

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
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2008, 350, 3, Pages 353–520

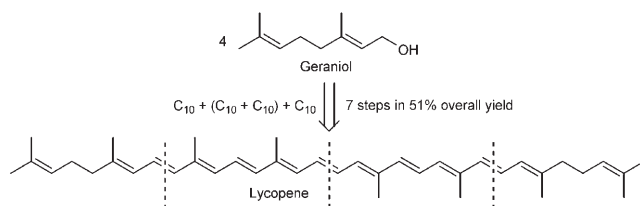
Issue 2/2008 was published online on
January 18, 2008

COMMUNICATIONS

Expeditious and Practical Synthesis of Lycopene

Adv. Synth. Catal. **2008**, 350, 365–369


 Eunho Choi, Jung Eun Yeo, Sangho Koo*

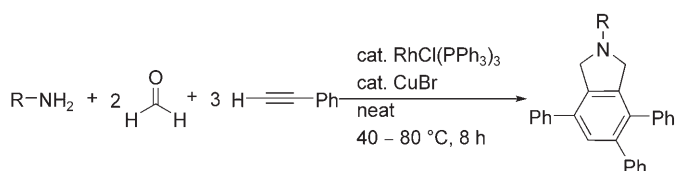


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Efficient Preparation of the Isoindoline Framework via a Six Component, Tandem Double A³-Coupling and [2+2+2] Cycloaddition Reaction

Adv. Synth. Catal. **2008**, 350, 370–374


 E. Ryan Bonfield, Chao-Jun Li*

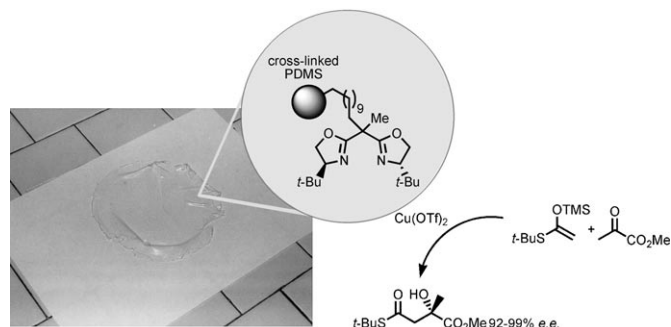


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- 375** Remarkable Efficiency Improvement in the Preparation of Insoluble Polymer-Bound (IPB) Enantioselective Catalytic Systems by the Use of Silicone Chemistry

Adv. Synth. Catal. **2008**, 350, 375–379

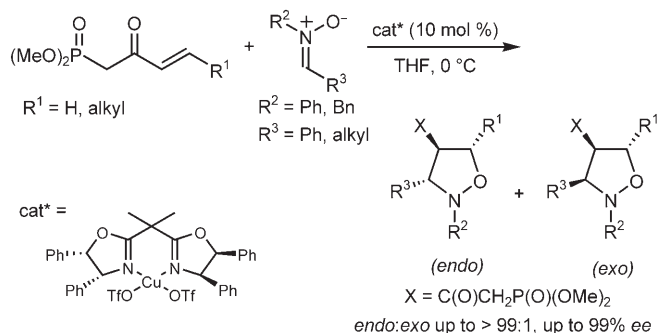
 Alessandro Mandoli, Marco Lessi, Dario Pini,*
Claudio Evangelisti, Piero Salvadori



- 380** Catalytic Asymmetric 1,3-Dipolar Cycloaddition Reaction of Nitrones with α' -Phosphoric Enones by a Chiral Ligand-Copper(II) Triflate Complex


Adv. Synth. Catal. **2008**, 350, 380–384

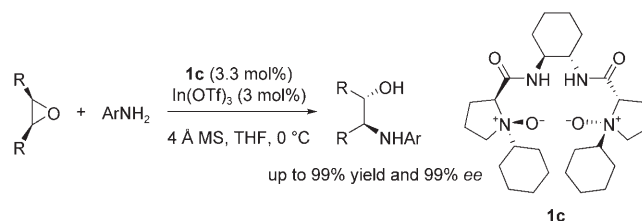
Kyoung-Chan Lim, Young-Taek Hong, Sungguk Kim*



