



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:

S. T. Scroggins, Y. Chi, J. M. J. Fréchet*

Polarity-Directed One-Pot Asymmetric Cascade Reactions Mediated by Two Catalysts in an Aqueous Buffer

M. Griesser, D. Neshchadin, K. Dietliker, N. Moszner, R. Liska, G. Gescheidt*

Decisive Reaction Steps at Initial Stages of Photoinitiated Radical Polymerizations

J.-G. Liu, T. Ohta, S. Yamaguchi, T. Ogura, S. Sakamoto, Y. Maeda, Y. Naruta*

Spectroscopic Characterization of a Hydroperoxo–Heme Intermediate of a Synthetic Model: Conversion of a Side-on Peroxy to an End-on Hydroperoxy Complex

A. B. Chaplin, A. S. Weller*

B–H Activation at a Rhodium(I) Center: A Missing Link in the Transition-Metal-Catalyzed Dehydrocoupling of Amine–Boranes

M. Bandini,* A. Eichholzer

Enantioselective Gold-Catalyzed Allylic Alkylation of Indoles with Alcohols: Efficient Route to Functionalized Tetrahydrocarbazoles

G. de Ruiter, E. Tartakovsky, N. Oded, M. E. van der Boom*

Sequential Logic Operations with Surface-Confined Polypyridyl Complexes Having Molecular Random Access Memory Features

W. Li, P. H. C. Camargo, L. Au, Q. Zhang, M. Rycenga, Y. Xia*

Etching and Dimerization: A Simple and Versatile Route to Dimers of Silver Nanospheres with a Range of Sizes



“When I was eighteen I wanted to be an architect. The biggest challenge facing scientists is to prepare organic compounds such as amino acids from air...”
This and more about Susumu Kitagawa can be found on page 8818.

Author Profile

Susumu Kitagawa _____ 8818

Bioinorganic Photochemistry

Grażyna Stochel, Małgorzata Brindell, Wojciech Macyk, Zofia Stasicka, Konrad Szaciłowski

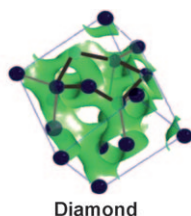
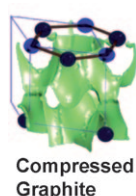
Molecular Chemistry of Sol–Gel Derived Nanomaterials

Robert J. P. Corriu, Nguyen Trong Anh

Books

reviewed by G. Knör _____ 8821

reviewed by G. J. A. A. Soler-Illia ____ 8822



Less than the twinkling of an eye: EELS time resolution has now been improved by ten orders of magnitude, making possible the observation of transitory changes in electron distribution as exemplified for the laser-induced compression of graphite towards diamond (see picture).

Highlights

Time-Resolved Spectroscopy

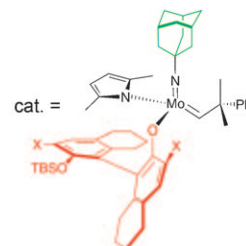
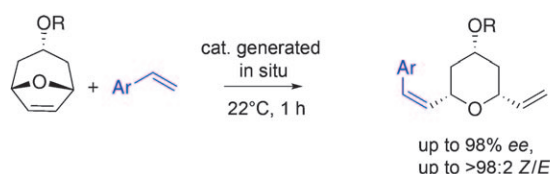
Sir J. M. Thomas* _____ 8824–8826

The Renaissance and Promise of Electron Energy-Loss Spectroscopy

Synthetic Methods

A. Córdova,* R. Rios* — 8827–8831

Highly Z- and Enantioselective Ring-Opening/Cross-Metathesis Reactions and Z-Selective Ring-Opening Metathesis Polymerization



Stopping the gap: A notable shortcoming in olefin metathesis chemistry was the lack of methods for the selective synthesis of Z alkenes. A breakthrough has now been achieved by the employment of a

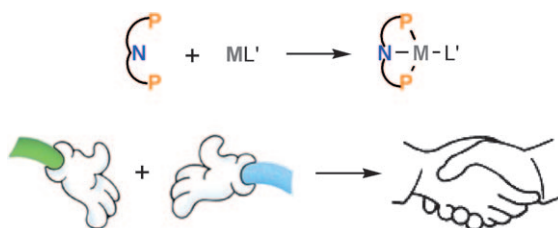
new type of chiral Mo complex (see scheme; TBS = *tert*-butyldimethylsilyl, X = Cl, Br, I). The first examples of the titled reactions are discussed.

Minireviews

Cooperative Catalysis

J. I. van der Vlugt,*
J. N. H. Reek — 8832–8846

Neutral Tridentate PNP Ligands and Their Hybrid Analogues: Versatile Non-Innocent Scaffolds for Homogeneous Catalysis



A helping hand! The rich coordination chemistry, versatile reactivity, and the non-innocent behavior of specific ligand structures has led to an increase in the popularity of the chemistry of lutidine-based tridentate ligands that contain

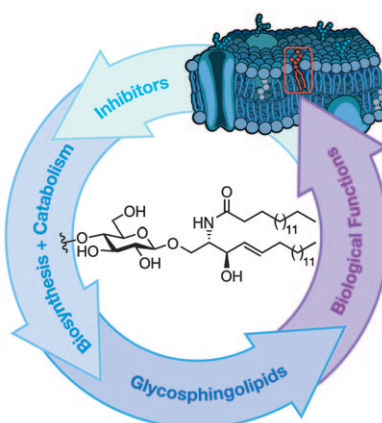
phosphorus side groups (see picture). These ligands can participate in cooperative catalysis, which provides possibilities for carrying out previously unknown organic transformations.

