

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)

New Impact Factor
4.977
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for the 4th straight year

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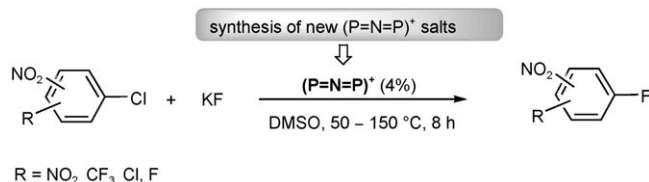
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COMMUNICATIONS

Efficient Phosphorus Catalysts for the Halogen-Exchange (Halex) Reaction

Adv. Synth. Catal. **2008**, 350, 2677–2682

Marie-Agnès Lacour, Maria Zablocka,* Carine Duhayon, Jean-Pierre Majoral,* Marc Taillefer*

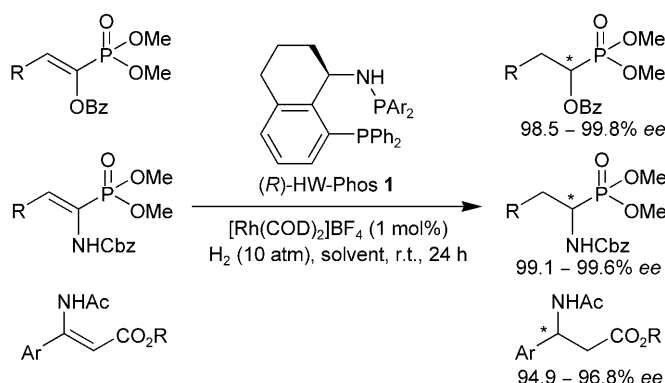


2677

Modular Phosphine-Aminophosphine Ligands Based on Chiral 1,2,3,4-Tetrahydro-1-naphthylamine Backbone: A New Class of Practical Ligands for Enantioselective Hydrogenations

Adv. Synth. Catal. **2008**, 350, 2683–2689

Min Qiu, Xiang-Ping Hu,* Jia-Di Huang, Dao-Yong Wang, Jun Deng, Sai-Bo Yu, Zheng-Chao Duan, Zhuo Zheng*

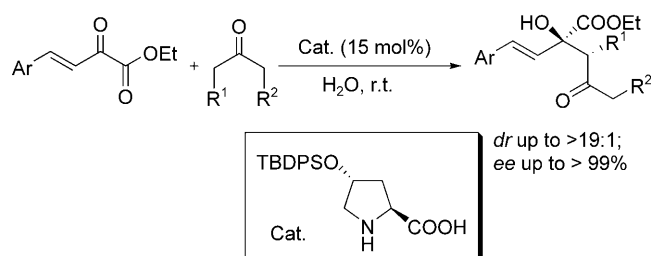


2683

- 2690** Highly Enantioselective Organocatalyzed Construction of Quaternary Carbon Centers *via* Cross-Aldol Reaction of Ketones in Water


Adv. Synth. Catal. **2008**, 350, 2690–2694

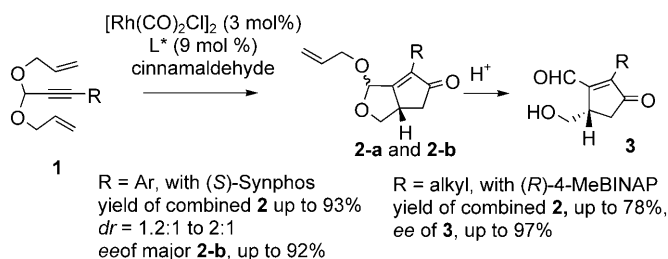
 Changwu Zheng, Yongyong Wu, Xiaosheng Wang, Gang Zhao*



- 2695** Asymmetric Desymmetrization of the Diallyl Acetals of Alkynals by the Enantioselective Pauson–Khand-Type Reaction Catalysts


Adv. Synth. Catal. **2008**, 350, 2695–2700

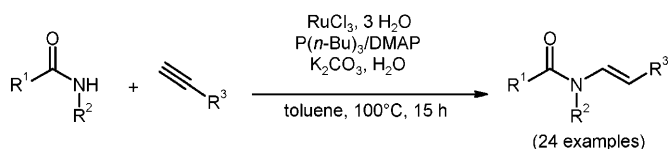
 Dong Eun Kim, Bo Hyung Lee, Mudigonda Rajagopalasarma, Jean-Pierre Genêt, Virginie Ratovelomanana-Vidal,* Nakcheol Jeong*



