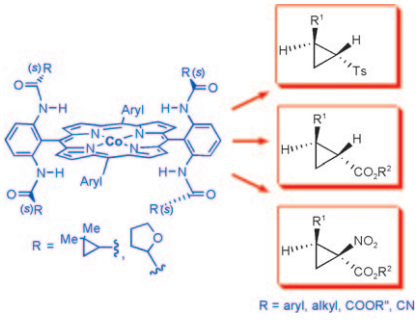
VIP *The following Communications have been judged by at least two referees to be "very important papers" and will be published online at www.angewandte.org soon:*

News

Author Profile

Books

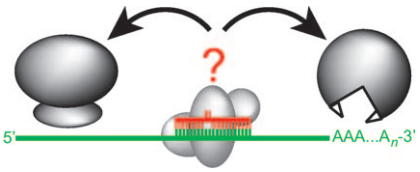
Highlights



Toss the olefin into the porphyrin: The development of chiral cobalt(II)–porphyrin catalysts by straightforward coupling processes has made possible the additions of diazocarbonyl compounds to a broad spectrum of olefins to access functionalized cylopropanes. The cyclopropanation reactions demonstrate high product yields, exceptional diastereoselectivity, and excellent enantiocontrol.

Asymmetric Catalysis

Inhibition or degradation? MicroRNAs have been considered primarily as inhibitors of translation, even though degradation of mRNAs also plays a role in their repressive potential. Two research groups have now quantified the extent to which each mechanism contributes to gene regulation by combining mass spectrometry with transcriptome profiling. The surprising conclusion is that translational inhibition plays only a minor role!

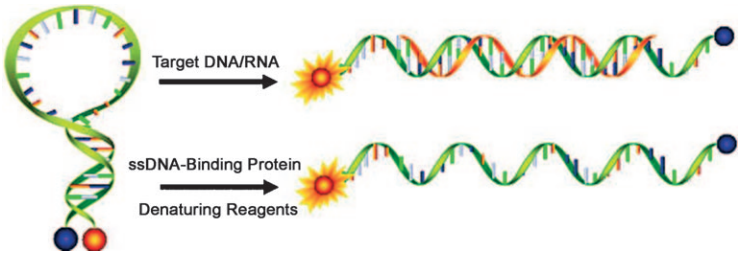


MicroRNA

© 2009 Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim

Contents

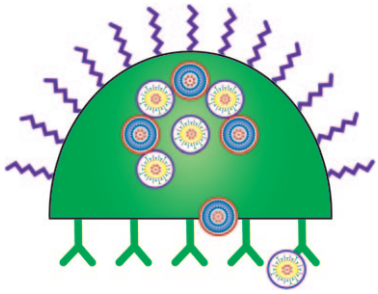
Minireviews



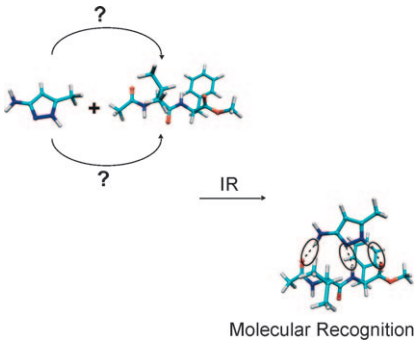
A spotlight on light signaling: Molecular beacons are specifically designed DNA hairpin structures (see picture) used as fluorescent probes for numerous bioanalytical applications, including gene detection, the monitoring of messenger RNA (mRNA), and biosensing. Recent studies have led to versatile strategies for the targeted optimization of molecular beacons. ssDNA = single-stranded DNA.

Reviews

Future of nanomedicine: Multiple functions can be integrated into nanoparticle systems for drug delivery. The schematic representation of a third-generation nanovector illustrates this: On the outside are recognition units to interact with target cells and biological barriers, while inside are drug-loaded nanoparticles, which leave the vector at the correct moment and release their load.



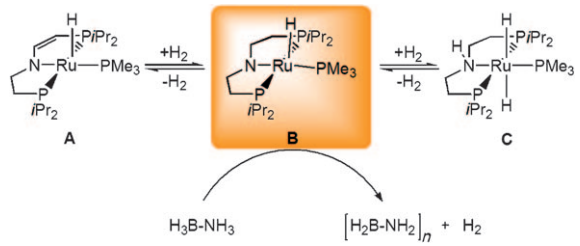
Communications



Binding motifs of aminopyrazole derivatives with different peptides in the gas phase are investigated by using mass- and isomer-selective IR/UV spectroscopy. The efficiency of blocking a β-sheet model is determined by analyzing the number and strength of hydrogen bonds (see picture). The investigations yield information on intrinsic molecular properties of beginning aggregation behavior, as might also occur in misfolding diseases.

