

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.

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.

succeeding Journal für praktische Chemie
(founded in 1828)

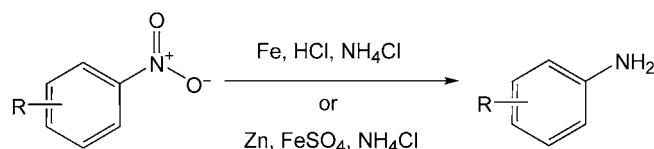
2005, 347, 2 + 3, Pages 203–496

Issue 1/2005 was published online on January 26, 2005

A Practical and Chemoselective Reduction of Nitroarenes to Anilines Using Activated Iron

Adv. Synth. Catal. **2005**, 347, 217–219

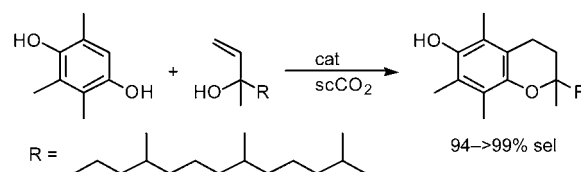
Yugang Liu,* Yansong Lu, Mahavir Prashad,* Oljan Repič,
Thomas J. Blacklock



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Synthesis of (all-*rac*)- α -Tocopherol in Supercritical Carbon Dioxide: Tuning of the Product Selectivity in Batch and Continuous-Flow Reactors

Adv. Synth. Catal. **2005**, 347, 220–224



cat = fluorous molecular catalysts or solid acid catalysts

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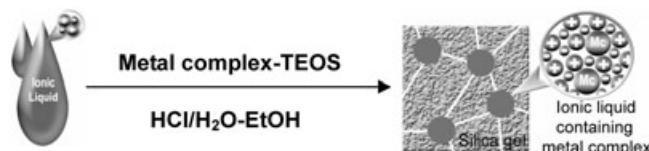


Yoshiaki Kokubo, Aiko Hasegawa, Shigeki Kuwata, Kazuaki Ishihara, Hisashi Yamamoto, Takao Ikariya*

Silica Gel Confined Ionic Liquid + Metal Complexes for Oxygen-Free Carbonylation of Amines and Nitrobenzene to Ureas

Adv. Synth. Catal. **2005**, 347, 225–230

Feng Shi, Qinghua Zhang, Yanlong Gu, Youquan Deng*

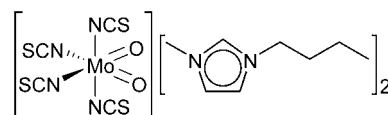


225

- 231** Room Temperature Liquid Salts of Cr and Mo as Self-Supported Oxidants

Adv. Synth. Catal. **2005**, 347, 231–234

Gladys Noguera, Jorge Mostany, Giuseppe Agrifoglio, Romano Dorta*



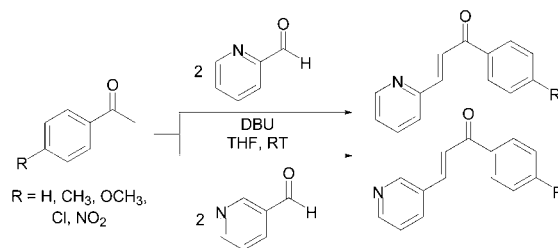
Red liquid salt **1** is a self-supported stoichiometric & catalytic oxidant

- 235** Organic Base-Mediated Condensation of Pyridinecarboxaldehydes to Azachalcones

Adv. Synth. Catal. **2005**, 347, 235–238



Laura E. Downs, Derek M. Wolfe, Peter R. Schreiner*

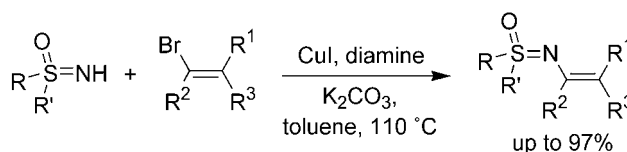


- 239** A General Copper-Promoted Coupling of Sulfoximines with Vinyl Bromides

Adv. Synth. Catal. **2005**, 347, 239–242



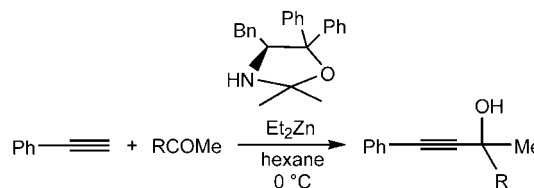
Juan R. Dehli, Carsten Bolm*



- 243** Enantioselective Alkynylation of Aromatic Ketones Catalyzed by New Chiral Oxazolidine Ligands