Reviews

Glycobiology

T. Wennekes, R. J. B. H. N. van den Berg,
R. G. Boot, G. A. van der Marel,
H. S. Overkleeft,*
J. M. F. G. Aerts* — 8848–8869

Glycosphingolipids—Nature, Function, and Pharmacological Modulation



Solving the Sphinx's riddle: Glycosphingolipids, such as glucosylceramide, are components of the cellular membrane and are involved in many (patho)physiological processes. As such, they are the subject of intensive research aimed at elucidating their role in the structural integrity of the cell membrane, their participation in recognition and signaling events, and in particular their involvement in processes that are at the basis of human disease (see picture).

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\$ 9442/8583 (valid for print and

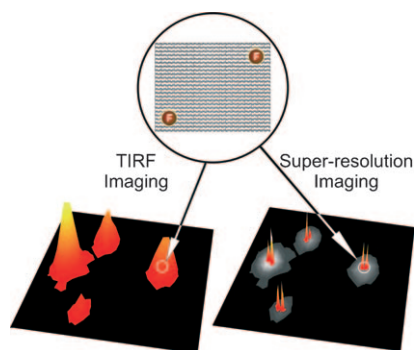
electronic / print or electronic delivery); for individuals who are personal members of a national chemical society prices are available on request. Postage and handling charges included. All prices are subject to local VAT/sales tax.

Communications

Fluorescence Microscopy

C. Steinhauer, R. Jungmann,
T. L. Sobey, F. C. Simmel,*
P. Tinnefeld* — 8870–8873

DNA Origami as a Nanoscopic Ruler for
Super-Resolution Microscopy

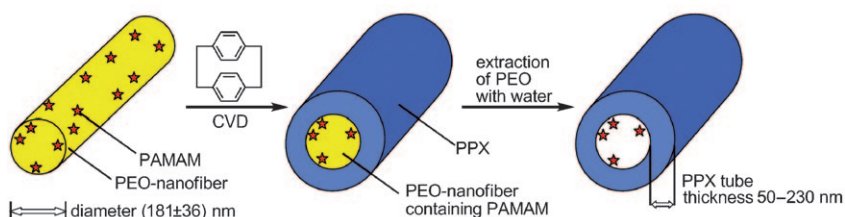


Resolving the distances: Rectangular DNA origami labeled with fluorophores at specific positions has been used as a nanoscopic ruler. Super-resolution microscopy based on the subsequent localization of single molecules enables two fluorophores at a distance of about 90 nm to be optically resolved. This combination of subdiffraction imaging and DNA nanotechnology opens up new avenues for studying nanostructures and their dynamics.

Catalyst Immobilization

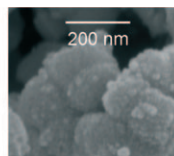
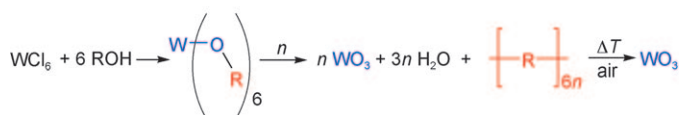
J.-P. Lindner, C. Röben, A. Studer,*
M. Stasiak, R. Ronge, A. Greiner,*
H.-J. Wendorff* — 8874–8877

Reusable Catalysts Based on Dendrimers
Trapped in Poly(*p*-xylylene) Nanotubes



Catalysts in a bottle are readily prepared by coelectrospinning of PAMAM dendrimers and poly(ethylene oxide) (PEO). The nanofibers thus obtained can be coated with poly(*p*-xylylene) by chemical vapor deposition. Removal of the core

PEO fibers by extraction with water results in PAMAM dendrimers entrapped in the tubes (see picture). The entrapped dendrimers show a high catalytic activity as reusable organocatalysts.



Nanomaterials

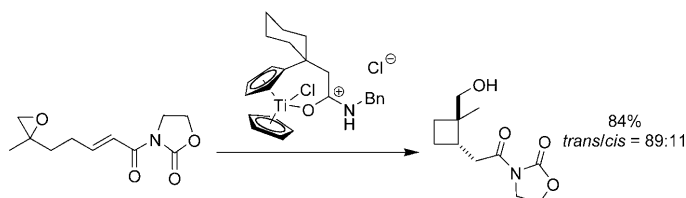
F. Böttger-Hiller, R. Lungwitz, A. Seifert,
M. Hietschold, M. Schlesinger,
M. Mehring, S. Spange* — 8878–8881

Nanoscale Tungsten Trioxide Synthesized
by In Situ Twin Polymerization



Step aside, sol-gel! Nanoscale tungsten oxide with large BET surface area is available through the presented in situ twin polymerization method. In only one process step, nanostructured hybrid materials are synthesized from WCl_6 and

cationic polymerizable aryl methanols. This procedure forms a bridge between the non-aqueous sol-gel process and twin polymerization and opens new perspectives for the synthesis of various nanostructured metals oxides.



