Cluster

Development and Applications of Novel Ligands/Catalysts and Mechanistic Studies on Catalysis

Editor: Ang Li
Guest Editors: Zhipeng Zhang, Baoguo Zhao

Asymmetric Michael Reaction of Malononitrile and α,β-Unsaturated Aldehydes Catalyzed by Diarylprolinol Silyl Ether

Y. Hayashi, Y. Hatano, N. Mori
Cluster Preface: Development and Applications of Novel Ligands/Catalysts and Mechanistic Studies on Catalysis

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The Design and Synthesis of Phenylcyclopropane-Based Secondary Amine Catalysts and Their Applications in Asymmetric Reactions

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Catalytic Kinetic Resolution and Desymmetrization of Amines

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Claisen Rearrangement Triggered by Brønsted Acid Catalyzed Alkyne Alkoxylation

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Catalytic Enantioselective Dihalogenation of Alkenes

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Palladium-Catalyzed Coupling of Biphenyl-2-yl Trifluoromethanesulfonates with Dibromomethane to Access Fluorenes

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Palladium-catalyzed coupling of biphenyl-2-yl trifluoromethanesulfonates with dibromomethane to access fluorenes.

Asymmetric Michael Reaction of Malononitrile and α,β-Unsaturated Aldehydes Catalyzed by Diarylprolinol Silyl Ether

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Asymmetric Michael reaction of malononitrile and α,β-unsaturated aldehydes catalyzed by diarylprolinol silyl ether.

Palladium-Catalyzed Stereospecific Coupling of BINOL-bistriflates and Zinc Cyanide and Applications in the Synthesis of 1,1′-Binaphthyl-2,2′-bisoxazolines (BOXAX)

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Palladium-catalyzed stereospecific coupling of BINOL-bistriflates and zinc cyanide and applications in the synthesis of 1,1′-binaphthyl-2,2′-bisoxazolines (BOXAX).
The Synthesis of Novel \( P,N \)-Ferrocenylpyrrolidine-Containing Ligands and Their Application in Pd-Catalyzed Allylic Alkylation – A Synthetic and Mechanistic Investigation

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H. Müller-Bunz
P. J. Guiry*
University College Dublin, Ireland

- 5-step modular synthesis from ferrocene
- \((R,F)_2\)-ligands evaluated
- application in Pd-catalyzed allylic alkylation
  (up to >99% conversions and 85% ee)
- mechanistic investigations

\( \text{Ar} = \text{Cy, p-FC}_6\text{H}_4, \text{o-tolyl} \)

8-Quinolinyl Oxazoline: Ligand Exploration in Enantioselective Ni-Catalyzed Reductive Carbamoyl-Alkylation of Alkene to Access the Chiral Oxindoles

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- up to 73% yield
- up to 95% ee

Brønsted Base Catalyzed Conjugate Addition of \( \beta \)-Acylvinyl Anion Equivalents to \( \alpha,\beta \)-Unsaturated Ketones

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Mechanochemical Asymmetric Transfer Hydrogenation of Diketones to Access Chiral 1,3-Diols under Solvent-Free Conditions

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Rhodium-Catalyzed Regio- and Enantioselective Direct Allylation of Methyl Ketones

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Synthesis of Novel Chiral Phenanthroline Ligands and a Copper Complex

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