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(54) Title: SYSTEMS AND METHODS FOR SEPARATING XYLENE ISOMERS USING SELECTIVE ADSORPTION

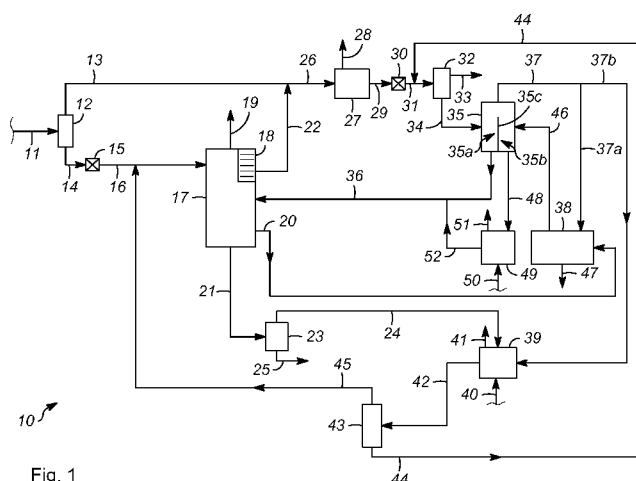


Fig. 1

(57) Abstract: Methods and systems are provided for separating a selected xylene isomer. The method includes separating a feed stream including a plurality of aromatic hydrocarbons into a first stream including toluene and isomers of xylene, and a second stream including isomers of xylene. The method further includes separating the first stream into a third stream including toluene and a fourth stream including isomers of xylene, and combining the second stream and the third stream in an adsorptive separation unit including an adsorbent configured to adsorb the selected xylene isomer from the second stream. The third stream desorbs the selected xylene isomer to produce a fifth stream including the selected xylene isomer and toluene and a sixth stream including non-selected xylene isomers and toluene. Still further, the method includes separating the sixth stream into a seventh stream including the non-selected xylene isomers and the third stream including toluene.

