CLAIMS

1. A process for producing one or more xylenes, comprising:

passing a first stream comprising xylenes and C_9+ aromatic compounds at a first ratio of ethylbenzene to total C_8 aromatics to one side of a split shell fractionation column including a vertical baffle separating the one side from another side;

passing a second stream comprising xylenes and C_9+ aromatic compounds at a second higher ratio of ethylbenzene to total C_8 aromatics than the first ratio to the other side of the split shell fractionation column;

separating a first overhead stream from the one side of the split shell fractionation column comprising C_8 aromatics;

separating a second overhead stream from the other side of the split shell fractionation column comprising C_8 aromatics; and

separating a common bottoms stream from the split shell fractionation column.

2. The process according to claim 1, further comprising passing the bottoms stream as a feed to a transalkylation zone.

3. The process according to claim 1, further comprising recovering at least a portion of the second overhead stream as a mixed xylene product.

4. The process according to claim 1, wherein at least a portion of the first stream comprises at least a portion of a transalkylation zone effluent.

5. The process according to claim 1, wherein at least a portion of the second stream comprises at least a portion of a reformate stream.

6. The process according to claim 1, wherein at least a portion of the first stream comprises at least a portion of an isomerization zone effluent.

7. The process according to claim 6, wherein the portion of the isomerization zone effluent is passed to a second xylene fractionation column and the at least portion of the first stream comprises at least a portion of a bottoms stream from the second xylene fractionation column.

8. An apparatus for producing one or more xylenes, comprising:

a split shell fractionation column having an outer reactor shell and a baffle extending downward from an upper portion of the split shell fractionation column to a height less than a height of the fractionation column and separating the column into a first side and a second side;

an inlet to the first side of the fractionation column in fluid communication with an outlet of a transalkylation zone;

an inlet to the second side of the fractionation column in fluid communication with an outlet of a reforming zone;

a first overhead outlet in communication with the first side of the fractionation column for withdrawing a C_8 aromatics enriched stream;

a second overhead outlet in communication with the second side of the fractionation column for withdrawing a C_8 aromatics enriched stream; and

a bottoms outlet of the fractionation column for withdrawing a bottoms stream.

9. The apparatus according to claim 8, further comprising a reforming zone comprising a reforming catalyst for reforming one or more hydrocarbon compounds to increase aromatic compounds.

10. The apparatus according to claim 8, further comprising a transalkylation zone comprising a transalkylation catalyst for transalkylating C_7 and C_9 aromatic compounds.