

## AIMS AND SCOPE

While total synthesis reached extraordinary levels of sophistication in the last century, the development of practical and efficient synthetic methodologies is still in its infancy. The goal of achieving chemical reactions that are economical, safe, environmentally benign, resource- and energy-saving will demand the highest level of scientific creativity, insight and understanding in a combined effort by academic and industrial chemists.

*Advanced Synthesis & Catalysis* is designed to stimulate and advance that process by focusing on the development and application of efficient synthetic methodologies and strategies in organic, bioorganic, pharmaceutical, natural product, macromolecular and materials chemistry. The targets of synthetic studies can range from natural products and pharmaceuticals to macromolecules and organic materials. While catalytic methods based on metal complexes or enzymes play an ever increasing role in achieving synthetic efficiency, all areas of interest to the practical synthetic chemist fall within the purview of *Advanced Synthesis & Catalysis*, including synthesis design, reaction techniques, separation science and process development.

Contributions from industrial and governmental laboratories are highly encouraged. It is the goal of the journal to help initiate a new era of chemical science, based on the efforts of synthetic chemists and on interdisciplinary collaboration, so that chemistry will make an even greater contribution to the quality of life than it does now.

# Advanced Synthesis & Catalysis

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2006, 348, 9, Pages 985 – 1112

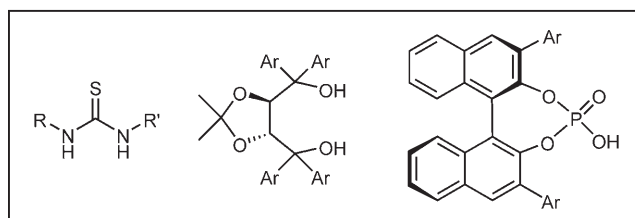
Issue 7 + 8/2006 was published online on May 5, 2006

## REVIEW

Recent Progress in Chiral Brønsted Acid Catalysis

*Adv. Synth. Catal.* **2006**, 348, 999 – 1010

Takahiko Akiyama,\* Junji Itoh, Kohei Fuchibe



Chiral Brønsted Acid Catalysts

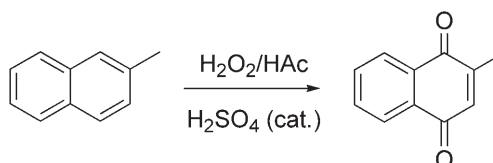
999

## COMMUNICATIONS

A New Metal-Free Access to Vitamin K3

*Adv. Synth. Catal.* **2006**, 348, 1011 – 1015

Anne Bohle, Anett Schubert, Yu Sun, Werner R. Thiel\*

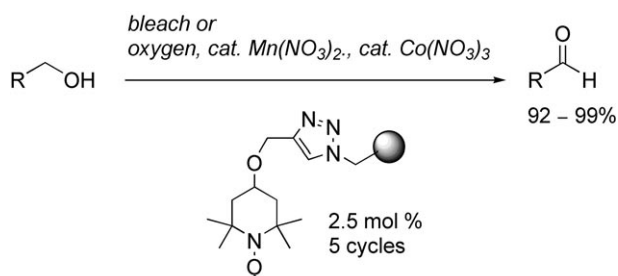


1011

**1016** Expedient Immobilization of TEMPO by Copper-Catalyzed Azide-Alkyne [3+2]-Cycloaddition onto Polystyrene Resin

*Adv. Synth. Catal.* **2006**, 348, 1016–1020

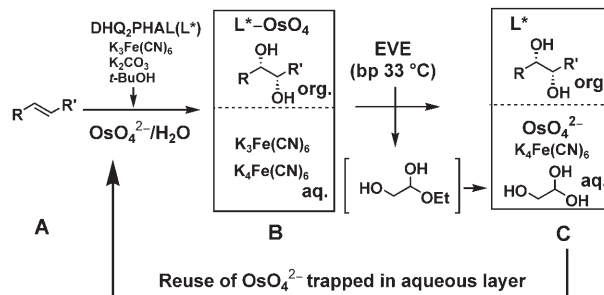
Alexandru Gheorghe, Ai Matsuno, Oliver Reiser\*



