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A Poly(ethylene glycol) Supported Chiral Auxiliary for Asymmetric Michael Reactions
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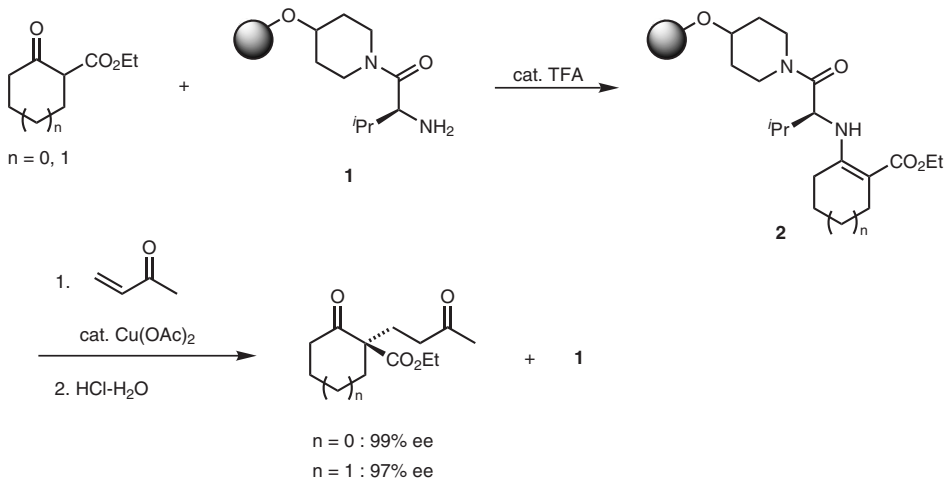
A Poly(ethylene glycol)-Supported Chiral Auxiliary for Asymmetric Michael Reaction



Significance: Poly(ethylene glycol)-supported L-valine-derived auxiliary **1** was prepared from poly(ethylene glycol) dimesylate in four steps. After condensation with ethyl cyclopentan-2-one carboxylate and ethyl cyclohexan-2-one carboxylate, copper-catalyzed Michael reactions of the resulting enamines **2** with methyl vinyl ketone were carried out at 23 °C for two days in acetone to give ethyl (*R*)-2-oxo-1-(3-oxobutyl)cyclopentane carboxylate and ethyl-(*R*) 2-oxo-1-(3-oxobutyl)cyclohexane carboxylate with 99% ee and 97% ee, respectively. Auxiliary **1** was recovered by simple precipitation from diethyl ether.

Comment: The authors have reported that the copper-catalyzed auxiliary-mediated reaction of cyclic β-oxo esters with methyl vinyl ketone gave the Michael adducts in high yields with excellent ee under homogeneous conditions (J. Christoffers, A. Mann *Chem. Eur. J.* **2001**, *7*, 1014–1027).

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Category
Polymer-Supported Synthesis

Key Words
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