

AIMS AND SCOPE

Although total synthesis reached extraordinary levels of sophistication in the last century, the development of practical and efficient synthetic methodologies is still in its infancy. Achieving chemical reactions that are highly selective, economical, safe, resource- and energy-efficient, and environmentally benign is a primary challenge to chemistry in this century. Realizing this goal will demand the highest level of scientific creativity, insight and understanding in a combined effort by academic, government and industrial chemists and engineers.

Advanced Synthesis & Catalysis promotes that process by publishing high-impact research results reporting the development and application of efficient synthetic methodologies and strategies for organic targets that range from pharmaceuticals to organic materials. Homogeneous catalysis, biocatalysis, organocatalysis and heterogeneous catalysis directed towards organic synthesis are playing an ever increasing role in achieving synthetic efficiency. Asymmetric catalysis remains a topic of central importance. In addition, *Advanced Synthesis & Catalysis* includes other areas that are making a contribution to green synthesis, such as synthesis design, reaction techniques, flow chemistry and continuous processing, multi-phase catalysis, green solvents, catalyst immobilization and recycling, separation science and process development.

Practical processes involve development of effective integrated strategies, from an elegant synthetic route based on mechanistic and structural insights at the molecular level through to process optimization at larger scales. These endeavors often entail a multidisciplinary approach that spans the broad fields chemistry, biology, and engineering and involve contributions from academic, government, and industrial laboratories.

The unique focus of *Advanced Synthesis & Catalysis* has rapidly made it a leading organic chemistry and catalysis journal. The goal of *Advanced Synthesis & Catalysis* is to help inspire 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

succeeding *Journal für praktische Chemie*
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2008, 350, 5, Pages 637–780

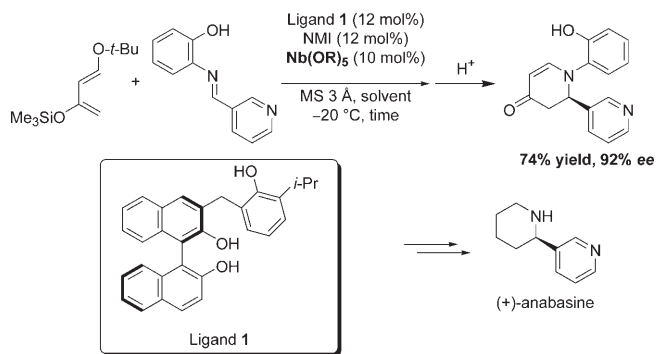
Issue 4/2008 was published online on
March 3, 2008

COMMUNICATIONS

Niobium-Catalyzed Highly Enantioselective Aza-Diels–Alder Reactions

Adv. Synth. Catal. **2008**, 350, 647–651

Václav Jurčík, Kenzo Arai, Matthew M. Salter,
Yasuhiro Yamashita, Shū Kobayashi*

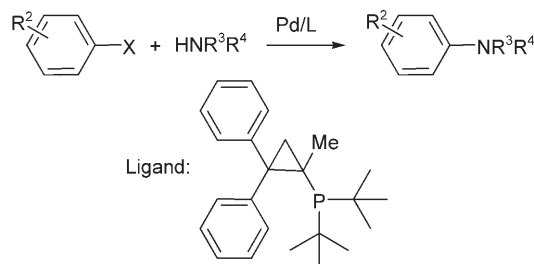


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A New Hybrid Phosphine Ligand for Palladium-Catalyzed Amination of Aryl Halides

Adv. Synth. Catal. **2008**, 350, 652–656

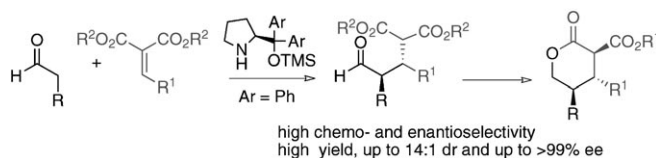
Ken Suzuki,* Yoji Hori, Tohru Kobayashi



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- 657** Organocatalytic Highly Enantioselective Conjugate Addition of Aldehydes to Alkylidene Malonates