- 2701** A Practical and Effective Ruthenium Trichloride-Based Protocol for the Regio- and Stereoselective Catalytic Hydroamidation of Terminal Alkynes


Adv. Synth. Catal. **2008**, 350, 2701–2707

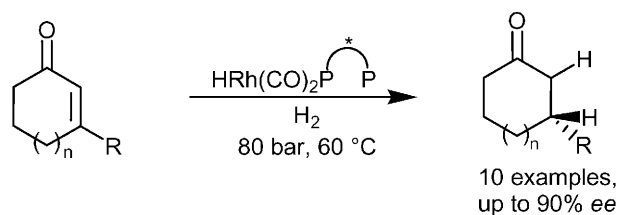
 Lukas J. Gooßen,* Matthias Arndt, Mathieu Blanchot, Felix Rudolphi, Fabian Menges, Gereon Niedner-Schatteburg*



- 2708** Enantioselective Hydrogenation of Enones with a Hydroformylation Catalyst


Adv. Synth. Catal. **2008**, 350, 2708–2714

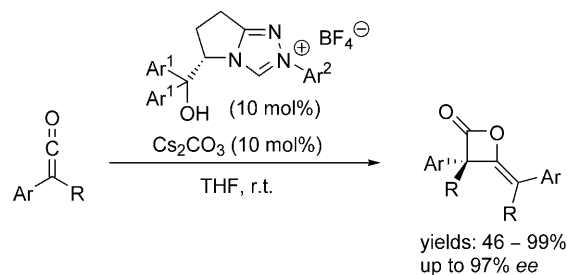
 Caroline J. Scheuermann née Taylor, Christoph Jaekel*



- 2715** Asymmetric Dimerization of Disubstituted Ketenes Catalyzed by N-Heterocyclic Carbenes


Adv. Synth. Catal. **2008**, 350, 2715–2718

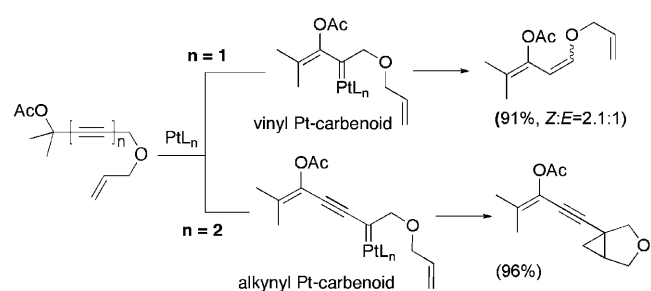
 Hui Lv, Yan-Rong Zhang, Xue-Liang Huang, Song Ye*



- 2719** Substituent Effect on the Formation and Reactivity of Platinum Carbenoids

Adv. Synth. Catal. **2008**, 350, 2719–2723

 Eun Jin Cho, Daesung Lee*

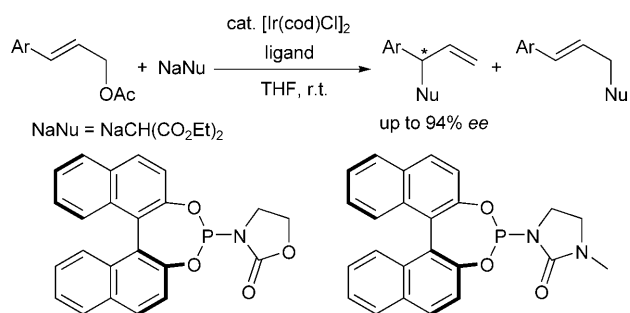


FULL PAPERS

Iridium-Catalyzed Enantioselective Allylic Alkylation using Chiral Phosphoramidite Ligand Bearing an Amide Moiety

Adv. Synth. Catal. **2008**, 350, 2725–2732

Gen Onodera, Keijiro Watabe, Masaki Matsubara, Kazuhiro Oda, Satoko Kezuka, Ryo Takeuchi*

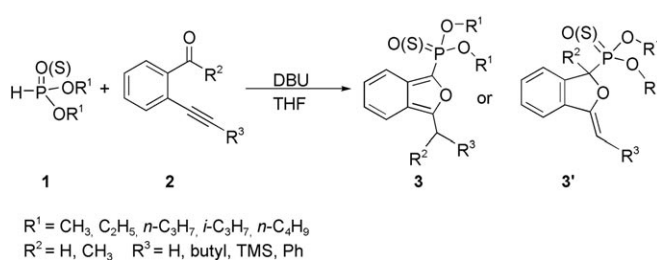


2725

Efficient Syntheses of (Thio)phosphonylated Isobenzofurans by Tandem Nucleophilic Addition and Regioselective 5-*exo-dig* Addition to Carbon-Carbon Triple Bond: Cooperative Effect to 1,8-Diazabicyclo[5.4.0]undec-7-ene (DBU)

