



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:

Q. Wan, S. J. Danishefsky*

Free-Radical-Based, Specific Desulfurization of Cysteine: A Powerful Advance in the Synthesis of Polypeptides and Glycopolypeptides

V. J. Sussman, J. E. Ellis*

From Storable Sources of Atomic Nb⁻ and Ta⁻ to Isolable Anionic Tris(1,3-butadiene)metal Complexes: [M(η⁴-C₄H₆)₃]⁻ (M=Nb, Ta)

S. Constant, S. Tortoioli, J. Müller, D. Linder, F. Buron, J. Lacour*
Air- and Microwave-Stable CpRu Catalysts for Improved Regio- and Enantioselective Carroll Rearrangements

A. M. Beale, S. D. M. Jacques, J. A. Bergwerff, P. Barnes, B. M. Weckhuysen*

Tomographic Energy Dispersive Diffraction Imaging as a Tool To Profile in Three Dimensions the Distribution and Composition of Metal Oxide Species in Catalyst Bodies

D. S. Reddy, N. Shibata,* J. Nagai, S. Nakamura, T. Toru,* S. Kanemasa

Desymmetrization-like Catalytic Enantioselective Fluorination of Malonates and Its Application to Pharmaceutically Attractive Molecules

M. D. Pluth, R. G. Bergman,* K. N. Raymond*
Catalytic Deprotection of Acetals in Basic Solution Using a Self-Assembled Supramolecular "Nanozyme"

The Pauling Catalogue

Chris Petersen, Cliff Mead

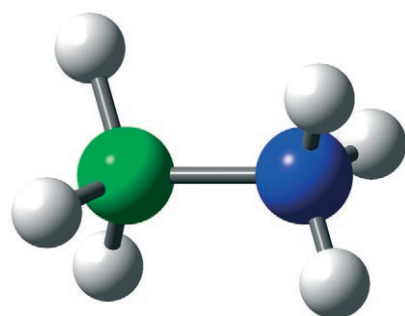
Books

reviewed by G. B. Kauffman — 8112

Plant Secondary Metabolites

Alan Crozier, Mike N. Clifford, Hiroshi Ashihara

reviewed by W. Steglich — 8113



The B all and N all? Ammonia-borane (AB, H₃NBH₃) contains 19.6 weight% H, and is one of the materials currently being examined as a possible H₂ source for use in fuel cells to power automobiles. Challenges for this technology are noted, and recent advances, especially in the development of both transition-metal and acid catalysts which promote H₂ release from AB under mild conditions, are highlighted.

Highlights

Hydrogen Storage

T. B. Marder* — 8116–8118

Will We Soon Be Fueling our Automobiles with Ammonia-Borane?

A multipurpose component: Owing to their size and unique properties, fullerenes, and especially C₆₀, have found applications in molecular machines, for example, as stoppers in rotaxanes. C₆₀ has been introduced in molecular shuttles as an electro- and photoactive stopper that is able to induce and modulate shuttling through π-π interactions.



Minireviews

Molecular Machines

A. Mateo-Alonso,* D. M. Guldi,* F. Paolucci,* M. Prato* — 8120–8126

Fullerenes: Multitask Components in Molecular Machinery

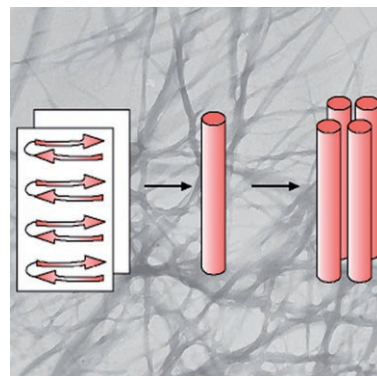
Reviews

Fibrillization

I. W. Hamley* — 8128–8147

Peptide Fibrillization

An important factor in many diseases based on the deposition of amyloids is the fibrillization of peptides. Furthermore, fibril formation also promises applications in bionanotechnology: fibrillar peptide hydrogels can be made for cell scaffolds and as substrates for functional and responsive biomaterials, biosensors, and nanowires. The mechanisms and kinetics of fibril formation are discussed.



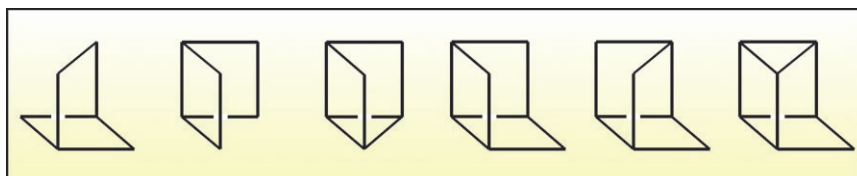
Communications

Aqueous Silicates

C. T. G. Knight, R. J. Balec,
S. D. Kinrade* — 8148–8152



The Structure of Silicate Anions in Aqueous Alkaline Solutions



Molecular hieroglyphics: ^{29}Si COSY NMR spectroscopy reveals the fascinating and beautiful array of aqueous silicate anions that exist in dynamic equilibrium under

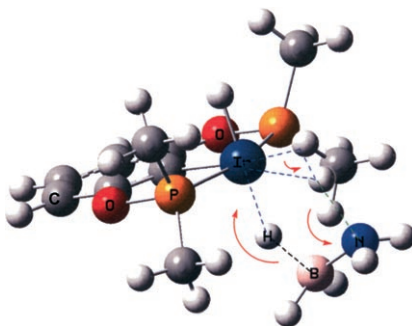
alkaline conditions. Six of the most abundant oligomers are shown above, with each line representing a Si-O-Si siloxane linkage.

