

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

succeeding *Journal für praktische Chemie*
(founded in 1828)

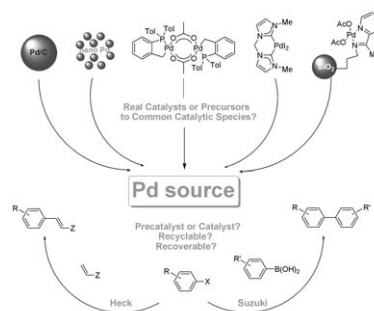
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2006, 348, 6, Pages 597–784

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COVER PICTURE

The cover picture shows several forms of palladium which have been utilized as precatalysts for Heck and Suzuki coupling reactions. Over the years, myriad different precatalysts have been used and the nature of the true catalytic palladium species has been a subject of intense debate. What is the real catalyst in these reactions? For more details, see the review by Nam T.S. Phan, Matthew Van Der Sluys and Christopher W. Jones on pages 609–679.



COMMENTARY

Advanced Synthesis & Catalysis Adapts the Manuscript
Central Online Submission and Peer Review System

Adv. Synth. Catal. **2006**, 348, 607

Joe P. Richmond

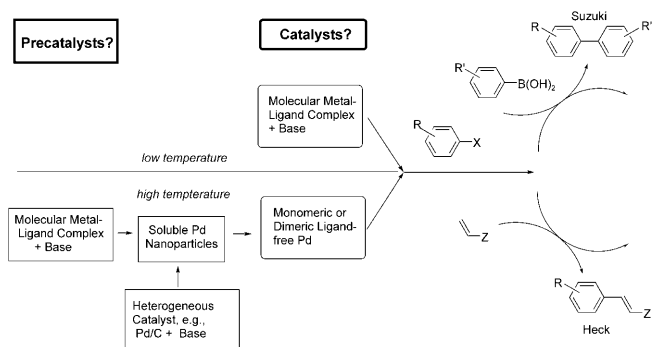
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REVIEW

- 609** On the Nature of the Active Species in Palladium Catalyzed Mizoroki–Heck and Suzuki–Miyaura Couplings – Homogeneous or Heterogeneous Catalysis, A Critical Review

Adv. Synth. Catal. **2006**, 348, 609–679

Nam T. S. Phan, Matthew Van Der Sluys, Christopher W. Jones*

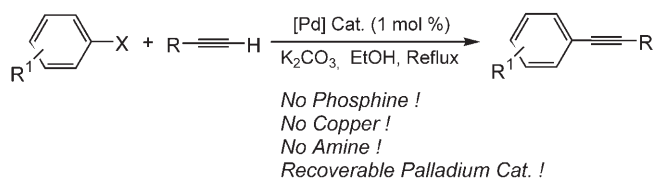


COMMUNICATIONS

- 681** An Amine-, Copper- and Phosphine-Free Sonogashira Coupling Reaction Catalyzed by Immobilization of Palladium in Organic–Inorganic Hybrid Materials

Adv. Synth. Catal. **2006**, 348, 681–685

Pin-Hua Li, Lei Wang*

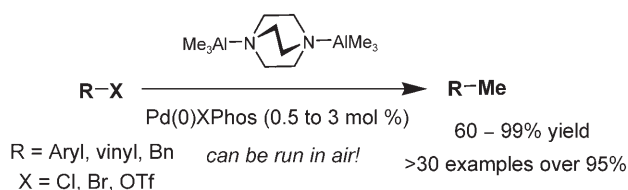


- 686** User-Friendly Methylation of Aryl and Vinyl Halides and Pseudohalides with DABAL-Me₃

Adv. Synth. Catal. **2006**, 348, 686–690



Thea Cooper, Andrew Novak, Luke D. Humphreys, Matthew D. Walker, Simon Woodward*

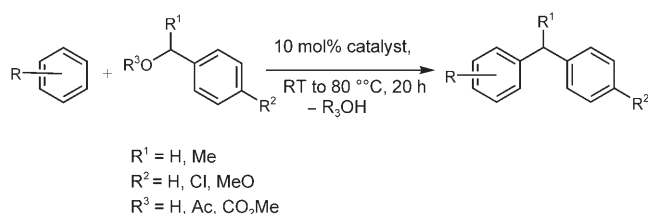


- 691** Gold-Catalyzed Benzylation of Arenes and Heteroarenes

Adv. Synth. Catal. **2006**, 348, 691–695



Kristin Mertins, Irina Iovel, Jette Kischel, Alexander Zapf, Matthias Beller*

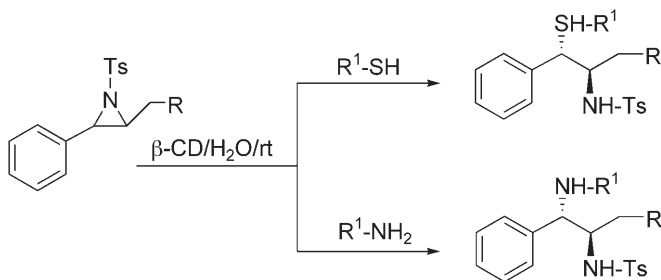


- 696** C-3 Selective Ring Opening of 2,3-Aziridino Alcohols and their Derivatives with Nucleophiles in the Presence of β-Cyclodextrin in Water

