505743698 10/28/2019

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5790511

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date	
MAHESH KUMAR GELLABOINA	10/07/2019	
MICHAEL TERRY	10/04/2019	
SETH HUBER	10/07/2019	
DANIELLE SCHINDLBECK	10/07/2019	

RECEIVING PARTY DATA

Name:	UOP LLC
Street Address:	25 EAST ALGONQUIN ROAD
Internal Address:	PATENT DEPARTMENT
City:	DES PLAINES
State/Country:	ILLINOIS
Postal Code:	60017

PROPERTY NUMBERS Total: 3

Property Type	Number		
Application Number:	16011614		
PCT Number:	US2018038299		
Application Number:	62522043		

CORRESPONDENCE DATA

Fax Number: (602)293-2822

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.

 Phone:
 (602)293-1254

 Email:
 docket@gbc.law

Correspondent Name:HONEYWELL INTERNATIONAL INCAddress Line 1:101 COLUMBIA ROAD P. O. BOX 2245Address Line 2:MAIL STOP AB/2B PATENT SERVICESAddress Line 4:MORRISTOWN, NEW JERSEY 07962

ATTORNEY DOCKET NUMBER:	H0059508-US-2 (137891)
NAME OF SUBMITTER:	PAUL R. KITCH
SIGNATURE:	/Paul R. Kitch/
DATE SIGNED:	10/28/2019

505743698 PATENT REEL: 050840 FRAME: 0526

Total Attachments: 8 source=137891-Assignment#page1.tif source=137891-Assignment#page2.tif source=137891-Assignment#page3.tif source=137891-Assignment#page4.tif source=137891-Assignment#page5.tif source=137891-Assignment#page6.tif source=137891-Assignment#page7.tif source=137891-Assignment#page8.tif

PATENT REEL: 050840 FRAME: 0527

CATALYST CYCLE LENGTH PREDICTION USING EIGEN ANALYSIS

for which application for notant in the LL is a second	TOUR PIGEN ANALISIS
for which application for patent in the United States and	I PCT:
has been executed on even date herewith;	
was executed on	
X was filed on June 18, 2018 and assigned U.S. Apparassigned PCT Application No. PCT/US2018/038299;	olication No. 16/011,614 and June 19, 2018 and
AND WHEREAS, the "Assigned Property" shall me	an (i) the above-identified United States application

AND WHEREAS, the "Assigned Property" shall mean (i) the above-identified United States application for patent (the "Application"), (ii) all inventions disclosed in the Application, (iii) any and all applications for patent throughout the world directed to the subject matter of the Application, (iv) the right of priority arising from the Application or from such other applications, under the Paris Convention for the Protection of Industrial Property or under relevant laws, treaties, conventions or bilateral and multilateral agreements, in any jurisdiction, (v) any and all patents throughout the world resulting from the Application or such other application(s) for patents, and (vi) any and all claims against third parties in connection with any of the rights assigned by this Agreement;

AND WHEREAS, UOP LLC, a Delaware Limited Liability Company having a place of business at 25 East Algonquin Road, Des Plaines, IL 60017-5017, its successors and assigns (hereinafter individually and collectively referred to as "ASSIGNEE"), is desirous of acquiring ASSIGNOR's entire right, title, and interest in and to and resulting from said Assigned Property and in general all property rights included therein;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, ASSIGNOR does hereby irrevocably and unconditionally assign and transfer unto ASSIGNEE ASSIGNOR's entire right, title and interest in and to and resulting from the Assigned Property, and hereby authorizes and requests the Commissioner of Patents to issue said patent to ASSIGNEE for the sole use and benefit of ASSIGNEE; ASSIGNEE hereby accepts such transfer and assignment;

AND ASSIGNOR FURTHERMORE authorizes ASSIGNEE, or anyone it may properly designate, to insert on each page of this instrument (where indicated) the filing date and application number of said Application when known;

AND ASSIGNOR AGREES, FURTHERMORE, upon request of ASSIGNEE, and without further remuneration, but at no expense to ASSIGNOR, that ASSIGNOR or ASSIGNOR'S heirs, executors, or administrators will provide all reasonable assistance to obtain, maintain, and assert the fullest measure of legal protection that ASSIGNEE desires to obtain or assert for the Assigned Property, including executing any and all papers desired by ASSIGNEE for the filing and granting of patent rights in the Assigned Property, the perfecting of title in ASSIGNEE, and in enforcing any rights in the Assigned Property.