Adv. Synth. Catal. **2005**, 347, 243–247

Yong-Feng Kang, Lei Liu, Rui Wang,* Yi-Feng Zhou, Wen-Jin Yan



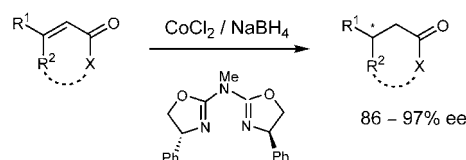
R = aryl groups ee: up to 88%

FULL PAPERS

- 249** Cobalt(II)-Azabis(oxazoline)-Catalyzed Conjugate Reduction of α,β -Unsaturated Carbonyl Compounds

Adv. Synth. Catal. **2005**, 347, 249–254

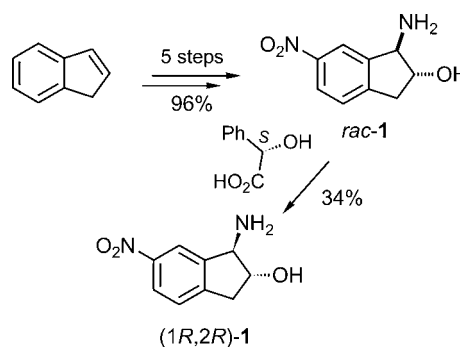
Christian Geiger, Peter Kreitmeier, Oliver Reiser*



- 255** Convenient and Inexpensive Synthesis of (1*R*,2*R*)-*trans*-1-Amino-6-nitroindan-2-ol

Adv. Synth. Catal. **2005**, 347, 255–265

Sergei I. Kozhushkov, Dmitrii S. Yufit, Armin de Meijere*

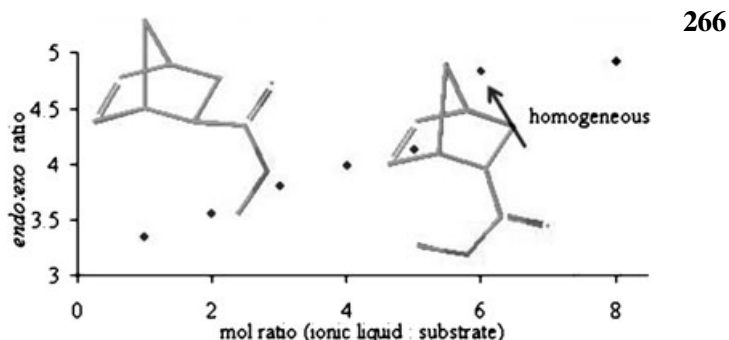


Rationalisation of Solvent Effects in the Diels–Alder Reaction Between Cyclopentadiene and Methyl Acrylate in Room Temperature Ionic Liquids

Adv. Synth. Catal. **2005**, 347, 266–274



Ana Vidiš, C. André Ohlin, Gábor Laurenczy, Ernst Küsters, Gottfried Sedelmeier, Paul J. Dyson*

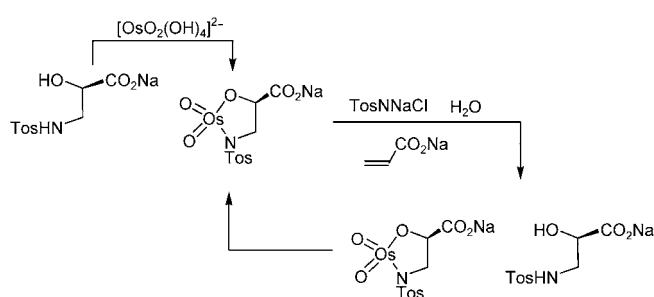


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On the Stereochemical Course of Self-Replication in Secondary Cycle Sharpless Aminohydroxylation

