



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

D. Loffreda,* F. Delbecq, F. Vigné, P. Sautet

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

T. Ichino, S. M. Villano, A. J. Gianola, D. J. Goebbert, L. Velarde, A. Sanov, S. J. Blanksby, X. Zhou, D. A. Hrovat, W. T. Borden, W. C. Lineberger*

The Lowest Singlet and Triplet States of the Oxyallyl Diradical

M. H. Kox, K. F. Domke, J. P. Day, G. Rago, E. Stavitski, M. Bonn, B. M. Weckhuysen*

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

S. Joseph, M. Hamberger, F. Mutzbauer, O. Härtl, M. Meier, N. Korber*

Chemistry with Bare Silicon Clusters in Solution: A Transition Metal Complex of a Polysilicide Anion

P. Ceroni, G. Bergamini, V. Balzani*

Old Molecules, New concepts: $[\text{Ru}(\text{bpy})_3]^{2+}$ as a Molecular Encoder–Decoder

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



“When I was eighteen I wanted to be an architect or a chemist—in both professions creativity is necessary in order to create new structures.

The most significant scientific advance of the last 100 years has been the understanding of chemical bonding and the development of quantum mechanics. . . .”

This and more about Matthias Westerhausen can be found on page 8174.

Author Profile

Matthias Westerhausen ————— 8174

Chemical Biology

Herbert Waldmann, Petra Janning

Practical Biotransformations

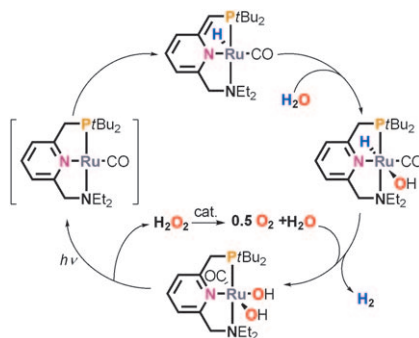
Gideon Grogan

Books

reviewed by M. Mühlberg, V. Böhrsch, C. P. R. Hackenberger ————— 8175

reviewed by M. Müller ————— 8175

Pinching water: A mononuclear Ru complex is shown to efficiently split water into H_2 and O_2 in consecutive steps through a heat- and light-driven process (see picture). Thermally driven H_2 formation involves the aid of a non-innocent ligand scaffold, while dioxygen is generated by initial photochemically induced reductive elimination of hydrogen peroxide. These features might be the onset for new designs of catalytic water-splitting systems.



Highlights

Water Splitting

D. G. H. Hetterscheid, J. I. van der Vlugt, B. de Bruin, J. N. H. Reek* — 8178–8181

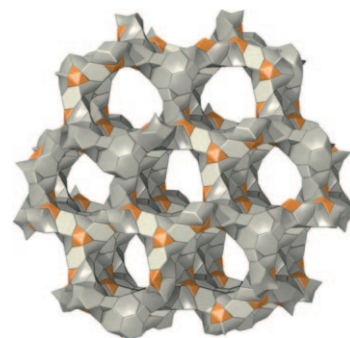
Water Splitting by Cooperative Catalysis

Complex Zeolites

M. O'Keeffe* ————— 8182–8184

Flipping Marvelous: New Zeolites by New Methods

Complexity conquered: Zeolite structures of unprecedented complexity have been determined using the new methods of charge flipping and histogram matching applied to X-ray powder diffraction data combined with data from electron microscopy. ITQ-37 (see picture) has a chiral structure of exceptionally low density and large ring size.



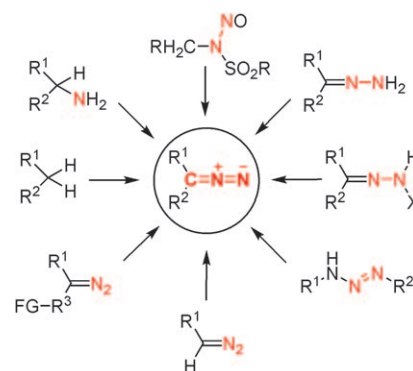
Minireviews

Synthetic Methods

G. Maas* ————— 8186–8195

New Syntheses of Diazo Compounds

More and more synthetic chemists worldwide have started to appreciate aliphatic diazo compounds as versatile synthetic building blocks (see scheme). This versatility continuously provides incentives for the development of novel methods and improved procedures for the synthesis of diazo compounds. These new methods and recent developments are outlined.



Reviews

200 Years Since Davy

E. Zurek, P. P. Edwards,
R. Hoffmann* ————— 8198–8232



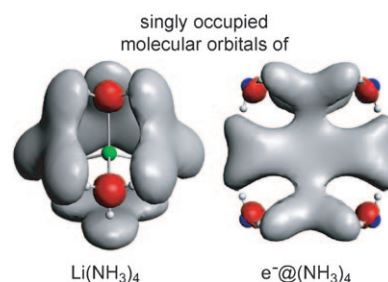
A Molecular Perspective on Lithium–Ammonia Solutions

If, to ammonia one adds a metal,
The solution grows real unsettled.
A fine blue color is seen throughout
First by Humphry Davy, no doubt.

From lithium, electrons are released
The density of the solution decreased!
Soaked electrons are born, spins pair
Until a real band forms, debonaire!

Lowering the T of this ebullition
Impels a liquid–liquid partition,
Superconductivity? Why not?
Molecular orbitals hit the spot.

From blue to gold, the story unfolds.