Adv. Synth. Catal. **2008**, 350, 2733–2739

Fei Wang, Yadan Wang, Lingchao Cai, Zhiwei Miao,* Ruyu Chen

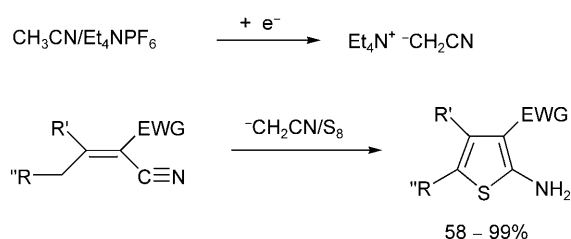


2733

Activation of Elemental Sulfur by Electrogenerated Cyanomethyl Anion: Synthesis of Substituted 2-Aminothiophenes by the Gewald Reaction

Adv. Synth. Catal. **2008**, 350, 2740–2746

Marta Feroci,* Isabella Chiarotto, Leucio Rossi, Achille Inesi*

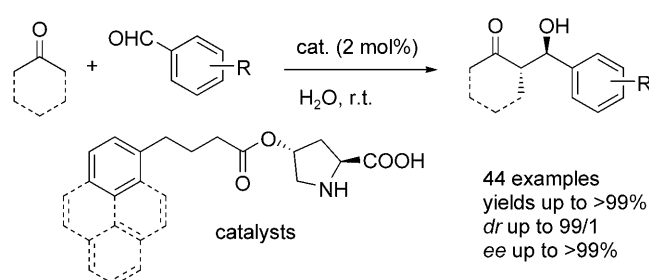


2740

New Simple Hydrophobic Proline Derivatives as Highly Active and Stereoselective Catalysts for the Direct Asymmetric Aldol Reaction in Aqueous Medium

Adv. Synth. Catal. **2008**, 350, 2747–2760

Francesco Giacalone, Michelangelo Gruttadauria* Paolo Lo Meo, Serena Riela, Renato Noto

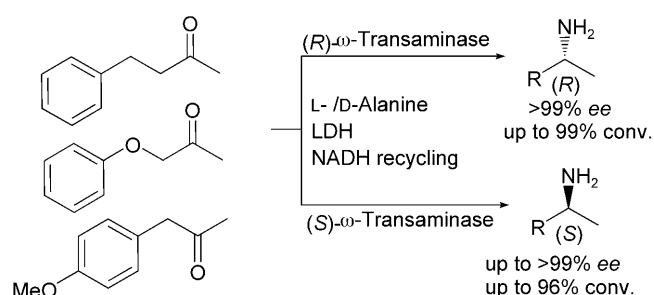


2747

Asymmetric Synthesis of Optically Pure Pharmacologically Relevant Amines Employing ω-Transaminases

Adv. Synth. Catal. **2008**, 350, 2761–2766

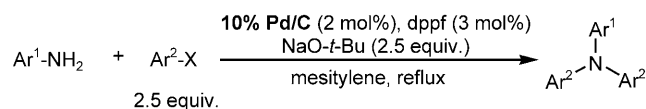
Dominik Koszelewski, Iván Lavandera, Dorina Clay, David Rozzell, Wolfgang Kroutil*




2761

- 2767** Evaluation of Aromatic Amination Catalyzed by Palladium on Carbon: A Practical Synthesis of Triarylamines

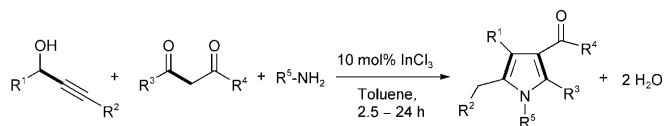
Adv. Synth. Catal. **2008**, 350, 2767–2777




 Yasunari Monguchi, Katsunori Kitamoto, Takashi Ikawa, Tomohiro Maegawa, Hironao Sajiki*

- 2778** Indium(III) Chloride-Catalyzed Propargylation/Amination/Cycloisomerization Tandem Reaction: One-Pot Synthesis of Highly Substituted Pyrroles from Propargylic Alcohols, 1,3-Dicarbonyl Compounds and Primary Amines


