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

(72) Inventors: **VIRDI, Harjeet**; c/o Chevron U.S.A. Inc., P.O.
Box 6006, San Ramon, California 94583-0806 (US). **JIAO,
Ling**; c/o Chevron U.S.A. Inc., P.O. Box 6006, San Ramon,
California 94583-0806 (US). **MAESEN, Theodorus**; c/o
Chevron U.S.A. Inc., P.O. Box 6006, San Ramon, California
94583-0806 (US). **GILLIS, Dan**; c/o Chevron U.S.A. Inc.,
P.O. Box 6006, San Ramon, California 94583-0806 (US).

(74) Agent: **HAYWORTH, Melissa M.** et al.; Merchant
& Gould P.C., P.O. Box 2903, Minneapolis, Minnesota
55402-0903 (US).

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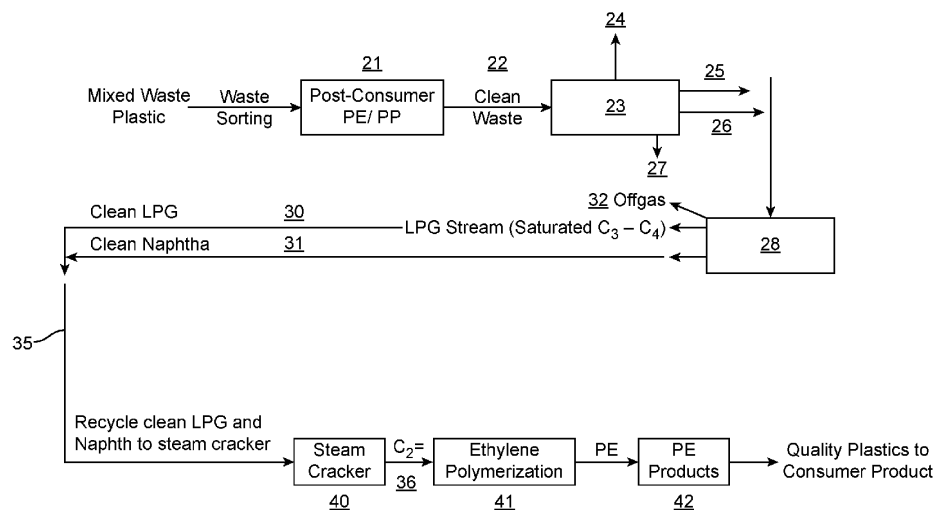


FIG. 3

(57) Abstract: Provided is a process for converting waste plastic into recycle for polyethylene polymerization. The process comprises selecting waste plastics containing polyethylene and/or polypropylene. These waste plastics are then passed through a pyrolysis reactor to thermally crack at least a portion of the polyolefin waste and produce a pyrolyzed effluent. The pyrolyzed effluent is separated into offgas, a pyrolysis oil comprising a naphtha/diesel and heavy fraction, and char. The pyrolysis oil is then passed to a hydroconversion reactor comprising an LTA zeolite based catalyst having an acid site concentration of about 2.7 mol/l. Effluent from the hydroconversion reactor is then sent to a steam cracker.

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