

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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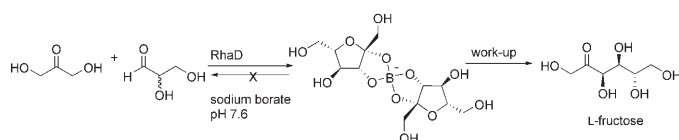
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COMMUNICATIONS

Borate as a Phosphate Ester Mimic in Aldolase-Catalyzed Reactions: Practical Synthesis of L-Fructose and L-Iminocyclitols

Adv. Synth. Catal. **2006**, 348, 2555–2559

 Masakazu Sugiyama, Zhangyong Hong, Lisa J. Whalen, William A. Greenberg,* Chi-Huey Wong*

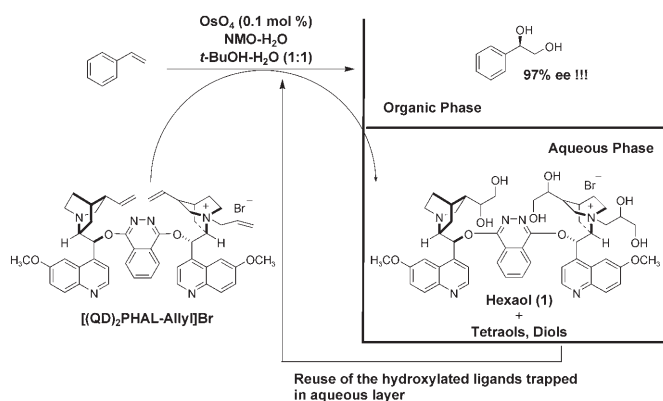


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- 2560** New Mono-Quarternized Bis-*Cinchona* Alkaloid Ligands for Asymmetric Dihydroxylation of Olefins in Aqueous Medium: Unprecedented High Enantioselectivity and Recyclability

Adv. Synth. Catal. **2006**, 348, 2560–2564

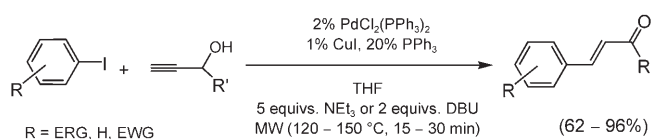
 Doo Seung Choi, Sang Seop Han, Eun Kyung Kwueon, Han Young Choi, Soon Ho Hwang, Yil Sung Park,* Choong Eui Song*



- 2565** Microwave-Accelerated Coupling-Isomerization Reaction (MACIR) – A General Coupling-Isomerization Synthesis of 1,3-Diarylprop-2-en-1-ones

Adv. Synth. Catal. **2006**, 348, 2565–2570

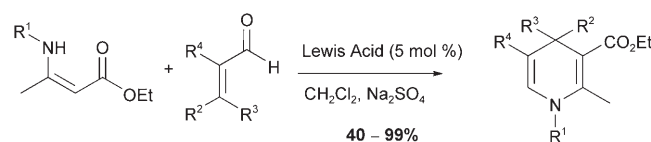
 Oana G. Schramm (née Dediu) and Thomas J. J. Müller*



- 2571** Lewis Acid-Catalyzed Sequential Transformations: Straightforward Preparation of Functional Dihydropyridines


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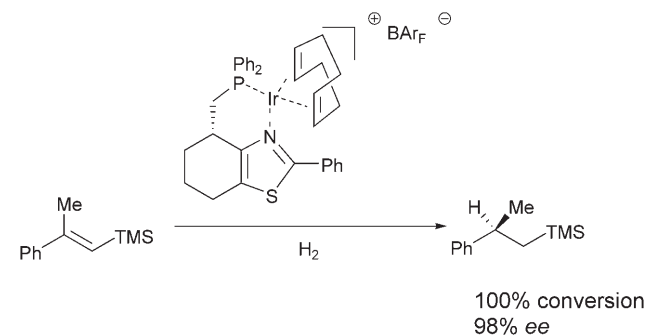
Ramandeep Kaur Vohra, Christian Bruneau, Jean-Luc Renaud*



