**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:**

*B. L. Merner, L. N. Dawe, G. J. Bodwell**
**1,1,8,8-Tetramethyl[8](2,11)teropyrenophane: Half of an Aromatic Belt and a Segment of an (8,8) Single-walled Carbon Nanotube**

*J. H. Ahn, B. Temel, E. Iglesia**
**Selective Homologation Routes to 2,2,3-Trimethylbutane on Solid Acids**

*B. Brugger, S. Rütten, K.-H. Phan, M. Möller, W. Richtering**
**Colloidal Suprastructure of Smart Microgels at Oil/Water Interfaces**

*N. Sprutta, S. Maćkowiak, M. Kocik, L. Szterenberg, T. Lis, L. Latos-Grażyński**
**Tetraazuliporphyrin Tetracation**

*R. Masuo, K. Ohmori, L. Hintermann, S. Yoshida, K. Suzuki**
**Stereoselective First Total Synthesis of FD-594 Aglycon**

*J. England, M. Martinho, E. R. Farquhar, J. R. Frisch, E. L. Bominaar,* E. Münck,* L. Que, Jr.**
**A Synthetic High-Spin Oxoiron(IV) Complex: Generation, Spectroscopic Characterization, and Reactivity**

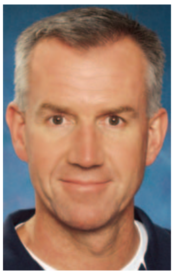
*C. R. Hess, T. Weyhermüller, E. Bill, K. Wieghardt**
**[{Fe(tim)}$_2$]: An Fe–Fe Dimer Containing an Unsupported Metal–Metal Bond and Redox-Active N$_4$-Macrocyclic Ligands**

*B. Liu, H. Wang, H. Xie, B. Zeng, J. Chen, J. Tao, T. B. Wen, Z. Cao, H. Xia**
**Osmapyridine and Osmapyridinium from a Formal [4+2] Cycloaddition Reaction**

*J. Tolosa, C. Kub, U. H. F. Bunz**
**Hyperbranched: A Universal Conjugated Polymer Platform?**

*D. Xu, Z. Liu, H. Yang, Q. Liu, J. Zhang, J. Fang,* S. Zou,* K. Sun*
**Solution-Based Evolution of Monodisperse Pt–Cu Nanocubes and Their Enhanced Methanol Oxidation Activity**

## News


C. Jones


O. M. Yaghi

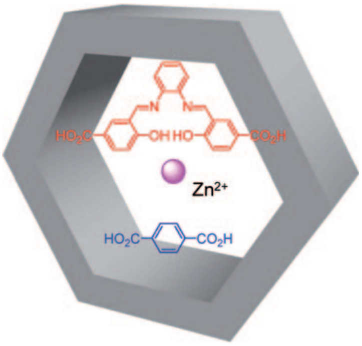
## Author Profile

*„The best advice I have ever been given is to never give up if it is worth it. My favorite subject at school was physics.…"*
This and more about Helmut Cölfen can be found on page 3013.

## Books

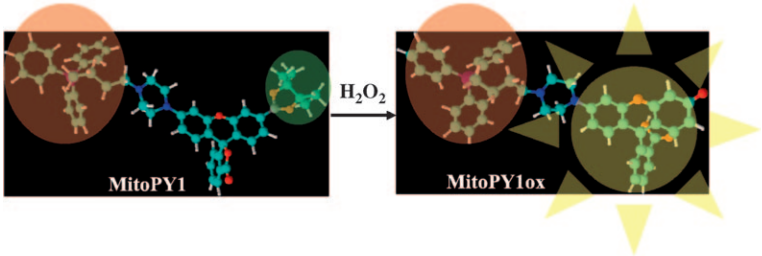
## Highlights

### Nano- and Microstructures



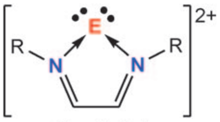
**Hex nut**: An emerging synthetic approach based on metal–organic coordination-polymer templates has been used to fabricate micro- and nanoscale crystals. By using a diverse range of molecular building blocks coupled with conventional synthetic techniques, it is possible to synthesize ZnO crystals with tailored sizes, shapes (such as hexagonal rings; see figure), and surface properties.

### Fluorescent Probes for $H_2O_2$



**A cunning plan**: In the multifunctional fluorescent probe MitoPY1 the phosphonium head group (red) targets mitochondria and the boronate group (green) responds to hydrogen peroxide. MitoPY1 reacts selectively with mitochondrial $H_2O_2$ in living cells, and an increase in fluorescence is triggered by the conversion of MitoPY1 into MitoPY1ox (yellow).

### Carbene Analogues



(E = S, Se)

**Chalcogen-transfer reagents?** The bonding in the dicationic rings $C_2N_2E^{2+}$ (see picture) differs from that in N-heterocyclic carbenes and their isovalent p-block analogues in accommodating a lone pair of electrons with $\pi$ symmetry, as well as $\sigma$ symmetry, on the chalcogen center. The labile electrophilic chalcogenium dications ($E^{2+}$) are potentially versatile chalcogen-transfer reagents in reactions with a variety of inorganic and organic substrates.

