

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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2006, 348, 10+11, Pages 1113–1316

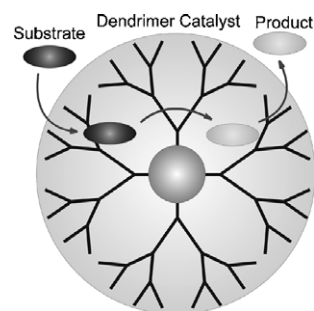
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REVIEW

The Dendrimer Effect in Homogeneous Catalysis

Adv. Synth. Catal. **2006**, 348, 1125–1148

Brett Helms, Jean M. J. Fréchet*



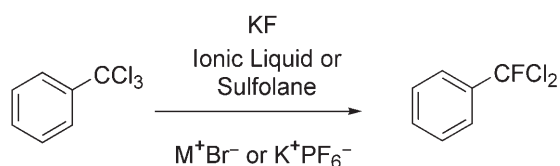
1125

COMMUNICATIONS

Activation of Nucleophilic Fluorination by Salts in Ionic Liquids and in Sulfolane

Adv. Synth. Catal. **2006**, 348, 1149–1153

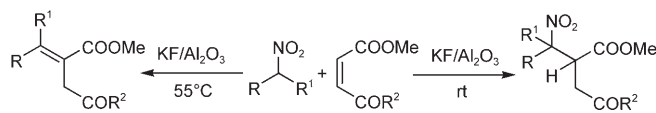
Stéphane Anguille, Maxime Garayt, Vincent Schanen,
René Grée*



1149

- 1154** Potassium Fluoride/Basic Alumina as Far Superior Heterogeneous Catalyst for the Chemoselective Conjugate Addition of Nitroalkanes to Electron-Poor Alkenes Having Two Electron-Withdrawing Groups in α - and β -Positions

Adv. Synth. Catal. **2006**, 348, 1154–1156

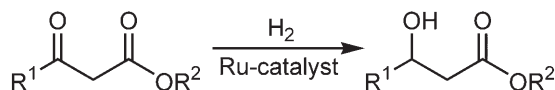


Roberto Ballini,* Alessandro Palmieri

- 1157** Asymmetric Hydrogenation of β -Keto Esters Using Chiral Diphosphonites

Adv. Synth. Catal. **2006**, 348, 1157–1160

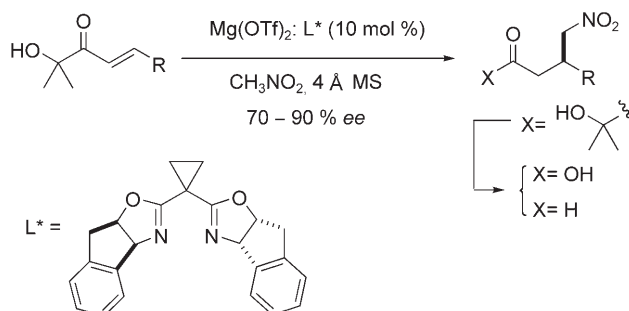
Manfred T. Reetz,* Xiaoguang Li



- 1161** Catalytic Enantioselective Conjugate Addition of Nitromethane to α' -Hydroxy Enones as Surrogates of α,β -Unsaturated Carboxylic Acids and Aldehydes

Adv. Synth. Catal. **2006**, 348, 1161–1164

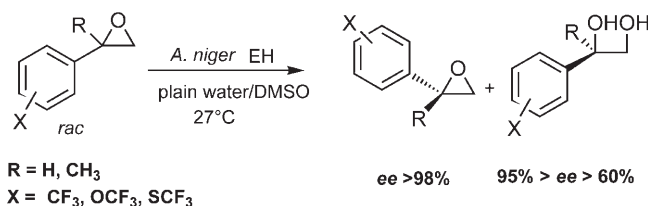
Claudio Palomo,* Raquel Pazos, Mikel Oiarbide, Jesús M. García



- 1165** Enzymatic Transformations; 61. Preparation of Enantiopure Trifluoromethyl-Substituted Aromatic Epoxides and Vicinal Diols using the *Aspergillus niger* Epoxide Hydrolase-Catalysed Resolution

Adv. Synth. Catal. **2006**, 348, 1165–1169

Justine Deregnacourt, Alain Archelas, Fabien Barbirato, Jean-Marc Paris, Roland Furstoss*

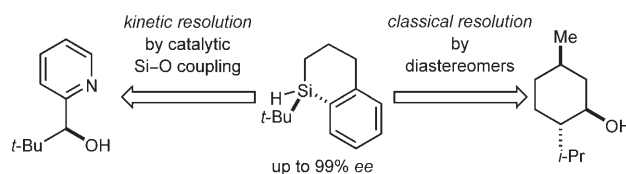


FULL PAPERS

- 1171** Preparation of a Privileged Silicon-Stereogenic Silane: Classical *versus* Kinetic Resolution

