

CORRECTED VERSION

(19) World Intellectual Property  
Organization  
International Bureau

(43) International Publication Date  
24 March 2016 (24.03.2016)



(10) International Publication Number  
**WO 2016/044428 A9**

## (51) International Patent Classification:

*B01J 23/00* (2006.01) *B01J 35/06* (2006.01)  
*B01J 23/10* (2006.01) *C07C 2/84* (2006.01)  
*B01J 35/02* (2006.01) *C07C 5/48* (2006.01)

## (21) International Application Number:

PCT/US2015/050431

## (22) International Filing Date:

16 September 2015 (16.09.2015)

## (25) Filing Language:

English

## (26) Publication Language:

English

## (30) Priority Data:

62/051,779 17 September 2014 (17.09.2014) US

(71) Applicant: **SILURIA TECHNOLOGIES, INC.**  
[US/US]; 409 Illinois Street, Suite 5032, San Francisco,  
California 94158 (US).

(72) Inventors: **FREER, Erik, M.**; 168 Paseo Court, Mountain  
View, California 94043 (US). **SCHAMMEL, Wayne, P.**;  
343 Sierra Point Road, Brisbane, California 94005 (US).  
**ZURCHER, Fabio, R.**; 101 Mariposa Street, Brisbane,  
California 94005 (US). **CIZERON, Joel, M.**; 923 Emerald  
Hill Road, Redwood City, California 94061 (US). **HONG,  
Jin, Ki**; 2063 Ascot Drive, #215, Moraga, California  
94556 (US). **RUMPLECKER, Anja**; 4854 17th Street,  
San Francisco, California 94114 (US). **MAURER, Sam**;  
461 Castro Street, San Francisco, California 94114 (US).

**GAMORAS, Joel**; 300 Highborn Street, Vallejo, Califor-  
nia 94590 (US). **ROSENBERG, Daniel**; 6 Locksley Aven-  
ue, #4C, San Francisco, California 94122 (US). **SCHER,  
Erik, C.**; 1518 Dolores Street, San Francisco, California  
94110 (US).

(74) Agents: **HARWOOD, Eric, A.** et al.; Seed Intellectual  
Property Law Group PLLC, Suite 5400, 701 Fifth Avenue,  
Seattle, Washington 98104-7064 (US).

(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,  
AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY,  
BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM,  
DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,  
HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR,  
KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG,  
MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM,  
PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC,  
SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN,  
TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ,  
TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU,  
TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE,  
DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU,  
LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK,

[Continued on next page]

(54) Title: CATALYSTS FOR OXIDATIVE COUPLING OF METHANE AND OXIDATIVE DEHYDROGENATION OF ETH-  
ANE

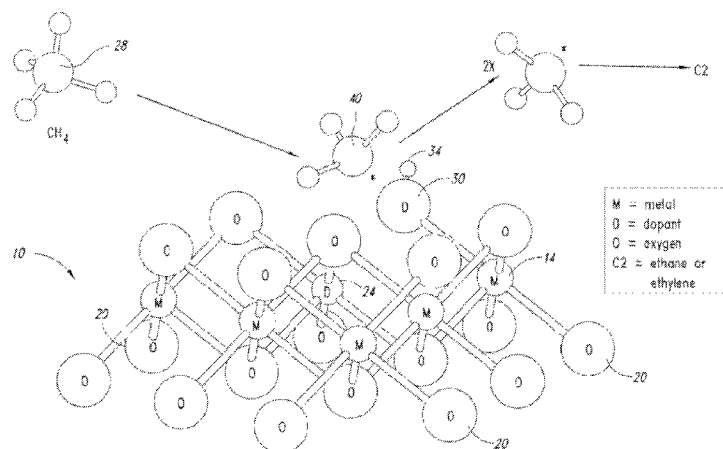


FIG. 3

(57) Abstract: Catalysts, catalytic forms and formulations, and catalytic methods are provided. The catalysts and catalytic forms and formulations are useful in a variety of catalytic reactions, for example, the oxidative coupling of methane. Related methods for use and manufacture of the same are also disclosed.



SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

**(88) Date of publication of the international search report:**  
9 June 2016

**Declarations under Rule 4.17:**

- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

**(48) Date of publication of this corrected version:**  
1 September 2016

**Published:**

- *with international search report (Art. 21(3))*

**(15) Information about Correction:**  
see Notice of 1 September 2016