

**INITIAL STATEMENT OF BENEFICIAL OWNERSHIP OF SECURITIES**

OMB APPROVAL	
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Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934 or Section 30(h) of the Investment Company Act of 1940

1. Name and Address of Reporting Person* <u>Brennan Aoife</u>  (Last) (First) (Middle) <u>C/O SYNLOGIC, INC.</u> <u>200 SIDNEY STREET, SUITE 320</u>  (Street) <u>CAMBRIDGE MA 02139</u>  (City) (State) (Zip)	2. Date of Event Requiring Statement (Month/Day/Year) <u>08/28/2017</u>	3. Issuer Name and Ticker or Trading Symbol <u>SYNLOGIC, INC. [ SYBX ]</u>	
		4. Relationship of Reporting Person(s) to Issuer (Check all applicable) Director _____ 10% Owner _____ <input checked="" type="checkbox"/> Officer (give title below) _____ Other (specify below) _____ <u>Chief Medical Officer</u>	5. If Amendment, Date of Original Filed (Month/Day/Year)  6. Individual or Joint/Group Filing (Check Applicable Line) <input checked="" type="checkbox"/> Form filed by One Reporting Person <input type="checkbox"/> Form filed by More than One Reporting Person

**Table I - Non-Derivative Securities Beneficially Owned**

1. Title of Security (Instr. 4)	2. Amount of Securities Beneficially Owned (Instr. 4)	3. Ownership Form: Direct (D) or Indirect (I) (Instr. 5)	4. Nature of Indirect Beneficial Ownership (Instr. 5)
<u>Common Stock<sup>(1)</sup></u>	<u>51,767<sup>(2)</sup></u>	<u>D</u>	

**Table II - Derivative Securities Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)**

1. Title of Derivative Security (Instr. 4)	2. Date Exercisable and Expiration Date (Month/Day/Year)		3. Title and Amount of Securities Underlying Derivative Security (Instr. 4)	4. Conversion or Exercise Price of Derivative Security	5. Ownership Form: Direct (D) or Indirect (I) (Instr. 5)	6. Nature of Indirect Beneficial Ownership (Instr. 5)
	Date Exercisable	Expiration Date				
<u>Stock Option (right to buy)<sup>(1)</sup></u>	<u>(3)</u>	<u>05/15/2027</u>	<u>Common Stock</u> <u>42,413<sup>(3)</sup></u>	<u>13.53</u>	<u>D</u>	
<u>Stock Option (right to buy)<sup>(1)</sup></u>	<u>(4)</u>	<u>05/15/2027</u>	<u>Common Stock</u> <u>41,490<sup>(4)</sup></u>	<u>13.53</u>	<u>D</u>	

**Explanation of Responses:**

- Shares of capital stock of the corporation then known as Synlogic, Inc. ("Old Synlogic") were converted into shares of the Issuer pursuant to that certain Agreement and Plan of Merger and Reorganization, dated as of May 15, 2017, by and among the Issuer, Meerkat Merger Sub, Inc. and Old Synlogic (the "Merger Agreement"). Pursuant to the terms of the Merger Agreement, each share of capital stock was exchanged for 0.5532 shares of the Issuer's common stock, giving effect to a reverse split of the Issuer's common stock of 7-to-1.
- On May 15, 2017, Reporting Person was granted 93,578 shares of common stock of Old Synlogic subject to a restricted stock agreement, dated May 15, 2017, by and between Old Synlogic and the Reporting Person, under the 2017 Stock Plan (the "2017 Plan"). Pursuant to the Merger Agreement, this common stock was converted into 51,767 shares of the Issuer's common stock. One-fourth of the total number of shares subject to the restricted stock agreement vest on September 1, 2017 and the remainder vest in equal monthly installments until September 1, 2020, provided that at the relevant vesting dates the Reporting Person continues service to the Issuer and has not been terminated as defined in and as determined under the 2017 Plan.
- On May 15, 2017, Reporting Person was granted an option to purchase 76,669 shares of common stock of Old Synlogic under the 2017 Plan at an exercise price of \$7.48 per share. Pursuant to the Merger Agreement, this option was converted into an option to purchase 42,413 shares of the Issuer's common stock at a per share exercise price of \$13.53. One fourth of the total number of shares subject to the option vest on September 1, 2017 and the remainder vest in equal monthly installments until September 1, 2020, provided that at the relevant vesting dates the Reporting Person continues service to the Issuer and has not been terminated as defined in and as determined under the Plan. The option expires ten years after the date of the grant.
- On May 15, 2017, Reporting Person was granted an option to purchase 75,000 shares of common stock of Old Synlogic under the 2017 Plan at an exercise price of \$7.48 per share. Pursuant to the Merger Agreement, this option was converted into an option to purchase 41,490 shares of the Issuer's common stock at a per share exercise price of \$13.53. The shares vest in equal monthly installments beginning on June 15, 2017 and continuing until May 15, 2021, provided that at the relevant vesting dates the Reporting Person continues service to the Issuer and has not been terminated as defined in and as determined under the Plan. The option expires ten years after the date of the grant.

**Remarks:**

/s/ William J. Bussiere, Jr.      08/30/2017  
Attorney-in-fact

\*\* Signature of Reporting Person      Date

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

\* If the form is filed by more than one reporting person, see Instruction 5 (b)(v).

\*\* Intentional misstatements or omissions of facts constitute Federal Criminal Violations See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.

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