Category

Metals in Synthesis

Key words

copper catalysis

C(sp^3)–P cross-coupling

enantioconvergent

Michaelis–Becker reaction

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A General Copper-Catalysed Enantioconvergent Radical Michaelis–Becker-Type C(sp^3)–P Cross-Coupling
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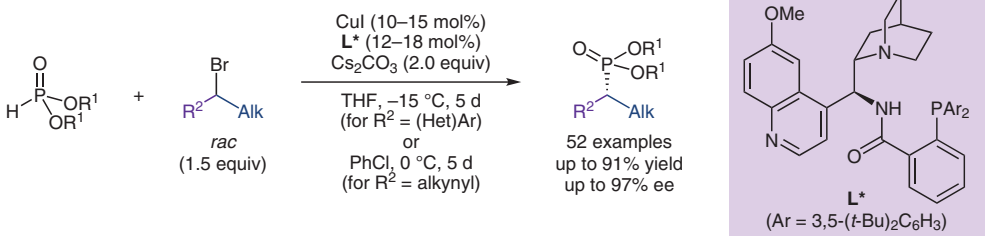
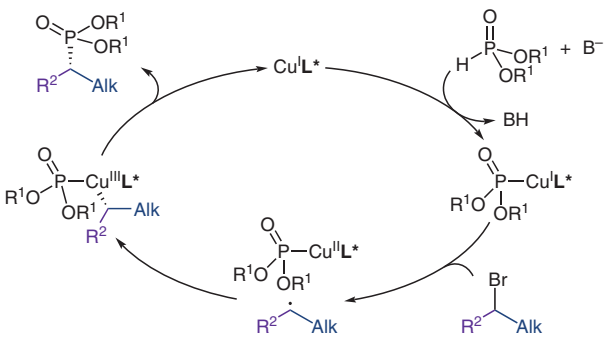
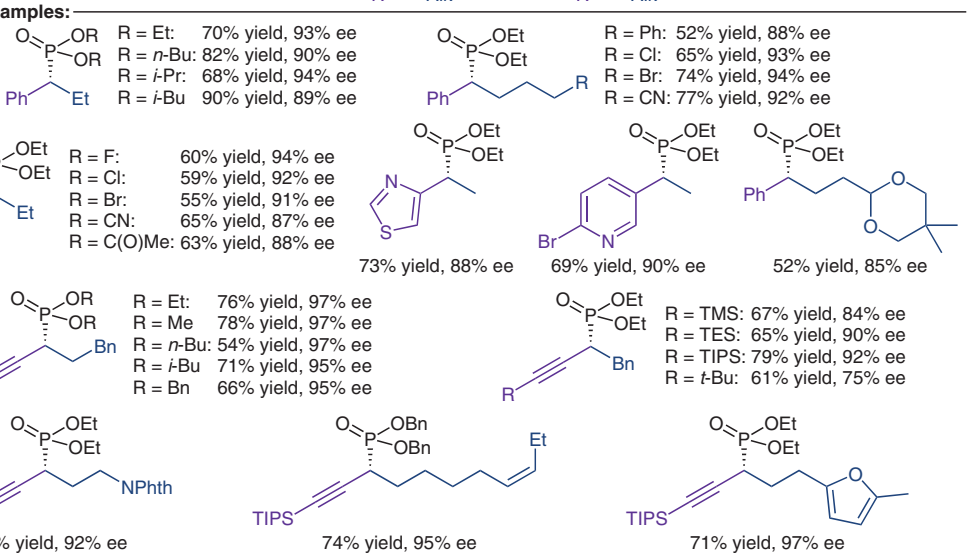
Copper-Catalyzed Enantioconvergent C(sp^3)–P Cross-Coupling of Secondary Benzyl and Propargyl Bromides



Proposed mechanism:



Selected examples:



Significance: A copper-catalyzed radical version of the Michaelis–Becker reaction is reported, enabling the efficient enantioconvergent C(sp^3)–P cross-coupling of racemic secondary benzyl and propargyl bromides with dialkyl phosphonates.

Comment: A few examples using α-bromoamides as substrates are also included, but these cross-couplings proceeded with lower efficiency and enantioselectivity.

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