CLAIMS

1. A method for forming a C8 aromatic stream (58) with a selected amount of C9 aromatics, the method comprising the steps of:

fractionating a hydrocarbon stream (12) including C8 aromatics and C9 aromatics into a sidedraw fraction (22) including a portion of the C8 aromatics and a portion of the C9 aromatics, and a bottom fraction (22) including remaining C8 aromatics and $C8^{+}$ hydrocarbons;

fractionating the bottom fraction and forming a heavy overhead fraction (32) including the remaining C8 aromatics; and

combining the sidedraw fraction and the heavy overhead fraction to form a combined stream (40) having a C9 aromatics composition of from 0.1 wt% to 5 wt%.

2. The method of claim 1 wherein combining the sidedraw fraction and the heavy overhead fraction forms a combined stream having a C9 aromatics composition of from 1 wt% to 2 wt% of a total weight of the combined stream.

3. The method of claim 1 wherein combining the sidedraw fraction and the heavy overhead fraction forms a combined stream having a C9 aromatics composition of 1.6 wt% of a total weight of the combined stream.

4. The method of claim 1 wherein fractionating the hydrocarbon stream comprises forming the sidedraw fraction with a C9 aromatics composition of less than 2 wt% of a total weight of the sidedraw fraction.

5. The method of claim 1 wherein fractionating the bottom fraction and forming a heavy overhead fraction including the remaining C8 aromatics comprises forming the heavy overhead fraction with a C9 aromatics composition of less than 2.0 wt% of a total weight of the heavy overhead fraction.

6. The method of claim 1 wherein fractionating the hydrocarbon stream comprises forming the sidedraw fraction with 90% of the C8 aromatics in the hydrocarbon stream and forming the bottom fraction with 10% of the C8 aromatics in the hydrocarbon stream.

7. The method of claim 1 wherein fractionating the hydrocarbon stream comprises forming the sidedraw fraction with no more than 92% of the C8 aromatics in the hydrocarbon stream.

8. The method of claim 1 further comprising separating a selected xylene isomer from the combined stream.

9. The method of claim 1 further comprising:

feeding the combined stream containing C8 aromatics and C9 aromatics to a separation unit (42);

contacting the combined stream with an adsorbent in the separation unit and adsorbing a selected xylene isomer from the combined stream to form an extract stream and a raffinate stream (46), wherein the extract stream comprises adsorbed xylene isomer and a portion of C9 aromatics and the raffinate stream comprises non-selected xylene isomers and the remaining portion of C9 aromatics;

contacting the adsorbed xylene isomer with a desorbent (56) and desorbing the selected xylene isomer from the adsorbent to form a stream of desorbent and the selected xylene isomer; and

separating the desorbent and the selected xylene isomer (58).