Q.-F. WU, P.-X. SHEN, J. HE, X.-B. WANG, F. ZHANG, Q. SHAO, R.-Y. ZHU, C. MAPELLI, J. X. QIAO, M. A. POSS, J.-Q. YU* (THE SCRIPPS RESEARCH INSTITUTE, LA JOLLA AND BRISTOL-MYERS SQUIBB COMPANY, PRINCETON, USA)
 Formation of α -Chiral Centers by Asymmetric β -C(sp³)-H Arylation, Alkenylation, and Alkynylation
Science **2017**, 355, 499–503.

Palladium-Catalyzed Asymmetric C–H Functionalizations of Isobutanamides

Selected examples:

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Significance: Desymmetrization of isopropyl moieties has remained an unanswered challenge. The authors have developed new ligands for the formation of a chiral center at the α -position of isobutyric acid derivatives through β -C(sp³)-H functionalization.

Comment: This palladium-catalyzed protocol promotes an asymmetric β -C(sp³)-H arylation, alkenylation, or alkynylation to form a chiral center at the α -position of a range of isobutyric acid derivatives with moderate yields and excellent enantioselectivities.

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