**For the USA and Canada:**
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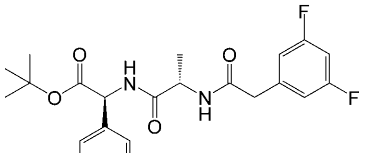
# Reviews

### *Medicinal Chemistry*

R. Jakob-Roetne,*
H. Jacobsen* **3030 – 3059**

Alzheimer's Disease: From Pathology to Therapeutic Approaches



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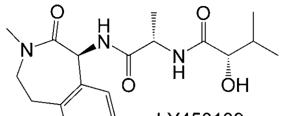


LY450139

**Mind how you go**: The current strategies for the development of therapies for Alzheimer's disease are very diverse. Particular attention is given to the search for inhibitors (see picture for two examples) of the proteolytic enzyme β- and γ-secretase, which inhibits the cleavage of the amyloid precursor proteins into amyloid β peptides, from which the disease-defining deposits of plaque in the brains of Alzheimer's patients originates.

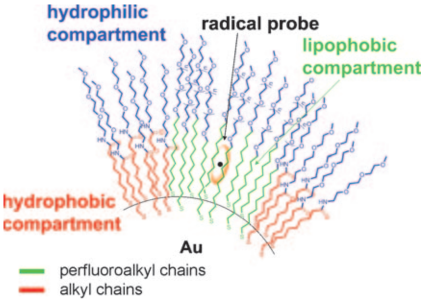
# Communications

### *Self-Assembled Monolayers*

C. Gentilini, P. Franchi, E. Mileo,
S. Polizzi, M. Lucarini,*
L. Pasquato* **3060 – 3064**

Formation of Patches on 3D SAMs Driven by Thiols with Immiscible Chains Observed by ESR Spectroscopy

**Beyond stripes**: The extreme lipophobicity of perfluorinated chains attached to amphiphilic thiolates triggers the formation of "stars" (or patches) surrounded by amphiphilic alkylthiolates in three-dimensional self-assembled monolayers. This strategy led to the first example of a water-soluble multicompartment monolayer wrapped around a gold core.

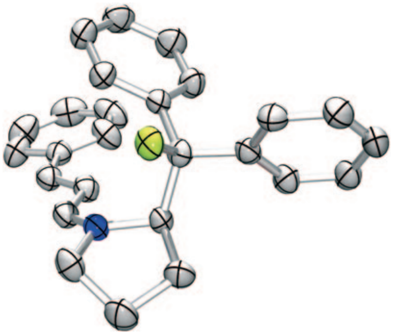


### *Conformational Analysis*

C. Sparr, W. B. Schweizer, H. M. Senn,
R. Gilmour* **3065 – 3068**

The Fluorine-Iminium Ion *Gauche* Effect: Proof of Principle and Application to Asymmetric Organocatalysis

**The *gauche* effect** that is induced upon reversible formation of an iminium ion (see structure: green F, blue N) provides a powerful method for the preorganization of transient intermediates that are central to secondary amine catalyzed processes. This phenomenon has been exploited in the design of a novel organocatalyst and is showcased in the stereoselective epoxidation of α,β-unsaturated aldehydes.

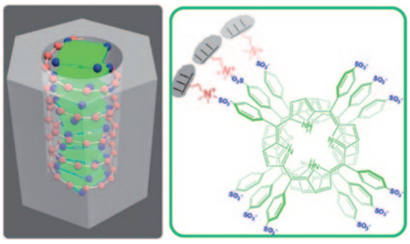


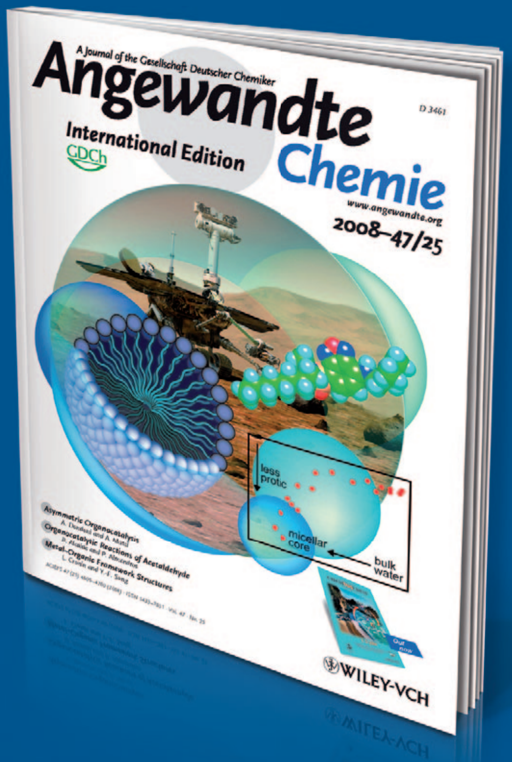
### *Chiral Imprinting*

H. Qiu, Y. Inoue, S. Che* **3069 – 3072**

Supramolecular Chiral Transcription and Recognition by Mesoporous Silica Prepared by Chiral Imprinting of a Helical Micelle

**Let's twist again**: The chirality of a helical propeller-like micelle has been memorized by functional groups on the mesopore surface of chiral mesoporous silicas. Such imprinted supramolecular chirality can be transcripted to poly(propiolic acid) sodium salt and tetraphenylporphine tetrasulfonic acid (see picture), and recognized by B-DNA.

