

## 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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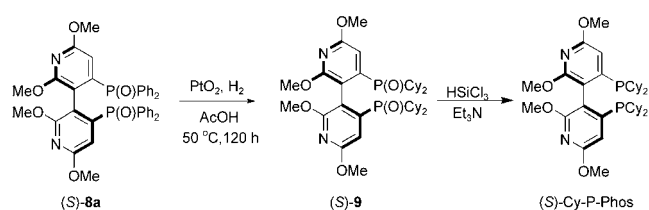
## COMMUNICATIONS

A Convenient Synthesis of 2,2',6,6'-Tetramethoxy-4,4'-bis(dicyclohexylphosphino)-3,3'-bipyridine (Cy-P-Phos): Application in Rh-Catalyzed Asymmetric Hydrogenation of  $\alpha$ -(Acylamino)acrylates

*Adv. Synth. Catal.* **2005**, 347, 507–511



Jing Wu, Terry T.-L. Au-Yeung, Wai-Him Kwok, Jian-Xin Ji, Zhongyuan Zhou, Chi-Hung Yeung,\* Albert S. C. Chan\*

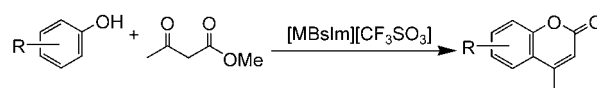


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Pechmann Reaction in Non-Chloroaluminate Acidic Ionic Liquids under Solvent-Free Conditions

*Adv. Synth. Catal.* **2005**, 347, 512–516

Yanlong Gu, Juan Zhang, Zhiying Duan, Youquan Deng\*



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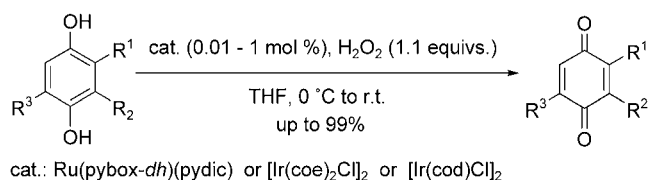


- 517** A Rapid and Efficient Synthesis of Quinone Derivatives: Ru(II)- or Ir(I)-Catalyzed Hydrogen Peroxide Oxidation of Phenols and Methoxyarenes

*Adv. Synth. Catal.* **2005**, 347, 517–520



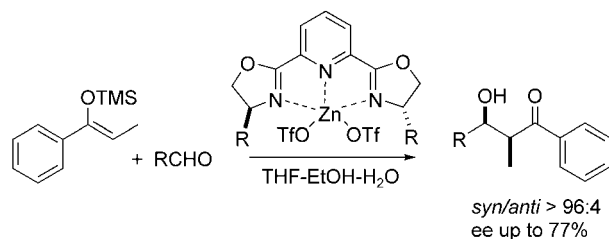
Seiji Iwasa,\* Ahmad Fakhrudin, Herman Setyo Widagdo, Hisao Nishiyama



- 521** Asymmetric Mukaiyama-Aldol Reaction in Aqueous Media Promoted by Zinc-Based Chiral Lewis Acids

*Adv. Synth. Catal.* **2005**, 347, 521–525

Jacek Mlynarski,\* Joanna Jankowska<sup>#</sup>

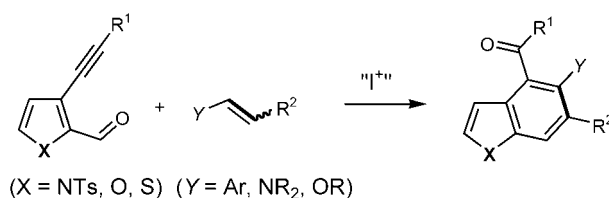


- 526** Synthesis of Indoles upon Sequential Reaction of 3-Alkynylpyrrole-2-carboxaldehydes with Iodonium Ions and Alkenes. Preparation of Related Benzofuran and Benzothio-phenes Derivatives

