

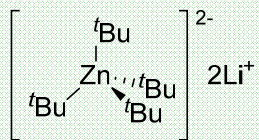


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# Chemoselective Transesterification and Polymer Synthesis Using Zinc Art Complex

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dilithium tetra-*tert*-butylzincate (TBZL)



» easy to prepare

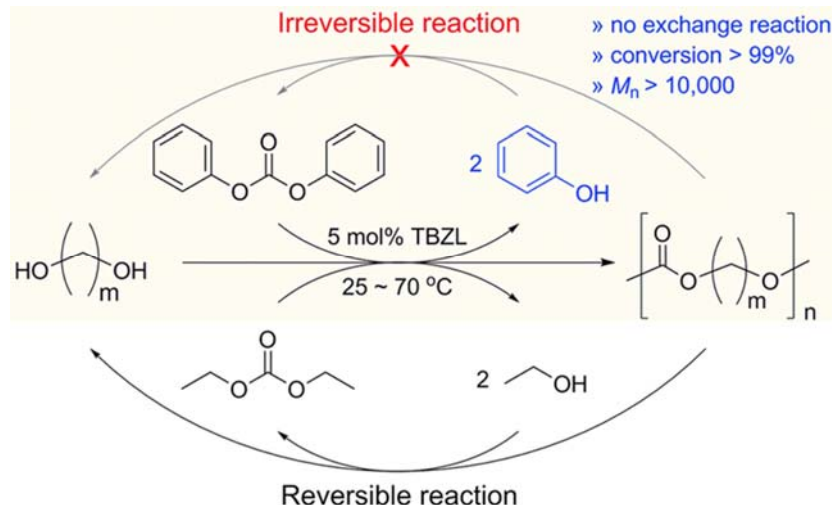
» low basicity, high nucleophilicity

» tolerance to H<sub>2</sub>O

## 1. Transesterifications under mild conditions



## 2. Synthesis of Aliphatic polycarbonates



Content:

I am doing research using zinc art complex,  $t\text{Bu}_4\text{ZnLi}_2$  (TBZL), based on polymer synthesis having biodegradability and biocompatibility.

### 1. Transesterifications under mild conditions

Transesterification is a useful method for preparing various esters. However, strong acid/base and severe conditions are generally required. The transesterification of alcohols with carboxylic esters were investigated in the presence of a catalytic amount of TBZL as a catalyst. The transesterification occurred at low temperature. In addition, the transesterification proceeded even in the presence of H<sub>2</sub>O and amines.

### 2. Synthesis of Aliphatic polycarbonates

The polycondensation of diphenyl carbonate with diols catalyzed by TBZL were carried out. The irreversible polycondensations proceeded under moderate polymerization temperature and atmospheric pressure. This polymerization system is a useful to obtain aliphatic polycarbonates without requiring a tedious procedure.

Keywords : high-functional materials, biodegradable polymer

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