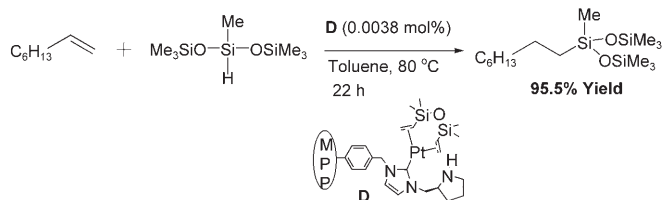
Adv. Synth. Catal. **2008**, 350, 657–661



Gui-Ling Zhao, Jan Vesely, Junliang Sun,
Kirsten E. Christensen, Charlotte Bonneau,
Armando Córdova*

- 662** Synthesis and Catalytic Applications of Mesoporous Polymer Colloids in Olefin Hydrosilylation

Adv. Synth. Catal. **2008**, 350, 662–666

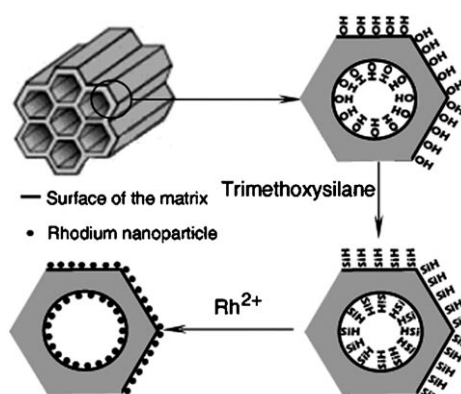


Yugen Zhang,* Lan Zhao, Pranab K. Patra, Jackie Y. Ying*

- 667** Synthesis of Rhodium Colloidal Nano-Coating Grafted Mesoporous Silica Composite and its Application as Efficient Environmentally Benign Catalyst for Heck-Type Reaction of Arylboronic Acids

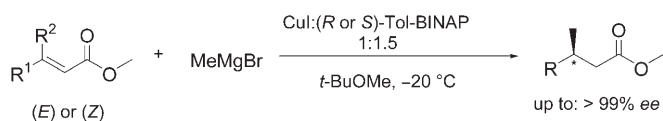
Adv. Synth. Catal. **2008**, 350, 667–672

Liang Li,* Jianlin Shi*



- 673** Highly Efficient Copper(I) Iodide-Tolyl-BINAP-Catalyzed Asymmetric Conjugate Addition of Methylmagnesium Bromide to α,β -Unsaturated Esters

Adv. Synth. Catal. **2008**, 350, 673–677



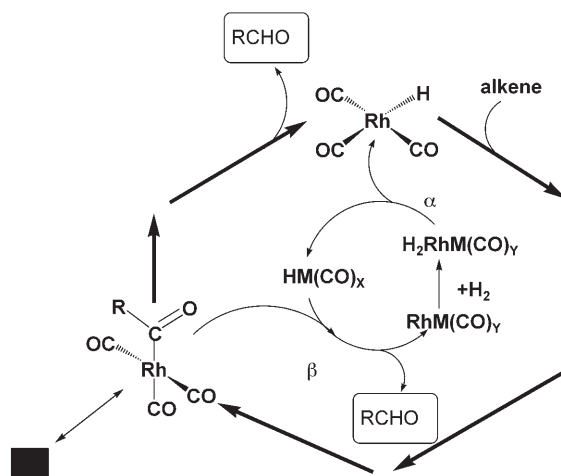
Shun-Yi Wang, Tze-Keong Lum, Shun-Jun Ji,*
Teck-Peng Loh*

FULL PAPERS

- 679** Synthetic Applications of Synergism using Catalytic Binuclear Elimination Reactions. Further Examples of Rhodium-Manganese and Rhodium-Rhenium-Catalyzed Hydroformylations

