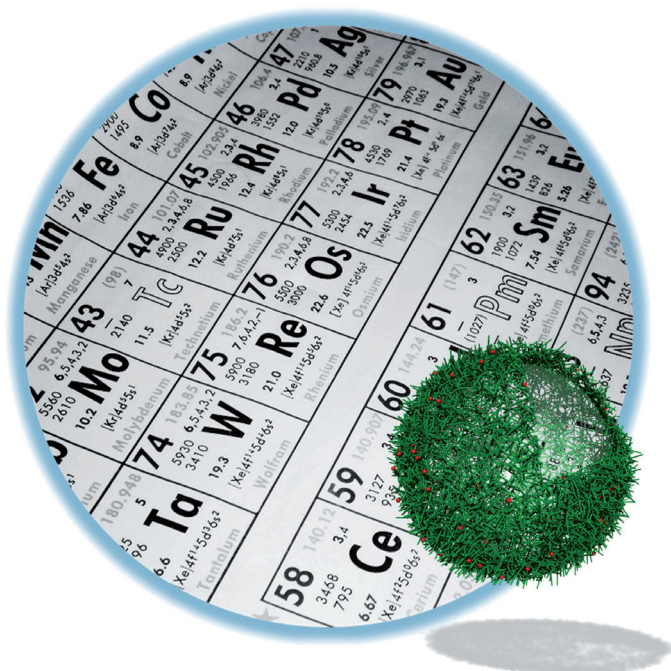


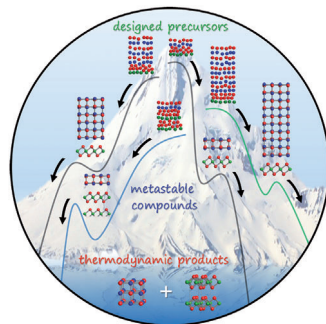
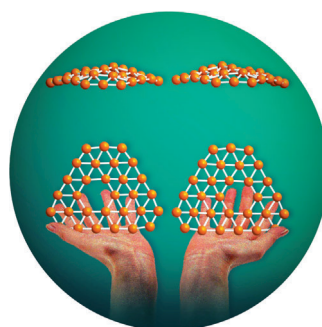
Multifunctional capsules ...



... were assembled through interactions between metal ions and a single organic ligand. In their Communication on page 5546 ff., F. Caruso et al. show that a common phenolic plant compound, tannic acid, can be used to coordinate a variety of metals, yielding a library of metal-phenolic network (MPN) capsules. The functional properties of the MPN capsule are determined by the coordinated metals and can be tailored for various applications.

Chiral Boron Clusters

The $[B_{30}]^-$ cluster exists as a pair of planar structures with a hexagonal hole at different positions. J. Li, L.-S. Wang, and co-workers show in their Communication on page 5540 ff. that these two isomers are enantiomers.

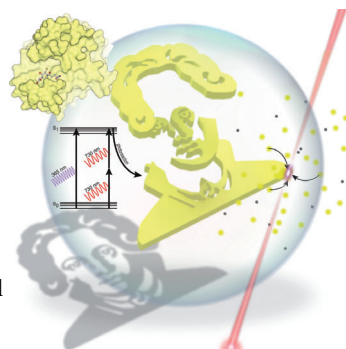


Targeted Synthesis

In their Communication on page 5672 ff., D. C. Johnson and co-workers describe how designed precursors can be used to direct the self-assembly of targeted intergrowth structures.

Protein Networks

In their Communication on page 5680 ff., R. Tampé et al. describe a new way to arrange fusion proteins in a biocompatible hydrogel with minimal distortion using two-photon activation.



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Spotlight on Angewandte's Sister Journals

5494 – 5497

Modern Methods in Stereoselective
Aldol Reactions

Rainer Mahrwald

Service

Books

reviewed by C. Spino _____ 5498

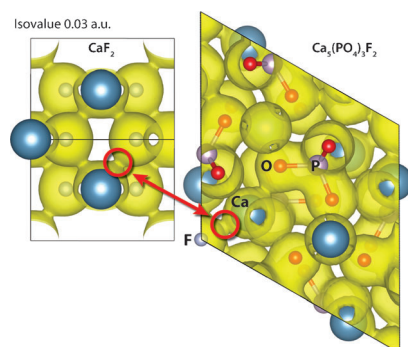
Author Profile

René Peters _____ 5499



*"In a spare hour, I enjoy being in nature with my husky.
My favorite way to spend a holiday is to relax by the
sea ..."*

This and more about René Peters can be found on page
5499.



No covalency: Based on quantum chemical calculations it is shown that the computational results presented in a recent publication of Wang and co-workers do not support the claim that Ca–F bonding in $\text{Ca}_5(\text{PO}_4)_3\text{F}$ is covalent. Consequently, Ca–F covalency cannot be held responsible for tooth strengthening or decay.

