

Transesterification of Karanja (*Pongamia Pinnata*) oil using barnacle derived CaO mixed ZnO

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ABSTRACT

Karanja oil (*Pongamia Pinnata*) as non-edible oil is chosen as alternative biodiesel feedstock as comparable diesel fuel prolonged due to the battle of starvation on using of edible oils traditionally. Transesterification reaction of Karanja oil extracted from Soxhlet method and catalysed by barnacle as a CaO source mixed with ZnO through ball mill method at 1:2 ratios, calcined for 3 h at 700 °C successfully to produce biodiesel. The optimal conditions were found to be: methanol/oil mass ratio, 12:1; catalyst amount, 9 wt% at the reaction temperature, 65 °C within 3 h of reaction time achieving 97.75% of methyl ester conversion.

KEYWORDS:

Karanja (*Pongamia Pinnata*); CaO mixed ZnO