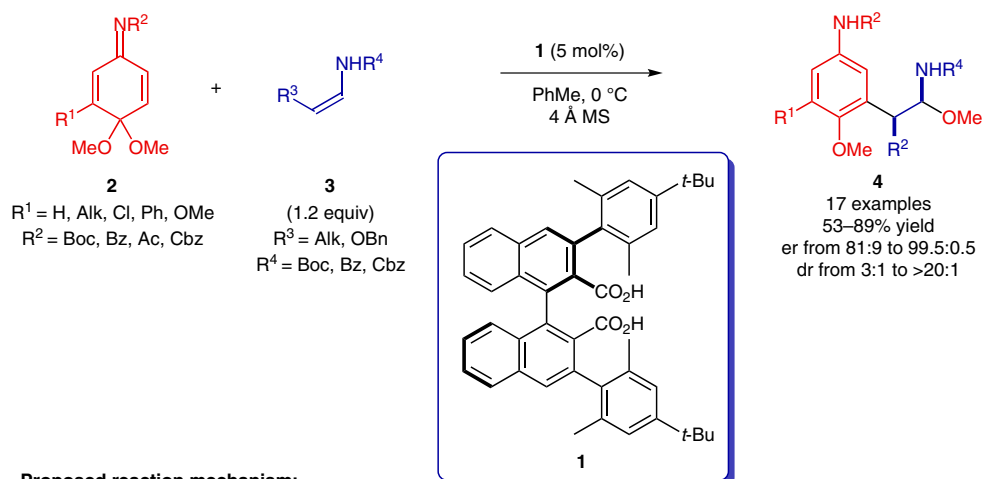


T. HASHIMOTO, H. NAKATSU, Y. TAKIGUCHI, K. MARUOKA\* (KYOTO UNIVERSITY, JAPAN)

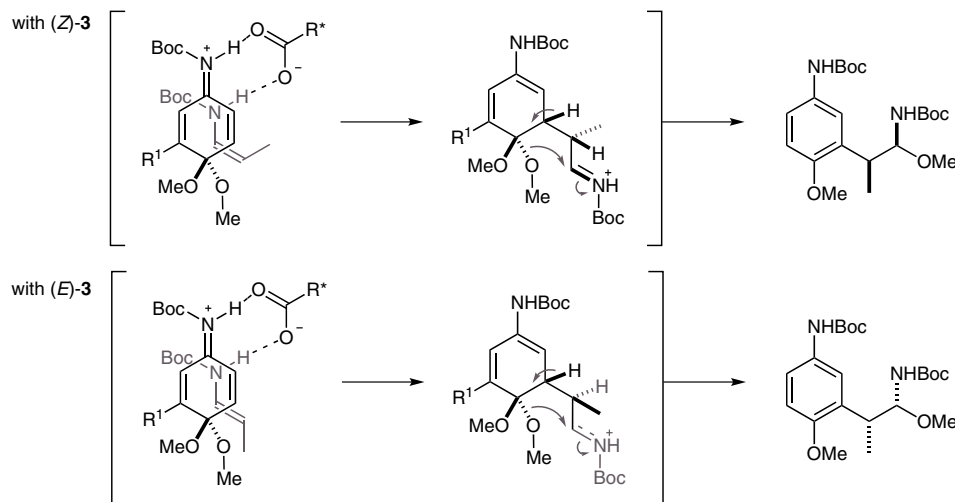
Axially Chiral Dicarboxylic Acid Catalyzed Activation of Quinone Imine Ketals: Enantioselective Arylation of Enecarbamates

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## 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  
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