

Abstract

Bioesters refer to a organic material from non-petroleum-base fuel consisting of long chain alkyl esters made by transesterification and esterification reaction of plant oil.

This research was studied heterogeneous catalyst from cotton prepared by the sulfonation reaction with sulfuric acid. The precursor of the composite catalyst change -OH to -SO₃H group. In addition to the use in the transesterification and esterification reaction, heterogeneous acid catalysts for bioester synthetic. The result showed the heterogeneous catalyst concentration is 4.26×10^{-3} mol/g H₂SO₄ and density is 8.22×10^{-3} g/cm³

For heterogeneous catalyst of the ratio of olein triglyceride with methanol (1:30) via 1 %wt heterogeneous catalyst, the reaction under 80.0°C in 24 h gave a high percent yield conversion of methyl ester in 66.67 %. The methyl ester conversion product was determine by using ¹H NMR and FTIR Spectroscopy.