*Adv. Synth. Catal.* **2005**, 347, 526–530



José Barluenga,\* Henar Vázquez-Villa, Alfredo Ballesteros, José M. González

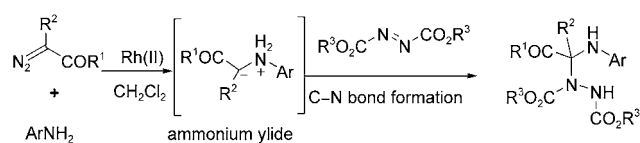


- 531** Rhodium-Catalyzed, Three-Component Reaction of Diazo Compounds with Amines and Azodicarboxylates

*Adv. Synth. Catal.* **2005**, 347, 531–534



Haoxi Huang, Yuanhua Wang, Zhiyong Chen, Wenhao Hu\*



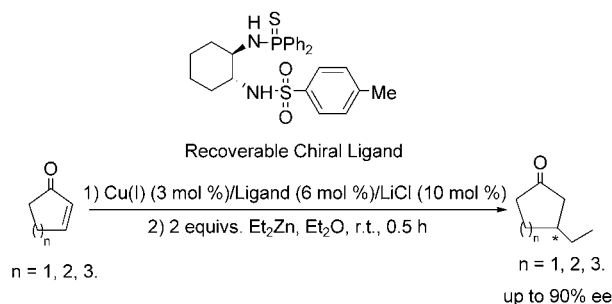
## FULL PAPERS

- 535** Asymmetric 1,4-Addition of Diethylzinc to Cyclic Enones Catalyzed by Cu(I)-Chiral Sulfonamide-Thiophosphoramidate Ligands and Lithium Salts

*Adv. Synth. Catal.* **2005**, 347, 535–540



Min Shi,\* Wen Zhang



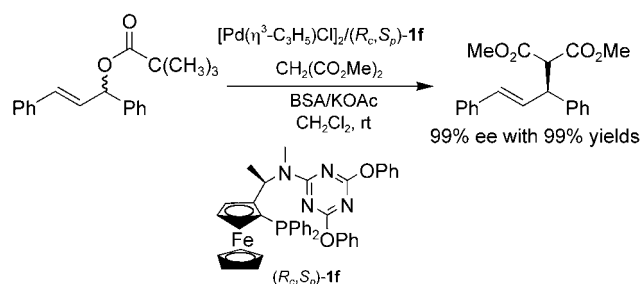


Ferrocene-Based Chiral Phosphine-Triazines: A New Family of Highly Efficient P,N Ligands for Asymmetric Catalysis

*Adv. Synth. Catal.* **2005**, 347, 541–548



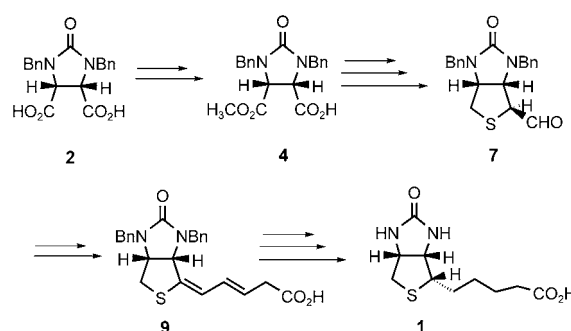
Xiang-Ping Hu, Hui-Lin Chen, Zhuo Zheng\*



Synthetic Studies on *d*-Biotin, Part 8: An Efficient Chemo-enzymatic Approach to the Asymmetric Total Synthesis of *d*-Biotin via a Polymer-Supported PLE-Mediated Desymmetrization of *meso*-Symmetric Dicarboxylic Esters

*Adv. Synth. Catal.* **2005**, 347, 549–554

Fen-Er Chen,\* Xu-Xiang Chen, Hui-Fang Dai, Yun-Yan Kuang, Bin Xie, Jian-Feng Zhao