Small rings through large templates: A two-point binding of the substrate radicals to cationic titanocene templates is essential for the success of otherwise impossible 4-*exo* cyclizations (see

scheme; Bn = benzyl). The cyclobutanes are obtained in high stereoselectivity and can be additionally functionalized in a straightforward manner.

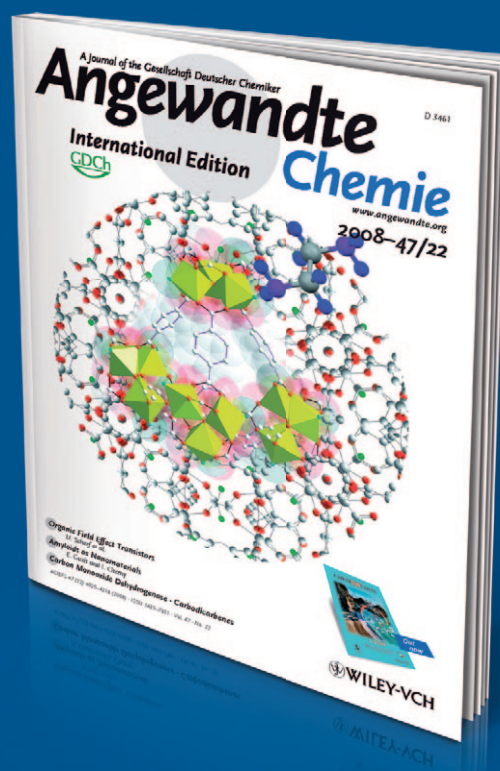
Template Catalysis

A. Gansäuer,* D. Worgull, K. Knebel,
I. Huth, G. Schnakenburg — 8882–8885

4-*exo* Cyclizations by Template Catalysis



Incredibly INTERNATIONAL



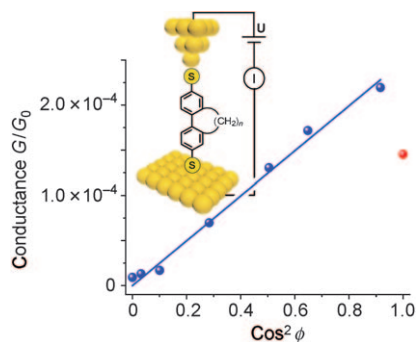
Although *Angewandte Chemie* is owned by the German Chemical Society (Gesellschaft Deutscher Chemiker, GDCh) and is published by Wiley-VCH in a charming small town in southwest Germany, it is international in every other respect. Authors and referees from around the globe contribute to its success. Most 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.



GESELLSCHAFT DEUTSCHER CHEMIKER

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

 **WILEY-VCH**

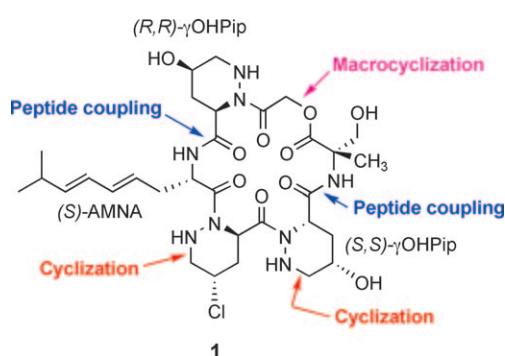


Stepwise regulation of the molecular conductance was observed in a series of eight biphenyldithiols with fixed torsion angles between the phenyl rings. These compounds were synthesized and their single-molecule conductance was investigated in an STM junction. A \cos^2 dependence was found between the interplane torsion angle and the single-molecule conductivity (see plot).

Single-Molecule Studies

D. Vonlanthen, A. Mishchenko, M. Elbing, M. Neuburger, T. Wandlowski,* M. Mayor* — 8886–8890

Chemically Controlled Conductivity: Torsion-Angle Dependence in a Single-Molecule Biphenyldithiol Junction



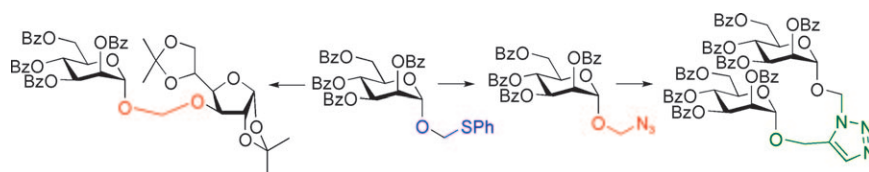
Natural Product Synthesis

W. Li, J. Gan, D. Ma* — 8891–8895

Total Synthesis of Piperazimycin A: A Cytotoxic Cyclic Hexadepsipeptide

Pied piper: The first total synthesis of the title compound **1**, a potent cytotoxic natural product has been achieved. The key elements include an efficient synthesis of the difficult-to-install (*R,S*)- γ ClPip/

(*S,S*)- γ OHPip dipeptide fragment as well as macrocyclization by an S_N2 reaction of an *N*-2-chloroacetyl moiety with a carboxylate anion.