Adv. Synth. Catal. **2006**, 348, 1171–1182

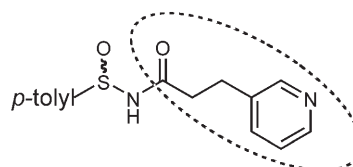
Sebastian Rendler, Gertrud Auer, Manfred Keller, Martin Oestreich*



- 1183** The 3-(3-Pyridine)propionyl Anchor Group for Protease-Catalyzed Resolutions: *p*-Toluenesulfinamide and Sterically Hindered Secondary Alcohols

Adv. Synth. Catal. **2006**, 348, 1183–1192

Christopher K. Savile, Romas J. Kazlauskas*

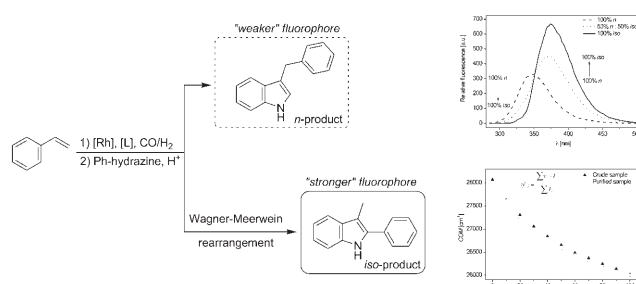


- increases solubility in water
- enhances binding to subtilisin, chymotrypsin
- simplifies separation by acid extraction

A Rapid and Reliable Assay for Regioselectivity Using Fluorescence Spectroscopy

Adv. Synth. Catal. **2006**, 348, 1193–1199


 Goran Angelovski,* Mark D. Keränen,* Petra Linnepe, Stefan Grudzielanek, Peter Eilbracht*

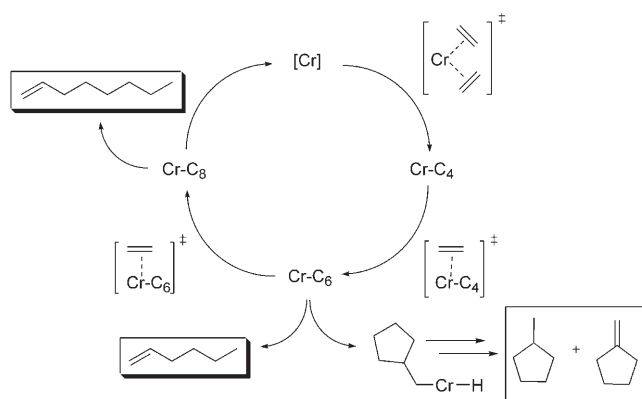


1193

Influence of Elevated Temperature and Pressure on the Chromium-Catalysed Tetramerisation of Ethylene

Adv. Synth. Catal. **2006**, 348, 1200–1206

 Sven Kuhlmann, John T. Dixon, Marco Haumann, David H. Morgan, Jimmy Ofili, Oliver Spuhl, Nicola Taccardi, Peter Wasserscheid*

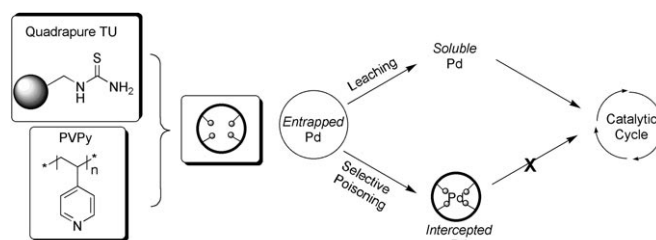


1200

Poly(4-vinylpyridine) and Quadrapure TU as Selective Poisons for Soluble Catalytic Species in Palladium-Catalyzed Coupling Reactions – Application to Leaching from Polymer-Entrapped Palladium

Adv. Synth. Catal. **2006**, 348, 1207–1216

John M. Richardson, Christopher W. Jones*

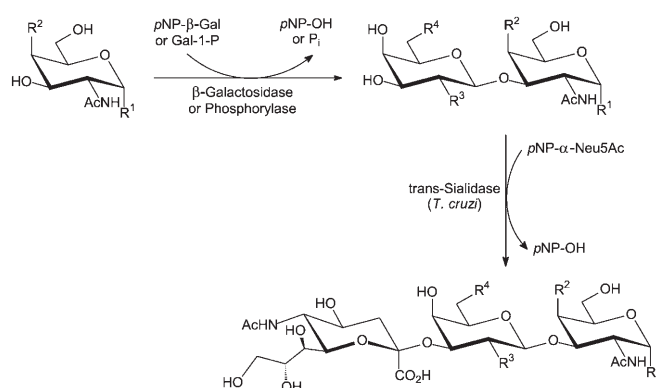


1207

Subsequent Enzymatic Galactosylation and Sialylation Towards Sialylated Thomsen–Friedenreich Antigen Components

