

Effect of surfactant on enzymatic synthesis of glycerol carbonate

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Glycerol carbonate is a value-added product derived from glycerol. Transesterification is important for enzymatic synthesizing glycerol carbonate using enzyme. Optimized condition such as enzyme concentration, DMC/glycerol molar ratio, temperature and solvent for glycerol carbonate production was selected through the previous studies. Improvement of conversion of glycerol carbonate was needed by application other methods besides these conditions. In this work, the effect of various components addition such as water or surfactants on transesterification for efficient biosynthesis of glycerol carbonate were investigated. Water addition was performed with ranges of water concentration from 0.25 to 1.25% (v/v). Surfactant addition was carried out with three kinds of surfactant. Finally, high conversion of glycerol carbonate was improved under the optimum condition.