Adv. Synth. Catal. **2005**, 347, 275–281

Kilian Muñiz



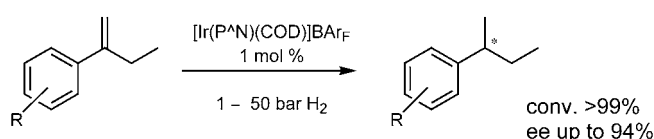
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Iridium-Catalyzed Enantioselective Hydrogenation of Terminal Alkenes

Adv. Synth. Catal. **2005**, 347, 282–288



Steven McIntyre, Esther Hörmann, Frederik Menges, Sebastian P. Smidt, Andreas Pfaltz*

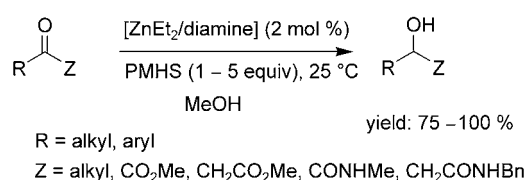


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[Zinc-Diamine]-Catalyzed Hydrosilylation of Ketones in Methanol. New Developments and Mechanistic Insights

Adv. Synth. Catal. **2005**, 347, 289–302

Virginie Bette, André Mortreux,* Diego Savoia, Jean-François Carpentier*



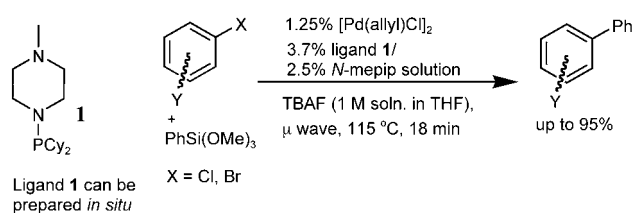
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UPDATES

First Microwave-Accelerated Hiyama Coupling of Aryl- and Vinylsiloxane Derivatives: Clean Cross-Coupling of Aryl Chlorides within Minutes

Adv. Synth. Catal. **2005**, 347, 303–307

Matthew L Clarke



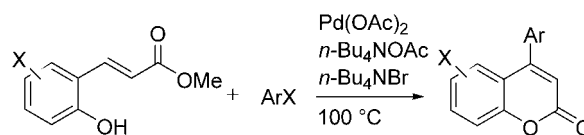
303

- 308** Synthesis of Coumarins in a Molten $n\text{-Bu}_4\text{NOAc}/n\text{-Bu}_4\text{NBr}$ Mixture through a Domino Heck Reaction/Cyclization Process

Adv. Synth. Catal. **2005**, 347, 308–312



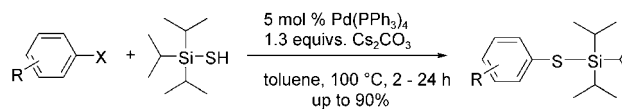
Gianfranco Battistuzzi, Sandro Cacchi,* Ilse De Salve, Giancarlo Fabrizi, Luca M. Parisi



- 313** A General and Efficient Method for the Synthesis of Silyl-Protected Arenethiols from Aryl Halides or Triflates

Adv. Synth. Catal. **2005**, 347, 313–319

Michael Kreis, Stefan Bräse*



R = functional group; X = Br, I or CF_3SO_3

DEDICATED CLUSTER – COMMENTARY

- 321** In honor of Prof. Richard (Dick) R. Schrock on the occasion of his 60th birthday

Adv. Synth. Catal. **2005**, 347, 321

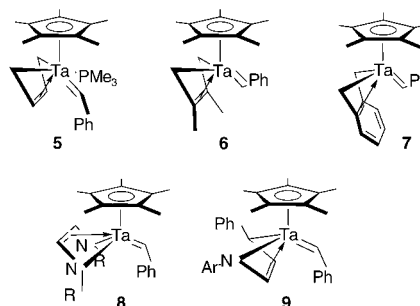
Michael R. Buchmeiser

DEDICATED CLUSTER – REVIEWS

- 323** Ligand Architecture on Stereocontrol of Half-Metallocene Benzylidene Complexes of Tantalum

