

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT5111782

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
JOHN S. COLEMAN	07/09/2018
KAPIL KANDEL	07/30/2018
SUBRAMANYA V. NAYAK	07/09/2018
TENG XU	07/03/2018
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	EXXONMOBIL CHEMICAL PATENTS INC.
<b>Street Address:</b>	5200 BAYWAY DRIVE
<b>City:</b>	BAYTOWN
<b>State/Country:</b>	TEXAS
<b>Postal Code:</b>	77520
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
Application Number:	16025622
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(346)258-2495
<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>	346-259-2295
<b>Email:</b>	julie.k.adams@exxonmobil.com
<b>Correspondent Name:</b>	EXXONMOBIL CHEMICAL COMPANY
<b>Address Line 1:</b>	5200 BAYWAY DRIVE
<b>Address Line 2:</b>	P.O. BOX 2149
<b>Address Line 4:</b>	BAYTOWN, TEXAS 77522-2149
<b>ATTORNEY DOCKET NUMBER:</b>	2017EM162/2
<b>NAME OF SUBMITTER:</b>	GERARD J. HUGHES
<b>SIGNATURE:</b>	/Gerard J. Hughes/
<b>DATE SIGNED:</b>	08/27/2018
<b>Total Attachments: 8</b>	
source=2017EM162-US-2-2018-08-27-Assignment#page1.tif	
source=2017EM162-US-2-2018-08-27-Assignment#page2.tif	

source=2017EM162-US-2-2018-08-27-Assignment#page3.tif  
source=2017EM162-US-2-2018-08-27-Assignment#page4.tif  
source=2017EM162-US-2-2018-08-27-Assignment#page5.tif  
source=2017EM162-US-2-2018-08-27-Assignment#page6.tif  
source=2017EM162-US-2-2018-08-27-Assignment#page7.tif  
source=2017EM162-US-2-2018-08-27-Assignment#page8.tif

## ASSIGNMENT

INVENTOR(S):

John S. Coleman

Kapil Kandel

Subramanya V. Nayak

Teng Xu

In consideration of One Dollar (\$1.00) and other good and valuable consideration, the receipt of and/or promise of payment which is hereby acknowledged, the undersigned person(s) named above, herein referred to as UNDERSIGNED, hereby agree(s) as follows:

- 1) UNDERSIGNED hereby assign(s) to ExxonMobil Chemical Patents Inc., a corporation of Delaware, its successors, legal representatives and assigns, herein referred to collectively as ASSIGNEE, the entire right, title and interest, for the United States and all foreign countries, in and to UNDERSIGNED'S invention or improvement and to all patent applications and patents covering same which is described in a patent application entitled:

**“Multi-Stage Upgrading of Hydrocarbon Pyrolysis Tar  
Using Recycled Interstage Product ”**

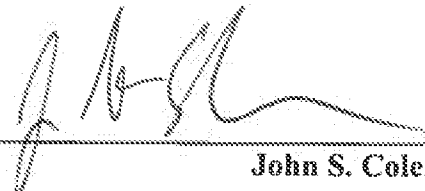
and being further identified as USSN Application No.: 16/025,622; Atty. Docket No. 2017EM162/2, filed, July 2, 2018, and all rights of priority created by said application under provisions of international conventions or treaties.

- 2) UNDERSIGNED agree(s) upon the request of ASSIGNEE to execute any and all applications for and documents relating to obtaining patents and the prosecution thereof for said invention or improvement, and any continuations of such applications or substitutes therefore or registrations thereof, and any specific separate assignments of any of the above required for recording in the United States Patent and Trademark Office and any foreign patent office that ASSIGNEE may deem necessary or expedient.
- 3) UNDERSIGNED agree(s) that in the event of any application based on said assigned invention or improvement, or patent issued thereon, or any reissue or application for the reissue thereof, becoming involved in priority of invention proceedings, UNDERSIGNED will cooperate with ASSIGNEE to the best of the ability of UNDERSIGNED in the matter of preparing and executing all documents and giving and producing evidence in support thereof.
- 4) UNDERSIGNED agree(s) to perform upon ASSIGNEE's request any and all affirmative acts to obtain United States and foreign patents covering said invention or improvement and to vest all rights therein hereby conveyed to ASSIGNEE, as fully and as entirely as the same would have been held and enjoyed by UNDERSIGNED if this assignment and sale had not been made.
- 5) UNDERSIGNED hereby authorize(s) ASSIGNEE's attorney to insert at paragraph 1, in this instrument the date on which the above-referenced patent application was filed, as well as the application number thereof when known.

ASSIGNMENT (Cont'd.)

IN WITNESS WHEREOF, this assignment has been executed by UNDERSIGNED on the date opposite UNDERSIGNED'S NAME.