Adv. Synth. Catal. **2008**, 350, 2778–2788

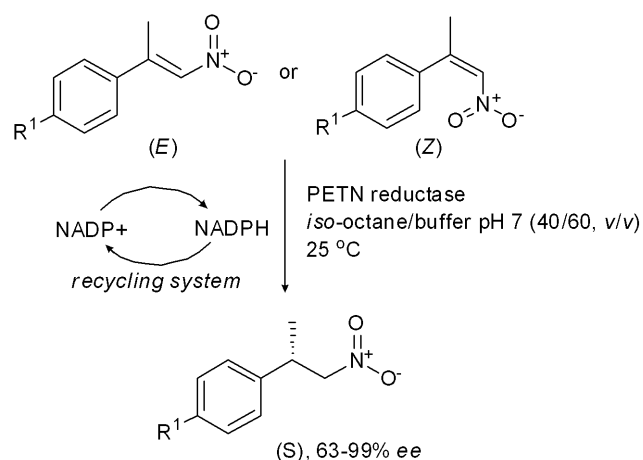


 Xiao-tao Liu, Lei Huang, Fei-jian Zheng, Zhuang-ping Zhan*

- 2789** Structure-Based Insight into the Asymmetric Bioreduction of the C=C Double Bond of α,β -Unsaturated Nitroalkenes by Pentaerythritol Tetranitrate Reductase


Adv. Synth. Catal. **2008**, 350, 2789–2803

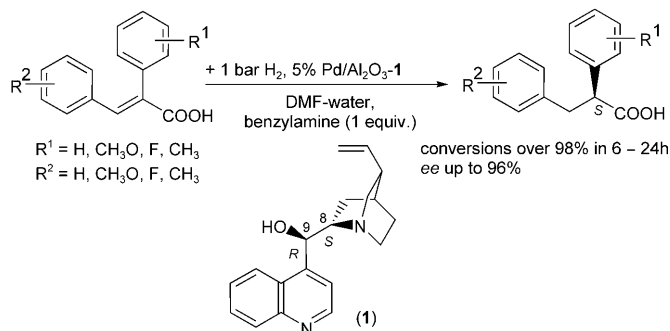
 Helen S. Toogood, Anna Fryszkowska, Victoria Hare, Karl Fisher, Anna Roujeinikova, David Leys, John M. Gardiner, Gill M. Stephens, Nigel S. Scrutton*



- 2804** Up to 96% Enantioselectivities in the Hydrogenation of Fluorine Substituted (*E*)-2,3-Diphenylpropenoic Acids over Cinchonidine-Modified Palladium Catalyst

Adv. Synth. Catal. **2008**, 350, 2804–2814

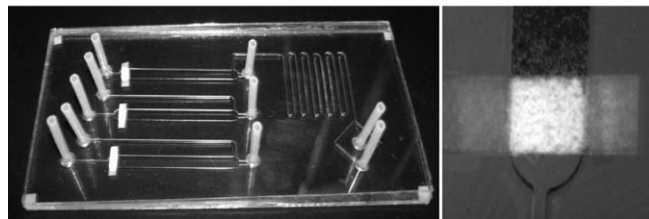
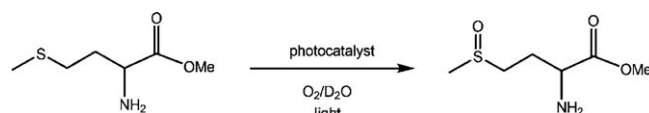
 György Szöllősi,* Beáta Hermán, Károly Felföldi, Ferenc Fülöp, Mihály Bartók



- 2815** Fullerene-Promoted Singlet-Oxygen Photochemical Oxygenations in Glass-Polymer Microstructured Reactors

Adv. Synth. Catal. **2008**, 350, 2815–2822

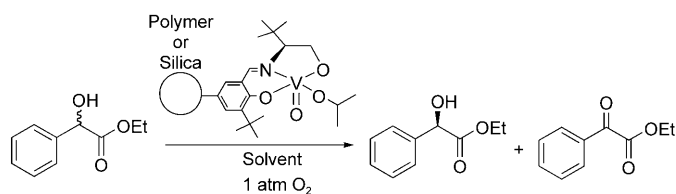
 Tommaso Carofiglio,* Paola Donnola, Michele Maggini,* Massimiliano Rossetto, Emiliano Rossi




Polymer and Silica Supported Tridentate Schiff Base
Vanadium Catalysts for the Asymmetric Oxidation of Ethyl
Mandelate – Activity, Stability and Recyclability

Adv. Synth. Catal. **2008**, 350, 2823–2834

Rebecca A. Shiels, Krishnan Venkatasubbaiah,
Christopher W. Jones*

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

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