

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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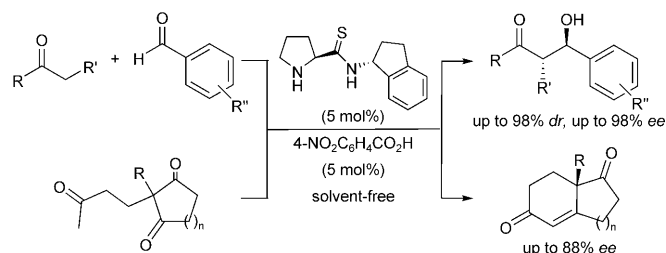
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COMMUNICATIONS

Prolinamides *versus* Prolinethioamides as Recyclable Catalysts in the Enantioselective Solvent-Free Inter- and Intramolecular Aldol Reactions

Adv. Synth. Catal. **2008**, 350, 2467–2472


 Diana Almaşi, Diego A. Alonso,* Carmen Nájera*

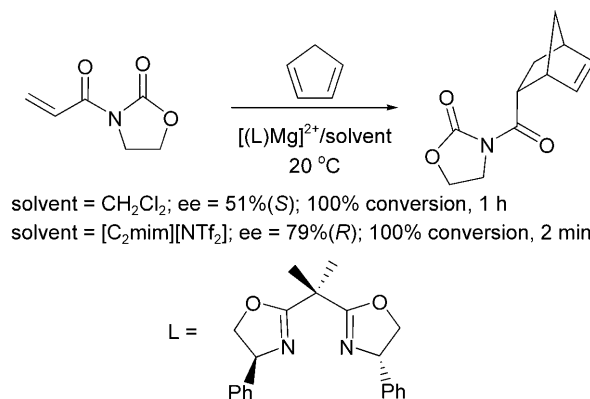


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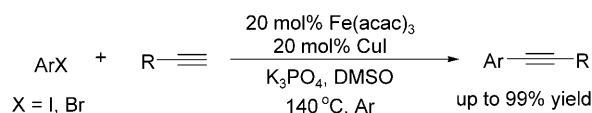
Ionic Liquid Effect on the Reversal of Configuration for the Magnesium(II) and Copper(II) Bis(oxazoline)-Catalysed Enantioselective Diels–Alder Reaction

Adv. Synth. Catal. **2008**, 350, 2473–2476

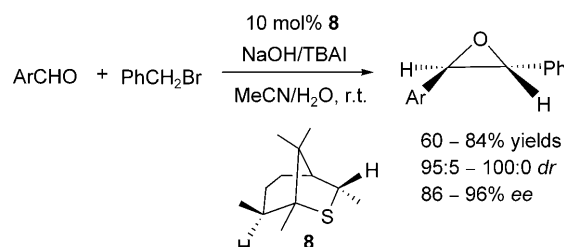
 P. Goodrich, C. Hardacre,* C. Paun, V. I. Pârvulescu, I. Podolean



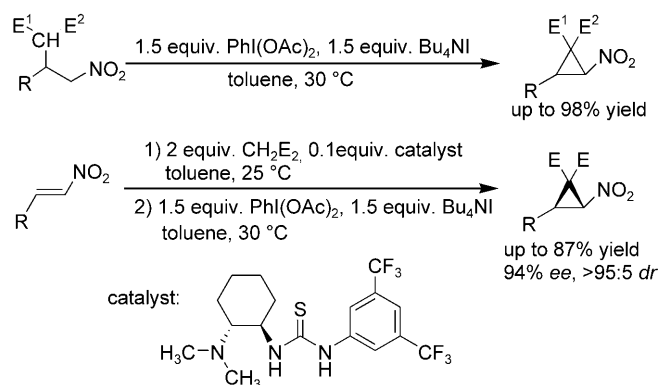
2473

2477 Ligand-Free Iron/Copper Cocatalyzed Alkynylation Coupling Reactions*Adv. Synth. Catal.* **2008**, 350, 2477–2482

Jincheng Mao,* Guanlei Xie, Minyan Wu, Jun Guo, Shunjun Ji

2483 A New Chiral Organosulfur Catalyst for Highly Stereoselective Synthesis of Epoxides*Adv. Synth. Catal.* **2008**, 350, 2483–2487

