T. HASHIMOTO, H. NAKATSU, Y. TAKIGUCHI, K. MARUOKA* (KYOTO UNIVERSITY, JAPAN)

Axially Chiral Dicarboxylic Acid Catalyzed Activation of Quinone Imine Ketals: Enantioselective Arylation of Enecarbamates

J. Am. Chem. Soc. **2013**, *135*, 16010–16013.

Enantioselective Arylation of Enecarbamates with Quinone Imine Ketals

Proposed reaction mechanism:

Significance: The asymmetric enantioselective arylation of enecarbamates catalyzed by a chiral Brønsted acid is reported. An axially chiral dicarboxylic acid (**1**) catalyzes the reaction of quinone imine ketals **2** with enecarbamates **3** to give α-amino-β-aryl ethers **4** in good yields and enantioselectivities. The products could be transformed into various useful chiral building blocks.

Comment: It is notable that opposite enantiomers of the products are obtained by changing from *Z*- to *E*-enecarbamates. The authors propose that the isomeric enecarbamates approach the quinone imine ketals **2** from the same prochiral face, and that diastereomeric intermediates are generated that lead to the opposite enantiomers after aromatization.

SYNFACTS Contributors: Benjamin List, Ji Hye Kim
Synfacts 2014, 10(1), 0092 Published online: 13.12.2013
DOI: 10.1055/s-0033-1340403; Reg-No.: B11513SF

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