Adv. Synth. Catal. **2005**, 347, 323–328

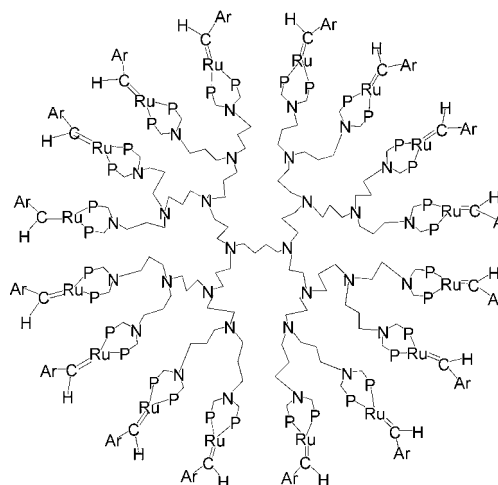
Kazushi Mashima



- 329** Metallo dendritic Catalysis for Redox and Carbon–Carbon Bond Formation Reactions: A Step towards Green Chemistry.

Adv. Synth. Catal. **2005**, 347, 329–338

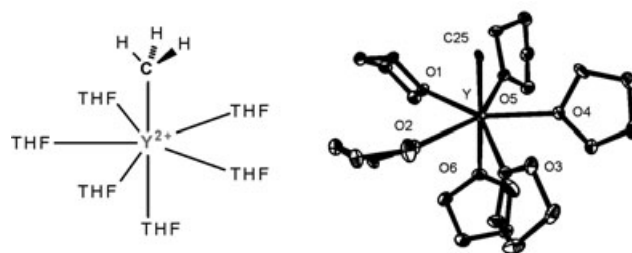
Didier Astruc,* Karine Heuzé, Sylvain Gatard, Denise Méry, Sylvain Nlate, Lauriane Plault



Cationic Alkyl Complexes of the Rare-Earth Metals:
Synthesis, Structure, and Reactivity

Adv. Synth. Catal. **2005**, 347, 339–354

Stefan Arndt, Jun Okuda*

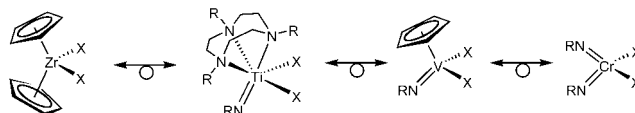


339

Transition Metal Imido Compounds as Ziegler–Natta Olefin
Polymerisation Catalysts

Adv. Synth. Catal. **2005**, 347, 355–366

Paul D. Bolton, Philip Mountford*

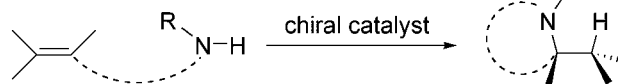


355

Transition Metal-Catalyzed Asymmetric Hydroamination of
Alkenes (AHA)

Adv. Synth. Catal. **2005**, 347, 367–391

Kai C. Hultzs



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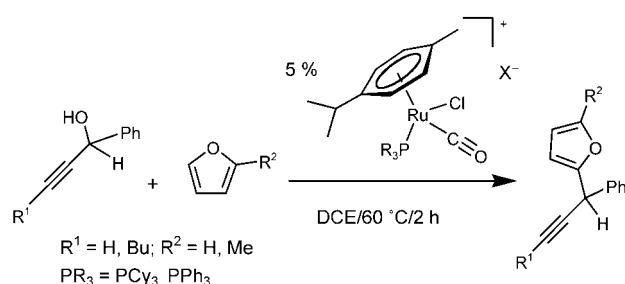
DEDICATED CLUSTER – COMMUNICATIONS

Mononuclear Ruthenium Catalysts for the Direct Propargy-
lation of Heterocycles with Propargyl Alcohols

Adv. Synth. Catal. **2005**, 347, 393–397



Emilio Bustelo, Pierre H. Dixneuf*



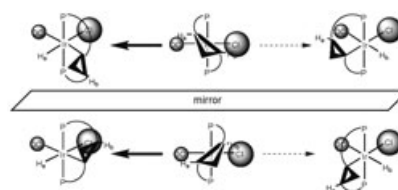
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Favored C–H Activation in Comparison to Cyclopropyl C–C
Activation using a Vaska-Analogous Complex

