

Synthetic Biologics, Inc.  
Form DEF 14A  
May 12, 2014

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

**SCHEDULE 14A  
(RULE 14a-101)  
INFORMATION REQUIRED IN PROXY STATEMENT**

**SCHEDULE 14A INFORMATION**

**Proxy Statement Pursuant to Section 14(a) of the  
Securities Exchange Act of 1934**

Filed by the Registrant  
 Filed by a Party other than the Registrant  
Check the appropriate box:

Preliminary Proxy Statement  
 Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))  
 Definitive Proxy Statement  
 Definitive Additional Materials  
 Soliciting Material under §240.14a-12

**SYNTHETIC BIOLOGICS, INC.**

(Name of Registrant as Specified In Its Charter)

(Name of Person(s) Filing Proxy Statement, if other than the Registrant)

Payment of Filing Fee (Check the appropriate box):

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(1) Amount Previously Paid:

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(3) Filing Party:

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**155 GIBBS STREET, SUITE 412  
ROCKVILLE, MD 20850  
(734) 332-7800**

## **NOTICE OF ANNUAL MEETING OF STOCKHOLDERS**

To the Stockholders of Synthetic Biologics, Inc.:

We hereby notify you that the 2014 Annual Meeting of Stockholders of Synthetic Biologics, Inc., a Nevada corporation, will be held on June 10, 2014 at 9:00 a.m. (Eastern time), at the New York City office of Gracin & Marlow, LLP, Chrysler Building, 405 Lexington Avenue, 26<sup>th</sup> Floor, New York, New York, 10174, for the following purposes:

- (1) to elect four directors to our Board of Directors to hold office until our next annual meeting of stockholders and until their successors are elected;
- (2) to ratify the appointment of BDO USA, LLP as our independent registered public accounting firm for our fiscal year ending on December 31, 2014; and
- (3) to transact such other business as may properly come before the meeting or any adjournments or postponements of the meeting.

The matters listed in this notice of meeting are described in detail in the accompanying proxy statement. Our Board of Directors has fixed the close of business on April 25, 2014 as the record date for determining those stockholders who are entitled to notice of and to vote at the meeting or any adjournment or postponement of our 2014 annual meeting.

The list of the stockholders of record as of the close of business on April 25, 2014 will be made available for inspection at the meeting.

## **IMPORTANT NOTICE REGARDING THE AVAILABILITY OF PROXY MATERIALS:**

**THE NOTICE OF ANNUAL MEETING OF STOCKHOLDERS, THE PROXY STATEMENT AND OUR ANNUAL REPORT ON FORM 10-K FOR THE YEAR ENDED DECEMBER 31, 2013 ARE AVAILABLE ELECTRONICALLY TO OUR STOCKHOLDERS OF RECORD AS OF THE CLOSE OF BUSINESS ON APRIL 25, 2014 AT *www.syntheticbiologics.com*.**

Along with the attached proxy statement, we are sending to you our Annual Report on Form 10-K for our fiscal year ended December 31, 2013. Such annual report, which includes our audited financial statements, is not to be regarded as proxy solicitation material.

## **YOUR VOTE IS IMPORTANT**

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Even if you plan to attend the meeting, please sign, date, and return the enclosed proxy card in the envelope provided so that your vote will be counted if you later decide not to attend the meeting. No postage is required if the proxy card is mailed in the United States.

By order of the Board of Directors,

*/s/ Jeffrey Riley*  
Chief Executive Officer  
Rockville, Maryland  
May 12, 2014

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**155 GIBBS STREET, SUITE 412  
ROCKVILLE, MD 20850  
(734) 332-7800**

**PROXY STATEMENT**

This proxy statement is being furnished to holders of shares of common stock, \$0.001 par value per share, of Synthetic Biologics, Inc., a Nevada corporation ( we, us, or the Company ), in connection with the solicitation of proxies on behalf of our Board of Directors for use at our 2014 Annual Meeting of Stockholders to be held on June 10, 2014 at 9:00 a.m. (Eastern time), at the New York City office of Gracin & Marlow, LLP, Chrysler Building, 405 Lexington Avenue, 26<sup>th</sup> Floor, New York, New York, 10174, and at any adjournment or postponement of our 2014 annual meeting. The purpose of the annual meeting and the matters to be acted on are stated in the accompanying notice of annual meeting of stockholders. The Board of Directors knows of no other business that will come before the annual meeting.

The notice of our 2014 annual meeting, this proxy statement, and a proxy card, together with our Annual Report on Form 10-K for our fiscal year ended December 31, 2013, are being mailed to our stockholders on or about May 12, 2014. (Such annual report, which includes our audited financial statements, is not to be regarded as proxy solicitation material.) We will bear the cost of our solicitation of proxies. The original solicitation of proxies by mail may be supplemented by personal interview, telephone, or facsimile by our directors, officers, or employees, who will receive no additional compensation for such services. Arrangements will be made with brokerage houses and other custodians, nominees, and fiduciaries for the forwarding of solicitation material to the beneficial owners of stock held by any such persons, and we will reimburse those custodians, nominees, and fiduciaries for the reasonable out-of-pocket expenses incurred by them in doing so.

Our Board of Directors is soliciting votes FOR each of the nominees for election to our Board of Directors and FOR the ratification of the appointment of BDO USA, LLP as our independent registered public accounting firm for our fiscal year ending on December 31, 2014.

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## INFORMATION ABOUT VOTING

**Q:** *Why am I receiving these materials?*

A: The Board of Directors is providing these proxy materials for you in connection with our 2014 annual meeting of stockholders, which is scheduled to take place on June 10, 2014. As a stockholder of record as of April 25, 2014, you are invited to attend the annual meeting and to vote on the items of business described in this proxy statement.

**Q:** *What information is contained in these materials?*

A: The information included in this proxy statement relates to the proposals to be voted on at the annual meeting, the voting process, the compensation of our directors and executive officers, and other required information.

**Q:** *What items of business will be voted on at the annual meeting?*

A: The two items of business scheduled to be voted on at the annual meeting are: (1) the election of our directors and (2) the ratification of our independent registered public accounting firm

**Q:** *How does the Board of Directors recommend that I vote?*

A: The Board of Directors recommends that you vote your shares FOR each of the nominees to our Board, and FOR the ratification of the appointment of BDO USA, LLP as our independent registered public accounting firm for our fiscal year ending on December 31, 2014.

**Q:** *What shares can I vote?*

A: You may vote or cause to be voted all shares owned by you as of the close of business on April 25, 2014, the record date. These shares include: (1) shares held directly in your name as a stockholder of record; and (2) shares held for you, as the beneficial owner, through a broker or other nominee, such as a bank.

**Q:** *What is the difference between holding shares as a stockholder of record and as a beneficial owner?*

A: Most of our stockholders hold their shares through a broker or other nominee rather than directly in their own name. As summarized below, there are some distinctions between shares held of record and those owned beneficially.

If your shares are registered directly in your name with our transfer agent, Corporate Stock Transfer, Inc., you are considered, with respect to those shares, the stockholder of record and these proxy materials are being sent directly to you by us. As the stockholder of record, you have the right to grant your voting proxy directly to Jeffrey Riley and C. Evan Ballantyne, or either of them, or to vote in person at the meeting. The Board of Directors has enclosed a proxy card for you to use to grant a voting proxy.

If your shares are held in a brokerage account or by another nominee, you are considered the beneficial owner of shares held in street name, and these proxy materials are being forwarded to you by your broker or nominee together with a voting instruction card. As the beneficial owner, you have the right to direct your broker or nominee how to vote and are also invited to attend the annual meeting. Since you are not the stockholder of record, however, you may not vote these shares in person at the meeting unless you obtain from the broker or nominee that holds your shares a valid proxy from them giving you the right to vote the shares. Your broker or nominee should have enclosed or provided voting instructions for you to use in directing the broker or nominee how to vote your shares. If you hold your shares through a broker and you do not give instructions to the record holder on how to vote, the record holder will be entitled to vote your shares in its discretion on certain matters considered routine, such as the ratification of the appointment of independent auditors. Because of recent rule changes, the uncontested election of directors is no longer considered a routine matter. Therefore, brokers do not have the discretion to vote on the election of directors. If you hold your shares in street name and you do not instruct your broker how to vote in these matters, no votes will be cast on your behalf. These Broker non-votes will be treated as shares that are present and entitled to vote for purposes of determining the presence of a quorum, but not as shares entitled to vote on a particular proposal.





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**Q: *May I attend the annual meeting?***

You are entitled to attend the annual meeting only if you were a stockholder as of the close of business on April 25, 2014, or you hold a valid proxy for the annual meeting. You should be prepared to present photo identification for admittance. If you are not a record holder but hold shares beneficially through a broker or nominee (that is, in street name), you should provide proof of beneficial ownership on the record date, such as your most recent account statement prior to April 25, 2014, a copy of the voting instruction card provided by your broker or nominee, or other similar evidence of ownership. If you do not provide photo identification or comply with the other procedures outlined above upon request, you may not be admitted to the annual meeting. The annual meeting will begin promptly at 9:00 a.m. (Eastern time). Check-in will begin at 8:30 a.m., and you should allow ample time for the check-in procedures.