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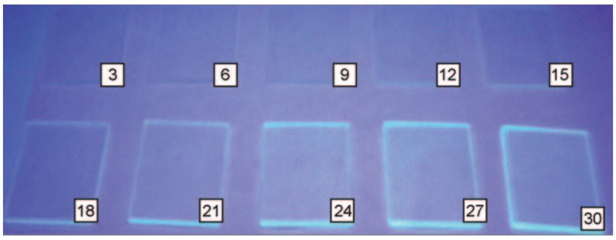
## Ultrathin Luminescent Films

D. P. Yan, J. Lu,* M. Wei,* J. B. Han, J. Ma, F. Li, D. G. Evans, X. Duan **3073 – 3076**

Ordered Poly(*p*-phenylene)/Layered Double Hydroxide Ultrathin Films with Blue Luminescence by Layer-by-Layer Assembly



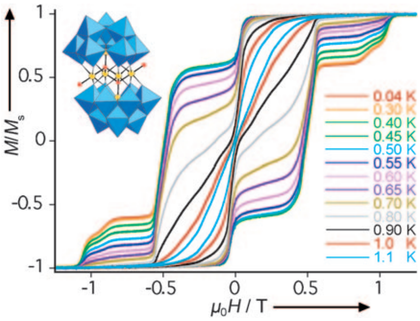
**Lavender layers**: A poly(*p*-phenylene) anionic derivate and exfoliated Mg-Al layered double hydroxide monolayers were assembled into ultrathin films with well-defined blue fluorescence (see picture; the numbers indicate the number of bilayers), long-range order, and high photostability. These films work as multiple quantum-well structures for valence electrons.

---

## Single-Molecule Magnets

J.-D. Compain, P. Mialane,* A. Dolbecq, I. M. Mbomekallé, J. Marrot, F. Sécheresse, E. Rivière, G. Rogez, W. Wernsdorfer **3077 – 3081**

Iron Polyoxometalate Single-Molecule Magnets



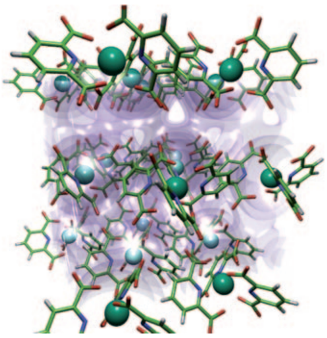
**Iron sandwich on a tungstate bun**: Two new polyoxotungstates with paramagnetic iron(III) heteroatoms (see structure, W blue, Fe yellow, O red) possess $S=15/2$ and $S=5$ ground states. Both compounds are single-molecule magnets, and the hexairon species shows large hysteresis (see picture) and quantum tunneling effects at low temperature. Electrochemical studies indicate that these species are stable in solution for a wide range of pH values.

---

## NMR Crystallography

G. Kervern, A. D'Aléo, L. Toupet, O. Maury, L. Emsley, G. Pintacuda* **3082 – 3086**

Crystal-Structure Determination of Powdered Paramagnetic Lanthanide Complexes by Proton NMR Spectroscopy



**Shifts for crystals**: Solid-state NMR spectroscopy can be used for structure determination of microcrystalline paramagnetic solids at natural isotopic abundance. The protocol makes use of paramagnetic effects, measured on suitably recorded $^1$H NMR spectra, to define the conformation of a molecule in the lattice and the intermolecular packing in the solid phase. The method is illustrated with a family of lanthanide compounds (see picture).

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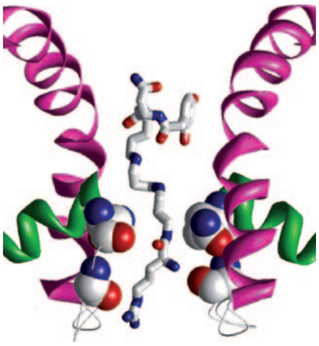
## Biologically Active Compounds

J. K. Nelson, S. U. Frølund, D. B. Tikhonov, A. S. Kristensen, K. Strømgaard* **3087 – 3091**

Synthesis and Biological Activity of Argiotoxin 636 and Analogues: Selective Antagonists for Ionotropic Glutamate Receptors

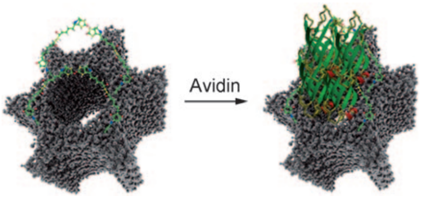


**More discerning than the parent**: Analogues of the polyamine toxin argiotoxin 636 (shown docked in the ion channel of an ionotropic glutamate (iGlu) receptor; N blue, O red) distinguish subtypes of iGlu receptors. Depending on which of the two internal amine groups is replaced with a methylene group, the analogue inhibits one or other of two receptor subtypes as potently as the natural compound, which itself inhibits both subtypes nonselectively.

## Host–Guest Systems

A. Schlossbauer, J. Kecht,
T. Bein* ________________ **3092 – 3095**

Biotin–Avidin as a Protease-Responsive Cap System for Controlled Guest Release from Colloidal Mesoporous Silica



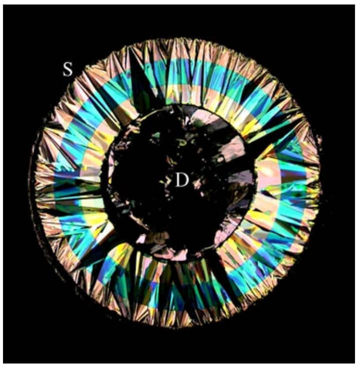
**Tell your guests when it's time to go**: When avidin caps are attached to biotinylated colloidal mesoporous silica, the four subunits of the protein avidin can each bind to a biotin moiety attached to the surface (see picture). The resulting material is a promising candidate for the design of smart detergents or drug-delivery systems. The caps can be opened to release guest molecules by controlled enzymatic hydrolysis of the protein.

