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, multiphase 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.



succeeding Journal für praktische Chemie (founded in 1828)

New! Online Submission now available at http://asc.wiley-vch.de

2008, 350, 1, Pages 1-208

Issue 17+18/2007 was published online on December 30, 2007

COMMENTARY

Advanced Synthesis & Catalysis Delivers High Impact and in 2008 Faster

Adv. Synth. Catal. 2008, 350, 23-27

Joe P. Richmond*

COMMUNICATIONS

Electrochemical Bromination of Peracetylated Glycals

Adv. Synth. Catal. 2008, 350, 29-34

Marija Čolović, Mirjana Vukićević, Dejan Šegan, Dragan Manojlović, Neso Sojic, László Somsák, Rastko D. Vukićević*

23

35 Selective Light Supported Oxidation of Hexoses Using Air as Oxidant – Synthesis of Tetrahydroxyazepanes

Adv. Synth. Catal. 2008, 350, 35-39

Abdoulaye Gassama, Norbert Hoffmann*

40 Brønsted Acid-Catalyzed Synthesis of Pyrans *via* a Formal [3+3] Cycloaddition

Adv. Synth. Catal. 2008, 350, 40-42

- Claudie Hubert, Julie Moreau, Jessika Batany,
 Agathe Duboc, Jean-Pierre Hurvois, Jean-Luc Renaud*
- - $X = O, CH_2$

X = O, CH₂

43 Gold- vs. Platinum-Catalyzed Polycyclizations by *O*-Acyl Migration. Solvent-Free Reactions

Adv. Synth. Catal. 2008, 350, 43-48

- Xavier Moreau, Jean-Philippe Goddard, Matthieu Bernard,
 Gilles Lemière, Juan Manuel López-Romero,
 Emily Mainetti, Nicolas Marion, Virginie Mouriès,
 Serge Thorimbert, Louis Fensterbank,* Max Malacria*
- AcO PtCl₂, 80 °C OAc neat H 95%

49 Organocatalytic Asymmetric Sulfa-Michael Addition to α,β -Unsaturated Ketones

Adv. Synth. Catal. 2008, 350, 49-53

- Paolo Ricci, Armando Carlone, Giuseppe Bartoli, Marcella Bosco, Letizia Sambri, Paolo Melchiorre*
- PG-SH PG S O R1 + R2 up to 96% ee

 PG: Bn, t-Bu R1 and R2 = Aryl, Alkyl
- Boc-HN OMe

54 Polymer-Supported Hantzsch 1,4-Dihydropyridine Ester: An Efficient Biomimetic Hydrogen Source

Adv. Synth. Catal. 2008, 350, 54-60

Rongjun He, Patrick H. Toy,* Yulin Lam*

Copper-Catalyzed Highly Efficient Multicomponent Reactions of Terminal Alkynes, Acid Chlorides, and Carbodiimides: Synthesis of Functionalized Propiolamidine Derivatives $R^1N = \bullet = NR^1 + R^2 = + R^3$ $CI \xrightarrow{Cul, TEA} R^1N = 0$ R^2 Yields: 53 - 96%

Adv. Synth. Catal. 2008, 350, 61-64

☐ Xiaoliang Xu,* Jianrong Gao, Dongping Cheng, Jinghua Li, Genrong Qiang, Hongyun Guo

Pentacyclic Compounds by Samarium Diiodide-Induced Cascade Cyclizations of Naphthyl-Substituted 1,3-Diones

Adv. Synth. Catal. 2008, 350, 65-69

Ulrike K. Wefelscheid, Hans-Ulrich Reissig*

FULL PAPERS

Fluorogenic Transformations Based on Formation of C-C Bonds Catalyzed by Palladium: An Efficient Approach for High Throughput Optimizations and Kinetic Studies

Adv. Synth. Catal. 2008, 350, 71-75

 $Et_{2}N$ silent R = alkynyl, alkenyl, aryl $Et_{2}N$ R = alkynyl, alkenyl, aryl R = alkynyl, alkenyl, aryl

Roman V. Rozhkov,* V. Jo Davisson, Donald E. Bergstrom

Catalytic Asymmetric Alkynylation and Arylation of Aldehydes by an H_8 -Binaphthyl-Based Amino Alcohol Ligand

