

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
23 May 2024 (23.05.2024)



(10) International Publication Number
WO 2024/107994 A2

(51) International Patent Classification:
C07C 5/22 (2006.01) C07C 13/39 (2006.01)

Published:

— without international search report and to be republished
upon receipt of that report (Rule 48.2(g))

(21) International Application Number:
PCT/US2023/080078

(22) International Filing Date:
16 November 2023 (16.11.2023)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
63/425,956 16 November 2022 (16.11.2022) US

(71) Applicant: **EXXONMOBIL TECHNOLOGY AND ENGINEERING COMPANY** [US/US]; 5200 Bayway Drive, Baytown, Texas 77522-2149 (US).

(72) Inventors: **ZABULA, Alexander V.**; 5200 Bayway Drive, Baytown, Texas 77522-2149 (US). **CANICH, Jo Ann M.**; 5200 Bayway Drive, Baytown, Texas 77522-2149 (US). **DUPPER, Torin J.**; 5200 Bayway Drive, Baytown, Texas 77522-2149 (US). **SINGLETON, Danielle G.**; 5200 Bayway Drive, Baytown, Texas 77522-2149 (US). **ATALLA, Andrew E.**; 5200 Bayway Drive, Baytown, Texas 77522-2149 (US). **YOUNKER, Jarod M.**; 5200 Bayway Drive, Baytown, Texas 77522-2149 (US).

(74) Agent: **BACA, Helen S.** et al.; c/o Fish & Richardson P.C., P.O. Box 1022, Minneapolis, Minnesota 55440-1022 (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, MU, 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, SC, 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).

(54) Title: PREPARATION, PURIFICATION, AND HYDROGENATION OF VINYLNORTRICYCLENES

(57) Abstract: Provided herein are methods of synthesizing vinylnortricyclene (VNTC) from ethylidene norbornene (ENB) and hydrogenation of VNTC into ethylnortricyclene (h-VNTC).

WO 2024/107994 A2