DATE 7/9/2018

  
\_\_\_\_\_  
John S. Coleman (Inventor)

Zachary D Young  
\_\_\_\_\_  
Witness (Print Name)

Zachary D Young  
\_\_\_\_\_  
Witness (Signature)

DATE \_\_\_\_\_

\_\_\_\_\_  
Kapil Kandel (Inventor)

\_\_\_\_\_  
Witness (Print Name)

\_\_\_\_\_  
Witness (Signature)

DATE \_\_\_\_\_

\_\_\_\_\_  
Subramanya V. Nayak (Inventor)

\_\_\_\_\_  
Witness (Print Name)

\_\_\_\_\_  
Witness (Signature)

DATE \_\_\_\_\_

\_\_\_\_\_  
Teng Xu (Inventor)

\_\_\_\_\_  
Witness (Print Name)

\_\_\_\_\_  
Witness (Signature)

## ASSIGNMENT

INVENTOR(S):

John S. Coleman

Kapil Kandel

Subramanya V. Nayak

Teng Xu

In consideration of One Dollar (\$1.00) and other good and valuable consideration, the receipt of and/or promise of payment which is hereby acknowledged, the undersigned person(s) named above, herein referred to as UNDERSIGNED, hereby agree(s) as follows:

- 1) UNDERSIGNED hereby assign(s) to ExxonMobil Chemical Patents Inc., a corporation of Delaware, its successors, legal representatives and assigns, herein referred to collectively as ASSIGNEE, the entire right, title and interest, for the United States and all foreign countries, in and to UNDERSIGNED'S invention or improvement and to all patent applications and patents covering same which is described in a patent application entitled:

**"Multi-Stage Upgrading of Hydrocarbon Pyrolysis Tar  
Using Recycled Interstage Product "**

and being further identified as USSN Application No.: 16/025,622; Atty. Docket No. 2017EM162/2, filed, July 2, 2018, and all rights of priority created by said application under provisions of international conventions or treaties.

- 2) UNDERSIGNED agree(s) upon the request of ASSIGNEE to execute any and all applications for and documents relating to obtaining patents and the prosecution thereof for said invention or improvement, and any continuations of such applications or substitutes therefore or registrations thereof, and any specific separate assignments of any of the above required for recording in the United States Patent and Trademark Office and any foreign patent office that ASSIGNEE may deem necessary or expedient.
- 3) UNDERSIGNED agree(s) that in the event of any application based on said assigned invention or improvement, or patent issued thereon, or any reissue or application for the reissue thereof, becoming involved in priority of invention proceedings, UNDERSIGNED will cooperate with ASSIGNEE to the best of the ability of UNDERSIGNED in the matter of preparing and executing all documents and giving and producing evidence in support thereof.
- 4) UNDERSIGNED agree(s) to perform upon ASSIGNEE's request any and all affirmative acts to obtain United States and foreign patents covering said invention or improvement and to vest all rights therein hereby conveyed to ASSIGNEE, as fully and as entirely as the same would have been held and enjoyed by UNDERSIGNED if this assignment and sale had not been made.
- 5) UNDERSIGNED hereby authorize(s) ASSIGNEE's attorney to insert at paragraph 1, in this instrument the date on which the above-referenced patent application was filed, as well as the application number thereof when known.

ASSIGNMENT (Cont'd.)

IN WITNESS WHEREOF, this assignment has been executed by UNDERSIGNED on the date opposite UNDERSIGNED'S NAME.

DATE \_\_\_\_\_  
John S. Coleman (Inventor)

\_\_\_\_\_  
Witness (Print Name)      Witness (Signature)

DATE 07/30/2018      Kapil Kandel  
Kapil Kandel (Inventor)

Joshua Heller      Josh Heller  
Witness (Print Name)      Witness (Signature)

DATE \_\_\_\_\_  
Subramanya V. Nayak (Inventor)

\_\_\_\_\_  
Witness (Print Name)      Witness (Signature)

DATE \_\_\_\_\_  
Teng Xu (Inventor)

\_\_\_\_\_  
Witness (Print Name)      Witness (Signature)

## ASSIGNMENT

INVENTOR(S):

John S. Coleman

Kapil Kandel

Subramanya V. Nayak

Teng Xu

In consideration of One Dollar (\$1.00) and other good and valuable consideration, the receipt of and/or promise of payment which is hereby acknowledged, the undersigned person(s) named above, herein referred to as UNDERSIGNED, hereby agree(s) as follows:

- 1) UNDERSIGNED hereby assign(s) to ExxonMobil Chemical Patents Inc., a corporation of Delaware, its successors, legal representatives and assigns, herein referred to collectively as ASSIGNEE, the entire right, title and interest, for the United States and all foreign countries, in and to UNDERSIGNED'S invention or improvement and to all patent applications and patents covering same which is described in a patent application entitled:

**“Multi-Stage Upgrading of Hydrocarbon Pyrolysis Tar  
Using Recycled Interstage Product ”**

and being further identified as USSN Application No.: 16/025,622; Atty. Docket No. 2017EM162/2, filed, July 2, 2018, and all rights of priority created by said application under provisions of international conventions or treaties.

