Enantioselective Alkylation of β-Keto Esters

Significance: The Cu(OTf)₂/tert-butyl-bis-oxazoline catalyst system allows the asymmetric alkylation of β-keto esters with free benzylic alcohols, for example, xanthydrols as alkylating agents. The reaction is environmentally benign as it generates only water as by-product.

Comment: The reaction between the asymmetric Cu(II)-β-keto ester derivative and the in situ generated carbocation proceeds via an SN₁ mechanism. Albeit unknown, the water produced has a specific role to facilitate the reaction.

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