Hydrogen-Release Mechanisms

A. Paul,* C. B. Musgrave* — 8153–8156



Catalyzed Dehydrogenation of Ammonia-Borane by Iridium Dihydrogen Pincer Complex Differs from Ethane Dehydrogenation



Not a bit like his brother: DFT studies show that ammonia-borane dehydrogenations by iridium pincer complexes occur by concerted hydride and proton transfer from ammonia-borane to the catalyst, not through B-H activation and subsequent β -hydride elimination from the nitrogen end, as had been suggested. Such a concerted dehydrogenation pathway does not exist for ethane, which is isoelectronic with ammonia-borane.

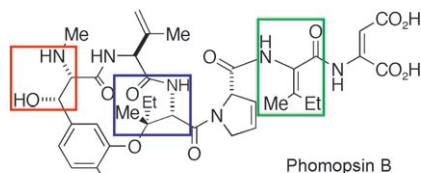
For the USA and Canada:

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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.

Proven approach to a family of antimicrobials: The total synthesis of phomopsin B, an antimicrobial natural product, was achieved by assembling two fragments of equal complexity in a longest linear sequence of 26 steps. The approach features two catalytic transformations that set multiple stereocenters in single steps (red and blue boxes) and a general strategy for the preparation of dehydrated amino acids (green box).



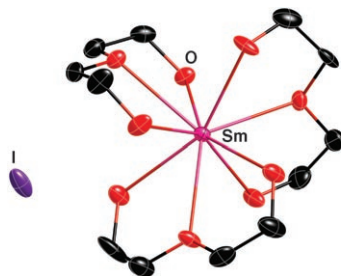
Natural Product Synthesis

J. S. Grimley, A. M. Sawayama, H. Tanaka, M. M. Stohlmeyer, T. F. Woiwode, T. J. Wandless* — 8157–8159

The Enantioselective Synthesis of Phomopsin B



Three's a crowd: Initial coordination of diethylene glycol to SmI_2 liberates THF or iodide, thus providing open coordination sites for substrates and enhancing reactivity. Concentrations of diethylene glycol that lead to coordinative saturation of SmI_2 (see structure) reduce its reactivity. Replacement of a hydroxy proton with a methyl group decreases the affinity of the chelate for SmI_2 , resulting in a decrease in the reactivity of the complex.



Reaction Mechanisms

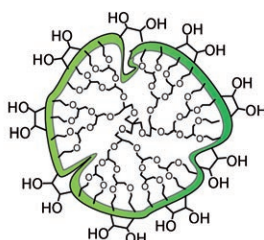
J. A. Teprovich, Jr., M. N. Balili, T. Pintauer, R. A. Flowers, II* — 8160–8163

Mechanistic Studies of Proton-Donor Coordination to Samarium Diiodide



glycerol dendrimer
or
hyperbranched polymer

1) RCM
2) OsO_4



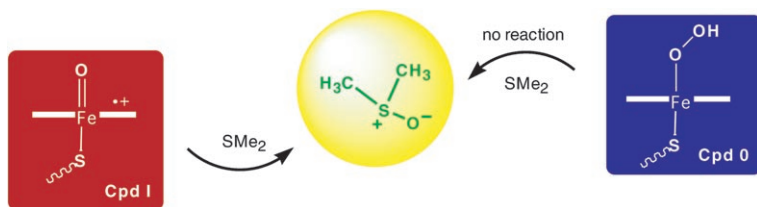
Like a big crown (ether): Cross-linked glycerol-based nanoparticles have been synthesized by ring-closing metathesis (RCM) of polyallyl glycerol dendrimers or

hyperbranched polymers (see scheme). In organic solvents, the polyether nanoparticles show modest ionophoric abilities.

Organic Nanoparticles

S. C. Zimmerman,* J. R. Quinn, E. Burakowska, R. Haag* — 8164–8167

Cross-Linked Glycerol Dendrimers and Hyperbranched Polymers as Ionophoric, Organic Nanoparticles Soluble in Water and Organic Solvents



Clarifying a conundrum: The question of whether Compound I or Compound 0 (Cpd I or Cpd 0) is the reactive oxidant in the sulfoxidation of thiafatty acids by P450 is addressed by theory, which demon-

strates that Cpd I leads to an extremely fast process, while Cpd 0 is at least six orders of magnitude slower. Most likely, thiafatty acids promote Cpd I formation even in the T→A mutant of P450_{BM3}.

P450 Sulfoxidation

C. Li, L. Zhang, C. Zhang, H. Hirao, W. Wu,* S. Shaik* — 8168–8170

Which Oxidant Is Really Responsible for Sulfur Oxidation by Cytochrome P450?



Incredibly *inexpensive!*



Do chemistry journals really cost so much? Perhaps some do, but certainly not *Angewandte Chemie*! In 2006, an entire institution could subscribe through Wiley InterScience for about 4000 Euro and get access to 48 issues with over 1600 articles and all associated online search options, and for just 10% more, the printed issues could be included as well. For full members of the German Chemical Society (GDCh), a personal subscription cost not even 300 Euro, and student GDCh members paid less than 140 Euro, which is just under 3 Euro per issue – a price that even compares with high-circulation newsstand publications!

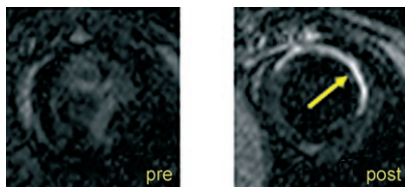


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A cyclic peptide specific for type I collagen is derivatized with three {Gd(dtpa)} moieties to create a molecular MRI contrast agent for fibrosis imaging. In a mouse model of myocardial infarction (heart attack), collagen levels are elevated in the infarct zone. MRI after injection of the contrast agent selectively enhances and delineates the infarct zone (see preinjection and postinjection images); dtpa = diethylenetriaminepentaacetate.

