

(51) International Patent Classification:

C10G 9/16 (2006.01) C10G 55/04 (2006.01)

C10G 51/02 (2006.01) B01D 17/02 (2006.01)

C10G 69/06 (2006.01) B01D 53/24 (2006.01)

C10G 9/00 (2006.01) B01D 19/00 (2006.01)

(21) International Application Number:

PCT/US2013/033156

(22) International Filing Date:

20 March 2013 (20.03.2013)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

61/613,332 20 March 2012 (20.03.2012) US

61/785,846 14 March 2013 (14.03.2013) US

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(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, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, 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, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, 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, 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, ML, MR, NE, SN, TD, TG).

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(54) Title: INTEGRATED HYDROPROCESSING AND STEAM PYROLYSIS OF CRUDE OIL TO PRODUCE LIGHT OLEFINS AND COKE

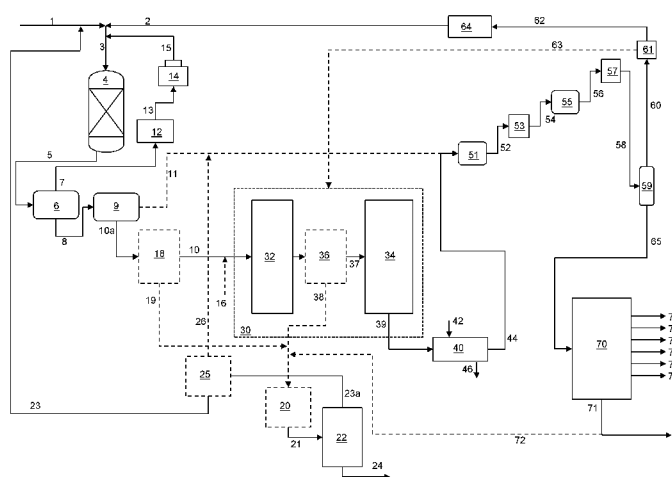


FIG. 1

(57) Abstract: An integrated hydrotreating, steam pyrolysis and coker process for the direct processing of a crude oil is provided to produce olefinic and aromatic petrochemicals, and petroleum coke. Crude oil and recycled coker liquid product are charged to a hydroprocessing zone operating under conditions effective to produce a hydroprocessed effluent which is thermally cracked in the presence of steam to produce a mixed product stream. The residual liquid fraction recovered upstream of the thermal cracking unit or within the thermal cracking unit is thermally cracked under conditions effective to produce coke and coker liquid product. The coker liquid product is recycled to the step of hydroprocessing while the petroleum coke is recovered. Hydrogen from the mixed product stream is purified and recycled to the hydroprocessing zone, and olefins, aromatics and pyrolysis fuel oil are recovered from the separated mixed product stream.



Published:

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

— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))