

(51) International Patent Classification:
C08F 210/00 (2006.01)(21) International Application Number:
PCT/US2013/072586(22) International Filing Date:
2 December 2013 (02.12.2013)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
13/706,389 6 December 2012 (06.12.2012) US(71) Applicant: **CHEVRON PHILLIPS CHEMICAL COMPANY LP** [US/US]; 10001 Six Pines Drive, The Woodlands, TX 77380 (US).

(72) Inventors; and

(71) Applicants : **YANG, Qing** [CN/US]; 2917 Montrose Drive, Bartlesville, 74006 (US). **MCDANIEL, Max, P.** [US/US]; 1601 Melmart Drive, Bartlesville, OK 74006 (US). **CRAIN, Tony, R.** [US/US]; 474 Rd 30, Niotaze, KS 67355 (US). **YU, Youlu** [CA/US]; 1532 Whitney Lane, Bartlesville, OK 74006 (US). **INN, Yongwoo** [KR/US]; 217 Sagebrush Drive, Bartlesville, OK 74006 (US).(74) Agent: **HUSEMAN, Cheryl, L.**; Chevron Phillips Chemical Company LP, 10001 Six Pines Drive, The Woodlands, TX 77380 (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.

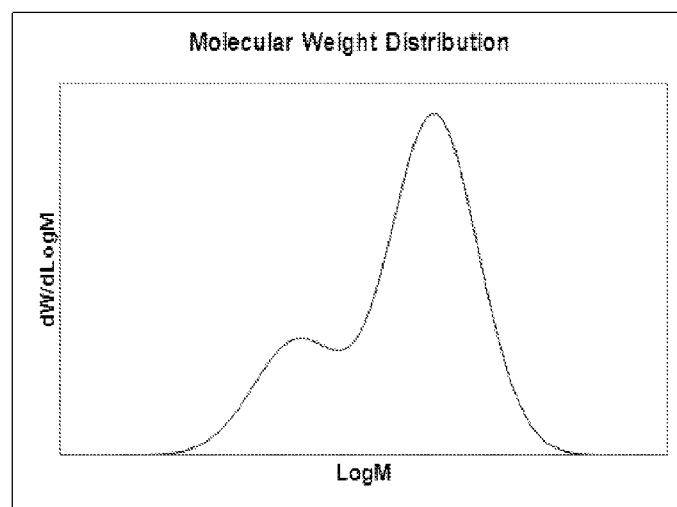
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE,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

(54) Title: CATALYST SYSTEM WITH THREE METALLOCENES FOR PRODUCING BROAD MOLECULAR WEIGHT DISTRIBUTION POLYMERS

FIG. 1



(57) Abstract: Disclosed herein are polymerization processes for the production of olefin polymers. These polymerization processes use a catalyst system containing three metallocene components, often resulting in polymers having a reverse comonomer distribution and a broad and non-bimodal molecular weight distribution.