

## PATENT ASSIGNMENT COVER SHEET

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EPAS ID: PAT4028476

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT	
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT	
<b>CONVEYING PARTY DATA</b>		
	<b>Name</b>	<b>Execution Date</b>
	ALEXANDRA MERKX-JACQUES	07/25/2016
	DAVID WOODHALL	08/19/2016
	MARK SCAIFE	07/25/2016
	ROBERTO E. ARMENTA	07/25/2016
	DENISE MUISE	07/25/2016
	HOLLY RASMUSSEN	07/25/2016
	JEREMY BENJAMIN	08/16/2016
<b>RECEIVING PARTY DATA</b>		
<b>Name:</b>	MARA RENEWABLES CORPORATION	
<b>Street Address:</b>	101 RESEARCH DRIVE	
<b>City:</b>	DARTMOUTH, NOVA SCOTIA	
<b>State/Country:</b>	CANADA	
<b>Postal Code:</b>	B2Y 4T6	
<b>PROPERTY NUMBERS Total: 1</b>		
	<b>Property Type</b>	<b>Number</b>
	Application Number:	15208849
<b>CORRESPONDENCE DATA</b>		
<b>Fax Number:</b>		
<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>	404-815-6500	
<b>Email:</b>	ipefiling@kilpatricktownsend.com	
<b>Correspondent Name:</b>	KILPATRICK TOWNSEND & STOCKTON LLP MAILS	
<b>Address Line 1:</b>	1100 PEACHTREE STREET	
<b>Address Line 2:</b>	SUITE 2800	
<b>Address Line 4:</b>	ATLANTA, GEORGIA 30309	
<b>ATTORNEY DOCKET NUMBER:</b>	095523-101532 (014US1)	
<b>NAME OF SUBMITTER:</b>	TIFFANY B. THOMAS	
<b>SIGNATURE:</b>	/Tiffany B. Thomas/	
<b>DATE SIGNED:</b>	08/29/2016	

PATENT

**Total Attachments: 11**

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**ASSIGNMENT**  
(Patent Application)

We, **Alexandra Merkx-Jacques** of 33 Lichen Lane, Lower Sackville, Nova Scotia, Canada B4C 4E3; **David Woodhall** of 79 Hebridean Dr., Herring Cove, Nova Scotia, Canada B3V 1H3; **Mark Scaife** of 49 Spence Drive, Dartmouth, Nova Scotia, Canada B2V 1W8; **Roberto E. Armenta** of 23 Cranston Avenue, Dartmouth, Nova Scotia, Canada B2Y 3G1; **Denise Muise** of 68 Tamara Dr., Dartmouth, Nova Scotia, Canada B2W 0E1; **Holly Rasmussen** of 73 Delta Dr., Dartmouth, Nova Scotia, Canada B2V 1S3; and **Jeremy Benjamin** of 178 Demster Crescent, Mineville, Nova Scotia, Canada B2Z 1J7, have invented certain inventions and improvements disclosed in a utility patent application entitled

**“ENHANCING MICROBIAL METABOLISM OF C5 ORGANIC CARBON”**

filed with the U.S. Patent & Trademark Office and with the International Bureau on **July 13, 2016**;

assigned U.S. Patent Application No. **15/208,849**;  
and International Patent Application No. **PCT/IB2016/054185**;

which claim priority to U.S. Provisional Application No. 62/191,983 filed July 13, 2015; and U.S. Provisional Application No. 62/354,444 filed June 24, 2016.

For valuable consideration, we:

1. Agree to assign, hereby assign, and have assigned to **MARA Renewables Corporation**, a corporation of CANADA, having a principal place of business at 101 Research Drive, Dartmouth, Nova Scotia CANADA B2Y 4T6 (“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, the right to claim priority to the above-referenced patent application, all applications based in whole or in

ASSIGNMENT

U.S. Application No. 15/208,849

International Application No. PCT/IB2016/054185

Attorney Docket Nos. 095523-1010532 (014US1) and 095523-1010533 (014WO1)

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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) 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

(d) 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.

2. 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. Authorize the Assignee to apply in all countries in our name or in its own name for patents, utility models, design registrations and like rights of exclusion and for inventors' certificates for said inventions and improvements.
4. 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.
5. 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.