Adv. Synth. Catal. 2008, 350, 76-84

Jiwu Ruan, Gui Lu,* Lijing Xu, Yue-Ming Li Albert S. C. Chan*

$$(1R_{a},2S,3R)-\mathbf{2}$$
 Ar $*$ Ar' 12 examples up to 96% ee
$$(1R_{a},2S,3R)-\mathbf{2}$$

$$(1R_{a},2S,3R)-\mathbf{2}$$

Synthesis of Versatile Building Blocks through Asymmetric Hydrogenation of Functionalized Itaconic Acid Mono-Esters

Adv. Synth. Catal. 2008, 350, 85-94

Koen F. W. Hekking, Laurent Lefort, André H. M. de Vries, Floris L. van Delft, Hans E. Schoemaker Johannes G. de Vries,* Floris P. J. T. Rutjes*

$$\begin{array}{c} R \\ \text{HO}_2\text{C} \\ \end{array} \begin{array}{c} R \\ \text{CO}_2\text{Me} \\ \end{array} \begin{array}{c} R \\ \text{H}_2, \text{CH}_2\text{CI}_2 \\ \end{array} \begin{array}{c} R \\ \text{HO}_2\text{C} \\ \end{array} \begin{array}{c} R \\ \text{CO}_2\text{Me} \\ R = \text{H, Et, Ph, p-MeOC}_6\text{H}_4 \\ \end{array} \\ \begin{array}{c} R \\ \text{R} \\ \end{array} \begin{array}{c} R \\ \text{R} \\ \text{R} \\ \end{array} \begin{array}{c} R \\ \text{R} \\ \text{R} \\ \text{R} \\ \end{array} \begin{array}{c} R \\ \text{R} \\ \text{R} \\ \text{R} \\ \end{array} \begin{array}{c} R \\ \text{R} \\ \text{R} \\ \end{array} \begin{array}{c} R \\ \text{R} \\ \text{R} \\ \end{array} \begin{array}{c} R \\ \text{R} \\ \text{R} \\ \text{R} \\ \end{array} \begin{array}{c} R \\ \text{R} \\ \text{R} \\ \text{R} \\ \end{array} \begin{array}{c} R \\ \text{R} \\ \text{R} \\ \text{R} \\ \end{array} \begin{array}{c} R \\ \text{R} \\ \text{R} \\ \text{R} \\ \end{array} \begin{array}{c} R \\ \text{R} \\ \text{R} \\ \text{R} \\ \end{array} \begin{array}{c} R \\ \text{R} \\ \text{R} \\ \text{R} \\ \end{array} \begin{array}{c} R \\ \text{R} \\ \text{R} \\ \text{R} \\ \end{array} \begin{array}{c} R \\ \text{R} \\ \text{R} \\ \text{R} \\ \end{array} \begin{array}{c} R \\ \text{R} \\ \text{R} \\ \text{R} \\ \text{R} \\ \end{array} \begin{array}{c} R \\ \text{R} \\ \text{R} \\ \text{R} \\ \end{array} \begin{array}{c} R \\ \text{R} \\ \text{R} \\ \text{R} \\ \text{R} \\ \end{array} \begin{array}{c} R \\ \text{R} \\ \text{R} \\ \text{R} \\ \end{array} \begin{array}{c} R \\ \text{R} \\ \text{R} \\ \text{R} \\ \end{array} \begin{array}{c} R \\ \text{R} \\ \text{R} \\ \text{R} \\ \end{array} \begin{array}{c} R \\ \text{R} \\ \text{R} \\ \text{R} \\ \end{array} \begin{array}{c} R \\ \text{R} \\ \text{R} \\ \text{R} \\ \end{array} \begin{array}{c} R \\ \text{R} \\ \text{R} \\ \text{R} \\ \end{array} \begin{array}{c} R \\ \text{R} \\ \text{R} \\ \text{R} \\ \end{array} \begin{array}{c} R \\ \text{R} \\ \text{R} \\ \text{R} \\ \end{array} \begin{array}{c} R \\ \text{R} \\ \text{R} \\ \text{R} \\ \end{array} \begin{array}{c} R \\ \text{R} \\ \text{R} \\ \text{R} \\ \text{R} \\ \end{array} \begin{array}{c} R \\ \end{array} \begin{array}{c} R \\ \text{R} \\ \end{array} \begin{array}{c} R \\ \end{array} \begin{array}$$

