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

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**SCHEDULE 13D**

**Under the Securities Exchange Act of 1934  
(Amendment No. \_\_)\***

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**Morphic Holding, Inc.**  
(Name of Issuer)

**Common Stock, par value \$0.0001 per share**  
(Title of Class of Securities)

**61775R105**  
(CUSIP Number)

**Peter Haahr  
Novo Holdings A/S  
Tuborg Havnevej 19  
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**Copy to:**

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(Name, Address and Telephone Number of Person  
Authorized to Receive Notices and Communications)**

**June 26, 2019**  
(Date of Event which Requires Filing of this Statement)

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If the filing person has previously filed a statement on Schedule 13G to report the acquisition which is subject of this Schedule 13D, and is filing this statement because of Rule 13d-1(e), 13d-1(f) or 13d-1(g), check the following box.

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*Note:* Schedules filed in paper format shall include a signed original and five copies of the schedule, including all exhibits. See Rule 13d-7(b) for other parties to whom copies are to be sent.

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\* The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter disclosures provided in a prior cover page.

The information required on the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 (the "Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

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1.	Name of Reporting Person: Novo Holdings A/S
2.	<b>Check the Appropriate Box if a Member of Group (See Instructions):</b> (a) <input type="checkbox"/> (b) <input type="checkbox"/>
3.	<b>SEC Use Only:</b>
4.	<b>Source of Funds:</b> WC
5.	<b>Check if Disclosure of Legal Proceedings is Required Pursuant to <u>Items 2(d)</u> or <u>2(e)</u>:</b> <input type="checkbox"/>
6.	<b>Citizenship or Place of Organization:</b> Denmark
Number of Shares Beneficially Owned By Each Reporting Person With:	7. <b>Sole Voting Power:</b> 2,645,446
	8. <b>Shared Voting Power:</b> 0
	9. <b>Sole Dispositive Power:</b> 2,645,446
	10. <b>Shared Dispositive Power:</b> 0
11.	Aggregate Amount Beneficially Owned by Each Reporting Person: 2,645,446
12.	Check if the Aggregate Amount in Row (11) Excludes Certain Shares: <input type="checkbox"/>
13.	Percent of Class Represented By Amount In Row (11): 8.94% (1)
14.	Type of Reporting Person: CO

- (1) Based upon 29,596,383 shares of the Issuer's Common Stock outstanding after the Issuer's initial public offering, as reported in the Issuer's prospectus (Form 424B4) filed with the Securities and Exchange Commission ("SEC") on June 27, 2019.

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**Item 1. Security and Issuer**

This Schedule 13D relates to the common stock, par value \$0.0001 per share (the “Common Stock”), of Morphic Holding, Inc., a Delaware corporation (the “Issuer”). The Issuer’s principal executive office is located at 35 Gatehouse Drive, A2, Waltham, Massachusetts 02451.

**Item 2. Identity and Background**

- (a) Novo Holdings A/S is a Danish limited liability company that is wholly owned by Novo Nordisk Fonden (the “Foundation”), a Danish commercial foundation. Novo Holdings A/S is the holding company in the group of Novo companies (currently comprised of Novo Nordisk A/S, Novozymes A/S and NNIT A/S) and is responsible for managing the Foundation’s assets, including its financial assets. Based on the governance structure of Novo Holdings A/S and the Foundation, the Foundation is not deemed to have any beneficial ownership of the securities of the Issuer held by Novo Holdings A/S. Nilesh Kumar, Ph.D. is employed as a partner at Novo Ventures (US), Inc. and was designated to the board of directors of the Issuer by Novo Holdings A/S in July 2017. Dr. Kumar is not deemed to be a beneficial owner of the securities held by Novo Holdings A/S.

The name of each director and executive officer of both Novo Holdings A/S and the Foundation is set forth on Schedule I to this Schedule 13D.

- (b) The business address of both Novo Holdings A/S and the Foundation is Tuborg Havnevej 19, 2900 Hellerup, Denmark.

The residence or business address of each director and executive officer of both Novo Holdings A/S and the Foundation is set forth on Schedule I to this Schedule 13D.