**Q: *How can I vote my shares in person at the annual meeting?***

You may vote by ballot in person at the annual meeting any shares that you hold as the stockholder of record. You may only vote in person shares held in street name if you obtain from the broker or nominee that holds your shares a valid proxy giving you the right to vote the shares.

**Q: *How can I vote my shares without attending the annual meeting?***

Whether you hold shares directly as the stockholder of record or beneficially in street name, you may, without attending the meeting, direct how your shares are to be voted. If you are a stockholder of record, you may cause your shares to be voted as you instruct by granting a proxy to our Board of Directors. If you hold shares in street name, you may cause your shares to be voted as you instruct by submitting voting instructions to your broker or nominee. Each record holder of our common stock may appoint a proxy by completing, signing, and dating a proxy card and mailing it in the accompanying pre-addressed envelope. Each stockholder who holds shares in street name may vote by mail by completing, signing, and dating a voting instruction card provided by the broker or nominee and following the other instructions of your broker or nominee.

**Q: *Can I change my vote?***

You may change your vote at any time prior to the vote at the annual meeting. For shares held directly in your name, you may accomplish this by granting a new proxy bearing a later date (which automatically revokes the earlier proxy) or by attending the annual meeting and voting in person. Attendance at the meeting will not cause your previously granted proxy to be revoked unless you specifically so request. For shares you hold beneficially, you may change your vote by submitting new voting instructions to your broker or nominee or, if you have obtained a valid proxy from your broker or nominee giving you the right to vote your shares, by attending the meeting and voting in person. You may also change your vote by sending a written notice of revocation to the Corporate Secretary, Synthetic Biologics, Inc., Administrative Office, 617 Detroit Street, Suite 100, Ann Arbor, Michigan 48104.

**Q: *Can I revoke my proxy?***

You may revoke your proxy before it is voted at the meeting. To revoke your proxy, notify our corporate secretary in writing, or deliver to our corporate secretary a duly executed proxy bearing a later date. You may also revoke your proxy by appearing at the meeting in person and voting your shares. Attendance at the meeting will not, by itself, revoke a proxy.

**Q: *Who can help answer my questions?***

If you have any questions about the annual meeting or how to vote or revoke your proxy, or you need additional copies of this proxy statement or voting materials, you should contact the Corporate Secretary, Synthetic Biologics, Inc., Administrative Office, 617 Detroit Street, Suite 100, Ann Arbor, Michigan 48104 or by phone at (734) 332-7800.

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**Q: *How are votes counted?***

A: In the election of directors, you may vote FOR all of the four nominees or you may direct your vote to be WITHHELD with respect to any one or more of the four nominees.

With respect to the other proposal, you may vote FOR, AGAINST, or ABSTAIN. On this proposal, if you vote ABSTAIN, it has the same effect as a vote AGAINST.

If you provide specific instructions, your shares will be voted as you instruct. If you sign your proxy card or voting instruction card with no further instructions, your shares will be voted in accordance with the recommendations of the Board of Directors, namely FOR all of the nominees and FOR ratification of our independent registered public accounting firm.

**Q: *What is a quorum and why is it necessary?***

Conducting business at the meeting requires a quorum. The presence, either in person or by proxy, of the holders of a majority of our shares of common stock outstanding on April 25, 2014 is necessary to constitute a quorum.

A: Abstentions are treated as present for purposes of determining whether a quorum exists. Broker non-votes (which result when your shares are held in street name and you do not tell the nominee how to vote your shares) are relevant in determining whether a quorum is present at the meeting.

**Q: *What is the voting requirement to approve each of the proposals?***

A: In the election of directors, the four persons receiving the highest number of FOR votes at the annual meeting will be elected. Accordingly, withheld votes and broker non-votes have no effect on the election of any nominee. You do not have the right to cumulate your votes.

The other proposal requires the affirmative FOR vote of a majority of those shares present in person or represented by proxy and entitled to vote on that proposal at the annual meeting. Accordingly, abstentions on this proposal will have the same effect as a vote against the proposal. Broker non-votes will have no effect on this proposal.

**Q: *What should I do if I receive more than one set of voting materials?***

A: You may receive more than one set of voting materials, including multiple copies of this proxy statement and multiple proxy cards or voting instruction cards. For example, if you hold your shares in more than one brokerage account, you will receive a separate voting instruction card for each brokerage account in which you hold shares. If you are a stockholder of record and your shares are registered in more than one name, you will receive more than one proxy card. Please complete, sign, date, and return each proxy card and voting instruction card that you receive.

**Q: *Where can I find the voting results of the annual meeting?***

A: We intend to announce preliminary voting results at the annual meeting and publish final results in a Current Report on Form 8-K which will be filed within four days of the meeting.

**Q: *What happens if additional matters are presented at the annual meeting?***

A: Other than the two items of business described in this proxy statement, we are not aware of any other business to be acted upon at the annual meeting. If you grant a proxy, the persons named as proxy holders, Mr. Jeffrey Riley, our Chief Executive Officer, and Mr. C. Evan Ballantyne, our Chief Financial Officer, will have the discretion to vote your shares on any additional matters properly presented for a vote at the meeting. If for any unforeseen reason any of our nominees are not available as a candidate for director, the persons named as proxy holders will vote your proxy for any one or more other candidates nominated by the Board of Directors.

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**Q:                   *How many shares are outstanding and how many votes is each share entitled?***

A: Each share of our common stock that is issued and outstanding as of the close of business on April 25, 2014, the record date, is entitled to be voted on all items being voted on at the annual meeting, with each share being entitled to one vote on each matter. On the record date, 58,535,010 shares of common stock were issued and 58,453,528 shares of common stock were outstanding.

**Q:                   *Who will count the votes?***

A: One or more inspectors of election will tabulate the votes.

**Q:                   *Is my vote confidential?***

A: Proxy instructions, ballots, and voting tabulations that identify individual stockholders are handled in a manner that protects your voting privacy. Your vote will not be disclosed, either within the Company or to anyone else, except: (1) as necessary to meet applicable legal requirements; (2) to allow for the tabulation of votes and certification of the vote; or (3) to facilitate a successful proxy solicitation.

**Q:                   *Who will bear the cost of soliciting votes for the annual meeting?***

A: The Board of Directors is making this solicitation on behalf of the Company, which will pay the entire cost of preparing, assembling, printing, mailing, and distributing these proxy materials. Certain of our directors, officers, and employees, without any additional compensation, may also solicit your vote in person, by telephone, or by electronic communication. On request, we will reimburse brokerage houses and other custodians, nominees, and fiduciaries for their reasonable out-of-pocket expenses for forwarding proxy and solicitation materials to stockholders.

**Q:                   *May I propose actions for consideration at next year's annual meeting of stockholders?***

A: You may submit proposals for consideration at future stockholder meetings. In order for a stockholder proposal to be considered for inclusion in the proxy statement for our annual meeting next year, however, the written proposal must be received by us by January 12, 2015. Those proposals also must comply with Securities and Exchange Commission regulations under Rule 14a-8 regarding the inclusion of stockholder proposals in company-sponsored Proxy materials.

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## PROPOSAL 1

### ELECTION OF DIRECTORS

The Board of Directors, based on the recommendation of the Nominations Committee of the Board of Directors, has nominated for annual election as director each of the individuals identified below, all of whom are incumbent directors.

### THE NOMINEES

Name	Age	Position	Director Since
Jeffrey J. Kraws <sup>(1)(2)(3)</sup>	50	Chairman	2006
Jeffrey Riley	51	Chief Executive Officer, President and Director	2010
Scott L. Tarriff <sup>(1)(2)(3)</sup>	54	Director	2012
Jeffrey Wolf, J.D. <sup>(1)(2)(3)</sup>	51	Director	2006

(1) Member of the Audit Committee.

(2) Member of the Compensation Committee.

(3) Member of the Nominations Committee.

## THE BOARD OF DIRECTORS RECOMMENDS THAT YOU VOTE YOUR SHARES FOR THE ELECTION OF EACH OF THESE NOMINEES.

It is the intention of the persons named in the accompanying proxy card to vote all shares of common stock for which they have been granted a proxy for the election of each of the nominees, each to serve as a director until the next annual meeting of stockholders and until his successor shall have been duly elected and qualified. All the nominees have consented to being named in this proxy statement and to serve as a director if elected. At the time of the annual meeting, if any of the nominees named above is not available to serve as director (an event that the Board of Directors does not currently have any reason to anticipate), all proxies will be voted for any one or more other persons that the Board of Directors designates. The Board of Directors believes that it is in the best interests of the Company to elect the above-described nominees.

### DIRECTOR INDEPENDENCE

No director or executive officer of the Company is related to any other director or executive officer. A majority of our Board members are independent in compliance with the applicable listing standards of the NYSE MKT, LLC. The independent directors and nominees are Jeffrey J. Kraws, Scott L. Tarriff and Jeffrey Wolf.



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## INFORMATION ABOUT THE NOMINEES

Stated below is the principal occupation of each nominee, the business experience of each nominee for at least the past five years, and certain other information relating to the nominees.

