Copper-Catalyzed Stereospecific Allylic Alkylation of Ketene Silyl Acetals

**Significance:** Allylic alkylation of enolates is an important transformation in organic synthesis. The copper-catalyzed method described employs unsymmetrical internal allylic phosphates as electrophiles, which react with excellent \( \gamma \)-regioselectivity and excellent \( Z \)-diastereoselectivity.

**Comment:** The \( \gamma \)-selective allylic alkylation of chiral allylic phosphates proceeds with efficient 1,3-\( \alpha \)-to-\( \gamma \) chirality transfer. The stereochemical outcome of the product is dependent on the \( E/Z \) geometry of the allylic phosphate. The authors propose the reaction pathway shown above, invoking an allyl copper(III) intermediate.

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D. LI, H. OHMIYA,* M. SAWAMURA* (HOKKAIDO UNIVERSITY, SAPPORO, JAPAN)

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**Key words**

allylic alkylation  
copper  
regioselectivity

**Category**

Metal-Catalyzed Asymmetric Synthesis and Stereoselective Reactions

**SYNFACTS Contributors:** Hisashi Yamamoto, Patrick Brady

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