Correspondence

Chemical Bonding

A. J. Karttunen,* F. Kraus* _ 5502 – 5503

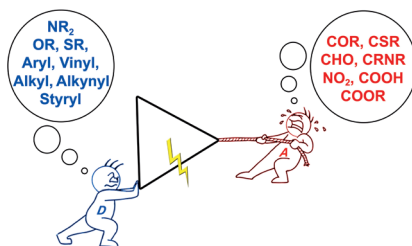
Comment on "Fluorine in Shark Teeth: Its Direct Atomic-Resolution Imaging and Strengthening Function"

Reviews

Synthetic Methods

T. F. Schneider, J. Kaschel,
D. B. Werz* ————— 5504 – 5523

A New Golden Age for Donor–Acceptor
Cyclopropanes

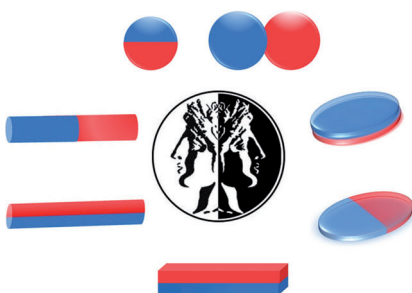


Tug-of-war on cyclopropanes: Even though donor–acceptor-substituted cyclopropanes were already investigated 30 years ago, the last few years have brought about a renaissance in their chemistry. This Review highlights the most recent developments regarding ring opening, cycloadditions, and ring enlargement.

Strictly Biphasic Janus Structures

X. Pang, C. Wan, M. Wang,
Z. Lin* ————— 5524 – 5538

Strictly Biphasic Soft and Hard Janus
Structures: Synthesis, Properties, and
Applications



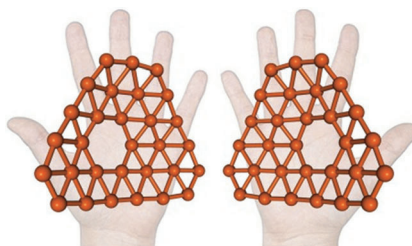
Best of both worlds: Janus structures comprise two hemistruces with different compositions and functionalities. This Review summarizes the synthetic routes to soft, hard, and hybrid soft/hard Janus structures, and discusses their properties and applications.

Communications

Chiral Boron Cluster

W. L. Li, Y. F. Zhao, H. S. Hu, J. Li,*
L. S. Wang* ————— 5540 – 5545

[B₃₀][−]: A Quasipolar Chiral Boron Cluster



Holey chiral: The [B₃₀][−] cluster was characterized by photoelectron spectroscopy and ab initio calculations. A pair of planar structures with a hexagonal hole at different positions are found to be degenerate with identical electronic structures. These two isomers are enantiomers, suggesting that [B₃₀][−] is the first chiral boron cluster.

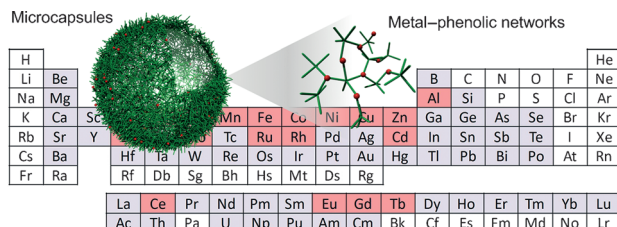
Frontispiece

For the USA and Canada:

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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.



Multifunctional capsules: A common plant phenolic compound, tannic acid, can be used to coordinate a variety of metals through a one-step assembly process, thereby yielding a broad library of

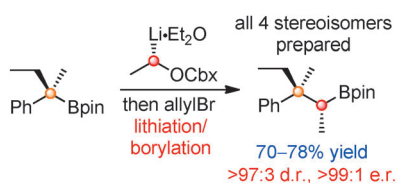
metal-phenolic network (MPN; see picture) capsules. The properties of the MPN capsules are determined by the coordinated metals.

Organic-Inorganic Hybrid Materials

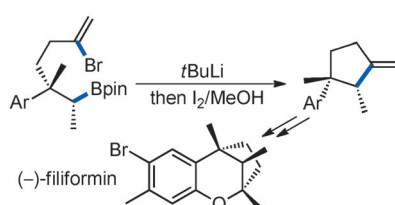
J. Guo, Y. Ping, H. Ejima, K. Alt, M. Meissner, J. J. Richardson, Y. Yan, K. Peter, D. von Elverfeldt, C. E. Hagemeyer, F. Caruso* _____ **5546–5551**

Engineering Multifunctional Capsules through the Assembly of Metal-Phenolic Networks

Front Cover



True to (fili)form: Lithiation/borylation methodology has been developed for the synthesis of acyclic quaternary-tertiary motifs with full control of relative and absolute stereochemistry, thus leading to all four possible isomers of a stereodiad.



A novel intramolecular Zweifel-type olefination enabled acyclic stereocontrol to be transformed into cyclic stereocontrol. These key steps were applied to the enantioselective synthesis of (–)-filiformin.

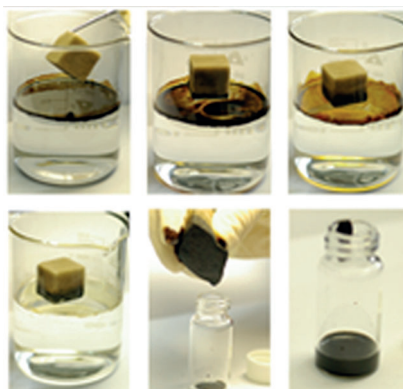
Synthetic Methods

D. J. Blair, C. J. Fletcher, K. M. P. Wheelhouse, V. K. Aggarwal* _____ **5552–5555**

Stereocontrolled Synthesis of Adjacent Acyclic Quaternary-Tertiary Motifs: Application to a Concise Total Synthesis of (–)-Filiformin



Coming clean: A robust and flame-retardant sponge has been prepared from the commercially available melamine sponge through a simple and mild two-step strategy. The superhydrophobicity, high porosity, robust stability, and intrinsic flame-retardant nature of the sponge enable the absorption and recycling of crude oil (see picture) as well as organic solvents. The fabrication of this sponge is easy to scale up.