Adv. Synth. Catal. **2008**, 350, 679–690

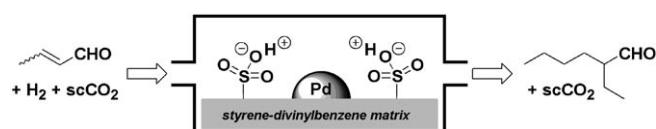
Chuanzhao Li, Li Chen, Marc Garland*



Palladium Supported on an Acidic Resin: A Unique Bifunctional Catalyst for the Continuous Catalytic Hydrogenation of Organic Compounds in Supercritical Carbon Dioxide

Adv. Synth. Catal. **2008**, 350, 691–705

 Tsunetake Seki, Jan-Dierk Grunwaldt, Niels van Vegten, Alfons Baiker*

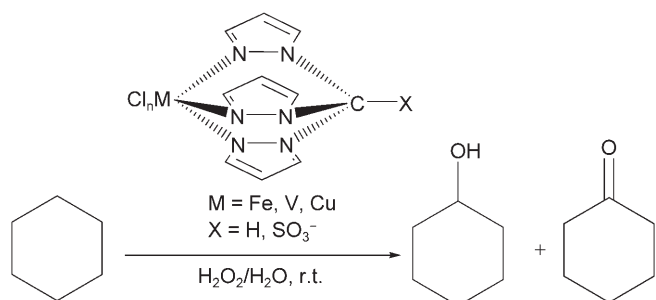


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Half-Sandwich Scorpionate Vanadium, Iron and Copper Complexes: Synthesis and Application in the Catalytic Peroxidative Oxidation of Cyclohexane under Mild Conditions

Adv. Synth. Catal. **2008**, 350, 706–716


 Telma F. S. Silva, Elisabete C. B. A. Alegria, Luísa M. D. R. S. Martins, Armando J. L. Pombeiro*

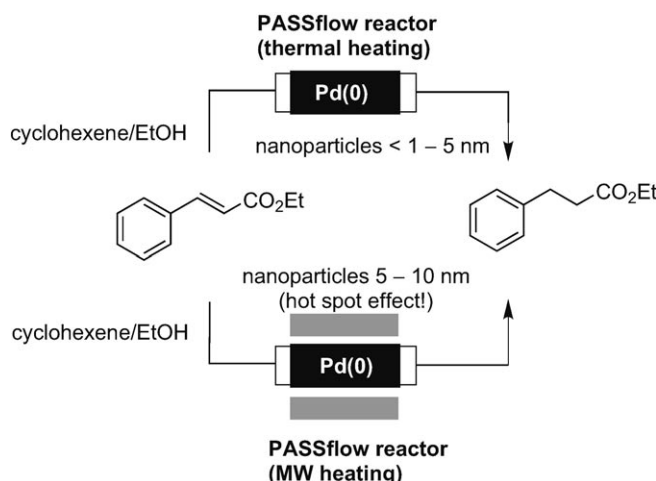


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Palladium(0) Nanoparticles on Glass-Polymer Composite Materials as Recyclable Catalysts: A Comparison Study on their Use in Batch and Continuous Flow Processes

Adv. Synth. Catal. **2008**, 350, 717–730


 Klaas Mennecke, Raul Cecilia, Toma N. Glasnov, Susanne Gruhl, Carla Vogt, Armin Feldhoff, M. A. Larrubia Vargas, C. Oliver Kappe,* Ulrich Kunz,* Andreas Kirschning*

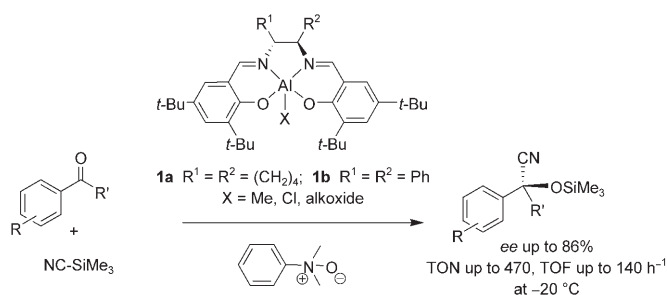


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Discrete versus In Situ-Generated Aluminum-Salen Catalysts in Enantioselective Cyanosilylation of Ketones: Role of Achiral Ligands

