

Aqueous-phase Hydrogenation of Volatile fatty acids to mixalco over Noble metals catalyst

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The aqueous-phase hydrogenation of volatile fatty acids to mixalco over Noble metals catalyst is investigated in a 150ml autoclave at reaction temperatures of 140–240°C and hydrogen pressures of 10–70 atm. In aqueous solution, Platinum on activated carbon (Pt/C) is more active and selective catalyst for hydrogenation of mixed acids to alcohol than Palladium on activated carbon (Pd/C). Acetic acid is reactant in this research. This process produces mixalco from volatile fatty acid which was produced via anaerobic fermentation of seaweeds. In our experiment, the conversion of acid acetic to ethanol is more than 90% with Pt/C catalyst at 200°C, 65 atm.