- (c) Novo Holdings A/S, a holding company that is responsible for managing the Foundation’s assets, provides seed and venture capital to development stage companies and invests in well-established companies within the life science and biotechnology sector.

The Foundation is a Danish self-governing and profit-making foundation, whose objectives are to provide a stable basis for commercial and research activities undertaken by the group of Novo companies and to support scientific, humanitarian and social purposes through grants.

- (d) Within the last five years, neither Novo Holdings A/S, the Foundation, nor any person named in Schedule I has been convicted in any criminal proceedings.

- (e) Within the last five years, neither Novo Holdings A/S, the Foundation, nor any person named in Schedule I was a party to a civil proceeding of a judicial or administrative body of competent jurisdiction and as a result of such proceeding was or is subject to a judgment, decree or final order enjoining future violations of, or prohibiting or mandating activities subject to, federal or state securities laws or finding any violation with respect to such laws.

**Item 3. Source and Amount of Funds or Other Consideration**

Prior to the Issuer’s initial public offering (the “IPO”), Novo Holdings A/S held the following securities of the Issuer:

- (i) In September 2018, Novo Holdings A/S purchased 1,978,779 shares of Series B convertible preferred units of Morphic Holding, LLC for \$7.58 per unit and an aggregate purchase price of approximately \$15 million. The purchase price for these units was paid from the working capital of Novo Holdings A/S.
- (ii) On December 4, 2018, the Issuer completed a series of transactions, or the Reorganization, pursuant to which Morphic Holding, LLC was converted in a tax-free exchange into Morphic Holding, Inc., the Issuer. In connection with the Reorganization, each of the Series B convertible

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preferred units of Morphic Holding, LLC held by Novo Holdings A/S converted into one share of Series B convertible preferred stock for a total of 1,978,779 shares of Series B convertible preferred stock of the Issuer held by Novo Holdings A/S after the Reorganization. Each share of Series B convertible preferred stock converts automatically into one share of Common Stock upon the completion of the Issuer's IPO.

On June 28, 2019, the closing date of the IPO:

- (i) Novo Holdings A/S held an aggregate of 1,978,779 shares of Common Stock from the conversion of the Series B convertible preferred stock that occurred automatically upon the closing of the IPO; and
- (ii) Novo Holdings A/S purchased 666,667 additional shares of Common Stock from the underwriters at \$15.00 per share for an aggregate purchase price of approximately \$10 million pursuant to the provisions of the Underwriting Agreement among the Issuer and the several underwriters for the IPO. The purchase price of these purchased shares was paid by Novo Holdings A/S from its working capital. Following these purchases in the IPO, Novo Holdings A/S held a total of 2,645,446 shares of Common Stock.

#### **Item 4. Purpose of Transaction**

The acquisitions of Issuer securities made by Novo Holdings A/S, as described in this Schedule 13D, were for investment purposes. Novo Holdings A/S intends to review its investments in the Issuer on a continuing basis and any actions Novo Holdings A/S might undertake will be dependent upon its review of numerous factors from time to time, including, but not limited to: an ongoing evaluation of the Issuer's business, financial condition, operations and prospects; price levels of the Issuer's securities; general market, industry and economic conditions; the relative attractiveness of alternative business and investment opportunities; and other future developments. Novo Holdings A/S may, at any time and from time to time, acquire additional securities of the Issuer, or retain or sell all or a portion of the securities of the Issuer then held, in the open market or in privately negotiated transactions.

Nilesh Kumar, Ph.D. is employed as a partner at Novo Ventures (US), Inc. and was designated to the board of directors of the Issuer by Novo Holdings A/S in July 2017. Dr. Kumar is not deemed to be a beneficial owner of the securities held by Novo Holdings A/S. Dr. Kumar may engage in communications with the Issuer's other directors and members of management, and stockholders and third parties regarding the corporate governance, business, operations, strategy or future plans (including proposed corporate transactions of a significant nature) of the Issuer, including any plans or proposals regarding the same.

