



(43) International Publication Date
28 March 2013 (28.03.2013)

(51) **International Patent Classification:**
C07C 2/64 (2006.01) **C10G 3/00** (2006.01)
C07C 15/073 (2006.01)

(21) **International Application Number:**
PCT/US2012/050747

(22) **International Filing Date:**
14 August 2012 (14.08.2012)

(25) **Filing Language:** English

(26) **Publication Language:** English

(30) **Priority Data:**
13/242,833 23 September 2011 (23.09.2011) US

(71) **Applicant** (*for all designated States except US*): **UOP LLC** [US/US]; 25 East Algonquin Road, P. O. Box 5017, Des Plaines, Illinois 60017-5017 (US).

(72) **Inventors; and**

(75) **Inventors/Applicants** (*for US only*): **BOZZANO, Andrea G.** [US/US]; UOP LLC, 25 East Algonquin Road, P. O. Box 5017, Des Plaines, Illinois 60017-5017 (US). **GRIF-FITHS, Matthew James** [US/US]; UOP LLC, 25 East Algonquin Road, P. O. Box 5017, Des Plaines, Illinois 60017-5017 (US). **ANUMAKONDA, Amarendra** [US/US]; UOP LLC, 25 East Algonquin Road, P. O. Box 5017, Des Plaines, Illinois 60017-5017 (US).

(74) **Agent: PIASECKI, David J.**; UOP LLC, 25 East Algonquin Road, P. O. Box 5017, Des Plaines, Illinois 60017-5017 (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, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, 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.

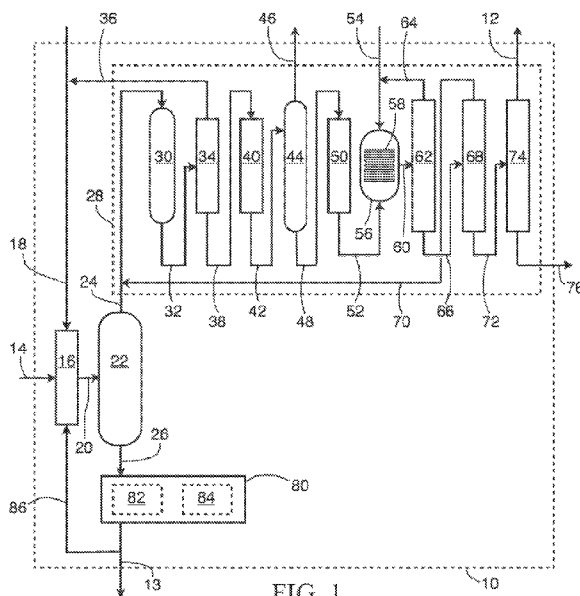
(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, 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, ML, MR, NE, SN, TD, TG).

Published:

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

[Continued on next page]

(54) Title: METHODS FOR CO-PRODUCTION OF ALKYL BENZENE AND BIOFUEL FROM NATURAL OILS



(57) Abstract: Embodiments of methods for co-production of linear alkylbenzene and biofuel from a natural oil are provided. A method comprises the step of deoxygenating the natural oils to form a stream comprising paraffins. A first portion of the paraffins are dehydrogenated to provide mono-olefins. Then, benzene is alkylated with the mono-olefins under alkylation conditions to provide an alkylation effluent comprising alkylbenzenes and benzene. Thereafter, the alkylbenzenes are isolated to provide the alkylbenzene product. A second portion of the paraffins is processed to form biofuel.



-
- *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))*