- 385** Asymmetric Ring Opening of *meso*-Epoxides with Aromatic Amines Catalyzed by a New Proline-Based *N,N'*-Dioxide-Indium Tris(triflate) Complex

Adv. Synth. Catal. **2008**, 350, 385–390

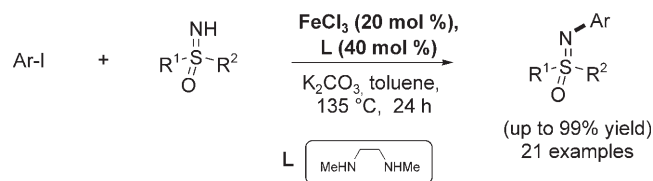
 Bo Gao, Yuehong Wen, Zhigang Yang, Xiao Huang,
Xiaohua Liu, Xiaoming Feng*



- 391** Iron-Catalyzed C–N Cross-Coupling of Sulfoximines with Aryl Iodides


Adv. Synth. Catal. **2008**, 350, 391–394

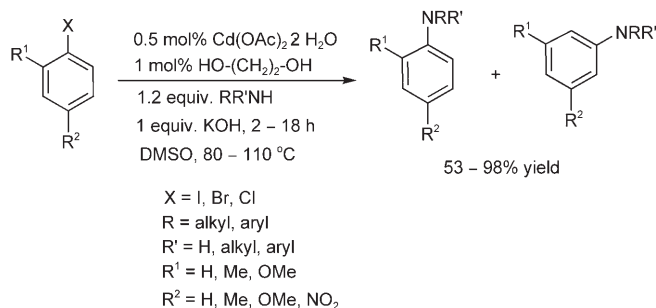
 Arkaitz Correa, Carsten Bolm*



- 395** Cadmium(II)-Catalyzed C–N Cross-Coupling of Amines with Aryl Iodides


Adv. Synth. Catal. **2008**, 350, 395–398

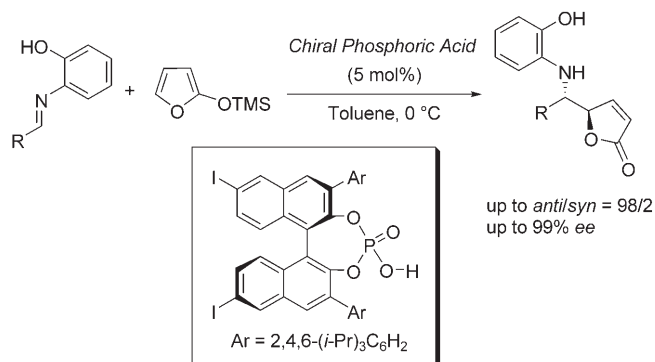
 Laxmidhar Rout, Prasenjit Saha, Suribabu Jammi,
Tharmalingam Punniyamurthy*



Vinylogous Mannich-Type Reaction Catalyzed by an Iodine-Substituted Chiral Phosphoric Acid

Adv. Synth. Catal. **2008**, 350, 399–402


 Takahiko Akiyama,* Yasuhiro Honma, Junji Itoh, Kohei Fuchibe

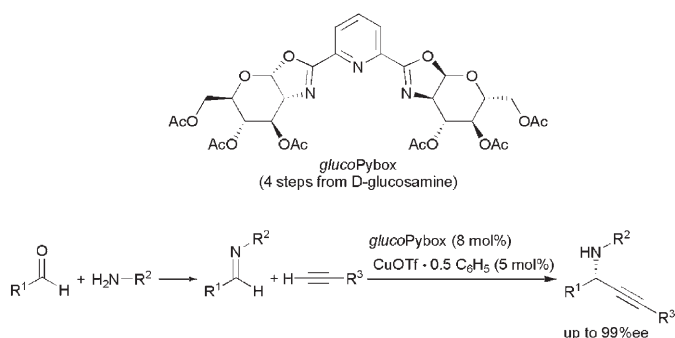


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A New Pyridyl Bis(oxazoline) Ligand Prepared from D-Glucosamine for Asymmetric Alkynylation of Imines