This instrument is executed by, and shall be binding upon ASSIGNOR, and ASSIGNOR's heirs, executors and administrators, for the uses and purposes above set forth and referred to and shall inure to the benefit of ASSIGNEE or anyone it may properly designate.

If any provision of this assignment is held by any court to be unenforceable, such provision shall be interpreted to accomplish the objectives of the original provision to the fullest extent allowed by law and the remainder of this assignment shall remain in full force and effect.

This assignment shall be construed, governed, interpreted and applied in accordance with the laws of the State of Delaware, United States of America.

U.S. Provisional Application No. 62/522,043 filed June 19, 2017

(Rev.03/20/2012)

PATENT REEL: 050840 FRAME: 0528 Honeywell Docket No. H0059508-US-2

ASSIGNMENT

Page 2 of 2

EXECUTED on behalf of ASSIGNEE and effective as of the latest date of the ASSIGNOR signature(s) below:

Ashley E. Romano Deputy Chief IP Counsel UOP LLC

EXECUTED as of the date(s) set forth below on behalf of the ASSIGNOR:

MAJAESH KUMAR GELLABOINA		07-october-201°
MICHAEL TERRY	Date: _	
SETH HUBER	Date: _	
DANIELLE SCHINDLBECK	Date: _	

U.S. Provisional Application No. 62/522,043 filed June 19, 2017

(Rev. 03/20/2012)

CATALYST CYCLE LENGTH PREDICTION USING EIGEN ANALYSIS

for which application for patent in the United States	and PCT:						
has been executed on even date herewith;							
was executed on							
\underline{X} was filed on June 18, 2018 and assigned U.S.	. Application N	No. 16/01	1,614 ar	id June	19. 1	2018	and
assigned PCT Application No. PCT/US2018/03829	9;						

AND WHEREAS, the "Assigned Property" shall mean (i) the above-identified United States application for patent (the "Application"), (ii) all inventions disclosed in the Application, (iii) any and all applications for patent throughout the world directed to the subject matter of the Application, (iv) the right of priority arising from the Application or from such other applications, under the Paris Convention for the Protection of Industrial Property or under relevant laws, treaties, conventions or bilateral and multilateral agreements, in any jurisdiction, (v) any and all patents throughout the world resulting from the Application or such other application(s) for patents, and (vi) any and all claims against third parties in connection with any of the rights assigned by this Agreement;

AND WHEREAS, UOP LLC, a Delaware Limited Liability Company having a place of business at 25 East Algonquin Road, Des Plaines, IL. 60017-5017, its successors and assigns (hereinafter individually and collectively referred to as "ASSIGNEE"), is desirous of acquiring ASSIGNOR's entire right, title, and interest in and to and resulting from said Assigned Property and in general all property rights included therein;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, ASSIGNOR does hereby irrevocably and unconditionally assign and transfer unto ASSIGNEE ASSIGNOR's entire right, title and interest in and to and resulting from the Assigned Property, and hereby authorizes and requests the Commissioner of Patents to issue said patent to ASSIGNEE for the sole use and benefit of ASSIGNEE; ASSIGNEE hereby accepts such transfer and assignment;

AND ASSIGNOR FURTHERMORE authorizes ASSIGNEE, or anyone it may properly designate, to insert on each page of this instrument (where indicated) the filing date and application number of said Application when known;

ANO ASSIGNOR AGREES, FURTHERMORE, upon request of ASSIGNEE, and without further remuneration, but at no expense to ASSIGNOR, that ASSIGNOR or ASSIGNOR'S heirs, executors, or administrators will provide all reasonable assistance to obtain, maintain, and assert the fullest measure of legal protection that ASSIGNEE desires to obtain or assert for the Assigned Property, including executing any and all papers desired by ASSIGNEE for the filling and granting of patent rights in the Assigned Property, the perfecting of title in ASSIGNEE, and in enforcing any rights in the Assigned Property.

This instrument is executed by, and shall be binding upon ASSIGNOR, and ASSIGNOR's heirs, executors and administrators, for the uses and purposes above set forth and referred to and shall inure to the benefit of ASSIGNEE or anyone it may properly designate.

If any provision of this assignment is held by any court to be unenforceable, such provision shall be interpreted to accomplish the objectives of the original provision to the fullest extent allowed by law and the remainder of this assignment shall remain in full force and effect.

This assignment shall be construed, governed, interpreted and applied in accordance with the laws of the State of Delaware, United States of America.