**Jeffrey J. Kraws.** Mr. Kraws has been a director since January of 2006, and was appointed independent, non-executive Chairman of the Board in May 2012. Since 2003, Mr. Kraws has served Chief Executive Officer and co-founder of Crystal Research Associates, and since February 2012, he has served as partner and co-founder of TopHat Capital, LLC. Well known and respected on Wall Street, Mr. Kraws has received some of the most prestigious awards in the industry. Among other awards, he was given a 5-Star Rating in 2001 by Zacks and was ranked the number one analyst among all pharmaceutical analysts for stock performance in 2001 by Starmine.com. Prior to founding Crystal Research Associates, Mr. Kraws served as co-president of The Investor Relations Group (IRG), a firm representing primarily under-followed, small-capitalization companies. Previously, Mr. Kraws served as a managing director of healthcare research for Ryan Beck & Co. and as director of research/senior pharmaceutical analyst and managing director at Gruntal & Co., LLC (prior to its merger with Ryan Beck & Company). Mr. Kraws served as managing director of the healthcare research group and senior pharmaceutical analyst at First Union Securities (formerly EVEREN Securities); as senior U.S. pharmaceutical analyst for the Swedish-Swiss conglomerate Asea Brown Boveri; and as managing director and president of the Brokerage/Investment Banking operation of ABB Aros Securities, Inc. He also served as senior pharmaceutical analyst at Nationsbank Montgomery Securities, BT Alex Brown & Sons, and Buckingham Research. Mr. Kraws also has industry experience, having been responsible for competitive analysis within the treasury group at Bristol-Myers-Squibb Company. During 2006 through February of 2007, Mr. Kraws served as our Vice President of Business Development, on a part-time basis. Since December 2013, Mr. Kraws serves on the board of directors of Saleen Automotive, Inc. (OTC: SLNN). He holds an M.B.A. from Cornell University and a B.S. degree from State University of New York-Buffalo. During 2006 through February of 2007, Mr. Kraws served as our Vice President of Business Development, on a part-time basis.

Mr. Kraws brings a strong business background to Synthetic Biologics, having worked as a pharmaceutical analyst for over 22 years. Mr. Kraws brings to the Board significant strategic, business and financial experience related to the business and financial issues facing pharmaceutical companies. Mr. Kraws has a broad understanding of the operational, financial and strategic issues facing pharmaceutical companies. Through his services as the Company's Vice President of Business Development during 2006 and a part of 2007, he developed extensive knowledge of Synthetic Biologics' business.

**Jeffrey Riley.** Mr. Riley, a member of the Synthetic Biologics' Board of Directors since March 2010 and Chairman of the Board from November 2011 to May 2012, was appointed as the Company's President and Chief Executive Officer in February 2012. Since November 2009 until January 2012, Mr. Riley served as the Managing Director of 526 Ventures, a life science-focused consulting firm with a commercial and transactional focus, and from April 2009 until February 2012 he was the business officer of Ruga Corporation, a Stanford University spin-out oncology drug discovery company focused on targeting tumor adaptive responses. From January 2005 until January 2010, Mr. Riley was a member of the advisory board and a venture partner of Queensland Biocapital Fund, an Australia-based venture fund. Mr. Riley has held senior corporate and commercial development positions with multiple venture-backed biotech companies. In these positions, he was responsible for raising equity and negotiating alliances including in-licensing, out-licensing, distribution agreements, technology acquisitions and research agreements with large pharmaceutical companies and government agencies. Mr. Riley's pharmaceutical experience includes commercial management and mergers and acquisition roles for Pfizer and SmithKline Beecham. Additionally, Mr. Riley served as CFO and VP Corporate Development for Nichols Institute Diagnostics, later acquired by Corning and spun out as Quest Diagnostics. Mr. Riley's education includes: a B.S. degree from Boise State University, coursework at

UCSF/Berkeley in drug discovery/development and participation in a dual-degree graduate program, an M.B.A./M.I.M. sponsored by Arizona State University and the Thunderbird School of Global Management.

Mr. Riley brings to the Board extensive knowledge of the pharmaceutical industry. Having served in senior corporate positions in biotech and pharmaceutical companies he has a vast knowledge of the industry. His business experience provides him with a broad understanding of the operational, financial and strategic issues facing public companies.

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**Scott L. Tarriff.** Mr. Tarriff has been a director since February 3, 2012. Since January 2007 he has served as a director and Chief Executive Officer of Eagle Pharmaceuticals, Inc. a publicly traded, hospital specialty company. Eagle Pharmaceuticals, Inc. (NASDAQ: EGRX) is focused on developing branded parenteral products through the application of various in-licensed drug delivery technologies. Prior to forming Eagle Pharmaceuticals, Inc., Mr. Tarriff was president and chief executive officer of Par Pharmaceutical Companies, Inc. Mr. Tarriff joined Par Pharmaceutical Companies, Inc., in 1998 as executive vice president. Mr. Tarriff was named president and Chief Executive Officer of Par Pharmaceutical, Inc., the company's principal operating subsidiary, in 2001, and was elected to the company's Board of Directors in 2002. In September 2003, he was appointed President and Chief Executive Officer of Par Pharmaceutical Companies, Inc. Mr. Tarriff joined Par Pharmaceutical Companies, Inc. following a 12-year career at Bristol-Meyers Squibb. From 2009 until 2011, Mr. Tarriff served as a director of Clinical Data, Inc. He received his M.B.A. from Rider College and his undergraduate degree from Pennsylvania State University.

Mr. Tarriff brings to our Board of Directors significant knowledge of and experience in the pharmaceutical and medical industries. He has extensive business, managerial, executive and leadership experience that further qualify him to serve as a member of the Board and a valuable understanding of the role played by the Board of Directors acquired through service on the boards of many companies. He has had a long and successful career in top executive leadership positions with leading, publicly traded pharmaceutical companies including Par Pharmaceuticals Companies, Inc. and Bristol-Myers Squibb.

**Jeffrey Wolf, J.D.** Mr. Wolf, a director since 2006, has substantial experience in creating, financing, nurturing and growing new ventures based upon breakthrough research and technology. In August 2008, Mr. Wolf founded Heat Biologics, Inc. (NASDAQ: HTBX), a publicly traded company engaged in research and development of drugs focused on combating cancer and other diseases. Since April 2010, Mr. Wolf has served as the Chief Executive Officer and Chairman of the Board of Heat Biologics, Inc. Prior to founding Heat Biologics, Inc., from June 1997 to March 2011, Mr. Wolf has served as managing director at Seed-One Ventures, LLC a venture firm focused on launching and growing exceptional healthcare companies from the ground up. Since founding Seed-One, Mr. Wolf has founded and run several medical companies. Mr. Wolf's start-ups include Avigen, a San Francisco-based gene therapy company where he was a co-founder and director; TyRx Pharma, a Princeton-based company focused on the development of bio-compatible polymers where he was a co-founder and Chairman; EluSys Therapeutics, a New Jersey company focused on the development of novel technology to remove blood-borne pathogens where he was a co-founder, Chairman and Chief Executive Officer; and GenerationOne, a Miami-based company focused on mobile-based collaborative care, where he was the founder, Chairman and Chief Executive Officer. Mr. Wolf received his M.B.A. from Stanford Business School, his J.D. from New York University School of Law and his B.A. from the University of Chicago, where he graduated with honors in Economics. Mr. Wolf serves as a director of several Seed-One portfolio companies.

Mr. Wolf has extensive knowledge of the industry and in particular research and development. His legal and business background provide him with a broad understanding of the legal, operational, financial and strategic issues facing Synthetic Biologics. Having served as a board member on other public company boards, Mr. Wolf has an extensive understanding of the operational, financial and strategic issues facing public companies.



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## **INFORMATION REGARDING THE COMMITTEES OF THE BOARD OF DIRECTORS**

We formed an Audit Committee, Compensation Committee and Nominations Committee of our Board of Directors in 2007. We also formed a Strategic Planning Committee in 2013.

### **Audit Committee**

The members of the Audit Committee are Mr. Wolf (Chairman), Mr. Kraws and Mr. Tarriff. The primary purpose of the Audit Committee is to act on behalf of the Board of Directors in its oversight of all material aspects of our accounting and financial reporting processes, internal controls and audit functions, including our compliance with Section 404 of the Sarbanes-Oxley Act of 2002.

The duties of the Audit Committee include the hiring and retaining of our independent registered public accounting firm, which reports to the Audit Committee. The Committee reviews with our independent registered public accounting firm the scope and results of the audit engagement and the system of internal controls and procedures. The Committee also reviews the effectiveness of procedures intended to prevent violations of laws. The Committee also reviews, prior to publication, our quarterly earnings releases and our reports to the Securities and Exchange Commission on Forms 10-K and 10-Q. The formal report of the Audit Committee for fiscal year 2013 is set forth under the caption *Report of the Audit Committee* in Proposal 2.

Our Board of Directors has determined that each of the members of the Audit Committee are independent and that Mr. Wolf, Mr. Kraws and Mr. Tarriff are each an Audit Committee financial expert within the meaning of the regulations of the United States Securities and Exchange Commission.

The Audit Committee has adopted a formal written charter, a copy of which is available on our website at [www.syntheticbiologics.com](http://www.syntheticbiologics.com) in the Investors section of the site.

