**Production of biodiesel from non-edible Jatropha curcas oil via transesterification using Bi2O3-La2O3 catalyst**


ABSTRACT

The simultaneous esterification and transesterification of Jatropha curcas oil (JCO) was carried out in the presence of Bi2O3 (1ï 7 wt.%) modified La2O3 catalyst at atmospheric pressure. The catalyst were characterized by X-ray diffraction (XRD), BET surface area, desorption of CO2 (TPD-CO2) and NH3 (TPD-NH3). Under the optimal reaction condition of methanol/oil molar ratio of 15:1, 2 wt.% of catalyst amount and a reaction temperature of 150 °C for 4 h, the highest conversion of biodiesel obtained was 93%. This catalyst maintained 87% of FAME conversion after three times of successive reuse.



**Keyword:** Biodiesel; Transesterification; Jatropha curcas oil; Bi2O3ï La2O3; Heterogeneous catalyst