**1021** A Novel Chemoentrappment Approach for Supportless Recycling of a Catalyst: Catalytic Asymmetric Dihydroxylation

*Adv. Synth. Catal.* **2006**, 348, 1021–1024

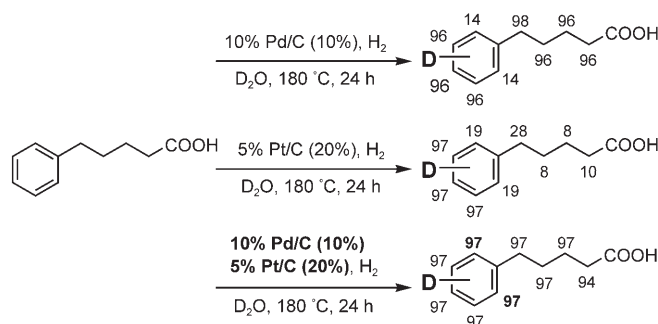
Daewon Lee, Honggeun Lee, Seyoung Kim, Chang-Eun Yeom, B. Moon Kim\*



**1025** Synergistic Effect of a Palladium-on-Carbon/Platinum-on-Carbon Mixed Catalyst in Hydrogen/Deuterium Exchange Reactions of Alkyl-Substituted Aromatic Compounds

*Adv. Synth. Catal.* **2006**, 348, 1025–1028

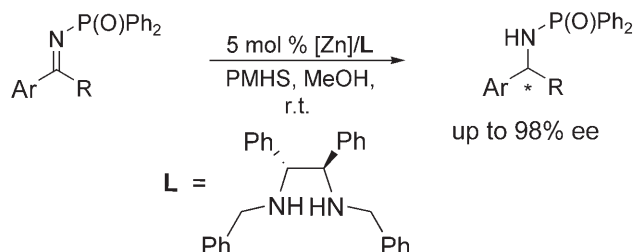
Nobuhiro Ito, Tsutomu Watahiki, Tsuneaki Maesawa, Tomohiro Maegawa, Hironao Sajiki\*



**1029** Zinc-Catalyzed Enantioselective Hydrosilylation of Imines

*Adv. Synth. Catal.* **2006**, 348, 1029–1032

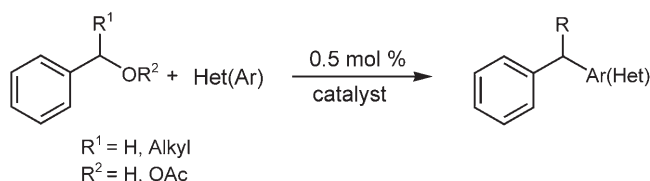
Bu-Mahn Park, Soungyun Mun, Jaesook Yun\*



**1033** An Effective Bismuth-Catalyzed Benzylation of Arenes and Heteroarenes

*Adv. Synth. Catal.* **2006**, 348, 1033–1037

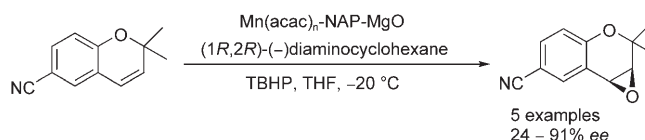
Magnus Rueping,\* Boris J. Nachtsheim, Winai Ieawsuwan



