

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*
(founded in 1828)

ASC
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5.193
The Cutting Edge
that Stays Sharp!

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REVIEW

Ionic Liquids-Based Catalysis with Solids: State of the Art

Adv. Synth. Catal. **2009**, 351, 817–847

Yanlong Gu,* Guangxing Li



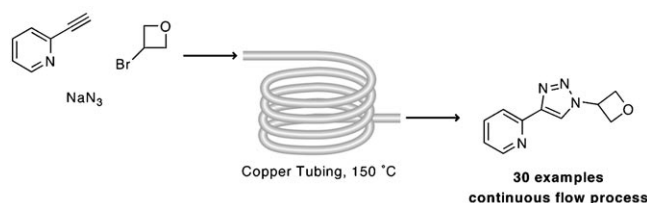
817

COMMUNICATIONS

The Use of Copper Flow Reactor Technology for the
Continuous Synthesis of 1,4-Disubstituted 1,2,3-Triazoles

Adv. Synth. Catal. **2009**, 351, 849–854

Andrew R. Bogdan, Neal W. Sach*

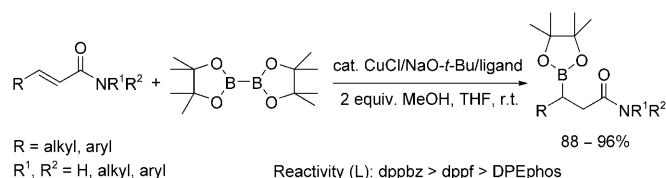


849

- 855** Copper-Catalyzed Conjugate Addition of Diboron Reagents to α,β -Unsaturated Amides: Highly Reactive Copper-1,2-Bis(diphenylphosphino)benzene Catalyst System


Adv. Synth. Catal. **2009**, 351, 855–858

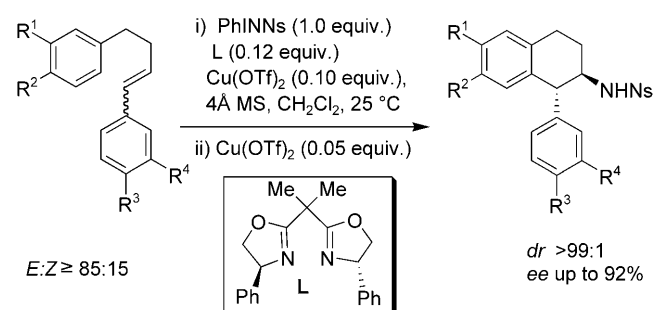
 Heesung Chea, Hak-Suk Sim, Jaesook Yun*



- 859** A Catalytic and Enantioselective Synthesis of *trans*-2-Amino-1-aryltetralins

Adv. Synth. Catal. **2009**, 351, 859–864

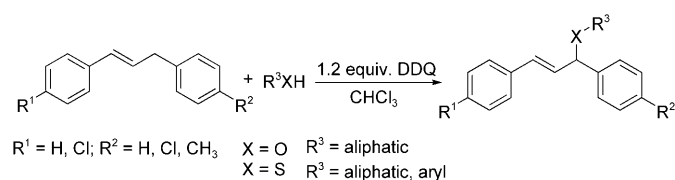
 Saumen Hajra,* Biswajit Maji, Dipakranjan Mal



- 865** A Highly Efficient, Metal-Free and Convenient Diarylallyl Ether/Thioether Formation via Oxidative C-H Activation


Adv. Synth. Catal. **2009**, 351, 865–868

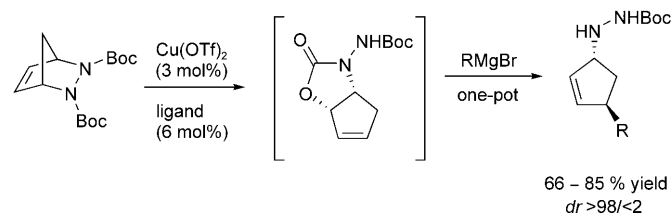
 Yan Li, Weiliang Bao*



- 869** Sequential Copper-Catalyzed Rearrangement–Allylic Substitution of Bicyclic Hydrazines with Grignard Reagents

Adv. Synth. Catal. **2009**, 351, 869–873


 Stefano Crotti, Ferruccio Bertolini, Franco Macchia, Mauro Pineschi*

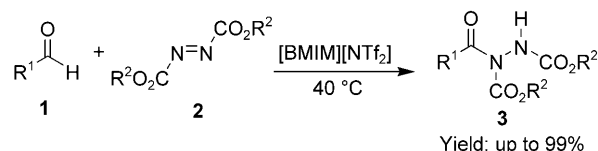


FULL PAPERS

- 875** Ionic Liquid (IL) as an Effective Medium for the Highly Efficient Hydroacylation Reaction of Aldehydes with Azodicarboxylates

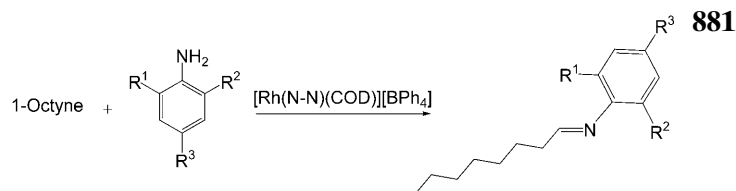
Adv. Synth. Catal. **2009**, 351, 875–880

