Category

Metal-Catalyzed Asymmetric Synthesis and Stereoselective Reactions

Key words

copper desymmetrization kinetic resolution Y. S. YOU, T. W. KIM, S. H. KANG* (KOREA ADVANCED INSTITUTE OF SCIENCE AND TECHNOLOGY, DAEJEON, KOREA)

Asymmetric Formation of *tert*-Alkylamines from Serinols by a Dual Function Catalyst *Chem. Commun.* **2013**, *49*, 9669–9671.

Consecutive Intramolecular Desymmetrization and Kinetic Resolution

BzCl (1.9 equiv) Et₃N (2 equiv)

98% ee

99% ee

97% ee

Proposed intermediates in desymmetrization and kinetic resolution:

98% ee

97% ee

catalyst (5 mol%)

Me₂NBn (1.2 equiv)

Significance: This paper describes the consecutive intramolecular desymmetrization and kinetic resolution of 2-substituted *N*-phenoxycarbonylserinols by using bisoxazoline-CuCl₂. The reaction products are obtained in good yield and excellent enantioselectivities (94–99% ee).

Comment: The authors developed a unique asymmetric catalysis system using a single chiral Lewis acid catalyst, which steers two consecutive asymmetric reactions of intramolecular desymmetrization and kinetic resolution. The two successive chemical conversions became unusually enantioselective, resulting in the production of the oxazolidinone benzoates with excellent enantioselectivities, which signifies a powerful and synergistic dual function catalyst effect by a chiral catalyst.

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