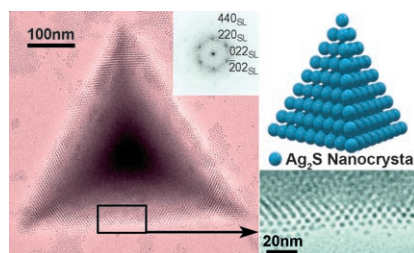
Contrast Agents

P. Caravan,* B. Das, S. Dumas, F. H. Epstein, P. A. Helm, V. Jacques, S. Koerner, A. Kolodziej, L. Shen, W.-C. Sun, Z. Zhang — 8171–8173

Collagen-Targeted MRI Contrast Agent for Molecular Imaging of Fibrosis



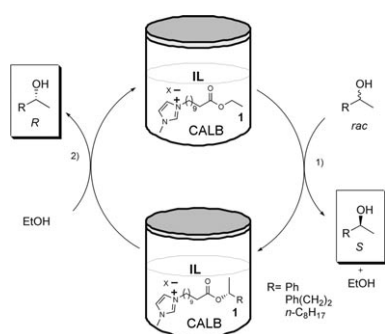
Perfectly faceted tetrahedral 3D superlattice crystals, which are built up of 3.5-nm Ag_2S crystals, have been directly prepared through a simple one-step, two-phase reaction. The as-prepared nanocrystals assemble at the interface of water and dodecanethiol phases to form superlattice films, then break into triangular flakes, and finally stack to form tetrahedra; inset of TEM image: fast Fourier transform pattern of the superlattice (SL).



Nanostructures

Z. Zhuang, Q. Peng,* X. Wang, Y. Li* — 8174–8177

Tetrahedral Colloidal Crystals of Ag_2S Nanocrystals

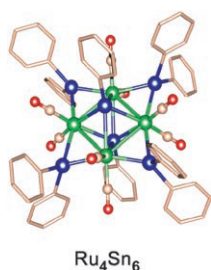


Going their different ways: A simple, robust, efficient, and reusable system for the one-pot preparative resolution and separation of *sec*-alcohols is described. The system is based on the combination of sequential enzymatic kinetic resolution (lipase B from *Candida Antarctica*, CALB) and transesterification in ionic liquids (ILs) with an ionic acylating agent **1** and removal of each enantiomer by extraction with an organic solvent.

Biocatalysis

N. M. T. Lourenço, C. A. M. Afonso* — 8178–8181

One-Pot Enzymatic Resolution and Separation of *sec*-Alcohols Based on Ionic Acylating Agents



Tin(n)y catalysts: Bimetallic RuSn supported nanoparticle catalysts (see picture; Ru green, Sn blue, O red), prepared from the carbonyl-cluster precursors $[\text{Ru}_4(\mu_4\text{-SnPh}_2)(\mu\text{-SnPh}_2)_{4-x}(\text{CO})_{12-x}]$ ($x = 0, 2, 3, 4$) are shown to be active catalysts for the highly selective hydrogenation of 1,5,9-cyclododecatriene to cyclododecene under mild conditions.

Heterogeneous Hydrogenation

R. D. Adams,* E. M. Boswell, B. Captain, A. B. Hungria, P. A. Midgley, R. Raja,* J. M. Thomas* — 8182–8185

Bimetallic Ru-Sn Nanoparticle Catalysts for the Solvent-Free Selective Hydrogenation of 1,5,9-Cyclododecatriene to Cyclododecene



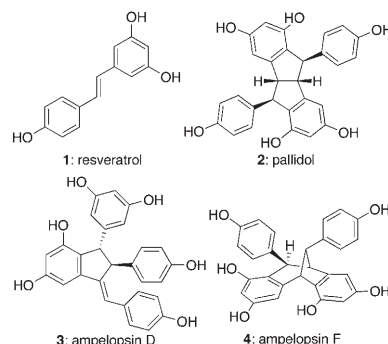
Natural Products

S. A. Snyder,* A. L. Zografos,
Y. Lin _____ **8186–8191**



Total Synthesis of Resveratrol-Based
Natural Products: A Chemoselective
Solution

Despite the attention paid to resveratrol (**1**) owing to its potent biological activity, little effort has been devoted to studying resveratrol-based oligomers (such as **2–4**). The first general synthetic approach is outlined for accessing the carbogenic diversity possessed by this family of compounds.



Silylene Chemistry

M. Ochiai, H. Hashimoto,*
H. Tobita* _____ **8192–8194**



Synthesis and Structure of a
Hydrido(hydrosilylene)ruthenium
Complex and Its Reactions with Nitriles



Ring around the Ru=Si: Abstraction of a pyridine ligand with BPh₃ was used to synthesize the silylene complex **1** (see scheme), which reacts with nitriles at room temperature to give silylisocyanide

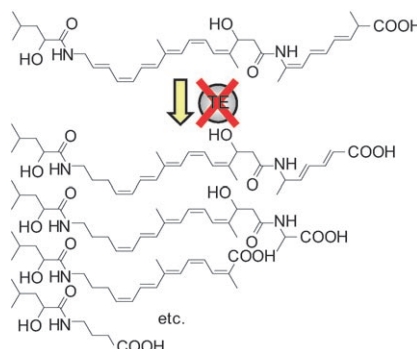
complex **3** by C–C bond activation. The structure of key intermediate **2** with an η²-Si–H agostic interaction is given along with mechanisms for the formation of **2** and **3**.

Polyketide Biosynthesis

J. Moldenhauer, X.-H. Chen, R. Borriss,
J. Piel* _____ **8195–8197**



Biosynthesis of the Antibiotic Bacillaene,
the Product of a Giant Polyketide Synthase
Complex of the *trans*-AT Family



Molecular traffic jam: The engineering of a bacillaene polyketide synthase deficient in thioesterase (TE) has led to the production of 13 hydrolyzed biosynthetic intermediates (see picture). This unexpected effect provides detailed insights into almost the entire bacillaene pathway and related poorly characterized polyketide routes.

