



IMMOBILIZED LIPASES AS BIOCATALYSTS FOR ORGANIC SYNTHESIS

1. TRANSESTERIFICATION OF ETHYL ACETATE WITH ALCOHOLS IN THE PRESENCE OF FREE *Candida antarctica* LIPASE B

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Abstract

Lipases are versatile catalysts for organic reactions and they can be used both as free enzymes and as immobilized preparations. Investigation of the catalytic properties of lipases immobilized on various supports aiming to develop green chemistry applications is of great interest. This paper presents some results in the biocatalytic applications of free lipase which can be used as reference. Therefore, *Candida antarctica* lipase B (CALB)-catalyzed transesterification of ethyl acetate with different nucleophilic alcohols in hexane as solvent was performed. The effects of reaction temperature and substrates concentrations on conversion and specific activity of enzyme were studied. The alcohol chain length was found to have an important role on the activity in the transesterification. The kinetics of the reaction is agreed with *Ping Pong Bi Bi* mechanism.

Keywords: lipase, alcoholysis, ethyl acetate, kinetics

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