Environmental Chemistry

C. P. Ruan, K. L. Ai, X. B. Li, L. H. Lu* _____ **5556–5560**

A Superhydrophobic Sponge with Excellent Absorbency and Flame Retardancy

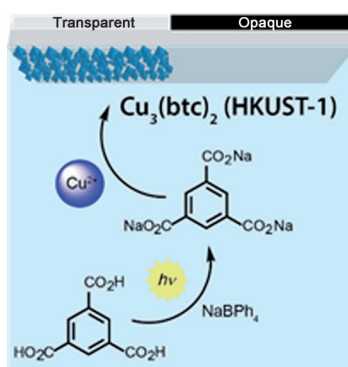


Metal–Organic Framework Films

B. K. Keitz, C. J. Yu, J. R. Long,
R. Ameloot* — 5561 – 5565



Lithographic Deposition of Patterned
Metal–Organic Framework Coatings
Using a Photobase Generator



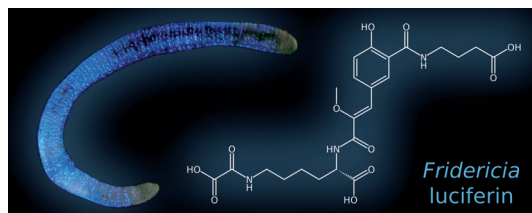
A photobase generator and UV irradiation were used to generate the metal–organic frameworks HKUST-1 and $\{\text{Cu}_2(\text{trans-1,4-cyclohexanedicarboxylate})_2\}$ at room temperature. This method was subsequently applied to the preparation of patterned metal–organic framework coatings.

Bioluminescence

V. N. Petushkov, M. A. Dubinnyi,
A. S. Tsarkova, N. S. Rodionova,
M. S. Baranov, V. S. Kublitski,
O. Shimomura,
I. V. Yampolsky* — 5566 – 5568



A Novel Type of Luciferin from the
Siberian Luminous Earthworm *Fridericia
heliota*: Structure Elucidation by Spectral
Studies and Total Synthesis



Feeling blue: UV, fluorescence, NMR, and HRMS spectroscopy studies were used to elucidate the structure of the luciferin from the recently discovered luminous earthworm *Fridericia heliota*. The luciferin,

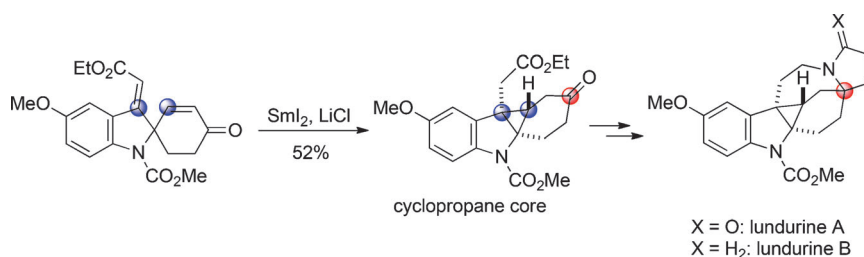
which is part of a novel ATP-dependent bioluminescent system, was found to be a peptide formed from oxalic acid, lysine, a modified tyrosine residue, and γ -aminobutyric acid.

Natural Products

S. Arai, M. Nakajima,
A. Nishida* — 5569 – 5572



A Concise and Versatile Synthesis of
Alkaloids from *Kopsia tenuis*: Total
Synthesis of (\pm)-Lundurine A and B



To the core: The total synthesis of (\pm)-lundurines A and B is described. One of the key reactions is a Sml_2 -mediated cyclopropanation, which delivered the core structure with perfect stereocontrol of the quaternary carbon centers. Palla-

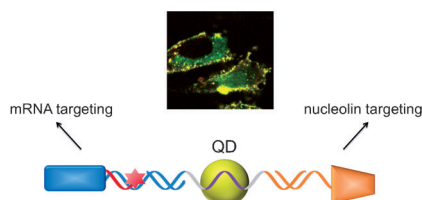
dium- and ruthenium-catalyzed cyclizations were also effective for constructing seven- and five-membered heterocycles, respectively, to complete the total syntheses.

Molecular Imaging

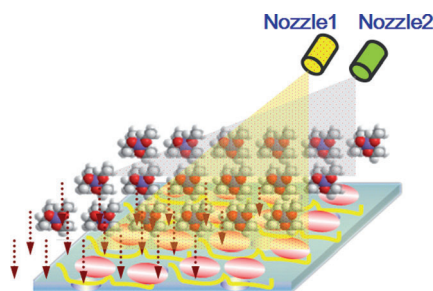
W. Wei, X. He, N. Ma* — 5573 – 5577



DNA-Templated Assembly of
a Heterobivalent Quantum Dot
Nanoprobe For Extra- and Intracellular
Dual-Targeting and Imaging of
Live Cancer Cells



Put two and two together: Two spatially isolated cancer markers (nucleolin and mRNA) present on the cell surface and in cell cytosol, respectively, have been targeted with a DNA-templated heterobivalent quantum dot (QD) nanoprobe. Fluorescence resonance energy transfer based confocal microscopy allows imaging and unambiguous signal deconvolution of the mRNA-targeting QD nanoprobes inside cancer cells.

