

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

(19) World Intellectual Property
Organization

International Bureau

(43) International Publication Date
19 May 2022 (19.05.2022)



(10) International Publication Number
WO 2022/103913 A1

(51) International Patent Classification:

C10G 45/62 (2006.01) *B01J 29/80* (2006.01)
B01J 29/70 (2006.01) *C10G 45/64* (2006.01)
B01J 29/72 (2006.01) *C10G 65/04* (2006.01)
B01J 29/76 (2006.01)

Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

(21) International Application Number:

PCT/US2021/058893

Published:

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

(22) International Filing Date:

11 November 2021 (11.11.2021)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

17/095,337 11 November 2020 (11.11.2020) US

(71) Applicant: **CHEVRON U.S.A. INC.** [US/US]; 6001 Bollinger Canyon Road, P.O. Box 6006, San Ramon, California 94583-0806 (US).

(72) Inventors: **ZHANG, Yihua**; c/o Chevron Corp., P.O. Box 6006, San Ramon, California 94583-0806 (US). **LEI, Guan-Dao**; c/o Chevron Corporation, P.O. Box 6006, San Ramon, California 94583-0806 (US).

(74) Agent: **WARZEL, Mark et al.**; P.O. Box 6006, San Ramon, California 94583-0806 (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: CATALYST SYSTEM AND PROCESS USING SSZ-91 AND SSZ-95

(57) Abstract: An improved hydroisomerization catalyst system and process for making a base oil product using a combined catalyst system comprising SSZ-91 molecular sieve and SSZ-95 molecular sieve. The catalyst system and process generally involves the use of a catalyst comprising an SSZ-91 molecular sieve and a separate catalyst comprising an SSZ-95 molecular sieve to produce dewaxed base oil products by sequentially contacting the catalysts with a hydrocarbon feedstock. The catalyst system and process provide improved base oil yield along with other beneficial base oil properties.

WO 2022/103913 A1