Adv. Synth. Catal. **2008**, 350, 403–405


 Mustafa Irmak, Mike M. K. Boysen*

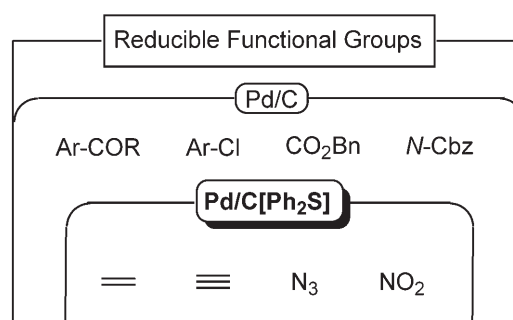


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Novel Palladium-on-Carbon/Diphenyl Sulfide Complex for Chemoselective Hydrogenation: Preparation, Characterization, and Application

Adv. Synth. Catal. **2008**, 350, 406–410

 Akinori Mori, Tomoteru Mizusaki, Masami Kawase, Tomohiro Maegawa, Yasunari Monguchi, Shinobu Takao, Yukio Takagi, Hironao Sajiki*



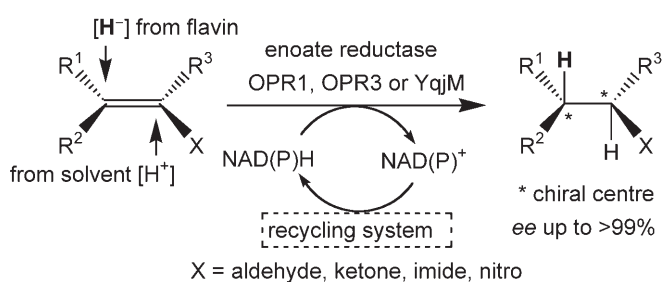
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FULL PAPERS

Asymmetric Bioreduction of C=C Bonds using Enoate Reductases OPR1, OPR3 and YqjM: Enzyme-Based Stereocontrol

Adv. Synth. Catal. **2008**, 350, 411–418


Mélanie Hall, Clemens Stueckler, Heidemarie Ehammer, Eva Pointner, Gustav Oberdorfer, Karl Gruber, Bernard Hauer, Rainer Stuermer, Wolfgang Kroutil, Peter Macheroux, Kurt Faber*

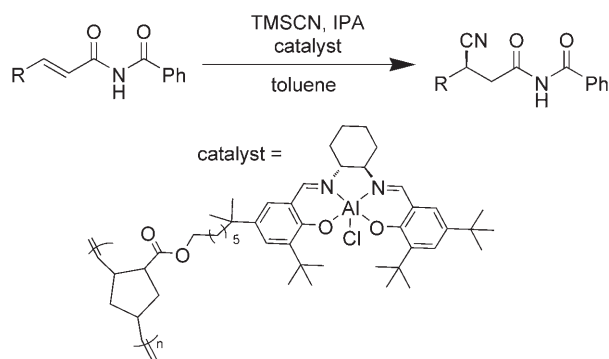


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- 419** Highly Active Polymer-Supported (Salen)Al Catalysts for the Enantioselective Addition of Cyanide to α,β -Unsaturated Imides