Without a trace: Phenylthiomethyl glycosides, which are prepared by glycosylation of phenylthiomethanol, serve as precursors to the hitherto unknown azidomethyl glycosides and then to the *N*-glycosyl-

methyl 1,4- and 1,5-substituted triazoles (see scheme; Bz = benzoyl). The azidomethyl glycosides are also readily converted into amidomethyl glycosides by the traceless Staudinger reaction.

Chemical Ligation

D. Crich,* F. Yang — 8896–8899

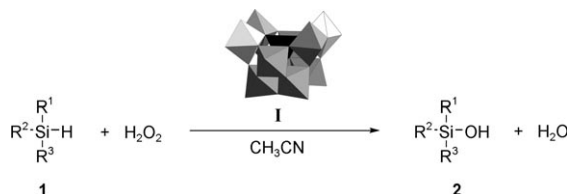
Phenylthiomethyl Glycosides: Convenient Synthons for the Formation of Azidomethyl and Glycosylmethyl Glycosides and Their Derivatives

Silicon Chemistry

R. Ishimoto, K. Kamata,
N. Mizuno* 8900–8904



Highly Selective Oxidation of Organo-
silanes to Silanols with Hydrogen
Peroxide Catalyzed by a Lacunary
Polyoxotungstate



Silanol synthesis: Divacant lacunary polyoxotungstate ($(n\text{Bu}_4\text{N}^+)_4[\gamma\text{-SiW}_{10}\text{O}_{34}(\text{H}_2\text{O})_2]^-$ (**I**)) is an efficient homogeneous catalyst for highly selective oxidation of organosilanes to silanols with 30–60% aqueous H_2O_2 . Various kinds of silanes **1**

containing aryl, alkyl, alkenyl, alkynyl, and alkoxy groups are chemoselectively converted into the corresponding silanols **2** in high yields with only one equivalent of aqueous H_2O_2 with respect to the substrate.

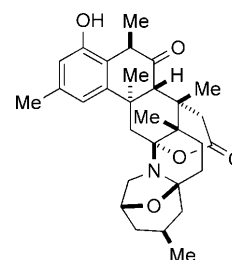
Natural Product Synthesis

Y. Takahashi, F. Yoshimura, K. Tanino,*
M. Miyashita* 8905–8908



Total Synthesis of Zoanthanol

Reaching home plate: The first total synthesis of zoanthanol, an aromatic member of the zoanthamine alkaloid family with potent anti-platelet activity for human platelet aggregation, has been achieved using an intermediate in the total synthesis of norzoanthamine. The key step involves a Brønsted acid-promoted isoaromatization in the AB ring system to install the crucial aromatic ring.

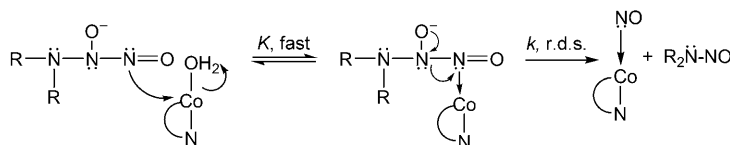


NONOates as Nitroxyl Donors

H. A. Hassanin, L. Hannibal,
D. W. Jacobsen, M. F. El-Shahat,
M. S. A. Hamza,
N. E. Brasch* 8909–8913



Mechanistic Studies on the Reaction
between $\text{R}_2\text{N-NONOates}$ and
Aquacobalamin: Evidence for Direct
Transfer of a Nitroxyl Group from $\text{R}_2\text{N-}$
NONOates to Cobalt(III) Centers



Tales of the unexpected: Transfer of a nitroxyl group from $\text{R}_2\text{N-NONOates}$ to aquacobalamin to form nitroxylcobalamin does not proceed via H^+ -catalyzed $\text{R}_2\text{N-}$

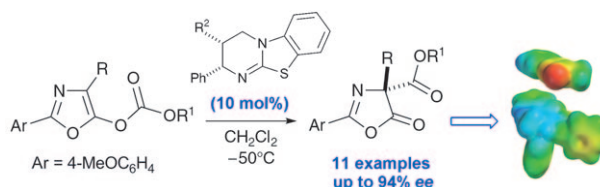
NONOate decomposition, but instead occurs via a probable NONOate-cobalamin intermediate (see scheme; r.d.s. = rate-determining step).

Synthetic Methods

C. Joannesse, C. P. Johnston,
C. Concellón, C. Simal, D. Philp,
A. D. Smith* 8914–8918

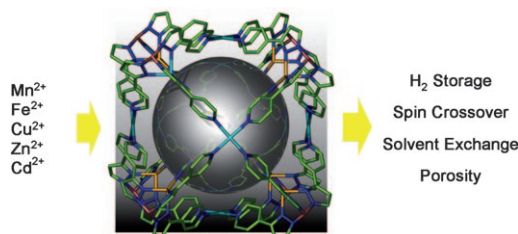


Isothiourea-Catalyzed Enantioselective
Carboxyl Group Transfer



Transferable skills: Enantiomerically pure isothioureas promote the O- to C-carboxyl group transfer of oxazolyl carbonates with excellent levels of enantiocontrol (see

scheme). The origin of the enantioselectivity of this process was probed mechanistically and rationalized computationally.



