J. CHEN, X. LU, W. LOU, Y. YE, H. JIANG, W. ZENG* (SOUTH CHINA UNIVERSITY OF TECHNOLOGY, GUANGZHOU AND CHENGDU INSTITUTE OF BIOLOGY, P. R. OF CHINA)
Palladium(II)-Catalyzed Enantioselective Arylation of α-Imino Esters
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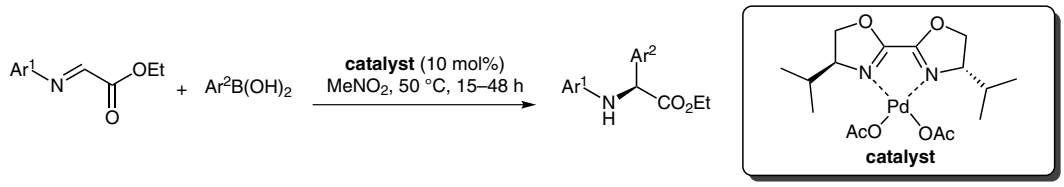
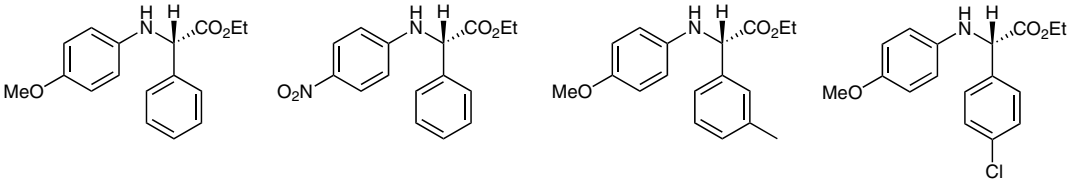
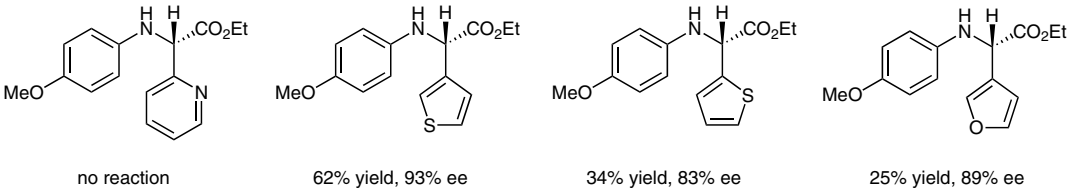
Palladium-Catalyzed Enantioselective Arylation of α-Imino Esters

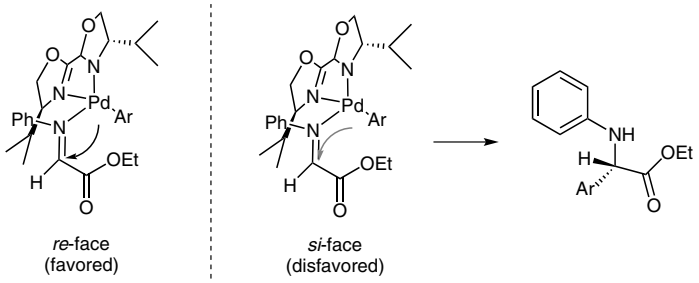


Substrate scope:





Proposed transition state:



Significance: This protocol provides a practical and direct route to chiral arylglycines with high enantioselectivity (up to 99% ee). These derivatives can be easily converted into optically active α-amino acids, which are commonly used as chiral auxiliaries in asymmetric catalysis.

Comment: A palladium(II)-catalyzed asymmetric arylation of *N*-aryl-α-imino esters using a chiral BOX ligand was developed. This method is applicable to various aromatic boronic acids. A stereochemical model, consistent with experimental results, suggests a *re*-face attack of the aryl group onto the *N*-arylimine carbon.

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Category

Metal-Catalyzed Asymmetric Synthesis and Stereoselective Reactions

Key words

palladium

asymmetric arylation

arylglycine derivatives

α-amino acids