- 2) UNDERSIGNED agree(s) upon the request of ASSIGNEE to execute any and all applications for and documents relating to obtaining patents and the prosecution thereof for said invention or improvement, and any continuations of such applications or substitutes therefore or registrations thereof, and any specific separate assignments of any of the above required for recording in the United States Patent and Trademark Office and any foreign patent office that ASSIGNEE may deem necessary or expedient.
- 3) UNDERSIGNED agree(s) that in the event of any application based on said assigned invention or improvement, or patent issued thereon, or any reissue or application for the reissue thereof, becoming involved in priority of invention proceedings, UNDERSIGNED will cooperate with ASSIGNEE to the best of the ability of UNDERSIGNED in the matter of preparing and executing all documents and giving and producing evidence in support thereof.
- 4) UNDERSIGNED agree(s) to perform upon ASSIGNEE's request any and all affirmative acts to obtain United States and foreign patents covering said invention or improvement and to vest all rights therein hereby conveyed to ASSIGNEE, as fully and as entirely as the same would have been held and enjoyed by UNDERSIGNED if this assignment and sale had not been made.
- 5) UNDERSIGNED hereby authorize(s) ASSIGNEE's attorney to insert at paragraph 1, in this instrument the date on which the above-referenced patent application was filed, as well as the application number thereof when known.

ASSIGNMENT (Cont'd.)

IN WITNESS WHEREOF, this assignment has been executed by UNDERSIGNED on the date opposite UNDERSIGNED'S NAME.

DATE \_\_\_\_\_  
\_\_\_\_\_ John S. Coleman (Inventor)

\_\_\_\_\_  
Witness (Print Name) \_\_\_\_\_ Witness (Signature)

DATE \_\_\_\_\_  
\_\_\_\_\_ Kapil Kandel (Inventor)

\_\_\_\_\_  
Witness (Print Name) \_\_\_\_\_ Witness (Signature)

DATE 09-JULY-2018  
\_\_\_\_\_ Hayee  
Subramanya V. Nayak (Inventor)

SARA R. MARTENS  
Witness (Print Name) \_\_\_\_\_ SK Martens  
Witness (Signature)

DATE \_\_\_\_\_  
\_\_\_\_\_ Teng Xu (Inventor)

\_\_\_\_\_  
Witness (Print Name) \_\_\_\_\_ Witness (Signature)



## ASSIGNMENT

INVENTOR(S):

John S. Coleman

Kapil Kandel

Subramanya V. Nayak

Teng Xu

In consideration of One Dollar (\$1.00) and other good and valuable consideration, the receipt of and/or promise of payment which is hereby acknowledged, the undersigned person(s) named above, herein referred to as UNDERSIGNED, hereby agree(s) as follows:

- 1) UNDERSIGNED hereby assign(s) to ExxonMobil Chemical Patents Inc., a corporation of Delaware, its successors, legal representatives and assigns, herein referred to collectively as ASSIGNEE, the entire right, title and interest, for the United States and all foreign countries, in and to UNDERSIGNED'S invention or improvement and to all patent applications and patents covering same which is described in a patent application entitled:

"Multi-Stage Upgrading of Hydrocarbon Pyrolysis Tar  
Using Recycled Interstage Product "

and being further identified as USSN Application No.: 16/025,622; Atty. Docket No. 2017EM162/2, filed, July 2, 2018, and all rights of priority created by said application under provisions of international conventions or treaties.

- 2) UNDERSIGNED agree(s) upon the request of ASSIGNEE to execute any and all applications for and documents relating to obtaining patents and the prosecution thereof for said invention or improvement, and any continuations of such applications or substitutes therefore or registrations thereof, and any specific separate assignments of any of the above required for recording in the United States Patent and Trademark Office and any foreign patent office that ASSIGNEE may deem necessary or expedient.
- 3) UNDERSIGNED agree(s) that in the event of any application based on said assigned invention or improvement, or patent issued thereon, or any reissue or application for the reissue thereof, becoming involved in priority of invention proceedings, UNDERSIGNED will cooperate with ASSIGNEE to the best of the ability of UNDERSIGNED in the matter of preparing and executing all documents and giving and producing evidence in support thereof.
- 4) UNDERSIGNED agree(s) to perform upon ASSIGNEE's request any and all affirmative acts to obtain United States and foreign patents covering said invention or improvement and to vest all rights therein hereby conveyed to ASSIGNEE, as fully and as entirely as the same would have been held and enjoyed by UNDERSIGNED if this assignment and sale had not been made.
- 5) UNDERSIGNED hereby authorize(s) ASSIGNEE's attorney to insert at paragraph 1, in this instrument the date on which the above-referenced patent application was filed, as well as the application number thereof when known.

ASSIGNMENT (Cont'd.)

IN WITNESS WHEREOF, this assignment has been executed by UNDERSIGNED on the date opposite UNDERSIGNED'S NAME.

DATE \_\_\_\_\_  
John S. Coleman (Inventor)

\_\_\_\_\_  
Witness (Print Name)      Witness (Signature)

DATE \_\_\_\_\_  
Kapil Kandel (Inventor)

\_\_\_\_\_  
Witness (Print Name)      Witness (Signature)

DATE \_\_\_\_\_  
Subramanya V. Nayak (Inventor)

\_\_\_\_\_  
Witness (Print Name)      Witness (Signature)

DATE 07/03/2018 \_\_\_\_\_  
Teng Xu (Inventor)

Seth Washburn \_\_\_\_\_  
Witness (Print Name)      Witness (Signature)