For the USA and Canada:

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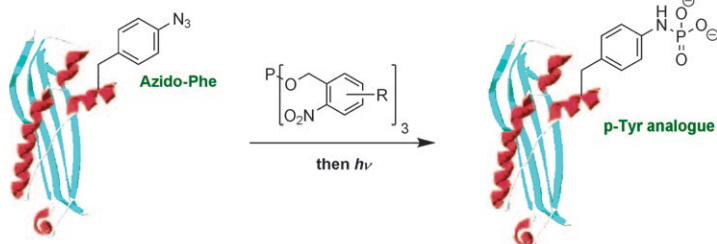
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Communications

Chemoselective Reactions

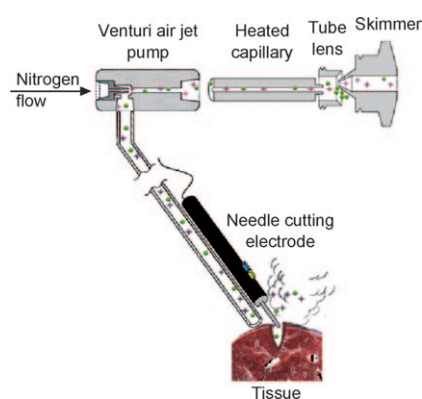
R. Serwa, I. Wilkening, G. Del Signore, M. Mühlberg, I. Claußnitzer, C. Weise, M. Gerrits, C. P. R. Hackenberger* — 8234–8239

Chemoselective Staudinger-Phosphite Reaction of Azides for the Phosphorylation of Proteins



Extending the toolbox: The title reaction was identified as a chemoselective means to modify azides in peptides and proteins in high yields at room temperature in various solvents including aqueous buf-

fers at physiological pH. In combination with nonnatural protein translation the Staudinger-phosphite reaction allows the site-specific incorporation of phosphorylated Tyr analogues in proteins.

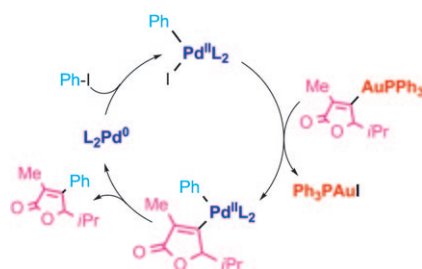


Beam me up: A novel mass spectrometric ionization technique based on rapid evaporation of biological tissues (see picture) can be used to analyze vital tissues during surgical intervention as well as for processed tissue specimens. A tissue identification system based on principal-component analysis was developed. The method differentiates malignant tumor cells from the surrounding healthy tissue.

Mass Spectrometry

K.-C. Schäfer, J. Dénes, K. Albrecht, T. Szaniszló, J. Balog, R. Skoumal, M. Katona, M. Tóth, L. Balogh, Z. Takáts* — 8240–8242

In Vivo, In Situ Tissue Analysis Using Rapid Evaporative Ionization Mass Spectrometry

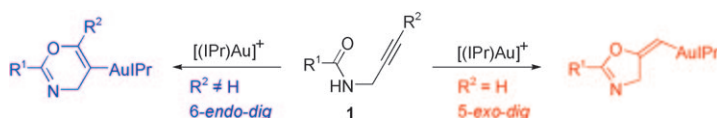


Gold and palladium—a unique liason: A study of the transmetalation abilities of organogold compounds builds the basis for a new class of cross-coupling reactions. Stable intermediates of gold catalysis deliver new complex products by a palladium-catalyzed coupling reaction. (see Scheme)

Cross-Coupling

A. S. K. Hashmi,* C. Lothschütz, R. Döpp, M. Rudolph, T. D. Ramamurthi, F. Rominger — 8243–8246

Gold and Palladium Combined for Cross-Coupling



Gold plated rings: *N*-Propargylcarboxamides (**1**) when reacted with a gold complex containing the IPr *N*-heterocyclic carbene ligand, delivers the first isolable

vinylgold intermediates obtained from alkynes. [see Scheme; IPr = 1,3-bis(2,6-diisopropylphenyl)imidazol-2-ylide]

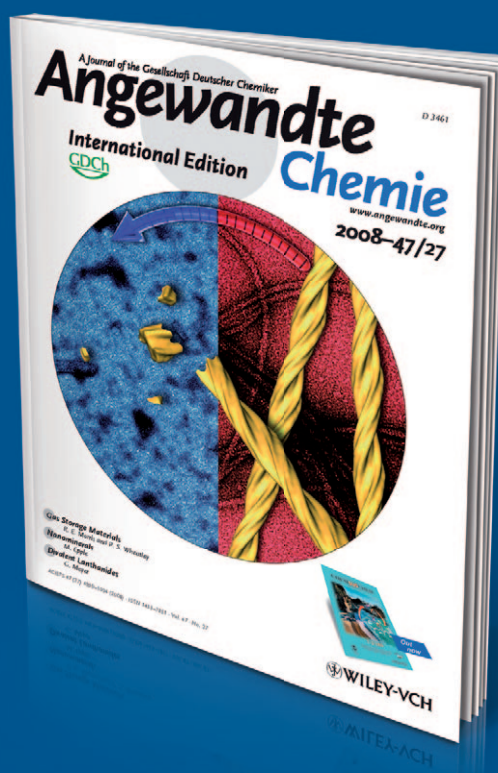
Gold Catalysis

A. S. K. Hashmi,* A. M. Schuster, F. Rominger — 8247–8249

Gold Catalysis: Isolation of Vinylgold Complexes Derived from Alkynes

Incredibly

++ALERT++ALERT++



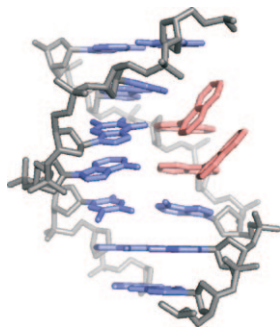
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 **WILEY-VCH**



A flexible hinge allows multiple binaphthyl-modified bases to stabilize DNA duplexes through both intrahelical and extrahelical stacking interactions. Two successive binaphthyl pairs stabilize the duplex structure as efficiently as two successive AT pairs. The stacking of these binaphthyl bases in DNA does not lead to self-quenching of fluorescence.

