PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
MERCK LIFE SCIENCE GERMANY GMBH	01/23/2020

RECEIVING PARTY DATA

Name:	MERCK PATENT GMBH
Street Address:	FRANKFURTER STRASSE 250
City:	64293 DARMSTADT
State/Country:	GERMANY

PROPERTY NUMBERS Total: 1

Property Type	Number		
Application Number:	13108576		

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DATE SIGNED:	09/16/2020

Total Attachments: 5

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PATENT 506253693 REEL: 053783 FRAME: 0440

PATENT ASSIGNMENT

WHEREAS, Merck Life Science Germany GmbH, a limited liability company of Germany, having a place of business at Frankfurter Strasse 250, 64293 Darmstadt, Germany, (hereinafter "Assignor"), is the owner by a lawfully executed Assignment of all rights, title and interest in an invention(s), which invention(s) is described in an application(s) for Letters Patent, which application(s) are listed in the attached Schedule as may be amended from time-to-time; and

WHEREAS, Assignor and Merck Patent GmbH of Frankfurter Strasse 250, 64293 Darmstadt, Germany, a limited liability company organized and existing under the laws of Germany (hereinafter "Merck Patent") have entered into an agreement (hereinafter "Agreement") pursuant to which, the parties agree that the rights and interests of the Assignor in and to the invention, application(s) and Letters Patent therefor (hereinafter "Invention") shall be the same during the period that Merck Patent owns legal title to the Invention as Assignor's rights and interests were prior to this fiduciary transfer of the legal title to the Invention to Merck Patent and that the fiduciary transfer of the legal title to the Invention to Merck Patent shall not result in any person or entity, including but not limited to Merck Patent, acquiring all or any portion of the rights of the Assignor in and to the Invention. These rights include, but are not limited to, the Assignor's right to exploit the Invention in any manner that Assignor shall choose, the Assignor's right to receive and to control all of the revenues attributable to the exploitation of the Invention, and the Assignor's right to decide which entities, if any, shall be allowed to exploit the Invention and to negotiate and to decide the terms under which the Invention shall be made available for exploitation by any such entities; and

WHEREAS, the purpose of this Patent Assignment is to incorporate the aforementioned Invention into the Agreement.

Now, THEREFORE, pursuant to the above Agreement, the Assignor has assigned and transferred, and hereby assigns and transfers unto Merck Patent the worldwide title to the Invention, and the title to and under the application(s) and any and all Letters Patent(s) that may be granted on the application(s), any and all priority applications and Letters Patent thereof, any and all divisions or continuations thereof, any and all renewals, substitutes, reissues, reexaminations and extensions thereof, in the United States of America, in the territorial possessions of the United States of America, and equivalents thereto in any country foreign to the United States of America, including full right to claim for any such applications all benefits and priority rights under any applicable convention, the same to be held by Merck Patent for the enjoyment of Assignor, its lawful successors and assigns, as fully and entirely as the same would have been held by Assignor had this assignment not been made.

AND, Assignor hereby authorizes and requests the Commissioner of Patent and Trademarks of the United States of America and respective Patent Office officials in any country foreign to the United States of America to issue said Letters Patent to Merck Patent as the assignee of Assignor's title to and under the same, and Assignor hereby further authorizes Merck Patent to apply for Letters Patent in Assignor's name or in its own name, as Merck Patent in its sole discretion sees fit, utilizing any benefits which may exist under any International Agreement, in any country.

AND, Assignor does hereby agree to execute any lawful document and to testify as to any material fact or thing which Merck Patent may deem necessary in order to secure unto Merck Patent the title to said Invention or any part thereof, the same to be done without any further consideration. And Merck Patent does hereby agree to execute any lawful document and to testify as to any material fact or thing which

PATENT REEL: 053783 FRAME: 0441 thereof, the same to be done without any further consideration. IN TESTIMONY WHEREOF, I hereby set my hand behalf of Merck Life Science Germany GmbH, this _____ day Signature: Dr. Stefan Horstmann Name and Title: Dr. Wolfgang Losert Witnesses: I attest that on this day, the above person on behalf of Merck Life Science Germany GmbH did sign above in my presence of his/her own free will. Witness Signature: Witness Name: Pia Reinhart Date: 22.01.2020 Witness Signature: \ Witness Name: Claudia Spengler Date: In Testimony Whereof, I hereby set my hand behalf of Merck Patent GmbH this _____ day of Dr. Peter Selg Name and Title: Dr. Sabine Schoen Senior Director Director Witnesses: I attest that on this day, the above person on behalf of Merck Patent GmbH did sign above in my presence of his/her own free will. Witness Signature: ___ Witness Name: Martina Bopp Date: ______ 2%_OA_20 Witness Signature: HB William Witness Name: Heike Blümler Date: <u>28.0/20</u>

Assignor may deem necessary in order to secure unto Assignor the rights to said Invention or any part