## Crystal Growth

J.-P. Hong, S. Lee* ________ **3096 – 3098**

Solution-Based Direct Growth of Organic Crystals on an Active Channel Region for Printable Bottom-Contact Organic Field-Effect Transistors

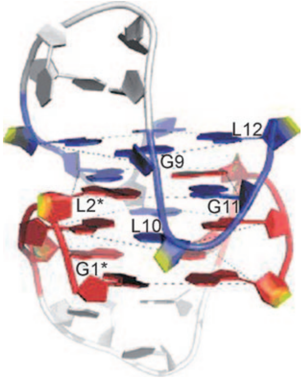
**The growth and self-organization** of organic crystals between a source (S) and drain (D) electrode by a method based on the use of a micropipette and isothermal evaporation of the solvent in a two-liquid system led to the formation of organic-crystal transistors (see polarized optical micrograph). The method is similar to ink-jet printing and should be suitable for the fabrication of low-cost and mass-producible printed electronic devices.



## DNA Structures

J. T. Nielsen, K. Arar,
M. Petersen* ____________ **3099 – 3103**

Solution Structure of a Locked Nucleic Acid Modified Quadruplex: Introducing the V4 Folding Topology



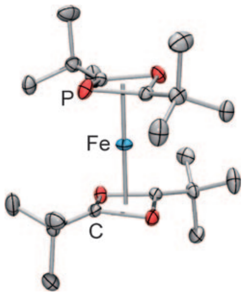
**Sharp curves**: The structure of a locked nucleic acid modified telomeric sequence from *Oxytricha nova* displays a remarkable folding topology, distinct from the native *O. nova* quadruplex. Each guanine stretch folds back in a V-shaped turn that puts the first and fourth guanines in the same tetrad, looping over a tetrad with a sharp turn in the DNA backbone, showing how subtle interplay between sequence and conformation defines the folding topology.

## Cyclobutadiene Ligands

R. Wolf, J. C. Slootweg, A. W. Ehlers,
F. Hartl, B. de Bruin, M. Lutz, A. L. Spek,
K. Lammertsma* __________ **3104 – 3107**

A Phosphorus Analogue of Bis($\eta^4$-cyclobutadiene)iron(0)

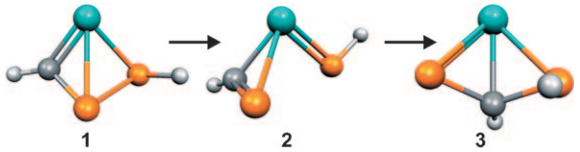
**P makes it possible**: The convenient oxidative synthesis of the 16-electron organophosphorus iron sandwich complex $[\mathrm{Fe}(\eta^4\text{-}\mathrm{P_2C_2}t\mathrm{Bu_2})_2]$ (see structure) suggests that the elusive all-carbon complex $[\mathrm{Fe}(\eta^4\text{-}\mathrm{C_4H_4})_2]$ is a viable synthetic target.



### Carbene Ligands

H. Aktas, J. C. Slootweg, A. W. Ehlers,
M. Lutz, A. L. Spek,
K. Lammertsma* ———— **3108 – 3111**

$\eta^3$-Diphosphavinylcarbene: A $P_2$ Analogue of the Dötz Intermediate



**Do the twist**: The reaction of in situ generated phosphinidenes with phosphaalkynes is a facile route to the new metal-coordinated $\eta^3$-diphosphavinylcarbene **1**, which shows facile ligand-exchange reactions and undergoes an unprecedented rearrangement that involves phosphinidene complex **2** and $\eta^3$-phosphaalkenylphosphinidene complex **3**, the 1,3 isomer of **1**.

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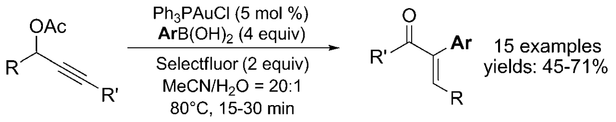
### Homogeneous Catalysis

G. Zhang, Y. Peng, L. Cui,
L. Zhang* ———— **3112 – 3115**

Gold-Catalyzed Homogeneous Oxidative Cross-Coupling Reactions



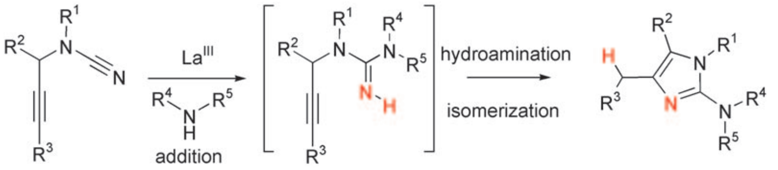
**Oxidizing gold?** A gold(I)/gold(III) catalytic cycle is essential for the first oxidative cross-coupling reaction in gold catalysis. By using Selectfluor for gold(I) oxidation, this chemistry reveals the synthetic potential of incorporating gold(I)/gold(III) catalytic cycles into contemporary gold chemistry and promises a new area of gold research by merging powerful gold catalysis and oxidative metal-catalyzed cross-coupling reactions.

---

### Heterocycles

R. L. Giles, J. D. Sullivan, A. M. Steiner,
R. E. Looper* ———— **3116 – 3120**

Addition–Hydroamination Reactions of Propargyl Cyanamides: Rapid Access to Highly Substituted 2-Aminoimidazoles



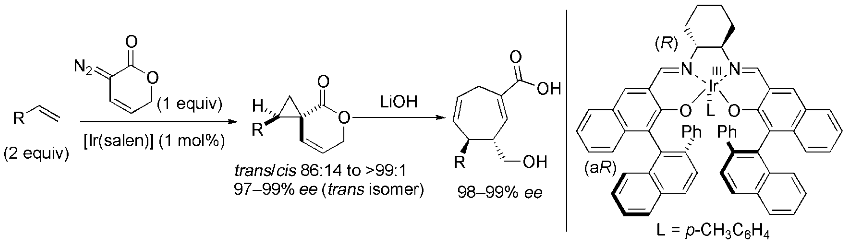
**A valuable pharmacophore**, the 2-aminoimidazole moiety, can be accessed with a variety of substitution patterns through an addition–hydroamination–isomerization sequence (see scheme; $R^1$,$R^4$,$R^5$ = alkyl; $R^3$ = alkyl, aryl; $R^2$ = H, alkyl, aryl). The synthesis of the propargyl cyanamide precursors through a three-component coupling enables the preparation of this important heterocyclic core structure in just three steps.