Other than as described herein, Novo Holdings A/S currently does not have any plans or proposals that relate to, or would result in, any of the matters listed in Items 4(a)–(j) of Schedule 13D, although, depending on the factors discussed herein, Novo Holdings A/S may review or reconsider or change its purpose or formulate different plans, strategies or proposals with respect thereto at any time.

#### **Item 5. Interest in Securities of the Issuer**

(a) Novo Holdings A/S beneficially owns 2,645,446 shares of Common Stock (the "Novo Shares") representing approximately 8.94% of the Issuer's outstanding shares of Common Stock, based upon 29,596,383 shares of the Issuer's Common Stock outstanding after the Issuer's IPO, as reported in the Issuer's prospectus (Form 424B4) filed with the SEC on June 27, 2019.

(b) Novo Holdings A/S is a Danish limited liability company wholly owned by the Novo Nordisk Foundation. Novo Holdings A/S, through its Board of Directors (the "Novo Board"), has the sole power to vote and dispose of the Novo Shares. The Novo Board may exercise voting and dispositive control over the Novo Shares with approval by a majority of the Novo Board. As such, no individual member of the Novo Board is deemed to hold any beneficial ownership or reportable pecuniary interest in the Novo Shares.

(c) Except as described herein, Novo Holdings A/S has not effected any transactions in the Issuer's Common Stock within the past 60 days and neither the Foundation nor any person listed on Schedule I has effected any transactions in the Issuer's Common Stock within the past 60 days.

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(d) Novo Holdings A/S does not know of any other person having the right to receive or the power to direct the receipt of dividends from, or the proceeds from the sale of the Issuer's Common Stock held in the name of the Novo Holdings A/S and reported herein.

(e) Not applicable.

**Item 6. Contracts, Arrangements, Understandings or Relationships with Respect to Securities of the Issuer.**

Pursuant to the terms of an Investors' Rights Agreement with the Issuer dated December 5, 2018, certain holders of the Issuer's common stock, including Novo Holdings A/S, is entitled to rights with respect to the registration of their shares of Common Stock (the "registerable securities") under the Securities Act of 1933, as amended. Beginning 180 days after the completion of the IPO, the holders of not less than 40% of the then-outstanding registerable securities have demand rights to request the registration on Form S-1 of their registerable securities, provided the anticipated aggregate offering price, net of selling expenses, would exceed \$10.0 million. The Issuer is required to file up to two registration statements that are declared effective upon exercise of these demand registration rights. In addition, the holders of at least 10% of the then-outstanding registerable securities can request that the Issuer register all or part of their shares on Form S-3 if the Issuer is eligible to file a registration statement on Form S-3 and if the aggregate price to the public of the shares offered, net of selling expenses, is at least \$3.0 million. The stockholders may only require two registration statements on Form S-3 in a 12-month period. If the Issuer registers any of its securities for public sale, holders of then-outstanding registerable securities or their permitted transferees will have the right to include their registerable securities in such registration statement, subject to certain exclusions. All of these registration rights will expire, with respect to any particular holder, on the earliest to occur of (a) the closing of a deemed liquidation event, as defined in the Issuer's restated certificate of incorporation, (b) at such time that all of the holder's registerable securities can be sold without limitation in any three-month period without registration in compliance with Rule 144, and (c) seven years following the completion of the Issuer's IPO.

Also in accordance with the terms of the Investors' Rights Agreement, certain stockholders, including Novo Holdings A/S, have the right, so long as the investor holds any shares of Common Stock issued from the conversion of the Issuer's preferred stock, to attend the Issuer's board meetings in a nonvoting observer capacity.

**Item 7. Material to be Filed as Exhibits.**

Investors' Rights Agreement dated December 5, 2018 (incorporated by reference to Exhibit 4.2 to the Issuer's Registration Statement on Form S-1/A filed with the SEC on June 14, 2019).

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**SIGNATURE**

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

Dated: July 1, 2019

Novo Holdings A/S

/s/ Peter Haahr

By: Peter Haahr

Its: Chief Financial Officer

Signature Page to Schedule 13D  
Novo Holdings: Novo Holdings A/S Issuer: Morphic Holding, Inc.

