

Study on effect of reaction factors for biodiesel production from soybean oil in supercritical methanol

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In this study, transesterification of soybean oil using supercritical methanol was performed without any catalyst. For synthesis of biodiesel, effect of various factors on the content of fatty acid methyl esters (FAMEs) such as reaction time, temperature, pressure, molar ratio of methanol to oil, agitation speed and heating rate were studied. The kinetic behavior of soybean oil in supercritical methanol had been investigated. The transesterification of soybean oil in supercritical methanol could be formulated by the first-order kinetic law at the initial stage of the reaction. The activation energy was evaluated.