

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

SCHEDULE 13D/A

INFORMATION STATEMENT PURSUANT TO RULES 13d-1 AND 13d-2
UNDER THE SECURITIES EXCHANGE ACT OF 1934

(AMENDMENT NO. 5)*

SYNTHETIC BIOLOGICS, INC.
(NAME OF ISSUER)

Common Stock, \$.001 Par Value Per Share
(TITLE OF CLASS OF SECURITIES)

87163U102
(CUSIP NUMBER)

Steve H. Kanzer, CPA, JD
Pharmainvestors, LLC
9045 La Fontana Blvd.
Suite 238
Boca Raton, FL 33434
(561) 948-0950

(NAME, ADDRESS, TELEPHONE NUMBER OF PERSON AUTHORIZED
TO RECEIVE NOTICES AND COMMUNICATION)

April 30, 2014
(DATE OF EVENT WHICH REQUIRES FILING OF THIS STATEMENT)

If the filing person has previously filed a statement on Schedule 13G to report the Acquisition which is the subject of this Schedule 13D, and is filing this schedule because of §§ 240.13d-1(d), 240.13d-1(f) or 240.13d-1(g), check the following box: / /

Note : Schedules filed in paper format shall include a signed original and five copies of the schedule, including all exhibits. See §240.13d-7 for other parties to whom copies are to be sent.

* 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 the disclosures provided in a prior cover page.

The information required in 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 ("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).

1. NAME OF REPORTING PERSON, I.R.S. IDENTIFICATION NO. OF ABOVE PERSON: Steve H. Kanzer
2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP*:
(a) / /
(b) /X/
3. SEC USE ONLY
4. SOURCE OF FUNDS: Not applicable.
5. CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED
PURSUANT TO ITEM 2(D) OR 2(E): / /
6. CITIZENSHIP OR PLACE OF ORGANIZATION: United States
7. SOLE VOTING POWER: 679,637 shares*
8. SHARED VOTING POWER: 1,820,243 shares**
9. SOLE DISPOSITIVE POWER: 679,637 shares*
10. SHARED DISPOSITIVE POWER 1,820,243 shares**
11. AGGREGATE AMOUNT BENEFICIALLY
OWNED BY EACH REPORTING PERSON: 2,499,880 shares
12. CHECK BOX IF THE AGGREGATE AMOUNT
IN ROW (11) EXCLUDES CERTAIN SHARES: / /
13. PERCENT OF CLASS REPRESENTED BY
AMOUNT IN ROW (11): 4.3%
14. TYPE OF REPORTING PERSON: IN

* Consists of 375,246 shares held directly in Mr. Kanzer's name, 271,058 shares issuable upon presently exercisable stock options exercisable at \$2.01 per share, 8,333 exercisable at \$0.74 per share and 25,000 exercisable at \$1.50 per share held directly in Mr. Kanzer's name.

** Consists of 1,820,243 shares held in the name of Accredited Venture Capital, LLC.

1. NAME OF REPORTING PERSON, I.R.S. IDENTIFICATION NO. OF ABOVE PERSON: Accredited Venture Capital, LLC
EIN 22-3821141
2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP*:
(a) / /
(b) /X/
3. SEC USE ONLY
4. SOURCE OF FUNDS: Not applicable.
5. CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED
PURSUANT TO ITEM 2(D) OR 2(E): / /
6. CITIZENSHIP OR PLACE OF ORGANIZATION: Delaware
7. SOLE VOTING POWER: 0 shares
8. SHARED VOTING POWER: 1,820,243 shares*
9. SOLE DISPOSITIVE POWER: 0 shares
10. SHARED DISPOSITIVE POWER 1,820,243 shares*
11. AGGREGATE AMOUNT BENEFICIALLY
OWNED BY EACH REPORTING PERSON: 1,820,243 shares
12. CHECK BOX IF THE AGGREGATE AMOUNT
IN ROW (11) EXCLUDES CERTAIN SHARES:* / /
13. PERCENT OF CLASS REPRESENTED BY
AMOUNT IN ROW (11): 3.1%
14. TYPE OF REPORTING PERSON*: OO

* Consists of 1,820,243 shares held in the name of Accredited Venture Capital, LLC.