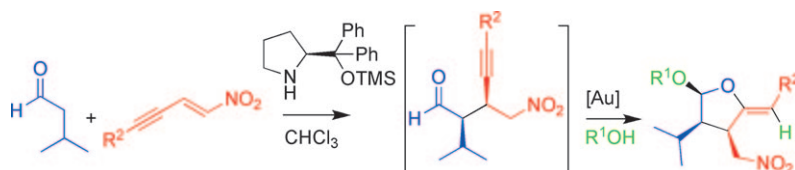
Play ball! A family of discrete metallo-supramolecular nanoballs (see picture) containing different divalent metals is produced by self-assembly. These species have porous structures, similar to metal-

organic frameworks. Stepwise desolvation results in bare metal sites which can be functionalized with organic molecules; the interball cavities show high affinity for hydrogen gas.

Nanostructures

M. B. Duriska, S. M. Neville, J. Lu, S. S. Iremonger, J. F. Boas, C. J. Kepert, S. R. Batten* — 8919–8922

Systematic Metal Variation and Solvent and Hydrogen-Gas Storage in Supramolecular Nanoballs



Au-organocatalytic reaction: A one-pot process consisting of a Michael addition to a nitroalkene and a subsequent acetalization/cyclization is reported (see scheme; TMS = trimethylsilyl), which results in the formation of nitro-substi-

tuted tetrahydrofuran ethers with high diastereo- and enantioselectivities. Organocatalysis and gold catalysis are compatible and complementary in a one-pot process.

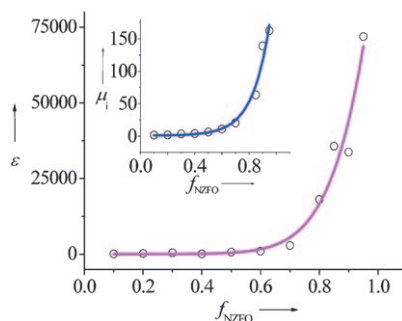
Tandem Reactions

S. Belot, K. A. Vogt, C. Besnard, N. Krause,* A. Alexakis* — 8923–8926

Enantioselective One-Pot Organocatalytic Michael Addition/Gold-Catalyzed Tandem Acetalization/Cyclization



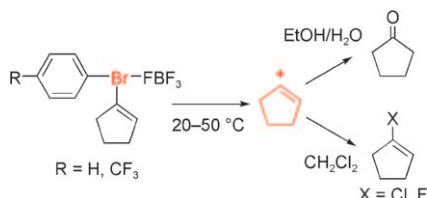
Some good percs: Ferroelectric/ferrimagnetic composite ceramics with percolation thresholds of 0.85–0.95 were obtained by an in situ sol-gel process that leads to enwrapping and separation of the conductive ferrite by a ferroelectric phase, e.g. BaTiO₃. Such a super high threshold leads to a sharp increase in permittivity (ϵ) and initial permeability (μ_i) with increasing ferrite fraction (see graph; NZFO = Ni_{0.5}Zn_{0.5}Fe₂O₄).



Multiferroic Materials

H. Zheng, Y. Dong, X. Wang, W. Weng, G. Han, N. Ma,* P. Du* — 8927–8930

Super High Threshold Percolative Ferroelectric/Ferrimagnetic Composite Ceramics with Outstanding Permittivity and Initial Permeability



Last of the cyclic vinyl cations: The simple solvolysis of cyclopent-1-enyl- λ^3 -bromane efficiently generates the highly strained cyclopent-1-enyl cation at room temperature (see scheme). The very high nucleofugality of the aryl- λ^3 -bromanyl groups are responsible for this unique unimolecular dissociation.

Vinyl Cations

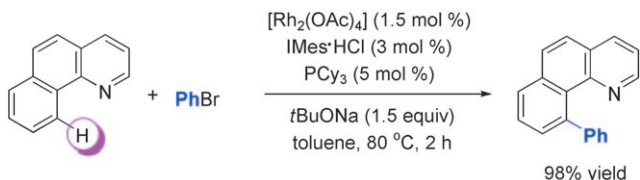
K. Miyamoto, M. Shiro, M. Ochiai* — 8931–8934

Facile Generation of a Strained Cyclic Vinyl Cation by Thermal Solvolysis of Cyclopent-1-enyl- λ^3 -bromanes



C–C Coupling

M. Kim, J. Kwak, S. Chang* **8935–8939**



Rhodium/N-Heterocyclic Carbene Catalyzed Direct Intermolecular Arylation of sp^2 and sp^3 C–H Bonds with Chelation Assistance

Rh-oadies join in: A new rhodium catalyst was developed for the chelation-assisted direct intermolecular arylation using an N-heterocyclic carbene and phosphine ligands (see scheme; IMes = 1,3-bis(2,4,6-trimethylphenyl)imidazol-2-ylidene). The reaction is operationally

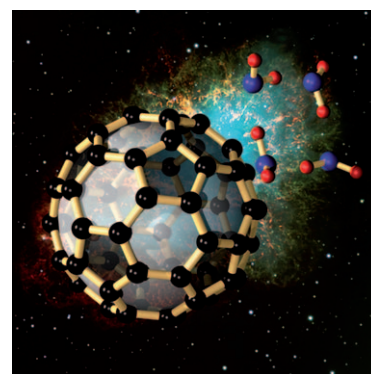
simple, proceeds under mild reaction conditions to afford mono- or diarylated products in excellent yields, and is applicable to the arylation at the sp^3 or sp^2 C–H bonds of 2-pyridyl-containing aryl, vinyl, or alkyl moieties.