DNA Structures

S. Hainke, O. Seitz* — 8250–8253

Binaphthyl-DNA: Stacking and Fluorescence of a Nonplanar Aromatic Base Surrogate in DNA



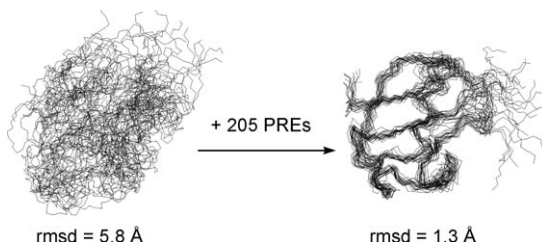
Two from one: It is possible to form two different, interpenetrating polymer structures—silicon dioxide and a phenolic resin—simultaneously in a single step without the formation of by-products by using a readily polymerizable, organic silicon spiro compound. This new polymerization process enables the fabrication of materials with domain sizes of 0.5 to 3 nm.



Polymer Nanostructures

S. Spange,* P. Kempe, A. Seifert, A. A. Auer, P. Ecorchard, H. Lang, M. Falke, M. Hietschold, A. Pohlers, W. Hoyer, G. Cox, E. Kockrick, S. Kaskel — 8254–8258

Nanocomposites with Structure Domains of 0.5 to 3 nm by Polymerization of Silicon Spiro Compounds



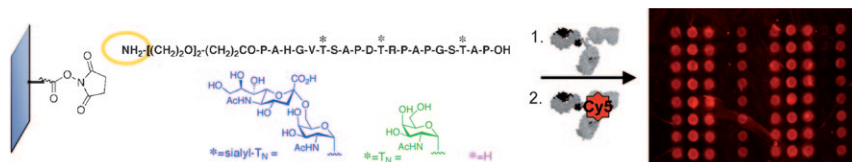
More information: Relaxation enhancements induced by an inert paramagnetic environment (PREs) are used together with a limited NOE data set in a model-free alternative protein structure refinement procedure. Structures of two model

systems (8 kDa ubiquitin and the 42 kDa maltodextrin-binding protein in complex with β -cyclodextrin) were obtained employing PREs and NOEs of exchangeable protons.

Protein Structures

T. Madl, W. Bermel, K. Zangger* — 8259–8262

Use of Relaxation Enhancements in a Paramagnetic Environment for the Structure Determination of Proteins Using NMR Spectroscopy



Sugar coated diagnosis: A microarray of mucin sialyl-T_N and T_N-tandem-repeat glycopeptides was developed (see pic-

ture) and used to study the specificity of serum antibodies raised by immunization of mice with synthetic cancer vaccines.

Microarrays

U. Westerlind, H. Schröder, A. Hobel, N. Gaidzik, A. Kaiser, C. M. Niemeyer, E. Schmitt, H. Waldmann,* H. Kunz* — 8263–8267

Tumor-Associated MUC1 Tandem-Repeat Glycopeptide Microarrays to Evaluate Serum- and Monoclonal-Antibody Specificity



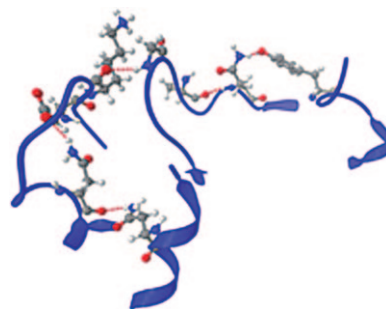
Directed Evolution

M. T. Reetz,* P. Soni, J. P. Acevedo,
J. Sanchis ————— 8268–8272



Creation of an Amino Acid Network of Structurally Coupled Residues in the Directed Evolution of a Thermostable Enzyme

Molecular orchestration: In the directed evolution of a hyperthermally stabilized enzyme, remote residues have been structurally coupled as a result of the creation of an extensive communicating amino acid network on the surface of the protein.

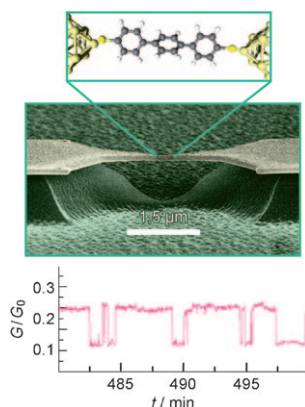


Molecular Electronics

D. Dulić, F. Pump, S. Campidelli, P. Lavie,
D. G. Cuniberti,
A. Filoramo* ————— 8273–8276



Controlled Stability of Molecular Junctions



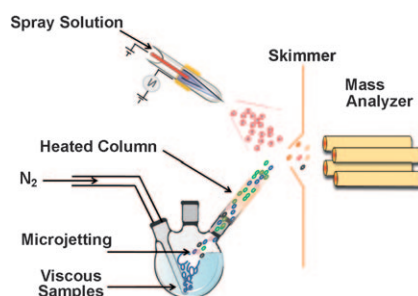
Influence of interfaces on thiol-terminated molecular wires consisting of three phenyl (P3) or three thiophene (T3) rings was monitored by a new statistical approach based on mechanical controllable break junction technique (see SEM image of the junction and schematic of molecular arrangement). The P3 molecule exhibits stochastic variations in conductance G , in contrast to the T3 molecule.

Mass Spectrometry

W. S. Law, H. Chen,* J. Ding, S. Yang,
L. Zhu, G. Gamez, K. Chingin, Y. Ren,
R. Zenobi* ————— 8277–8280



Rapid Characterization of Complex Viscous Liquids at the Molecular Level



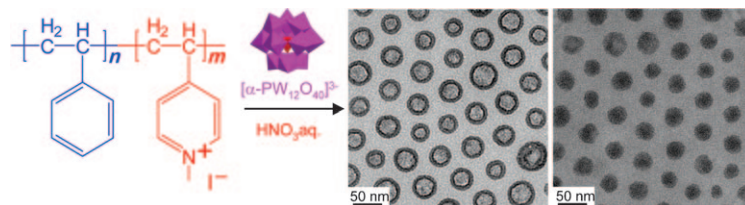
Sticky subject: An N_2 stream forms bubbles inside bulk viscous liquids, which create an aerosol sample through a microjetting mechanism (see picture). This aerosol is then analyzed by extractive electrospray ionization (EESI) mass spectrometry (MS). EESI-MS reveals the molecular composition of complex liquids and the kinetics of ongoing processes occurring in the highly viscous liquids without any sample pretreatment.