### **Compensation Committee**

The members of the Compensation Committee are Mr. Kraws (Chairman), Mr. Tarriff and Mr. Wolf. The Committee determines, approves, and reports to the Board of Directors on all elements of compensation of our executive officers. The Compensation Committee also has the power to prescribe, amend, and rescind rules relating to our stock incentive plans, to grant options and other awards under the stock incentive plans, and to interpret the stock incentive plans.

Each of Mr. Kraws, Mr. Tarriff and Mr. Wolf are independent under the applicable rules of the NYSE MKT, LLC.

The Compensation Committee operates under a formal charter that governs its duties and standards of performance. A copy of the charter is available on our website at [www.syntheticbiologics.com](http://www.syntheticbiologics.com) in the Investors section of the site.

Our Compensation Committee annually reviews the compensation program for our Chief Executive Officer and other members of senior management and then makes recommendations to the full Board for determination. In each case, the Committee takes into account the results achieved by the executive, his future potential, and his scope of responsibilities and experience. Our Chief Executive Officer makes recommendations to the Compensation Committee regarding the compensation of our other Executive Officer but does not participate in any discussions or processes concerning his own compensation, and participates in a non-voting capacity in discussions or processes

concerning the compensation of our Chief Financial Officer and other members of management.

During our fiscal year ended December 31, 2013, the Committee evaluated the performance of our executives and other officers and considered the compensation levels and equity programs at comparable companies and related industries before it made its compensation recommendations to the full Board, including recommendations regarding salary increases, awards of cash bonuses and awards of stock options.

The Committee administers our stock plan, including review and recommendation of long-term incentive compensation for each executive, director and employee, including grants of stock options. The Committee believes that this long-term incentive compensation aligns the interests of our executives with those of our stockholders and furthers executive retention.

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The Committee also reviews and recommends to the Board of Directors appropriate director compensation programs for service as directors, Committee chairs and Committee members.

## **Nominations Committee**

The members of the Nominations Committee are Mr. Tarriff (Chairman) and Mr. Kraws and Mr. Wolf. This Committee performs the following functions:

It considers and recommends to the Board of Directors, individuals for appointment or election as directors; It recommends to the Board of Directors individuals for appointment to vacancies on any Committee of the Board of Directors; It makes recommendations to the Board of Directors regarding any changes to the size of the Board of Directors or any Committee;

It reports to the Board of Directors on a regular basis; and

It performs any other duties or responsibilities expressly delegated to the Committee by the Board of Directors relating to Board or Committee members.

Candidates for director should have certain minimum qualifications, including the ability to understand basic financial statements, being over 21 years of age, having relevant business experience (taking into account the business experience of the other directors), and having high moral character. The Committee retains the right to modify these minimum qualifications from time to time.

In evaluating an incumbent director whose term of office is set to expire, the Nominations Committee reviews such director's overall service to the Company during such director's term, including the number of meetings attended, level of participation, quality of performance, and any transactions with the Company engaged in by such director during his term.

When selecting a new director nominee, the Committee first determines whether the nominee must be independent for NYSE MKT, LLC purposes or whether the candidate must qualify as an Audit Committee Financial Expert. The Committee then uses its network of contacts to compile a list of potential candidates, but may also engage, if it deems appropriate, a professional search firm to assist in the identification of qualified director candidates. The Nominations Committee also will consider nominees recommended by our stockholders. The Nominations Committee does not distinguish between nominees recommended by our stockholders and those recommended by other parties. The Nominations Committee evaluates the suitability of potential nominees, taking into account the current Board composition, including expertise, diversity and the balance of inside and independent directors. The Nominations Committee endeavors to establish a diversity of background and experience in a number of areas of core competency, including business judgment, management, accounting, finance, knowledge of our industry, strategic vision, research and development and other areas relevant to our business.

Stockholders wishing to directly recommend candidates for election to the Board of Directors at our next annual meeting to be included in our proxy statement must do so by giving written notice to: Chairman of the Nominations Committee, Synthetic Biologics, Inc., Administrative Office, 617 Detroit Street, Suite 100, Ann Arbor, Michigan 48104. Any such notice must be delivered to the Chairman by January 12, 2015. The notice must state: (1) the name and address of the stockholder making the recommendations; (2) the name, age, business address, and residential address of each person recommended; (3) the principal occupation or employment of each person recommended; (4) the class and number of shares of the Company's stock that are beneficially owned by each person recommended and by the recommending stockholder; (5) any other information concerning the persons recommended that must be disclosed in nominee and proxy solicitations in accordance with Regulation 14A of the Securities Exchange Act of

1934, as amended; and (6) a signed consent of each person recommended stating that he or she consents to serve as a director of the Company if elected.

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In considering any person recommended by one of our stockholders, the Committee will look for the same qualifications that it looks for in any other person that it is considering for a position on the Board of Directors. Any stockholder nominee recommended by the Committee and proposed by the Board of Directors for election at the next annual meeting of stockholders will be included in the Company's proxy statement for that annual meeting.

The Nominations Committee operates under a formal charter that governs its duties and standards of performance. A copy of the charter is available on our website at [www.syntheticbiologics.com](http://www.syntheticbiologics.com) in the Investors section of the site.

### **Strategic Planning Committee**

The members of the Strategic Planning Committee are Mr. Kraws, Mr. Tarriff and Mr. Wolf. The Committee oversees our strategic planning process.

### **Board Leadership Structure**

We currently have two separate people serving as our Chairman of the Board and as our Chief Executive Officer, and we do not have a formal policy on whether the same person should (or should not) serve as both the Chief Executive Officer and Chairman of the Board. Due to the size of our Company, we believe that this structure is appropriate in recognition of the time commitment and activities required to function effectively as a Chairman and as a Chief Executive Officer. Mr. Kraws has served as the Chairman of the Board since May 2012. Mr. Riley has served as our Chief Executive Officer since February 2012. In serving as Chairman of the Board, Mr. Kraws serves as a significant resource for our Chief Executive Officer, other members of management and the Board of Directors. We believe that the division of duties and additional avenues of communication between the Board and management with Mr. Kraws serving as Chairman of the Board provides a basis for the proper functioning of our Board and oversight of management.

We do not have a separate lead director. We believe the combination of Mr. Kraws as our Chairman of the Board and Mr. Riley as our Chief Executive Officer is an effective structure for us. Our current structure is operating effectively to foster productive, timely and efficient communication among the independent directors and management. We do have active participation in our Committees by our independent directors, who comprise all of the members of all of our Committees. Each Committee performs an active role in overseeing our management and there are complete and open lines of communication with the management and independent directors.

### **Oversight of Risk Management**

The Board of Directors has an active role, as a whole and also at the Committee level, in overseeing management of our risks. The Board regularly reviews information regarding our strategy, finances and operations, as well as the risks associated with each. The Audit Committee is responsible for oversight of our risks relating to accounting matters, financial reporting and legal and regulatory compliance. The Audit Committee undertakes, at least annually, a review to evaluate these risks. Individual members of the Audit Committee are each assigned an area of risk to oversee. The members then meet separately with management responsible for such area, including our Chief Financial Officer, internal auditor and counsel, and report to the Audit Committee on any matters identified during such discussions with management. Our Compensation Committee is responsible for overseeing the management of risks relating to our executive compensation plans and arrangements. While each Committee is responsible for evaluating certain risks and overseeing the management of such risks, the entire Board of Directors is regularly informed through Committee reports about such risks.



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## **STOCKHOLDER COMMUNICATIONS WITH THE BOARD OF DIRECTORS**

Stockholders may direct any communications intended for the Board of Directors to our Corporate Secretary, by telephone to (734) 332-7800, by facsimile to (734) 332-7878, or by mail to Synthetic Biologics, Inc., Administrative Office, 617 Detroit Street, Suite 100, Ann Arbor, Michigan 48104.

This centralized process assists the Board of Directors in reviewing and responding to stockholder communications in an appropriate manner. If a stockholder wishes to direct any communication to a specific Board member, the name of that Board member should be noted in the communication. The Board of Directors has instructed the corporate secretary to forward stockholder correspondence only to the intended recipients, and has also instructed the corporate secretary to review all stockholder correspondence and, in the corporate secretary's discretion, refrain from forwarding any items deemed to be of a commercial or frivolous nature or otherwise inappropriate for the Board of Directors consideration. Any such items may be forwarded elsewhere in the Company for review and possible response.

## **BOARD AND COMMITTEE MEETINGS**

During our fiscal year ended December 31, 2013, our Board of Directors held nine meetings. During our fiscal year ended December 31, 2013, our Audit, Compensation and Strategic Planning Committees met seven times, one time and one time, respectively. Our Nominations Committee did not formally meet during our fiscal year ended December 31, 2013, but informally met several times and acted by written consent several times. Each of our directors during our fiscal year ended December 31, 2013 attended all of the Board meetings. Each director attended all of the Committee meetings for the Committees on which he serves.

## **DIRECTOR ATTENDANCE AT ANNUAL MEETINGS**

Our directors are encouraged, but not required, to attend the Annual Meeting of Stockholders. All of our directors attended the 2013 Annual Meeting of Stockholders.