Cluster Ions

S. Denifl, F. Zappa, I. Mähr, F. Ferreira da Silva, A. Aleem, A. Mauracher, M. Probst, J. Urban, P. Mach, A. Bacher, O. Echt,* T. D. Märk, P. Scheier* **8940–8943**

Ion–Molecule Reactions in Helium Nanodroplets Doped with C_{60} and Water Clusters

Double trouble: The binding between C_{60}^+ and $(H_2O)_4$ is surprisingly weak in a charged C_{60} – H_2O tetramer complex formed in helium nanodroplets (see picture). Doubly charged C_{60}^{2+} intermediates are proposed to form by charge transfer with He^+ ; these intermediates can trigger ion–molecule reactions that may play a role in molecular synthesis in interstellar clouds and solar nebula.



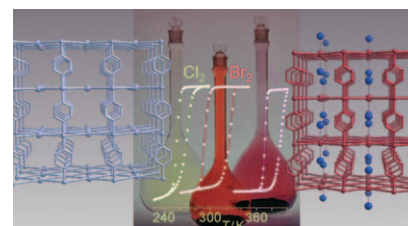
Porous Coordination Polymers

G. Agustí, R. Ohtani, K. Yoneda, A. B. Gaspar, M. Ohba,* J. F. Sánchez-Royo, M. C. Muñoz, S. Kitagawa,* J. A. Real* **8944–8947**



Oxidative Addition of Halogens on Open Metal Sites in a Microporous Spin-Crossover Coordination Polymer

Mixing with the guests: Exposure of the porous spin-crossover framework $\{Fe(pz)[Pt^{II}(CN)_4]\}$ to X_2 (pz = pyrazine; X_2 = Cl_2 , Br_2 , and I_2) leads to incorporation of the halides in the coordinatively unsaturated $[Pt^{II}(CN)_4]^{2-}$ moieties through oxidative addition, thus affording the mixed-valence series $\{Fe(pz)[Pt^{II/IV}(CN)_4(X)]\}$, which features quite distinct cooperative spin-transition properties.

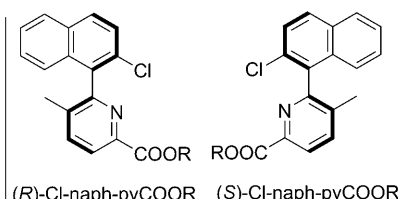
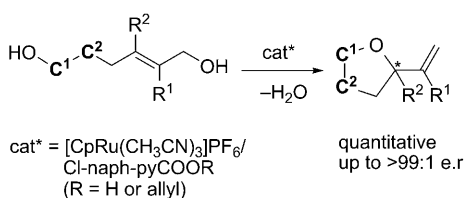


Asymmetric Catalysis

S. Tanaka, T. Seki, M. Kitamura* **8948–8951**

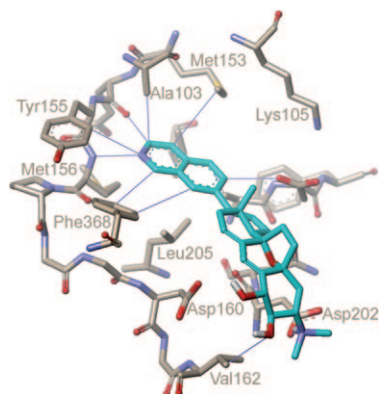


Asymmetric Dehydrative Cyclization of ω -Hydroxy Allyl Alcohols Catalyzed by Ruthenium Complexes



New axially chiral ligands and their allyl esters have been designed and synthesized. The combination of these ligands with $[CpRu(CH_3CN)_3]PF_6$ has realized highly efficient intramolecular dehydrative cyclization of ω -hydroxy allyl alcohols, to

give α -alkenyl-substituted cyclic ethers with up to greater than 99:1 enantiomeric ratio without activation of the allylic moieties (see scheme; Cp = cyclopentadienyl, naph = naphthyl, py = pyridine).



Antiproliferative alkaloid: Cortistatin A is a high-affinity ligand for a small set of protein kinases including Rho-associated, coiled-coil-containing protein kinase (ROCK), cyclin-dependent kinase 8 (CDK8), and cyclin-dependent kinase 11 (CDK11). Models of cortistatin A bound to a crystallographic structure of ROCK (see picture) and a homology model of CDK8 are presented.

