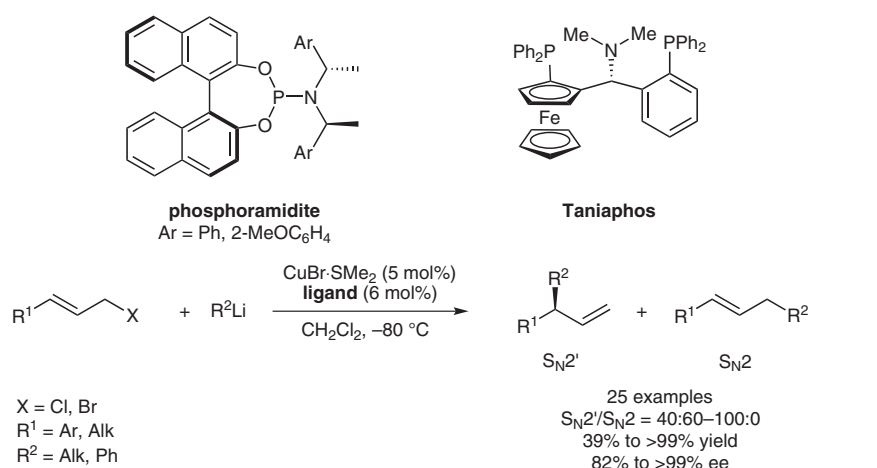
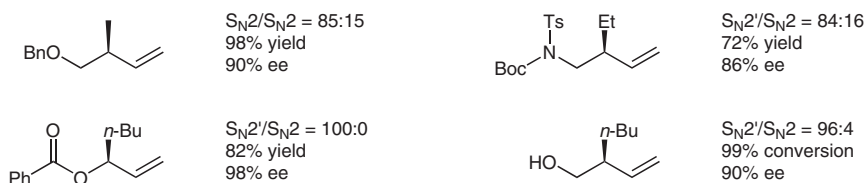


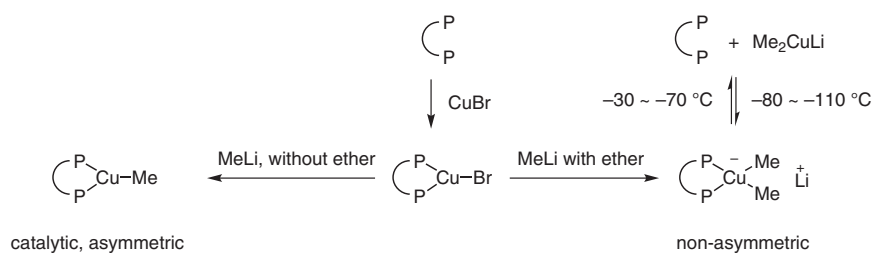
Copper-Catalyzed Asymmetric Allylic Alkylation with Organolithium Reagents



Products showing functional group tolerance:



Proposed catalytic complex:



Significance: This report describes the utilization of organolithium reagents as nucleophile sources in copper-catalyzed asymmetric allylic alkylation. Using Taniaphos as the chiral ligand, various allyl-lithium reagents are nicely coupled with substituted allyl bromides in S_N2' manner. Using a chiral phosphoramidite ligand allows cinnamyl chloride and phenyllithium to participate in the reaction.

Comment: The authors proposed from ³¹P NMR studies that the reaction passes through an intermediate state of a diphosphine copper monoalkyl species. Using ether as co-solvent stops the formation of this intermediate, therefore diminishes enantioselectivity. This method tolerates a broad range of functional groups. It provides high regio- and enantioselectivity for a very general scope of allyl halides.

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