

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT5333036

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
THADDAEUS WEBSTER	11/29/2018
BRIAN HADLEY	11/29/2018
CARRIE MASON	11/29/2018
SESHU TUMMALA	11/26/2018
YONATAN LEVINSON	12/05/2018
NICHOLAS UTH	11/29/2018
PANKAJ SINHA	11/26/2018
EYTAN ABRAHAM	11/25/2018
COLIN JAQUES	11/22/2018
RUTH CHRISTINE ROWLAND JONES	11/30/2018
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	LONZA LTD.
<b>Street Address:</b>	LONZASTRASSE
<b>City:</b>	VISP
<b>State/Country:</b>	SWITZERLAND
<b>Postal Code:</b>	3930
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
Application Number:	16152950
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(864)233-7342
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i>	
<b>Phone:</b>	864-271-1592
<b>Email:</b>	USDOCKETING@DORITY-MANNING.COM
<b>Correspondent Name:</b>	DORITY & MANNING, P.A.
<b>Address Line 1:</b>	POST OFFICE BOX 1449
<b>Address Line 4:</b>	GREENVILLE, SOUTH CAROLINA 29602-1449
<b>ATTORNEY DOCKET NUMBER:</b>	LZA-117A

<b>NAME OF SUBMITTER:</b>	TIMOTHY A. CASSIDY
<b>SIGNATURE:</b>	/Timothy A. Cassidy/
<b>DATE SIGNED:</b>	01/18/2019
<b>Total Attachments: 11</b> source=LZA117AAssignment#page1.tif source=LZA117AAssignment#page2.tif source=LZA117AAssignment#page3.tif source=LZA117AAssignment#page4.tif source=LZA117AAssignment#page5.tif source=LZA117AAssignment#page6.tif source=LZA117AAssignment#page7.tif source=LZA117AAssignment#page8.tif source=LZA117AAssignment#page9.tif source=LZA117AAssignment#page10.tif source=LZA117AAssignment#page11.tif	

**ASSIGNMENT OF WORLDWIDE RIGHTS**

**WHEREAS, we, THADDAEUS WEBSTER, residing in Rollinsford, New Hampshire, BRIAN HADLEY, residing in Dover, New Hampshire, CARRIE MASON, residing in Brentwood, New Hampshire, SESHU TUMMALA, residing in Newburyport, Massachusetts, YONATAN LEVINSON, residing in Silver Spring, Maryland, NICHOLAS UTH, residing in Washington, D.C., PANKAJ SINHA, residing in Alpharetta, Georgia, and EYTAN ABRAHAM, residing in Potomac, Maryland, as assignors, have made an invention entitled**

**"AUTOMATED CONTROL OF CELL CULTURE USING RAMAN SPECTROSCOPY"**

**as described in a patent application for U.S. Letters Patent bearing U.S. Serial No. 16/152,950, which was filed in the U.S. Patent and Trademark Office on October 5, 2018; and**

**WHEREAS, LONZA LTD., Lonzastrasse, 3930, Visp, Switzerland, as assignee, is desirous of securing the entire right, title and interest in and to this invention in all countries throughout the world, and in and to the application for United States Letters Patent on this invention and the Letters Patent to be issued upon this application;**

**NOW, THEREFORE, be it known that for good and valuable consideration the receipt of which from assignee is hereby acknowledged, we, as assignors, have assigned, transferred, and set over, and do hereby assign, transfer, and set over unto the assignee, its lawful successors and assigns, our entire right, title, and interest in and to this invention and this application, and all divisions, and continuations thereof, and all Letters Patent of the United States which may be granted thereon, and all reissues thereof, and all rights to claim priority on the basis of such applications, and all applications for Letters Patent which may hereafter be filed for this invention in any foreign country and all Letters Patent which may be granted on this invention in any foreign country, and all extensions, renewals, and reissues thereof, and all rights to claim priority on the basis of such applications, and we hereby authorize and request the Commissioner for Patents of the United States and any official of any foreign country whose duty it is to issue patents on applications as described above, to issue all**

Letters Patent for this invention to assignee, its successors and assigns, in accordance with the terms of this Agreement.

**AND, WE HEREBY** covenant that we have the full right to convey the interest assigned by this Assignment, and we have not executed, and will not execute any agreement in conflict with this Assignment;

**AND, WE HEREBY** further covenant and agree that we will, without further consideration, communicate with assignee, its successors and assigns, any facts known to us respecting this invention, and testify in any legal proceeding, sign all lawful papers when called upon to do so, execute and deliver any and all papers that may be necessary or desirable to perfect the title of this invention in said assignee, its successors and assigns, execute all divisional, continuation, and reissue applications, make all rightful oaths and generally do everything possible to aid assignee, its successors and assigns, to obtain and enforce proper patent protection for this invention in the United States and any foreign country, it being understood that any expense incident to the execution of such papers shall be borne by the assignee, its successors and assigns.

**This Agreement** is governed in all respects by the laws of the State of New York (USA), without regard to its conflicts of laws principles. The Parties agree to submit to the jurisdiction of the US federal court in Manhattan, New York City.