Adv. Synth. Catal. **2008**, 350, 731–740


 Ali Alaaeddine, Thierry Roisnel, Christophe M. Thomas, Jean-François Carpentier*

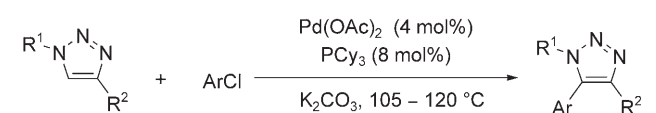


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Palladium-Catalyzed Direct Arylations of 1,2,3-Triazoles with Aryl Chlorides using Conventional Heating

Adv. Synth. Catal. **2008**, 350, 741–748

 Lutz Ackermann,* Rubén Vicente, Robert Born

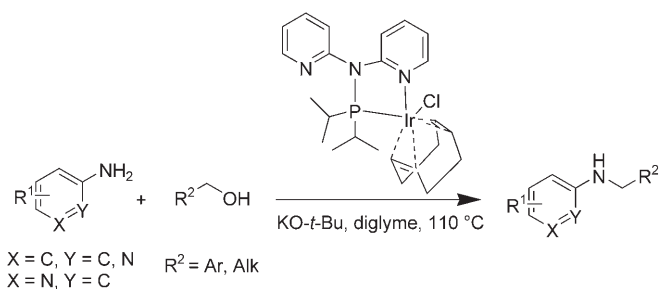


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749 An Efficient Method for the Selective Iridium-Catalyzed Monoalkylation of (Hetero)aromatic Amines with Primary Alcohols

Adv. Synth. Catal. **2008**, 350, 749–758

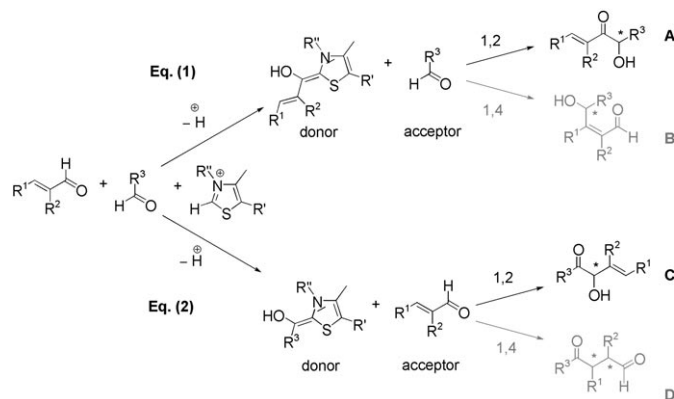
 Benoît Blank, Martyna Madalska, Rhett Kempe*



759 α,β -Unsaturated Aldehydes as Substrates for Asymmetric C–C Bond Forming Reactions with Thiamin Diphosphate (ThDP)-Dependent Enzymes

Adv. Synth. Catal. **2008**, 350, 759–771

 Anabel Cosp, Carola Dresen, Martina Pohl, Lydia Walter, Caroline Röhr, Michael Müller*

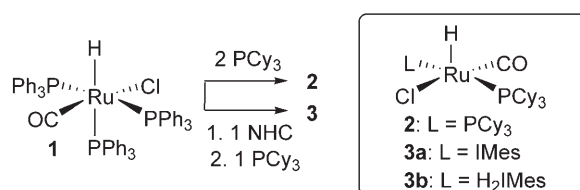



UPDATE

773 Improved Syntheses of Versatile Ruthenium Hydridecarbonyl Catalysts Containing Electron-Rich Ancillary Ligands

Adv. Synth. Catal. **2008**, 350, 773–777

Nicholas J. Beach, Ureshini L. Dharmasena, Samantha D. Drouin, Deryn E. Fogg*



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