Morphology Control

W. Bu, S. Uchida,
N. Mizuno* ————— 8281–8284

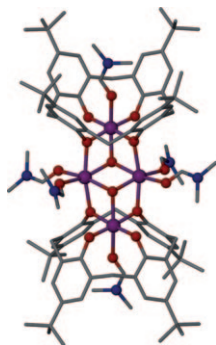


Micelles and Vesicles Formed by Polyoxometalate–Block Copolymer Composites



Core–corona composites were prepared by incorporating a hydrophilic polyoxometalate (POM) into poly(styrene-*b*-4-vinyl-*N*-methylpyridinium iodide) matrices in acidic aqueous solution (see

scheme). On dispersal in toluene they self-assemble into micellar and vesicular morphologies (see TEM images), which can be controlled by means of the weight fraction of POM.



Protective skin: Single-molecule magnets (SMMs) that are protected by two calix[4]arenes have been synthesized (see picture: Mn purple, O red, N blue, C gray). The calixarene allows supra-molecular isolation of the SMM, and alteration of its upper rim provides control over the orientation in the solid state by altering the distances between layers.

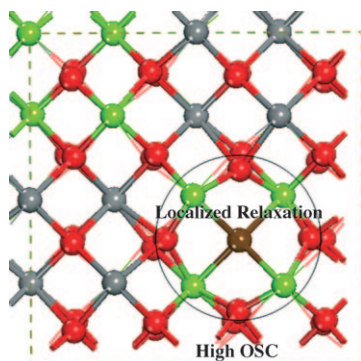
Magnetic Materials

G. Karotsis, S. J. Teat, W. Wernsdorfer, S. Piligkos, S. J. Dalgarno,*
E. K. Brechin* **8285 – 8288**

Calix[4]arene-Based Single-Molecule Magnets



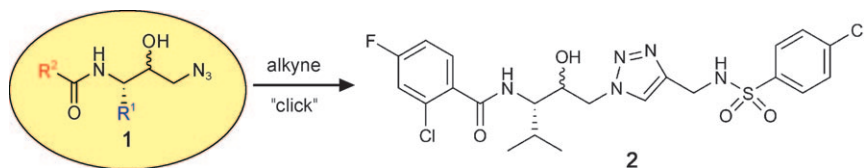
Pretty vacant: The excellent oxygen storage capacity (OSC) of κ -Ce₂Zr₂O₈ (see picture; Ce gray, Zr green, O red) is shown to be a result of its unique structural features; after removing oxygen atoms, the structural relaxation is local (vacancy shown in brown), and both the localized structural relaxation and the number of localized structural relaxations are maximized.



Heterogeneous Catalysis

H.-F. Wang, Y.-L. Guo, G.-Z. Lu,*
P. Hu* **8289 – 8292**

Maximizing the Localized Relaxation: The Origin of the Outstanding Oxygen Storage Capacity of κ -Ce₂Zr₂O₈



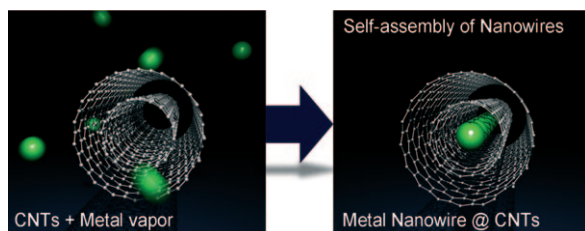
Profile and eliminate! Plasmepsins (PMs), aspartic proteases required for malaria-parasite growth, are promising antimalarial targets. The in situ screening of PMs with probes formed from β -hydroxyazides **1** and alkynes with a photo-cross-linking

unit and a tetraethylrhodamine reporter led to the identification of the small-molecule inhibitor **2**, which inhibits all four food-vacuole PMs and showed potent antimalarial activity in red-blood-cell cultures.

Malaria

K. Liu, H. Shi, H. Xiao, A. G. L. Chong, X. Bi, Y. T. Chang, K. S. W. Tan, R. Y. Yada, S. Q. Yao* **8293 – 8297**

Functional Profiling, Identification, and Inhibition of Plasmepsins in Intraerythrocytic Malaria Parasites



Filling the tube: Ultrathin metal nanowires with diameters of single atoms (ca. 1.7 nm) were synthesized in high yield by using a nanofilling reaction using the nanospace of carbon nanotubes (CNTs).

As the nanowires are protected by the wall of the CNTs, they resist oxidation and structural disintegration even under ambient conditions.

Carbon Nanotubes

R. Kitaura,* R. Nakanishi, T. Saito, H. Yoshikawa, K. Awaga, H. Shinohara* **8298 – 8302**

High-Yield Synthesis of Ultrathin Metal Nanowires in Carbon Nanotubes

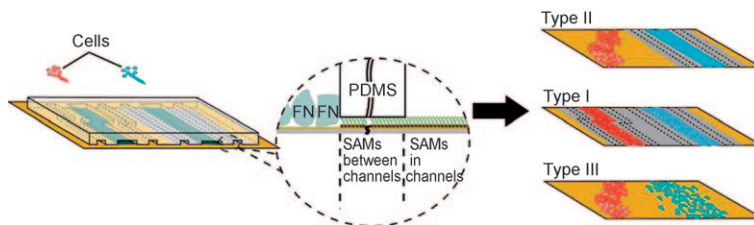


Cell Patterning

Z. Chen, Y. Li, W. Liu, D. Zhang, Y. Zhao,
B. Yuan, X. Jiang* — 8303–8305



Patterning Mammalian Cells for Modeling
Three Types of Naturally Occurring Cell–
Cell Interactions



Types of stripes: Microfluidic techniques are combined with surface chemistry to pattern multiple types of cells on the same substrate to simulate three types of naturally occurring cell–cell interactions.

