

Influence of chloride impurity on the lipase-catalyzed transesterification in ionic liquids

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The influence of chloride impurity on the lipase-catalyzed transesterification in ionic liquids (ILs) was discussed. The activity of Lipozyme IM lipase from *Rhizomucor miehei* exponentially decreased with increasing chloride content in [Omim][Tf₂N] and it was seen that the activity of lipase in the [Omim][Tf₂N] containing 2% [Omim][Cl] was only about 2% of the activity in pure [Omim][Tf₂N]. The activity of Novozym 435 lipase from *Candida antarctica* linearly decreased with increasing chloride content. The activity of about 5% decreased with increasing 1% [Omim][Cl]. The lipase was fully inactivated in [Omim][Tf₂N] containing about 20% [Omim][Cl]. Novozym 435 may be more effective enzyme to the reaction in ILs. In the case of the reaction using Lipozyme IM, the content of chloride in ILs must be carefully considered. The inactivation of lipases with increasing chloride content may be caused by the decrease in partition coefficient and increase in hydrogen-bond basicity and viscosity of ionic liquid.