



## Valorization of Waste Cooking Oil into Biodiesel over an Anionic Resin as Catalyst

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Waste cooking oil was converted with methanol into biodiesel over a basic resin (Amberlite IRA96) as catalyst, at 60°C. In order to optimize the reaction conditions, different parameters, such as catalyst loading, temperature, nature of alcohol, molar ratio of waste cooking oil to methanol, and amount of initial free fatty acid, were studied. The catalyst was reused and recycled with negligible loss in the activity. A simple kinetic model can be established based on the assumptions that the triglycerides are consumed according to the consecutive reaction network. It was observed that the kinetic model fits experimental concentration data quite well.

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