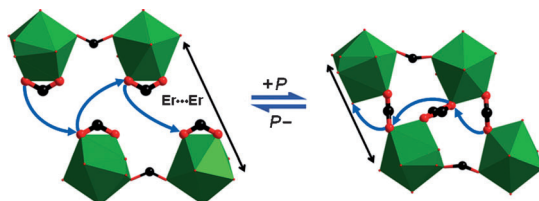


Thin and functional: A ZIF-8/polymer suspension and a cross-linker/catalyst solution were simultaneously sprayed onto a polysulfone substrate (see picture). The nanoparticles of the zeolitic imidazolate framework ZIF-8 were dispersed uniformly and separated from one another by the polymer chains. The resulting ZIF-8/polymer nanohybrid membranes exhibited excellent biobutanol-permeative pervaporation.

Mixed-Matrix Membranes

H. W. Fan, Q. Shi, H. Yan, S. Ji, J. X. Dong, G. J. Zhang* — 5578 – 5582

Simultaneous Spray Self-Assembly of Highly Loaded ZIF-8-PDMS Nanohybrid Membranes Exhibiting Exceptionally High Biobutanol-Permeative Pervaporation



A reversible pressure-induced phase transformation associated with a substantial bond rearrangement is discovered in the metal-organic framework [tmenH₂][Er(HCOO)₄]₂ (tmenH₂²⁺ = N,N,N',N'-tetramethylethylenediammonium).

The transition is first-order and is accompanied by a unit cell volume change of about 10%. X-ray diffraction studies reveal the complex bond rearrangement process.

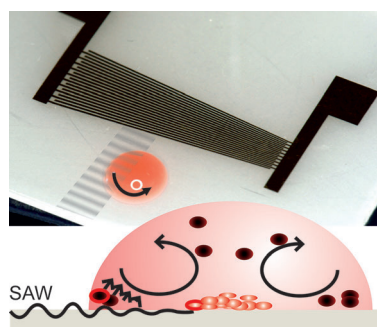
Metal-Organic Frameworks

E. C. Spencer, M. S. R. N. Kiran, W. Li,* U. Ramamurty,* N. L. Ross, A. K. Cheetham* — 5583 – 5586

Pressure-Induced Bond Rearrangement and Reversible Phase Transformation in a Metal-Organic Framework



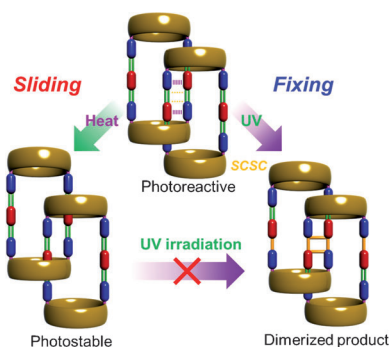
Subtle differences in the physical properties of specific cell types are exploited in a new low-cost ultrasonic system to enrich specific cell populations (see picture; SAW = surface acoustic wave). To demonstrate the efficiency and simplicity of this method, the causative agents of malaria and sleeping sickness in blood were enriched. In this way the infection can be detected at low levels not suitable for conventional diagnostic methods.



Rare-Cell Enrichment

Y. Bourquin, A. Syed, J. Reboud, L. C. Ranford-Cartwright, M. P. Barrett, J. M. Cooper* — 5587 – 5590

Rare-Cell Enrichment by a Rapid, Label-Free, Ultrasonic Isopycnic Technique for Medical Diagnostics



Polyrotaxane isomers! Of the four supramolecular isomers of coordination polymers synthesized, two have polyrotaxane structures that differ only in the relative positions of the wheel in the neighboring axle. They show different photoreactivity under UV light as well as sensing abilities of a number of organic nitro compounds.

Supramolecular Isomers

I.-H. Park, R. Medishetty, J.-Y. Kim, S. S. Lee,* J. J. Vittal* — 5591 – 5595

Distortional Supramolecular Isomers of Polyrotaxane Coordination Polymers: Photoreactivity and Sensing of Nitro Compounds



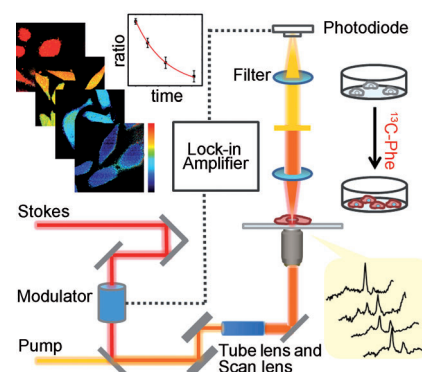
Vibrational Imaging

Y. Shen, F. Xu, L. Wei, F. Hu,
W. Min* — 5596 – 5599



Live-Cell Quantitative Imaging of
Proteome Degradation by Stimulated
Raman Scattering

Breaking it down: Stimulated Raman scattering microscopy was coupled with metabolic labeling with ^{13}C -phenylalanine to visualize global proteolysis activity in living cells with subcellular resolution. Through $^{12}\text{C}/(^{12}\text{C}+^{13}\text{C})$ ratio maps, the protein decay kinetics of mammalian cells under steady-state conditions and various perturbations, including oxidative stress, cell differentiation, and huntingtin protein aggregation, were quantified.

