

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)

ASC
2-Year Impact Factor 2008
5.619
A Record High
for Organic Chemistry

2009, 351, 16, Pages 2533–2732

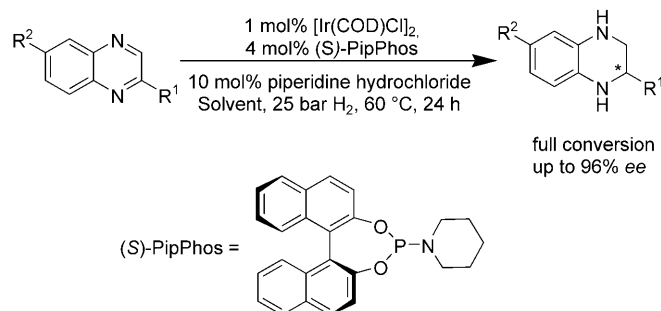
Issue 14 + 15/2009 was published online
on October 16, 2009

COMMUNICATIONS

Asymmetric Hydrogenation of Quinoxalines Catalyzed by Iridium/PipPhos

Adv. Synth. Catal. **2009**, 351, 2549–2552

Nataša Mršić, Thomas Jerphagnon, Adriaan J. Minnaard,*
Ben L. Feringa,* Johannes G. de Vries*

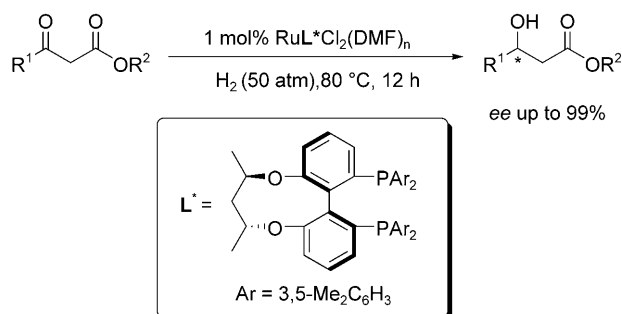


2549

Axial Chirality Control by 2,4-Pentanediol for the Alternative Synthesis of C₃*-TunePhos Chiral Diphosphine Ligands and Their Applications in Highly Enantioselective Ruthenium-Catalyzed Hydrogenation of β -Keto Esters

Adv. Synth. Catal. **2009**, 351, 2553–2557

Xianfeng Sun, Wei Li, Guohua Hou, Le Zhou, Xumu Zhang*

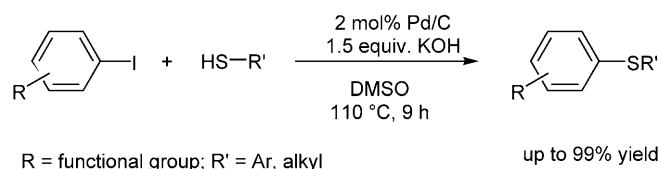


2553

- 2558** Palladium on Charcoal as a Recyclable Catalyst for C–S Cross-Coupling of Thiols with Aryl Halides under Ligand-Free Conditions


Adv. Synth. Catal. **2009**, 351, 2558–2562

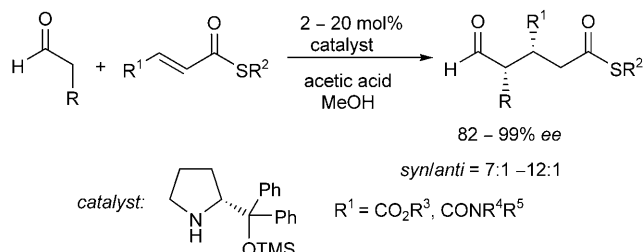
 Zheng Jiang, Jin She, Xufeng Lin*



- 2563** Enantioselective Organocatalytic Conjugate Addition of Aldehydes to α,β -Unsaturated Thiol Esters