---

### Cyclopropanation

M. Ichinose, H. Suematsu,
T. Katsuki* ———— **3121 – 3123**

Efficient Construction of $\alpha$-Spirocyclopropyl Lactones: Iridium–Salen-Catalyzed Asymmetric Cyclopropanation

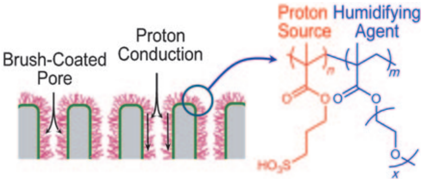


**Three- and seven-membered rings** were constructed by the title reaction of terminal olefins with vinyldiazolactone as a carbene source, the seven-membered rings upon subsequent hydrolysis and Cope rearrangement when 1,3-dienes were used (see example). The $\alpha$-spirocyclopropyl lactones were formed with high *E* (*trans*) selectivity and high enantioselectivity, and cyclopropanation occurred at the terminal double bond in 1,3-dienes with excellent regioselectivity.

## Materials Science

B. Yameen, A. Kaltbeitzel, A. Langer,
F. Müller, U. Gösele, W. Knoll,
O. Azzaroni* ______ 3124 – 3128

### Highly Proton-Conducting Self-Humidifying Microchannels Generated by Copolymer Brushes on a Scaffold

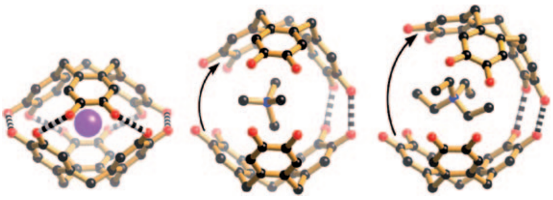


**Filling in the gaps**: Macroporous silicon membranes modified with sulfonated polymer brushes have been synthesized by pore-filling surface polymerization (see picture) to give proton-conducting channels with tailor-made, finely tuned physicochemical characteristics. These membranes display high conductivity values (ca. $10^{-2}\,\mathrm{S\,cm^{-1}}$) regardless of the humidity, thus surpassing the performance of nafion.

## Hydrogen Bonding

B. F. Abrahams,* N. J. FitzGerald,
T. A. Hudson, R. Robson,*
T. Waters ______ 3129 – 3132

### Closed and Open Clamlike Structures Formed by Hydrogen-Bonded Pairs of Cyclotricatechylene Anions that Contain Cationic "Meat"

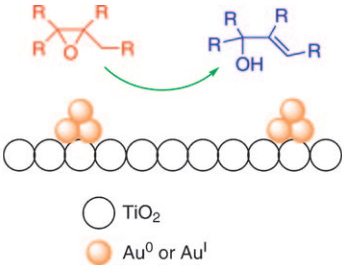


**Clamming up**: The hexaphenolic compound cyclotricatechylene, which has a bowl-shaped cavity, forms clamlike pairs that encapsulate cations (see picture). Variable hydrogen bonding allows two linked cyclotricatechylene clamshells to be in a closed arrangement when smaller cations such $Rb^+$ or $Cs^+$ provide the clam meat, whereas larger cations such as $NMe_4^+$ and $NEt_4^+$ cause the clam to be partially opened.

## Heterogeneous Catalysis

C. Raptis, H. Garcia,*
M. Stratakis* ______ 3133 – 3136

### Selective Isomerization of Epoxides to Allylic Alcohols Catalyzed by $TiO_2$-Supported Gold Nanoparticles

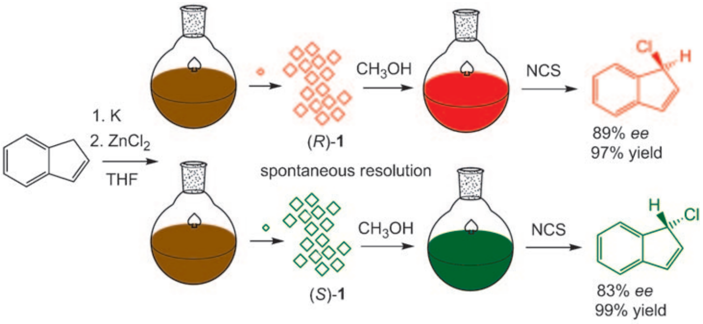


**ReacTiO$_2$ns for rings**: Gold nanoparticles supported on $TiO_2$ are used as a novel heterogeneous catalyst for the isomerization of epoxides to allylic alcohols by a concerted mechanism (see scheme). The reaction proceeds in high yields and the product selectivity is often remarkable.

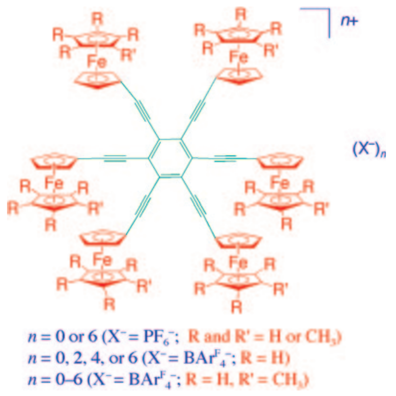
## Synthetic Methods

A. Lennartson, S. Olsson, J. Sundberg,
M. Håkansson* ______ 3137 – 3140

### A Different Approach to Enantioselective Organic Synthesis: Absolute Asymmetric Synthesis of Organometallic Reagents



**Voilà, optical activity**: Both enantiomers of 1-chloroindene have been synthesized in high selectivity from solely achiral starting materials, and without using optically active catalysts (see scheme). These symmetry-breaking syntheses provide a proof-of-concept for a new approach to asymmetric synthesis. NCS = *N*-chlorosuccinimide.