Adv. Synth. Catal. **2006**, 348, 696–700



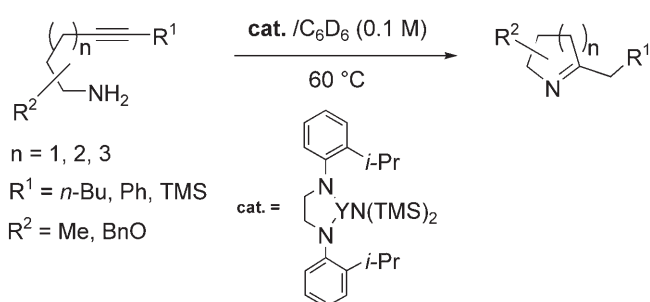
N. Srilakshmi Krishnaveni, K. Surendra, K. Rama Rao*



Yttrium(III)-Catalyzed Intramolecular Alkyne Hydroaminations

Adv. Synth. Catal. **2006**, 348, 701–704

Hyunseok Kim, Tom Livinghouse,* Jun Hwan Shim,
Seong Guk Lee, Phil Ho Lee*

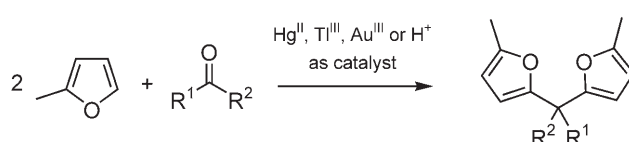


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The Condensation of Carbonyl Compounds with Electron-Rich Arenes: Mercury, Thallium, Gold or a Proton?

Adv. Synth. Catal. **2006**, 348, 705–708

A. Stephen K. Hashmi,* Lothar Schwarz,
Philipp Rubenbauer, M. Carmen Blanco

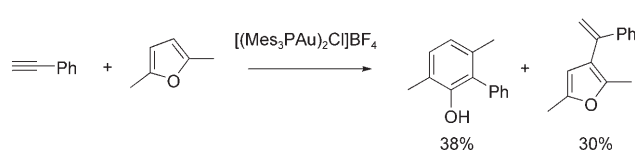


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Gold Catalysis: First Applications of Cationic Binuclear Gold(I) Complexes and the First Intermolecular Reaction of an Alkyne with a Furan

Adv. Synth. Catal. **2006**, 348, 709–713

A. Stephen K. Hashmi,* M. Carmen Blanco,
Elzen Kurpejović, Wolfgang Frey, Jan W. Bats



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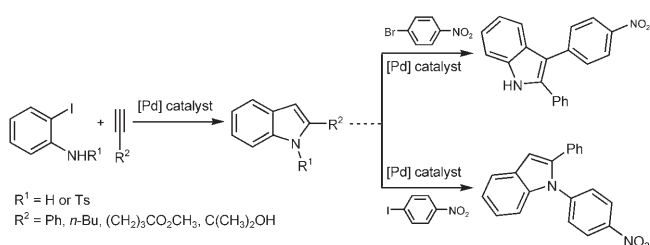
FULL PAPERS

Heterogeneous Palladium Catalysts Applied to the Synthesis of 2- and 2,3-Functionalised Indoles

Adv. Synth. Catal. **2006**, 348, 715–724



Laurent Djakovitch,* Véronique Dufaud, Rabah Zaidi

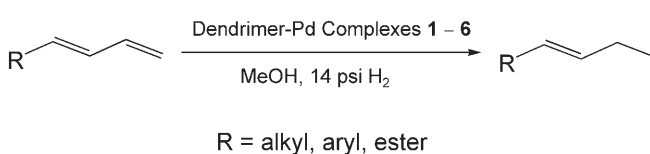


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Silica-Supported Dendrimer-Palladium Complex-Catalyzed Selective Hydrogenation of Dienes to Monoolefins