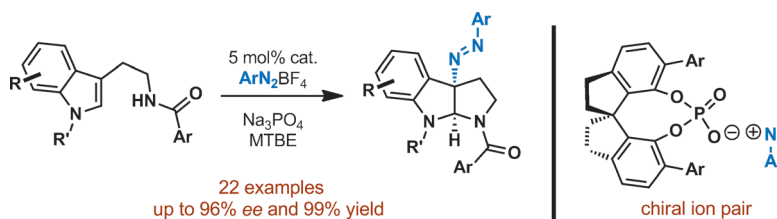


Asymmetric Catalysis

H. M. Nelson, S. H. Reisberg,
H. P. Shunatona, J. S. Patel,
F. D. Toste* — 5600 – 5603



Chiral Anion Phase Transfer of
Aryldiazonium Cations:
An Enantioselective Synthesis of
C3-Diazenated Pyrroloindolines



Live and let diazene: Chiral anion phase transfer of aryldiazonium cations has been utilized to prepare C3-diazenated pyrroloindolines. The air- and water-tolerant reaction allows electronic and steric

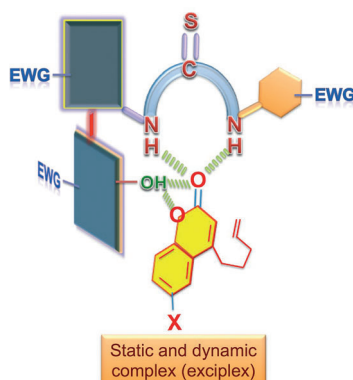
diversity in the aryldiazonium electrophile and the tryptamine core, with the products being obtained in up to 99% yield and 96% ee (MTBE = methyl *tert*-butyl ether).

Organophotocatalysis

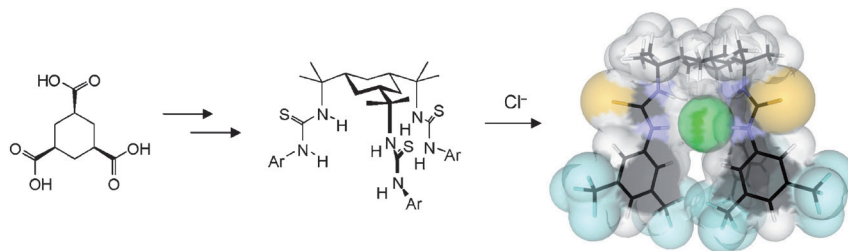
N. Vallavoju, S. Selvakumar, S. Jockusch,
M. P. Sibi,* J. Sivaguru* — 5604 – 5608



Enantioselective Organo-Photocatalysis
Mediated by Atropisomeric Thiourea
Derivatives



Organo-photocatalysts that are based on atropisomeric thioureas and display lower excited-state energies than the reactive substrates have been developed. These photocatalysts were found to be efficient in promoting the [2+2] photocycloaddition of 4-alkenyl-substituted coumarins, which led to the corresponding products with high enantioselectivity (77–96% ee) at low catalyst loading (1–10 mol %).



Anion Transport

J. A. Cooper, S. T. G. Street,
A. P. Davis* 5609–5613

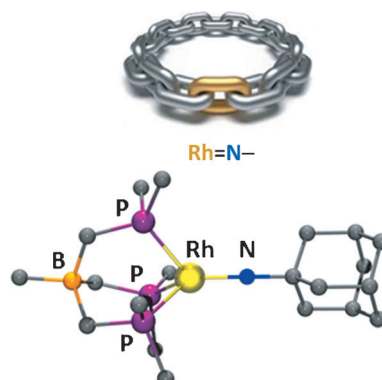
A Flexible Solution to Anion Transport:
Powerful Anionophores Based on
a Cyclohexane Scaffold



Speedy shuttling: New anionophores were developed which are simpler and far more accessible than conceptually related earlier systems. They are also less pre-organized and anion affinities are lower (as

expected), but transport activities set new records. This surprising performance suggests a role for controlled flexibility in the design of transmembrane anion carriers.

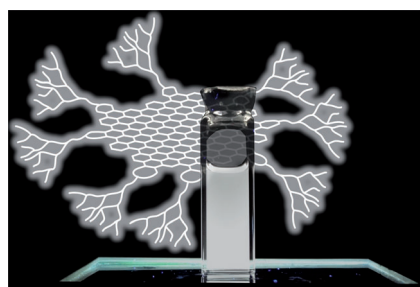
A missing link: Terminal imido rhodium complexes with a Rh=N multiple bond have been prepared, thus providing compounds which have been elusive to synthesis. Preliminary studies indicate rhodium imides are somewhat ambiphilic and can therefore undergo protonation at the nitrogen atom, as well as hydrogenation at the Rh=N bond. These systems also engage in nitrene-group transfer and cycloaddition reactions.



Multiple Bonds

A. M. Geer, C. Tejel,* J. A. López,
M. A. Ciriano* 5614–5618

Terminal Imido Rhodium Complexes



In the dotlight: Graphene quantum dots (GQDs) functionalized with bulky Fréchet's dendritic wedges at the GQD periphery were synthesized. The single-layered, size-regulated structures of the dendronized GQDs were revealed by atomic force microscopy. The edge-functionalization of the GQDs led to white-light emission, which is an uncommon feature.

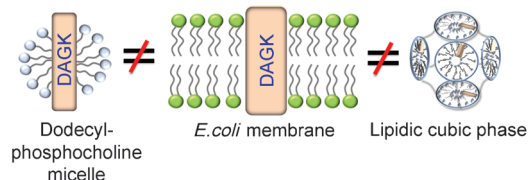
Graphene Quantum Dots

R. Sekiya, Y. Uemura, H. Murakami,
T. Haino* 5619–5623

White-Light-Emitting Edge-Functionalized
Graphene Quantum Dots



Solution NMR Solid-state NMR X-ray crystallography



Native structure: Multidimensional solid-state NMR was used to reveal the secondary structure and topology of diacylglycerol kinase (DAGK) in *E. coli* membranes. This technique enables the structural characterization of membrane pro-

teins in a native-like environment. The results obtained were different to those obtained from solution NMR and X-ray crystallography, thus highlighting the influence of solubilization environment on the structure of membrane proteins.