Adv. Synth. Catal. **2006**, 348, 1217–1227


 Lars Kröger, Agnes Scudlo, Joachim Thiem*

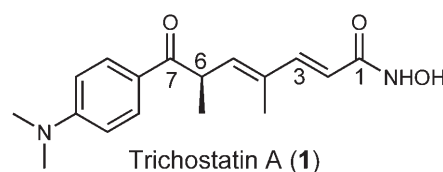


1217

Efficient, Enantioselective Organocatalytic Synthesis of Trichostatin A

Adv. Synth. Catal. **2006**, 348, 1228–1234

 Shilei Zhang, Wenhui Duan,* Wei Wang*

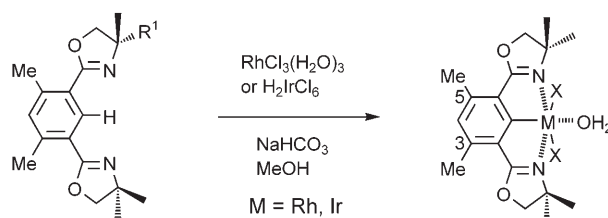


1228

- 1235** Efficient Preparation of New Rhodium- and Iridium-[Bis(oxazoliny)-3,5-dimethylphenyl] Complexes by C–H Bond Activation: Applications in Asymmetric Synthesis

Adv. Synth. Catal. **2006**, 348, 1235–1240

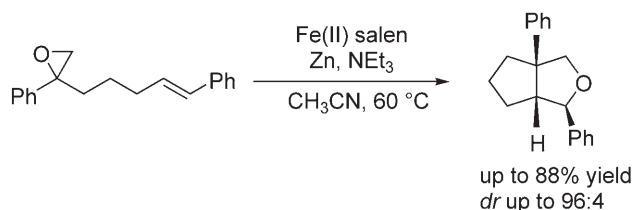
Jun-ichi Ito, Takushi Shiomi, Hisao Nishiyama*



- 1241** Iron-Salen Complexes as Efficient Catalysts in Ring Expansion Reactions of Epoxyalkenes

Adv. Synth. Catal. **2006**, 348, 1241–1247

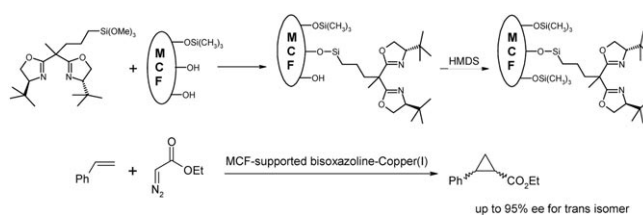
Gerhard Hilt,* Christian Walter, Patrick Bolze



- 1248** Improved Enantioselectivity of Immobilized Chiral Bisoxazolines by Partial Precapping of the Siliceous Mesocellular Foam Support with Trimethylsilyl Groups

Adv. Synth. Catal. **2006**, 348, 1248–1254

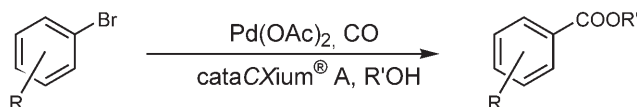
Su Seong Lee, Sukandar Hadinoto, Jackie Y. Ying*



- 1255** Efficient Carbonylation of Aryl and Heteroaryl Bromides using a Palladium/Diadamantylbutylphosphine Catalyst

Adv. Synth. Catal. **2006**, 348, 1255–1261

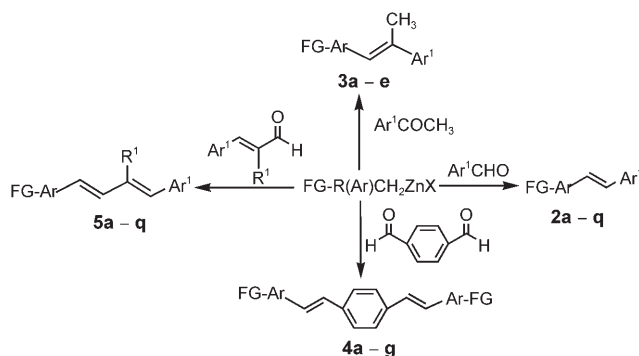
Helfried Neumann, Anne Brennfürher, Peter Groß, Thomas Riermeier, Juan Almena,* Matthias Beller*



- 1262** Palladium-Catalyzed Stereoselective Synthesis of (*E*)-Stilbenes via Organozinc Reagents and Carbonyl Compounds