Adv. Synth. Catal. **2005**, 347, 398–404



Klaus Ruhland*, Eberhardt Herdtweck



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Trimethylphosphine-bis(benzyl)nickel: Synthesis and Char-
acterization

Adv. Synth. Catal. **2005**, 347, 405–408

Julia-Christina Wasilke, Joseph W. Ziller, Guillermo C.
Bazan*

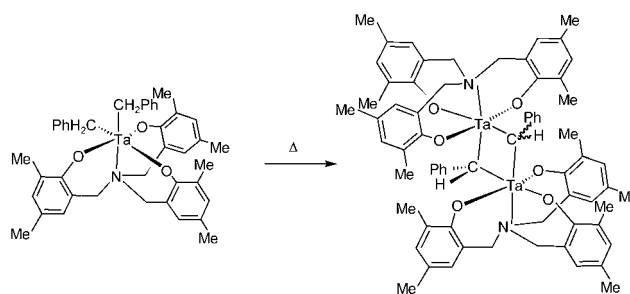


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- 409** Exploring Routes to Tantalum(V) Alkylidene Complexes Supported by Amine Tris(phenolate) Ligands

Adv. Synth. Catal. **2005**, 347, 409–415

Stanislav Groysman, Israel Goldberg, Moshe Kol,* Elisheva Genizi, Zeev Goldschmidt*



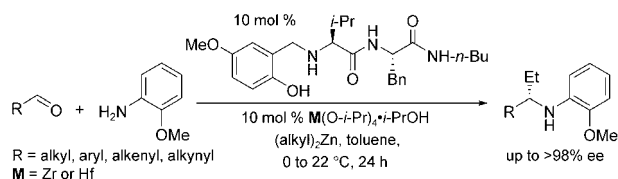
DEDICATED CLUSTER – FULL PAPERS

- 417** Asymmetric Synthesis of Acyclic Amines Through Zr- and Hf-Catalyzed Enantioselective Alkylzinc Reagents to Imines

Adv. Synth. Catal. **2005**, 347, 417–425



Laura C. Akullian, James R. Porter, John F. Traverse, Marc L. Snapper,* Amir H. Hoveyda*

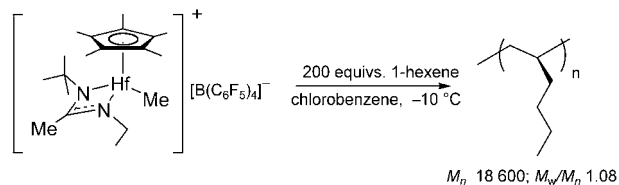


- 426** Evaluation of (η^5 -C₅Me₅)Hf(R)₂[N(Et)C(Me)N(*i*-Bu)] (R = Me and *i*-Bu) for the Stereospecific Living and Degenerative Transfer Living Ziegler–Natta Polymerization of α -Olefins

Adv. Synth. Catal. **2005**, 347, 426–432



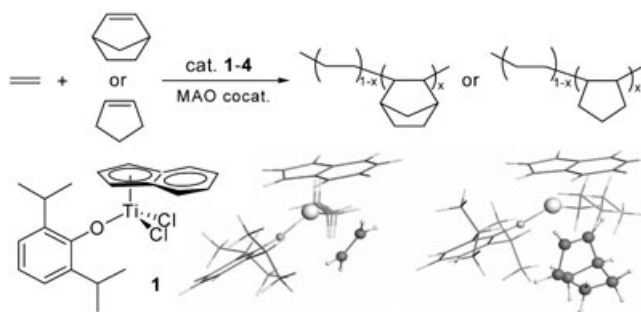
Denis A. Kissounko, Yonghui Zhang, Matthew B. Harney, Lawrence R. Sita*



- 433** Effect of Cyclopentadienyl Fragment in Copolymerization of Ethylene with Cyclic Olefins Catalyzed by *Non-Bridged* (Aryloxo)(cyclopentadienyl)titanium(IV) Complexes

