504507067 08/16/2017

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4553771

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
YU-CHONG TAI	07/12/2017
YANG LIU	07/12/2017
COLIN A. COOK	07/12/2017

RECEIVING PARTY DATA

Name:	CALIFORNIA INSTITUTE OF TECHNOLOGY
Street Address:	1200 EAST CALIFORNIA BOULEVARD
City:	PASADENA
State/Country:	CALIFORNIA
Postal Code:	91125

PROPERTY NUMBERS Total: 2

Property Type	Number	
Application Number:	15647156	
PCT Number:	US2017041590	

CORRESPONDENCE DATA

Fax Number:

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.

Email: jricci@kilpatricktownsend.com

Correspondent Name: KILPATRICK TOWNSEND & STOCKTON LLP Address Line 1: TWO EMBARCADERO CENTER, SUITE 1900

Address Line 4: SAN FRANCISCO, CALIFORNIA 94111

ATTORNEY DOCKET NUMBER:	086544-1048868/1048869
NAME OF SUBMITTER:	JARED RICCI
SIGNATURE:	/Jared Ricci/
DATE SIGNED:	08/16/2017

Total Attachments: 4

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PATENT 504507067 REEL: 043311 FRAME: 0455

ASSIGNMENT

(Patent Application)

We, the undersigned, have invented certain inventions and improvements disclosed in a utility (provisional or non-provisional) or design patent application entitled

"SUBSTRATES FOR HIGH-DENSITY CELL GROWTH AND METABOLITE EXCHANGE,"

the specification of which is provided with this Assignment and identified by the Attorney Docket No. above. (U.S. Pat. Application No. 15/647,156, filed July 11, 2017, also International Pat. Application No. PCT/US2017/041590, filed July 11, 2017)

For one dollar (\$1.00) and other good and valuable consideration, the receipt and sufficiency of which we acknowledge, we:

- 1. Agree to assign, transfer, convey, and sell, hereby assign, transfer, convey, and sell and have assigned, transferred, conveyed, and sold to **California Institute of Technology**, having a principal place of business at 1200 E. California Boulevard, Pasadena, California 91125 ("Assignee"), the entire right, title, and interest in and to:
 - (a) all intellectual property (including, without limitation, any innovation, information, invention, discovery, product, process, work or design) disclosed, embodied, shown, or claimed in the above-referenced patent application, implicitly or explicitly;
 - (b) the above-referenced patent application, and all applications based in whole or in part upon the above-referenced patent application, including, without limitation, all applications that are a provisional, non-provisional, design, divisional, continuation, continuation-in-part, registration, utility model, industrial design, reissue, renewal, substitute, extension, reexamination, post-grant review, inter partes review, supplemental examination or non-U.S. patent application or application for other rights based in whole or in part on the above-referenced patent application;
 - (c) the right to claim priority to the above-referenced patent application, and any and all applications referenced in subsection (b); and
 - (d) all patents (including, without limitation, all U.S. and non-U.S. patents, registrations, utility models, industrial designs, design patents, counterparts, continuations, continuations-in-part, divisionals, reissues, renewals, substitutes, extensions, reexaminations, post-grant reviews, inter partes reviews and supplemental examinations) that are granted or issued upon, or that claim priority to, any and all applications described in (b) of this paragraph or that disclose or claim intellectual property described in (a) of this paragraph, in whole or in part; and

PATENT REEL: 043311 FRAME: 0456 ASSIGNMENT

SUBSTRATES FOR HIGH-DENSITY CELL GROWTH AND METABOLITE EXCHANGE

Attorney Docket No. 086544-1048868-019810US and 086544-1048869-019810PC

Caltech Reference Nos. CIT 7564 and CIT 7564-PCT

City of Hope Reference No.: TEC 16-053

Page 2 of 2

- (e) all claims for damages by reason of past infringement of any rights under the applications or patents described in (a), (b) or (c) of this paragraph (including provisional rights to reasonable royalties pursuant to 35 U.S.C. §154(d)) and the right to sue for and collect such damages and royalties for Assignee's own use.
- Authorize and request the U.S. Patent and Trademark Office or any other U.S. or non-U.S.
 agency to issue to the Assignee any and all patent(s), or other rights or documents, resulting
 from the intellectual property, patent application(s) and patents described in paragraph 1 of
 this Assignment.
- 3. Agree to sign all papers and documents, including without limitation, applications, declarations, oaths and petitions, and, at the Assignee's expense, perform any other acts that are necessary in connection with prosecution of patent application(s) or intellectual property described in paragraph 1 of this Assignment and the enforcement of patent(s) or other rights resulting from such patent application(s) or intellectual property.
- 4. Agree that the terms, covenants, and conditions of this Assignment shall inure to the benefit of the Assignee, its successors, assigns and other legal representative, and shall be binding upon us, as well as our heirs, legal representatives, and assigns.
- 5. Promise and affirm that we have not entered, and will not enter, into any assignment, contract, or understanding that conflicts with this Assignment.
- 6. Authorize Kilpatrick Townsend & Stockton to insert above the application number and filing date of the above-described patent application when known.

Signed on the dates indicated beside our signatures.

Signature:		Date:7/1	2/2017
	Yu-Chong TAI		
Signature:		Date:	
	Yang LIU		
Signature:		Date:	
	Colin A COOK		

KILPATRICK TOWNSEND 69546262 1

ASSIGNMENT
SUBSTRATES FOR HIGH-DENSITY CELL GROWTH AND METABOLITE EXCHANGE
Attorney Docket No. 086544-1048868-019810US and 086544-1048869-019810PC
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Page 2 of 2

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Signed on the dates indicated beside our signatures.

Signature:		Date:	
	Yu-Chong TAI		
Signature:	Yang LIU	Date:	7/12/17
Signature:		Date:	
	Colin A. COOK		

KILPATRICK TOWNSEND 69546262 1

ASSIGNMENT SUBSTRATES FOR HIGH-DENSITY CELL GROWTH AND METABOLITE EXCHANGE Attorney Docket No. 086544-1048868-019810US and 086544-1048869-019810PC Caltech Reference Nos. CIT 7564 and CIT 7564-PCT

City of Hope Reference No.: TEC 16-053

Page 2 of 2

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Signed on the dates indicated beside our signatures.

Signature:		Date: _	
	Yu-Chong TAI		
Signature:		Date: _	
	Yang LIU		
Signature:	Latitled	Date: _	12-July-2017
	Colin A. COOK		

KILPATRICK TOWNSEND 69546262 1

RECORDED: 08/16/2017

PATENT REEL: 043311 FRAME: 0459