Protein Structure

Y. Chen, Z. Zhang, X. Tang, J. Li,
C. Glaubitz, J. Yang* 5624–5628

Conformation and Topology of
Diacylglycerol Kinase in *E. coli* Membranes
Revealed by Solid-state NMR
Spectroscopy

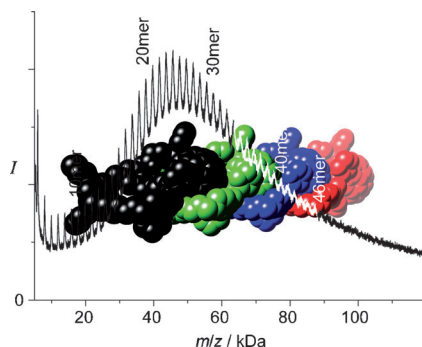


Supramolecular polymers

H. Isla, E. M. Pérez,*
N. Martín* 5629–5633



High Degree of Polymerization in a Fullerene-Containing Supramolecular Polymer



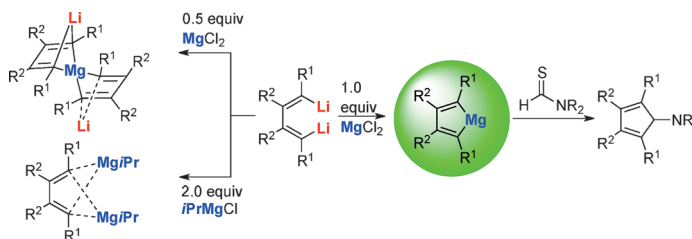
Tight embrace makes polymers longer: A self-recognizing monomer containing a fullerene guest and an exTTF-based macrocyclic host self-assembles to form linear supramolecular polymers with an extreme degree of polymerization. Polymers of MW up to 90 kDa in the gas phase and over 150 kDa in solution have been detected. These materials might find use in the construction of self-organized optoelectronic devices, where polymers of high molecular weight are typically found to yield more efficient devices.

Structure Elucidation

J. Wei, L. Liu, M. Zhan, L. Xu, W.-X. Zhang,
Z. Xi* 5634–5638



Magnesiacyclopentadienes as Alkaline-Earth Metallacyclopentadienes: Facile Synthesis, Structural Characterization, and Synthetic Application



Mg in the middle: The first series of spirodilithio magnesiacyclopentadienes, magnesiacyclopentadienes, and dimagnesiabutadienes has been synthesized and structurally characterized. Unique structural characteristics and bonding were

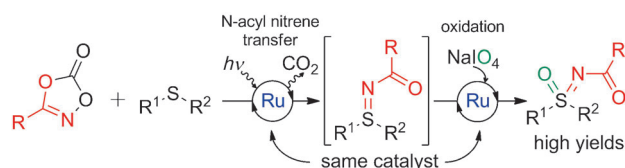
revealed, and the reaction chemistry and synthetic applications were studied. An efficient method for synthesizing aminocyclopentadienes was established by using thioformamides.

Synthetic Methods

V. Bizet, L. Buglioni,
C. Bolm* 5639–5642



Light-Induced Ruthenium-Catalyzed Nitrene Transfer Reactions: A Photochemical Approach towards N-Acyl Sulfimides and Sulfoximines



Double duty: A one-pot sulfur imidation/oxidation sequence using a single ruthenium complex for both steps was developed (see scheme). Photochemical decarboxylations of 1,4,2-dioxazol-5-ones provide N-acyl nitrenes, which imidate

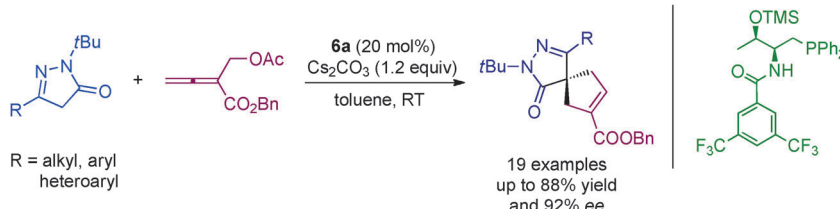
sulfides at ambient temperature. The subsequent oxidation then occurs under mild phase-transfer catalysis conditions. In this manner, N-acyl sulfimides and sulfoximines can be obtained in high yields starting from sulfides.

Phosphine Catalysis

X. Han, W. Yao, T. Wang, Y. R. Tan, Z. Yan,
J. Kwiatkowski, Y. Lu* 5643–5647

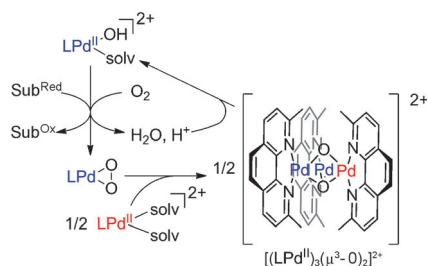


Asymmetric Synthesis of Spiropyrazolones through Phosphine-Catalyzed [4+1] Annulation



Optically enriched 4-spiro-5-pyrazolones were prepared through phosphine-catalyzed enantioselective [4+1] annulation. In this study, substituted pyrazolones were used as a C₁ synthon in cycloaddition

for the first time. Moreover, this is the first report in which α -substituted allenolates were utilized in an asymmetric [4+1] annulation.