Adv. Synth. Catal. **2009**, 351, 2563–2566

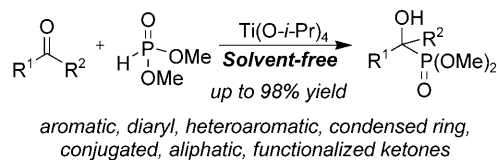
 Shaolin Zhu, You Wang, Dawei Ma*



- 2567** Highly Efficient Synthesis of Quaternary α -Hydroxy Phosphonates *via* Lewis Acid-Catalyzed Hydrophosphonylation of Ketones


Adv. Synth. Catal. **2009**, 351, 2567–2572

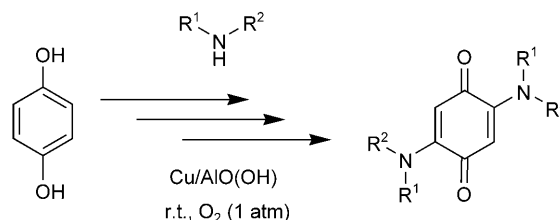
 Xin Zhou, Yanling Liu, Lu Chang, Jiannan Zhao, Deju Shang, Xiaohua Liu, Lili Lin, Xiaoming Feng*



- 2573** Synthesis of 2,5-Diaminoquinones by One-Pot Copper-Catalyzed Aerobic Oxidation of Hydroquinones and Addition Reaction of Amines

Adv. Synth. Catal. **2009**, 351, 2573–2578

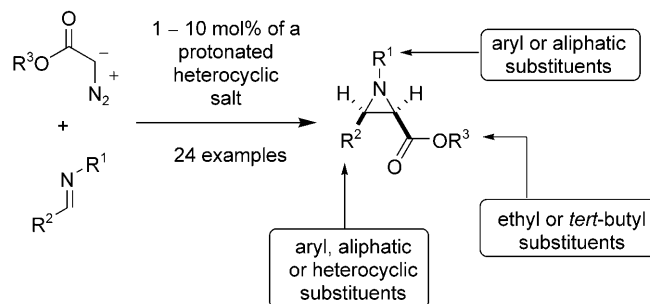
 Sungjin Kim, Daehwan Kim, Jaiwook Park*



- 2579** An Organocatalytic Synthesis of *cis*-*N*-Alkyl- and *N*-Arylaziridine Carboxylates

Adv. Synth. Catal. **2009**, 351, 2579–2588

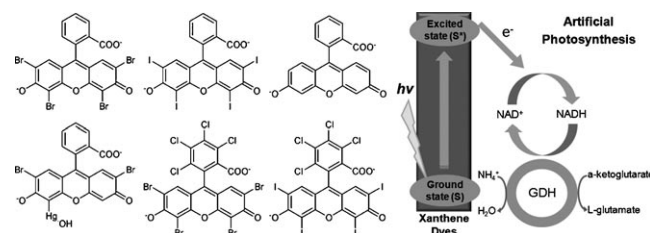
 Sean P. Bew,* Rachel Carrington, David L. Hughes, John Liddle, Paolo Pesce



- 2589** Screening Xanthene Dyes for Visible Light-Driven Nicotinamide Adenine Dinucleotide Regeneration and Photoenzymatic Synthesis

Adv. Synth. Catal. **2009**, 351, 2589–2594

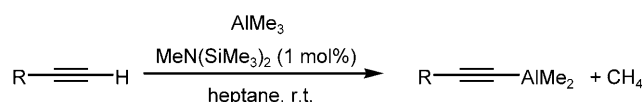
 Sahng Ha Lee, Dong Heon Nam, Chan Beum Park*