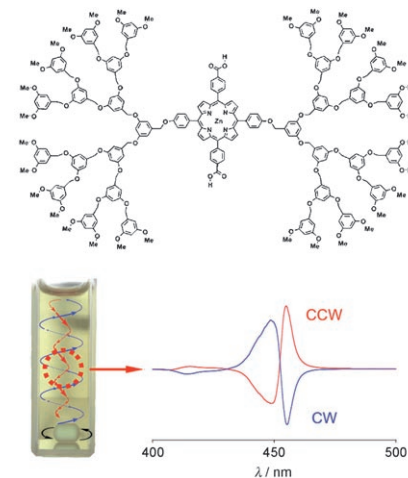
Macroscopic Chirality

A. Tsuda,* M. A. Alam, T. Harada,
T. Yamaguchi, N. Ishii,
T. Aida* _____ **8198–8202**

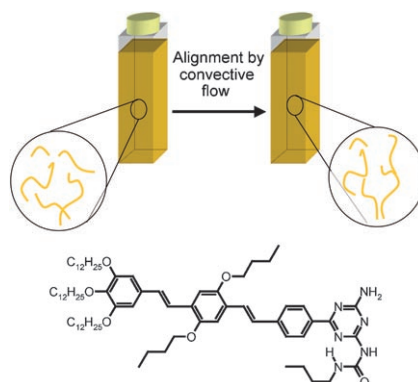


Spectroscopic Visualization of Vortex
Flows Using Dye-Containing Nanofibers

Which way around? A J-aggregated zinc porphyrin dendrimer can be used to detect the macroscopic chirality of a vortex. The sign of the circular dichroism response changes quickly upon switching from clockwise (CW) to counterclockwise (CCW) stirring (see picture). The observed chiroptical activity most likely arises from a macroscopic helical alignment of nanofibers formed from the polymeric J-aggregate.



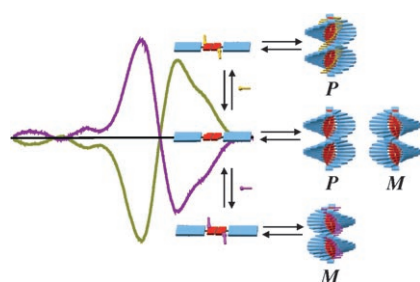
All lined up: Supramolecular assemblies are aligned by a convective flow in clear, nonviscous dilute solutions (see picture). The linear dichroism created by the alignment results in artifacts in circular dichroism measurements, the origins of which are explained.



Supramolecular Chemistry

M. Wolffs, S. J. George, Ž. Tomović,
S. C. J. Meskers,* A. P. H. J. Schenning,*
E. W. Meijer* ————— **8203–8205**

Macroscopic Origin of Circular Dichroism Effects by Alignment of Self-Assembled Fibers in Solution

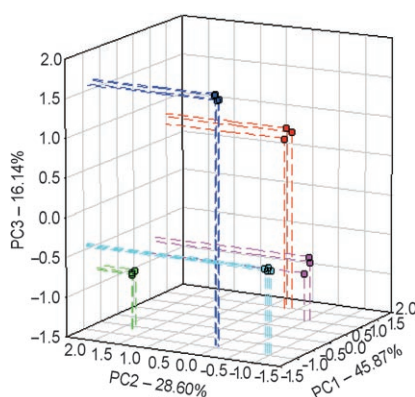


Regulating the twist: Tunable supramolecular chirality is induced in an achiral helical self-assembly (*P*, *M*; see picture) by hydrogen-bonded chiral guest molecules (yellow and purple rods). Chiroptical probing of the π -conjugated chromophore reveals the mechanistic pathways of chiral induction. “Majority rules” and “sergeant and soldiers” experiments give insight into the chiral amplification in the stacks.

Supramolecular Chirality

S. J. George, Ž. Tomović,
M. M. J. Smulders, T. F. A. de Greef,
P. E. L. G. Leclère, E. W. Meijer,*
A. P. H. J. Schenning* ————— **8206–8211**

Helicity Induction and Amplification in an Oligo(*p*-phenylenevinylene) Assembly through Hydrogen-Bonded Chiral Acids

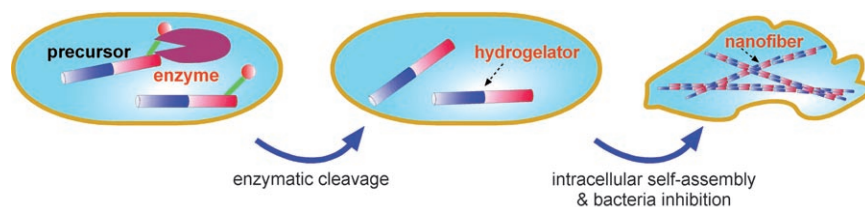


Patterning pain: Six strong-binding receptors for the decapeptide tachykinin neurotransmitter α -neurokinin were identified by screening a solid-supported library. Solution-phase studies with these six receptors metalated with three different metal salts in a 96-well plate array followed by principal component analysis showed the array’s ability to recognize and discriminate substance P and α -neurokinin, as well as three similar peptides.

Supramolecular Chemistry

A. T. Wright, N. Y. Edwards, E. V. Anslyn,*
J. T. McDevitt* ————— **8212–8215**

The Discriminatory Power of Differential Receptor Arrays Is Improved by Prescreening—A Demonstration in the Analysis of Tachykinins and Similar Peptides



Control from within: Supramolecular hydrogelation to form nanostructures intracellularly (see picture) has been developed as a new methodology to control the fate of cells. Enzyme-regulated self-assembly of small molecules inside

cells could lead to a new paradigm for managing cellular processes, understanding cellular functions, and developing new therapeutics through supramolecular chemistry.