U.S. Provisional Application No. 62/522,043 filed June 19, 2017.

(Rev.00/20/2012)

EXECUTED on behalf of ASSIGNEE and effective as of the latest date of the ASSIGNOR signature(s) below:

Ashley E. Romano Deputy Chief IP Counsel UOP LLC

EXECUTED as of the date(s) set forth below on behalf of the ASSIGNOR:

MAHESH KUMAR GELLABOINA	Date:
MICHAEL TERRY / 3	Date: 10/4/19
SETH HUBER	Date:
DANIELLE SCHINDLBECK	Date:

CATALYST CYCLE LENGTH PREDICTION USING EIGEN ANALYSIS

for which application for patent in the United States and PCT:
has been executed on even date herewith;
was executed on:
X was filed on June 18, 2018 and assigned U.S. Application No. 16/011,614 and June 19, 2018 and
assigned PCT Application No. PCT/US2018/038299;

AND WHEREAS, the "Assigned Property" shall mean (i) the above-identified United States application for patent (the "Application"), (ii) all inventions disclosed in the Application, (iii) any and all applications for patent throughout the world directed to the subject matter of the Application, (iv) the right of priority arising from the Application or from such other applications, under the Paris Convention for the Protection of Industrial Property or under relevant laws, treaties, conventions or bilateral and multilateral agreements, in any jurisdiction, (v) any and all patents throughout the world resulting from the Application or such other application(s) for patents, and (vi) any and all claims against third parties in connection with any of the rights assigned by this Agreement;

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AND ASSIGNOR FURTHERMORE authorizes ASSIGNEE, or anyone it may properly designate, to insert on each page of this instrument (where indicated) the filing date and application number of said Application when known;

AND ASSIGNOR AGREES, FURTHERMORE, upon request of ASSIGNEE, and without further remuneration, but at no expense to ASSIGNOR, that ASSIGNOR or ASSIGNOR'S heirs, executors, or administrators will provide all reasonable assistance to obtain, maintain, and assert the fullest measure of legal protection that ASSIGNEE desires to obtain or assert for the Assigned Property, including executing any and all papers desired by ASSIGNEE for the filing and granting of patent rights in the Assigned Property, the perfecting of title in ASSIGNEE, and in enforcing any rights in the Assigned Property.

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U.S. Provisional Application No. 62/522,043 filed June 19, 2017

(Rev.03/20/2012)

EXECUTED on behalf of ASSIGNEE and effective as of the latest date of the ASSIGNOR signature(s) below:

Ashley E. Romano Deputy Chief IP Counsel UOP LLC

EXECUTED as of the date(s) set forth below on behalf of the ASSIGNOR:

MAHESH KUMAR GELLABOINA	Date:	·AN SERVICE AND A SERVICE AND
MICHAEL TERRY	Date:	
SETH HUBER	Date: <u> 10 / 7 /</u>	2019
DANIELLE SCHINDLBECK	Date:	

U.S. Provisional Application No. 62/522,043 filed June 19, 2017

(Rev.03/20/2012).

CATALYST CYCLE LENGTH PREDICTION USING EIGEN ANALYSIS

for which application for patent in the United States a	and PCT:				
has been executed on even date herewith;					
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X was filed on June 18, 2018 and assigned U.S. /	Application No.	16/011,	614 and	l June 19	, 2018 and
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AND WHEREAS, the "Assigned Property" shall mean (i) the above-identified United States application for patent (the "Application"), (ii) all inventions disclosed in the Application, (iii) any and all applications for patent throughout the world directed to the subject matter of the Application, (iv) the right of priority arising from the Application or from such other applications, under the Paris Convention for the Protection of Industrial Property or under relevant laws, treaties, conventions or bilateral and multilateral agreements, in any jurisdiction, (v) any and all patents throughout the world resulting from the Application or such other application(s) for patents, and (vi) any and all claims against third parties in connection with any of the rights assigned by this Agreement;

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(Rev.03/20/2012)

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Ashley E. Romano Deputy Chief IP Counsel

UOP LLC

EXECUTED as of the date(s) set forth below on behalf of the ASSIGNOR:

MAHESH KUMAR GELLABOINA	Date:
MICHAEL TERRY	Date:
SETH HUBER	Date:
Danielle Schindler DANIELLE SCHINDLEECK	Date: 10/7/2019

U.S. Provisional Application No. 62/522,043 filed June 19, 2017

(Rev.03/20/2012)

PATENT REEL: 050840 FRAME: 0535