



- (51) **International Patent Classification:**
C08F 210/16 (2006.01) **C08L 23/08** (2006.01)
C08F 4/6592 (2006.01)
- (21) **International Application Number:**
PCT/US2014/018243
- (22) **International Filing Date:**
25 February 2014 (25.02.2014)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
13/778,693 27 February 2013 (27.02.2013) US
- (71) **Applicant:** CHEVRON PHILLIPS CHEMICAL COMPANY LP [US/US]; 10001 Six Pines Drive, The Woodlands, Texas 77380 (US).
- (72) **Inventors; and**
- (71) **Applicants :** INN, Yongwoo [KR/US]; 217 Sagebrush Drive, Bartlesville, Oklahoma 74006 (US). YANG, Qing [CN/US]; 2917 Montrose Drive, Bartlesville, 74006 (US).
- (74) **Agent:** HUSEMAN, Cheryl L; Chevron Phillips Chemical Company LP, 10001 Six Pines Drive, The Woodlands, Texas 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:** POLYMER RESINS WITH IMPROVED PROCESSABILITY AND MELT FRACTURE CHARACTERISTICS

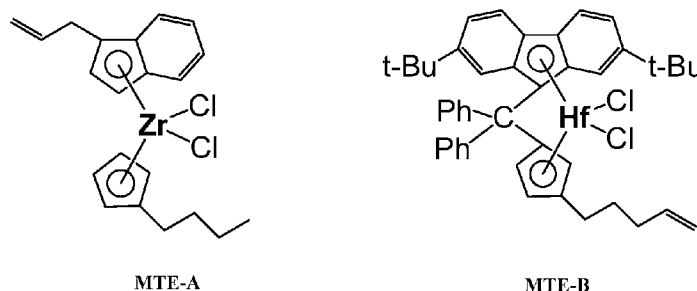


FIG. 1

(57) **Abstract:** A metallocene-catalyzed polymer comprising (i) a higher molecular weight component and (ii) a lower molecular weight component wherein the polymer has a polydispersity index of from about 10 to about 26; a zero shear viscosity of from about 5×10^5 Pa.s to about 2×10^{14} Pa.s and a smooth-to-matte transition critical stress of from about 20 kPa to about 85 kPa at a shear rate of from about 1.5 s^{-1} to about 17 s^{-1} . A dual metallocene catalyzed polyethylene comprising (i) a higher molecular weight component and (ii) a lower molecular weight component wherein the polymer has a polydispersity index of from about 10 to about 26; a zero shear viscosity of from about 5×10^5 Pa.s to about 2×10^{14} Pa.s and a smooth-to-matte transition stress of from about 20 kPa to about 85 kPa at a shear rate of from about 1.5 s^{-1} to about 17 s^{-1} .