

Synthetic Biologics, Inc.  
Form SC 13D/A  
November 01, 2012

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UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, DC 20549

SCHEDULE 13D  
(Amendment No. 2)\*  
Under the Securities Exchange Act of 1934

SYNTHETIC BIOLOGICS, INC.  
(Name of Issuer)

Common Stock, par value \$0.001 per share  
(Title of Class of Securities)

87163U102  
(CUSIP Number)

Third Security, LLC  
1881 Grove Avenue  
Radford, Virginia 24141  
Attention: Marcus E. Smith, Esq.  
(540) 633-7900  
(Name, Address and Telephone Number of Person  
Authorized to Receive Notices and Communications)

Copy to:  
Intrexon Corporation  
Attention: Legal  
20358 Seneca Meadows Parkway  
Germantown, Maryland 20876  
(301) 556-9809

October 29, 2012  
(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 Rule 13d-1(b)(3) or (4), check the following box  r .

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 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 (“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 NAMES OF REPORTING PERSONS  
I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS

Randal J. Kirk

2 CHECK THE APPROPRIATE BOX IF A MEMBER OF GROUP

(a)

(b)

3 SEC USE ONLY

4 SOURCE OF FUNDS

PF

5 CHECK 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	
NUMBER OF		3,125,000	
SHARES	8	SHARED VOTING POWER	
BENEFICIALLY		6,675,768	
OWNED BY	9	SOLE DISPOSITIVE POWER	
EACH		3,125,000	
REPORTING	10	SHARED DISPOSITIVE POWER	
PERSON WITH		6,675,768	

11 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  
9,800,768

12 CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES  
CERTAIN SHARES

13 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11)  
22.5%

14 TYPE OF REPORTING PERSON  
IN

1 NAMES OF REPORTING PERSONS  
I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS

Intrexon Corporation  
I.R.S. IDENTIFICATION NO.: 26-0084895

2 CHECK THE APPROPRIATE BOX IF A MEMBER OF GROUP

- (a)   
(b)

3 SEC USE ONLY

4 SOURCE OF FUNDS

WC

5 CHECK IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED  
PURSUANT TO ITEM 2(d) OR

2(e)

6 CITIZENSHIP OR PLACE OF ORGANIZATION

Virginia

NUMBER OF	7	SOLE VOTING POWER
SHARES	0	
BENEFICIALLY	8	SHARED VOTING POWER
OWNED BY	6,675,768	
EACH	9	SOLE DISPOSITIVE POWER
REPORTING	0	
PERSON WITH	10	SHARED DISPOSITIVE POWER
	6,675,768	

11 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  
6,675,768

12 CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES  
CERTAIN SHARES

13 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11)  
15.3%

14 TYPE OF REPORTING PERSON  
CO

1 NAMES OF REPORTING PERSONS  
I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS

NRM VII Holdings I, LLC  
I.R.S. IDENTIFICATION NO.: 27-1471440

2 CHECK THE APPROPRIATE BOX IF A MEMBER OF GROUP

- (a)
- (b)

3 SEC USE ONLY

4 SOURCE OF FUNDS

WC

5 CHECK IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED  
PURSUANT TO ITEM 2(d) OR

2(e)

6 CITIZENSHIP OR PLACE OF ORGANIZATION

United States

NUMBER OF	7	SOLE VOTING POWER
SHARES		3,125,000
BENEFICIALLY	8	SHARED VOTING POWER
OWNED BY		0
EACH	9	SOLE DISPOSITIVE POWER
REPORTING		3,125,000
PERSON WITH	10	SHARED DISPOSITIVE POWER
		0

11 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  
3,125,000

12 CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES  
CERTAIN SHARES

13 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11)  
7.2%

14 TYPE OF REPORTING PERSON  
OO – Limited Liability Company

This Amendment No. 2 (the "Amendment") amends and supplements the Statement on Schedule 13D, dated December 7, 2011 and filed on December 12, 2011 as amended by Amendment No. 1 dated October 16, 2012 and filed on October 19, 2012 (the "Original Schedule 13D"), relating to the Common Stock, par value \$0.001 per share (the "Common Stock"), of Synthetic Biologics, Inc. a Nevada corporation (the "Company"). Mr. Randal J. Kirk ("Mr. Kirk"), Intrexon Corporation, a Virginia corporation ("Intrexon") and NRM VII Holdings I, LLC, a Virginia limited liability company that is controlled by Mr. Kirk ("NRM VII Holdings" and, together with Mr. Kirk and Intrexon, the "Reporting Persons"), are filing this Amendment to disclose the acquisition by NRM VII Holdings of 3,125,000 shares of Common Stock in a private offering conducted by the Company. Mr. Kirk could be deemed to have indirect beneficial ownership of the shares of Common Stock directly beneficially owned by NRM VII Holdings and Intrexon.

Except as set forth below, there are no changes to the information set forth in the Original Schedule 13D.