Bacterial Inhibition

Z. Yang, G. Liang, Z. Guo, Z. Guo,
B. Xu* ————— **8216–8219**

Intracellular Hydrogelation of Small Molecules Inhibits Bacterial Growth

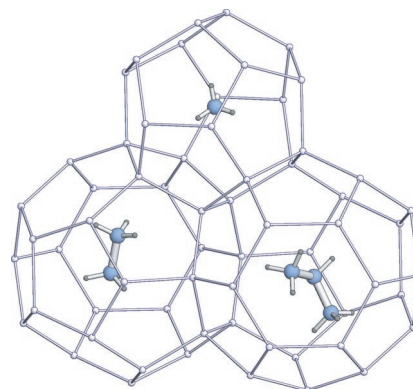


Gas Hydrates

K. A. Udachin, H. Lu, G. D. Enright,
C. I. Ratcliffe, J. A. Ripmeester,*
N. R. Chapman, M. Riedel,
G. Spence ————— **8220–8222**

Single Crystals of Naturally Occurring Gas Hydrates: The Structures of Methane and Mixed Hydrocarbon Hydrates

Samples from the bottom of the sea were used in the exact determination of the crystals structures of naturally occurring hydrocarbon hydrates. The hydrates of methane, ethane, and propane had a cubic structure II with hexakaidecahedral and pentagonal dodecahedral cages occupied by the guest molecules (see picture; C blue, H gray, O white).



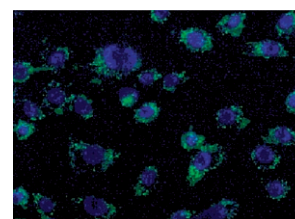
Imaging Agents

J. H. Moon,* W. McDaniel, P. MacLean,
L. F. Hancock ————— **8223–8225**



Live-Cell-Permeable Poly(*p*-phenylene ethynylene)

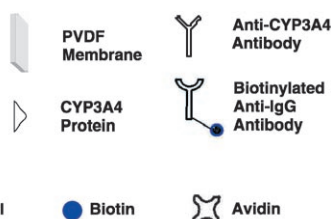
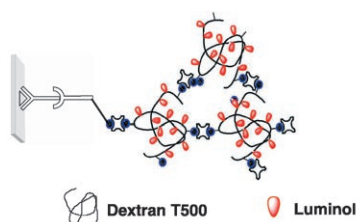
Light up my life: Stable, bright, conjugated-polymer nanoparticles (CPNs) show promise for fluorescence imaging of live cells. The cell-permeable CPNs are synthesized by a simple solvent exchange, and accumulate exclusively in the cytosol (see picture) without any noticeable inhibition of cell viability.



Chemiluminescent Probes

H. Zhang, C. Smanmoo, T. Kabashima,
J. Lu, M. Kai* ————— **8226–8229**

Dextran-Based Polymeric Chemiluminescent Compounds for the Sensitive Optical Imaging of a Cytochrome P450 Protein on a Solid-Phase Membrane



Creating a good image: Macromolecular compounds comprising dextran, luminol, and biotin were used as nonenzymatic probes for the sensitive chemiluminescence imaging of a cytochrome P450 (CYP) protein on a poly(vinylidene

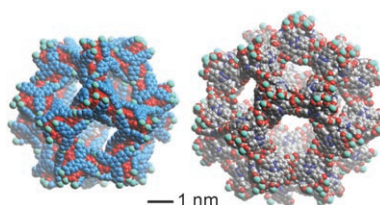
difluoride) (PVDF) membrane (see picture). The polymeric framework is simply formed by mixing the probe with avidin in a ratio of 1:1. The target CYP3A4 protein can be detected rapidly at the femtomole level.

Metal–Organic Frameworks

Y. K. Park, S. B. Choi, H. Kim, K. Kim,
B.-H. Won, K. Choi, J.-S. Choi, W.-S. Ahn,
N. Won, S. Kim, D. H. Jung, S.-H. Choi,
G.-H. Kim, S.-S. Cha, Y. H. Jhon, J. K. Yang,
J. Kim* ————— **8230–8233**

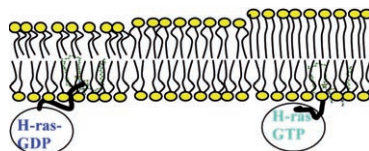


Crystal Structure and Guest Uptake of a Mesoporous Metal–Organic Framework Containing Cages of 3.9 and 4.7 nm in Diameter



Supersized pores: A new mesoporous metal–organic framework that is mainly composed of Tb^{3+} ions and tripodal carboxylate ligands has cages of 3.9 and 4.7 nm in diameter (see picture). The evacuated framework is robust and can accommodate gases or ferrocene molecules, as verified by gas-sorption measurements and luminescence studies.

Pushing the envelope: The calculated free energy profile for the insertion of H-ras anchor into a dimyristoyl-*sn*-glycero-3-phosphocholine bilayer shows a steeply downhill profile. The insertion into the hydrocarbon core of the ras lipids and the interfacial localization of the backbone together account for a binding free energy of about $-30 \text{ kcal mol}^{-1}$.



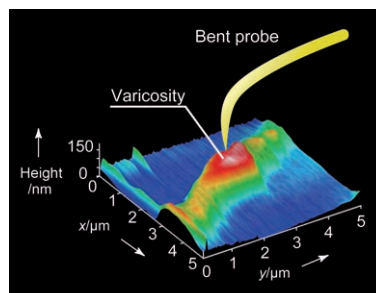
Membrane Insertion

A. A. Gorfe,* A. Babakhani,
J. A. McCammon ——— 8234–8237

Free Energy Profile of H-ras Membrane Anchor upon Membrane Insertion



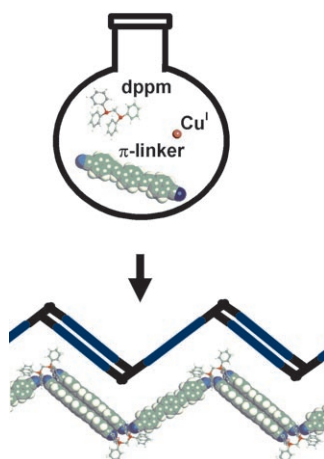
Protection is the key: Improved resolution imaging is demonstrated with the title technique, in which a bent probe is surrounded by a 100-nm protective layer to prevent direct contact between the electrode and the sample. Submicrometer structures and characteristic chemical sites can be imaged in three different modes, as demonstrated for neurites of PC12 cells (see picture).



Neurite Imaging

A. Ueda, O. Niwa,* K. Maruyama,
Y. Shindo, K. Oka, K. Suzuki* 8238–8241

Neurite Imaging of Living PC12 Cells with Scanning Electrochemical/Near-Field Optical/Atomic Force Microscopy



Stringing letters together: Coordination polymers (CPs) featuring unprecedented F-shaped dinuclear Cu^{I} connectors and π -stacked metallocyclophane moieties are obtained in a one-pot synthesis from their molecular components (see picture; dppm = bis(diphenylphosphino)methane; Cu pink, C gray, H white, N blue, P red). The characterization of a potential intermediate suggests that these CPs are formed through a multilevel self-assembly process.

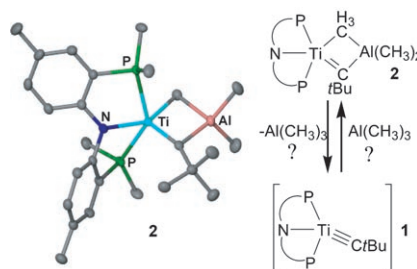
Self-Assembly

B. Nohra, Y. Yao, C. Lescop,
R. Réau* ——— 8242–8245

Coordination Polymers with π -Stacked Metalloparacyclophane Motifs: F-Shaped Mixed-Coordination Dinuclear Connectors



Who is the man behind the aluminum mask? The first Group 4 Lewis acid stabilized alkylidyne (**2**; see picture) is generated by incomplete addition of trimethylaluminum across a $\{\text{Ti}\equiv\text{CtBu}\}$ moiety (**1**; $\text{PNP} = [2\text{-}\{\text{P}(\text{CHMe}_2)_2\}\text{-4-MeC}_6\text{H}_3\text{N}^-]$). In contrast, $\text{B}(\text{OCH}_3)_3$ completely adds to **1** by B–O bond cleavage to afford an unusual alkylidyne. Complex **2**, a masked alkylidyne titanium compound, also ring-opens pyridine.



Titanium Alkylidenes

B. C. Bailey, A. R. Fout, H. Fan,
J. Tomaszewski, J. C. Huffman,
D. J. Mindiola* ——— 8246–8249

An Alkylidyne Analogue of Tebbe's Reagent: Trapping Reactions of a Titanium Neopentylidyne by Incomplete and Complete 1,2-Additions



Cascade Reactions

T. Luo, S. L. Schreiber* — 8250–8253



Complex α -Pyrone Synthesized by a Gold-Catalyzed Coupling Reaction



Sequential alkyne activation of readily available propargyl propiolates by a gold(I) catalyst yields compounds with α -pyrone skeletons (see scheme). An intermediate oxocarbenium ion converts into

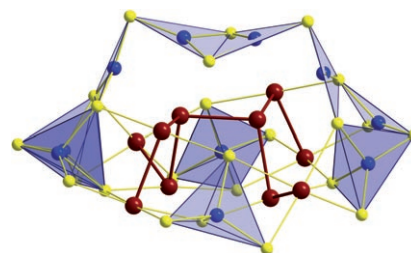
distinct products by two pathways: H elimination or Friedel–Crafts-type addition of electron-rich aromatic and heteroaromatic derivatives.

Cluster Compounds

R. Ahlrichs, A. Eichhöfer, D. Fenske,*
K. May, H. Sommer — 8254–8257

Molecular Structure and Theoretical Studies of $(PPh_4)_2[Bi_{10}Cu_{10}(SPh)_{24}]$

Shielded bismuth chains: The reaction of $Bi(SPh)_3$ with $CuSPh$ in the presence of PPh_4Cl and $PhSSiMe_3$ produced the title cluster (see picture of the cluster core; Bi red, Cu blue, S yellow). A surprising structural feature is the branched Bi_{10} chain, which exhibits a structure expected for a neutral and yet unknown *klado*- Bi_{10} cluster.

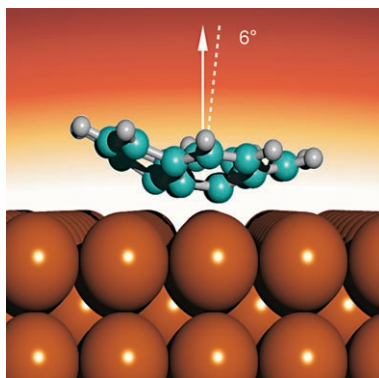


Buckybowls

M. Parschau, R. Fasel,* K.-H. Ernst,*
O. Gröning, L. Brandenberger,
R. Schillinger, T. Greber, A. P. Seitsonen,
Y.-T. Wu, J. S. Siegel — 8258–8261



Buckybowls on Metal Surfaces: Symmetry Mismatch and Enantiomorphism of Corannulene on Cu(110)



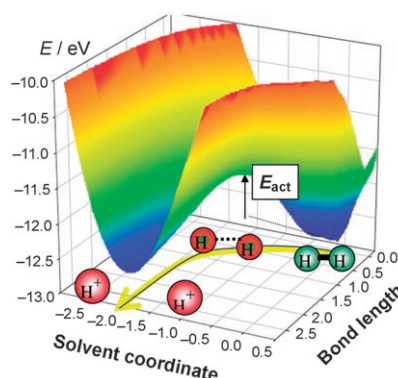
Fivefold versus twofold: Symmetry-breaking interactions in the monolayer of the bucky bowl corannulene on Cu(110) lead to the formation of extended mirror domains (see picture). The molecules are adsorbed in a tilted geometry with the bowl opening pointing away from the surface.

Hydrogen Fuel Cells

E. Santos, W. Schmickler* — 8262–8265

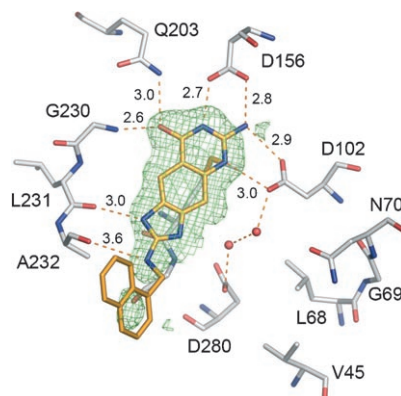


Electrocatalysis of Hydrogen Oxidation—Theoretical Foundations



Understanding fuel cell catalysis: The electrochemical oxidation of hydrogen to two protons involves a major reorganization of the solvent. The reaction can be catalyzed by electrodes that have a d band near the Fermi level interacting strongly with hydrogen (see the potential surface for the oxidation of H_2 on platinum).

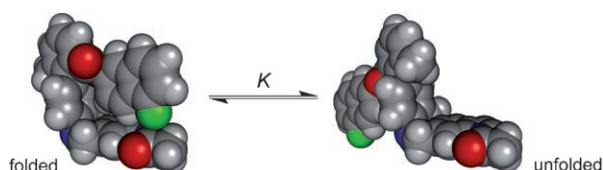
Improving inhibition: tRNA-Guanine transglycosylase (TGT) is a newly recognized target to reduce the pathogenicity of disease-causing *Shigella* bacteria. A potent family of inhibitors of this enzyme has been developed by structure-based design. Crystallographic data and pK_a analysis suggest that the aminoimidazole moiety of the central *lin*-benzoguanine scaffold is protonated and stabilization of the complexes results from charge-assisted hydrogen bonding.



Medicinal Chemistry

S. R. Hörtner, T. Ritschel, B. Stengl, C. Kramer, W. B. Schweizer, B. Wagner, M. Kansy, G. Klebe,*
F. Diederich* 8266–8269

Potent Inhibitors of tRNA-Guanine Transglycosylase, an Enzyme Linked to the Pathogenicity of the *Shigella* Bacterium: Charge-Assisted Hydrogen Bonding



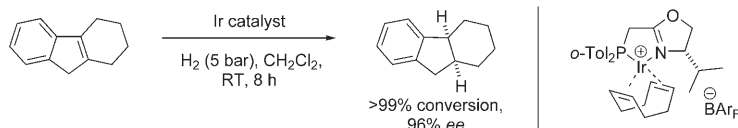
Finding the right balance: An indole-extended molecular torsion balance has the geometry for measuring a truly orthogonal noncovalent interaction between a C–F bond dipole and an amide carbonyl group (see picture, green F, red O, blue N). Employing a double-mutant cycle

approach, negative interaction free enthalpies were determined. Thus orthogonal dipolar interactions can be a new tool for stabilizing protein–ligand complexes and assembling supramolecular architectures.

Supramolecular Interactions

F. R. Fischer, W. B. Schweizer, F. Diederich* 8270–8273

Molecular Torsion Balances: Evidence for Favorable Orthogonal Dipolar Interactions Between Organic Fluorine and Amide Groups



Even notoriously unreactive substrates such as tetrasubstituted unfunctionalized olefins can be hydrogenated with high efficiency and excellent enantioselectivity using readily accessible chiral Ir catalysts.

In this way, two adjacent stereogenic centers can be introduced in a single step (see scheme for an example; BArf = tetrakis(3,5-di(trifluoromethyl)-phenyl)borate, *o*-Tol = *ortho*-tolyl).

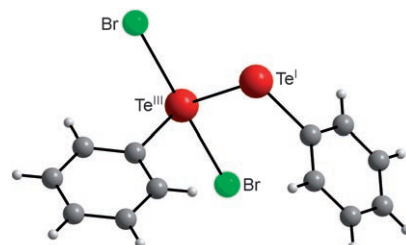
Asymmetric Catalysis

M. G. Schrems, E. Neumann, A. Pfaltz* 8274–8276

Iridium-Catalyzed Asymmetric Hydrogenation of Unfunctionalized Tetrasubstituted Olefins



Mixed doubles: The mixed-valent dinuclear aryltellurenyl halides $\text{PhBr}_2\text{TeTePh}$ (see picture), and RX_2TeTeR ($\text{X} = \text{ClBr}$, $\text{R} = 2,6\text{-Mes}_2\text{C}_6\text{H}_3$), the monomeric 2,6- $\text{Mes}_2\text{C}_6\text{H}_3\text{TeI}$, and the charge-transfer complex 2,6- $\text{Mes}_2\text{C}_6\text{H}_3\text{TeI} \cdots \text{I}_2$ are presented. The stability of H_3CEX ($\text{E} = \text{S}, \text{Se}, \text{Te}$; $\text{X} = \text{F}, \text{Cl}, \text{Br}, \text{I}$) as determined by ab initio methods are also discussed.



Tellurium Compounds

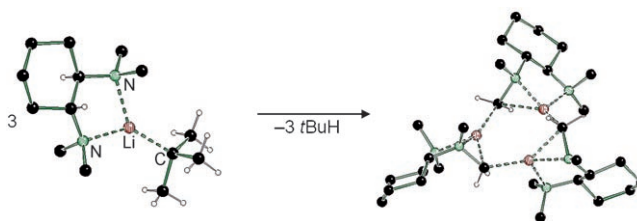
J. Beckmann,* M. Hesse, H. Poleschner, K. Seppelt* 8277–8280

Formation of Mixed-Valent Aryltellurenyl Halides RX_2TeTeR



Lithium Alkyl compounds

C. Strohmann,*
V. H. Gessner ————— 8281 – 8283

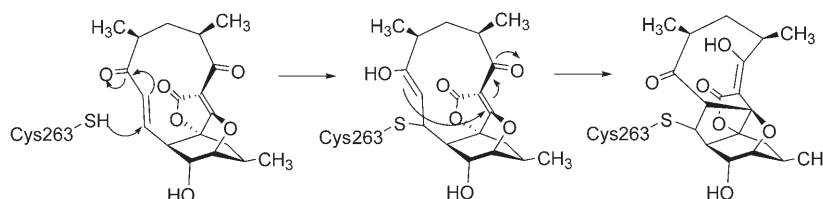


The α -lithiation of amines by direct deprotonation has to date only been possible in a few systems. The enantio-merically pure amine (*R,R*)-TMEDA coordinates to *t*BuLi to form a monomeric

molecular structure. Starting from *t*BuLi·(*R,R*)-TMEDA, lithiation of the ligand occurs, which results in a trimeric α -lithiated amine (see picture).

Synthase Inhibitors

S. Keller, H. S. Schadt, I. Ortel,
R. D. Süßmuth* ————— 8284 – 8286

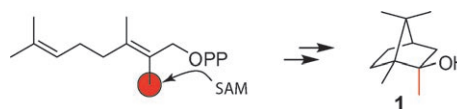


Subtle restraint: Abyssomicin C and atrop-abyssomicin C are polyketide-type antibiotics produced by the marine actinomycete of the genus *Verrucosisspora*. Investigations of the functional pathway show that a subunit of 4-amino-4-deoxy-

chorismate synthase from *Bacillus subtilis* is irreversibly inhibited through covalent binding to the side chain of Cys263, undergoing a rearrangement to a structure of the abyssomicin D type (see scheme).

Bacterial Scents

J. S. Dickschat, T. Nawrath, V. Thiel,
B. Kunze, R. Müller,
S. Schulz* ————— 8287 – 8290

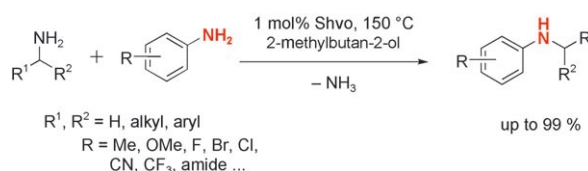


A bouquet of bacteria: Methylisoborneol (**1**) is a widely occurring volatile from bacteria and an undesirable flavor (off-flavor) in the food industry. The analysis of isotopomers obtained by feeding isotopically labeled precursors to myxobacteria

revealed the biosynthetic pathway to **1**. Geranylpyrophosphate (GPP) is alkylated by *S*-adenosylmethionine (SAM) and the product is cyclized to **1**. The methylation of GPP is unprecedented in nature.

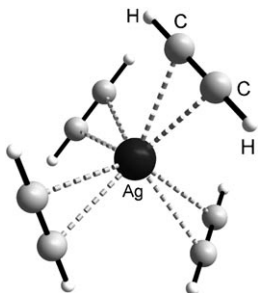
Aminations

D. Hollmann, S. Bähn, A. Tillack,
M. Beller* ————— 8291 – 8294



Simple as that: The synthesis of aromatic amines from aliphatic amines proceeds under transfer hydrogenation conditions (see scheme). By applying the Shvo catalyst, general applicability is shown in

the conversion of a variety of functionalized anilines and aliphatic amines. This base- and salt-free method can be an excellent alternative to the known synthesis of anilines.



Hanging on to acetylene: The solid-state structures of the first homoleptic metal $\text{HC}\equiv\text{CH}$ complexes $[\text{M}(\text{C}_2\text{H}_2)_x]_n$ (M = any metal; n, x = any number), salts of $[\text{Ag}(\eta^2\text{-C}_2\text{H}_2)_n]^+$ ($n = 3, 4$), are described (see picture). The electronic structure of a $[\text{Ag}(\eta^2\text{-C}_2\text{H}_2)]$ model complex has been investigated by experimental charge-density studies.

Acetylene Complexes

A. Reisinger, N. Trapp, I. Krossing,*
S. Altmannshofer, V. Herz, M. Presnitz,
W. Scherer* **8295–8298**

Homoleptic Silver(I) Acetylene Complexes



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



A video clip is available as Supporting Information on the WWW (see article for access details).

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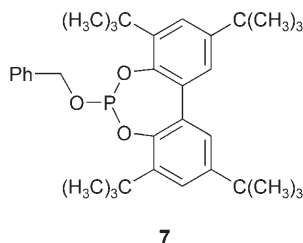
Authors **8300**

Keywords **8302**

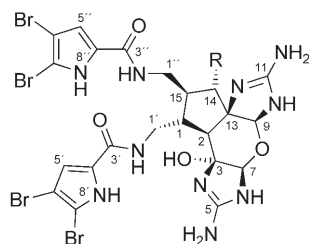
Preview **8303**

Corrigenda

In this Communication, the structure of ligand **7** was incorrectly drawn. The correct structure is shown below.



In this Communication, the structure of compounds **3** and **5** was incorrectly drawn. The correct structure is shown below. The editorial office apologizes for this oversight.



3 ($\text{R} = \text{Cl}$): Massadine Chloride

5 ($\text{R} = \text{OH}$): Massadine

Mixtures of Chiral Phosphorous Acid
Diesters and Achiral P Ligands in the
Enantio- and Diastereoselective
Hydrogenation of Ketimines

M. T. Reetz,* O. Bondarev **4523–4526**

Angew. Chem. Int. Ed. **2007**, 46

DOI 10.1002/anie.200700533

Massadine Chloride: A Biosynthetic
Precursor of Massadine and Stylistadine

A. Grube, S. Immel, P. S. Baran,*
M. Köck* **6721–6724**

Angew. Chem. Int. Ed. **2007**, 46

DOI 10.1002/anie.200701935