

## PATENT ASSIGNMENT COVER SHEET

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<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
MICHAEL KALELKO	03/04/2016
SHEILA CONNELLY	03/04/2016
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	SYNTHETIC BIOLOGICS, INC.
<b>Street Address:</b>	9605 MEDICAL CENTER DR.
<b>Internal Address:</b>	SUITE 270
<b>City:</b>	ROCKVILLE
<b>State/Country:</b>	MARYLAND
<b>Postal Code:</b>	20850
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
Application Number:	16720999
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(202)739-3001
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<b>Email:</b>	patents@morganlewis.com, amanda.mcintyre@morganlewis.com
<b>Correspondent Name:</b>	MORGAN, LEWIS, & BOCKIUS LLP (B0)
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<b>ATTORNEY DOCKET NUMBER:</b>	SYN-010D2/112492-5010
<b>NAME OF SUBMITTER:</b>	EMILY BATES
<b>SIGNATURE:</b>	/Emily Bates/
<b>DATE SIGNED:</b>	12/20/2019
<b>Total Attachments: 3</b>	
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**PATENT APPLICATION**  
**Assignment**

For good and valuable consideration, the receipt of which is hereby acknowledged, we, the undersigned, inventors:

**MICHAEL KALEKO**

**SHEILA CONNELLY**

hereinafter referred to as "Assignors"

have made an invention(s) (the "Invention(s)") set forth in applications for patent entitled "CARBAPENEMASES FOR USE WITH ANTIBIOTICS FOR THE PROTECTION OF THE INTESTINAL MICROBIOME", and which is filed as:

- a United States non-provisional application bearing Application No. 15/051,187 and filed February 23, 2016; and
- an International Patent Application bearing Application No. PCT/US16/19129 filed February 23, 2016;

Do hereby sell, assign and transfer to Synthetic Biologics, Inc., a corporation having a place of business at 9605 Medical Center Dr., Suite 270, Rockville, MD 20850 its successors, assigns, and legal representatives, the full and exclusive right to said invention and said application and to any and all inventions described in said invention and said application and to any and all inventions described in said application for the United States, its territorial possessions and all foreign countries, and the entire right, title and interest in and to any and all Letters Patent which may be granted therefor in the United States, its territorial possessions and all foreign countries; and in and to any and all provisionals, continuations-in-part, continuations, divisions, substitutes, reissues, extensions thereof, and all other applications for Letters Patent relating thereto which have been or shall be filed in the United States, its territorial possession and/or any foreign countries, and all rights, together with all priority rights, under any of the international conventions, unions, agreements, act, and treaties, including all future conventions, unions, agreements, acts, and treaties;

Agree(s) that Synthetic Biologics, Inc., hereinafter referred to as Assignee, may apply for and receive Letters Patent for said invention and said inventions, hereinafter referred to as said invention, in its own name, in the United States, its territorial possessions, and all foreign countries; and that, when requested to carry out in good faith the intent and purpose of this assignment, at the expense of said Assignee, its successors, assigns and legal representatives, the undersigned will execute all continuations-in-part, continuations, divisions, substitutes, reissues, extensions thereof, execute all rightful oaths, assignments, powers of attorney and other papers, testify in any legal or quasi legal proceedings; communicate to said Assignee, its successors, assigns or legal representatives all facts known to the undersigned relating to said invention and the history thereof; and generally do everything possible which said Assignee, its successors,

assigns, or legal representatives shall consider desirable for aiding in securing, maintaining and enforcing proper patent protection for said invention and for vesting title to said invention and all applications for patents on said invention in said Assignee, successors, assigns, or legal representatives; and

Covenant with said Assignee, its successors, assigns, or legal representatives that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been made to others by the undersigned, and that full right to convey the same as herein expressed is possessed by the undersigned.

Assignor(s) hereby grant(s) the following individuals the power to insert on this Assignment any further identification which may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document:

**Morgan, Lewis & Bockius LLP**

Assignor(s) acknowledge(s) an obligation of assignment of this invention to Assignee at the time the invention was made.

IN THE TESTIMONY WHEREOF we have hereunto set our signatures on the date indicated below.

  
MICHAEL KALEKO

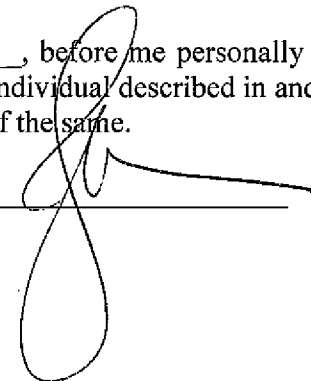
Date: 03/04/16

United States of America )  
State of MARYLAND ) ss.:  
County of MONTGOMERY

Synthetic Biologics  
9605 Medical Center Drive  
Suite 270  
Rockville, Maryland 20850  
Main: 301-417-4364

On this 4TH day of MARCH, 2016, before me personally came MICHAEL KALEKO, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of the same.

**JENNIFER C. BLESSING**  
NOTARY PUBLIC  
FREDERICK COUNTY  
MARYLAND  
MY COMMISSION EXPIRES DEC. 9, 2019

  
Notary Public

  
SHEILA CONNELLY

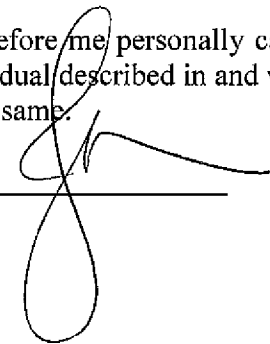
Date: March 4, 2016

Synthetic Biologics  
9605 Medical Center Drive  
Suite 270  
Rockville, Maryland 20850  
Main: 301-417-4364

United States of America )  
State of MARYLAND ) ss.:  
County of MONTGOMERY

On this 4TH day of MARCH, 2016, before me personally came SHEILA CONNELLY, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of the same.

**JENNIFER C. BLESSING**  
NOTARY PUBLIC  
FREDERICK COUNTY  
MARYLAND  
MY COMMISSION EXPIRES DEC. 9, 2019

  
\_\_\_\_\_  
Notary Public