



(51) International Patent Classification:

C10G 3/00 (2006.01) *C01B 3/32* (2006.01)
C10G 9/00 (2006.01) *C07C 1/20* (2006.01)
C10G 57/00 (2006.01) *C07C 5/32* (2006.01)
C01B 3/22 (2006.01) *C07C 29/15* (2006.01)

(21) International Application Number:

PCT/EP2010/066991

(22) International Filing Date:

8 November 2010 (08.11.2010)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

09175612.2 10 November 2009 (10.11.2009) EP

(71) Applicant (for all designated States except US): **SHELL INTERNATIONALE RESEARCH MAATSCHAPPIJ B.V.** [NL/NL]; Carel van Bylandtlaan 30, NL-2596 HR The Hague (NL).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **CHEWTER, Leslie Andrew** [GB/NL]; Grasweg 31, NL-1031 HW Amsterdam (NL). **VAN WESTRENEN, Jeroen** [NL/NL]; Grasweg 31, NL-1031 HW Amsterdam (NL). **RAMESH, Rajaram** [NL/NL]; Grasweg 31, NL-1031HW Am-

stredam (NL). **WINTER, Ferry** [NL/NL]; Grasweg 31, NL-1031HW Amstredam (NL).

(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, 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, PE, PG, PH, PL, PT, RO, RS, RU, 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.

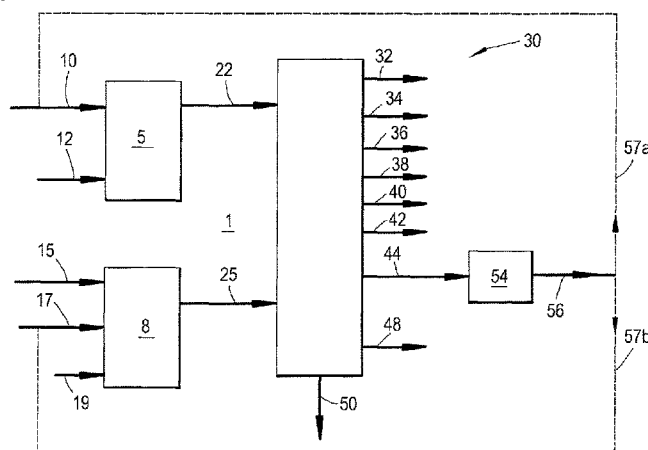
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, 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).

Published:

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

(54) Title: PROCESS FOR THE PREPARATION OF A LOWER OLEFIN PRODUCT

Fig.1



(57) Abstract: Process for the preparation of for the preparation of an olefin product comprising ethylene and/or propylene, which process comprises the steps of a) cracking a paraffin feedstock comprising C2 - C5 paraffins under cracking conditions in a cracking zone to obtain a cracker effluent comprising olefins; b) converting an oxygenate feedstock in an oxygenate-to-olefins conversion system, comprising a reaction zone in which an oxygenate feedstock is contacted with an oxygenate conversion catalyst under oxygenate conversion conditions, to obtain a conversion effluent comprising ethylene and/or propylene; c) combining at least part of the cracker effluent and at least part of the conversion effluent to obtain a combined effluent, and separating an olefin product stream comprising ethylene and/or propylene from the combined effluent, wherein the paraffin feedstock comprises ethane, and wherein the cracking conditions in the cracking zone are selected such that 60 wt% or less of ethane in the paraffin feedstock are converted during a single pass through the cracking zone.