## **SECTION 16(A) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE**

Section 16(a) of the Securities Exchange Act of 1934 requires our executive officers, directors and persons who beneficially own more than 10 percent of a registered class of our equity securities, to file with the SEC initial reports of ownership and reports of changes in ownership of our common stock. Such officers, directors and persons are required by SEC regulation to furnish us with copies of all Section 16(a) forms that they file with the SEC.

Based solely on a review of the copies of such forms that were received by us, or written representations from certain reporting persons that no Form 5s were required for those persons, we are not aware of any failures to file reports or report transactions in a timely manner during the year ended December 31, 2013.

## **CORPORATE GOVERNANCE**

We operate according to a comprehensive plan of corporate governance for the purpose of defining responsibilities, setting high standards of professional and personal conduct, and assuring compliance with those responsibilities and standards. We regularly monitor developments in the area of corporate governance and will continue to monitor developments and make adjustments from time to time to ensure compliance in this area. Information regarding our corporate governance that is not provided below is described elsewhere in this proxy statement.

### **Code of Conduct**

We adopted a Code of Conduct that applies to all of our directors, officers and employees. This Code is intended to promote honest and ethical conduct, full, accurate and timely disclosure, and compliance with all applicable laws and government regulations. A copy of the Code of Conduct is available on our website at [www.syntheticbiologics.com](http://www.syntheticbiologics.com) in the Investors section of the site.



TABLE OF CONTENTS**Code of Ethics for Financial Management**

We adopted a Code of Ethics for Financial Management that applies to all persons responsible for our financial management. This Code is intended to promote professional conduct in our financial management. A copy of our Code of Ethics for Financial Management is available on our website at [www.syntheticbiologics.com](http://www.syntheticbiologics.com) in the Investors section of the site. Violations of the Code of Ethics for Financial Management may be reported anonymously to our Audit Committee and may result in disciplinary action.

**DIRECTOR COMPENSATION**

The following table sets forth information for the fiscal year ended December 31, 2013 regarding the compensation of our directors who at December 31, 2013 were not also named executive officers.

Name	Fees			Total
	Earned or Paid in Cash	Option Awards <sup>(1)(3)</sup>	Other Compensation	
Jeffrey J. Kraws <sup>(2)</sup>	\$ 150,000	\$ 40,000	\$	\$ 190,000
Scott Tarriff	\$ 24,000	\$ 80,000	\$	\$ 104,000
Jeffrey Wolf	\$ 24,000	\$ 80,000	\$	\$ 104,000
Steve H. Kanzer <sup>(4)</sup>	\$	\$	\$	\$

- The amounts in the "Option awards" column reflect the dollar amounts of the grant date fair value for the financial statement reporting purposes for stock options for the fiscal year ended December 31, 2013 in accordance with ASC 718. The fair value of the options was determined using the Black-Scholes model. For a discussion of the assumptions used in computing this valuation, see "Management's Discussion and Analysis of Financial Conditions and Results of Operations" and Note 5 of the Notes to Consolidated Financial Statements in our Annual Report on Form 10-K for the fiscal year ended December 31, 2013.
- (1) Mr. Kraws was appointed as our independent, non-executive Chairman of the Board in May 2012. Pursuant to his agreement he receives an annual retainer of \$150,000.
- (2) As of December 31, 2013, the following are the outstanding aggregate number of option awards held by each of our then directors who were not also named executive officers:

Name	Option Awards (#)
Steve H. Kanzer	304,391
Jeffrey J. Kraws	412,105
Scott Tarriff	75,000
Jeffrey Wolf	133,332

- (3) On February 26, 2014, Mr. Kanzer resigned as CEO and President of Synthetic Biomics, Inc. and as a member of our Board of Directors.

In October 2013, director compensation for independent members was approved at \$4,500 per Board meeting that they attend in person and \$2,000 per telephonic Board meeting. In addition, in 2013 we granted independent members of the Board of Directors an annual option grant of 25,000 stock options. We also reimburse directors for travel and other out-of-pocket expenses incurred in attending Board of Director and Committee meetings.

Our Compensation Committee conducted an evaluation of the compensation of the members of our Board of Directors. In order to aid its decision-making, the Compensation Committee considered the compensation practices and the competitive market for directors at companies with which we compete for personnel and an independent compensation advisor was retained to conduct a study of our peer group compensation. In early March 2013, the Compensation Committee retained Hay Group for matters related to the compensation of the members of our Board of Directors. Hay Group is an outside global human resources consulting firm and does not provide any other services to us. Our Compensation Committee determined that Hay Group was independent and lacked any conflict of interest. Hay Group was asked to provide independent, third-party advice and expertise on director compensation issues and to report directly to the Compensation Committee. Hay Group provided the Compensation Committee with comparative market data and alternatives to consider

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when making compensation decisions. Based substantially upon the results of the study, commencing April 2014, directors who are not employees and not otherwise receiving an annual retainer, will receive an annual cash fee of \$35,000. All non-employee directors receive an annual cash fee of \$7,500, \$5,000 and \$3,250 for service on the Audit,

Compensation and Nominations Committees, respectively, and the Chairman of the Audit, Compensation and Nominations Committees receive an additional annual cash fee of \$13,500, \$10,000 and \$6,000, respectively. Our independent, non-executive Chairman of the Board receives an annual cash retainer of \$150,000. Upon election to the Board, each non-employee director receives an up-front option grant for services as a director for the three years next following, exercisable for 105,000 shares of common stock at an exercise price equal to the fair market value of our common stock on the date of grant and vesting annually on a pro rata basis over a three year period, with one-third of the grant vesting on the date of grant and one-third vesting on each of the next two yearly anniversaries. In April 2014, each current non-employee director also received an up-front option grant for services as a director for the three years next following, exercisable for 105,000 shares of our common stock at an exercise price equal to the fair market value of the our common stock on the date of grant and vesting on a pro rata basis over a three year period, with one-third of the grant vesting on the date of grant and one-third vesting on each of April 17, 2015 and April 17, 2016, respectively.

## **LIMITS ON LIABILITY AND INDEMNIFICATION**

Our Articles of Incorporation eliminate the personal liability of our directors to the Company and its stockholders for monetary damages for breach of their fiduciary duties in certain circumstances. Our Articles of Incorporation further provide that we will indemnify its officers and directors to the fullest extent permitted by law. We believe that this indemnification covers at least negligence and gross negligence on the part of the indemnified parties. Insofar as indemnification for liabilities under the Securities Act of 1933 may be permitted to directors, officers, and controlling persons of the Company under the foregoing provisions or otherwise, we have been advised that in the opinion of the Securities and Exchange Commission that indemnification is against public policy as expressed in the Securities Act of 1933, as amended, and is therefore unenforceable. We entered into an indemnification agreement with each of our directors and officers. The agreement confirms our obligation to indemnify the directors and officers to the fullest extent authorized by our Amended and Restated Bylaws and supplements the indemnification otherwise available to the covered person under the Company's Charter and Amended and Restated Bylaws. The form of indemnification agreement was described and filed as an exhibit to the Form 8-K filed by the Company with the Securities and Exchange Commission on January 6, 2009.

## **COMPENSATION COMMITTEE INTERLOCKS**

During the last fiscal year ended December 31, 2013, none of our executive officers served on the Board of Directors or Compensation Committee of any other entity whose officers served either on our Board of Directors or Compensation Committee.

TABLE OF CONTENTS**SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT**

The following table sets forth information, as of May 1, 2014, or as otherwise set forth below, with respect to the beneficial ownership of our common stock (i) all persons known to us to be the beneficial owners of more than 5% of the outstanding shares of our common stock, (ii) each of our directors and our executive officer named in the Summary Compensation Table, and (iii) all of our directors and our executive officer as a group.

**Principal Stockholders Table**

Name and Address of Beneficial Ownership <sup>(2)</sup>	Shares Owned <sup>(1)</sup>	
	Number of Shares	Percentage of Shares <sup>(3)</sup>
Intrexon Corporation <sup>(4)</sup>	8,675,768	14.84 %
NRM VII Holding I, LLC <sup>(4)</sup>	3,625,000	6.20 %
C. Evan Ballantyne <sup>(5)</sup>	338,890	*
Jeffrey J. Krawns <sup>(6)</sup>	447,105	*
Jeffrey Riley <sup>(7)</sup>	779,844	1.32 %
Scott L. Tarriff <sup>(8)</sup>	110,000	*
Jeffrey Wolf <sup>(9)</sup>	168,332	*
Randal J. Kirk <sup>(10)</sup>	12,300,768	21.04 %
All officers and directors as a group (5 persons)	1,844,171	3.06 %

\* represents less than 1% of our common stock

The address for each beneficial owner except Intrexon Corporation, NRM VII Holdings I, LLC and Randal J. Kirk is 155 Gibbs Street, Suite 412, Rockville, Maryland 20850. The address for Intrexon Corporation and NRM VII Holdings I, LLC is 20358 Seneca Meadows Pkwy, Germantown, Maryland 20876 and the address for Mr. Kirk is The Governor Tyler, 1881 Grove Avenue, Radford, Virginia 24141.