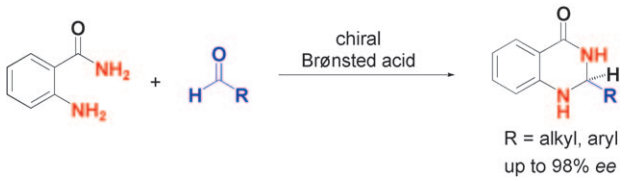
For the USA and Canada: ANGEWANDTE CHEMIE International Edition (ISSN 1433-7851) is published weekly by Wiley-VCH, PO Box 191161, 69451 Weinheim, Germany. Air freight and mailing in the USA by Publications Expediting Inc., 200 Meacham Ave., Elmont, NY 11003. Periodicals postage paid at Jamaica, NY 11431. US POSTMASTER: send address changes to *Angewandte Chemie*, Wiley-VCH, 111 River Street, Hoboken, NJ 07030. Annual subscription price for institutions: US$ 7225/6568 (valid for print and electronic / print or electronic delivery); for individuals who are personal members of a national chemical society prices are available on request. Postage and handling charges included. All prices are subject to local VAT/sales tax.

© 2009 Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim



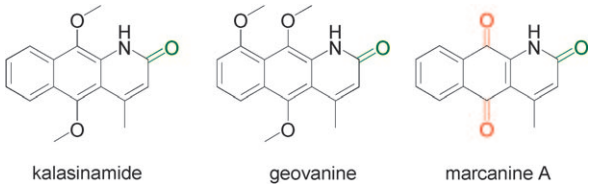
G"Ru"vy reactivity: The new ruthenium(II) complex having cooperative PNP enamido ligand **A** reversibly activates two equivalents H_2 under reversible hydrogenation of amido (**B**) and amino (**C**) complexes. **B** exhibits the highest reported activities in the dehydrocoupling of ammonia–borane.

Ammonia–Borane Dehydrogenation



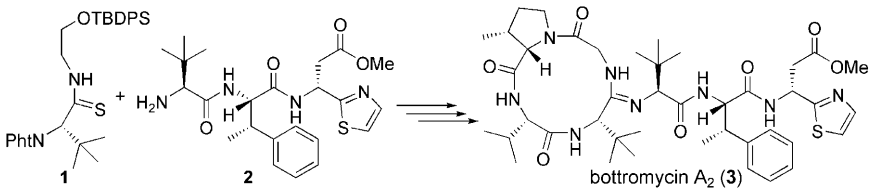
Surprisingly straightforward: A metal-free, highly enantioselective Brønsted acid catalyzed condensation/addition reaction has been developed for the construction of 2,3-dihydroquinazolinones starting from 2-aminobenzamide and aldehydes (see scheme). This efficient approach provides 2,3-dihydroquinazolinones with a strong preference for the *S* enantiomers, which have higher biological activities than the *R* enantiomers.

Asymmetric Synthesis



Two novel synthetic strategies were developed for the natural products geovanine, marcanine A, and kalasinamide. The nine-step synthesis of geovanine marks its first total synthesis. The three compounds are known for their antimalarial and antitumor activity, and tests confirmed the high cytotoxity of marcanine A.

Azaanthracenones

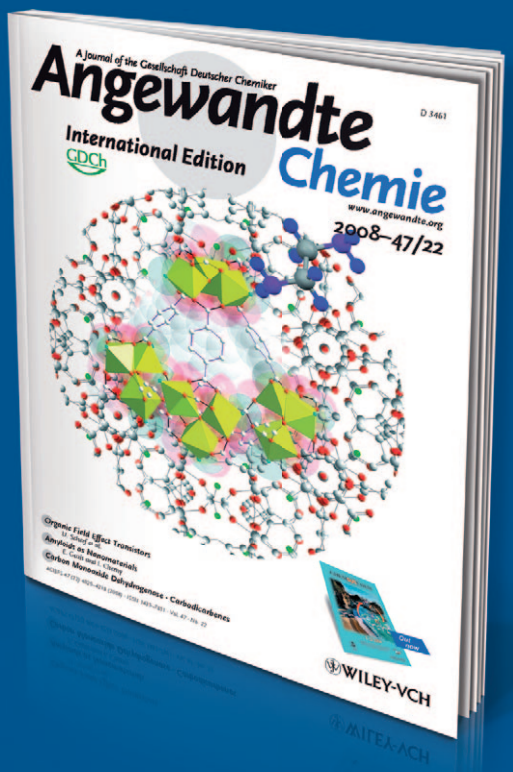


After 50 years of persistence the 12-membered cyclic skeleton of bottromycin A_2 (**3**) has been confirmed by NMR experiments (HMBC), and the configurations of two *t*Leu residues have been estimated by conformation analysis and NMR experiments. Furthermore, the key step in the synthesis of **3** involves the mercury-mediated formation of the amidine of thioamide **1** and amine **2**.