SCHEDULE

Dated: September 16, 2020

Application No.	Country	Title	Filing Date	Inventor(s)
11721929.5	BE	STIMULUS RESPONSIVE POLYMERS FOR THE PURIFICATION OF BIOMOLECULES	20110516	JABER Jad, MOYA Wilson, HAMZIK James, BOUDIF Arezki , ZHANG Yu, SOICE Neil , CHARKOUDIAN John, SINGH Nripen
BR112012028977-2	BR	STIMULUS RESPONSIVE POLYMERS FOR THE PURIFICATION OF BIOMOLECULES	20110516	JABER Jad, MOYA Wilson, HAMZIK James, BOUDIF Arezki , ZHANG Yu, SOICE Neil , CHARKOUDIAN John, SINGH Nripen
11721929.5	СН	STIMULUS RESPONSIVE POLYMERS FOR THE PURIFICATION OF BIOMOLECULES	20110516	JABER Jad, MOYA Wilson, HAMZIK James, BOUDIF Arezki , ZHANG Yu, SOICE Neil , CHARKOUDIAN John, SINGH Nripen
201180024500.3	CN	STIMULUS RESPONSIVE POLYMERS FOR THE PURIFICATION OF BIOMOLECULES	20110516	JABER Jad, MOYA Wilson, HAMZIK James, BOUDIF Arezki , ZHANG Yu, SOICE Neil , CHARKOUDIAN John, SINGH Nripen
201710282087.X	CN	STIMULUS RESPONSIVE POLYMERS FOR THE PURIFICATION OF BIOMOLECULES	20170426	JABER Jad, MOYA Wilson, HAMZIK James, BOUDIF Arezki , ZHANG Yu, SOICE Neil , CHARKOUDIAN John, SINGH Nripen
11721929.5	DE	STIMULUS RESPONSIVE POLYMERS FOR THE PURIFICATION OF BIOMOLECULES	20110516	JABER Jad, MOYA Wilson, HAMZIK James, BOUDIF Arezki , ZHANG Yu, SOICE Neil , CHARKOUDIAN John, SINGH Nripen
11721929.5	DK	STIMULUS RESPONSIVE POLYMERS FOR THE PURIFICATION OF BIOMOLECULES	20110516	JABER Jad, MOYA Wilson, HAMZIK James, BOUDIF Arezki , ZHANG Yu, SOICE Neil , CHARKOUDIAN John, SINGH Nripen
11721929.5	EP	STIMULUS RESPONSIVE POLYMERS FOR THE PURIFICATION OF BIOMOLECULES	20110516	JABER Jad, MOYA Wilson, HAMZIK James, BOUDIF Arezki , ZHANG Yu, SOICE Neil , CHARKOUDIAN John, SINGH Nripen
19191118.9	EP	STIMULUS RESPONSIVE POLYMERS FOR THE PURIFICATION OF BIOMOLECULES	20190809	JABER Jad, MOYA Wilson, HAMZIK James, BOUDIF Arezki , ZHANG Yu, SOICE Neil , CHARKOUDIAN John, SINGH Nripen
11721929.5	ES	STIMULUS RESPONSIVE POLYMERS FOR THE PURIFICATION OF BIOMOLECULES	20110516	JABER Jad, MOYA Wilson, HAMZIK James, BOUDIF Arezki , ZHANG Yu, SOICE Neil , CHARKOUDIAN John, SINGH Nripen