Beneficial ownership is determined in accordance with SEC rules and generally includes voting or investment power with respect to securities. Except as indicated in the footnotes to the table, to the knowledge of the Company, the persons named in the table have sole voting and investment power with respect to all shares of common stock shown as beneficially owned by them, subject to community property laws, where applicable.

Pursuant to the rules of the SEC, the number of shares of our common stock deemed outstanding includes shares issuable pursuant to options held by the respective person or group that are currently exercisable or may be exercised within 60 days of May 1, 2014.

(3) As of May 1, 2014, we had 58,453,528 shares of common stock outstanding.

Share ownership information is based on information contained in a schedule 13D filed with the SEC on December 19, 2013. Does not include additional shares that have not yet been earned but may in the future be earned under the terms of agreements with Intrexon Corporation.

Includes 338,890 shares issuable upon exercise of options held by Mr. Ballantyne that are exercisable within the 60-day period following May 1, 2014. Does not include an additional 236,110 shares issuable upon exercise of options held by Mr. Ballantyne that are not exercisable within the 60-day period following May 1, 2014.

Includes 447,105 shares issuable upon exercise of options held by Mr. Krawns that are exercisable within the 60-day period following May 1, 2014. Does not include an additional 70,000 shares issuable upon exercise of options held

by Mr. Kraws that are not exercisable within the 60-day period following May 1, 2014.

Includes 769,444 shares issuable upon exercise of options held by Mr. Riley that are exercisable within the 60-day (7) period following May 1, 2014. Does not include an additional 638,889 shares issuable upon exercise of options held by Mr. Riley that are not exercisable within the 60-day period following May 1, 2014.

Includes 110,000 shares issuable upon exercise of options held by Mr. Tarriff that are exercisable within the (8) 60-day period following May 1, 2014. Does not include an additional 70,000 shares issuable upon exercise of options held by Mr. Tarriff that are not exercisable within the 60-day period following May 1, 2014.

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Includes 168,332 shares issuable upon exercise of options held by Mr. Wolf that are exercisable within the 60-day (9) period following May 1, 2014. Does not include an additional 70,000 shares issuable upon exercise of options held by Mr. Wolf that are not exercisable within the 60-day period following May 1, 2014.

(10) Share ownership information is based on information contained in a schedule 13D filed with the SEC on December 19, 2013. All such shares are held by Intrexon Corporation and NRM VII Holdings I, LLC. Mr. Kirk, directly and through certain affiliates, has voting and dispositive power over a majority of the outstanding capital of Intrexon Corporation, and controls NRM VII Holdings I, LLC. Mr. Kirk disclaims beneficial ownership of the shares held by Intrexon Corporation and NRM VII Holdings I, LLC, except to the extent of any pecuniary interest therein.

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**PROPOSAL 2**

**RATIFICATION OF APPOINTMENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

BDO USA, LLP was our independent registered public accounting firm for the year ended December 31, 2013.

Ratification of the selection of BDO USA, LLP by our stockholders is not required by law. As a matter of policy, however, the selection is being submitted to our stockholders for ratification at the annual meeting.

We anticipate that representatives of BDO USA, LLP will be available by telephone during the annual meeting for the purpose of responding to appropriate questions. At the annual meeting, the representatives of BDO USA, LLP will be afforded an opportunity to make a statement if they so desire and are expected to be available to respond to appropriate questions. Upon recommendation of the Audit Committee and unanimous approval by our Board of Directors, on July 3, 2012, we dismissed Berman & Company, P.A. as our independent registered public accounting firm. On July 16, 2012, we retained BDO USA, LLP as our new independent registered public accounting firm responsible for auditing our financial statements.

Berman & Company, P.A.'s reports on our financial statements as of and for the two years ended December 31, 2011 and 2010, did not contain an adverse opinion or disclaimer of opinion, and were not qualified or modified as to uncertainty, audit scope, or accounting principles; however, after being filed with the Securities and Exchange Commission (SEC) on March 30, 2012, the original audit opinion included in our Annual Report on Form 10-K for the year ended December 31, 2011, was withdrawn due to the failure of Berman & Company, P.A. to follow proper partner rotation procedures. On May 11, 2012, a new audit opinion for the year ended December 31, 2011 and an amended Annual Report on Form 10-K/A for such year was filed with the SEC.

During the years ended December 31, 2011 and 2010, and in the subsequent interim period through July 3, 2012: (i) there were no disagreements with Berman & Company on any matter of accounting principles or practices, financial statement disclosure, or auditing scope or procedure, which disagreements, if not resolved to the satisfaction of Berman & Company, P.A., would have caused it to make reference to the subject matter of the disagreement in connection with its reports on our financial statements for such years and (ii) there were no events otherwise reportable under Item 304(a)(1)(v) of Regulation S-K other than the following which was previously reported by us: the failure of Berman & Company, P.A. to follow proper partner rotation procedures that resulted in the withdrawal of Berman & Company, P.A.'s audit opinion included in our Annual Report on Form 10-K for the year ended December 31, 2011 and our being unable to rely upon such audit opinion. Such matters have been discussed by both our Audit Committee and Board of Directors with Berman & Company, P.A., and Berman & Company, P.A. is authorized to fully respond to inquiries of BDO USA, LLP concerning such matter.

We requested that Berman & Company, P.A. furnish us with a letter addressed to the SEC stating whether it agreed with the statements we made above. We filed a copy of such letter in which Berman & Company, P.A. stated such agreement, as an exhibit to a Current Report on Form 8-K filed with the SEC on July 10, 2012.

During the years ended December 31, 2010 and 2011 and in the subsequent interim period through July 3, 2012, we did not consult with BDO USA, LLP regarding the application of accounting principles to a specified transaction, either contemplated or proposed, or the type of audit opinion that might be rendered on our financial statements, and neither a written report nor oral advice was provided that was an important factor considered by us in reaching a decision as to the accounting, auditing or financial reporting issue, or with any of the matters outlined in Item 304(a)(2)(ii) of Regulation S-K.

**OUR BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS THAT YOU VOTE FOR RATIFICATION OF THE SELECTION OF BDO USA, LLP AS OUR INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM FOR OUR FISCAL YEAR ENDING ON DECEMBER 31, 2014.**



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## REPORT OF THE AUDIT COMMITTEE OF THE BOARD OF DIRECTORS

Our Audit Committee reviews our financial reporting process on behalf of our Board of Directors. In January 2007, our Board of Directors adopted a written charter for our Audit Committee, which it re-evaluates annually in connection with the filing of our Annual Report on Form 10-K with the SEC. In fulfilling its responsibilities, the Audit Committee has reviewed and discussed the audited financial statements contained in the Annual Report on Form 10-K for our fiscal year ended December 31, 2013 with our management and our independent registered public accounting firm for such year, BDO USA, LLP. Our management is responsible for the financial statements and the reporting process, including the system of internal controls. The independent registered public accounting firm is responsible for expressing an opinion on the conformity of those audited financial statements with accounting principles generally accepted in the United States.

The Audit Committee (i) discussed with BDO USA, LLP the matters required to be discussed by Public Company Accounting Oversight Board (PCAOB) Auditing Standard No. 16, *Communications with Audit Committees*; (ii) received the written disclosures and the letter from BDO USA, LLP required by PCAOB Ethics and Independence Rule 3526, *Communication with Audit Committees Concerning Independence*; and (iii) discussed with BDO USA, LLP its independence. The Audit Committee also considered whether, and determined that, the independent registered public accounting firm's provision of other non-audit services to us was compatible with maintaining BDO USA, LLP's independence.

You should note the members of our Audit Committee are not our employees and are not performing the functions of auditors or accountants. Accordingly, it is not the duty or responsibility of the Audit Committee or its members to conduct field work or other types of auditing or accounting reviews or procedures or to set auditor independence standards. Members of the Audit Committee necessarily rely on the information provided to them by management and the independent auditors. Accordingly, the Audit Committee's considerations and discussions referred to above do not constitute assurance that the audit of our financial statements has been carried out in accordance with generally accepted accounting principles or that our auditors are in fact independent.

Based on the review and discussions referred to above, the Audit Committee recommended to our Board of Directors (and our Board of Directors approved) that the audited financial statements be included in our Annual Report on Form 10-K for our fiscal year ended December 31, 2013, for filing with the SEC. In addition, the Audit Committee recommended to our Board of Directors and our Board of Directors approved, subject to stockholder ratification, that BDO USA, LLP be appointed as our independent registered public accounting firm for 2014.

Jeffrey Wolf  
Jeffrey Kraws  
Scott L. Tarriff

TABLE OF CONTENTS**AUDIT FEES AND ALL OTHER FEES**

The following table sets forth the aggregate fees including expenses billed to us for the years ended December 31, 2013 and 2012 by BDO USA, LLP.

	December 31,	
	2013	2012
Audit Fees and Expenses <sup>(1)</sup>	\$215,000	\$134,000
	\$215,000	\$134,000

Audit fees and expenses were for professional services rendered for the audit and reviews of the consolidated (1) financial statements of the Company, professional services rendered for issuance of consents and assistance with review of documents filed with the SEC.

