

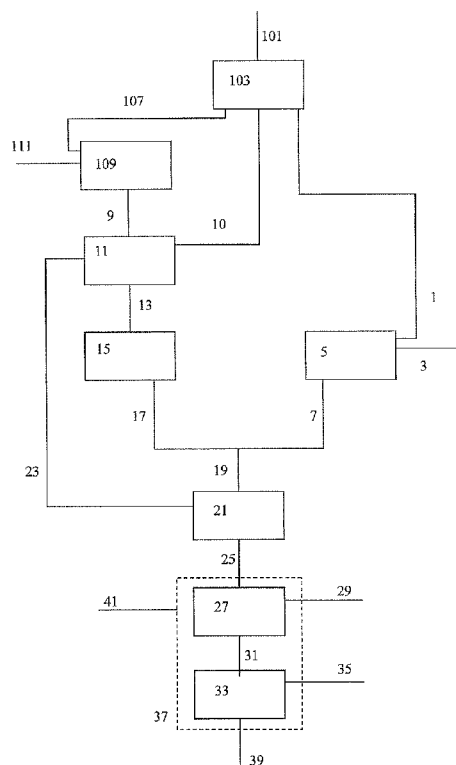


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| <p>(51) International Patent Classification:
 <i>C10G 3/00</i> (2006.01) <i>C01B 3/32</i> (2006.01)
 <i>C10G 9/00</i> (2006.01) <i>C07C 1/20</i> (2006.01)
 <i>C10G 57/00</i> (2006.01) <i>C07C 5/32</i> (2006.01)
 <i>C01B 3/22</i> (2006.01) <i>C07C 29/15</i> (2006.01)</p> | <p>(72) Inventors; and
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| <p>(21) International Application Number:
 PCT/EP2010/066999</p> | <p>(81) Designated States <i>(unless otherwise indicated, for every kind of national protection available)</i>: 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.</p> |
| <p>(22) International Filing Date:
 8 November 2010 (08.11.2010)</p> | <p>(84) Designated States <i>(unless otherwise indicated, for every kind of regional protection available)</i>: ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG,</p> |
| <p>(25) Filing Language: English</p> <p>(26) Publication Language: English</p> | |
| <p>(30) Priority Data:
 09175607.2 10 November 2009 (10.11.2009) EP</p> | |
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[Continued on next page]

(54) Title: PROCESS FOR PRODUCING OLEFINS

Figure 1



(57) Abstract: The present invention provides a process for producing olefins, comprising: a. providing a feed comprising at least methane, ethane and carbon dioxide; b. separating the feed into at least a methane-comprising feed, an ethane-comprising feed and a carbon dioxide-comprising feed; c. providing at least part of the methane-comprising feed to a process for preparing synthesis gas to obtain a synthesis gas; d. cracking the ethane-comprising feed in a cracking zone under cracking conditions to obtain a cracking zone effluent comprising at least olefins and hydrogen; e. providing at least part of the carbon dioxide-comprising feed and at least part the synthesis gas obtained in step c) to an oxygenate synthesis zone and synthesising oxygenates; f. converting at least part of the oxygenates obtained in step (e) in an oxygenate-to-olefin zone to obtain an oxygenate-to-olefin comprising at least olefins and hydrogen; g. combining at least part of the cracking zone effluent and at least part of the OTO zone effluent to obtain a combined effluent; h. separating hydrogen from the combined effluent and providing at least part of the hydrogen to the oxygenate synthesis zone in step (e).



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).

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