Room Temperature Lewis Base-Catalyzed Alumination of Terminal Alkynes

Adv. Synth. Catal. **2009**, 351, 2595–2598


 Yuhan Zhou, Thomas Lecourt, Laurent Micouin*

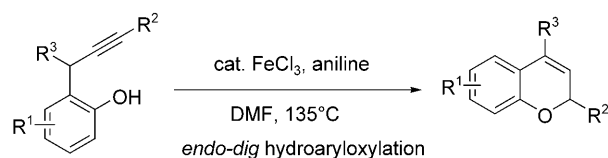


2595

Iron-Catalyzed Regioselective Hydroaryloxylation of C≡C Triple Bonds: An Efficient Synthesis of 2H-1-Benzopyran Derivatives

Adv. Synth. Catal. **2009**, 351, 2599–2604


 Xiaobing Xu, Jun Liu, Linfeng Liang, Hongfeng Li, Yanzhong Li*

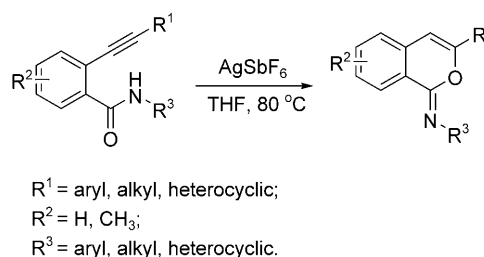


2599

Silver-Catalyzed Intramolecular Cyclization of *o*-(1-Alkynyl)benzamides: Efficient Synthesis of (1*H*)-Isochromen-1-imines

Adv. Synth. Catal. **2009**, 351, 2605–2610


 Guannan Liu, Yu Zhou, Deju Ye, Dengyou Zhang, Xiao Ding, Hualiang Jiang, Hong Liu*

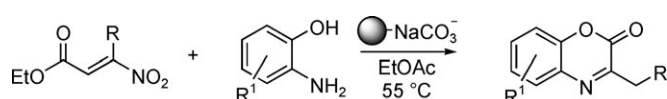


2605

Preparation of 2*H*-1,4-Benzoxazin-2-one Derivatives under Heterogeneous Conditions *via* Domino Process

Adv. Synth. Catal. **2009**, 351, 2611–2614


 Roberto Ballini,* Alessandro Palmieri,* Mohammad AbdulKarim Talaq, Serena Gabrielli

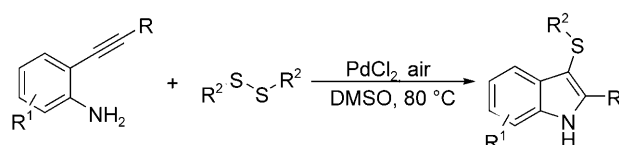


2611

Palladium-Catalyzed Annulation of 2-(1-Alkynyl)-benzenamines with Disulfides: Synthesis of 3-Sulfenylindoles

Adv. Synth. Catal. **2009**, 351, 2615–2618


 Yan-Jin Guo, Ri-Yuan Tang, Jin-Heng Li,* Ping Zhong, Xing-Guo Zhang*

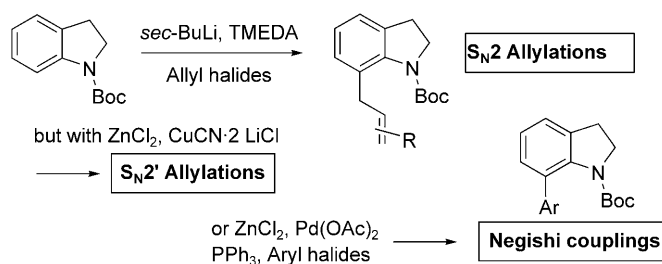


2615

Direct Preparation of 7-Allyl- and 7-Arylindolines

Adv. Synth. Catal. **2009**, 351, 2619–2623

 Daniele Leonori, Iain Coldham*

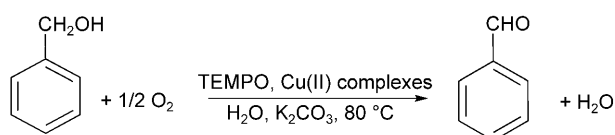


2619

FULL PAPERS

- 2625** Aerobic Oxidation of Benzylic Alcohols in Water by 2,2,6,6-Tetramethylpiperidine-1-oxyl (TEMPO)/Copper(II) 2-*N*-Arylpyrrololecarbaldimino Complexes

