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Catalytic Technique of Bio-oil Conversion to Valuable Chemicals

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Abstract

Catalytic technique of lignin derived bio-oil conversion, has been studied over Pt- γ -Al₂O₃ catalyst in a fixed-bed tubular micro-K, 14 bar and space velocity 3 (g of Anisole)/(g of catalyst × h), in the presence of H₂. A reaction network according to selectivity-proposed to describe the evolution of products observed. The reactions include the following, anisole to benzene via HDO, to hydrodeoxygenation and alkylation, to phenol via hydrogenolysis, to 2-methylphenol via transalkylation and finally to 2, 4-dimethylphenol and 2, 3, 5, 6-tetramethylphenol via transalkylation and alkylation. Experimental results indicated that the anisole conversion about 20% with increasing the pressure from 8 to 14 bar at 673 K.

Keywords

Bio-oil, Valuable Chemicals, Anisole, Catalytic Conversion, Hydrodeoxygenation

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