Category

Metal-Catalyzed Asymmetric Synthesis and Stereoselective Reactions

Key words

asymmetric alkylation

β-keto esters

copper

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Copper-Catalyzed Asymmetric Alkylation of β-Keto Esters with Xanthydrols
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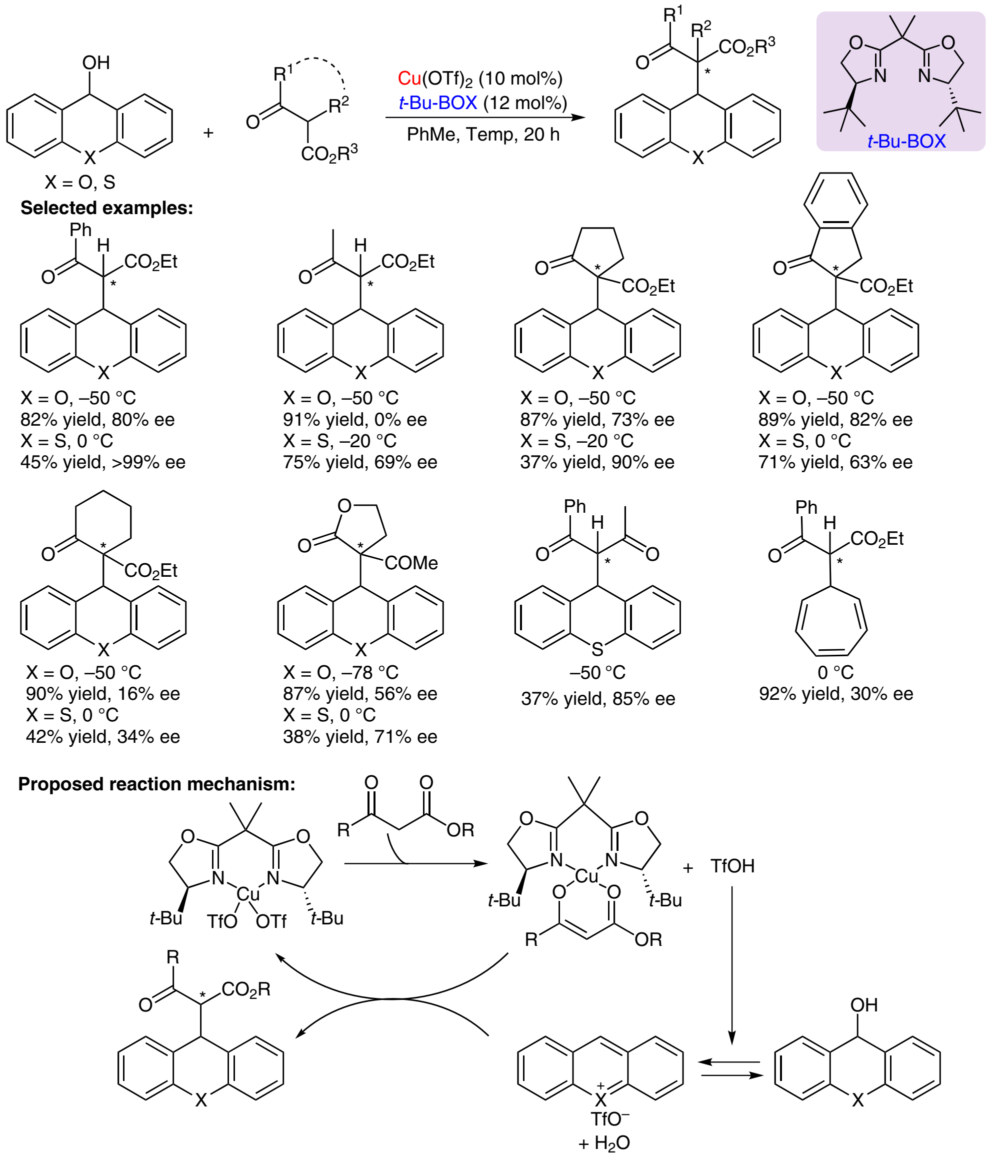
Enantioselective Alkylation of β-Keto Esters



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 S$_N$1 mechanism. Albeit unknown, the water produced has a specific role to facilitate the reaction.

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