



(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 Hichborn Street, Vallejo, Califor-

nia 94590 (US). **ROSENBERG, Daniel**; 6 Locksley Avenue, #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, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: CATALYSTS FOR OXIDATIVE COUPLING OF METHANE AND OXIDATIVE DEHYDROGENATION OF EHTANE

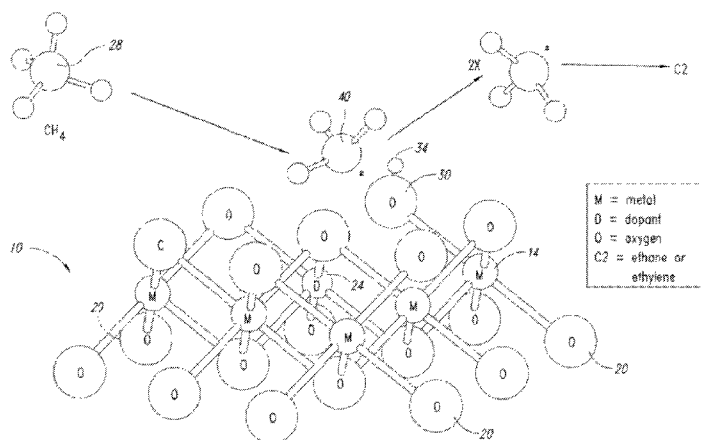


FIG. 3

(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.



Declarations under Rule 4.17:

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

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

Published:

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

(88) Date of publication of the international search report:

9 June 2016