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

Item 3 of the Original Schedule 13D is hereby amended and supplemented as follows:

On October 25, 2012, the Company entered into a Stock Purchase Agreement (the "Purchase Agreement") with certain accredited investors (the "Purchasers") pursuant to which the Company agreed to sell to the Purchasers in a private placement an aggregate of 6,750,000 shares of the Company's Common Stock at a price per share of \$1.60 (the "Common Shares") for aggregate gross proceeds of \$10,800,000 (the "Offering"). On October 29, 2012 the Company completed the Offering. NRM VII Holdings used \$5,000,000 of its working capital to purchase 3,125,000 Common Shares in the Offering.

In connection with the Offering, the Company entered into an agreement with NRM VII Holdings (the "Joinder Agreement") pursuant to which NRM VII Holdings agreed to be bound by the terms of and join Intrexon as a party to its registration rights agreement with the Company entered into in connection with the Exclusive Channel Collaboration Agreement between the Company and Intrexon dated August 6, 2012.

The foregoing descriptions of the Purchase Agreement and Joinder Agreement do not purport to be complete and are qualified in their entirety by reference to the full text of the Purchase Agreement and Joinder Agreement, which are filed as Exhibit 10.1 and Exhibit 10.3, respectively, to the Company's Current Report on Form 8-K dated October 25, 2012 and filed October 31, 2012 and incorporated herein by reference.

#### Item 4. Purpose of Transaction.

Item 4 of the Original Schedule 13D is hereby amended and supplemented as follows:

The Reporting Persons' responses to Item 3 are incorporated herein by reference. NRM VII Holdings acquired the shares for investment purposes.

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

Items 5(a) and (b) of the Original Schedule 13D are hereby amended and restated to read in its entirety as follows:

(a) and (b) See Items 11 and 13 of the cover pages to this Statement for the aggregate number of shares and percentage of issued and outstanding shares of Common Stock of the Company owned by the Reporting Persons. The percentage ownership is calculated based on 33,395,538 shares of Common Stock outstanding as of August 9, 2012 as disclosed in the Company's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2012, filed on August 14, 2012, plus 3,552,210 shares of common stock issued to Intrexon pursuant to an Exclusive Channel Collaboration Agreement on October 16, 2012, plus 6,750,000 shares of common stock issued in connection with the Offering.

Reporting Person	Amount of Common Stock Beneficially Owned	Percent of Class	Sole Power to Vote or Direct the Vote	Shared Power to Vote or Direct the Vote	Sole Power to Dispose or to Direct the Disposition	Shared Power to Dispose or to Direct the Disposition
Randal J. Kirk	9,800,768	22.5 %	3,125,000	6,675,768	3,125,000	6,675,768
NRM VII Holdings I, LLC	3,125,000	7.2 %	3,125,000	—	3,125,000	—
Intrexon Corporation	6,675,768	15.3 %	—	6,675,768	—	6,675,768

Mr. Kirk could be deemed to have indirect beneficial ownership of the shares of Common Stock directly beneficially owned by NRM VII Holdings and Intrexon.

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

The Reporting Persons' responses to Items 3 and 4 are incorporated herein by reference.

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

Exhibit 1 Form of Stock Purchase Agreement by and between Synthetic Biologics, Inc. and NRM VII Holdings I, LLC dated as of October 25, 2012 (filed as Exhibit 10.1 to the Company's Current Report on Form 8-K, dated October 25, 2012 and filed October 31, 2012)

Exhibit 2 Joinder Agreement by and between Synthetic Biologics, Inc. and NRM VII Holdings I, LLC dated as of October 25, 2012 (filed as Exhibit 10.3 to the Company's Current Report on Form 8-K, dated October 25, 2012 and filed October 31, 2012)

Exhibit 3 Joint Filing Agreement, dated as of November 1, 2012, by and between Mr. Kirk, NRM VII Holdings I, LLC and Intrexon Corporation

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.

Date: November 1, 2012

/s/ Randal J. Kirk  
Randal J. Kirk

NRM VII HOLDINGS I, LLC

By: /s/ Randal J. Kirk  
Randal J. Kirk  
Manager

INTREXON CORPORATION

By: /s/ Randal J. Kirk  
Randal J. Kirk  
Chief Executive Officer



EXHIBIT INDEX

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1 dated as of October 25, 2012 (filed as Exhibit 10.1 to the Company's Current Report on Form 8-K, dated  
October 25, 2012 and filed October 31, 2012)

Exhibit Joinder Agreement by and between Synthetic Biologics, Inc. and NRM VII Holdings I, LLC dated as of  
2 October 25, 2012 (filed as Exhibit 10.3 to the Company's Current Report on Form 8-K, dated October 25,  
2012 and filed October 31, 2012)

Exhibit Joint Filing Agreement, dated as of November 1, 2012, by and between Mr. Kirk, NRM VII Holdings I, LLC  
3 and Intrexon Corporation

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