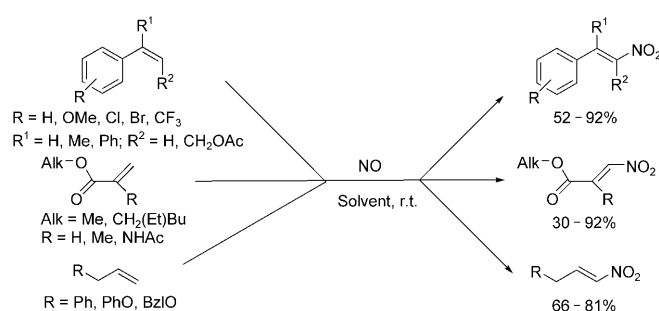
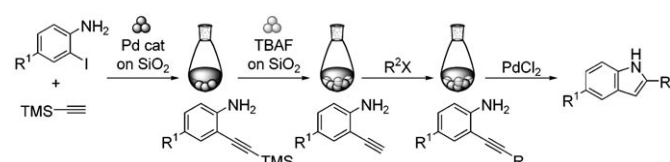
Yuan Gui, Jian Li, Chang-Shan Guo, Xin-Liang Li, Zhi-Feng Lu, Zhi-Zhen Huang*

2488 Efficient Stereoselective Synthesis of Nitrocyclopropanes by the Oxidative Cyclization of Michael Adducts of Nitroolefins with Activated Methylene Compounds*Adv. Synth. Catal.* **2008**, 350, 2488–2492

Renhua Fan,* Yang Ye, Weixun Li, Lingfei Wang

2493 A Selective and Practical Synthesis of Nitroolefins*Adv. Synth. Catal.* **2008**, 350, 2493–2497

Irina Jovel, Saisuree Prateetongkum, Ralf Jackstell, Nadine Vogl, Christoph Weckbecker, Matthias Beller*

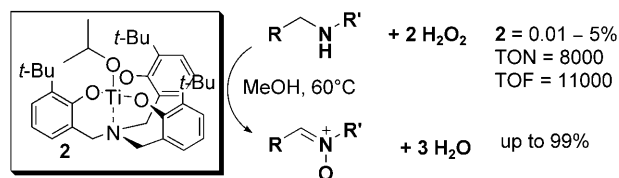
**2498** One-Pot/Four-Step/Palladium-Catalyzed Synthesis of Indole Derivatives: The Combination of Heterogeneous and Homogeneous Systems*Adv. Synth. Catal.* **2008**, 350, 2498–2502

Hayato Sakai, Ken Tsutsumi,* Tsumoru Morimoto, Kiyomi Kakiuchi

C₃-Symmetric Titanium(IV) Triphenolate Amino Complexes for a Fast and Effective Oxidation of Secondary Amines to Nitrones with Hydrogen Peroxide

Adv. Synth. Catal. **2008**, 350, 2503–2506

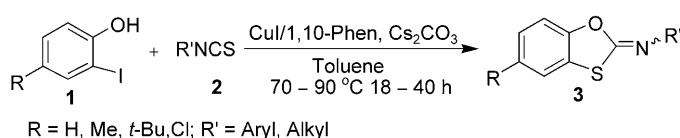
Cristiano Zonta, Elisa Cazzola, Miriam Mba, Giulia Licini*



2503

Copper(I)-Catalyzed One-Pot Synthesis of 2-Iminobenzo-1,3-oxathioles from *ortho*-Iodophenols and Isothiocyanates

Adv. Synth. Catal. **2008**, 350, 2507–2512

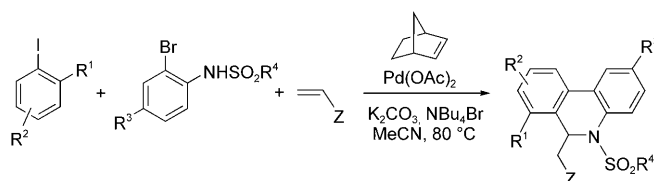


2507

Xin Lv, Yunyun Liu, Weixing Qian, Weiliang Bao*

Palladium-Catalyzed Synthesis of Selectively Substituted Phenanthridine Derivatives