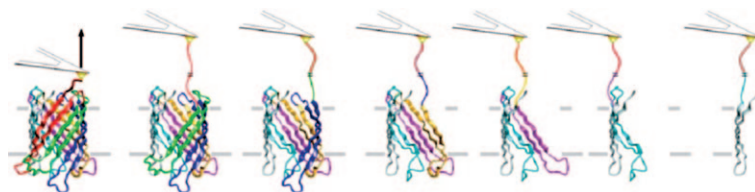
PDMS = poly(dimethylsiloxane) stamp, FN = fibronectin to promote cell adhesion, SAM = self-assembled monolayer of an applied alkanethiol that resists cell adhesion.

Membrane Proteins

K. T. Sapra, M. Damaghi, S. Köster,
Ö. Yildiz, W. Kühlbrandt,
D. J. Müller* — 8306–8308



One β Hairpin after the Other: Exploring
Mechanical Unfolding Pathways of the
Transmembrane β -Barrel Protein OmpG



Roll out the barrel: By using single-molecule force spectroscopy, a β -barrel-forming outer-membrane protein is unfolded for the first time. OmpG from *E. coli* shows a surprising unfolding

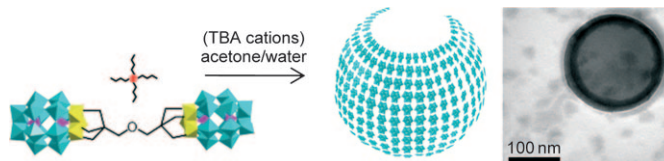
behavior: Single β strands do not unfold individually but as β hairpins. These β hairpins unfold one after another until the entire β -barrel membrane protein is unfolded (see structural representation).

Polyoxometalates

C. P. Pradeep, M. F. Misdrahi, F.-Y. Li,
J. Zhang, L. Xu,* D.-L. Long, T. Liu,*
L. Cronin* — 8309–8313



Synthesis of Modular “Inorganic–
Organic–Inorganic” Polyoxometalates
and Their Assembly into Vesicles



Connecting clusters: A new class of approximately 3.4 nm sized inorganic–organic–inorganic hybrids was synthesized by covalent functionalization of V_3 -capped Wells–Dawson-type clusters with linear bis(Tris) ligands (see scheme; TBA = nBu_4N^+). These hybrids were char-

acterized using single-crystal XRD and ESI-MS techniques. Dynamic light scattering studies revealed the surfactant properties of these compounds, which lead to the formation of supramolecular vesicles in solutions.

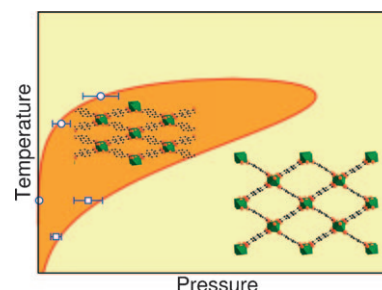
Metal–Organic Frameworks

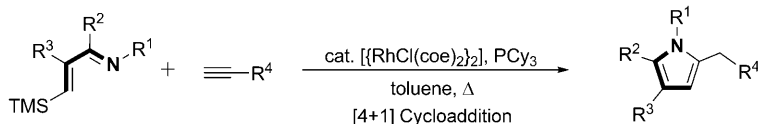
A. Boutin, M.-A. Springuel-Huet,
A. Nossov, A. Gédéon, T. Loiseau,
C. Volkringer, G. Férey, F.-X. Coudert,
A. H. Fuchs* — 8314–8317



Breathing Transitions in MIL-53(Al)
Metal–Organic Framework Upon Xenon
Adsorption

MOFs come alive: The combination of gas-adsorption experiments at various temperatures with an osmotic thermodynamic model produced a generic temperature–loading phase diagram that displays unexpected re-entrant behavior. The breathing effect in the metal–organic framework MIL-53(Al) is predicted to be general and should be observed over a limited temperature range regardless of the guest adsorbate.





Rhodium vinylidene intermediates are characteristic for the title reaction (see scheme; coe = cyclooctene, cy = cyclohexyl). This reaction proceeds by the nucleophilic addition of the nitrogen atom

of the imine to the rhodium vinylidene complex to give a zwitterionic intermediate, which undergoes intramolecular cyclization to afford the corresponding pyrrole.

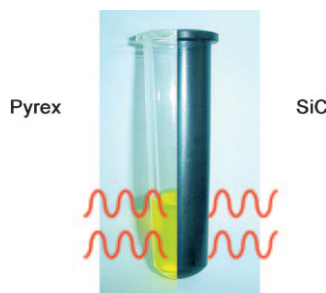
Cycloaddition Reactions

A. Mizuno, H. Kusama,
N. Iwasawa* 8318–8320

Rhodium(I)-Catalyzed [4+1] Cycloaddition Reactions of α,β -Unsaturated Imines with Terminal Alkynes for the Preparation of Pyrrole Derivatives



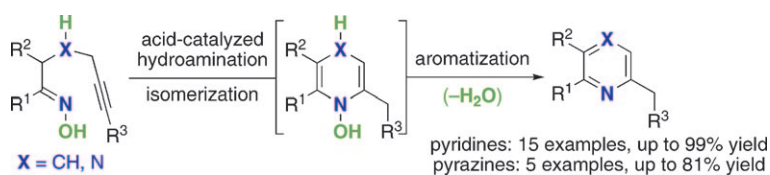
Running oil-bath chemistry in a microwave! Using reaction vials made out of strongly microwave-absorbing silicon carbide (SiC) in a microwave reactor simulates experiments conducted in an autoclave with conductive heating because of the efficient shielding of the electromagnetic field by the SiC vial. This technology makes it possible to study the significance of microwave effects.