**1038** Asymmetric Epoxidation of Olefins by Manganese(III) Complexes Stabilised on Nanocrystalline Magnesium Oxide

*Adv. Synth. Catal.* **2006**, 348, 1038–1042

B. M. Choudary,\* Ujjwal Pal, M. Lakshmi Kantam, K. V. S. Ranganath, B. Sreedhar

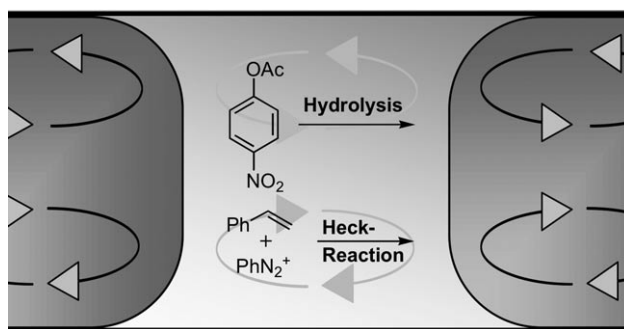


## FULL PAPERS

## Enhancement of Reaction Rates by Segmented Fluid Flow in Capillary Scale Reactors

*Adv. Synth. Catal.* **2006**, *348*, 1043–1048

Batoul Ahmed, David Barrow,\* Thomas Wirth\*

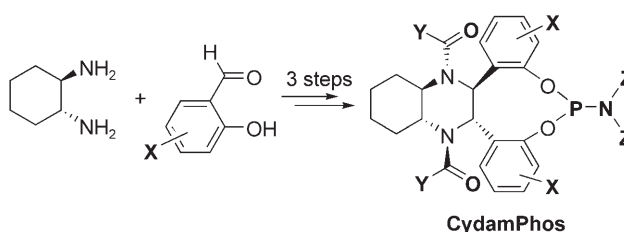


1043

## Practical by Ligand Design: A New Class of Monodentate Phosphoramidite Ligands for Rhodium-Catalyzed Enantioselective Hydrogenations

*Adv. Synth. Catal.* **2006**, *348*, 1049–1057

Baoguo Zhao, Zheng Wang, Kuiling Ding\*

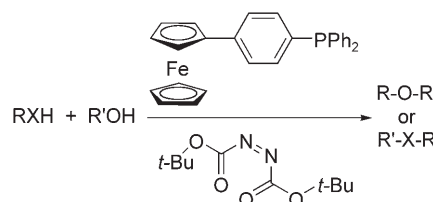


1049

## Redox-Switchable Phase Tags – Facile Mitsunobu Reactions using Ferrocenyl-Tagged Triphenylphosphine

*Adv. Synth. Catal.* **2006**, *348*, 1058–1062

Christoph A. Fleckenstein, Herbert Plenio\*

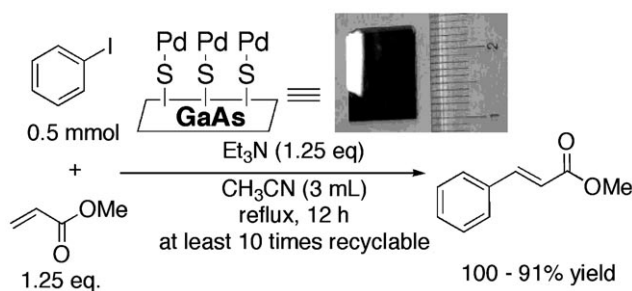


1058

## Development of a Method for Preparing a Highly Reactive and Stable, Recyclable and Environmentally Benign Organopalladium Catalyst Supported on Sulfur-Terminated Gallium Arsenide(001): A Three-Component Catalyst, {Pd}-S-GaAs(001), and its Properties

*Adv. Synth. Catal.* **2006**, *348*, 1063–1070

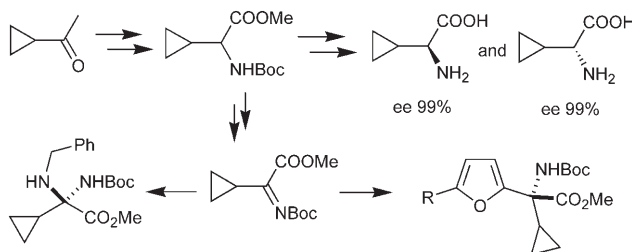
Mitsuhiro Arisawa,\* Masahiro Hamada, Ikuko Takamiya, Masahiko Shimoda, Shiro Tsukamoto, Yasuhiko Arakawa, Atsushi Nishida\*