Adv. Synth. Catal. **2008**, 350, 2513–2516



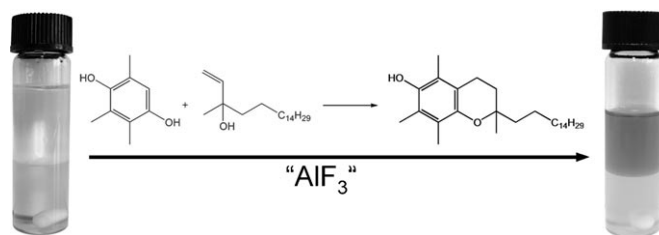
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Nicola Della Ca', Elena Motti, Marta Catellani*

Catalytic Performance of Nanoscopic, Aluminium Trifluoride-Based Catalysts in the Synthesis of (all-*rac*)- α -Tocopherol

Adv. Synth. Catal. **2008**, 350, 2517–2524

S. M. Coman, S. Wuttke, A. Vimont, M. Daturi, E. Kemnitz*

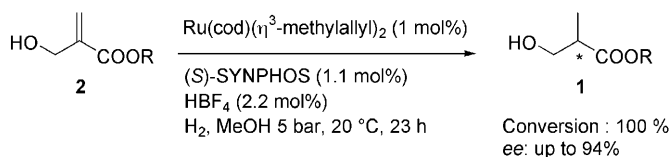


2517

FULL PAPERS

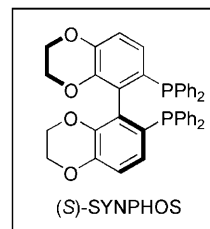
Convenient General Asymmetric Synthesis of Roche Ester Derivatives through Catalytic Asymmetric Hydrogenation: Steric and Electronic Effects of Ligands

Adv. Synth. Catal. **2008**, 350, 2525–2532



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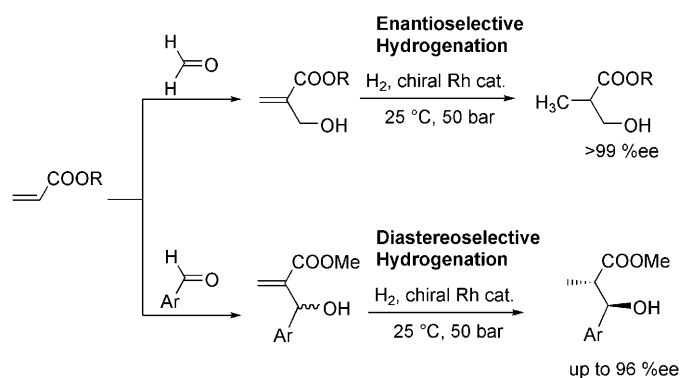
Cyrielle Pautigny, Séverine Jeulin, Tahar Ayad, Zhaoguo Zhang, Jean-Pierre Genêt, Virginie Ratovelomanana-Vidal*



2533 Synthesis of Chiral 2-Hydroxy-1-methylpropanoates by Rhodium-Catalyzed Stereoselective Hydrogenation of α -(Hydroxymethyl)-acrylate Derivatives

Adv. Synth. Catal. **2008**, 350, 2533–2543

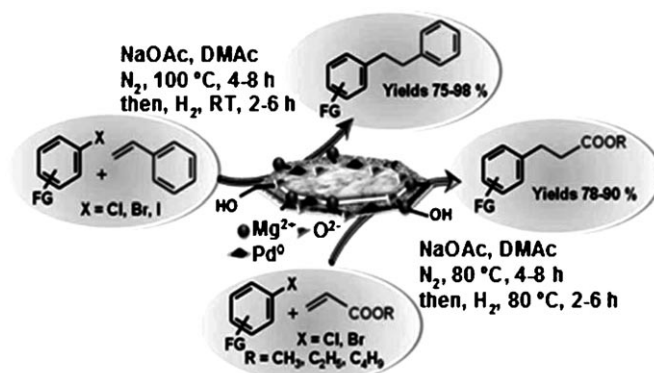
Jens Holz,* Benjamin Schäffner, Odalys Zayas, Anke Spannenberg, Armin Börner*



