

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

(19) World Intellectual Property
Organization

International Bureau

(43) International Publication Date
08 July 2021 (08.07.2021)



(10) International Publication Number
WO 2021/138076 A1

(51) International Patent Classification:

C08F 220/18 (2006.01) C08F 293/00 (2006.01)

Published:

— with international search report (Art. 21(3))

(21) International Application Number:

PCT/US2020/065768

(22) International Filing Date:

17 December 2020 (17.12.2020)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

62/954,973 30 December 2019 (30.12.2019) US

(71) Applicant: **DOW GLOBAL TECHNOLOGIES LLC**

[US/US]; 2211 H.H. Dow Way, Midland, Michigan 48674 (US).

(72) Inventors: **AUYEUNG, Evelyn**; 230 Abner Jackson Parkway, Lake Jackson, Texas 77566 (US). **KRASOVSKIY, Arkady L.**; 230 Abner Jackson Parkway, Lake Jackson, Texas 77566 (US). **STUBBERT, Bryan D.**; 2211 H.H. Dow Way, Midland, Michigan 48674 (US). **DAVIS, Anna V.**; 2020 West Salzburg Road, Auburn, Michigan 48611 (US). **HOU, Jianbo**; 2211 H.H. Dow Way, Midland, Michigan 48674 (US). **CUMMINS, Clark H.**; 2211 H.H. Dow Way, Midland, Michigan 48674 (US).

(74) Agent: **HUANG, Cheney**; The Dow Chemical Company, P.O. Box, Midland, Michigan 48641-1967 (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, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, IT, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, 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, 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, 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, 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).

(54) Title: PROCESS FOR PREPARING AN OLEFIN-ACRYLATE DIBLOCK COPOLYMER

(57) Abstract: The present disclosure relates to a process for preparing an olefin-acrylate diblock copolymer, the process comprising: a) performing nitroxide-mediated polymerization (NMP) by combining NMP materials comprising an acrylate monomer and a nitroxide initiator, thereby forming a nitroxide macroinitiator; and b) combining end-capping-reaction materials comprising an alpha-substituted acrylate and the nitroxide macroinitiator, thereby forming the olefin-acrylate diblock copolymer.

WO 2021/138076 A1