

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
14 May 2009 (14.05.2009)

PCT

(10) International Publication Number
WO 2009/061295 A1

(51) International Patent Classification:
B01J 27/049 (2006.01)

(74) Agents: **BAKUN, Estelle, C.** et al.; EXXONMOBIL RESEARCH AND ENGINEERING COMPANY, 1545 Route 22 East, P.O.Box 900, Annandale, NJ 08801-0900 (US).

(21) International Application Number:
PCT/US2007/023398

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, 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, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(22) International Filing Date:
9 November 2007 (09.11.2007)

(25) Filing Language: English

(26) Publication Language: English

(71) Applicant (for all designated States except US): **EXXON-MOBIL RESEARCH AND ENGINEERING COMPANY** [US/US]; 1545 Route 22 East, P.O.Box 900, Annandale, NJ 08801-0900 (US).

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, 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, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **BAI, Chuansheng** [US/US]; 4 Grant Way, Phillisburg, NJ 08865 (US). **BEECKMAN, Jean** [BE/US]; 5431 The Bridle Path, Columbia, MD 21044 (US). **McCARTHY, Stephen, J.** [US/US]; 4440 Devonshire Drive, Center Valley, PA 18034 (US). **HOU, Zhigou** [US/US]; 2216 Evening Sun Road, Nazareth, PA 18064 (US). **WU, Jason** [US/US]; 25 Haver Farm Road, Clinton, NJ 08809 (US).

Published:
— with international search report

(54) Title: PREPARATION OF BULK METALLIC GROUP VIII/GROUP VIB METAL CATALYSTS

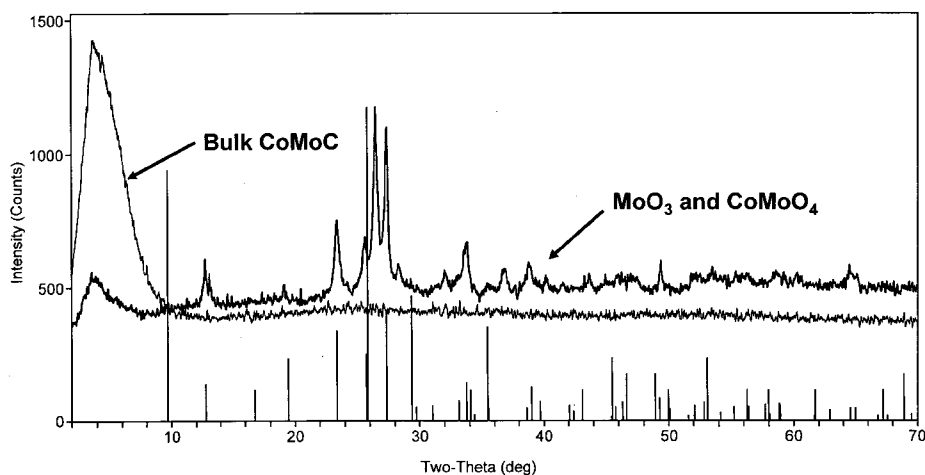


FIG. 1

(57) Abstract: Bulk catalysts comprised of a Group VIII metal and a Group VI metals are prepared using commercial scale processes. The catalysts are prepared by a method wherein Group VI and Group VIII metal reagents are mixed and interacted with at least one organic complexing agent, dried, calcined, and sulfided. The catalysts are used for hydroprocessing, particularly hydrosulfurization and hydrodenitrogenation, of hydrocarbon feedstocks.