Adv. Synth. Catal. **2008**, 350, 419–425

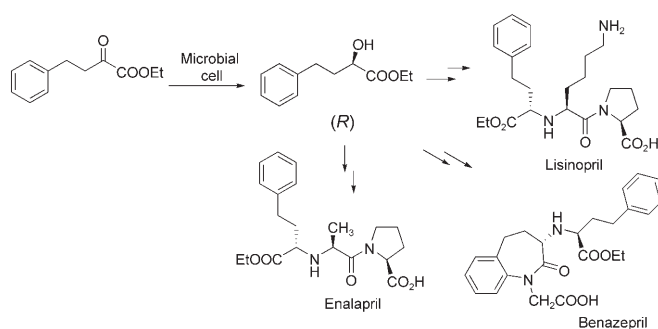
 Nandita Madhavan, Marcus Weck*



- 426** Preparation the Key Intermediate of Angiotensin-Converting Enzyme (ACE) Inhibitors: High Enantioselective Production of Ethyl (*R*)-2-Hydroxy-4-Phenylbutyrate with *Candida boidinii* CIOC21

Adv. Synth. Catal. **2008**, 350, 426–430

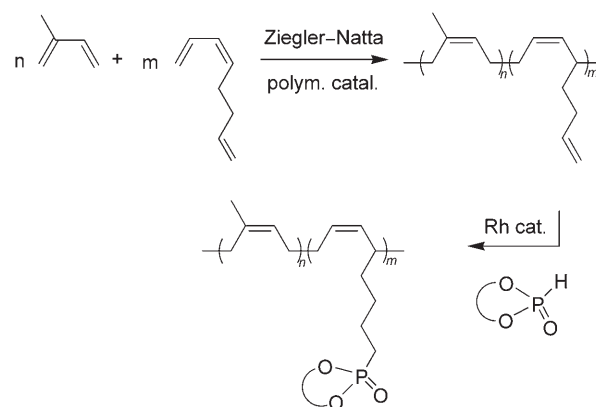
Yongzheng Chen, Hui Lin, Xiaoying Xu, Shiwen Xia,*
Lixin Wang*



- 431** Functional Elastomers *via* Sequential Selective Diene Copolymerization/Hydrophosphorylation Catalysis


Adv. Synth. Catal. **2008**, 350, 431–438

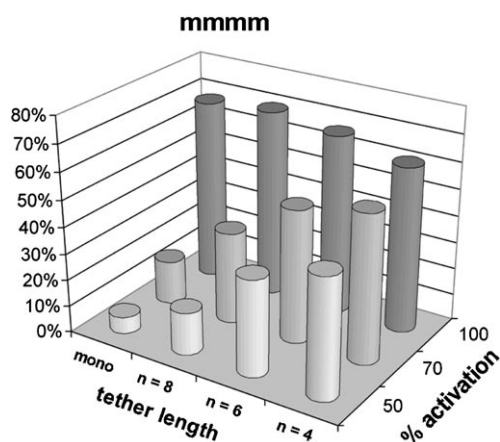
Noureddine Ajellal, Erwan Guillevic,
Christophe M. Thomas, Ralf Jackstell, Matthias Beller,
Jean-François Carpentier*



- 439** Investigation of Dynamic Intra- and Intermolecular Processes within a Tether-Length Dependent Series of Group 4 Bimetallic Initiators for Stereomodulated Degenerative Transfer Living Ziegler–Natta Propene Polymerization

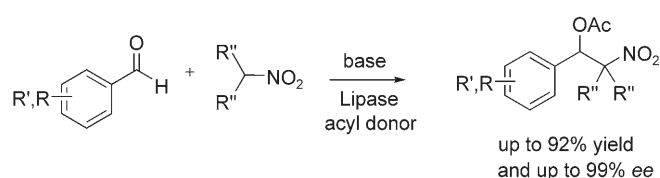
Adv. Synth. Catal. **2008**, 350, 439–447

 Wei Zhang, Lawrence R. Sita*



Direct Asymmetric Dynamic Kinetic Resolution by Combined Lipase Catalysis and Nitroaldol (Henry) Reaction