Adv. Synth. Catal. **2006**, 348, 1262–1270

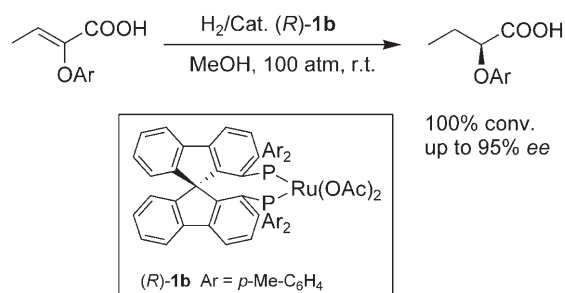
Jin-Xian Wang,* Kehu Wang, Lianbiao Zhao, Hongxia Li, Ying Fu, Yulai Hu



- 1271** Asymmetric Hydrogenation of α,β -Unsaturated Carboxylic Acids Catalyzed by Ruthenium(II) Complexes of Spirobifluorene Diphosphine (SFDP) Ligands

Adv. Synth. Catal. **2006**, 348, 1271–1276

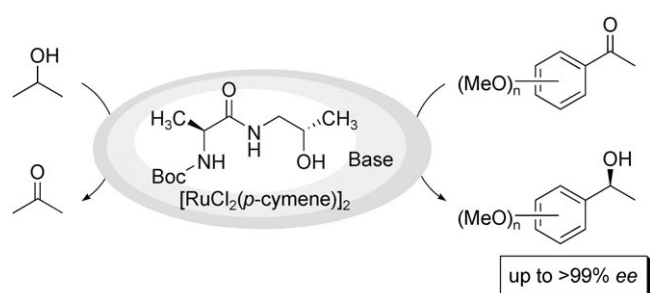
Xu Cheng, Jian-Hua Xie, Sheng Li, Qi-Lin Zhou*



Ruthenium-Catalyzed Enantioselective Reduction of Electron-Rich Aryl Alkyl Ketones

Adv. Synth. Catal. **2006**, 348, 1277–1282

Jenny Wettergren, Anders Bøgevig, Maud Portier, Hans Adolfsson*

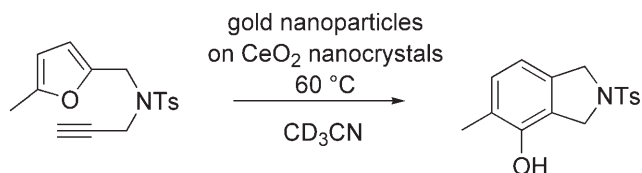


1277

Heterogeneous Gold-Catalysed Synthesis of Phenols

Adv. Synth. Catal. **2006**, 348, 1283–1288

Silvio Carrettin, M. Carmen Blanco, Avelino Corma,* A. Stephen K. Hashmi*

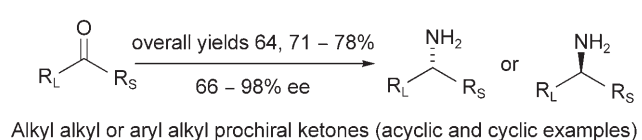


1283

Asymmetric Reductive Amination: Convenient Access to Enantioenriched Alkyl-Alkyl or Aryl-Alkyl Substituted α -Chiral Primary Amines

Adv. Synth. Catal. **2006**, 348, 1289–1299

Thomas C. Nugent,* Abhijit K. Ghosh, Vijay N. Wakchaure, Rashmi R. Mohanty



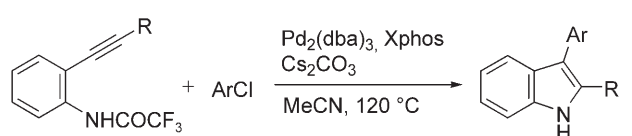
1289

UPDATES

2,3-Disubstituted Indoles through the Palladium-Catalyzed Reaction of Aryl Chlorides with *o*-Alkynyltrifluoroacetanilides

Adv. Synth. Catal. **2006**, 348, 1301–1305

Sandro Cacchi,* Giancarlo Fabrizi, Antonella Goggiani

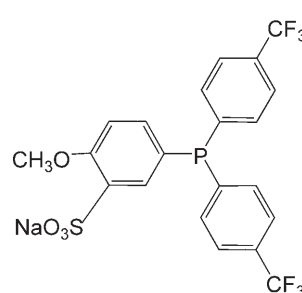


1301

Facile Synthesis of a Monosulfonated Triphenylphosphane (TPPMS) Derived Ligand having Strong π -Acceptor Character

Adv. Synth. Catal. **2006**, 348, 1306–1310

Henrik Gulyás, Zoltán Bacsik, Áron Szöllősy, József Bakos*



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

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