 Bukuo Ni,* Qianying Zhang, Satish Garre, Allan D. Headley*



Well-Defined Regioselective Iminopyridine Rhodium Catalysts for Anti-Markovnikov Addition of Aromatic Primary Amines to 1-Octyne

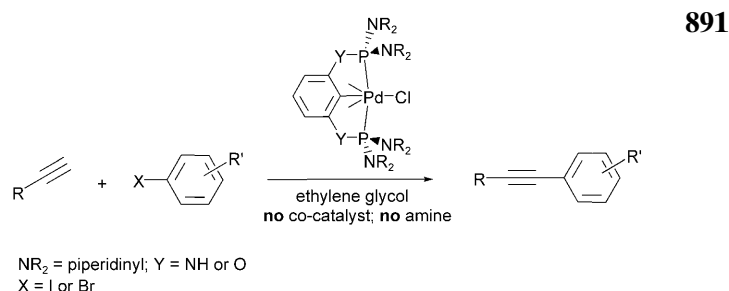
Adv. Synth. Catal. **2009**, 351, 881–890



Carlos Alonso-Moreno,* Fernando Carrillo-Hermosilla, Javier Romero-Fernández, Ana M. Rodríguez, Antonio Otero,* Antonio Antiñolo

Highly Convenient, Clean, Fast, and Reliable Sonogashira Coupling Reactions Promoted by Aminophosphine-Based Pincer Complexes of Palladium Performed under Additive- and Amine-Free Reaction Conditions

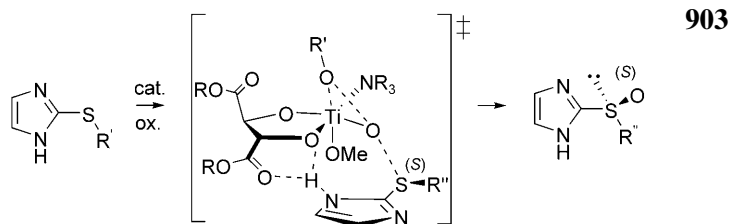
Adv. Synth. Catal. **2009**, 351, 891–902



Jeanne L. Bolliger, Christian M. Frech*

Mechanism of the Asymmetric Sulfoxidation in the Esomeprazole Process: Effects of the Imidazole Backbone for the Enantioselection

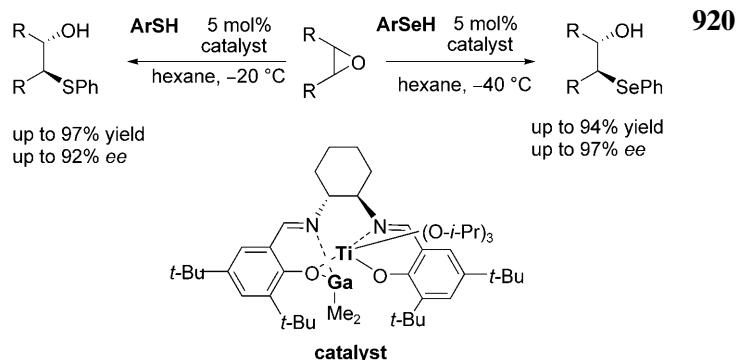
Adv. Synth. Catal. **2009**, 351, 903–919



Muthu Seenivasaperumal, Hans-Jürgen Federsel, Kálmán J. Szabó*

Catalytic Asymmetric Ring-Opening Reaction of *meso*-Epoxides with Aryl Selenols and Thiols Catalyzed by a Heterobimetallic Gallium-Titanium-Salen Complex

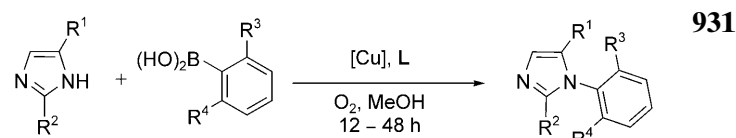
Adv. Synth. Catal. **2009**, 351, 920–930



Jiangtao Sun, Minghua Yang, Fang Yuan, Xuefeng Jia, Xia Yang, Yi Pan, Chengjian Zhu*

Copper-Catalyzed *N*-Arylation of Hindered Substrates Under Mild Conditions

Adv. Synth. Catal. **2009**, 351, 931–937



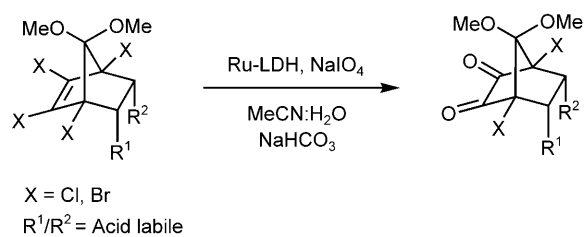
Michael T. Wentzel, J. Brian Hewgley, Rajesh M. Kamble, Philip D. Wall, Marisa C. Kozlowski*


UPDATE

- 939** Ruthenium-Mediated Oxidation under Buffered Conditions:
A Simple and Useful Protocol for the Synthesis of Norbornyl
 α -Diketones with Acid Sensitive Functionalities

Adv. Synth. Catal. **2009**, 351, 939–944

 Faiz Ahmed Khan,* Ch. Sudheer



 Supporting information on the WWW (see article for access details).

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