Adv. Synth. Catal. **2008**, 350, 448–452



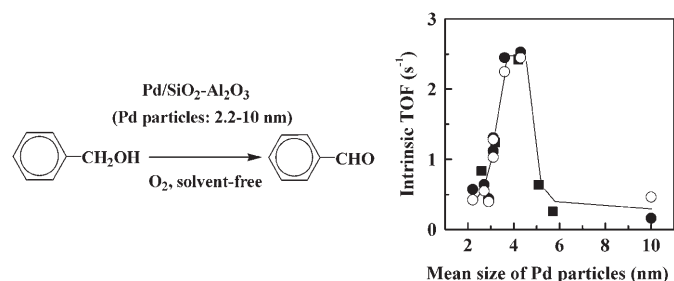
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Pornrapee Vongvilai, Rikard Larsson, Olof Ramström*

Size-Dependent Catalytic Activity of Supported Palladium Nanoparticles for Aerobic Oxidation of Alcohols

Adv. Synth. Catal. **2008**, 350, 453–464

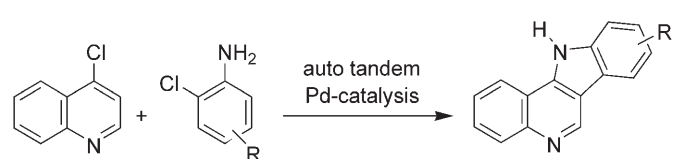
Jing Chen, Qinghong Zhang,* Ye Wang, Huilin Wan*



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Auto-Tandem Catalysis: Synthesis of Substituted 11*H*-Indolo[3,2-*c*]quinolines via Palladium-Catalyzed Intermolecular C–N and Intramolecular C–C Bond Formation

Adv. Synth. Catal. **2008**, 350, 465–470



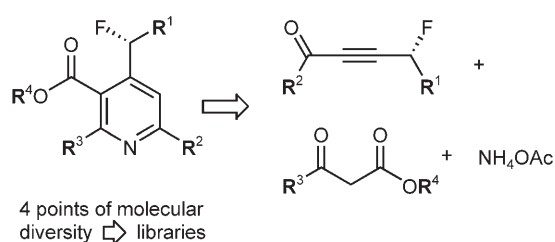
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Caroline Meyers, Geert Rombouts, Kristof T. J. Loones, Alberto Coelho, Bert U. W. Maes*

New Enantioselective Synthesis of Monofluorinated Pyridines Designed for the Preparation of Chemical Libraries

Adv. Synth. Catal. **2008**, 350, 471–476

Anne-Laure Blayo, Stéphanie Le Meur, Danielle Grée,* René Grée

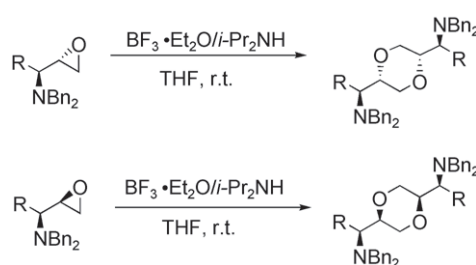


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Unusual Totally Selective Cyclodimerization of Epoxides: Synthesis of a Pair of Diastereoisomers of Enantiopure 2,5-Disubstituted-1,4-Dioxanes with *C*₂ Symmetry

Adv. Synth. Catal. **2008**, 350, 477–481

José M. Concellón,* Pablo L. Bernad, Virginia del Solar, Santiago García-Granda, M. Rosario Díaz

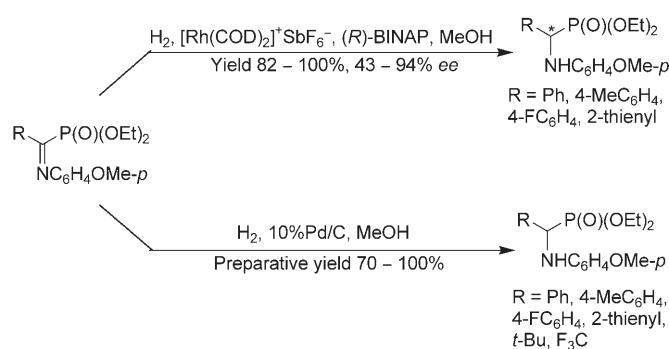


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Catalytic Hydrogenation of α -Iminophosphonates as a Method for the Synthesis of Racemic and Optically Active α -Aminophosphonates