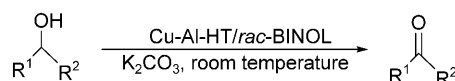
Adv. Synth. Catal. **2009**, 351, 2625–2632



Paweł J. Figiel, Ahlam Sibaoui, Jahir Uddin Ahmad, Martin Nieger, Minna T. Räisänen, Markku Leskelä, Timo Repo*

- 2633** Reusable Copper-Aluminum Hydrotalcite/*rac*-BINOL System for Room Temperature Selective Aerobic Oxidation of Alcohols

Adv. Synth. Catal. **2009**, 351, 2633–2637

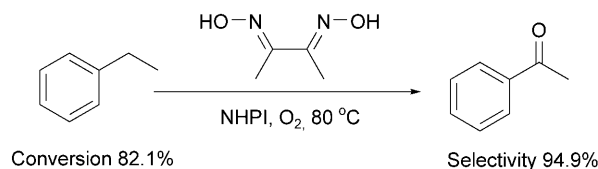


alcohols: primary, secondary, alicyclic, heterocyclic alcohols

M. Lakshmi Kantam,* R. Arundhathi, Pravin R. Likhar,* D. Damodara

- 2638** Metal-Free: An Efficient and Selective Catalytic Aerobic Oxidation of Hydrocarbons with Oxime and *N*-Hydroxyphthalimide

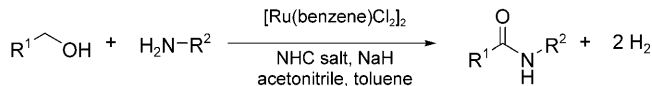
Adv. Synth. Catal. **2009**, 351, 2638–2642



Gengxiu Zheng,* Chunhong Liu, Qiufen Wang, Mingyu Wang, Guanyu Yang*

- 2643** Direct Amide Synthesis from Alcohols and Amines by Phosphine-Free Ruthenium Catalyst Systems

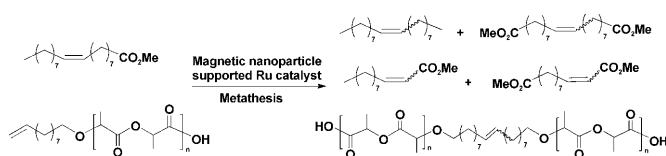
Adv. Synth. Catal. **2009**, 351, 2643–2649



Subhash Chandra Ghosh, Senthilkumar Muthaiah, Yao Zhang, Xiangya Xu, Soon Hyeok Hong*

- 2650** Magnetic Nanoparticle Supported Second Generation Hoveyda–Grubbs Catalyst for Metathesis of Unsaturated Fatty Acid Esters

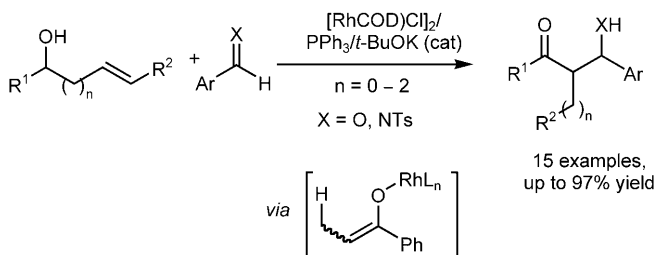
Adv. Synth. Catal. **2009**, 351, 2650–2656



Zhu Yinghuai,* Loo Kuijin, Ng Huimin, Li Chuanyao, Ludger Paul Stubbs, Chia Fu Siong, Tan Muihua, Ship Chee Peng

