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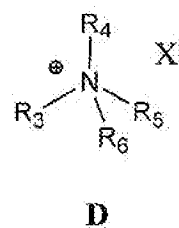
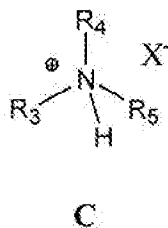
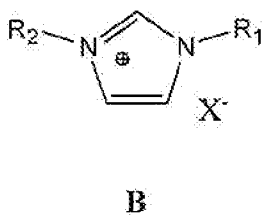
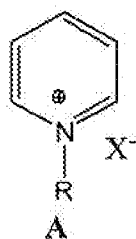
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ning of each regular issue of the PCT Gazette.

(54) Title: ALKYLATION PROCESS USING AN ALKYL HALIDE PROMOTED IONIC LIQUID CATALYST



(57) Abstract: A process for the production of a high quality gasoline blending components from refinery process streams by the alkylation of light isoparaffins with olefins using an ionic liquid catalyst is disclosed. The alkylation process comprises contacting a hydrocarbon mixture comprising at least one olefin having from 2 to 6 carbon atoms and at least one isoparaffin having from 3 to 6 carbon atoms under alkylation conditions, said catalyst comprising a mixture of at least one acidic ionic liquid and at least one alkyl halide. In one embodiment, the acidic ionic liquid is chloroaluminate ionic liquid prepared by mixing aluminum trichloride (AlCl<sub>3</sub>) and a hydrocarbyl substituted pyridinium halide, a hydrocarbyl substituted imidazolium halide, trialkylammonium hydrohalide or tetraalkylammonium halide of the general formulas (A), (B), (C) and (D), respectively, where R=H, methyl, ethyl, propyl, butyl, pentyl or hexyl group and X is a halide and preferably a chloride, and R<sub>1</sub> and R<sub>2</sub>=H, methyl, ethyl, propyl, butyl, pentyl or hexyl group and where R<sub>1</sub> and R<sub>2</sub> may or may not be the same, and R<sub>3</sub>, R<sub>4</sub> and R<sub>5</sub> and R<sub>6</sub>=methyl, ethyl, propyl, butyl, pentyl or hexyl group and where R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub> and R<sub>6</sub> may or may not be the same.