**Audit Committee Pre-Approval Policy**

The Audit Committee has adopted procedures for pre-approving all audit and non-audit services provided by the independent registered public accounting firm, including the fees and terms of such services. These procedures include reviewing detailed back-up documentation for audit and permitted non-audit services. The documentation includes a description of, and a budgeted amount for, particular categories of non-audit services that are recurring in nature and therefore anticipated at the time that the budget is submitted. Audit Committee approval is required to exceed the pre-approved amount for a particular category of non-audit services and to engage the independent registered public accounting firm for any non-audit services not included in those pre-approved amounts. For both types of pre-approval, the Audit Committee considers whether such services are consistent with the rules on auditor independence promulgated by the SEC and the PCAOB. The Audit Committee also considers whether the independent registered public accounting firm is best positioned to provide the most effective and efficient service, based on such reasons as the auditor's familiarity with our business, people, culture, accounting systems, risk profile, and whether the services enhance our ability to manage or control risks and improve audit quality. The Audit Committee may form and delegate pre-approval authority to subCommittees consisting of one or more members of the Audit Committee, and such subCommittees must report any pre-approval decisions to the Audit Committee at its next scheduled meeting. All of the services provided by the independent registered public accounting firm were pre-approved by the Audit Committee.

TABLE OF CONTENTS**EXECUTIVE COMPENSATION****Summary Compensation Table**

The following table summarizes all compensation awarded to, earned by or paid to Jeffrey Riley and C. Evan Ballantyne, during the fiscal years ended December 31, 2013 and 2012.

Name and Principal Position	Year	Salary (\$)	Bonus (\$)	Options Awards (\$) <sup>(1)</sup>	All Other Compensation (\$) <sup>(2)</sup>	Total (\$)
Jeffrey Riley, President and CEO <sup>(3)</sup>	2013	\$348,000	\$	\$	\$16,000	\$364,000
	2012	\$314,000	\$52,000	\$1,716,000	\$7,000	\$2,089,000
C. Evan Ballantyne, CFO <sup>(4)</sup>	2013	\$298,000	\$	\$	\$16,000	\$314,000
	2012	\$267,000	\$44,000	\$1,044,000	\$7,000	\$1,362,000

Amount reflects the grant date fair value of the named executive officer's stock options, calculated in accordance (1) with FASB ASC Topic 718. For a discussion of the assumptions used in calculating these values, see Note 5 to our consolidated financial statements.

The all other compensation column is comprised of the portion of medical, dental and vision premiums paid by us (2) on behalf of our named executive officer. These benefits are offered to all Synthetic Biologics employees who work at least 17.5 hours per week for the Company.

(3) Mr. Riley was appointed as the Company's President and Chief Executive Officer on February 3, 2012.

(4) Mr. Ballantyne was appointed as the Company's Chief Financial Officer on February 6, 2012.

TABLE OF CONTENTS**Outstanding Equity Awards at Fiscal Year End**

The table below reflects all outstanding equity awards made to each of the named executive officers that are outstanding at December 31, 2013. We currently grant stock-based awards pursuant to our 2010 Stock Incentive Plan (the 2010 Stock Plan ) and have outstanding awards under our 2001 Stock Incentive Plan (the 2001 Stock Plan ) and 2007 Stock Incentive Plan (the 2007 Stock Plan ).

Name	Grant Date <sup>(1)</sup>	Number of Securities Underlying Unexercised Options Exercisable	Number of Securities Underlying Unexercised Options Unexercisable	Option Exercise Price (\$)	Option Expiration Date
Jeffrey Riley	02/03/12 <sup>(2)</sup>	458,333	291,667	\$2.30	02/03/22
	11/17/11	100,000		\$0.49	11/17/18
	01/05/11	25,000		\$1.50	01/05/18
	12/01/10	8,333		\$0.74	12/01/20
	03/03/10	25,000		\$0.87	03/03/20
C. Evan Ballantyne	02/06/12 <sup>(2)</sup>	259,722	165,278	\$2.47	02/06/22

- (1) Unless otherwise noted, options vest immediately on the date of grant.  
(2) These options will vest pro rata, on a monthly basis, over 36 months.

**Equity Compensation Plan Information**

The following table sets forth information about the securities authorized for issuance under our equity compensation plans for the fiscal year ended December 31, 2013.

Plan Category	Number of Securities to be Issued Upon Exercise of Outstanding Options	Weighted-Average Exercise Price of Outstanding Options	Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans
Equity compensation plans approved by stockholders:			
2001 Stock Incentive Plan	953,507	\$1.44	60,190
2007 Stock Incentive Plan	443,573	\$1.55	533,101
2010 Stock Incentive Plan	2,512,500	\$1.95	3,484,030
Equity compensation plans not approved by stockholder	N/A	N/A	N/A
Total	3,909,580	\$1.78	4,077,321



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## INFORMATION CONCERNING EXECUTIVE OFFICERS WHO ARE NOT DIRECTORS

Background information about our executive officers who are not nominees for election as directors is set forth below.

**C. Evan Ballantyne.** Mr. Ballantyne joined Synthetic Biologics as its Chief Financial Officer in February 2012. He also serves as the Company's Corporate Secretary and Treasurer. From 2006 until its acquisition in April 2011, Mr. Ballantyne served as Executive Vice President and Chief Financial Officer of Clinical Data, Inc., a publicly-traded biopharmaceutical company which was acquired by Forest Laboratories, Inc. for \$1.3 billion. While at Clinical Data, he was instrumental in leading corporate financings totaling approximately \$220 million as well as a number of acquisition and divestitures totaling \$116 million. Mr. Ballantyne has also served as Chief Financial Officer of a number of private medical technology companies, including Avedro and ZymeQuest. Earlier in his career, he served as Vice President and Chief Operating Officer for ACNielsen Europe Middle East & Africa and held the Chief Financial Officer position as well for two years. There, Mr. Ballantyne was responsible for all aspects of operations, strategic planning and finance in more than 45 countries for a corporation with 9,700 employees. He also helped lead the company's successful ISO certification process. He began his career at the Dun & Bradstreet Corporation where he held several senior financial positions. Mr. Ballantyne earned a BA from the University of Western Ontario, and took a post-graduate degree in Business Administration with Honors from the University of Windsor.

### Employment Agreements

On February 3, 2012, Jeffrey Riley was appointed to serve as our Chief Executive Officer and President, and on February 6, 2012, C. Evan Ballantyne was appointed to serve as our Chief Financial Officer. The following are summaries of the agreements that were executed in connection with these appointments.

#### Jeffrey Riley Employment Agreement

Effective February 3, 2012, in connection with his appointment, Mr. Riley entered into a three-year employment agreement with us (the "Riley Employment Agreement"). Pursuant to the Riley Employment Agreement, as recently amended, Mr. Riley will be entitled to an annual base salary of \$385,000 and will be eligible for discretionary performance and transactional bonus payments. Additionally, pursuant to the Riley Employment Agreement, Mr. Riley was granted options to purchase 750,000 shares of our common stock with an exercise price equal to our per share market price on the date of issue. These options will vest pro rata, on a monthly basis, over 36 months. The Riley Employment Agreement also includes confidentiality obligations and inventions assignments by Mr. Riley.

If Mr. Riley's employment is terminated for any reason, he or his estate as the case may be, will be entitled to receive the accrued base salary, vacation pay, expense reimbursement and any other entitlements accrued by him to the extent not previously paid (the "Accrued Obligations"); provided, however, that if his employment is terminated (1) by us without Just Cause (as defined in the Riley Employment Agreement) or by Mr. Riley for Good Reason (as defined in the Riley Employment Agreement) then in addition to paying the Accrued Obligations, (x) we shall continue to pay his then current base salary and continue to provide benefits at least equal to those which were provided at the time of termination for a period of six months and (y) he shall have the right to exercise any vested options until the earlier of the expiration of the severance or the expiration of the term of the option, or (2) by reason of his death or Disability (as defined in the Riley Employment Agreement), then in addition to paying the Accrued Obligations, he would have the right to exercise any vested options until the expiration of the term of the option. In such event, if Mr. Riley

commenced employment with another employer and becomes eligible to receive medical or other welfare benefits under another employer-provided plan, the medical and other welfare benefits to be provided by us as described herein will terminate.

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**C. Evan Ballantyne Employment Agreement**

Effective February 6, 2012, C. Evan Ballantyne was appointed our Chief Financial Officer. In connection with his appointment, Mr. Ballantyne entered into a three-year employment agreement with us (the Ballantyne Employment Agreement ). Pursuant to the Ballantyne Employment Agreement, as recently amended, Mr. Ballantyne will be entitled to an annual base salary of \$335,000 and will be eligible for discretionary performance and transactional bonus payments. Additionally, pursuant to the Ballantyne Employment Agreement, Mr. Ballantyne was granted options to purchase 425,000 shares of our common stock with an exercise price equal to our per share market price on the date of issue. These options will vest pro rata, on a monthly basis, over 36 months. The Ballantyne Employment Agreement also includes confidentiality obligations and inventions assignments by Mr. Ballantyne.

