

Hydrodeoxygenation of pyrolysis oils over tungstate-zirconia-supported Ru catalysts using the fixed-bed continuous flow system

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The wood-derived bio-oil has a severe problem. Because high oxygen contents, which result in high acidity and viscosity, low energy density and so on. The high oxygen contents of bio-oil by producing oxygen-free products. However, technology of conversion of bio-oil came up against some difficulties especially coke formation, resulting in catalyst deactivation and plugging in reactor. The purpose of our study is to determine catalyst having high catalytic activity and showing less formation of cokes for bio-oil HDO reaction using fixed-bed continuous reactor. Tungstate-zirconia-supported Ru catalyst was regarded as an optimum catalyst for the bio-oil upgrading.