2544 Palladium-Catalyzed Heck Coupling-Hydrogenation: Highly Efficient One-Pot Synthesis of Dibenzyls and Alkyl Phenyl Esters

Adv. Synth. Catal. **2008**, 350, 2544–2550

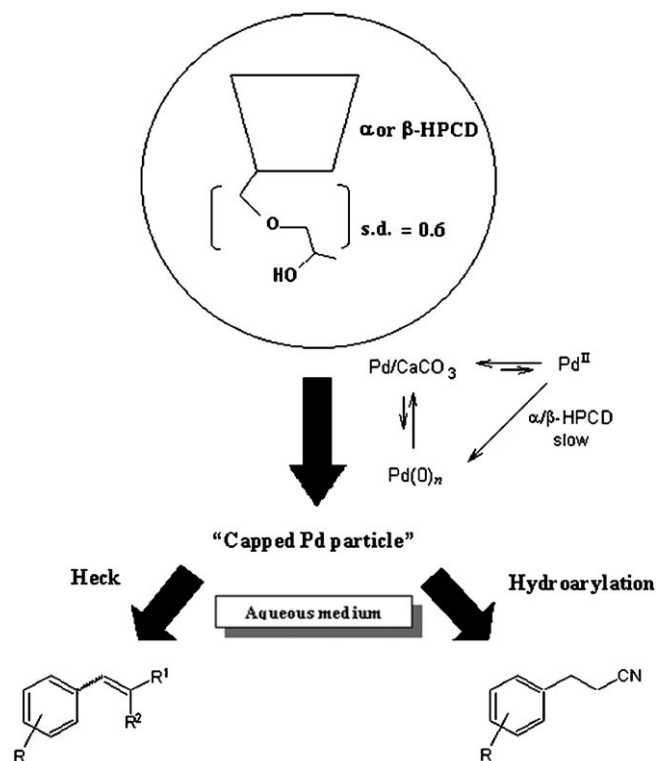
M. Lakshmi Kantam,* Rajashree Chakravarti, Venkat Reddy Chintareddy, B. Sreedhar, Suresh Bhargava



2551 Palladium on Calcium Carbonate Combined to 2-Hydroxypropyl- α/β -cyclodextrins: A Selective Catalytic System for Aqueous Heck Coupling and Hydroarylation

Adv. Synth. Catal. **2008**, 350, 2551–2558

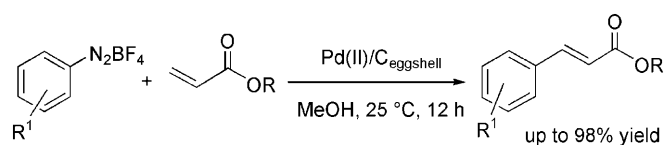
Jaqueline D. Senra, Luiz Fernando B. Malta, Andréa Luzia F. Souza, Lúcia C. S. Aguiar, O. A. C. Antunes*



Heck Cross-Coupling of Aryldiazonium Tetrafluoroborate
with Acrylates Catalyzed by Palladium on Charcoal

Adv. Synth. Catal. **2008**, 350, 2559–2565

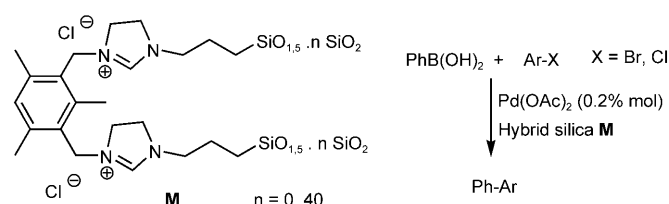
François-Xavier Felpin,* Eric Fouquet, Cécile Zakri



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Recoverable Palladium Catalysts for Suzuki–Miyaura
Cross-Coupling Reactions Based on Organic-Inorganic
Hybrid Silica Materials Containing Imidazolium and
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Adv. Synth. Catal. **2008**, 350, 2566–2574