Natural Products

© 2009 Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim

Incredibly INTERNATIONAL



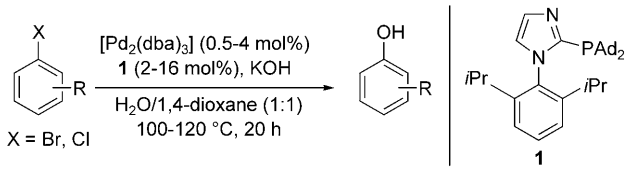
...!

Although *Angewandte Chemie* is owned by the German Chemical Society (Gesellschaft Deutscher Chemiker, GDCh) and is published by Wiley-VCH in a charming small town in southwest Germany, it is international in every other respect. Authors and referees from around the globe contribute to its success. Most of the articles are submitted from China, USA, and Japan - only then comes Germany. Most of the referee reports come from Germany and the USA, but Japan and Western Europe are also well represented.

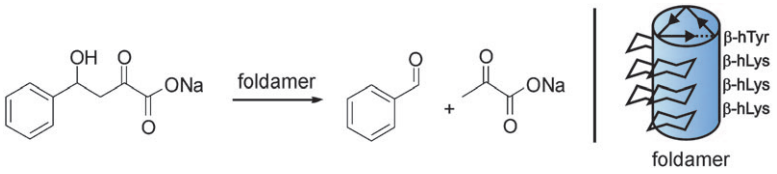
GDCh
Gesellschaft Deutscher Chemiker

www.angewandte.org
service@wiley-vch.de

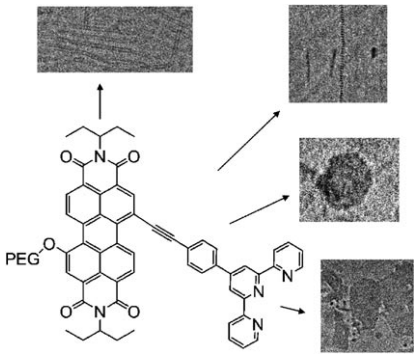
WILEY-VCH



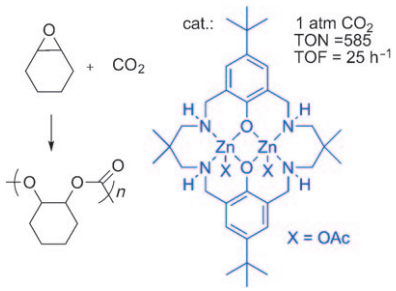
The phenol countdown: Novel imidazole-based phosphine ligands are synthesized on scales up to 100 g by a convenient lithiation–phosphorylation method. The phosphines are stable towards air and moisture and are successfully applied as ligands in the palladium-catalyzed selective hydroxylation of aryl halides (see scheme, dba = dibenzylideneacetone).



Neatly folded: A decameric β-peptide shows enzyme-like catalytic properties. The foldamer, which bears a terminal heptanoyl unit and displays a thermostable helical structure with an array of ammonium-group side chains, accelerates a retroaldol reaction (see scheme) by more than three orders of magnitude through an imine mechanism.



Four from one: Nanoscale ribbons, tubes, vesicles, and platelets can be formed from the self-assembly of a single covalent unit, which is based on an amphiphilic perylene diimide functionalized with a terpyridine ligand (see picture). The assembly diversity arises from the encoding of multiple inputs through hydrophobic interactions and metal coordination.

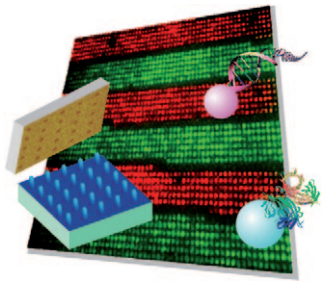


Low-pressure catalyst: A novel dizinc complex (**1**) having a macrocyclic ancillary ligand shows remarkable activity for the copolymerization of carbon dioxide and cyclohexene oxide, at only one atmosphere of CO_2. TON = turnover number; TOF = turnover frequency.

© 2009 Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim

Contents

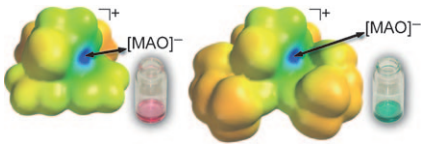
© 2009 Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim



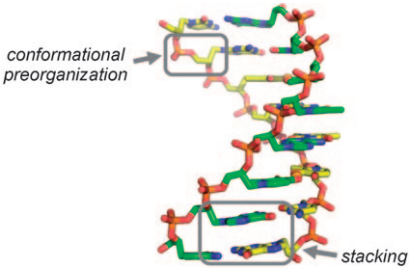
Paint by number? Magnetic nanoparticles (MNPs) coated with distinct biomolecules (see picture) can be assembled onto nanoelectrodes on a template under the control of magnetic and electric fields. The MNP–biomolecule conjugates can then be transferred from the template to a biocompatible polymer substrate. Arbitrary nanopatterns can be fabricated by the magnetic electric lithography process over a large area with a resolution down to 10 nm.