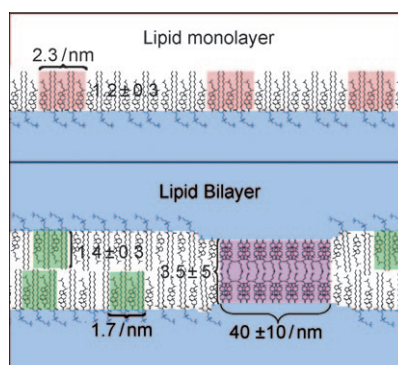
Small-Molecule Inhibitors

V. J. Cee,* D. Y.-K. Chen,* M. R. Lee, K. C. Nicolaou* — 8952 – 8957

Cortistatin A is a High-Affinity Ligand of Protein Kinases ROCK, CDK8, and CDK11



Interacting leaflets: Grazing-incidence X-ray diffraction measurements are performed on single hydrated lipid bilayers. Comparison between the structure of a monolayer composed of sphingomyelin, cholesterol, and phosphocholine (36:54:10) with that of a bilayer of the same composition (see picture) shows differences in structure and phase behavior, because of the formation of bilayer-thick cholesterol crystals.



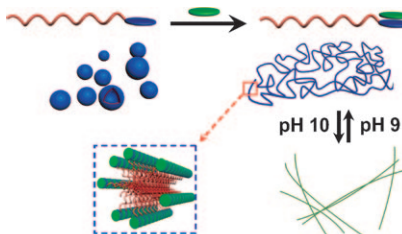
Lipid Bilayers

R. Ziblat, K. Kjaer, L. Leiserowitz,* L. Addadi* — 8958 – 8961

Structure of Cholesterol/Lipid Ordered Domains in Monolayers and Single Hydrated Bilayers



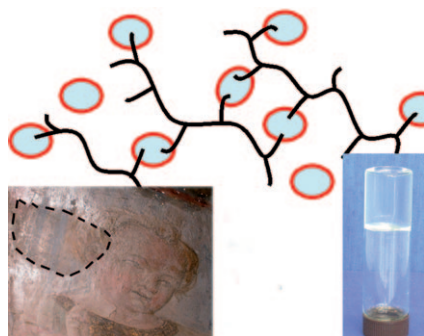
From curly to straight: The formation of a charge-transfer complex is driven by the combination of Coulombic attraction and charge transfer interactions. The charge-transfer complex which is obtained from a supramolecular amphiphile (see picture) is water-soluble and forms ultralong nanofibers, the straightness of which can be modulated by changing the pH of the reaction solution.



Self-Assembly

C. Wang, Y. S. Guo, Y. P. Wang, H. P. Xu, R. J. Wang, X. Zhang* — 8962 – 8965

Supramolecular Amphiphiles Based on a Water-Soluble Charge-Transfer Complex: Fabrication of Ultralong Nanofibers with Tunable Straightness



As good as new: Oil-in-water nanocontainers within an aqueous polymer network were effective for the low-impact selective cleaning of painted and gilded surfaces. Interactions with the polymer (black in the schematic illustration) did not alter the structure of the microemulsion nanodroplets (light blue and red) significantly. A photograph of an equilibrated mixture of the microemulsion and the polymer is shown.

Art Conservation

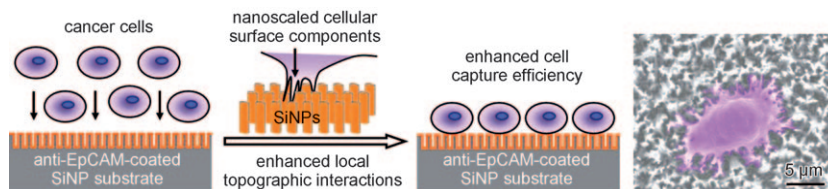
E. Carretti, E. Fratini, D. Berti, L. Dei, P. Baglioni* — 8966 – 8969

Nanoscience for Art Conservation: Oil-in-Water Microemulsions Embedded in a Polymeric Network for the Cleaning of Works of Art



Cancer Diagnosis

S. T. Wang,* H. Wang, J. Jiao, K.-J. Chen,
G. E. Owens, K. Kamei, J. Sun,
D. J. Sherman, C. P. Behrenbruch, H. Wu,
H.-R. Tseng* ————— 8970–8973



Three-Dimensional Nanostructured
Substrates toward Efficient Capture of
Circulating Tumor Cells

A grabby substrate: A 3D nanostructured substrate, namely, a silicon-nanopillar (SiNP) array coated with epithelial-cell adhesion-molecule antibody (anti-EpCAM), shows enhanced local topographic interactions between nanoscale

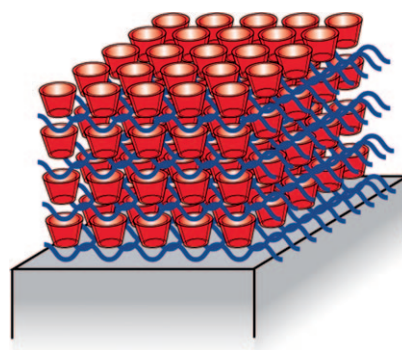
cell-surface components and the substrate surface, resulting in enhanced cell-capture efficiency when employed to isolate viable cancer cells from whole-blood samples (see schematic and SEM image of a captured cancer cell).

Drug Delivery

R. C. Smith, M. Riollano, A. Leung,
P. T. Hammond* ————— 8974–8977



Layer-by-Layer Platform Technology for
Small-Molecule Delivery



Flexible delivery vehicle: Layer-by-layer assembly and supramolecular chemistry were used to create an ultrathin-film platform technology for small-molecule delivery using a hydrolytically degradable polyion (see picture, blue waves) and a polymeric cyclodextrin (see picture, red cups).

