

Catalytic Conversion of Biomass Derived Intermediates into Gasoline

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Abstract : In an attempt to facilitate effective conversion of biomass derived products into gasoline rich in aromatics and iso-paraffins, various zeolite catalysts with special features such as nano crystallite size and acidity has been synthesized and evaluated. The catalyst (NZ) exhibits highest gasoline yield of about 74wt% with aromatics and iso-paraffins as major components. The product measures Research Octane Number (RON) of about 95, which is desirable for the gasoline specifications. Moreover, considerable amount of the Liquefied Petroleum Gas (LPG) (15wt%) and light olefins (14wt%) are also formed as bi-product that adds value to the process. The study reveals the effective conversion of bio- ethanol to high-octane gasoline.

Keywords : biomass, ethanol, acetone, gasoline, zeolite

Conference Title : ICC 2015 : International Conference on Chemistry

Conference Location : Istanbul, Türkiye

Conference Dates : February 16-17, 2015