Microwave Effects

D. Obermayer, B. Gutmann,
C. O. Kappe* 8321–8324

Microwave Chemistry in Silicon Carbide Reaction Vials: Separating Thermal from Nonthermal Effects



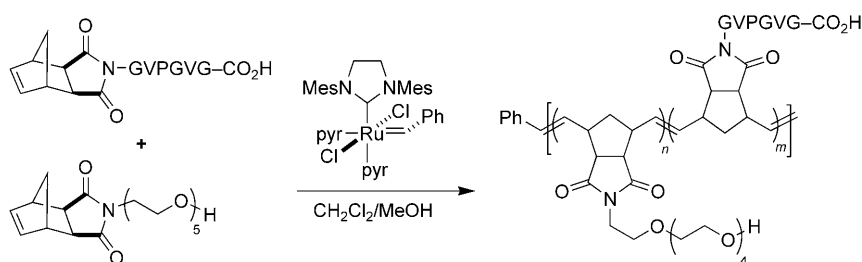
A management issue! Various pyridines and pyrazines can be efficiently accessed from simple acyclic precursors using an intramolecular hydroamination/isomerization/aromatization sequence (see

scheme). *p*-Toluenesulfonic acid (2 mol %) is used to catalyze this novel alkyne annulation, in which the oxime group allows for a subsequent redox-neutral aromatization step to occur.

Hydroamination

T. Rizk, E. J.-F. Bilodeau,
A. M. Beauchemin* 8325–8327

Synthesis of Pyridines and Pyrazines Using an Intramolecular Hydroamination-Based Reaction Sequence



Live on: Random copolymers made by living ring-opening metathesis polymerization of norbornene monomers containing either the elastin peptide sequence -(VPGVG)- or pentaethylene glycol (see

scheme; Mes = mesityl, pyr = pyridine) exhibit a lower critical solution temperature (LCST). The LCST can be easily modified by varying the ratio of the co-monomers in the polymer feed.

Ring-Opening Polymerization

R. M. Conrad,
R. H. Grubbs* 8328–8330

Tunable, Temperature-Responsive Polynorbornenes with Side Chains Based on an Elastin Peptide Sequence

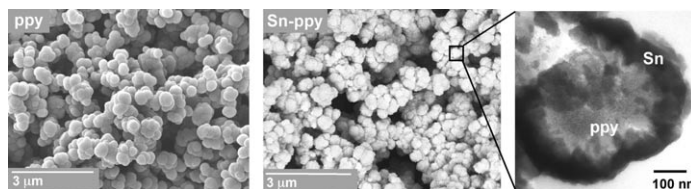


Conducting Polymers

Y. Jung, N. Singh,
K.-S. Choi* — 8331–8334



Cathodic Deposition of Polypyrrole
Enabling the One-Step Assembly of
Metal–Polymer Hybrid Electrodes



Deposit account: The generation of oxidizing agents in situ allows the cathodic deposition of polypyrrole (ppy) by oxidative polymerization. Conducting polymers are synthesized with new nanoscale mor-

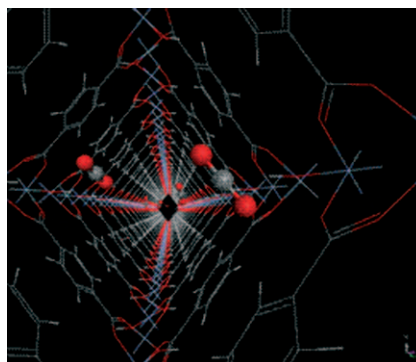
phologies (e.g., nanospheres creating a three-dimensional porous network, see picture). Metal–conducting polymer hybrid electrodes are assembled by a one-step synthesis.

Gas Diffusion

F. Salles, H. Jobic,* A. Ghoufi,
P. L. Llewellyn, C. Serre, S. Bourrelly,
G. Férey, G. Maurin* — 8335–8339



Transport Diffusivity of CO₂ in the Highly
Flexible Metal–Organic Framework MIL-
53(Cr)

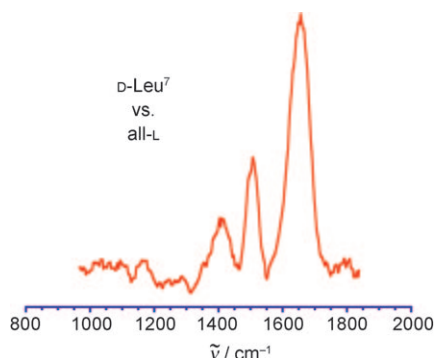


The diffusion mechanism of CO₂ in the highly flexible metal–organic framework MIL-53(Cr) (see picture), which undergoes a structural transition between large- and narrow-pore forms, was explored by a combination of quasi-elastic neutron scattering measurements and molecular dynamics simulations. Normal one-dimensional diffusion in the large-pore form and single-file one-dimensional diffusion in the narrow-pore form were evidenced.

IR Spectroscopy

Y. M. E. Fung, T. Besson, J. Lemaire,
P. Maitre, R. A. Zubarev* — 8340–8342

Room-Temperature Infrared Spectroscopy
Combined with Mass Spectrometry
Distinguishes Gas-Phase Protein Isomers

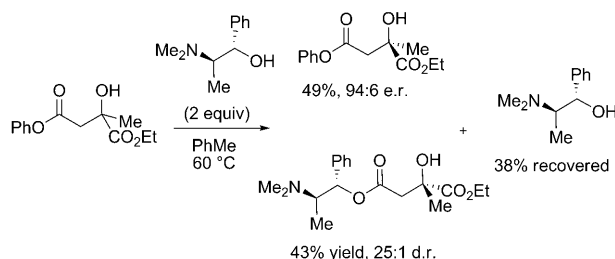


Differential IR spectra of gas-phase proteins at room temperature can be obtained by a combination of IR multi-photon dissociation (IRMPD) and FT ion cyclotron resonance mass spectrometry. This new approach yields unique spectra for all-L and singly D-substituted isomers of the protein Trp-cage (see depicted differential spectrum) and thus avoids possible unfolding of proteins during IR irradiation that can affect conventional IRMPD measurements.

