Claims

1. A process for converting a hydrocarbon feedstock into olefins and also into BTX, said converting process comprising the following steps of:

feeding a hydrocarbon feedstock to a first hydrocracking unit,

feeding the effluent from said first hydrocracking unit to a first separation section,

separating said effluent in said first separation section into one or more streams chosen from the group of a stream comprising hydrogen, a stream comprising methane, a stream comprising ethane, a stream comprising propane, a stream comprising butanes, a stream comprising C1-minus, a stream comprising C2-minus, a stream comprising C3-minus, a stream comprising C4-minus, a stream comprising C1-C2, a stream comprising C1-C3, a stream comprising C1-C4, a stream comprising C2-C3, a stream comprising C2-C4, a stream comprising C3-C4 and a stream comprising C5+;

feeding at least one stream chosen from the group of said stream comprising propane, said stream comprising butanes, said stream comprising C3-minus, said stream comprising C4-minus, said stream comprising C2-C3, said stream comprising C1-C3, said stream comprising C1-C4, said stream comprising C2-C3, said stream comprising C2-C4 and said stream comprising C3-C4 to at least one dehydrogenation unit carrying out a dehydrogenation process being a catalytic process chosen from the group of a butanes dehydrogenation unit, a propane dehydrogenation unit, a combined propane-butanes dehydrogenation unit, or a combination of units thereof,

feeding from said first separation section at least one stream chosen from the group of said stream comprising ethane, said stream comprising C1-C2 and said stream comprising C2-minus to a second separation section,

further comprising separating any effluent from said first separation section and said at least one propane or butanes or combined propane-butanes dehydrogenation unit in said second separation section into one or more streams chosen form the group of a stream comprising hydrogen, a stream comprising methane, a stream comprising C3, a stream comprising C2=, a stream comprising C3=, a stream comprising C4mix, a stream comprising C5+, a stream comprising C2 and a stream comprising C1-minus,

further comprising feeding said stream comprising C2 to a steam cracker unit,

feeding the effluent(s) from said steam cracking unit and at least one dehydrogenation unit to said second separation section,

further comprising feeding said stream comprising C5+ to a second hydrocracking unit,

further comprising separating the effluent from said second hydrocracking unit into a stream comprising C4-minus, a stream comprising unconverted C5+, and a stream comprising BTX, especially

further comprising feeding said stream comprising C4-minus to said first separation section, especially

further comprising combining said stream comprising unconverted C5+ with said hydrocarbon feedstock and feeding the combined stream thus obtained to said first hydrocracking unit.

2. A process according to claim 1, further comprising feeding a stream comprising C1-minus to said second separation section.

3. A process according to anyone or more of claims 1-2, further comprising pretreating said hydrocarbon feedstock by separating said hydrocarbon feedstock into a stream having a high aromatics content and a stream having a low aromatics content, and feeding said stream having a low aromatics content into said first hydrocracking unit, especially further comprising feeding said stream having high aromatics content to said second hydrocracking unit.

4. A process according to anyone or more of the preceding claims, further comprising feeding said stream comprising butanes to said butanes dehydrogenation unit and feeding a stream chosen from the group of said stream comprising C2-C3, said stream comprising C1-C3, said stream comprising C3 minus and said stream comprising C3 to said propane dehydrogenation unit.

5. A process according to anyone or more of the preceding claims, further comprising feeding a stream chosen from the group of said stream comprising C3-C4, said stream comprising C2-C4, said stream comprising C1-C4 and said stream comprising C4 minus to said combined butanes and propane dehydrogenation unit.

6. A process according to anyone or more of the preceding claims, further comprising feeding said stream comprising C5+ originating from said second separation section to said first hydrocracking unit and/or said second hydrocracking unit.

7. A process according to anyone or more of the preceding claims, further comprising feeding said stream comprising hydrogen originating from said second separation section to said first hydrocracking unit and/or said second hydrocracking unit .

8. A process according to anyone or more of the preceding claims, further comprising feeding said stream comprising C1-minus originating from said second separation section to said first separation section.

9. A process according to anyone or more of the preceding claims, further comprising feeding said stream comprising C3 originating from said second separation section to said propane dehydrogenation unit and/or said combined propane-butanes dehydrogenation unit.

10. A process according to anyone or more of the preceding claims, wherein the process conditions in said first hydrocracking unit include a temperature of 300-550 °C, a pressure of 300-5000 kPa gauge and a Weight Hourly Space Velocity of 0.1-20 h-1.

11. A process according to according to anyone or more of claims 1-10, wherein the process conditions in said second hydrocracking unit include a temperature of 450-580°C, a pressure of 0.3-5 MPa gauge and a Weight Hourly Space Velocity of 0.1-20 h-1.