Adv. Synth. Catal. **2006**, 348, 725–731

Pumza P. Zweni, Howard Alper*

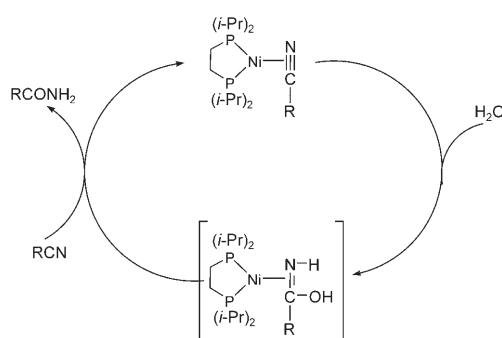


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Catalytic Hydration of Benzonitrile and Acetonitrile using Nickel(0)

Adv. Synth. Catal. **2006**, 348, 732–742

Marco G. Crestani, Alma Arévalo, Juventino J. García*



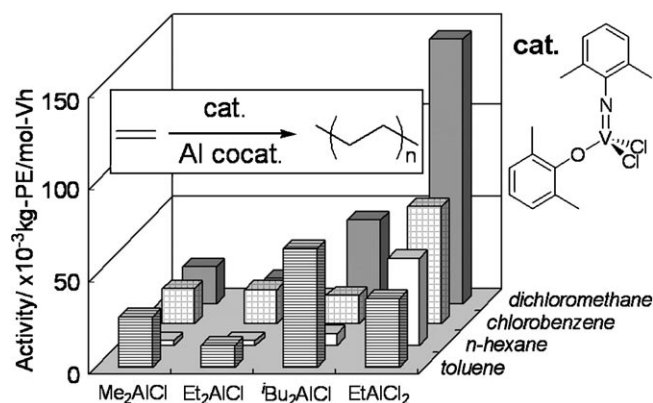
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- 743** Notable Effects of Aluminum Alkyls and Solvents for Highly Efficient Ethylene (Co)polymerizations Catalyzed by (Arylimido)-(aryloxo)vanadium Complexes

Adv. Synth. Catal. **2006**, 348, 743–750



Wei Wang, Kotohiro Nomura*

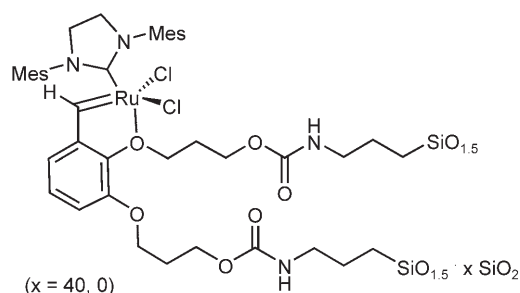


- 751** Hybrid-Bridged Silsesquioxane as Recyclable Metathesis Catalyst Derived from a Bis-Silylated Hoveyda-Type Ligand

Adv. Synth. Catal. **2006**, 348, 751–762



Xavier Elias, Roser Pleixats,* Michel Wong Chi Man,* Joël J. E. Moreau

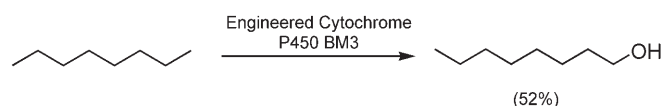


- 763** Engineering Cytochrome P450 BM3 for Terminal Alkane Hydroxylation

Adv. Synth. Catal. **2006**, 348, 763–772



Peter Meinhold, Matthew W. Peters, Adam Hartwick, Alisha R. Hernandez, Frances H. Arnold*

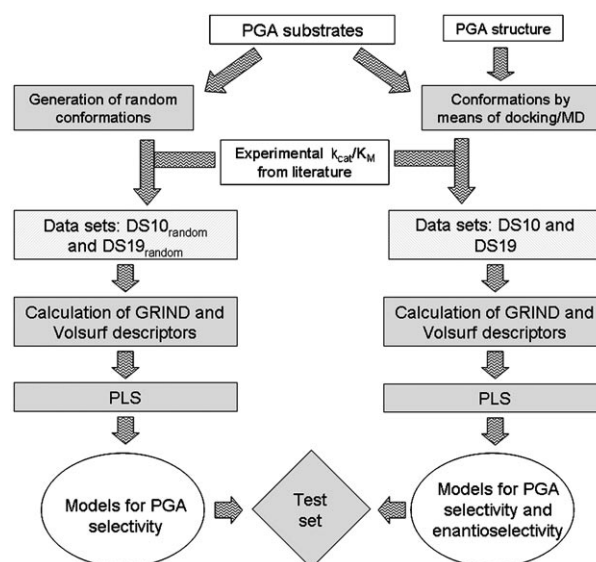


- 773** 3D-QSAR Applied to the Quantitative Prediction of Penicillin G Amidase Selectivity

Adv. Synth. Catal. **2006**, 348, 773–780



Paolo Braiuca,* Luca Boscarol, Cynthia Ebert, Paolo Linda, Lucia Gardossi



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

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