J. CHEN, D. LIU, N. BUTT, C. LI, D. FAN, Y. LIU, W. ZHANG* (SHANGHAI JIAO TONG UNIVERSITY, P. R. OF CHINA)

Palladium-Catalyzed Asymmetric Hydrogenation of α-Acylxy-1-arylethanones

Enantioselective Palladium-Catalyzed Allylic Dearomatization


Comment: The first synthesis of α-acyloxy-1-arylethanols was achieved using a chiral diamine ligand and SnCl₂ (T. Mukaiyama, K. Tomimori, T. Oriyama Chem. Lett. 1985, 1359). Then, the use of enzymatic methods for their synthesis with excellent enantioselectivities but moderate regioselectivity was reported (A. Manzocchi, A. Fiecchi, E. Santanelli J. Org. Chem. 1988, 53, 4405; T. Ema, Y. Sugiyama, M. Fukumoto, H. Moriya, J.-N. Cui, T. Sakai, M. Utaka J. Org. Chem. 1988, 63, 4996; R. Hayakawa, M. Shimizu, T. Fujisawa Tetrahedron Asymmetry 1997, 8, 3201). With a palladium catalyst and a bisphosphine ligand, the authors were able to show excellent selectivities for a variety of substrates. In addition, catalyst loadings could be lowered to 0.2 mol% without affecting enantioselectivity.

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Synfacts 2014, 10(1), 0064 Published online: 13.12.2013
DOI: 10.1055/s-0033-1340444; Reg-No.: L15413SF