**IN WITNESS WHEREOF**, Assignors have executed this document on the date indicated below.

  
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**THADDAEUS WEBSTER**

*29 NOV 18*  
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Date

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**BRIAN HADLEY**

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Date

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**CARRIE MASON**

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Date

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**THADDAEUS WEBSTER**

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Date

  
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**BRIAN HADLEY**

*29 Nov 18*  
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Date

  
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**CARRIE MASON**

*29 Nov 18*  
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Date

  
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SESHU TUMMALA

26 Nov 18  
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Date

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YONATAN LEVINSON

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Date

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NICHOLAS UTH

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PANKAJ SINHA

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Date

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EYTAN ABRAHAM

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Date

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**SESHU TUMMALA**

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Date

*[Handwritten Signature]*  
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**YONATAN LEVINSON**

*05 Dec 2018*

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Date

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**NICHOLAS UTH**

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**PANKAJ SINHA**

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**EYTAN ABRAHAM**

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SESHU TUMMALA

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YONATAN LEVINSON

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Date

  
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NICHOLAS UTH

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29 Nov 2018

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Date

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PANKAJ SINHA

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Date

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EYTAN ABRAHAM

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Date



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SESHU TUMMALA

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YONATAN LEVINSON

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NICHOLAS UTH

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Date

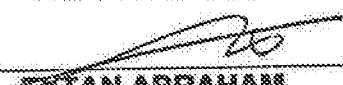
  
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PANKAJ SINHA

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Nov 26 2018

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Date

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EYTAN ABRAHAM

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Date

<u>SESHU TUMMALA</u>	<u>Date</u>
<u>YONATAN LEVINSON</u>	<u>Date</u>
<u>NICHOLAS UTH</u>	<u>Date</u>
<u>PANKAJ SINHA</u>	<u>Date</u>
 <u>EYTAN ABRAHAM</u>	<u>11/25/2018</u> <u>Date</u>

**ASSIGNMENT OF WORLDWIDE RIGHTS**

**WHEREAS**, we, **COLIN JAQUES**, residing in London, United Kingdom, and **RUTH CHRISTINE ROWLAND-JONES**, residing in Galleywood, Chelmsford, United Kingdom, as assignors, have made an invention entitled

"AUTOMATED CONTROL OF CELL CULTURE USING RAMAN SPECTROSCOPY"

as described in a patent application for U.S. Letters Patent bearing U.S. Serial No. 16/152,950, which was filed in the U.S. Patent and Trademark Office on October 5, 2018; and

**WHEREAS, LONZA LTD.**, Lonzastrasse, 3930, Visp, Switzerland, as assignee, is desirous of securing the entire right, title and interest in and to this invention in all countries throughout the world, and in and to the application for United States Letters Patent on this invention and the Letters Patent to be issued upon this application;

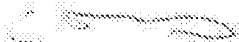
**NOW, THEREFORE**, be it known that for good and valuable consideration the receipt of which from assignee is hereby acknowledged, we, as assignors, have assigned, transferred, and set over, and do hereby assign, transfer, and set over unto the assignee, its lawful successors and assigns, our entire right, title, and interest in and to this invention and this application, and all divisions, and continuations thereof, and all Letters Patent of the United States which may be granted thereon, and all reissues thereof, and all rights to claim priority on the basis of such applications, and all applications for Letters Patent which may hereafter be filed for this invention in any foreign country and all Letters Patent which may be granted on this invention in any foreign country, and all extensions, renewals, and reissues thereof, and all rights to claim priority on the basis of such applications, and we hereby authorize and request the Commissioner for Patents of the United States and any official of any foreign country whose duty it is to issue patents on applications as described above, to issue all Letters Patent for this invention to assignee, its successors and assigns, in accordance with the terms of this Agreement.

**AND, WE HEREBY** covenant that we have the full right to convey the interest assigned by this Assignment, and we have not executed, and will not execute any agreement in conflict with this Assignment;

**AND, WE HEREBY** further covenant and agree that we will, without further consideration, communicate with assignee, its successors and assigns, any facts known to us respecting this invention, and testify in any legal proceeding, sign all lawful papers when called upon to do so, execute and deliver any and all papers that may be necessary or desirable to perfect the title of this invention in said assignee, its successors and assigns, execute all divisional, continuation, and reissue applications, make all rightful oaths and generally do everything possible to aid assignee, its successors and assigns, to obtain and enforce proper patent protection for this invention in the United States and any foreign country, it being understood that any expense incident to the execution of such papers shall be borne by the assignee, its successors and assigns.

**This Agreement** is governed in all respects by the laws of Switzerland, without regard to its conflicts of laws principles. The Parties agree to submit to the jurisdiction of the courts of Basel, Switzerland.

**IN WITNESS WHEREOF**, Assignors have executed this document on the date indicated below.



\_\_\_\_\_  
COLIN JAQUES

22 NOV 18

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Date

\_\_\_\_\_  
RUTH CHRISTINE ROWLAND-JONES

\_\_\_\_\_  
Date

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COLIN JAQUES

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Date

  
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RUTH CHRISTINE ROWLAND-JONES

  
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Date