Kinetic model for trigl yceride hydrolysis using lipase: review

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Abstrak

Triglyceride hydrolysis using lipase has been proposed as a novel method to produce raw materials in food and cosmetic industries such as diacylglycerol, monoacylglycerol, glycerol and fatty acid. In order to design a reactor for utilizing this reaction on industrial scale, constructing a kinetic model is important. Since the substrates are oil and water, the hydrolysis takes place at oil-water interface. Furthermore, the triglyceride has three ester bonds, so that the hydrolysis stepwise proceeds. Thus, the reaction mechanism is very complicated. The difference between the interfacial and bulk concentrations of the enzyme, substrates and products, and the interfacial enzymatic reaction mechanism should be considered in the model.