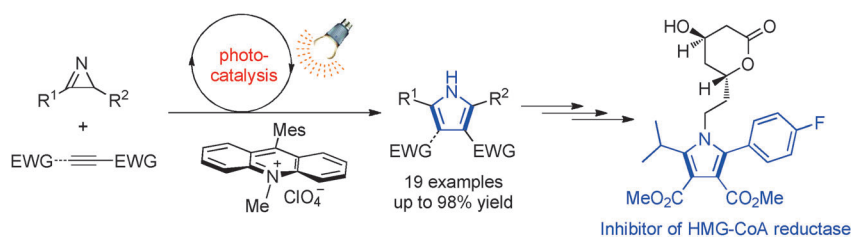


Catalytic ménage à trois: A catalytically active trinuclear Pd_3O_2 complex was identified during Pd-mediated aerobic oxidation of alcohols. Synthesis, structural characterization, and catalytic studies of the trinuclear compound show that it is a product of oxygen activation by reduced palladium species and is a competent intermediate in the catalytic aerobic oxidation of alcohols. These results illuminate a new pathway for O_2 reduction by Pd complexes.

Catalytic Oxidation

A. J. Ingram, D. Solis-Ibarra, R. N. Zare,*
R. M. Waymouth* 5648 – 5652

Trinuclear Pd_3O_2 Intermediate in Aerobic Oxidation Catalysis



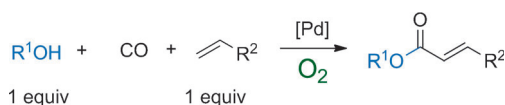
Photo(chemistry) op: A photocatalytic formal [3+2] cycloaddition of 2H-azirines with alkynes has been established under the irradiation of visible light in the presence of an organic dye. This trans-

formation provides efficient access to highly functionalized pyrroles in good yields and has been applied to the formal synthesis of an inhibitor for HMG-CoA reductase.

Heterocycle Synthesis

J. Xuan, X.-D. Xia, T.-T. Zeng, Z.-J. Feng,
J.-R. Chen, L.-Q. Lu,*
W.-J. Xiao* 5653 – 5656

Visible-Light-Induced Formal [3+2]
Cycloaddition for Pyrrole Synthesis under
Metal-Free Conditions



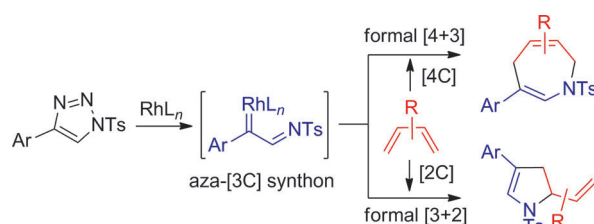
New choice: A palladium-catalyzed oxidative carbonylative esterification of a variety of functionalized alcohols under base- and ligand-free conditions is demonstrated, and a CO/olefin combination is

utilized as the acylating reagent with O_2 as a benign oxidant. Notably, scope of the substrate alcohols has been greatly broadened.

Synthetic Methods

L. Wang, Y. Wang, C. Liu,*
A. Lei* 5657 – 5661

CO/C-H as an Acylating Reagent: A
Palladium-Catalyzed Aerobic Oxidative
Carbonylative Esterification of Alcohols



On the (di)verge: Rhodium(II)-catalyzed cycloadditions of 1-sulfonyl 1,2,3-triazoles with 1,3-dienes have been developed and enable the efficient and divergent synthesis of two types of synthetically valua-

ble nitrogen heterocycles, 2,5-dihydroazepines and 2,3-dihydropyrroles, by formal [4+3] and [3+2] cycloadditions, respectively. Ts = 4-toluenesulfonyl.

Cycloaddition

H. Shang, Y. Wang, Y. Tian, J. Feng,
Y. Tang* 5662 – 5666

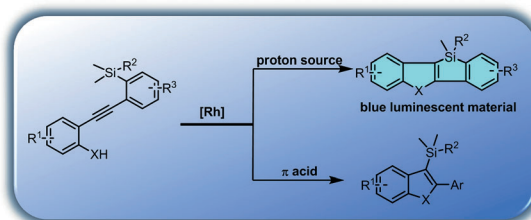
The Divergent Synthesis of Nitrogen
Heterocycles by Rhodium(II)-Catalyzed
Cycloadditions of 1-Sulfonyl 1,2,3-
Triazoles with 1,3-Dienes

Synthetic Methods

Q.-W. Zhang, K. An, W. He* **5667–5671**



Rhodium-Catalyzed Tandem Cyclization/
Si–C Activation Reaction for the Synthesis
of Siloles



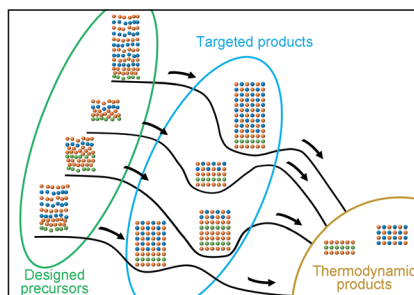
Bare your siloles: The title reaction involving Si–C(sp³) bond activation was developed for the synthesis of photoluminescent siloles. An external proton source promotes the rhodium catalyst turnover. In addition, the selective activa-

tion of Si–C(sp²) bonds was discovered through the use of a π -acid additive. This method enabled the first synthesis of benzofuran siloles and provided rapid access to conjugated siloles by facile derivatization.