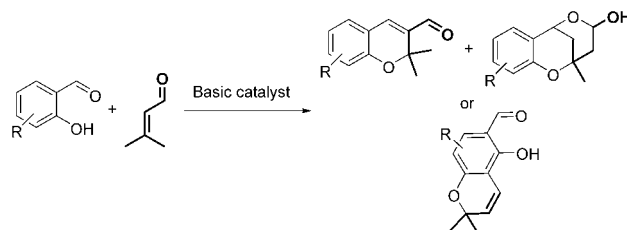


Base-Catalyzed Condensation of 2-Hydroxybenzaldehydes with  $\alpha,\beta$ -Unsaturated Aldehydes – Scope and Limitations

*Adv. Synth. Catal.* **2005**, 347, 555–562



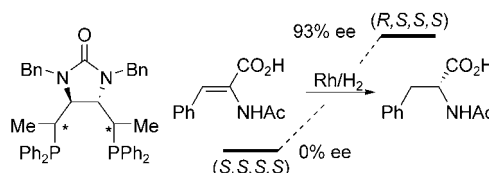
Bernhard Lesch, Jakob Tor ng, Sylvia Vanderheiden, Stefan Br se\*



Synthesis of Diastereomeric 1,4-Diphosphine Ligands Bearing Imidazolidin-2-one Backbone and Their Application in Rh(I)-Catalyzed Asymmetric Hydrogenation of Functionalized Olefins

*Adv. Synth. Catal.* **2005**, 347, 563–570

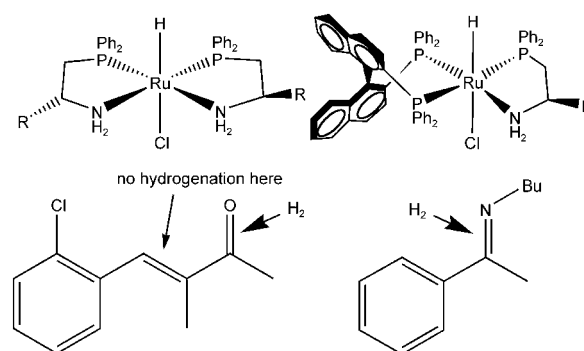
Yong Jian Zhang, Kee Yong Kim, Jung Hwan Park, Choong Eui Song,\* Kyungae Lee, Myoung Soo Lah, Sang-gi Lee\*



Synthesis of Ruthenium Hydride Complexes Containing beta-Aminophosphine Ligands Derived from Amino Acids and their use in the H<sub>2</sub>-Hydrogenation of Ketones and Imines

*Adv. Synth. Catal.* **2005**, 347, 571–579

Kamaluddin Abdur-Rashid, Rongwei Guo, Alan J. Lough, Robert H. Morris,\* Datong Song

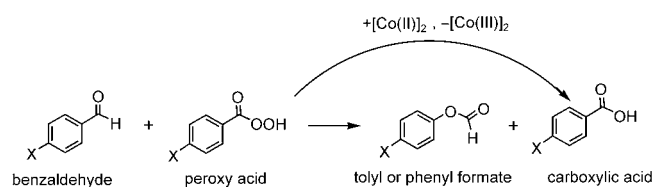




- 580** The Complex Synergy of Water in Metal/Bromide Autoxidations. Part II. Effect of Water and Catalyst on the Aerobic Oxidation of Benzaldehydes and the Effect of Water on the Elementary Catalytic Pathways

*Adv. Synth. Catal.* **2005**, 347, 580–590

Walt Partenheimer

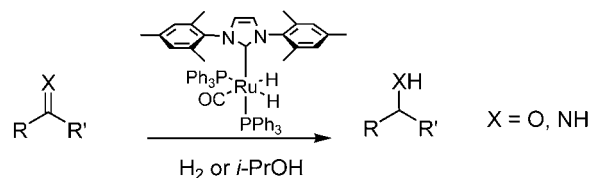


## UPDATES

- 591** Direct and Transfer Hydrogenation of Ketones and Imines with a Ruthenium N-Heterocyclic Carbene Complex

*Adv. Synth. Catal.* **2005**, 347, 591–594

Suzanne Burling, Michael K. Whittlesey, Jonathan M. J. Williams\*



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