

## 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>                        |
| SERGEY SHMAKOV  | 06/30/2016                                   |
| <b>RECEIVING PARTY DATA</b>   |  |
| <b>Name:</b>  | SKOLKOVO INSTITUTE OF SCIENCE AND TECHNOLOGY |
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| <b>Internal Address:</b>  | BUILDING 3                                   |
| <b>City:</b>  | MOSCOW                                       |
| <b>State/Country:</b>   | RUSSIAN FEDERATION                           |
| <b>Postal Code:</b>   | 143026                                       |
| <b>PROPERTY NUMBERS Total: 1</b>  |  |
| <b>Property Type</b>  | <b>Number</b>                                |
| <b>Application Number:</b>  | 15482603                                     |
| <b>CORRESPONDENCE DATA</b>  |  |
| <b>Fax Number:</b>  | (212)407-7799                                |
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| <b>Email:</b>   | ipdocketny@vedderprice.com                   |
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| <b>ATTORNEY DOCKET NUMBER:</b>  | 47627.04.2131                                |
| <b>NAME OF SUBMITTER:</b>   | JOSHUA HAMLET                                |
| <b>SIGNATURE:</b>   | /Joshua Hamlet/                              |
| <b>DATE SIGNED:</b>   | 04/26/2017                                   |
| <b>Total Attachments: 3</b>   |  |
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ASSIGNMENT

I, Sergey Shmakov, residing at: \_\_\_\_\_, being the inventor(s) of certain improvements in the international application entitled: **NOVEL CRISPR ENZYMES AND SYSTEMS** for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, hereby assign unto **Autonomous Non-Profit Organization for Higher Education "SKOLKOVO INSTITUTE OF SCIENCE AND TECHNOLOGY" (SKOLTECH)** having a place of business at Skolkovo Innovation Centre, Nobel Street, Building 3, Moscow, 143026, Russia, its successors and assigns (1) the entire right, title and interest in all countries throughout the world in and to any and all of my inventions and discoveries in my United States Provisional Application Nos. 62/181,675 filed June 18, 2015, 62/285,349, filed October 22, 2015, 62/296,522 filed February 17, 2016 and 62/320,231 filed April 8, 2016 and a PCT International Application filed under the Patent Cooperation Treaty in the PCT United States Receiving Office (ROIUS) on June 17, 2016 identified as International Application No. PCT/US16/38258, and designating all PCT member countries/states, as well as in any renewals, revivals, reissues, reexaminations, extensions, continuations and divisions thereof, and any substitute applications therefore; (2) the full and complete right to file patent applications in the name of **SKOLTECH**, or their designee's election, on the aforesaid inventions, discoveries and applications in all countries of the world; (3) the entire right title and interest in and to any Letters Patent which may issue on the aforesaid inventions, discoveries and applications in any country of the world and any renewals, revivals, reissues, reexaminations and extensions thereof, and any patents of confirmation, registration and importation of the same; and (4) the entire right, title and interest in and to all Convention and Treaty Rights of all kinds thereon, including without limitation all rights of priority in any country of the world, in and to the following application(s):

United States Provisional Application No. 62/181,675 filed June 18, 2015;  
United States Provisional Application No. 62/285,349 filed October 22, 2015;  
United States Provisional Application No. 62/296,522 filed February 17, 2016; and  
United States Provisional Application No. 62/320,231 filed April 8, 2016, and all rights of priority in any country of the world deriving from the above-identified International Application.

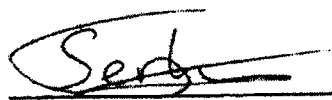
I hereby authorize and request the competent authorities to grant and to issue any and all such Letters Patent in any country throughout the world to **SKOLTECH** as the assignee of the entire right, title and interest therein, as fully and entirely as the same would have been held and enjoyed by me had this assignment, sale and transfer not been made.

I agree, at any time, upon the request of **SKOLTECH** to execute and to deliver to **SKOLTECH** any additional applications for patents for said inventions and discoveries, or any part or parts thereof, and any applications for patents of confirmation, registration and importation based on any Letters Patent issuing on said inventions, discoveries or applications, and divisions, continuations, renewals, revivals, reissues, reexaminations and extensions thereof.

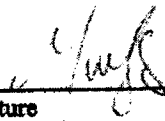
I further agree, at any time, upon request of **SKOLTECH**, to execute and to deliver to **SKOLTECH**, such additional documents, if any, as are necessary or desirable to secure patent protection on said inventions, discoveries and applications throughout all countries of the world, and otherwise to do what is necessary to give full effect to and to perfect any and all rights of **SKOLTECH**, under this Assignment, including the execution, delivery and procurement of any and all further documents evidencing this assignment, transfer and sale as may be necessary or desirable.

In testimony of which I have hereupon affixed my signature it is my intention that this Assignment instrument be effective, and all rights transferred herein shall be considered to have vested in **SKOLTECH** as from the June 18, 2015 filing date of the first filed United States Provisional Application No. 62/181,675 from which priority is hereby claimed.

06/30/2016  
Date

  
Sergey Shmakov

Witness 1  
06/30/2016  
Date

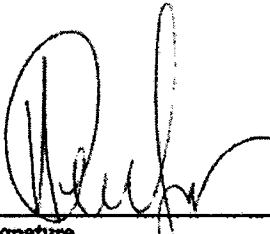
  
Signature

Sergey Vlyakhin  
Print Name

Patent  
47627.99.2131 / BI-2015/092

Witness 2

08/30/2016  
Date

  
\_\_\_\_\_  
Signature  
Igor Selzer  
Print Name

NEWYORK#427002.1