**A new family** of hexakis(ferrocenylethynyl)benzenes was synthesized by Negishi coupling from ethynylferrocenes and $C_6Br_6$ and can be reversibly oxidized to stable hexaferrocenium salts (see picture, $Ar^F = [3,5\text{-}C_6H_3(CF_3)_2]$). Their cyclic voltammograms show a single six-electron wave, three distinct two-electron waves, or a cascade of six single-electron waves, depending on the electrolyte counterion and number of methyl substituents on the ferrocenyl groups.

## Dendrimer Models

A. K. Diallo, J.-C. Daran, F. Varret, J. Ruiz, D. Astruc* ________ 3141 – 3145

How Do Redox Groups Behave around a Rigid Molecular Platform? Hexa(ferrocenylethynyl)benzenes and Their "Electrostatic" Redox Chemistry

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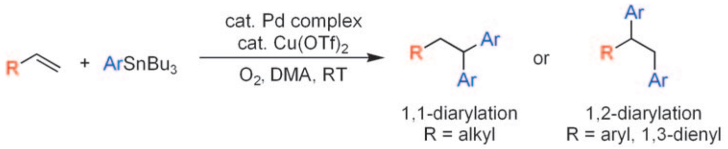

**A cationic palladium complex** catalyzes the title transformations, which are thought to proceed via a π-allyl or π-benzyl intermediate. The regioselectivity of the reaction (1,2- or 1,1-difunctionalization) depends on the type of terminal double bond (conjugated or nonconjugated) in the substrate (see scheme) and appears to be controlled by the relative rates of β-hydride elimination and transmetalation. DMA = dimethylacetamide, Tf = triflyl.

## Cross-Coupling

K. B. Urkalan, M. S. Sigman* ________ 3146 – 3149

Palladium-Catalyzed Oxidative Intermolecular Difunctionalization of Terminal Alkenes with Organostannanes and Molecular Oxygen

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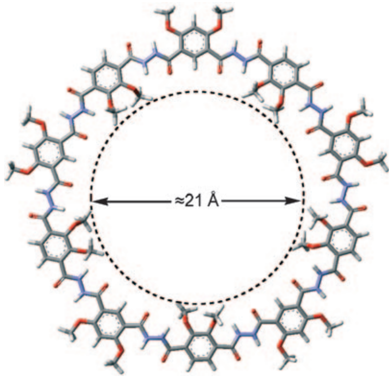

**The shape of things to come**: Aromatic oligohydrazide macrocycles with planar backbones enforced by three-center hydrogen bonds are formed in high yield from monomeric diacid chlorides and dihydrazides. Macrocycles consisting of six *meta*-linked pyridine and benzene residues have an internal cavity of about 10 Å diameter, while those with alternating *meta*- and *para*-linked benzene residues are larger and contain multiple convergent sites (see picture).

## Macrocycle Synthesis

J. S. Ferguson, K. Yamato, R. Liu, L. He,* X. C. Zeng,* B. Gong* ________ 3150 – 3154

One-Pot Formation of Large Macrocycles with Modifiable Peripheries and Internal Cavities

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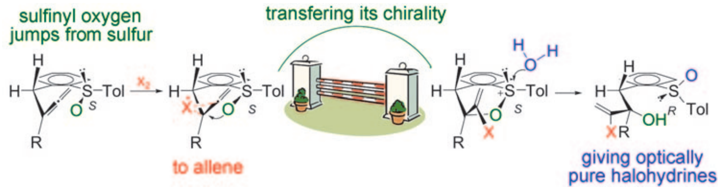


**No hurdle is too high**: The regioselectivity and stereoselectivity of the halohydroxylation of non-activated allenes are controlled by a remote sulfinyl group through anchimeric assistance (see scheme). The resulting halohydrines are excellent chiral targets for the preparation of optically pure propargylic alcohols and Baylis–Hillman-type products.

## Asymmetric Synthesis

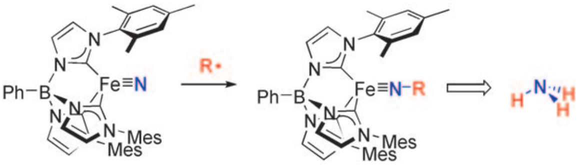
J. L. G. Ruano,* V. Marcos, J. Alemán* ________ 3155 – 3157

Complete Regio- and Stereoselectivity Control in the Halohydroxylation of Non-activated Allenes Mediated by a Remote Sulfinyl Group

## Iron Nitrido Complexes

J. J. Scepaniak, J. A. Young, R. P. Bontchev,
J. M. Smith* ______________ 3158 – 3160

Formation of Ammonia from an Iron Nitrido Complex



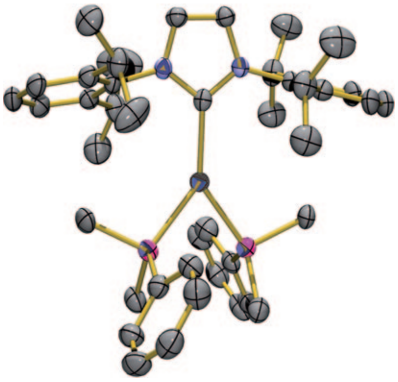
**Radical ideas**: Reaction of the iron(IV) nitrido complex [PhB(MesIm)$_3$Fe≡N] (see picture, Mes = 2,4,6-Me$_3$C$_6$H$_2$) with TEMPO-H (1-hydroxy-2,2,6,6-tetramethylpiperidine) results in high yields of ammonia and quantitative formation of [PhB(MesIm)$_3$Fe(tempo)]. The mechanism likely involves hydrogen-atom transfer from TEMPO-H to the nitrido complex. Similar reaction with the triphenylmethyl radical yields [PhB(MesIm)$_3$-Fe≡N–CPh$_3$].