1063

Practical Syntheses of Both Enantiomers of Cyclopropylglycine and of Methyl 2-Cyclopropyl-2-*N*-Boc-iminoacetate1*Adv. Synth. Catal.* **2006**, *348*, 1071–1078

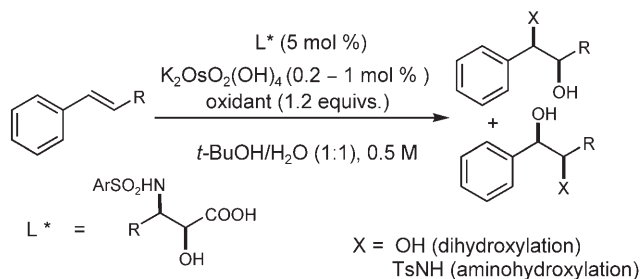
Oleg V. Larionov, Armin de Meijere\*



1071

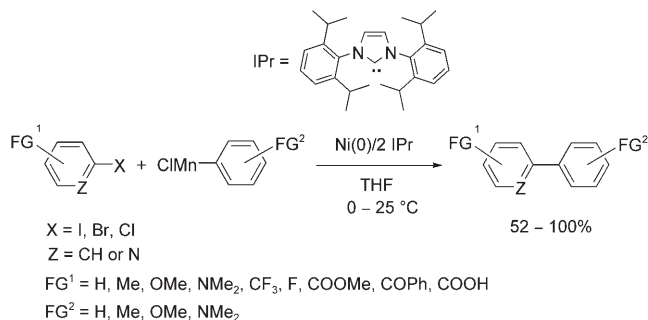
**1079** Osmium-Catalyzed Olefin Dihydroxylation and Aminohydroxylation in the Second Catalytic Cycle

*Adv. Synth. Catal.* **2006**, 348, 1079–1085


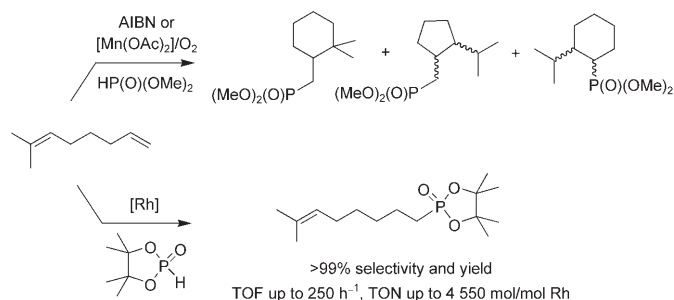
 Peng Wu, Robert Hilgraf, Valery V. Fokin\*

**1086** Nickel(0)/Imidazolium Carbene Catalyst System for Efficient Cross-Coupling of Aryl Bromides and Chlorides with Organomanganese Reagents

*Adv. Synth. Catal.* **2006**, 348, 1086–1092


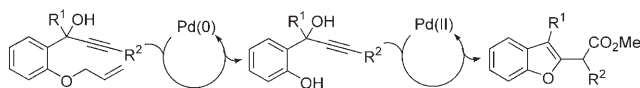

Anne Leleu, Yves Fort, Raphaël Schneider\*


**1093** Efficient and Selective Rhodium-Catalyzed Hydrophosphorylation of Dienes

*Adv. Synth. Catal.* **2006**, 348, 1093–1100

 Noureddine Ajellal, Christophe M. Thomas, Jean-François Carpentier\*

**1101** Cascade Reactions: Sequential Homobimetallic Catalysis Leading to Benzofurans and  $\beta,\gamma$ -Unsaturated Esters

*Adv. Synth. Catal.* **2006**, 348, 1101–1109

 Bartolo Gabriele,\* Raffaella Mancuso, Giuseppe Salerno, Mirco Costa

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