

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT4752859

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
EUGINE CHOI	10/24/2017
MATTHEW W. BOLAND	10/19/2017
ZHISHENG GAO	11/28/2017
LUCA SALVI	11/14/2017
SHAMEL MERCHANT	10/19/2017
BRUCE W. CRAWLEY	10/19/2017
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	EXXONMOBIL RESEARCH AND ENGINEERING COMPANY
<b>Street Address:</b>	1545 ROUTE 22 EAST
<b>Internal Address:</b>	P.O. BOX 900
<b>City:</b>	ANNANDALE
<b>State/Country:</b>	NEW JERSEY
<b>Postal Code:</b>	08801
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	15788954
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(908)335-3649
<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>	9083353605
<b>Email:</b>	kimberly.m.shapiro@exxonmobil.com
<b>Correspondent Name:</b>	EXXONMOBIL RESEARCH AND ENGINEERING COMPANY
<b>Address Line 1:</b>	1545 ROUTE 22 EAST
<b>Address Line 2:</b>	P.O. BOX 900
<b>Address Line 4:</b>	ANNANDALE, NEW JERSEY 08801-0900
<b>ATTORNEY DOCKET NUMBER:</b>	2016EM308-US3
<b>NAME OF SUBMITTER:</b>	ANTHONY G. BOONE
<b>SIGNATURE:</b>	/Anthony G. Boone/
<b>DATE SIGNED:</b>	12/28/2017

PATENT

**Total Attachments: 6**

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**27810**

**PATENT TRADEMARK OFFICE**

Application Serial No. 15/788,954

EMRE Docket No. 2016EM308-US3

**ASSIGNMENT**

**INVENTOR or INVENTORS:**

EUGINE CHOI

MATTHEW W. BOLAND

ZHISHENG GAO

LUCA SALVI

SHAMEL MERCHANT

BRUCE W. CRAWLEY

For good and valuable consideration, the undersigned person(s) named above, herein referred to as UNDERSIGNED, hereby agree(s) as follows:

1) UNDERSIGNED hereby assign(s) to ExxonMobil Research and Engineering Company (formerly Exxon Research and Engineering Company), 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

**FUEL COMPOSITIONS FOR CONTROLLING COMBUSTION IN ENGINES**

19th & 24th October

said application having been executed on the 14th & 28th day(s) of November, 2017, and being further identified as EMRE Docket No. 2016EM308-US3; all rights of priority created by said application under provisions of international convention or treaties.

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

Date 10/24/2017 Inventor Eugene Choi (LS) Witness Scott E. Rubin  
EUGINE CHOI

Date \_\_\_\_\_ Inventor \_\_\_\_\_ (LS) Witness \_\_\_\_\_  
MATTHEW W. BOLAND

Date \_\_\_\_\_ Inventor \_\_\_\_\_ (LS) Witness \_\_\_\_\_  
ZHISHENG GAO

Date \_\_\_\_\_ Inventor \_\_\_\_\_ (LS) Witness \_\_\_\_\_  
LUCA SALVI

Date \_\_\_\_\_ Inventor \_\_\_\_\_ (LS) Witness \_\_\_\_\_  
SHAMEL MERCHANT

Date \_\_\_\_\_ Inventor \_\_\_\_\_ (LS) Witness \_\_\_\_\_  
BRUCE W. CRAWLEY

**PATENT**

**REEL: 044497 FRAME: 0116**

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27810  
PATENT TRADEMARK OFFICE

Application Serial No. 15/788,954  
EMRE Docket No. 2016EM308-US3

ASSIGNMENT  
INVENTOR or INVENTORS:

EUGINE CHOI                      MATTHEW W. BOLAND                      ZHISHENG GAO                      LUCA SALVI  
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Date \_\_\_\_\_ Inventor \_\_\_\_\_ (LS)                      Witness \_\_\_\_\_  
EUGINE CHOI

Date 10/19/2017 Inventor [Signature] (LS)                      Witness [Signature]  
MATTHEW W. BOLAND

Date \_\_\_\_\_ Inventor \_\_\_\_\_ (LS)                      Witness \_\_\_\_\_  
ZHISHENG GAO

