

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

(19) World Intellectual Property
Organization

International Bureau

(43) International Publication Date
04 August 2022 (04.08.2022)



(10) International Publication Number
WO 2022/164868 A1

(51) International Patent Classification:

C10G 65/12 (2006.01) C10G 45/58 (2006.01)
C10G 65/14 (2006.01) C10G 45/44 (2006.01)
C10G 47/00 (2006.01) C10M 101/02 (2006.01)

(21) International Application Number:

PCT/US2022/013855

(22) International Filing Date:

26 January 2022 (26.01.2022)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/141,955 26 January 2021 (26.01.2021) US

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

(72) Inventors: **TREVINO, Horacio**; c/o Chevron Corp., P.O.
Box 6006, San Ramon, California 94583-0806 (US).
ZHANG, Minghui; c/o Chevron Corp., P.O. Box 6006, San
Ramon, California 94583-0806 (US). **LEI, Guan-Dao**; c/
o Chevron Corp., P.O. Box 6006, San Ramon, California
94583-0806 (US). **VO, Luyen T.**; 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 Ra-
mon, 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).

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))

Published:

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

(54) Title: PROCESS FOR MAKING HEAVY GRADE BASE OIL PRODUCTS

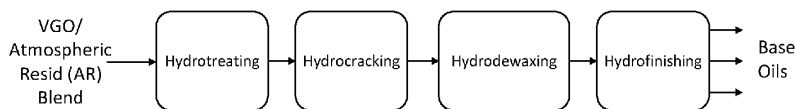


FIG. 2a

(57) Abstract: An improved process for making a heavy base oil from a base oil feedstream comprising an atmospheric resid feedstock, and, optionally, a base oil feedstock, via hydroprocessing. The process generally involves subjecting a base oil feedstream comprising the atmospheric resid to hydrocracking and dewaxing steps, and optionally to hydrofinishing, to produce base oil product(s) including a heavy grade base oil product having a viscosity of at least about 12.7 cSt at 100°C. The invention is useful to make heavy grade base oil products, as well as Group II and/or Group III/III+ base oils.

WO 2022/164868 A1