Kinetic Resolution

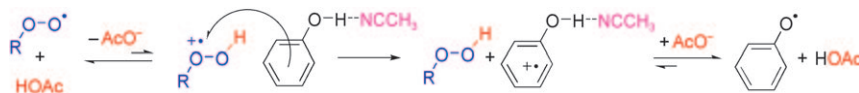
D. J. Schipper, S. Rousseaux,
K. Fagnou* — 8343–8347

Kinetic Resolution of Quaternary and
Tertiary β-Hydroxy Esters



Selectivity factors: The resolution of tertiary and secondary alcohols, which arise from ketone and aldehyde aldol additions, proceeds in the presence of (1*S*,2*R*)-*N*-

methylephedrine (see example). The method is technically simple, easily scalable, and provides tertiary and secondary alcohols in high enantiomeric ratios.



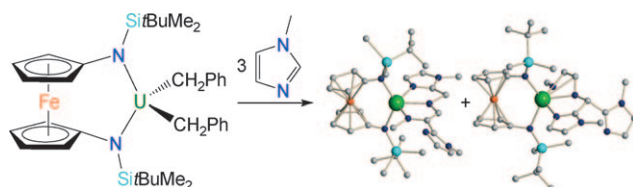
Weak organic acids in millimolar concentrations increase the reactivity of peroxyl radicals with common phenolic antioxidants dramatically. This counterintuitive phenomenon relies on a substantially different reaction mechanism from that in

the absence of an acid: rate-determining electron transfer occurs from the hydrogen-bonded phenol to the hydroperoxide cation radical present in equilibrium with the peroxyl radical under these conditions (see scheme).

Radical Reactions

L. Valgimigli,* R. Amorati, S. Petrucci, G. F. Pedulli, D. Hu, J. J. Hanthorn, D. A. Pratt* **8348–8351**

Unexpected Acid Catalysis in Reactions of Peroxyl Radicals with Phenols



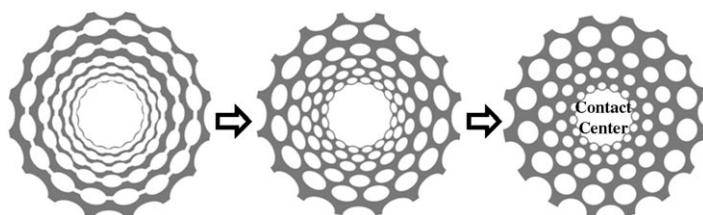
A neutral uranium dibenzyl complex mediated the C–H activation of two aromatic N heterocycles, followed by a cascade of reactions which led to the opening and functionalization of imidazole rings (see scheme). This double C–H

activation and the sequence of transformations succeeding it are unique to uranium and point to the use of this element for the cleavage of other strong carbon–heteroatom bonds.

Heterocyclic-Ring Opening

M. J. Monreal, S. Khan, P. L. Diaconescu* **8352–8355**

Beyond C–H Activation with Uranium: A Cascade of Reactions Mediated by a Uranium Dialkyl Complex



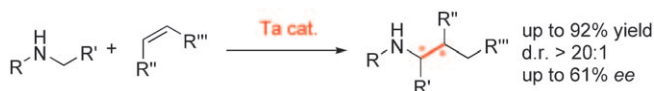
Polymer coffee rings: Evaporation of diblock copolymer solutions confined in a sphere-on-flat geometry yields concentric serpentine microstructures over large areas (see picture, left). Selective solvent vapor annealing then transforms these

microstructures into a macroscopic pattern of regularly arranged microporous mesh arrays (see picture, right) while at the same time forming domains of nanoscopic cylinders of diblock copolymer.

Hierarchically Ordered Structures

S. W. Hong, J. Wang, Z. Lin* **8356–8360**

Evolution of Ordered Block Copolymer Serpentine into a Macroscopic, Hierarchically Ordered Web



Tantalizing reactivity: New mono- and bis(amidate)–tantalum complexes have been prepared, characterized, and used for the catalytic α -alkylation of secondary amines (see scheme). Spontaneous β -

hydrogen abstraction is observed to give a fully characterized example of the first catalytically active tantalumaziridine complex.

Amine Synthesis

P. Eisenberger, R. O. Ayinla, J. M. P. Lauzon, L. L. Schafer* **8361–8365**

Tantalum–Amidate Complexes for the Hydroaminoalkylation of Secondary Amines: Enhanced Substrate Scope and Enantioselective Chiral Amine Synthesis

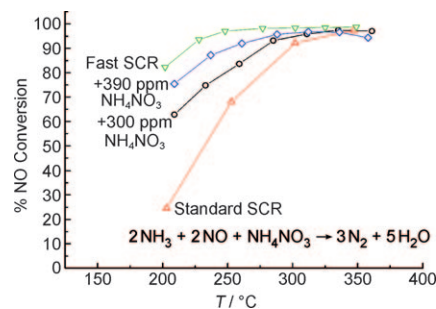


Exhaust Control

P. Forzatti, I. Nova,
E. Tronconi* 8366–8368

Enhanced NH_3 Selective Catalytic
Reduction for NO_x Abatement

Enhanced NO reduction efficiencies, close to those obtained under the conditions of fast selective catalytic reduction (SCR; see diagram), were achieved over commercial vanadium and iron-exchanged zeolite SCR catalysts at low temperatures (200–300 °C) in the absence of NO_2 by reaction of NO with ammonia and an aqueous solution of ammonium nitrate.

