



(43) International Publication Date
17 July 2014 (17.07.2014)

(10) International Publication Number
WO 2014/110026 A3

(51) International Patent Classification:

C10G 45/04 (2006.01) *C10G 47/02* (2006.01)
C10G 45/06 (2006.01) *C10G 49/00* (2006.01)
C10G 45/10 (2006.01) *C10G 49/02* (2006.01)
C10G 45/12 (2006.01) *C10G 49/04* (2006.01)
C10G 45/32 (2006.01) *C10G 49/06* (2006.01)
C10G 45/44 (2006.01) *C10G 49/08* (2006.01)

(21) International Application Number:

PCT/US2014/010481

(22) International Filing Date:

7 January 2014 (07.01.2014)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

61/750,152 8 January 2013 (08.01.2013) US

(71) Applicants: SAUDI ARABIAN OIL COMPANY [SA/SA]; Box 5000, Dhahran, 31311 (SA). JGC CATALYSTS AND CHEMICALS LTD. [JP/JP]; 580 Horikawa-cho, Saiwai-Ku, 16th Floor, Solid Square East Tower, Kawasaki City, Kanagawa, 212-0013 (JP). JAPAN COOPERATION CENTER, PETROLEUM [JP/JP]; 58FL., Sunshine 60 Building, 3-1-1, Higashi Ikebukuro, Toshima-ku, Tokyo 1706058 (JP).

(72) Inventors; and

(71) Applicants (for US only): KOSEOGLU, Omer, Refa [US/SA]; P.O. Box 8560, Saudi Aramco, Dhahran, 31311 (SA). AL-HAJJI, Adnan [SA/SA]; P.O. Box 5091, Saudi Aramco, Dhahran, 31311 (SA). MULLER, Hendrik [DE/SA]; P.O. Box 832, Saudi Aramco, Dhahran, 31311 (SA). USHIO, Masaru [JP/JP]; Solid Square East Tower, 16F, 580 Horikawa-cho, Saiwai-ku, Kawasaki City, Kanagawa, Pref 212-0013 (JP). NAKANO, Koji [JP/JP];

13-2 Kitaminatomachi, Wakamatsu-ku, Kitakyushu City, Fukuoka, 808-0027 (JP).

(74) Agent: HANSON, Norman, D.; Abelman, Frayne & Schwab, 666 Third Avenue, New York, NY 10017 (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, LT, 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, 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).

Published:

- 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))

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

24 December 2014

(54) Title: METHOD FOR OPTIMIZING CATALYST LOADING FOR HYDROCRACKING PROCESS

(57) Abstract: The invention relates to a method for optimizing layered catalytic processes. This is accomplished by testing various catalysts with a compound found in a feedstock to be tested, to determine the facility of the catalyst in hydro genating, hydrosulfurizing, or hydrodenitrogenating the molecule, and hence the feedstock. In a preferred embodiment, the Double Bond Equivalence of the feedstock and molecule are determined, and catalysts are pre- selected based upon their known ability to work with materials of this DBE value.



WO 2014/110026 A3