- 2575** Iridium-Catalysed Asymmetric Hydrogenation of Vinylsilanes as a Route to Optically Active Silanes


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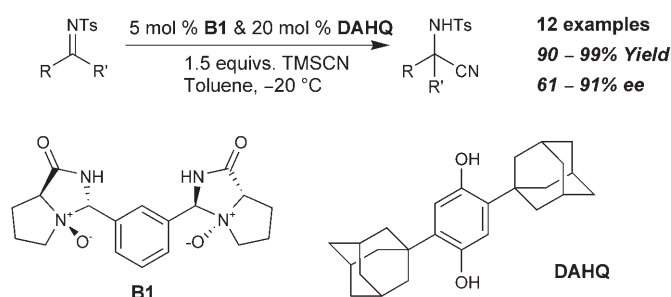
 Klas Källström, Ian J. Munslow, Christian Hedberg, Pher G. Andersson*



- 2579** Asymmetric Strecker Reaction of Ketoimines Catalyzed by a Novel Chiral Bifunctional *N,N'*-Dioxide


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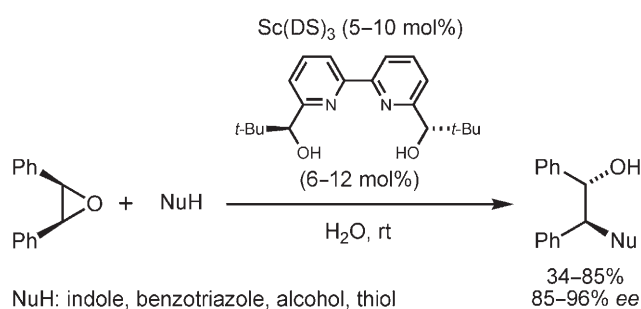
 Xiao Huang, Jinglun Huang, Yuehong Wen, Xiaoming Feng*



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Adv. Synth. Catal. **2006**, 348, 2585–2589


 Marine Boudou, Chikako Ogawa, Shū Kobayashi*

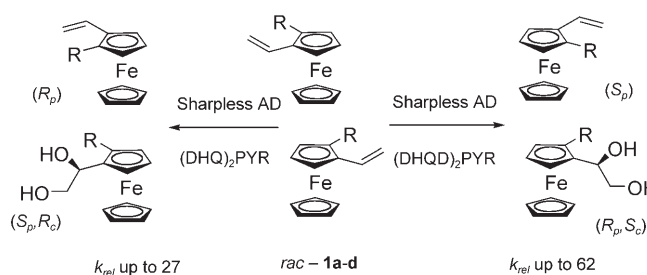


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Asymmetric Dihydroxylation of 2-Substituted 1-Vinylferrocenes: The First Non-Enzymatic Kinetic Resolution of Planar-Chiral Ferrocenes

Adv. Synth. Catal. **2006**, 348, 2590–2596

 Agustí Bueno, Malgorzata Rosol, Jasón García, Albert Moyano*



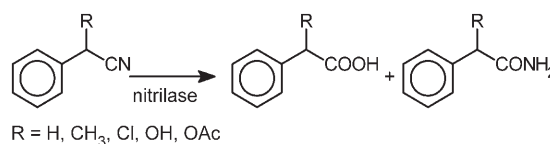
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FULL PAPERS

Nitrile Hydratase Activity of a Recombinant Nitrilase

Adv. Synth. Catal. **2006**, 348, 2597–2603

Bruno C. M. Fernandes, Cesar Mateo, Christoph Kiziak, Andrzej Chmura, Jan Wacker, Fred van Rantwijk, Andreas Stolz, Roger A. Sheldon*

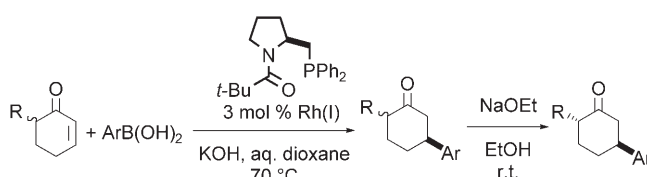


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Efficient Catalytic Asymmetric Synthesis of *trans*-5-Aryl-2-substituted Cyclohexanones by Rhodium-Catalyzed Conjugate Arylation of Racemic 6-Substituted Cyclohexenones