76

85

95 A Ring-Closing Metathesis Approach to Cyclic α,β-Dehydroamino Acids

Adv. Synth. Catal. 2008, 350, 95-106

Koen F. W. Hekking, Dennis C. J. Waalboer, Marcel A. H. Moelands, Floris L. van Delft, Floris P. J. T. Rutjes*

$$()_{n} \overset{R}{\underset{PG}{|}} CO_{2}R^{1} \xrightarrow{RCM} R^{()_{n}} \underset{PG}{|} CO_{2}R^{1}$$

107 Amino Alcohols in Organocatalysed Acylation and Deacylation: The Effect of Dialkylamino Substituents on the Rate

Adv. Synth. Catal. 2008, 350, 107-112

Ludger A. Wessjohann,* Mingzhao Zhu

$$R^{1}$$
 R^{1} R^{2} R^{2

113 Heterogeneous Raney Nickel and Cobalt Catalysts for Racemization and Dynamic Kinetic Resolution of Amines

Adv. Synth. Catal. 2008, 350, 113-121

Andrei N. Parvulescu, Pierre A. Jacobs, Dirk E. De Vos*

122 Dendritic Chiral Phosphine Lewis Bases-Catalyzed Asymmetric Aza-Morita-Baylis-Hillman Reaction of N-Sulfonated Imines with Activated Olefins

Adv. Synth. Catal. 2008, 350, 122-128

🖳 Ying-hao Liu, Min Shi*

The organocatalyst can be recovered and reused

129 Reaction of 3-(1-Arylsulfonylalkyl)-indoles with Easily Enolisable Derivatives Promoted by Potassium Fluoride on Basic Alumina

Adv. Synth. Catal. 2008, 350, 129-134

Roberto Ballini, Alessandro Palmieri, Marino Petrini,*
Rafik R. Shaikh

EWG¹ = NO₂, CO₂Et, COMe, CN, TolSO₂ EWG² = H, CO₂Et, COMe, CN, NC Novel and Mild Route to Phthalocyanines and 3-Iminoisoindolin-1-ones *via N,N*-Diethylhydroxylamine-Promoted Conversion of Phthalonitriles and a Dramatic Solvent-Dependence of the Reaction

Adv. Synth. Catal. 2008, 350, 135-142

Konstantin V. Luzyanin, Vadim Yu. Kukushkin,* Maximilian N. Kopylovich, Alexey A. Nazarov, Markus Galanski, Armando J. L. Pombeiro*

Methanol
$$R^3$$
 R^2 R^1 + N -OH R^3 R^4 R^1 R^2 R^3 R^4 R^4

Synthesis of Substituted 2,2'-Bipyridines and 2,2':6',2"-Terpyridines by Cobalt-Catalyzed Cycloaddition Reactions of Nitriles and α , ω -Diynes with Exclusive Regioselectivity

Adv. Synth. Catal. 2008, 350, 143-152

Avijit Goswami, Kazuhiko Ohtaki, Kouki Kase, Taichi Ito, Sentaro Okamoto*

Synthesis of Bipyridine-Stabilized Rhodium Nanoparticles in Non-Aqueous Ionic Liquids: A New Efficient Approach for Arene Hydrogenation with Nanocatalysts

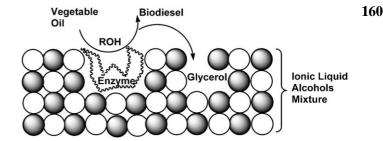
Adv. Synth. Catal. 2008, 350, 153-159

Bastien Léger, Audrey Denicourt-Nowicki, Alain Roucoux,* Hélène Olivier-Bourbigou

Supported Ionic Liquid Enzymatic Catalysis for the Production of Biodiesel

Adv. Synth. Catal. 2008, 350, 160-164

☐ Muriell Gamba, Alexandre A. M. Lapis, Jairton Dupont*



Enantioselective C-C Bond Ligation Using Recombinant *Escherichia coli*-Whole-Cell Biocatalysts

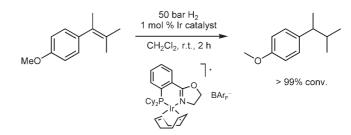
Adv. Synth. Catal. 2008, 350, 165-173

Pablo Domínguez de María, Thomas Stillger, Martina Pohl, Michael Kiesel, Andreas Liese, Harald Gröger, Harald Trauthwein*

