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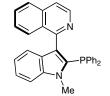
F. S. P. CARDOSO, K. A. ABBOUD, A. APONICK* (UNIVERSITY OF FLORIDA, GAINESVILLE, USA)

Design, Preparation, and Implementation of an Imidazole-Based Chiral Biaryl P,N-Ligand for Asymmetric Catalysis *J. Am. Chem. Soc.* **2013**, *135*, 14548–14551.

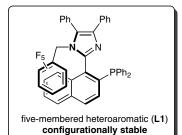
A Chiral Biaryl P,N-Ligand for Asymmetric Catalysis

Concept:

six-membered aromatic (QUINAP)



five-membered heteroaromatic configurationally unstable



Synthesis of L1:

Importance of π -stacking:

L1 (X = F) half-life: 8.7 h at 75 °C in DCE **L1-H₅** (X = H) half-life: 22 min

Selected example:

Significance: The authors reported the preparation of a new chiral biaryl P,N-ligand incorporating a five-membered electron-rich heteroaromatic. This ligand is easy to prepare and an effective catalyst for the enantioselective alkynylation of imines.

SYNFACTS Contributors: Hisashi Yamamoto, Masahiro Sai Synfacts 2014, 10(1), 0041 Published online: 13.12.2013 **DOI:** 10.1055/s-0033-1340430; **Reg-No.:** H15113SF

Comment: In contrast to the six-membered P,N-ligands, five-membered P,N-ligands are configurationally unstable. The authors have succeeded in preparing a configurationally stable five-membered P,N-ligand involving π -stacking interaction, which would offer a new, unexplored chemical diversity.