Adv. Synth. Catal. **2008**, 350, 482–492

Nataliya S. Goulioukina,* Grigori N. Bondarenko, Sergey E. Lyubimov, Vadim A. Davankov, Konstantin N. Gavrilov, Irina P. Beletskaya*

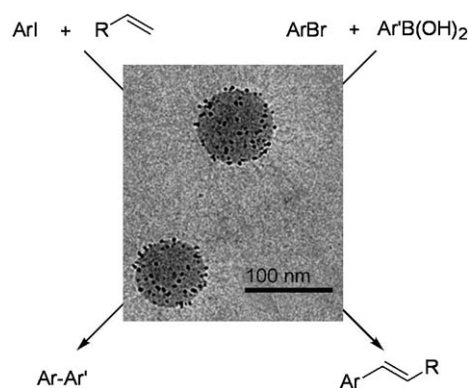


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493 Suzuki- and Heck-Type Cross-Coupling with Palladium Nanoparticles Immobilized on Spherical Polyelectrolyte Brushes

Adv. Synth. Catal. **2008**, 350, 493–500

S. Proch, Y. Mei, J. M. Rivera Villanueva, Y. Lu, A. Karpov, M. Ballauff,* R. Kempe*

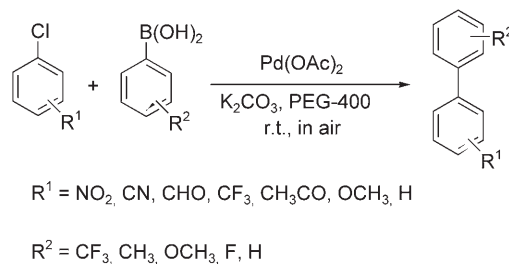


501 Aerobic Ligand-Free Suzuki Coupling Reaction of Aryl Chlorides Catalyzed by *In Situ* Generated Palladium Nanoparticles at Room Temperature

Adv. Synth. Catal. **2008**, 350, 501–508



Wei Han, Chun Liu,* Zilin Jin

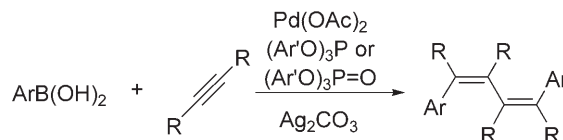


509 Palladium/Phosphite or Phosphate Catalyzed Oxidative Coupling of Arylboronic Acids with Alkynes to Produce 1,4-Diaryl-1,3-butadienes

Adv. Synth. Catal. **2008**, 350, 509–514



Hakaru Horiguchi, Hayato Tsurugi, Tetsuya Satoh,* Masahiro Miura*



CORRIGENDA

In the paper by F. Alonso,* I. Osante and M. Yus* in Issue 3, 2006, pp. 305–308 (DOI: 10.1002/adsc.200505327), the starting alkyne in entry 7 (Table 1) and the corresponding product should be 1,4-dimethoxybut-2-yne and (Z)-1,4-dimethoxybut-2-ene, respectively.

In the communication published with the author names Andrei S. Batsanov, Jonathan P. Knowles, Benedict Samsam and Andrew Whiting, in Issue 2, 2008, pp. 227–233 (DOI: 10.1002/adsc.200700464), the last name of the third author is Sansam, and not Samsam. The correct citation of this publication is therefore:

A. S. Batsanov, J. P. Knowles, B. Sansam, A. Whiting, *Adv. Synth. Catal.* **2008**, 350, 227–233.

The authors apologize for this oversight.



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

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