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U.S. Application No. 15/208,849

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Attorney Docket Nos. 095523-1010532 (014US1) and 095523-1010533 (014WO1)

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6. Promise and affirm that we have not entered, and will not enter, into any assignment, contract, or understanding that conflicts with this Assignment.

Signed on the dates indicated beside our signatures.

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International Application No. PCT/IB2016/054185

Attorney Docket Nos. 095523-1010532 (014US1) and 095523-1010533 (014WO1)

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Signature: Alexandra Merkx-Jacques  
ALEXANDRA MERKX-JACQUES

Date: July 25 '16

WITNESSED BY:

Name: [Signature]

Date: July 25, 2016

Name: [Signature]

Date: July 25, 2016

ASSIGNMENT

U.S. Application No. 15/208,849

International Application No. PCT/IB2016/054185

Attorney Docket Nos. 095523-1010532 (014US1) and 095523-1010533 (014WO1)

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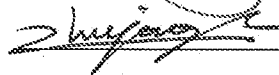
Signature:   
**DAVID WOODHALL**

Date: 19<sup>th</sup> August 2016

WITNESSED BY:

Name: 

Date: ~~July~~ August 19<sup>th</sup> 2016

Name: 

Date: Aug. 19, 2016

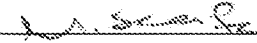
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Attorney Docket Nos. 095523-1010532 (014US1) and 095523-1010533 (014WO1)

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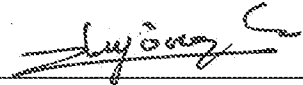
Signature: 

Date: 25 July 2016

**MARK SCAIFE**

Signature:

WITNESSED BY:

Name: 

Date: July 25, 2016

Name: 

Date: July 25, 2016

**PATENT**

**REEL: 039567 FRAME: 0717**



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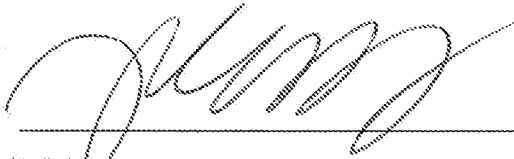
U.S. Application No. 15/208,849

International Application No. PCT/IB2016/054185

Attorney Docket Nos. 095523-1010532 (014US1) and 095523-1010533 (014WO1)

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Signature: \_\_\_\_\_



**ROBERTO E. ARMENTA**

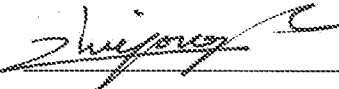
Date: \_\_\_\_\_

July 25, 2016

Signature: \_\_\_\_\_

WITNESSED BY:

Name: \_\_\_\_\_



Date: \_\_\_\_\_

July 25, 2016

Name: \_\_\_\_\_



Date: \_\_\_\_\_

July 25<sup>th</sup>, 2016

**PATENT**

**REEL: 039567 FRAME: 0718**

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U.S. Application No. 15/208,849

International Application No. PCT/IB2016/054185

Attorney Docket Nos. 095523-1010532 (014US1) and 095523-1010533 (014WO1)

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Signature: Denise M. Muise

**DENISE MUISE**

Date: July 25, 2016

Signature:

WITNESSED BY:

Name: Shujing

Date: July 25, 2016

Name: M. Muise

Date: July 25, 2016

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U.S. Application No. 15/208,849

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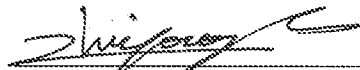
Page 9 of 11

Signature:   
**HOLLY RASMUSSEN**

Date: July 25, 2016

Signature:

WITNESSED BY:

Name: 

Date: July 25, 2016

Name: 

Date: July 25, 2016

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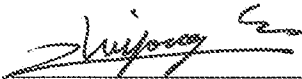
Page 10 of 11

Signature:   
JEREMY BENJAMIN


Date: 08-16-16.

Signature:

WITNESSED BY:

Name: 

Date: Aug. 16, 2016

Name: 

Date: August 16 2016

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U.S. Application No. 15/208,849

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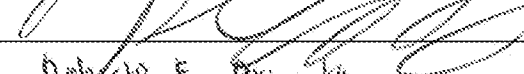
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Accepted and Agreed to By:

MARA RENEWABLES CORPORATION

Date: Aug 19, 2016

By:   
Name: Roberto E. Armentin

Title: Chief Scientist - Director R&D