

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
11 May 2023 (11.05.2023)



(10) International Publication Number
WO 2023/081325 A1

- (51) **International Patent Classification:**
C08F 210/06 (2006.01) *C08F 4/6592* (2006.01)
- (21) **International Application Number:**
PCT/US2022/048907
- (22) **International Filing Date:**
04 November 2022 (04.11.2022)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
63/276,012 05 November 2021 (05.11.2021) US
- (71) **Applicant: EXXONMOBIL CHEMICAL PATENTS INC.** [US/US]; 5200 Baytown Drive, Houston, TX 77520 (US).
- (72) **Inventors: ZHANG, Jingwen;** 5200 Baytown Drive, Houston, TX 77520 (US). **CANICH, Jo, Ann, M.;** 5200 Baytown Drive, Houston, TX 77520 (US). **JIANG, Pei-jun;** 5200 Baytown Drive, Houston, TX 77520 (US). **HAGADORN, John, R.;** 5200 Baytown Drive, Houston, TX 77520 (US). **ECKERT, Chase, A.;** 5200 Baytown Drive, Houston, TX 77520 (US). **MATTLER, Sarah, J.;** 5200 Baytown Drive, Houston, TX 77520 (US). **KANG, Shuhui;** 5200 Baytown Drive, Houston, TX 77520 (US).
- (74) **Agent: AMERNICK, Burton, A.;** Polsinelli PC, 1401 Eye Street, NW, Suite 800, Washington, DC 20005 (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, CV, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, 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, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW.

- (84) **Designated States** (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, CV, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, 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, ME, 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:** SYNDIOTACTIC PROPYLENE-BASED ETHYLENE-PROPYLENE COPOLYMERS

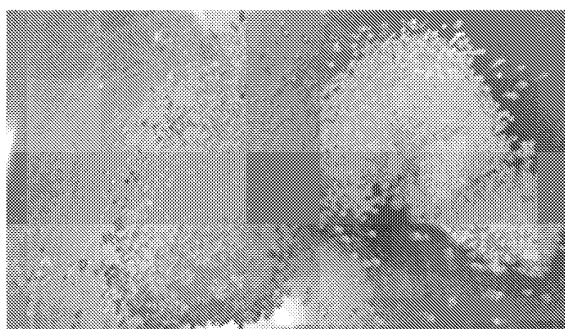


FIG. 2

- (57) **Abstract:** Provided is syndiotactic polypropylene-based ethylene-propylene copolymers comprising a) 5 to 15 % by weight of ethylene and 85 to 95 % by weight of propylene; b) 60 to 90% rr triads; c) Mw (LS) of 10 to 250 kg/mol; and d) no substantial melting peak, wherein the heat of fusion of the peak is 5 J/g or less as determined by differential scanning calorimetry at a scan rate of 10 °C/min (ASTM D3418-03).



WO 2023/081325 A1