Date \_\_\_\_\_ Inventor \_\_\_\_\_ (LS)                      Witness \_\_\_\_\_  
LUCA SALVI

Date \_\_\_\_\_ Inventor \_\_\_\_\_ (LS)                      Witness \_\_\_\_\_  
SHAMEL MERCHANT

Date \_\_\_\_\_ Inventor \_\_\_\_\_ (LS)                      Witness \_\_\_\_\_  
BRUCE W. CRAWLEY

Application Serial No. \_\_\_\_\_  
EMRE Docket No. 2016EM308-US3

ASSIGNMENT  
INVENTOR or INVENTORS:

EUGINE CHOI                      MATTHEW W. BOLAND                      ZHISHENG GAO                      LUCA SALVI  
SHAMEL MERCHANT                      BRUCE W. CRAWLEY

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Date _____	Inventor _____ (LS) EUGINE CHOI	Witness _____
Date _____	Inventor _____ (LS) MATTHEW W. BOLAND	Witness _____
Date <u>Nov. 28, 2017</u>	Inventor <u>[Signature]</u> (LS) ZHISHENG GAO	Witness <u>[Signature]</u>
Date _____	Inventor _____ (LS) LUCA SALVI	Witness _____
Date _____	Inventor _____ (LS) SHAMEL MERCHANT	Witness _____
Date _____	Inventor _____ (LS) BRUCE W. CRAWLEY	Witness _____

Application Serial No. 15/788,954  
EMRE Docket No. 2016EM308-US3

ASSIGNMENT  
INVENTOR or INVENTORS:

EUGINE CHOI                      MATTHEW W. BOLAND                      ZHISHENG GAO                      LUCA SALVI  
SHAMEL MERCHANT                      BRUCE W. CRAWLEY

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MATTHEW W. BOLAND

Date \_\_\_\_\_ Inventor \_\_\_\_\_ (LS) Witness \_\_\_\_\_

ZHISHENG GAO

Date 11/14/2017 Inventor \_\_\_\_\_ (LS) Witness [Signature]

LUCA SALVI

Date \_\_\_\_\_ Inventor \_\_\_\_\_ (LS) Witness \_\_\_\_\_

SHAMEL MERCHANT

Date \_\_\_\_\_ Inventor \_\_\_\_\_ (LS) Witness \_\_\_\_\_

BRUCE W. CRAWLEY

**\*27810\***

27810  
PATENT TRADEMARK OFFICE

Application Serial No. 15/788,954  
EMRE Docket No. 2016EM308-US3

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Date \_\_\_\_\_ Inventor MATTHEW W. BOLAND (LS) Witness \_\_\_\_\_

Date \_\_\_\_\_ Inventor ZHISHENG GAO (LS) Witness \_\_\_\_\_

Date \_\_\_\_\_ Inventor LUCA SALVI (LS) Witness \_\_\_\_\_

Date 10/19/2017 Inventor Shamel Merchant (LS) Witness [Signature]

Date \_\_\_\_\_ Inventor BRUCE W. CRAWLEY (LS) Witness \_\_\_\_\_

\*27810\*

27810  
PATENT TRADEMARK OFFICE

Application Serial No. 15/788,954  
EMRE Docket No. 201604308-US

ASSIGNMENT  
INVENTOR or INVENTORS

EUGENE CHOI      MATTHEW W. BOLAND      ZHISHENG GAO      LUCA SALVI  
SHAMEL MERCHANT      BRUCE W. CRAWLEY

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Date _____	Inventor _____ (LS)	Witness _____
	MATTHEW W. BOLAND	
Date _____	Inventor _____ (LS)	Witness _____
	ZHISHENG GAO	
Date _____	Inventor _____ (LS)	Witness _____
	LUCA SALVI	
Date _____	Inventor _____ (LS)	Witness _____
	SHAMEL MERCHANT	
Date <u>10/19/2017</u>	Inventor <u>Bruce W. Crawley</u> (LS)	Witness <u>B. Clark</u>
	BRUCE W. CRAWLEY	