- 2657** Rhodium-Catalysed Coupling of Allylic, Homoallylic, and Bishomoallylic Alcohols with Aldehydes and *N*-Tosylimines: Insights into the Mechanism

Adv. Synth. Catal. **2009**, 351, 2657–2666



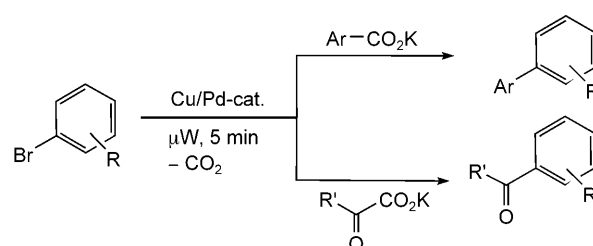
15 examples, up to 97% yield

Nanna Ahlsten, Belén Martín-Matute*

Synthesis of Biaryls and Aryl Ketones via Microwave-Assisted Decarboxylative Cross-Couplings

Adv. Synth. Catal. **2009**, 351, 2667–2674

Lukas J. Gooßen,* Bettina Zimmermann, Christophe Linder, Nuria Rodríguez, Paul P. Lange, Jens Hartung

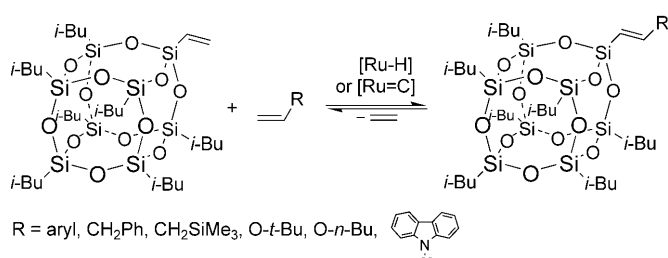


2667

Efficient Functionalisation of Cubic Monovinylsilsesquioxanes via Cross-Metathesis and Silylative Coupling with Olefins in the Presence of Ruthenium Complexes

Adv. Synth. Catal. **2009**, 351, 2675–2682

Patrycja Żak, Cezary Pietraszuk, Bogdan Marciniec,* Grzegorz Spólnik, Witold Danikiewicz

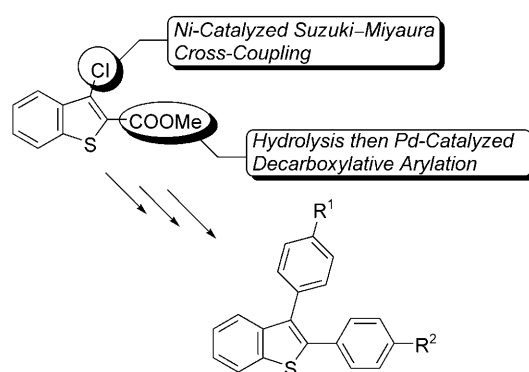


2675

Synthesis of 2,3-Diarylbenzo[b]thiophenes via Nickel-Catalyzed Suzuki–Miyaura Cross-Coupling and Palladium-Catalyzed Decarboxylative Arylation

Adv. Synth. Catal. **2009**, 351, 2683–2688

Mitsuru Miyasaka, Koji Hirano, Tetsuya Satoh, Masahiro Miura*

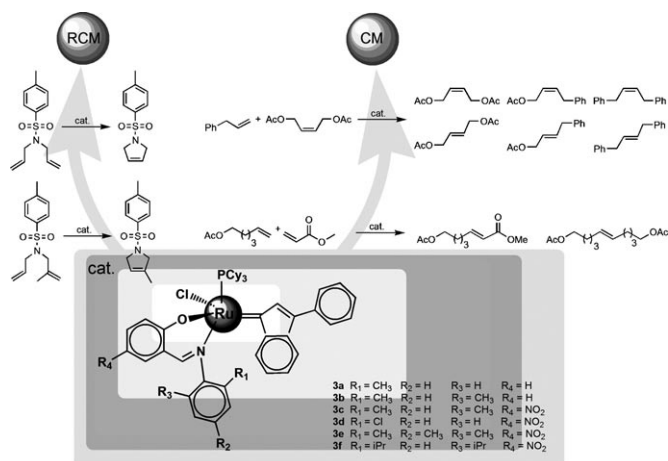


2683

New Indenylidene-Schiff Base-Ruthenium Complexes for Cross-Metathesis and Ring-Closing Metathesis

