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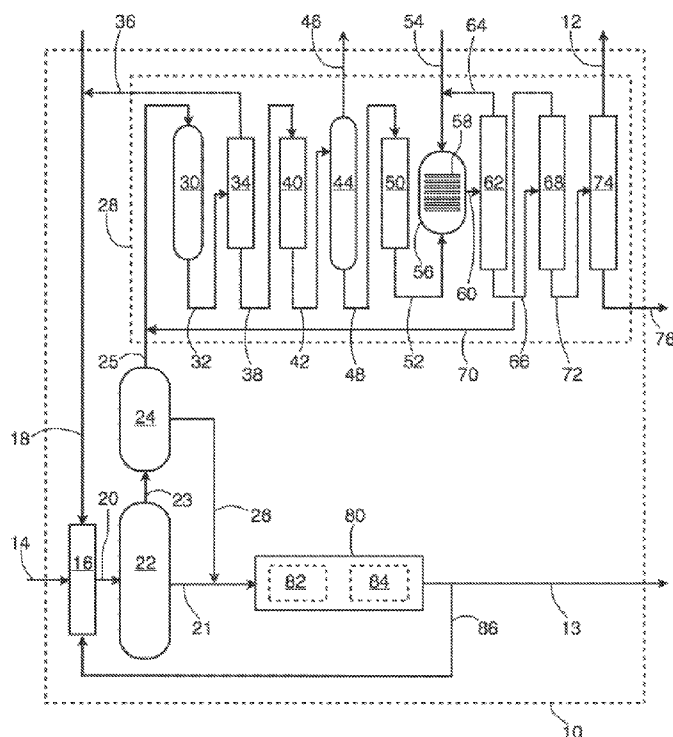
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[Continued on next page]

(54) Title: METHODS FOR CO-PRODUCTION OF ALKYL BENZENE AND BIOFUEL FROM NATURAL OILS USING HYDROCRACKING



(57) Abstract: Embodiments of methods for co-production of linear alkylbenzene and biofuel from a natural oil are provided. A method comprises the step of deoxygenating the natural oils to form paraffins. A first portion of the paraffins is hydrocracked to form a first stream of normal and lightly branched paraffins in the C₉ to C₁₄ range and a second stream of isoparaffins. The first stream is dehydrogenated to provide mono-olefins. Then, benzene is alkylated with the mono-olefins under alkylation conditions to provide an alkylation effluent comprising alkylbenzenes and benzene. Thereafter, the alkylbenzenes are isolated to provide the alkylbenzene product. A second portion of the paraffins and the isoparaffins are processed to form biofuel.



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