174 Homogeneous Hydrogenation of Tri- and Tetrasubstituted Olefins: Comparison of Iridium-Phospinooxazoline [Ir-PHOX] Complexes and Crabtree Catalysts with Hexafluorophosphate (PF₆) and Tetrakis[3,5-bis(trifluoromethyl)phenyl]borate (BAr_F) as Counterions

Adv. Synth. Catal. 2008, 350, 174-178

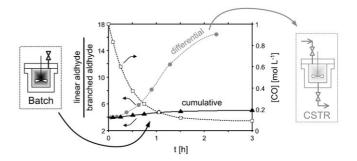
Bettina Wüstenberg, Andreas Pfaltz*



179 Selectivity of Rhodium-Catalyzed Hydroformylation of 1-Octene during Batch and Semi-Batch Reaction using Trifluoromethyl-Substituted Ligands

Adv. Synth. Catal. 2008, 350, 179-188

Ard C. J. Koeken, Michiel C. A. van Vliet, Leo J. P. van den Broeke,* Berth-Jan Deelman, Jos T. F. Keurentjes



189 Highly Efficient Alkyne Hydroarylation with Chelating Dicarbene Palladium(II) and Platinum(II) Complexes

Adv. Synth. Catal. 2008, 350, 189-196

Andrea Biffis,* Cristina Tubaro, Gabriella Buscemi, Marino Basato

197 Evaluation of Ligands for Ketone Reduction by Asymmetric Hydride Transfer in Water by Multi-Substrate Screening

Adv. Synth. Catal. 2008, 350, 197-204

Saoussen Zeror, Jacqueline Collin,* Jean-Claude Fiaud, Louisa Aribi Zouioueche*

$$\begin{array}{c} O \\ Ar \end{array} X \\ \hline \begin{array}{c} 2.5\% \ [RuCl_2(\rho\text{-cymene})]_2, \ 5\% \ \textbf{L}^* \\ \hline \\ H_2O, \ HCOONa, \ 30^{\circ}C \end{array} \\ \hline \textbf{Mixture of 6 ketones} \\ Ar = C_6H_5, \ o\text{-OMe-}C_6H_4, \ m\text{-Me-}C_6H_4, \ \rho\text{-Cl-}C_6H_4, \ 2'\text{-C}_{10}H_{17}, \ X = H \\ Ar = C_6H_5, \ X = Cl \\ \hline \\ H \\ \end{matrix}$$

CORRIGENDA

In the communication by I. Ibrahem, H. Sundén, P. Dziedzic, R. Rios and A. Códova, in Issue 11+12, 2007, pp. 1868-1872 (DOI: 10.1002/adsc.200700110), the product of Eq. 1 should have the *S,S* configuration and not the *R,R* configuration shown. All related structures in the graphics have the same error. The correct graphics are given below.

In the paper by G. C. Hargaden and P. J. Guiry in Issue 16, 2007, pp. 2407-2424 (DOI: 10.1002/adsc.200700324), on page 2410 on the 5th line from the bottom of the left column, CrC₂ should read CrCl₂. In Table 3 on page 2413, the correct structures of the products for entries 7 and 8 should be as follows:

Figure 2.

In the paper by H. Hamamoto, Y. Suzuki, H. Takahashi, and S. Ikegami in Issue 17–18, 2007, pp. 2685–2689 (DOI: 10.1002/adsc.200700114), author Yachiyo Suzuki should have an "a" after his name indicating his affiliation. In **Figure 3** on page 2687, the quadrangle at the top of the A column at 70°C should have bold sides and represents undesired product. In **Table 2** on page 2688, substrate **6b** in entry 7 should be *cis*-4-hexen-1-ol. The corrected figure and structure are given below.

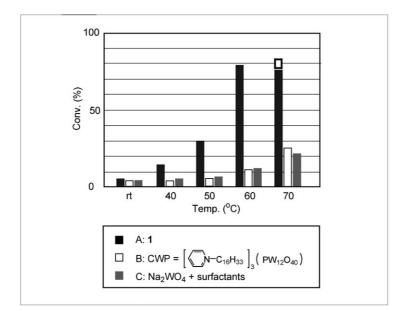




Figure 3.

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

stAuthor to whom correspondence should be addressed.