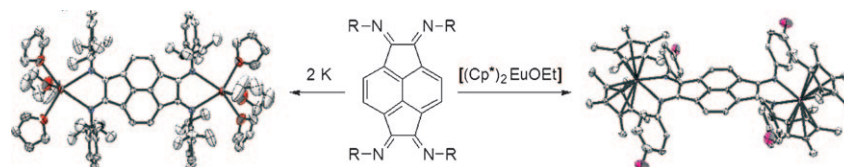


Conjugated Ligands

K. V. Vasudevan, I. Vargas-Baca,
A. H. Cowley* 8369–8371



Naphthalene-Mediated Electronic
Communication in Tetrakis(imino)-
pyracene Complexes



A hot tip: Bifunctional tetrakis-(imino)pyracene (tip) ligands undergo one-electron reduction at both diimine functionalities when treated with potassium metal, germanium dichloride, or

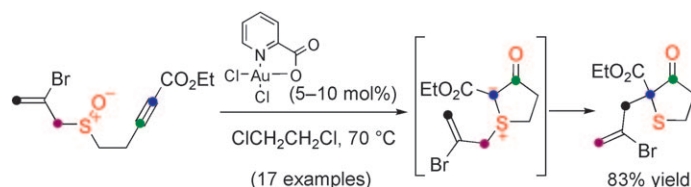
decamethyleuropocene (see scheme, $\text{Cp}^* = \text{C}_5\text{Me}_5$). The transferred electrons pair up in an orbital that is delocalized over both diazabutadiene moieties and the naphthalene bridge.

Synthetic Methods

P. W. Davies,*
S. J.-C. Albrecht 8372–8375



Gold- or Platinum-Catalyzed Synthesis of
Sulfur Heterocycles: Access to Sulfur
Ylides without Using Sacrificial
Functionality



It's no sacrifice: Alkynes have been used as direct precursors to sulfur ylides under gold or platinum π -acid catalysis in an atom-economic manner. An intramolecular redox reaction between an alkyne group with a tethered sulfoxide unit gen-

erates a sulfur ylide, which undergoes 2,3-sigmatropic rearrangement. Acyclic substrates are cycloisomerized to afford functionalized dihydrothiophenones (see scheme) and dihydrothiopyranones.



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Corrigendum

One important reference about the Michael addition of 1,3-dicarbonyl compound to nitroolefins was omitted in this Communication. This excellent work by Prof. Deng Li and his group should be included as reference [3d]. In addition, “and references therein.” should be added in reference [4c]. The full references appear below.

- [3] a) *Asymmetric Organocatalysis* (Eds.: A. Berkessel, H. Gröger), Wiley-VCH, Weinheim, **2005**; b) S. Shirakawa, S. Kobayashi, *Synlett* **2006**, 1410–1412; c) Z. H. Zhang, X. Q. Dong, D. Chen, C. J. Wang, *Chem. Eur. J.* **2008**, *14*, 8780–8783; d) H. M. Li, Y. Wang, L. Tang, F. H. Wu, X. F. Liu, C. Y. Guo, B. M. Foxman, L. Deng, *Angew. Chem.* **2005**, *117*, 107–110; *Angew. Chem. Int. Ed.* **2005**, *44*, 105–108.
- [4] For recent reviews of asymmetric Michael additions, see: a) S. B. Tsogoeva, *Eur. J. Org. Chem.* **2007**, 1701–1716; b) J. Christoffers, A. Baro, *Angew. Chem.* **2003**, *115*, 1726–1728; *Angew. Chem. Int. Ed.* **2003**, *42*, 1688–1690; c) D. Almaši, D. A. Alonso, C. Nájera, *Tetrahedron: Asymmetry* **2007**, *18*, 299–365, and references therein.

Bifunctional Guanidine via an Amino Amide Skeleton for Asymmetric Michael Reactions of β -Ketoesters with Nitroolefins: A Concise Synthesis of Bicyclic β -Amino Acids

Z. P. Yu, X. H. Liu, L. Zhou, L. L. Lin, X. M. Feng* ————— **5195–5198**

Angew. Chem. Int. Ed. **2009**, *48*

DOI 10.1002/anie.200901337

Apology

At roughly the same time, the authors of this Communication independently submitted a manuscript to Nature Chemistry,^[1] in which the method presented here was applied to oligolysine peptides. The authors forgot to mention this publication and would like to apologize for their mistake.

- [1] D. P. Weimann, H. D. F. Winkler, J. A. Falenski, B. Kokschi, C. A. Schalley, *Nat. Chem.* **2009**, *1*, 573–577.

Dynamic Motion in Crown Ether Dendrimer Complexes: A “Spacewalk” on the Molecular Scale

H. D. F. Winkler, D. P. Weimann, A. Springer, C. A. Schalley* — **7246–7250**

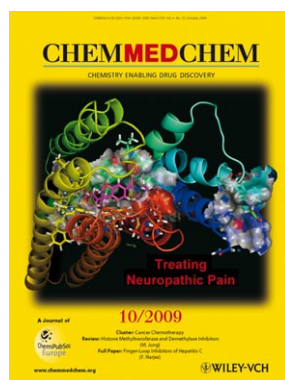
Angew. Chem. Int. Ed. **2009**, *48*

DOI 10.1002/anie.200902437

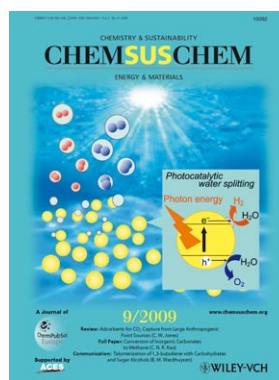
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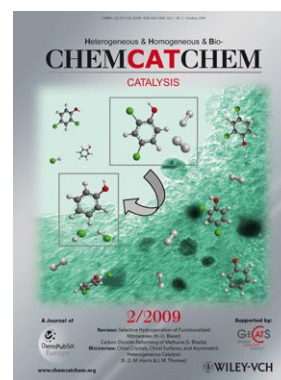
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