## Coordination Complexes

G. Berthon-Gelloz, B. de Bruin, B. Tinant,
I. E. Markó* ______________ 3161 – 3164

Structure and Reactivity of a Unique Y-Shaped Tricoordinate Bis(silyl)platinum(II)–NHC Complex

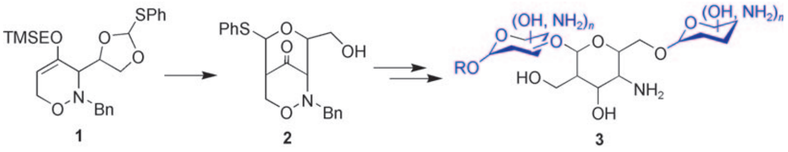
**Y not?** A unique, three-coordinate Y-shaped bis(silyl)platinum(II) complex was isolated and characterized (see structure; C light gray, N blue, Si pink, Pt dark gray). DFT studies on a model system shed light on the nature of this unusual coordination mode for platinum(II).



## Carbohydrates

F. Pfrengle, D. Lentz,
H.-U. Reissig* ______________ 3165 – 3169

Stereodivergent De Novo Synthesis of Branched Amino Sugars by Lewis Acid Promoted Rearrangement of 1,2-Oxazines



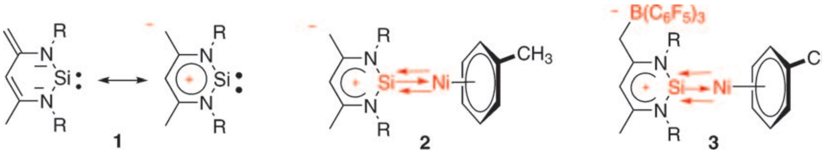
TMSE = 2-(trimethylsilyl)ethyl

**Well concealed**: 1,2-oxazines such as **1** rearrange under Lewis acidic conditions to bicyclic products of type **2**, which can be incorporated into oligosaccharides as protected amino sugar equivalents. Subsequent reductive steps provide unusual oligosaccharides **3** having C2-branched 4-amino sugar units. Most of the reactions proceed with excellent stereocontrol and allow the synthesis of a collection of stereoisomers.

## Silylene Complexes

A. Meltzer, C. Präsang, C. Milsmann,
M. Driess* ______________ 3170 – 3173

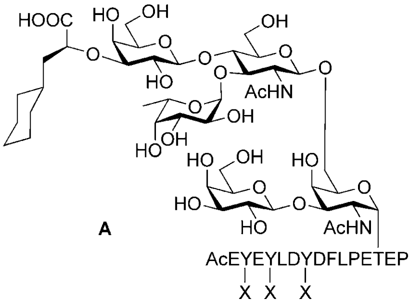
The Striking Stabilization of Ni$^0$(η$^6$-Arene) Complexes by an Ylide-Like Silylene Ligand



**The right mix does the trick**: Elusive {Ni$^0$(η$^6$-arene)} moieties can be dramatically stabilized by the N-heterocyclic silylene ligand **1**, which has a zwitterionic mesomeric structure. The σ,π-acid–base synergism between nickel and **1** explains the unexpectedly high stability of the new silylene complexes **2**, which enables arene exchange studies at a Ni$^0$ center. Addition of B(C$_6$F$_5$)$_3$ to **2** affords the zwitterionic silylene complex **3** (see scheme, R = 2,6-$i$Pr$_2$C$_6$H$_3$).

### Glycopeptides

**Total synthesis through block glycosylation** and selective chemical O-sulfation of tyrosine residues yielded the glycopeptide recognition domain **A** (X = $SO_3^-$) of the P-selectin glycoprotein ligand 1, in which the terminal sialic acid of the complex hexasaccharide side chain was replaced by (*S*)-cyclohexyl lactic acid. In binding assays the *O*-sulfated structure **A** showed high affinity towards P-selectin, the non-sulfated towards E-selectin.

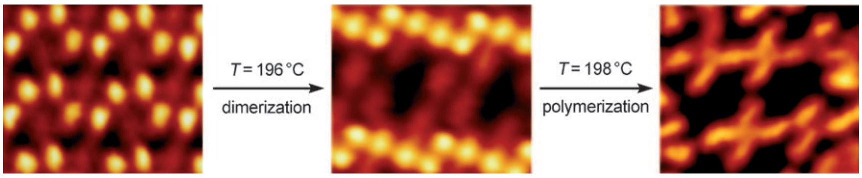


**A**

K. Baumann, D. Kowalczyk, T. Gutjahr, M. Pieczyk, C. Jones, M. K. Wild, D. Vestweber, H. Kunz* ____ **3174 – 3178**

Sulfated and Non-Sulfated Glycopeptide Recognition Domains of P-Selectin Glycoprotein Ligand 1 and their Binding to P- and E-Selectin

### Self-Assembly

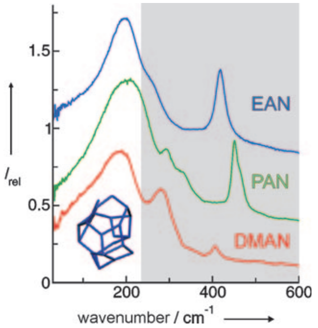


**Like pearls on a string**, molecular building blocks have been preorganized and then interlinked on a surface (see STM images). In this way both the supramolecular self-assembly of the reactants as well as the subsequent thermal activation to release the protecting group are controlled.