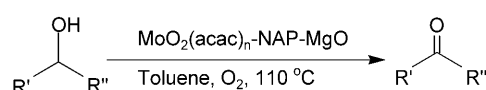
2566

Montserrat Trilla, Guadalupe Borja, Roser Pleixats*
Michel Wong Chi Man, Catherine Bied, Joël J. E. Moreau

Nanocrystalline Magnesium Oxide-Stabilized Molybdenum:
An Efficient Heterogeneous Catalyst for the Aerobic
Oxidation of Alcohols to Carbonyl Compounds

Adv. Synth. Catal. **2008**, 350, 2575–2582

M. Lakshmi Kantam,* Jagjit Yadav, Soumi Laha,
Bojja Sreedhar, Suresh Bhargava

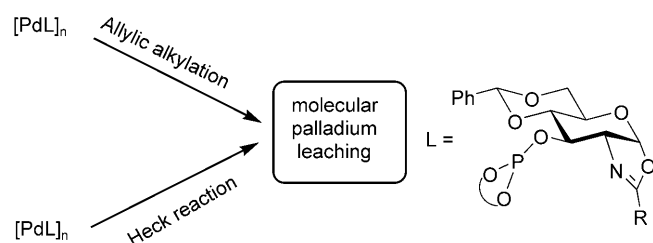


2575

Palladium Nanoparticles in Allylic Alkylations and Heck
Reactions: The Molecular Nature of the Catalyst Studied in a
Membrane Reactor

Adv. Synth. Catal. **2008**, 350, 2583–2598

Montserrat Diéguez,* Oscar Pàmies, Yvette Mata,
Emmanuelle Teuma, Montserrat Gómez,* Fabrizio Ribaudó,
Piet W. N. M. van Leeuwen*

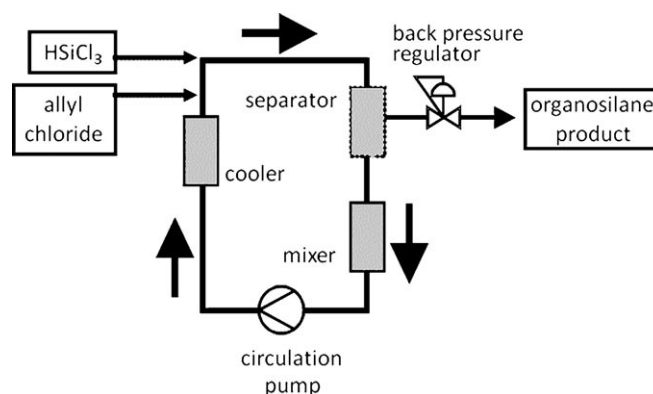


2583

Liquid-Liquid Biphasic, Platinum-Catalyzed Hydrosilylation
of Allyl Chloride with Trichlorosilane using an Ionic Liquid
Catalyst Phase in a Continuous Loop Reactor

Adv. Synth. Catal. **2008**, 350, 2599–2609


Norbert Hofmann, Andreas Bauer, Thomas Frey,
Marco Auer, Volker Stanjek, Peter S. Schulz,
Nicola Taccardi, Peter Wasserscheid*

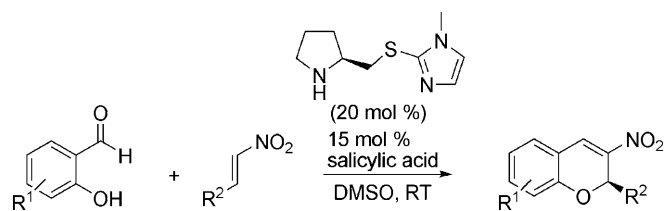


2599

- 2610** A Novel Enantioselective Catalytic Tandem Oxa-Michael–Henry Reaction: One-Pot Organocatalytic Asymmetric Synthesis of 3-Nitro-2H-chromenes


Adv. Synth. Catal. **2008**, 350, 2610–2616

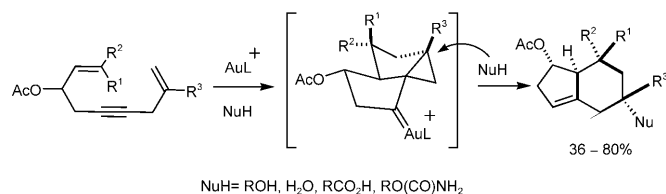
 Dan-Qian Xu, Yi-Feng Wang, Shu-Ping Luo, Shuai Zhang, Ai-Guo Zhong, Hui Chen, Zhen-Yuan Xu*



