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Enantioselective Synthesis of Trisubstituted Allenes via Cu(I)-Catalyzed Coupling of Diazoalkanes with Terminal Alkynes

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Enantioselective Coupling of Diazoalkanes with Terminal Alkynes

Category

Metal-Catalyzed
Asymmetric
Synthesis and
Stereoselective
Reactions

Key words

copper
allenes
diazoalkanes
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enantioselective
coupling

Synfact
of the month

Possible stereocontrol model:

Significance: An enantioselective coupling reaction of aryldiazoalkanes with terminal alkynes is described. A copper complex promotes this transformation to afford trisubstituted allenes with high enantioselectivities. A rational stereocontrol model is proposed.

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Comment: This reaction involves copper(I) carbene formation, alkynyl migratory insertion, and protonation. The authors suggest that migratory insertion of the copper(I) carbene species is the enantiodetermining step.