morphic Holding, Inc.  
35 Gatehouse Drive, A2  
Waltham, MA 02451

Ladies and Gentlemen:

At your request, as your counsel, we have examined the Registration Statement on Form S-8 (the "**Registration Statement**") to be filed by Morphic Holding, Inc., a Delaware corporation (the "**Company**") with the Securities and Exchange Commission (the "**Commission**") on or about February 24, 2022 in connection with the registration under the Securities Act of 1933, as amended (the "**Securities Act**"), of an aggregate of 1,854,268 shares (the "**Shares**") of the Company's Common Stock, \$0.0001 par value per share (the "**Common Stock**"), subject to issuance by the Company (a) upon the exercise or settlement of awards granted or to be granted under the 2019 Equity Incentive Plan (the "**2019 Plan**") pursuant to the provision of the 2019 Plan providing for an annual 4% automatic increase in the number of shares reserved for issuance under the 2019 Plan and (b) pursuant to purchase rights to acquire shares of Common Stock granted or to be granted under the Company's 2019 Employee Stock Purchase Plan (the "**Purchase Plan**") pursuant to the provision of the Purchase Plan providing for an annual 1% automatic increase in the number of shares reserved for issuance under the Purchase Plan. The 2019 Plan and the Purchase Plan are collectively referred to in this letter as the "**Plans**".

At your request we are providing this letter to express our opinion on the matters set forth below in this letter ("**our opinion**").

In connection with our opinion, we have examined such matters of fact as we have deemed necessary, which included examination of originals or copies of: the Company's current Restated Certificate of Incorporation and Restated Bylaws, as amended (collectively, the "**Charter Documents**"), the Plans, the Registration Statement and the exhibits thereto, the prospectuses relating to the Plans, certain corporate proceedings of the Company's Board of Directors (the "**Board**") and the Company's stockholders relating to adoption or approval of the Charter Documents, the Plans, and related forms of Plan agreements for use thereunder, the reservation of the Shares for sale and issuance, the filing of the Registration Statement and the registration of the issuance of the Shares under the Securities Act, and documents (including a certificate from the Company's transfer agent) regarding the Company's outstanding and reserved capital stock and other securities and such other documents as we have deemed advisable, and we have examined such questions of law as we have considered necessary.

In our examination of documents for purposes of this opinion, we have assumed, and express no opinion as to, the authenticity and completeness of all documents submitted to us as originals, the genuineness of signatures on documents reviewed by us, the conformity to originals and the completeness of all documents submitted to us as copies, the legal capacity of all parties executing any documents (other than the Company), the lack of any undisclosed termination or modification or waiver of any document, the absence of any extrinsic agreements or documents that might change or affect the interpretation or terms of documents, and the due authorization, execution and delivery of all documents by each party thereto other than the Company. We have also assumed that any certificates or instruments representing the Shares, when issued, will be executed by the Company and by officers of the Company duly authorized to do so. In rendering our opinion, we have also relied upon a Certificate of Good Standing dated February 23, 2022 issued by the Delaware Secretary of State with respect to the Company and representations and certifications made to us by the Company, including without limitation representations in a Management Certificate addressed to us of even date herewith that the Company has available a sufficient number of authorized shares of Common Stock that are not currently outstanding or reserved for issuance under other outstanding securities or plans of the Company, to enable the Company to issue and deliver all of the Shares as of the date of this letter.

We render this opinion only with respect to, and we express no opinion herein concerning the application or effect of the laws of any jurisdiction other than, the existing Delaware General Corporation Law now in effect. We express no opinion with respect to the securities or “blue sky” laws of any state.

Based upon, and subject to, the foregoing, it is our opinion that when the 1,854,268 Shares of Common Stock that may be issued and sold by the Company (a) upon the exercise or settlement of awards granted or to be granted under the 2019 Plan or (b) pursuant to purchase rights to acquire shares of Common Stock granted or to be granted under the Purchase Plan, have been issued and sold by the Company against the Company’s receipt of payment therefor (in an amount and type of consideration not less than the par value per share of Common Stock) in accordance with the terms (including, without limitation, payment and authorization provisions) of the applicable Plan, and have been duly registered on the books of the transfer agent and registrar for the Shares in the name or on behalf of the holders thereof, such Shares will be validly issued, fully paid and non-assessable.

We consent to the use of this opinion as an exhibit to the Registration Statement and further consent to all references to us, if any, in the Registration Statement, the prospectuses constituting a part thereof and any amendments thereto. We do not thereby admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission thereunder. This opinion is intended solely for use in connection with issuance and sale of the Shares subject to the Registration Statement and is not to be relied upon for any other purpose. In providing this letter, we are opining only as to the specific legal issues expressly set forth above, and no opinion shall be inferred as to any other matter or matters. This opinion is rendered on, and speaks only as of, the date of this letter first written above, and does not address any potential change in facts or law that may occur after the date of this opinion letter. We assume no obligation to advise you of any fact, circumstance, event or change in the law or the facts that may hereafter be brought to our attention, whether or not such occurrence would affect or modify any of the opinions expressed herein.

Very truly yours,

/s/ Fenwick & West LLP

**FENWICK & WEST LLP**



**Consent of Independent Registered Public Accounting Firm**

We consent to the incorporation by reference in the Registration Statement (Form S-8) pertaining to the Morphic Holding, Inc. 2019 Equity Incentive Plan and the 2019 Employee Stock Purchase Plan of our reports dated February 24, 2022, with respect to the consolidated financial statements of Morphic Holding, Inc. and the effectiveness of internal control over financial reporting of Morphic Holding, Inc. included in its Annual Report (Form 10-K) for the year ended December 31, 2021.

/s/ Ernst & Young LLP

Boston, Massachusetts  
February 24, 2022