11721929.5	FR	STIMULUS RESPONSIVE POLYMERS FOR THE PURIFICATION OF BIOMOLECULES	20110516	JABER Jad, MOYA Wilson, HAMZIK James, BOUDIF Arezki , ZHANG Yu, SOICE Neil , CHARKOUDIAN John, SINGH Nripen
11721929.5	GB	STIMULUS RESPONSIVE POLYMERS FOR THE PURIFICATION OF BIOMOLECULES	20110516	JABER Jad, MOYA Wilson, HAMZIK James, BOUDIF Arezki , ZHANG Yu, SOICE Neil , CHARKOUDIAN John, SINGH Nripen
11721929.5	IE	STIMULUS RESPONSIVE POLYMERS FOR THE PURIFICATION OF BIOMOLECULES	20110516	JABER Jad, MOYA Wilson, HAMZIK James, BOUDIF Arezki , ZHANG Yu, SOICE Neil , CHARKOUDIAN John, SINGH Nripen
9884/DELNP/2012	IN	STIMULUS RESPONSIVE POLYMERS FOR THE PURIFICATION OF BIOMOLECULES	20110516	JABER Jad, MOYA Wilson, HAMZIK James, BOUDIF Arezki , ZHANG Yu, SOICE Neil , CHARKOUDIAN John, SINGH Nripen
11721929.5	IT	STIMULUS RESPONSIVE POLYMERS FOR THE PURIFICATION OF BIOMOLECULES	20110516	JABER Jad, MOYA Wilson, HAMZIK James, BOUDIF Arezki , ZHANG Yu, SOICE Neil , CHARKOUDIAN John, SINGH Nripen
2013-511261	JP	STIMULUS RESPONSIVE POLYMERS FOR THE PURIFICATION OF BIOMOLECULES	20110516	JABER Jad, MOYA Wilson, HAMZIK James, BOUDIF Arezki , ZHANG Yu, SOICE Neil , CHARKOUDIAN John, SINGH Nripen
2014-143860	JP	STIMULUS RESPONSIVE POLYMERS FOR THE PURIFICATION OF BIOMOLECULES	20140714	JABER Jad, MOYA Wilson, HAMZIK James, BOUDIF Arezki , ZHANG Yu, SOICE Neil , CHARKOUDIAN John, SINGH Nripen
2015-215483	JP	STIMULUS RESPONSIVE POLYMERS FOR THE PURIFICATION OF BIOMOLECULES	20151102	JABER Jad, MOYA Wilson, HAMZIK James, BOUDIF Arezki , ZHANG Yu, SOICE Neil , CHARKOUDIAN John, SINGH Nripen
10-2012-7031007	KR	STIMULUS RESPONSIVE POLYMERS FOR THE PURIFICATION OF BIOMOLECULES	20110516	JABER Jad, MOYA Wilson, HAMZIK James, BOUDIF Arezki , ZHANG Yu, SOICE Neil , CHARKOUDIAN John, SINGH Nripen
10-2014-7034148	KR	STIMULUS RESPONSIVE POLYMERS FOR THE PURIFICATION OF BIOMOLECULES	20141204	JABER Jad, MOYA Wilson, HAMZIK James, BOUDIF Arezki , ZHANG Yu, SOICE Neil , CHARKOUDIAN John, SINGH Nripen
10-2016-7000047	KR	STIMULUS RESPONSIVE POLYMERS FOR THE PURIFICATION OF BIOMOLECULES	20160104	JABER Jad, MOYA Wilson, HAMZIK James, BOUDIF Arezki , ZHANG Yu, SOICE Neil , CHARKOUDIAN John, SINGH Nripen
11721929.5	NL	STIMULUS RESPONSIVE POLYMERS FOR THE PURIFICATION OF BIOMOLECULES	20110516	JABER Jad, MOYA Wilson, HAMZIK James, BOUDIF Arezki , ZHANG Yu, SOICE Neil , CHARKOUDIAN John, SINGH Nripen

201207532-1	SG	STIMULUS RESPONSIVE POLYMERS FOR THE PURIFICATION OF BIOMOLECULES	20110516	JABER Jad, MOYA Wilson, HAMZIK James, BOUDIF Arezki , ZHANG Yu, SOICE Neil , CHARKOUDIAN John, SINGH Nripen
10201503525T	SG	STIMULUS RESPONSIVE POLYMERS FOR THE PURIFICATION OF BIOMOLECULES	20150505	JABER Jad, MOYA Wilson, HAMZIK James, BOUDIF Arezki , ZHANG Yu, SOICE Neil , CHARKOUDIAN John, SINGH Nripen
10201804385Y	SG	STIMULUS RESPONSIVE POLYMERS FOR THE PURIFICATION OF BIOMOLECULES	20180523	JABER Jad, MOYA Wilson, HAMZIK James, BOUDIF Arezki , ZHANG Yu, SOICE Neil , CHARKOUDIAN John, SINGH Nripen
61/395,769	US	STIMULUS RESPONSIVE POLYMERS FOR THE PURIFICATION OF BIOMOLECULES	20100517	JABER Jad & MOYA Wilson
13/108,576	US	STIMULUS RESPONSIVE POLYMERS FOR THE PURIFICATION OF BIOMOLECULES	20110516	JABER Jad, MOYA Wilson, HAMZIK James, BOUDIF Arezki , ZHANG Yu, SOICE Neil , CHARKOUDIAN John, SINGH Nripen
14/183,791	US	STIMULUS RESPONSIVE POLYMERS FOR THE PURIFICATION OF BIOMOLECULES	20140219	JABER Jad, MOYA Wilson, HAMZIK James, BOUDIF Arezki , ZHANG Yu, SOICE Neil , CHARKOUDIAN John, SINGH Nripen
14/940,864	US	STIMULUS RESPONSIVE POLYMERS FOR THE PURIFICATION OF BIOMOLECULES	20151113	JABER Jad, MOYA Wilson, HAMZIK James, BOUDIF Arezki , ZHANG Yu, SOICE Neil , CHARKOUDIAN John, SINGH Nripen
PCT/US2011/036648	WO	STIMULUS RESPONSIVE POLYMERS FOR THE PURIFICATION OF BIOMOLECULES	20110516	JABER Jad, MOYA Wilson, HAMZIK James, BOUDIF Arezki , ZHANG Yu, SOICE Neil , CHARKOUDIAN John, SINGH Nripen