Adv. Synth. Catal. **2009**, 351, 2689–2701

Ana M. Lozano Vila, Stijn Monsaert, Renata Drozdak, Stanislaw Wolowiec, Francis Verpoort*

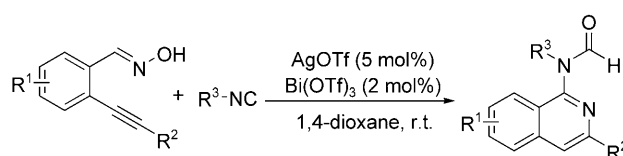


2689

Multicatalytic Tandem Reactions of 2-Alkynylbenzaldoximes with Isocyanides

Adv. Synth. Catal. **2009**, 351, 2702–2708


Zhiyuan Chen, Xingxin Yu, Mingchao Su, Xiaodi Yang, Jie Wu*

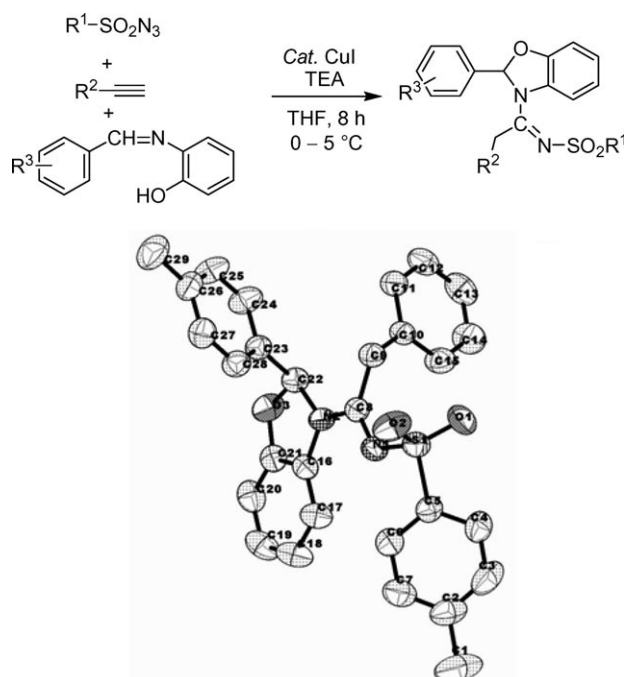


2702

2709 Copper-Catalyzed Efficient Multicomponent Reaction: Synthesis of Benzoxazoline-Amidine Derivatives

Adv. Synth. Catal. **2009**, 351, 2709–2713

 Yongjia Shang,* Xinwei He, Jinsong Hu, Jianwei Wu, Min Zhang, Shuyan Yu, Qianqian Zhang

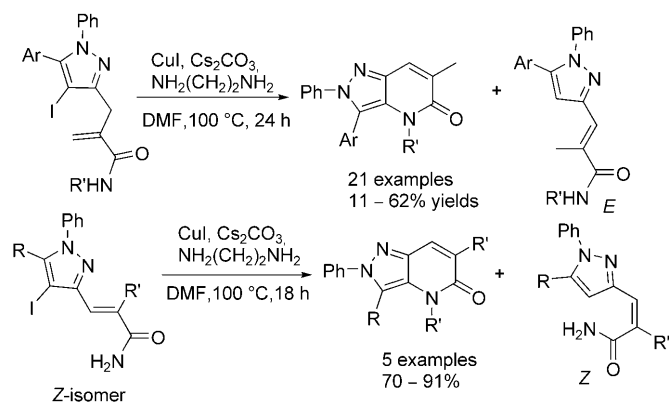


UPDATES

2715 First Copper-Catalyzed Intramolecular Amidation in Substituted 4-Iodopyrazoles Leading to the Synthesis of Pyrazolo[4,3-*b*]-pyridin-5-ones[§]

