



(51) International Patent Classification:

C07C 2/66 (2006.01) *C07C 15/073* (2006.01)
C07C 15/085 (2006.01) *C07C 7/04* (2006.01)

(21) International Application Number:

PCT/US2010/032909

(22) International Filing Date:

29 April 2010 (29.04.2010)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

12/467,622 18 May 2009 (18.05.2009) 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): **BULLEN, Patrick J.** [US/US]; Uop Llc, 25 East Algonquin Road, P. O. Box 5017, Des Plaines, Illinois 60017-5017 (US). **LANKTON, Steven P.** [US/US]; Uop Llc, 25 East Algonquin Road, P. O. Box 5017, Des Plaines, Illinois 60017-5017 (US). **SCHMIDT, Robert J.** [US/US]; Uop Llc, 25 East

Algonquin Road, P. O. Box 5017, Des Plaines, Illinois 60017-5017 (US).

(74) Common Representative: **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, 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, RO, RS, RU, 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, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (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, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: AROMATIC ALKYLATION PROCESS WITH REDUCED BYPRODUCT FORMATION

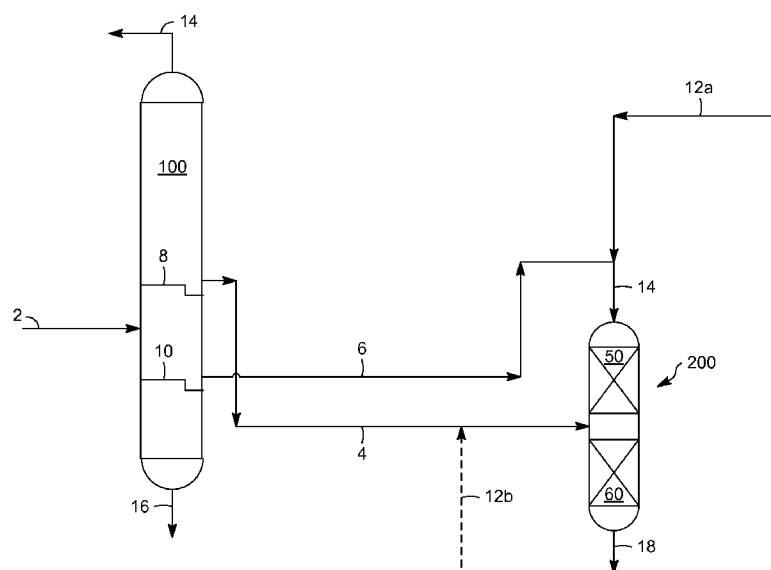


FIG. 1

(57) Abstract: Byproduct formation in aromatic alkylation processes is reduced when different polyalkylated aromatic compounds are first fractionated into separate streams enriched in these respective polyalkylated aromatic compounds, and the separate streams are sent to different transalkylation reaction zones, which may or may not be in the same reactor. The different transalkylation reaction zones allow for greater control of the transalkylation of the respective polyalkylated aromatic compounds, such as diisopropylbenzene (DIPB) and triisopropylbenzene (TIPB) that accompany the alkylation of benzene with propylene in a process for cumene production.



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

24 March 2011

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