Adv. Synth. Catal. **2006**, 348, 2604–2608

Qian Chen, Takahiro Soeta, Masami Kuriyama, Ken-ichi Yamada, Kiyoshi Tomioka*

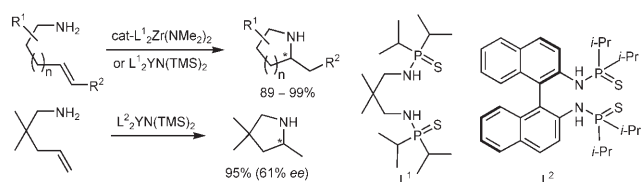


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Internal Alkene Hydroaminations Catalyzed by Zirconium(IV) Complexes and Asymmetric Alkene Hydroaminations Catalyzed by Yttrium(III) Complexes

Adv. Synth. Catal. **2006**, 348, 2609–2618


Hyunseok Kim, Young Kwan Kim, Jun Hwan Shim, Misook Kim, Mijung Han, Tom Livinghouse,* Phil Ho Lee*

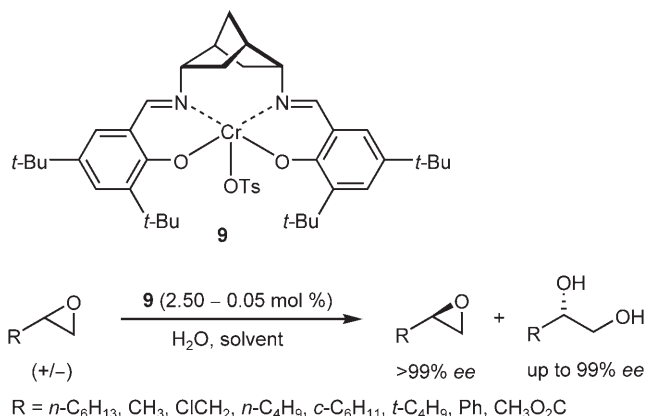


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- 2619** Hydrolytic Kinetic Resolution of Epoxides Catalyzed by Chromium(III)-*endo,endo*-2,5-diaminonorbornane-salen [Cr(III)-DIANANE-salen] Complexes. Improved Activity, Low Catalyst Loading

Adv. Synth. Catal. **2006**, 348, 2619–2625

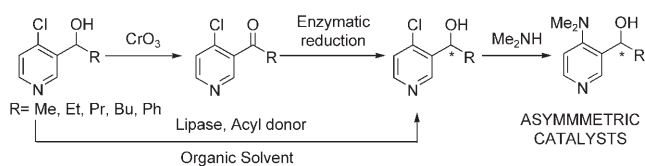
 Albrecht Berkessel,* Erkan Ertürk



- 2626** Enantioselective Synthesis of 4-(Dimethylamino)pyridines through a Chemical Oxidation-Enzymatic Reduction Sequence. Application in Asymmetric Catalysis

Adv. Synth. Catal. **2006**, 348, 2626–2632

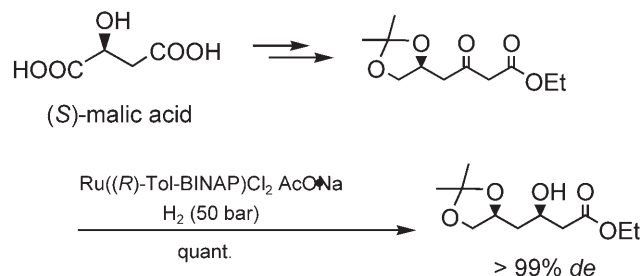
 Eduardo Busto, Vicente Gotor-Fernández, Vicente Gotor*



- 2633** Synthesis and Highly Stereoselective Hydrogenation of the Statin Precursor Ethyl (5*S*)-5,6-Isopropylidenedioxy-3-oxohexanoate

Adv. Synth. Catal. **2006**, 348, 2633–2644

Vitali I. Tararov,* Gerd König, Armin Börner*



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