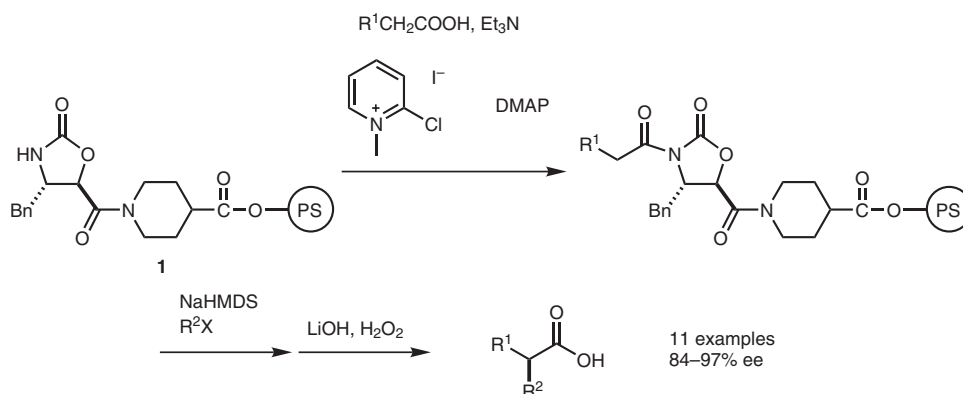


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Design and Synthesis of a New Polymer-Supported Evans-type Oxazolidinone: an Efficient Chiral Auxiliary in the Solid-Phase Asymmetric Alkylation Reactions

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Evans' Asymmetric Alkylation on Solid Supports



Significance: Highly stereoselective solid-phase asymmetric alkylation reactions were achieved by using Evans-type oxazolidinone **1** as a chiral auxiliary. Benzylation at the α -position of propionic acid ($R^1 = CH_3$) gave 2-methyl-3-phenylpropionic acid in 70% yield with 97% ee in three steps. The resin-supported chiral auxiliary **1** was recovered by simple filtration and was reused three times without any loss of stereoselectivity (1st to 4th 96% ee, $R^1 = Bn$, $R^2 = allyl$).

Comment: Solid-phase Evans' asymmetric alkylation reactions were achieved with enantioselectivities that were comparable to the solution-phase alkylation. The selectivity obtained with the immobilized chiral oxazolidinone **1** represents an improvement over the similar auxiliaries so far reported anchoring at the 4-position.

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