If Mr. Ballantyne's employment is terminated for any reason, he or his estate as the case may be, will be entitled to receive the accrued base salary, vacation pay, expense reimbursement and any other entitlements accrued by him to the extent not previously paid (the Accrued Obligations ); provided, however, that if his employment is terminated (1) by us without Just Cause (as defined in the Ballantyne Employment Agreement) or by Mr. Ballantyne for Good Reason (as defined in the Ballantyne Employment Agreement) then in addition to paying the Accrued Obligations: (i) we shall continue to pay his then current base salary and continue to provide benefits at least equal to those which were provided at the time of termination for a period of six months and (ii) he shall have the right to exercise any vested options until the earlier of the expiration of the severance or the expiration of the term of the option, or (2) by reason of his death or Disability (as defined in the Ballantyne Employment Agreement), then in addition to paying the Accrued Obligations, he would have the right to exercise any vested options until the expiration of the term of the option. In such event, if Mr. Ballantyne, commenced employment with another employer and becomes eligible to receive medical or other welfare benefits under another employer-provided plan, the medical and other welfare benefits to be provided by us as described herein will terminate.

**CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS**

Pursuant to our charter, our Audit Committee shall review on an on-going basis for potential conflicts of interest, and approve if appropriate, all our Related Party Transactions as required by Section 120 of the NYSE MKT Company Guide. For purposes of the Audit Committee Charter, Related Party Transactions shall mean those transactions required to be disclosed pursuant to SEC Regulation S-K, Item 404.

From January 2, 2012 through September 30, 2012, Steve H. Kanzer was engaged as our Interim Director of our Biologics Division. In connection with his appointment, Mr. Kanzer entered into a six month employment agreement with us on a full time basis (the Kanzer Employment Agreement ), which may be extended for an additional three months upon consent of the parties. Pursuant to the Kanzer Employment Agreement, Mr. Kanzer was entitled to a base salary of \$90,000 for the term, healthcare coverage pursuant to our healthcare insurance plan, reimbursement for certain relocation expenses and rent expense. The Kanzer Employment Agreement also included confidentiality obligations and inventions assignments by Mr. Kanzer. Mr. Kanzer was not entitled to severance pay upon termination of his employment. On October 1, 2012, the Kanzer Employment Agreement was amended (the Amended Kanzer Employment Agreement ) and Mr. Kanzer was engaged as our Licensing Associate. In connection with this appointment, Mr. Kanzer entered into a two year agreement with us on a part time basis (2.5 days per week). Pursuant to the Amended Kanzer Employment Agreement, Mr. Kanzer was entitled to a base salary of \$150,000 for the term and healthcare coverage pursuant to our healthcare insurance plans. Effective December 5, 2013, Mr. Kanzer was appointed CEO and President of our majority owned subsidiary, Synthetic Biomics, Inc. In connection with this



appointment, Mr. Kanzer was entitled to an annual base salary of \$195,000 for the term and healthcare coverage pursuant to our healthcare insurance plans. On February 26, 2014, Mr. Kanzer resigned as CEO and President of Synthetic Biomics, Inc. and as a member of our Board of Directors. On May 2, 2014, Mr. Kanzer filed a Form 4 with the SEC which disclosed that as of April 30, 2014, he beneficially owned less than 5% of the outstanding shares of our common stock and he is no longer required to file reports regarding changes in his beneficial ownership.

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## **AVAILABILITY OF REPORT ON FORM 10-K**

Our audited consolidated financial statements are included in our Annual Report on Form 10-K for the fiscal year ending December 31, 2013 filed with the SEC, 100 F Street, N.E., Washington, D.C. 20549. Upon your written request, we will provide to you a complimentary copy of our 2013 Annual Report on Form 10-K as filed with the Securities and Exchange Commission. Your request should be mailed to Synthetic Biologics, Inc., Attention: Corporate Secretary, Synthetic Biologics, Inc., Administrative Office, 617 Detroit Street, Suite 100, Ann Arbor, Michigan 48104. A complimentary copy may also be obtained at the internet website maintained by the Securities and Exchange Commission at [www.sec.gov](http://www.sec.gov), and by visiting our internet website at [www.syntheticbiologics.com](http://www.syntheticbiologics.com) and clicking on Investors, then on SEC Filings.

## **NOTICE REGARDING DELIVERY OF STOCKHOLDER DOCUMENTS ( HOUSEHOLDING INFORMATION)**

The SEC has adopted rules that permit companies and intermediaries (e.g., brokers) to satisfy the delivery requirements for proxy statements with respect to two or more stockholders sharing the same address by delivering a single proxy statement addressed to those stockholders. This process, which is commonly referred to as householding, potentially means extra convenience for stockholders and cost savings for companies and intermediaries. A number of brokers and other intermediaries with account holders who are our stockholders may be householding our stockholder materials, including this proxy statement. In that event, a single proxy statement will be delivered to multiple stockholders sharing an address unless contrary instructions have been received from the affected stockholders. Once you have received notice from your broker or other intermediary that it will be householding communications to your address, householding will continue until you are notified otherwise or until you revoke your consent, which is deemed to be given unless you inform the broker or other intermediary otherwise when you receive or received the original notice of householding. If, at any time, you no longer wish to participate in householding and would prefer to receive a separate proxy statement, please notify your broker or other intermediary to discontinue householding and direct your written request to receive a separate proxy statement to us at: Synthetic Biologics, Inc., Attention: Corporate Secretary, Synthetic Biologics, Inc., Administrative Office, 617 Detroit Street, Suite 100, Ann Arbor, Michigan 48104 or by calling us at (734) 332-7800. Stockholders who currently receive multiple copies of the proxy statement at their address and would like to request householding of their communications should contact their broker or other intermediary.

## **STOCKHOLDER PROPOSALS**

Stockholder proposals which are intended to be presented at the 2015 Annual Meeting of Stockholders pursuant to SEC Rule 14a-8 must be received by the Company by January 12, 2015.

A stockholder who intends to present business, including the election of a director, at the 2015 Annual Meeting of Stockholders other than pursuant to Rule 14a-8, must comply with the requirements set forth in our Amended and Restated Bylaws. Stockholders should consult our Amended and Restated Bylaws to ensure that all of the specific requirements of such notice are met.

## Available Information on Corporate Governance and SEC Filings

Through our website (*www.syntheticbiologics.com*), we make available, free of charge, our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, all amendments to those reports, and other filings with the Securities and Exchange Commission, as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. We also make the following documents available on our website: the Audit Committee Charter; the Compensation Committee Charter; the Nominations Committee Charter; our Code of Conduct; and our Code of Ethics for Financial Management. You may also obtain a copy of any of the foregoing documents, free of charge, if you submit a written request to Synthetic Biologics, Inc., Attention: Corporate Secretary, Synthetic Biologics, Inc., Administrative Office, 617 Detroit Street, Suite 100, Ann Arbor, Michigan 48104.

No person is authorized to give any information or make any representation other than that contained in this proxy statement, and if given or made, such information may not be relied upon as having been authorized.

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**SYNTHETIC BIOLOGICS, INC.  
THIS PROXY IS SOLICITED BY THE BOARD OF  
DIRECTORS  
IN CONNECTION WITH THE 2014 ANNUAL MEETING  
OF STOCKHOLDERS  
TO BE HELD AT 9:00 A.M. (EASTERN TIME) ON JUNE  
10, 2014**

PROXY: JEFFREY RILEY AND C. EVAN BALLANTYNE, or either of them, are hereby appointed by the undersigned as attorneys and proxies with full power of substitution, to vote at the 2014 Annual Meeting of Stockholders of Synthetic Biologics, Inc. and at any adjournment(s) or postponement(s) of that meeting.

WITH RESPECT TO ANY MATTER THAT SHOULD PROPERLY COME BEFORE THE ANNUAL MEETING THAT IS NOT SPECIFIED HEREIN, THIS PROXY, WILL BE VOTED IN THE DISCRETION OF THE PROXY HOLDER.

PLEASE SIGN AND DATE AND RETURN PROMPTLY

**THE BOARD OF DIRECTORS OF SYNTHETIC  
BIOLOGICS, INC.  
RECOMMENDS THAT YOU VOTE  
FOR ALL NOMINEES LISTED IN PROPOSAL 1  
and  
FOR PROPOSAL 2**

**PROPOSAL 1.** Election of the following director nominees to serve for the following year and until his successor is elected: Nominees are: Jeffrey J. Kraws, Jeffrey Riley, Scott L. Tarriff and Jeffrey Wolf.

FOR ALL NOMINEES

WITHHOLD AUTHORITY  
FOR ALL NOMINEES

WITHHELD FOR THE  
FOLLOWING ONLY:  
(WRITE THE NAME(S) OF  
THE NOMINEE(S) IN  
THE SPACE BELOW)

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**PROPOSAL 2.** Ratification of the selection of BDO USA, LLP as our independent registered public accounting firm for our fiscal year ending December 31, 2014.

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FOR  
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AGAINST  
o

ABSTAIN  
o

Dated:

Signature(s) of Stockholder(s)

Title:

Please mark, date and sign exactly as your name appears on this proxy card and return in the enclosed envelope. If acting as executor, administrator, trustee, guardian, etc., you should so indicate when signing. If the signer is a corporation, please sign the full corporate name, by a duly authorized officer. If shares are held jointly, each stockholder named should sign.

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