**Schedule I**

Information regarding each director and executive officer of both Novo Holdings A/S and the Novo Nordisk Foundation is set forth below.

<i>Novo Holdings A/S</i>			
<u>Name, Title</u>	<u>Address</u>	<u>Principal Occupation</u>	<u>Citizenship</u>
Lars Rebien Sørensen, Chairman of the Board	Christianholms Tværvej 27 2930 Klampenborg Denmark	Professional Board Director	Denmark
Steen Riisgaard, Vice Chairman of the Board	Hestetangsvej 155, 3520 Farum, Denmark	Professional Board Director	Denmark
Jean-Luc Butel, Director	235 Arcadia Road, #03-04, 28984 Singapore	Global Healthcare Advisor, President, K8 Global Pte Ltd.	Singapore
Jeppe Christiansen, Director	Kollemosevej 37, 2830 Virum, Denmark	Chief Executive Officer, Fondsmæglersekskabet Maj Invest A/S	Denmark
Francis Michael Cyprian Cuss, Director	111 Rippling Brook Way, Bernardsville, NJ 07924 USA	Former Executive Vice President and Chief Scientific Officer of Bristol-Myers Squibb	United Kingdom
Viviane Monges, Director	Chemin de Craivavers 32, 1012 Lausanne, Switzerland	Professional Board Director	France
Kasim Kutay, Chief Executive Officer of Holdings A/S	Bredgade 63, 3.th. 1260 Copenhagen K. Denmark	Chief Executive Officer of Novo Holdings A/S	United Kingdom
Peter Haahr, Chief Financial Officer of Novo Holdings A/S	Ordrup Have 21 2900 Charlottenlund Denmark	Chief Financial Officer of Novo Holdings A/S	Denmark
Thomas Dyrberg, Managing Partner Novo Ventures	Esperance Alle 10B, 2. TH 2920 Charlottenlund Denmark	Managing Partner –Ventures, Novo Holdings A/S	Denmark
Morten Beck Jørgensen, Managing Director, Financial Investments	Ellesøpark 20, 2950 Vedbæk Denmark	Managing Director, Novo Holdings A/S Financial Investments	Denmark
Søren Møller, Managing Partner, Novo Seeds	Ved Furesøen 9 2840 Holte Denmark	Managing Partner, Novo Seeds, Novo Holdings A/S	Denmark

*Novo Nordisk Foundation*

<u>Name, Title</u>	<u>Address</u>	<u>Principal Occupation</u>	<u>Citizenship</u>
Lars Rebien Sørensen, Chairman of the Board	Christianholms Tværvej 27 2930 Klampenborg Denmark	Professional Board Director	Denmark
Marianne Philip, Vice Chairman of the Board	Tranegårdsvej 5 2900 Hellerup Denmark	Attorney	Denmark
Steen Riisgaard, Director	Hestetangsvej 155 3520 Farum Denmark	Professional Board Director	Denmark
Birgitte Nauntofte, Chief Executive Officer	Engbakkevej 24 2920 Charlottenlund Denmark	Chief Executive Officer, Novo Nordisk Foundation	Denmark
Niels Peder Nielsen, Deputy CEO	Winthersvej 10, 3480 Fredensborg Denmark	Deputy CEO, Novo Nordisk Foundation	Denmark
Anne Marie Kverneland, Director	Nybrovej 216 2800 Kgs. Lyngby Denmark	Laboratory technician, Novo Nordisk A/S	Denmark
Lars Bo Køppler, Director	Anemonevej 7 3550 Slangerup Denmark	Technician, Novozymes A/S	Denmark
Lars Fugger, Director	72 Staunton Road, Headington OX3 7TP Great Britain	Professor, John Radcliffe Hospital, University of Oxford, Oxford, Great Britain	Denmark
Lars Henrik Munch, Director	Galionsvej 46 1437 København K Denmark	Professional Board Director	Denmark
Mads Boritz Grøn, Director	Horsevænget 4 3400 Hillerød Denmark	Senior Lead Auditor	Denmark
Liselotte Højgaard, Director	Grønningen 21 1270 København K Denmark	Professor	Denmark