S. Boz, M. Stöhr,* U. Soydaner, M. Mayor* ____ **3179 – 3183**

Protecting-Group-Controlled Surface Chemistry—Organization and Heat-Induced Coupling of 4,4′-Di(*tert*-butoxycarbonylamino)biphenyl on Metal Surfaces

### Protic Ionic Liquids



**Similarities and differences**: Far-infrared spectra of protic ionic liquids could be assigned to intermolecular bending and stretching modes of hydrogen bonds. The characteristics of the low-frequency spectra resemble those of water. Both liquids form three-dimensional network structures, but only water is capable of building tetrahedral configurations. EAN: ethylammonium nitrate, PAN: propylammonium nitrate, DMAN: dimethylammonium nitrate.

K. Fumino, A. Wulf, R. Ludwig* ____ **3184 – 3186**

Hydrogen Bonding in Protic Ionic Liquids: Reminiscent of Water

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

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

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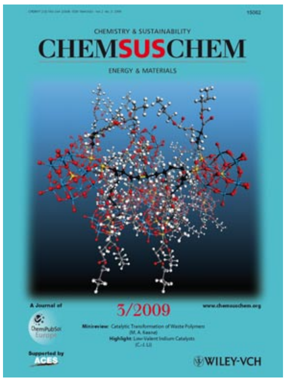
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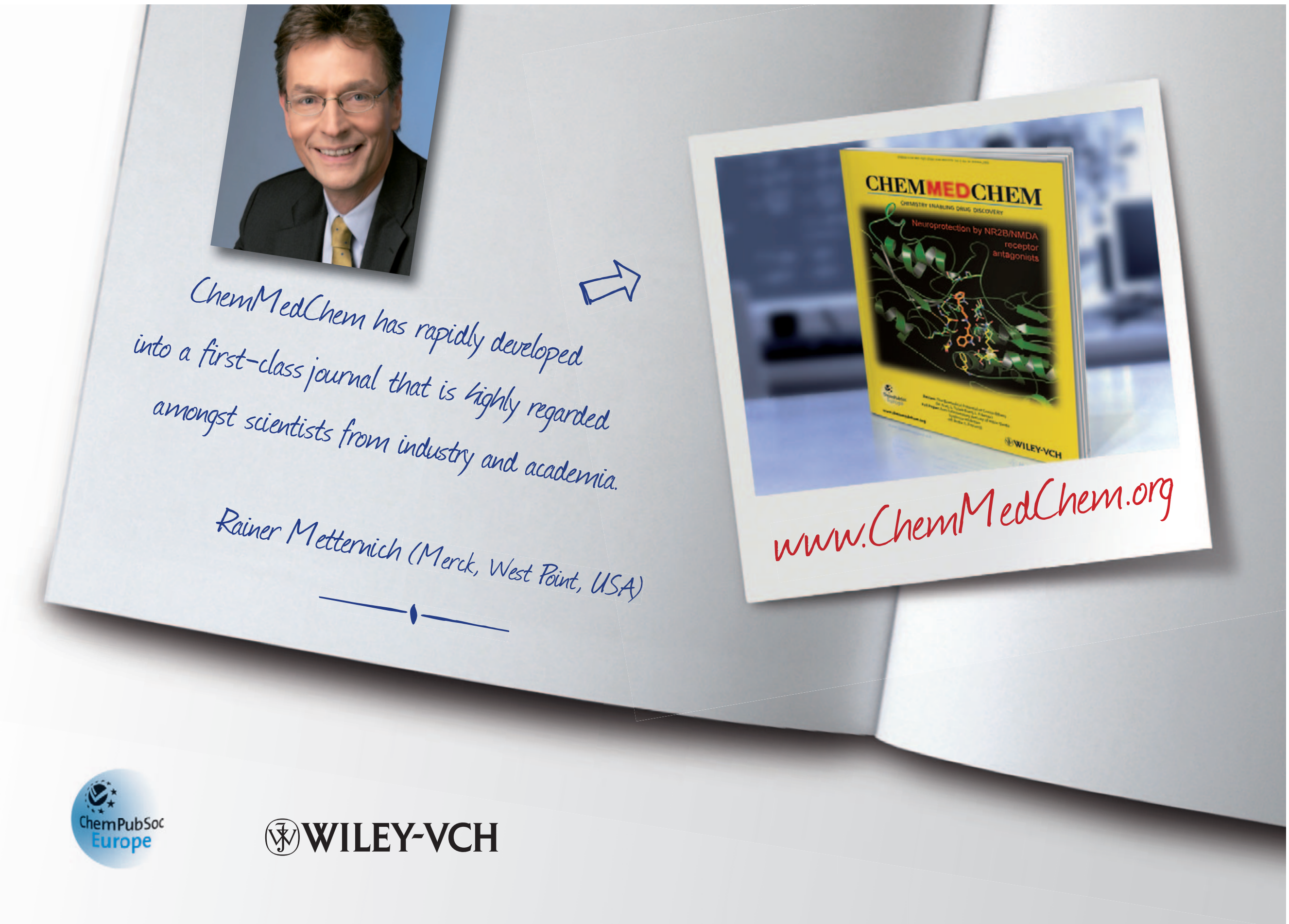
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