Category

Metal-Catalyzed Asymmetric Synthesis and Stereoselective Reactions

Key words

α-iminol
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1,2-carbon shift
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X. ZHANG, R. J. STAPLES, A. L. RHEINGOLD,* W. D. WULFF* (MICHIGAN STATE UNIVERSITY AND UNIVERSITY OF CALIFORNIA, SAN DIEGO, USA)

Catalytic Asymmetric α-Iminol Rearrangement: New Chiral Platforms

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Zirconium/VANOL-Catalyzed Asymmetric α-Iminol Rearrangement

Significance: There has been no example of asymmetric α -iminol rearrangement so far. Herein, the authors developed an effective catalyst system, a zirconium/VANOL complex, which works well not only with α -iminols as starting material, but also with in situ generated α -iminols from an aldehyde and an aniline.

Comment: The zirconium/VANOL catalyst affords excellent yields and enantioselectivities for a broad range of substrates. Interestingly, *N*-methyl imidazole coordinated to zirconium dramatically influences the reaction. When there is a *para*-CF₃ substituent on the phenyl ring, more careful manipulations are required such as inert atmosphere and deoxygenation.

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