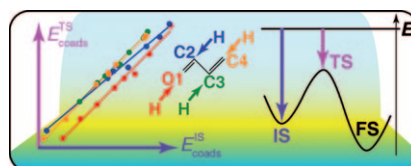


Heterogeneous Catalysis

D. Loffreda,* F. Delbecq, F. Vigné,
P. Sautet ————— 8978–8980



Fast Prediction of Selectivity in
Heterogeneous Catalysis from Extended
Brønsted–Evans–Polanyi Relations:
A Theoretical Insight



Figuring it out: Linear relations are found when the energies of the transition states ($E_{\text{coads}}^{\text{TS}}$) are plotted against those of the precursor states ($E_{\text{coads}}^{\text{IS}}$) for the hydrogenation of unsaturated aldehydes on platinum (see picture, FS = final state). This relation allows a quick and accurate determination of the energy barriers of the reaction when changing the chemical environment of the reactive center.

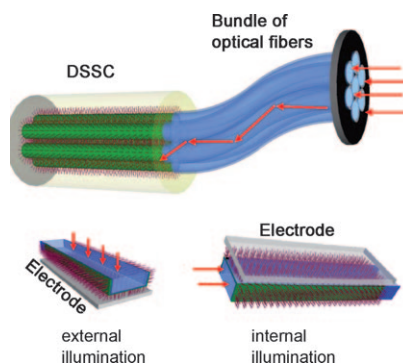


Solar Cells

B. Weintraub, Y. Wei,
Z. L. Wang* ————— 8981–8985

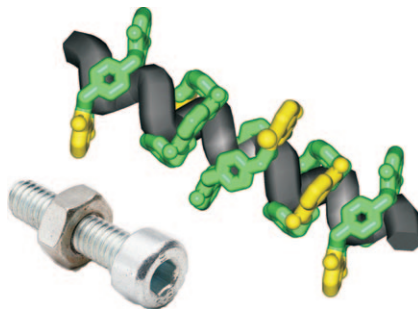


Optical Fiber/Nanowire Hybrid Structures
for Efficient Three-Dimensional Dye-
Sensitized Solar Cells



Wired up: The energy conversion efficiency of three-dimensional dye-sensitized solar cells (DSSCs) in a hybrid structure that integrates optical fibers and nanowire arrays is greater than that of a two-dimensional device. Internal axial illumination enhances the energy conversion efficiency of a rectangular fiber-based hybrid structure (see picture) by a factor of up to six compared to light illumination normal to the fiber axis from outside the device.

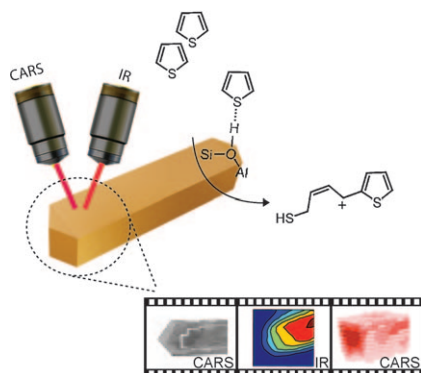
Spinning around? A series of peptido[2]-rotaxanes have been designed which contain a rigid helix as a significant part of their axle. One such rotaxane has been used to construct a reversible molecular device, in which, by virtue of the size of the inner cavity of the wheel relative to the outer diameter of the peptide helix, a rotation of the wheel might occur concomitantly with its translation along the axle (see picture).



Rotaxanes

A. Moretto,* I. Menegazzo, M. Crisma,
E. J. Shotton, H. Nowell, S. Mammi,
C. Toniolo _____ 8986–8989

A Rigid Helical Peptide Axle for a
[2]Rotaxane Molecular Machine



Take a look inside: The combination of coherent anti-Stokes Raman scattering and synchrotron-based IR microscopy during the catalytic conversion of thiophene derivatives on zeolite crystals yields space- and time-resolved chemically specific information without the need for labeling (see picture). The thiophene reactant is mostly present in the center of the crystal, and the product is aligned within the straight pores of the zeolites.

Heterogeneous Catalysis

M. H. F. Kox, K. F. Domke, J. P. R. Day,
G. Rago, E. Stavitski, M. Bonn,
B. M. Weckhuysen* _____ 8990–8994

Label-Free Chemical Imaging of Catalytic
Solids by Coherent Anti-Stokes Raman
Scattering and Synchrotron-Based
Infrared Microscopy



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).

Looking for outstanding employees?

Do you need another expert for your excellent team?

... Chemists, PhD Students, Managers, Professors, Sales Representatives...

Place an advert in the printed version and have it made available online for
1 month, free of charge! Gesellschaft Deutscher Chemiker

Angewandte Chemie International Edition

Advertising Sales Department: Marion Schulz

Phone: 0 62 01 - 60 65 65

Fax: 0 62 01 - 60 65 50

E-Mail: MSchulz@wiley-vch.de

Service

Spotlights Angewandte's

Sister Journals _____ 8814–8816

Keywords _____ 8996

Authors _____ 8997

Preview _____ 8999