1. NAME OF REPORTING PERSON, I.R.S. IDENTIFICATION NO. OF ABOVE PERSON: Pharmainvestors, LLC
2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP*:
(a) / /
(b) /X/
3. SEC USE ONLY
4. SOURCE OF FUNDS: Not applicable.
5. CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED
PURSUANT TO ITEM 2(D) OR 2(E): / /
6. CITIZENSHIP OR PLACE OF ORGANIZATION: Delaware
7. SOLE VOTING POWER: 0 shares
8. SHARED VOTING POWER: 1,820,243 shares*
9. SOLE DISPOSITIVE POWER: 0 shares
10. SHARED DISPOSITIVE POWER 1,820,243 shares*
11. AGGREGATE AMOUNT BENEFICIALLY
OWNED BY EACH REPORTING PERSON: 1,820,243 shares
12. CHECK BOX IF THE AGGREGATE AMOUNT
IN ROW (11) EXCLUDES CERTAIN SHARES:* / /
13. PERCENT OF CLASS REPRESENTED BY
AMOUNT IN ROW (11): 3.1%
14. TYPE OF REPORTING PERSON*: OO

* Consists of 1,820,243 shares held in the name of Accredited Venture Capital, LLC.

Explanatory Note

This Amendment No. 5 (this "Amendment") amends and supplements Schedule 13D filed on November 17, 2006 (the "Initial Schedule 13D"), as amended by Amendment No. 1 filed on March 9, 2007, Amendment No. 2 filed on July 30, 2007, Amendment No. 3 filed on January 20, 2009 and Amendment No. 4 filed on February 28, 2014 (the Initial Schedule 13D, as so amended, the "Schedule 13D"), by the Reporting Persons relating to the Common Shares of Synthetic Biologics, Inc., a Nevada corporation (the "Issuer"). Information reported in the Schedule 13D by the Reporting Persons remains in effect except to the extent that it is amended, restated or superseded by information contained in this Amendment. Unless otherwise indicated herein, capitalized terms used but not defined in this Amendment shall have the same meaning herein as are ascribed to such terms in the Schedule 13D. The Reporting Persons are filing this statement pursuant to Rule 13d-1(a) under the Securities Exchange Act of 1934. By their signatures on this Statement, the Reporting Persons agree that this Statement is filed on their behalf.

Items 4 and 5 of the Schedule 13D are amended as follows:

Item 4. Purpose of the Transaction.

Item 4 is hereby amended by deleting such Item in its entirety and replacing it with the following:

On April 30, 2014, Steve H. Kanzer, acting as managing member of Pharmainvestors, LLC, the managing member of Accredited Venture Capital LLC, in a series of open-market transactions, effected the sale of 5,003,025 Common Shares of the Issuer indirectly and beneficially held by Mr. Kanzer at a weighted average price per share of \$1.43.

Depending on market conditions, its continuing evaluation of the business and prospects of the Issuer and other factors, each Reporting Person may dispose of or acquire additional shares of the Issuer. None of the Reporting Persons have any present plans or proposals that relate to or would result in any change in the business, policies, management, structure or capitalization of the Issuer. The Reporting Persons reserve the right to acquire, or dispose of, additional securities of the Issuer in the ordinary course of their business, to the extent deemed advisable in light of their general investment and trading policies, market conditions or other factors. The Reporting Persons do not have any current definite plans or proposals which would relate to or result in:

- (a) the acquisition or disposition of securities of the Issuer other than as herein disclosed;
- (b) an extraordinary corporate transaction such as a merger, reorganization or liquidation involving the Issuer or any of its subsidiaries;
- (c) a sale or transfer of a material amount of assets of the Issuer or any of its subsidiaries;
- (d) any changes in the present board of directors or management of the Issuer;
- (e) any material change in the present capitalization or dividend policy of the Issuer;
- (f) any other material change in the issuer's business or corporate structure;
- (g) any changes in the Issuer's charter or by-laws which may impede the acquisition of control of the Issuer by any person;
- (h) causing a class of securities of the Issuer to be delisted from a national securities exchange or to cease to be authorized to be quoted in an inter-dealer quotation system of a registered national

securities association;

(i) a class of equity securities of the issuer becoming eligible for termination of registration pursuant to Section 12(g)(4) of the Securities Exchange Act of 1934, as amended; or

(j) any action similar to any of those enumerated above.

Item 5. Interest in Securities of the Issuer.