Adv. Synth. Catal. **2005**, 347, 433–446

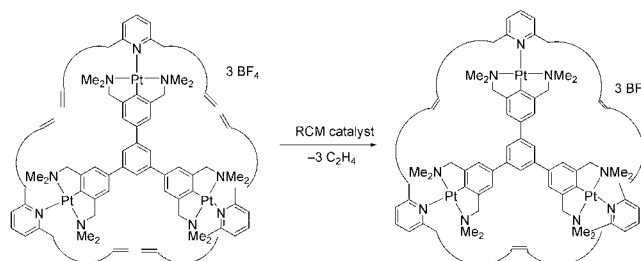
Wei Wang, Tatsuo Tanaka,* Miki Tsubota, Michiya Fujiki, Shozo Yamanaka, Kotohiro Nomura*



- 447** General Approach for Template-Directed Synthesis of Macroheterocycles by Ring-Closing Metathesis (RCM)

Adv. Synth. Catal. **2005**, 347, 447–462

Alexey V. Chuchuryukin, Preston A. Chase, Harm P. Dijkstra, Bart M. J. M. Suijkerbuijk, Allison M. Mills, Anthony L. Spek, Gerard P. M. van Klink, Gerard van Koten*

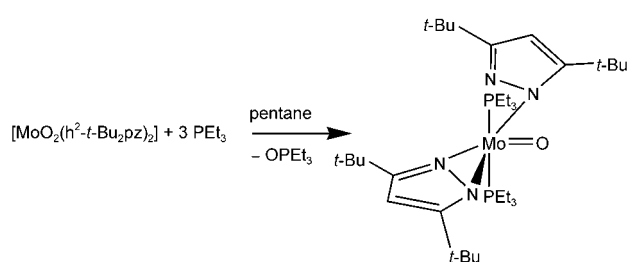


Oxygen-Transfer Reactions of Molybdenum- and Tungsten-dioxo Complexes Containing η^2 -Pyrazolate Ligands

Adv. Synth. Catal. **2005**, 347, 463–472



Kerstin Most, Jens Hoßbach, Denis Vidović, Jörg Magull, Nadia C. Mösch-Zanetti*

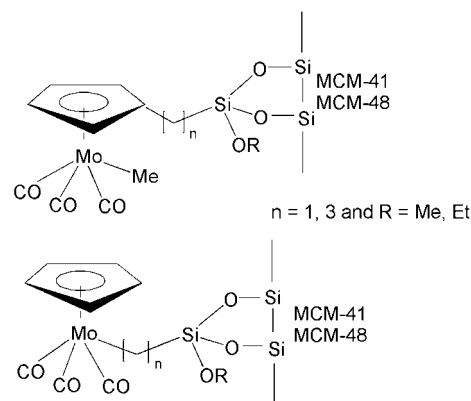


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Heterogenization of Organometallic Molybdenum Complexes with Siloxane Functional Groups and their Catalytic Application

Adv. Synth. Catal. **2005**, 347, 473–483

Ayyamperumal Sakthivel, Jin Zhao, Marianne Hanzlik, Anthony S. T. Chiang, Wolfgang A. Herrmann,* Fritz E. Kühn*

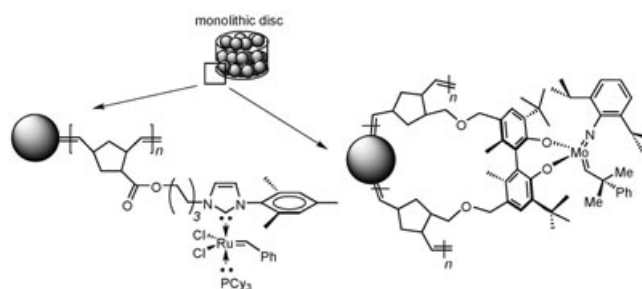


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Monolithic Disk-Supported Metathesis Catalysts for Use in Combinatorial Chemistry

Adv. Synth. Catal. **2005**, 347, 484–492

Monika Mayr, Dongren Wang, Roswitha Kröll, Norbert Schuler, Stefan Prühs, Alois Fürstner, Michael R. Buchmeiser*



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

*Author to whom correspondence should be addressed.