Biomolecular Nanopatterning

Big is beautiful: Activation of fluorenyl-based zirconocenes with methylaluminoxane (MAO) effects a red shift in the visible λ_{max} proportional to the size of the metallocene (see potential energy surfaces in picture). Polymerization activities correlate directly with color (λ_{max}), suggesting that bulky zirconocenium catalysts are weakly coordinating cations which, like weakly coordinating anions, diminish cation–anion interactions.



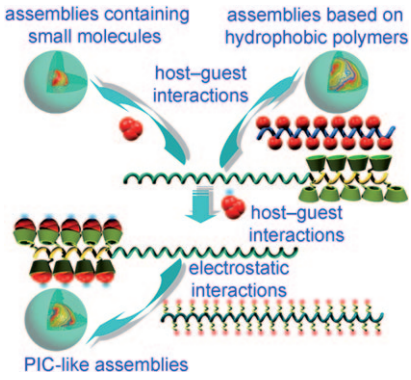
Cation–Anion Interactions



A preorganized zipper: The entropic penalty for duplex formation is significantly smaller for the backbone-simplified nucleic acid analogue GNA (glycol nucleic acid) than for DNA. This finding is consistent with a conformational preorganization of the single strands in combination with especially favorable stacking interactions in the corresponding GNA duplex (see picture).

Duplex Structures

First class delivery: Core–shell structured nanoassemblies could be constructed from a hydrophilic–hydrophilic block copolymer with one block containing β-cyclodextrin in the presence of hydrophobic guest compounds (see picture). The polymer can host various guest molecules, while the difference in sensitivity can be utilized to regulate release rate. By selecting appropriate guests, polyion complex (PIC) micelles could also be assembled.



Supramolecular Chemistry

© 2009 Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim

Contents

Supporting information is available on www.angewandte.org (see article for access details).

A video clip is available as Supporting Information on www.angewandte.org (see article for access details).

© 2009 Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim

Sources

Product and Company Directory

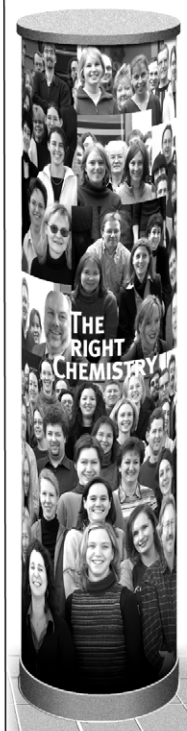
You can start the entry for your company in "Sources" in any issue of *Angewandte Chemie*.

If you would like more information, please do not hesitate to contact us.

Wiley-VCH Verlag – Advertising Department
Tel.: 0 62 01 - 60 65 65
Fax: 0 62 01 - 60 65 50
E-Mail: MSchulz@wiley-vch.de

Service

WILEY-VCH, a subsidiary of the distinguished publishers John Wiley & Sons Inc. New Jersey, is an international science publisher based in Germany with over 80 years experience of producing high-quality professional magazines, scientific journals, books and electronic media in Chemistry, Physics, Materials Science and Life Sciences.



As part of the development of our recently launched, highly successful journal ***ChemSusChem*** we are offering the following position:

Associate Editor (f/m)

As an Associate Editor for *ChemSusChem*, a journal focusing on chemistry and sustainability, energy and materials, you will be responsible for peer-review procedures and the acquisition of journal content. This will involve close interaction with authors and referees from all over the world, and representing the journal at international conferences. In addition, you will be involved in all aspects of the editing and publishing process.

ChemSusChem is an international journal co-owned by the Chemistry Publishing Society Europe (ChemPubSoc Europe). ChemSusChem covers the interface of chemistry and sustainability with energy research, materials science, chemical engineering, biotechnology, and environmental research.
See http://www.chemsuschem.org

Applicants for this position should have a broad interest in chemistry, be self-motivated, have excellent organizational and communication skills (written and verbal), be diplomatic, flexible, familiar with text and graphics computer applications, and have an excellent command of the English language. Fluency in German and previous publishing experience would be advantageous.

The Editorial Office is based at WILEY-VCH in Weinheim, a pleasant small town near Heidelberg in southwest Germany. Applicants should send their full CV with a covering letter describing their suitability for the post to:

WILEY-VCH Verlag GmbH & Co. KGaA
Human Resources
Christiane Rabe
Boschstrasse 12
69469 Weinheim
Germany
E-mail: Christiane.Rabe@wiley.com

WILEY-VCH
The place to be
http://www.wiley-vch.de

© 2009 Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim