



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:

H. Wu, H. Zhu, J. Zhuang, S. Yang, C. Liu, Y. C. Cao*
Water-Soluble Nanocrystals through Dual-Interaction Ligands

Y. V. Geletii, B. Botar,* P. Kögerler, D. A. Hillesheim, D. G. Musaev, C. L. Hill*

An All-Inorganic, Stable, and Highly Active Tetraruthenium Homogeneous Catalyst for Water Oxidation

Z. Liu, A. Kumbhar, D. Xu, J. Zhang, Z. Sun, J. Fang*
Co-Reduction Colloidal Synthesis of III-V Nanocrystals: The Case of InP

Y. H. Sehlleier, A. Verhoeven, M. Jansen*
Observation of Direct Bonds Between Carbon and Nitrogen in Si-B-N-C Ceramic after Pyrolysis at 1400 °C

H. Braunschweig,* C. J. Adams, T. Kupfer, I. Manners, R. Richardson, G. R. Whittell
A Paramagnetic Polymer by Ring-Opening Polymerization of a Strained [1]Vanadoarenophane

W. D. Pylz, D. A. Blom, T. Vogt, D. J. Buttrey*
Direct Imaging of the MoVTeNbO M1 Phase Using an Aberration-Corrected High-Resolution Scanning Transmission Electron Microscope

Leslie E. Orgel (1927–2007)

Nanotechnology in Biology and Medicine

Computational Organic Chemistry

Tuan Vo-Dinh

Steven M. Bachrach

Obituary

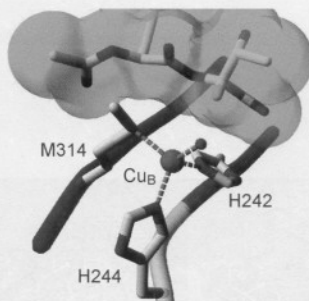
Günter von Kiedrowski _____ 2338

Books

reviewed by K. Kneipp _____ 2340

reviewed by B. Engels _____ 2340

Copper at work: The aliphatic ligand hydroxylation by a copper–oxygen center has been observed for the first time on a model system of the enzyme PHM (peptidylglycine- α -hydroxylating monooxygenase). This result is put in the context of the enzymatic mechanism, which presumably involves a high-valent copper oxo unit (violet-red) that hydroxylates the substrate (cyan).

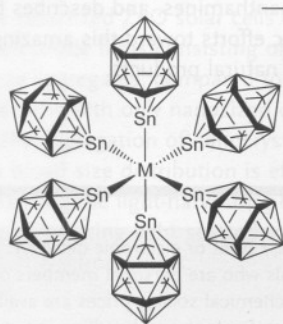


Highlights

Copper Monooxygenases

M. Rolff, F. Tuczek* _____ 2344–2347

How Do Copper Enzymes Hydroxylate Aliphatic Substrates? Recent Insights from the Chemistry of Model Systems



Encased in stannaborates: The synthesis of the homoleptic, octahedral M^{IV} complexes $[M(SnB_{11}H_{11})_6]^{8-}$ ($M = Ni, Pd, Pt$) has been reported. Spectroscopic data, together with the square-planar structure obtained for the corresponding tetrakis-ligated Ni^{II} complex $[Ni(SnB_{11}H_{11})_4]^{6-}$, provide ample evidence for the extremely strong σ -donor properties of the $[SnB_{11}H_{11}]^{2-}$ ligand.

Group 10 Complexes

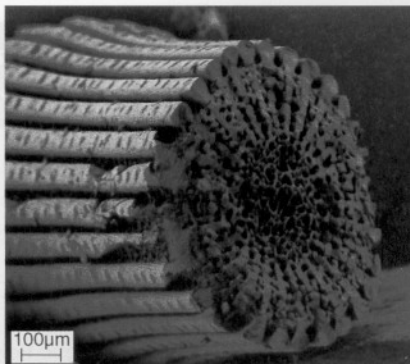
S. Aldridge* _____ 2348–2350

Exploitation of a Very Strongly σ -Donating Sn^{II} Ligand: Synthesis of a Homoleptic, Octahedral Ni^{IV} Complex

Crystal Growth

H. Cölfen* ————— 2351–2353

Single Crystals with Complex Form via Amorphous Precursors



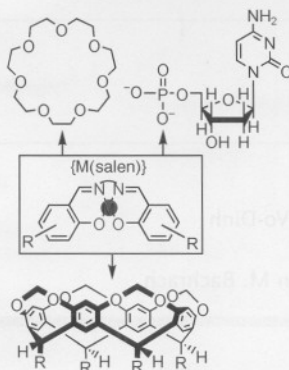
Nature is able to produce large single crystals with complex shape via amorphous precursor phases in the process of biomineralization (the picture shows an SEM image of a fracture surface of a sea urchin spicule). This strategy can be mimicked for the template synthesis of large single-crystalline materials with controllable complex shape.

Minireviews

Salen Frameworks

S. J. Wezenberg, A. W. Kleij* 2354–2364

Material Applications for Salen Frameworks



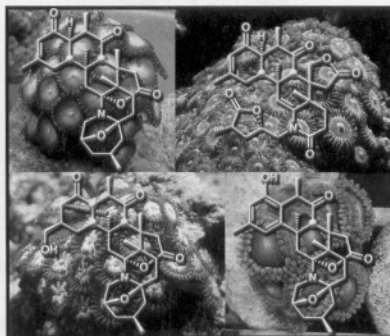
The salens are comin'! Salen synthons are becoming increasingly important for various chemical applications that go beyond their conventional use as versatile ligands in homogeneous catalysis. A recent increase in the use of these highly accessible building blocks has paved the way for the development of interesting hybrid materials with new catalytic, magnetic, and supramolecular properties.

Reviews

Marine Natural Products

D. C. Behenna, J. L. Stockdill,
B. M. Stoltz* ————— 2365–2386

The Biology and Chemistry of the Zoanthamine Alkaloids



More than meets the eye! Marine zoanthids have more to offer than stunning colors in home aquariums. They are the source of a host of fascinating natural products with great structural complexity and important biological activities. This Review chronicles the isolation and activity of zoanthamines, and describes the synthetic efforts toward this amazing class of natural products.

For the USA and Canada:

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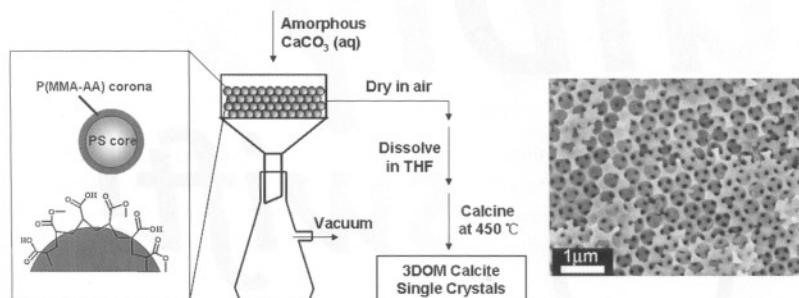
Communications

Colloidal Crystal Templating



C. Li, L. Qi* 2388–2393

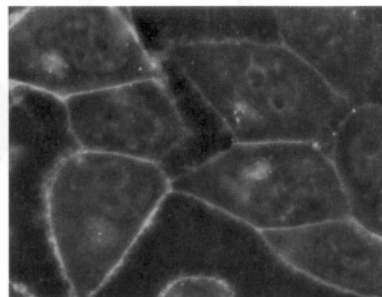
Bioinspired Fabrication of 3D Ordered Macroporous Single Crystals of Calcite from a Transient Amorphous Phase



Filling the gaps: Unique 3D ordered macroporous (3DOM) calcite single crystals with controlled orientation and well-defined nanopatterns are fabricated by introducing amorphous CaCO_3 into a

colloidal crystal template of polymer spheres (see picture). Such a bioinspired strategy suggests a route to functional single-crystalline materials and sheds light on biomineralization mechanisms.

Azide imaging: A fluorogenic phosphine based on a FRET-quenching mechanism allows for live-cell imaging of azido sugars by the Staudinger ligation. This design strategy can accommodate numerous fluorophores and complementary quenchers, enabling extension to multi-color imaging. In the image shown, the nuclei are blue while the cell surfaces and Golgi are green.



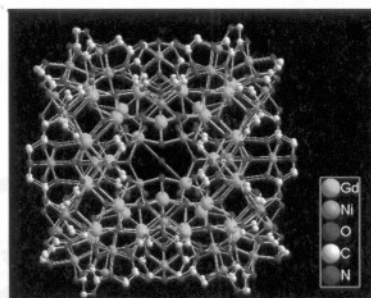
Live-Cell Imaging


M. J. Hangauer,
C. R. Bertozzi* 2394–2397

A FRET-Based Fluorogenic Phosphine for Live-Cell Imaging with the Staudinger Ligation



A Russian doll: A heterometallic 108-metal cluster featuring an unprecedented four-shell, nesting doll-like structure (see picture) and overall antiferromagnetic coupling is reported.



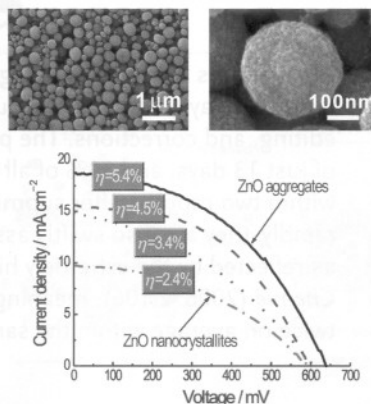
Heterometallic Clusters

X.-J. Kong, Y.-P. Ren, W.-X. Chen,
L.-S. Long,* Z. Zheng,* R.-B. Huang,
L.-S. Zheng 2398–2401

A Four-Shell, Nesting Doll-like 3d–4f Cluster Containing 108 Metal Ions



Here comes the sun: A conversion efficiency as high as 5.4% has been achieved on dye-sensitized ZnO solar cells with photoelectrode films consisting of poly-disperse aggregates, compared to 2.4% for the films with only nanosized crystallites. The aggregation of nanocrystallites with a broad size distribution is effective in enhancing the light-harvesting efficiency by inducing light scattering within the photoelectrode films.

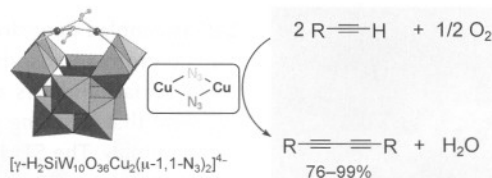


Dye-Sensitized Solar Cells


Q. F. Zhang, T. P. Chou, B. Russo,
S. A. Jenekhe, G. Z. Cao* 2402–2406

Aggregation of ZnO Nanocrystallites for High Conversion Efficiency in Dye-Sensitized Solar Cells





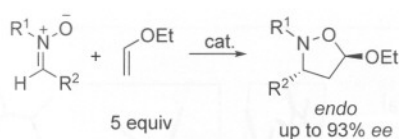
It goes on the dicopper core! A monomeric γ -Keggin silicotungstate with a dicopper core that is bridged by two μ -1,1-azido ligands catalyzes oxidative alkyne

homocoupling reactions whereby various kinds of aromatic and aliphatic alkynes are selectively converted into the corresponding diynes (see picture).

Homogeneous Catalysis

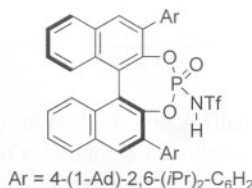
K. Kamata, S. Yamaguchi, M. Kotani,
K. Yamaguchi, N. Mizuno* 2407–2410

Efficient Oxidative Alkyne Homocoupling Catalyzed by a Monomeric Dicopper-Substituted Silicotungstate



Brønsted and Lewis face off: A new chiral *N*-triflyl phosphoramidate is used for asymmetric 1,3-dipolar cycloaddition of diaryl nitrones to ethyl vinyl ether to give the *endo* products in up to 93% *ee* (see

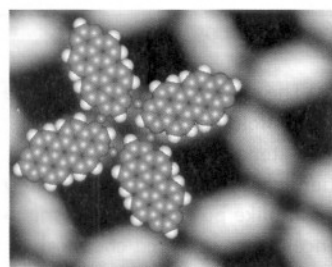
scheme; Tf = trifluoromethanesulfonyl; Ad = adamantyl). The structure of the chiral phosphoramidate was confirmed by X-ray crystallographic analysis.



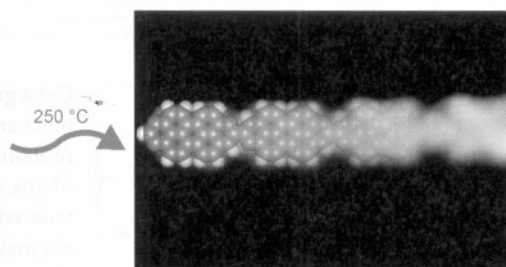
Asymmetric Synthesis

P. Jiao, D. Nakashima,
H. Yamamoto* 2411–2413

Enantioselective 1,3-Dipolar Cycloaddition of Nitrones with Ethyl Vinyl Ether: The Difference between Brønsted and Lewis Acid Catalysis



Isomerize and polymerize! Thermally induced tautomerization of the *N*-heterocyclic 1,3,8,10-tetraazaperopyrene to a Wanzlick-type carbene intermediate on a Cu(111) surface leads to covalently linked



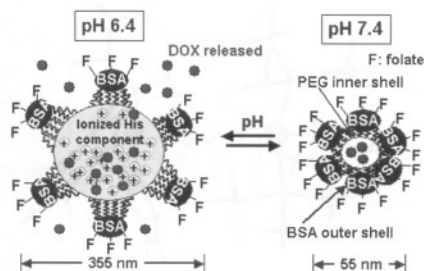
polyaromatic chains, which can be mechanically manipulated. The pictures show the respective structures superimposed on the STM images.

Surface Chemistry

M. Matena, T. Riehm, M. Stöhr,*
T. A. Jung,* L. H. Gade* 2414–2417

Transforming Surface Coordination Polymers into Covalent Surface Polymers: Linked Polycondensed Aromatics through Oligomerization of *N*-Heterocyclic Carbene Intermediates

Delivering the goods: A pH-sensitive nanogel consists of a hydrophobic copolymer core and two layers of hydrophilic shell (see picture). The core is loaded with a model anticancer drug, doxorubicin (DOX). The nanogel infects tumor cells in a receptor-dependent manner, kills the cells, and migrates to neighboring cells like a virus. BSA = bovine serum albumin, F = folate, PEG = polyethylene glycol.



Drug Delivery

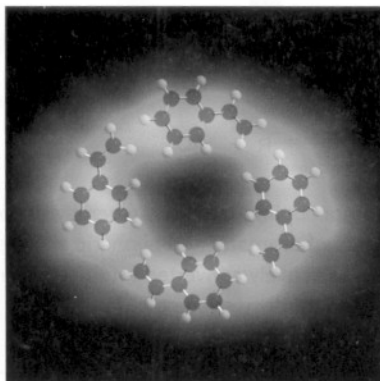
E. S. Lee, D. Kim, Y. S. Youn, K. T. Oh,
Y. H. Bae* 2418–2421

A Virus-Mimetic Nanogel Vehicle

Self-Assembly

O. P. H. Vaughan, A. Alavi, F. J. Williams,
R. M. Lambert* ————— 2422–2426

Dipole Amplification: A Principle for the
Self-Assembly of Asymmetric Monomers
on Metal Surfaces



Self-assembled nanostructures: Charge transfer from an adsorbed molecule to a metal surface induces an in-plane dipole moment that is strong enough to drive self-assembly. The STM image shows a styrene tetramer adsorbed on Ag(100). The dipole moment of styrene changes from 0.15 D in the gaseous state to 1.12 D in the adsorbed state. This substrate-induced dipole amplification is crucial to increasing the intermolecular interaction energy.



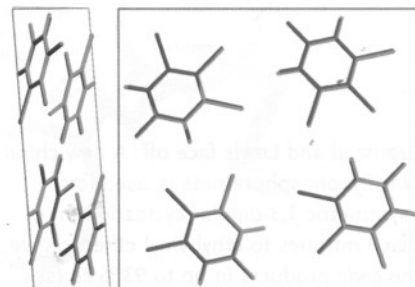
Crystal Structure Prediction

M. A. Neumann, F. J. J. Leusen,*
J. Kendrick ————— 2427–2430



A Major Advance in Crystal Structure
Prediction

A crystal ball? A new method for crystal structure prediction combines a tailor-made force field with a density functional theory method incorporating a van der Waals correction for dispersive interactions. In a blind test, the method predicts the correct crystal structure for all four compounds, one of which is a cocrystal. The picture shows the predicted structure of one of the compounds in green and the experimental structure in blue.

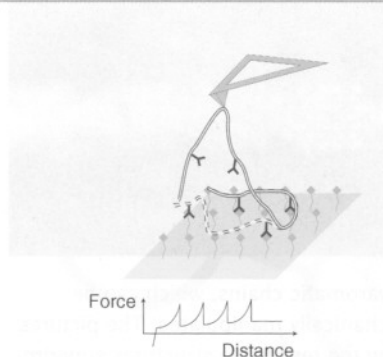


Single-Molecule Force Spectroscopy

F. Valle, G. Zuccheri, A. Bergia, L. Ayres,
A. E. Rowan, R. J. M. Nolte,
B. Samori* ————— 2431–2434



A Polymeric Molecular “Handle” for
Multiple AFM-Based Single-Molecule
Force Measurements



Get a grip! The strategy of single-molecule mechanical unfolding of multimodular proteins is extended to the investigation of any chemical bond by an appropriately tailored, comblike polymer bearing multiple instances of any desired chemical interaction or bond to be studied along its linear chain. This approach is used to study the Ni-(His)_n-NTA complex (see picture: red, Ni-NTA; green, His tag; His = histidine; NTA = nitrilotriacetate).

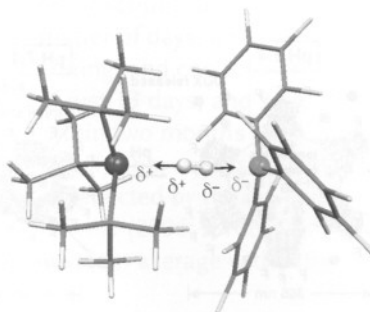


H₂ Activation

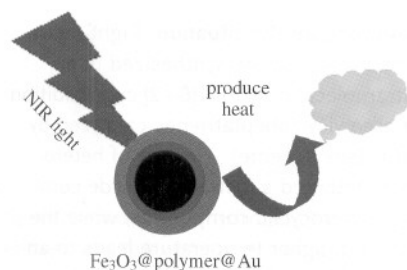
T. A. Rokob, A. Hamza, A. Stirling,
T. Soós,* I. Pápai* ————— 2435–2438



Turning Frustration into Bond Activation:
A Theoretical Mechanistic Study on
Heterolytic Hydrogen Splitting by
Frustrated Lewis Pairs



Just before splitting: A mechanistic model has been proposed for H₂ activation by sterically demanding phosphine–borane Lewis pairs. There is theoretical evidence for noncovalent intermolecular association of donor–acceptor molecules to form a flexible but energetically strained complex, which provides preorganized active centers for heterolytic H–H bond cleavage (see picture).

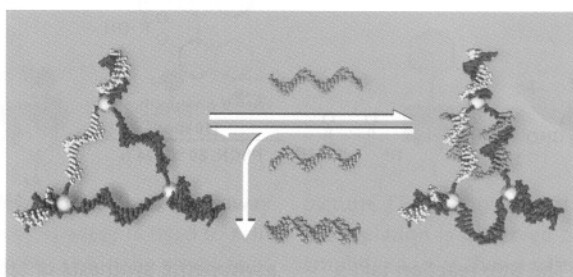


The best of both worlds: Multifunctional Fe_3O_4 @polymer@Au shell nanoparticles (see scheme; Fe_3O_4 is black, polymer is blue, gold shell is brown) display good dispersibility and stability in aqueous solution. Strong magnetization and good NIR absorption are preserved in the core-shell structures. These features should facilitate biomedical applications, combining the benefits of MRI diagnosis, magnetically targeted delivery, and photothermal ablation.

Magnetic Nanoparticles

L. Wang, J. Bai, Y. Li,
Y. Huang* — 2439–2442

Multifunctional Nanoparticles Displaying
Magnetization and Near-IR Absorption



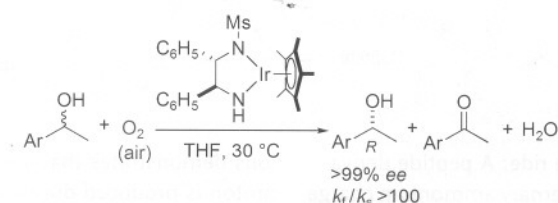
Templated metalation of DNA junctions allows incorporation of a range of transition metals into DNA assemblies. The resulting highly stable metal–DNA junctions can be assembled into dynamic multinuclear structures, with metal cen-

ters as their corners and DNA single strands as their sides. Ready and reversible structural switching of these assemblies with external agents (see picture) allows for control of geometry and metal–metal distances.

DNA Nanotechnology

H. Yang, H. F. Sleiman* — 2443–2446

Templated Synthesis of Highly Stable,
Electroactive, and Dynamic Metal–DNA
Branched Junctions



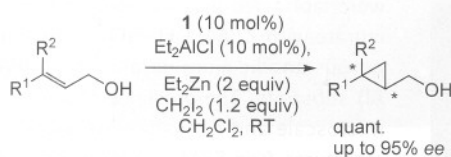
Up for air: The aerobic oxidative kinetic resolution of racemic secondary alcohols with chiral bifunctional Ir, Rh, and Ru catalysts proceeds smoothly under mild

conditions to provide chiral alcohols with up to 99% ee, and O_2 serves as an excellent hydrogen acceptor.

Aerobic Oxidation

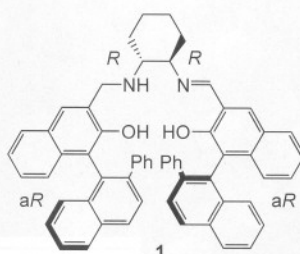
S. Arita, T. Koike, Y. Kayaki,
T. Ikariya* — 2447–2449

Aerobic Oxidative Kinetic Resolution of
Racemic Secondary Alcohols with Chiral
Bifunctional Amido Complexes



Three angles: A highly enantioselective Simmons–Smith reaction of *trans*-disubstituted allylic alcohols was achieved by

using a catalytic amount of an Al(salalen) complex at room temperature (see scheme).



Asymmetric Catalysis

H. Shitama, T. Katsuki* — 2450–2453

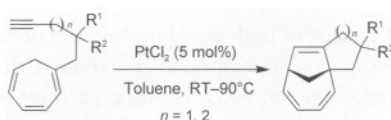
Asymmetric Simmons–Smith Reaction of
Allylic Alcohols with Al Lewis Acid/
N Lewis Base Bifunctional Al(salalen)
Catalyst

Cyclization

A. Tenaglia,* S. Gaillard — 2454–2457



PtCl₂-Catalyzed [6+2] Cycloaddition of Alkynes Tethered to Cycloheptatriene



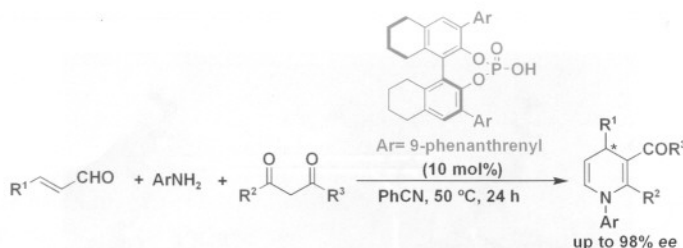
Summing up the situation: Eight-membered rings can be synthesized in an intramolecular formal [6+2] cycloaddition of alkynylcycloheptatrienes catalyzed by PtCl₂ (see scheme). The use of heteroatom-tethered substrates provide complex heterocyclic compounds, while the use of a higher temperature leads to an unusual formal [6+1] cycloaddition.

Multicomponent Reactions

J. Jiang, J. Yu, X.-X. Sun, Q.-Q. Rao, L.-Z. Gong* — 2458–2462



Organocatalytic Asymmetric Three-Component Cyclization of Cinnamaldehydes and Primary Amines with 1,3-Dicarbonyl Compounds: Straightforward Access to Enantiomerically Enriched Dihydropyridines



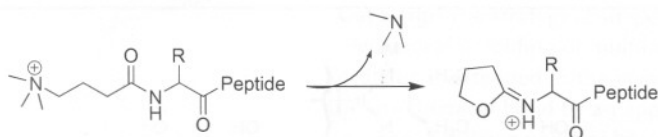
All in together: The title reaction takes place under mild conditions in the presence of a chiral phosphonic acid catalyst to provide 4-aryl substituted 1,4-dihydropyridines with up to 98 % ee (see scheme). The products are useful substrates for the

asymmetric synthesis of tetrahydropyridines and multifunctional piperidines, which are common substructures of natural products and pharmaceuticals. R¹ = aryl; R², R³ = alkyl.

Peptide Mass Spectrometry

Y. He, J. P. Reilly* — 2463–2465

Does a Charge Tag Really Provide a Fixed Charge?



Tag along for the ride: A peptide derivatized with a quaternary ammonium charge tag is collisionally dissociated. Observation of both N- and C-terminal fragment

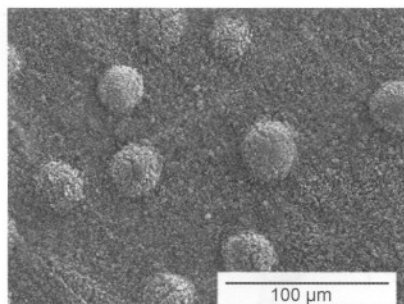
ions demonstrates that a mobilized proton is produced during the dissociation process (see scheme).

Corrosion Protection

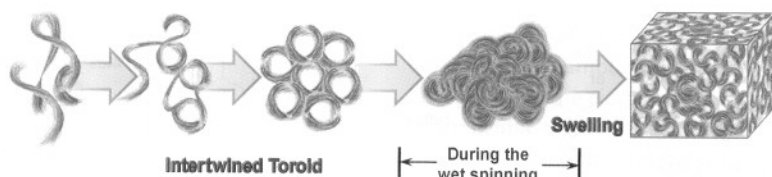
F. Z. Zhang, L. L. Zhao, H. Y. Chen, S. L. Xu, D. G. Evans, X. Duan* — 2466–2469



Corrosion Resistance of Superhydrophobic Layered Double Hydroxide Films on Aluminum



Laurate-intercalated films of ZnAl layered double hydroxide (ZnAl-LDH-laurate) were fabricated by anion exchange of laurate with ZnAl-LDH-NO₃⁻ films on a porous anodic alumina/aluminum (PAO/Al) substrate. The presence of both microscale and nanoscale hierarchical structures (see SEM image) makes the film superhydrophobic, and thus it has much better corrosion resistance than anodic PAO film alone or ZnAl-LDH-NO₃⁻ films.



Spinning strands: A hydrogel fiber made entirely of DNA without any covalent cross-links, composed of intertwined toroid entanglements of flexible DNA strands (see scheme), was prepared by a one-step wet-spinning method with a

hydrophilic ionic liquid as the condensing agent and coagulation solvent. The internal structure of the fiber was a disordered arrangement of strands with a B-DNA form. The fiber was also stable in various aqueous solutions.

DNA Structures

C. K. Lee, S. R. Shin, S. H. Lee, J.-H. Jeon, I. So, T. M. Kang, S. I. Kim, J. Y. Mun, S.-S. Han, G. M. Spinks, G. G. Wallace, S. J. Kim* 2470–2474

DNA Hydrogel Fiber with Self-Entanglement Prepared by Using an Ionic Liquid



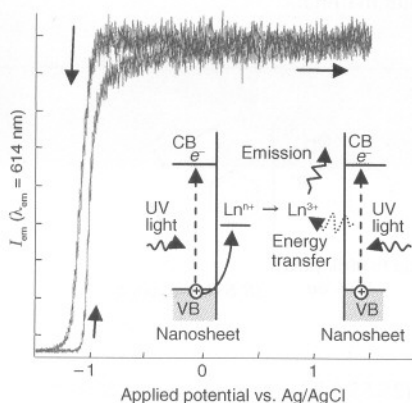
A good neighbor is better than a far-away friend: A tethering strategy is used to self-select groups that assist in the cleavage of a neighboring carboxylic ester moiety (see

picture, TSA = transition-state analogue). A correlation is observed between the amplification at thermodynamic equilibrium and the catalytic efficiency.

Dynamic Selection

G. Gasparini, L. J. Prins,* P. Scrimin* 2475–2479

Exploiting Neighboring-Group Interactions for the Self-Selection of a Catalytic Unit

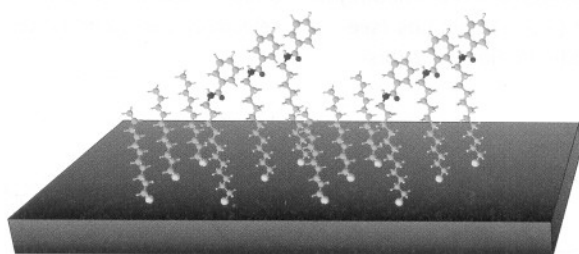


Getting turned on: A photoelectrochemical reaction has been used to control the photoluminescence of self-assembled nanosheet films intercalated with Ln^{3+} ions. Emission (em) occurs under anodic bias (mechanism shown) and not under cathodic bias because of the oxidation and reduction of $\text{Ln}^{3+}/\text{Ln}^{4+}$ by holes and electrons by UV light, respectively (see picture, VB = valence band, CB = conduction band), which allows control of the emission on/off response.

Luminescence

S. Ida,* C. Ogata, D. Shiga, K. Izawa, K. Ikeue, Y. Matsumoto 2480–2483

Dynamic Control of Photoluminescence for Self-assembled Nanosheet Films Intercalated with Lanthanide Ions by Using a Photoelectrochemical Reaction



Controlled confinement: A supramolecular approach for the design of multi-component self-assembled monolayers on Au(111) is employed to obtain subnanometer-resolved patterns on the solid

substrate (see picture). The formation of crystalline bicomponent domains is discussed in view of their potential applications in the development of new electronic devices.

Scanning Probe Microscopy

G. Pace, A. Petitjean, M.-N. Lalloz-Vogel, J. Harrowfield, J.-M. Lehn,* P. Samorì* 2484–2488

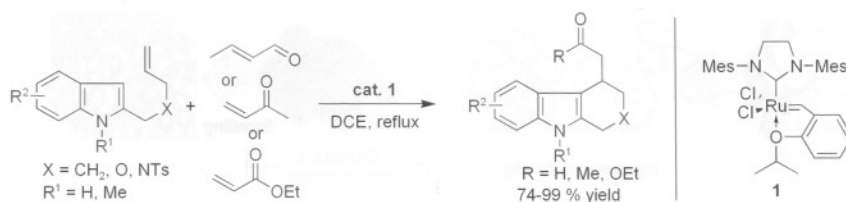
Subnanometer-Resolved Patterning of Bicomponent Self-Assembled Monolayers on Au(111)

Tandem Reactions

J.-R. Chen, C.-F. Li, X. L. An, J.-J. Zhang,
X.-Y. Zhu, W.-J. Xiao* — 2489–2492



Ru-Catalyzed Tandem Cross-Metathesis/
Intramolecular-Hydroarylation Sequence



Sometimes it only takes one to tango: A novel ruthenium-catalyzed tandem cross-metathesis/intramolecular-hydroarylation reaction of alkenyl indoles has been developed which relies on a single catalyst for the tandem sequence and provides an

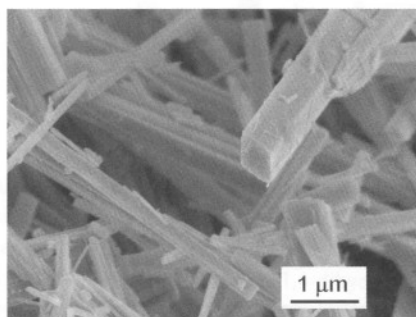
efficient synthesis of fused polycyclic indole compounds with good to excellent overall yields (see scheme; Ts = 4-toluene-sulfonyl, DCE = 1,2-dichloroethane, Mes = 2,4,6-Me₃C₆H₂).

Molecular Sieves

M. Sadakane,* K. Kodato, T. Kuranishi,
Y. Nodasaka, K. Sugawara, N. Sakaguchi,
T. Nagai, Y. Matsui,
W. Ueda* — 2493–2496



Molybdenum–Vanadium-Based
Molecular Sieves with Microchannels of
Seven-Membered Rings of Corner-Sharing
Metal Oxide Octahedra



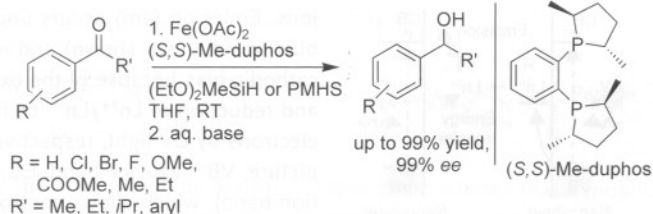
Octahedral molecular sieves: Crystalline orthorhombic Mo₃VO_x (see SEM image), which was prepared by hydrothermal synthesis, contains microchannels made up of seven-membered rings of corner-sharing {MO₆} octahedra. Small molecules such as methane, ethane, N₂, Ar, CO₂ can enter the microchannels of this compound, which exhibits the type I adsorption behavior typical of microporous materials.

Iron Catalysis

N. S. Shaikh, S. Enthaler, K. Junge,
M. Beller* — 2497–2501



Iron-Catalyzed Enantioselective
Hydrosilylation of Ketones



Reductions under iron rule: Enantioselective hydrosilylation of prochiral ketones with inexpensive and environmentally benign iron catalysts proceed smoothly in the presence of (S,S)-Me-duphos (see scheme; (S,S)-Me-duphos = 1,2-(bis-

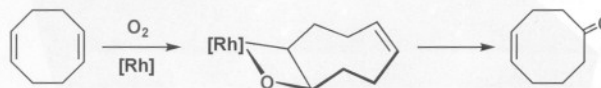
[(2S,5S)-2,5-dimethylphospholano]benzene). A broad range of aryl ketones is converted into the corresponding secondary alcohols in up to 99% enantioselectivity and quantitative yields.

Olefin Oxygenation

M. P. del Río, M. A. Ciriano,
C. Tejel* — 2502–2505

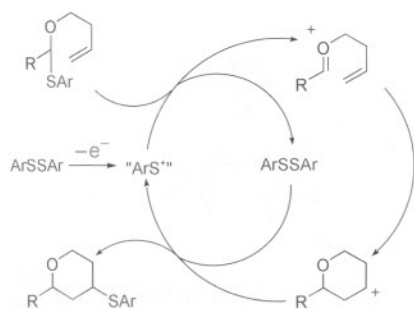


From Olefins to Ketones via a
2-Rhodaioxetane Complex



Quantitative oxygenation of 1,5-cyclooctadiene to 4-cyclooctenone with molecular oxygen by a rhodium complex proceeds via a 2-rhoda(III)oxetane intermediate

(see scheme), which undergoes a facile β -elimination reaction to give the unsaturated ketone selectively instead of the epoxide.



The treatment of an olefinic thioacetal with a catalytic amount of $\text{ArS}(\text{ArSSAr})-\text{B}(\text{C}_6\text{F}_5)_4^-$, or the electrolysis of a mixture of an olefinic thioacetal and ArSSAr , gives rise to effective intramolecular carbon–carbon bond formation (see scheme). This transformation opens up great potential for electroinitiated cation chain reactions in organic synthesis.

Electroinitiated Reactions

K. Matsumoto, S. Fujie, K. Ueoka, S. Suga, J. Yoshida* 2506–2508

An Electroinitiated Cation Chain Reaction: Intramolecular Carbon–Carbon Bond Formation between Thioacetal and Olefin Groups

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).

The issues for March 2008 appeared online on the following dates

Issue 9: February 11. • Issue 10: February 15. • Issue 11: February 22. • Issue 12: March 3

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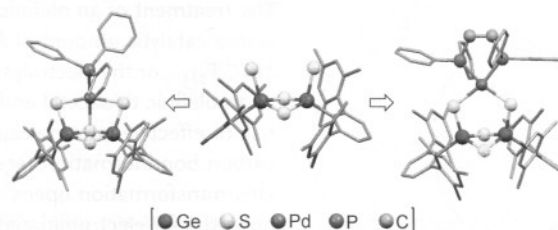
Preview 2513

Ge/Pd/S Clusters

T. Matsumoto, Y. Matsui, M. Ito,
K. Tatsumi*

Synthesis of syn-2,4-Dimercapto-
1,3,2,4-dithiadigermetane and Its
Application to Ge₂PdS₄ Cluster Synthesis

Chem. Asian J.
DOI: 10.1002/asia.200700355



Group work: syn-[DmpGe(SH)(μ-S)₂-
GeDmp(SH)] (Dmp = 2,6-dimesityl-
phenyl) is a new entry to mercaptoger-
manes, synthesized from a series of
polythiadigermabicyclo[x.1.1]alkanes

(x = 3–5) obtained by sulfurization of
DmpGeH₃ in melted elemental sulfur.
The mercaptogermane is a good precur-
sor to heteronuclear complexes com-
posed of Ge and transition metals.

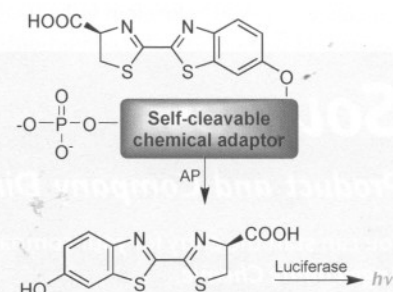
Bioluminescent Substrates

W. Zhou,* C. Andrews,* J. Liu,
J. W. Shultz, M. P. Valley, J. J. Cali,
E. M. Hawkins, D. H. Klaubert,
R. F. Bulleit, K. V. Wood

Self-Cleavable Bioluminescent Luciferin
Phosphates as Alkaline Phosphatase
Reporters

ChemBioChem
DOI: 10.1002/cbic.200700644

After glow. Reactive chemical adaptors
were used to stabilize bioluminescent
phosphates for monitoring alkaline phos-
phatase (AP) activity (see scheme). The
1,6-elimination based luciferin phosphate
exhibited ultrasensitive ability to detect
~10⁻²² mol of AP enzyme in a homoge-
neous solution, and picograms of pro-
tein in an immunoassay.

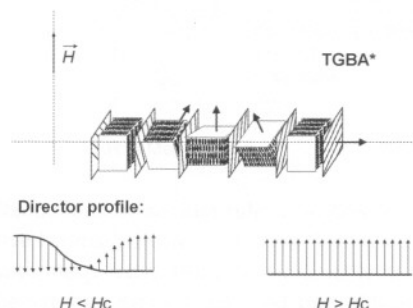


Liquid Crystals

V. Domenici,* C. A. Veracini,
V. Novotná, R. Y. Dong

Twist Grain Boundary Liquid-Crystalline
Phases under the Effect of the Magnetic
Field: A Complete ²H and ¹³C NMR
Study

ChemPhysChem
DOI: 10.1002/cphc.200700647



Magnetic twist: A complete ²H and
¹³C NMR study on a wide range of
TGBA* and TGBC* phases reveals a
peculiar effect of the external magnetic
field in winding and deforming the TGB
supramolecular structure (see picture).

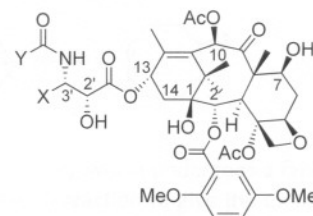
QSAR Studies

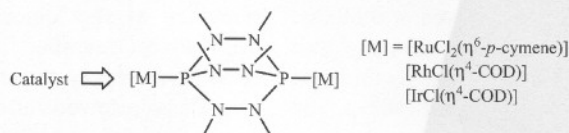
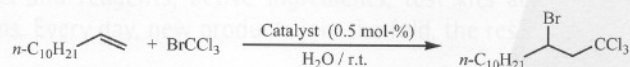
R. P. Verma,* C. Hansch

Taxane Analogues against Breast Cancer:
A Quantitative Structure–Activity
Relationship Study

ChemMedChem
DOI: 10.1002/cmdc.200700278

Revealing relationships: Quantitative
structure–activity relationships were
developed for four series of taxane deri-
vatives with respect to their inhibitory
activities against breast cancer cells. The
activities of these taxane derivatives are
largely dependent either on their hydro-
phobicity or the hydrophobic/molar
refractivity descriptor of their substitu-
ents.





The novel dinuclear complexes $[\{\text{RuCl}_2(\eta^6\text{-p-cymene})\}_2(\mu\text{-THDP})]$ and $[\{\text{MCl}(\eta^4\text{cod})\}_2(\mu\text{-THDP})]$ ($M = \text{Rh}, \text{Ir}$), containing the bridging ligand tris(1,2-dimethylhydrazino)diphosphane (THDP),

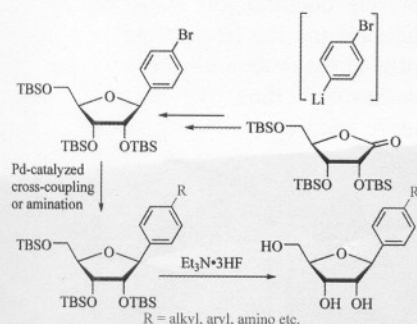
have been synthesized and used as catalysts in the atom-transfer radical addition of bromotrichloromethane to olefins (Kharasch reaction) in aqueous media.

Kharasch Reaction

A. E. Díaz-Álvarez, P. Crochet,*
 M. Zablocka,* C. Duhayon, V. Cadierno,
 J.-P. Majoral*

Developing the Kharasch Reaction in Aqueous Media: Dinuclear Group 8 and 9 Catalysts Containing the Bridging Cage Ligand Tris(1,2-dimethylhydrazino)diphosphane

Eur. J. Inorg. Chem.
 DOI: 10.1002/ejic.200701132



A modular and efficient synthesis of a series of diverse 4- and 3-substituted benzene and aniline C-ribonucleosides was developed on the basis of Pd-catalyzed cross-coupling and amination reactions of protected bromophenyl C-nucleosides.

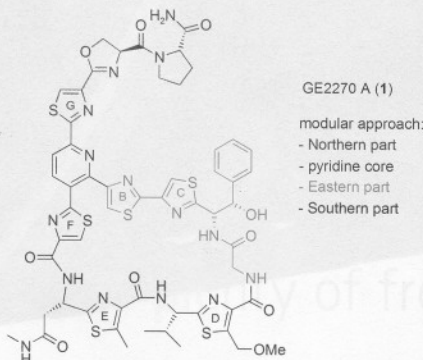
Benzene C-Ribonucleosides

M. Štefko, R. Pohl, B. Klepetářová,
 M. Hocek*

A Modular Methodology for the Synthesis of 4- and 3-Substituted Benzene and Aniline C-Ribonucleosides

Eur. J. Org. Chem.
 DOI: 10.1002/ejoc.200701168

A modular assembly of the individual thiazole fragments to the central pyridine core was achieved by regioselective cross-coupling reactions giving access to the title compound (see graphic) in an overall yield of 4.8% over 20 steps. The successful implementation of orthogonal metalation and protecting group strategies further contributed to the brevity of the total synthesis.



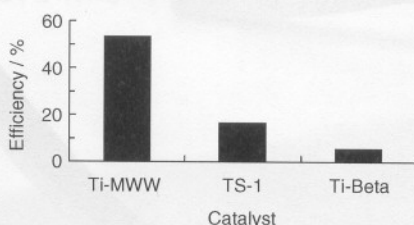
Antibiotics

O. Delgado, H. M. Müller, T. Bach*

Concise Total Synthesis of the Thiazolyl Peptide Antibiotic GE2270 A

Chem. Eur. J.
 DOI: 10.1002/chem.200701823

Ti time for dioxane: Oxidation of 1,4-dioxane with aqueous H_2O_2 over various titanosilicates was investigated. Use of Ti-MWW as catalyst leads to much higher conversions than with TS-1 and Ti-Beta under solvent-free conditions and is accounted for by a radical mechanism. The number of active intermediate Ti species is highly dependent on the substrate, solvent, and titanosilicate used.



Heterogeneous Catalysis

W. Fan, Y. Kubota, T. Tatsumi*

Oxidation of 1,4-Dioxane over Ti-MWW in the Presence of H_2O_2

ChemSusChem
 DOI: 10.1002/cssc.200700003



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