

## **Selectivity of *Candida rugosa* Lipase immobilized onto layered double hydroxides as catalyst in synthesis of fatty acid esters**

### **ABSTRACT**

The enzymatic selectivity of Lipase from *Candida rugosa* immobilized onto a calcined layered double hydroxide (CLDHs-CRL) towards the chain-length of fatty acids and alcohols in the synthesis of fatty acid esters was investigated. The results showed that CMAN-CRL catalyzed the esterification process with fatty acids of medium chain lengths (C10-C14) effectively while, CNAN-CRL and CZAN-CRL exhibited high percentage conversion in fatty acids with carbon chain lengths of C8-C12 and C10-C18, respectively. In the alcohol selectivity study, CMAN-CRL showed high selectivity toward alcohols with carbon chain lengths of C4, C6 and C10. On the other hand, both CNAN-CRL and CZAN-CRL exhibited rather low selectivity towards longer carbon chain length of alcohols.

**Keyword:** *Candida rugosa* lipase; Immobilized; Layered double hydroxides; Fatty acid esters