Item 5 is hereby amended by deleting such Item in its entirety and replacing it with the following:

(a) As reported in the most recently available filing with the Securities and Exchange Commission by the Issuer setting forth such information, there were 58,276,556 Common Shares of the Issuer outstanding.

(i) Steve H. Kanzer beneficially owns, directly or indirectly, an aggregate of 2,499,880 Common Shares (consisting of 375,246 Common Shares held directly in Mr. Kanzer's name, 271,058 Common Shares issuable upon presently exercisable stock options exercisable at \$2.01 per share, 8,333 exercisable at \$0.74 per share and 25,000 exercisable at \$1.50 per share held directly in Mr. Kanzer's name and 1,820,243 Common Shares held in the name of Accredited Venture Capital, LLC), or 4.3% of the Common Shares.

(ii) Accredited Venture Capital, LLC beneficially owns an aggregate of 1,820,243 Common Shares held in its name, or 3.1% of the Common Shares.

(iii) Pharmainvestors, LLC beneficially and indirectly owns an aggregate of 1,820,243 Common Shares (consisting of 1,820,243 Common Shares held in the name of Accredited Venture Capital, LLC), or 3.1% of the Common Shares.

(b) (i) Mr. Kanzer holds sole voting power and sole dispositive power, in each case, with respect to 679,637 Common Shares (consisting of 375,246 Common Shares held directly in Mr. Kanzer's name, 271,058 Common Shares issuable upon presently exercisable stock options exercisable at \$2.01 per share, 8,333 exercisable at \$0.74 per share and 25,000 exercisable at \$1.50 per share held directly in Mr. Kanzer's name). Mr. Kanzer holds shared voting power and shared dispositive power, in each case, as to 1,820,243 Common Shares, together with Accredited Venture Capital, LLC and Pharmainvestors, LLC.

(ii) Accredited Venture Capital, LLC holds no sole voting power or sole dispositive power as to any Common Shares. Accredited Venture Capital, LLC holds shared voting power and shared dispositive power, in each case, as to 1,820,243 Common Shares, together with Mr. Kanzer and Pharmainvestors, LLC.

(iii) Pharmainvestors, LLC holds no sole voting power or sole dispositive power as to any Common Shares. Pharmainvestors, LLC holds shared voting power and shared dispositive power, in each case, as to 1,820,243 Common Shares, together with Mr. Kanzer and Accredited Venture Capital, LLC.

(c) The following transactions in the Issuer's Common Shares have been effected during the past 60 days by the Reporting Persons:

(i) On April 28, 2014, Mr. Kanzer, acting as managing member of Pharmainvestors, LLC, the managing member of Accredited Venture Capital LLC, in a series of open-market transactions, effected the sale of 175,177 Common Shares of the Issuer indirectly and beneficially held by Mr. Kanzer at a weighted average price per share of \$2.86.

(ii) On April 29, 2014, Mr. Kanzer, acting as managing member of Pharmainvestors, LLC, the managing member of Accredited Venture Capital LLC, in a series of open-market transactions, effected the sale of 87,935 Common Shares of the Issuer indirectly and

beneficially held by Mr. Kanzer at a weighted average price per share of \$2.98.

(iii) On April 30, 2014, Mr. Kanzer, acting as managing member of Pharmainvestors, LLC, the managing member of Accredited Venture Capital LLC, in a series of open-market transactions, effected the sale of 5,003,025 Common Shares of the Issuer indirectly and beneficially held by Mr. Kanzer at a weighted average price per share of \$1.43.

(d) The only interest in the securities of the Issuer which the Reporting Persons hold are the interests which have been described in Item 3 of the Schedule 13D, as changed pursuant to the transactions described in Item 5(c) above.

(e) As of April 30, 2014, each of Mr. Kanzer, Pharmainvestors, LLC and Accredited Venture Capital LLC ceased to be the beneficial owner of more than five percent of the Common Shares.

Signatures

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

Dated: May 2, 2014

/s/ Steve H. Kanzer

Steve H. Kanzer

ACCREDITED VENTURE CAPITAL, LLC

By: Pharmainvestors, LLC

Its: Managing Member

By: /s/ Steve H. Kanzer

Steve H. Kanzer

Managing Member

PHARMAINVESTORS, LLC

By: /s/ Steve H. Kanzer

Steve H. Kanzer

Managing Member