Adv. Synth. Catal. **2009**, 351, 2715–2723

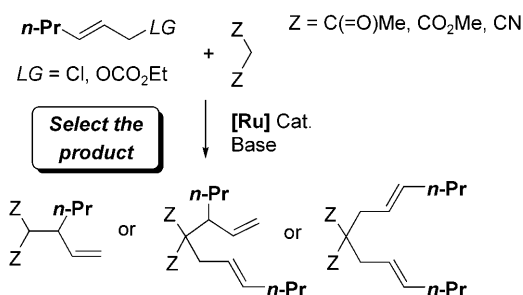
 Somnath Nag, Maloy Nayak, Sanjay Batra*



2724 Ruthenium Catalysts for Controlled Mono- and Bis-Allylation of Active Methylene Compounds with Aliphatic Allylic Substrates

Adv. Synth. Catal. **2009**, 351, 2724–2728

 Hui-Jun Zhang, Bernard Demerseman, Zhenfeng Xi,* Christian Bruneau*



CORRIGENDA

In the full paper by Feng-Quan Li, Shi Zhong, Gui Lu and Albert S. C. Chan in Issue 11 + 12, 2009, pp. 1955–1960 (DOI: 10.1002/adsc.200900177), the third and fourth sentences in the third paragraph on page 1955 should be corrected as follows:

old: Although several catalytic asymmetric reactions using acylsilanes have been developed,^[20, 21] to the best of our knowledge, the enantioselective alkynylation of acylsilanes has not been reported so far.^[22] Herein we describe for the first time the direct catalytic alkynylation of alkyl acylsilane with both aliphatic and aromatic alkynes.

new: Although several catalytic asymmetric reactions using acylsilanes have been developed,^[20, 21] few reports were on the enantioselective alkynylation of acylsilanes.^[19, 22] For instance, Johnson et al. described a tandem alkynylation of silylglyoxylate using chiral amino alcohol to mediate chirality transfer,^[19a] Scheidt and co-workers described the asymmetric alkyne addition to acylsilane in 74% ee with tridentate Schiff base ligand.^[19b] Herein we describe an effective direct alkynylation of alkyl acylsilane with both aliphatic and aromatic alkynes.

Reference 19 should be as follows:

[19] a) D. A. Nicewicz, J. S. Johnson, *J. Am. Chem. Soc.* **2005**, *127*, 6170–6171; b) T. E. Reynolds, A. R. Bharadwaj, K. A. Scheidt, *J. Am. Chem. Soc.* **2006**, *128*, 15382–15383.

In the communication by Thomas Boddaert, Yoann Coquerel, and Jean Rodriguez in Issue 11+12, 2009, pp. 1744–1748 (DOI: 10.1002/adsc.200900292), there were mistakes in several references. The corrected references are as follows.

[5a] A. Michaut, T. Boddaert, Y. Coquerel, J. Rodriguez, *Synthesis* **2007**, 2867–2871.

[5b] T. Boddaert, Y. Coquerel, J. Rodriguez, C. R. *Chim.* **2009**, *12*, 872–875.

[7b] S. Gessler, S. Randl, S. Blechert, *Tetrahedron Lett.* **2000**, *41*, 9973–9976.

[13f] E. M. Phillips, M. Wadamoto, H. S. Roth, A. W. Ott, K. A. Scheidt, *Org. Lett.* **2009**, *11*, 105–108.