- 2617** Gold(I)-Catalyzed [4+2] Annulation/Nucleophilic Addition Sequence: Stereoselective Synthesis of Functionalized Bicyclo[4.3.0]nonenes

Adv. Synth. Catal. **2008**, 350, 2617–2630

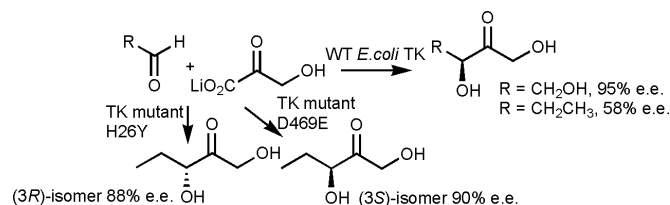
 Sebastian Böhringer, Fabien Gagosz*



- 2631** Enhancing and Reversing the Stereoselectivity of *Escherichia coli* Transketolase via Single-Point Mutations

Adv. Synth. Catal. **2008**, 350, 2631–2638

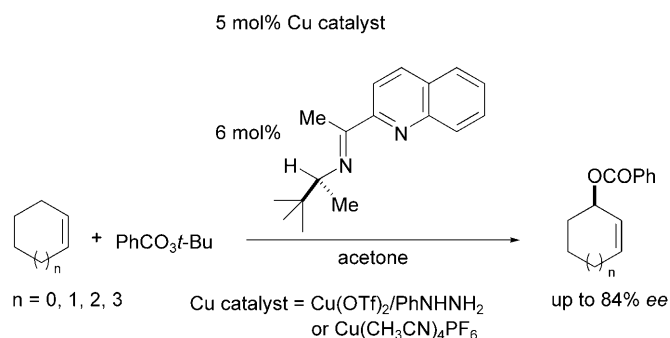
Mark E. B. Smith, Edward G. Hibbert, Alexander B. Jones, Paul A. Dalby, Helen C. Hailes*



- 2639** Novel N,N-Bidentate Ligands for Enantioselective Copper(I)-Catalyzed Allylic Oxidation of Cyclic Olefins


Adv. Synth. Catal. **2008**, 350, 2639–2644

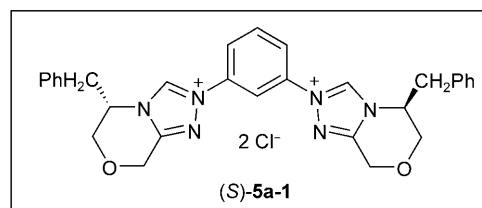
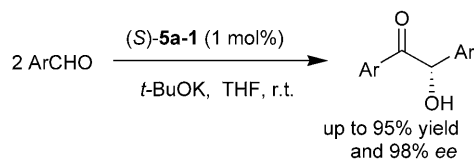
 Qitao Tan, Masahiko Hayashi*


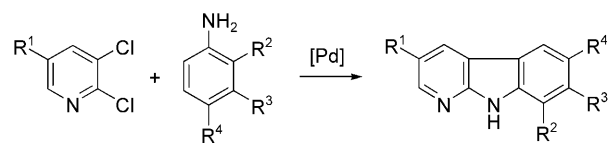



- 2645** From Mono-Triazolium Salt to Bis-Triazolium Salt: Improvement of the Asymmetric Intermolecular Benzoin Condensation

Adv. Synth. Catal. **2008**, 350, 2645–2651

 Yajun Ma, Siping Wei, Jie Wu, Fei Yang, Bo Liu, Jingbo Lan, Shengyong Yang, Jingsong You*



UPDATE**Synthesis of α -Carbolines Starting from
2,3-Dichloropyridines and Substituted Anilines***Adv. Synth. Catal.* **2008**, 350, 2653–2660 Steven Hostyn, Gitte Van Baelen, Guy L. F. Lemi re
Bert U. W. Maes***2653** Supporting information on the WWW (see article for access details).

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