Targeted Synthesis

D. B. Moore, M. Beekman, S. Disch,
D. C. Johnson* **5672–5675**

Telluride Misfit Layer Compounds:
[(PbTe)_{1.17}]_m(TiTe₂)_n



Challenging the limits of solid-state synthesis: A synthetic method that entails the design of precursors to form targeted products that are not accessible by traditional solid-state synthesis is put to the test. This method is used to produce the first reported family of telluride misfit layer compounds.

Inside Back Cover

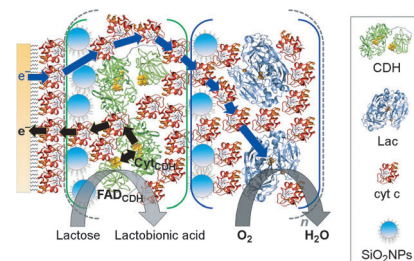
Artificial Signal Cascades

S. C. Feifel,* A. Kapp, R. Ludwig,
F. Lisdat* **5676–5679**



Nanobiomolecular Multiprotein Clusters
on Electrodes for the Formation of
a Switchable Cascadic Reaction Scheme

Triprotein-containing architectures on electrodes for dual analyte detection: Interprotein electron transfer chains have been established for a multilayer system with three different proteins, namely cellobiose dehydrogenase (CDH), laccase (Lac), and cytochrome *c* (cyt *c*). The activity of the individual enzymes can be switched by the applied electrode potential.

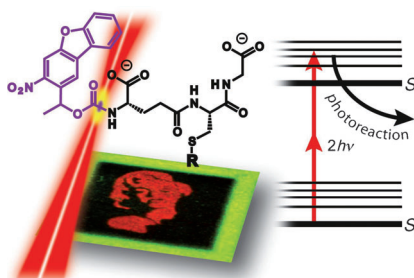


Two-Photon Protein Assembly

V. Gatterdam, R. Ramadass, T. Stoess,
M. A. H. Fichte, J. Wachtveitl, A. Heckel,
R. Tampé* **5680–5684**

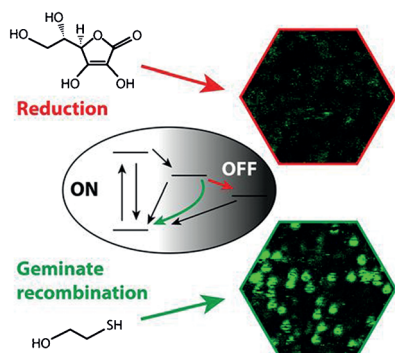


Three-Dimensional Protein Networks
Assembled by Two-Photon Activation



Chemical biology aims at controlling protein interactions and cell behavior by external stimuli. Tools are needed to manipulate and structure target molecules in a non-invasive manner, and this is best achieved by light. A two-photon-activatable glutathione can be used for the light-guided three-dimensional patterning of glutathione S-transferase at superior spatiotemporal resolution.

Back Cover

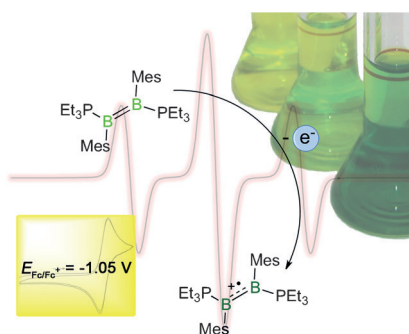


Single-molecule spectroscopy reveals a new mechanism for diffusion-limited photoprotection. Geminate recombination after reduction of organic dyes by thiols enhances photostabilization by avoiding the buildup of photobleaching intermediates such as photo-oxidized states. Stable and long-lasting fluorescence can be achieved in combination with ROXS buffers.

Fluorescent Dyes

P. Holzmeister, A. Gietl,
P. Tinnefeld* 5685 – 5688

Geminate Recombination as
a Photoprotection Mechanism for
Fluorescent Dyes

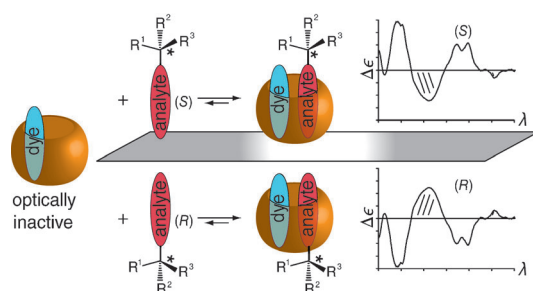


The NHC- and phosphine-stabilized diborenes $\text{IMe} \cdot (\text{Dur})\text{B}=\text{B}(\text{Dur}) \cdot \text{IME}$ and $\text{PEt}_3 \cdot (\text{Mes})\text{B}=\text{B}(\text{Mes}) \cdot \text{PEt}_3$ possess an unusually high boron-centered electron density, making them very strong neutral reductants. Thus, removal of one electron from the B–B π systems occurs readily by chemical oxidation with $(\text{C}_6\text{H}_7)\text{BAR}_4^+$ to afford the corresponding radical cations. The nature of the Lewis base exerts strong influence on the electronic structure of the neutral and cationic diborene systems.

Diborenes

P. Bissinger, H. Braunschweig,*
A. Damme, T. Kupfer, I. Krummenacher,
A. Vargas 5689 – 5693

Boron Radical Cations from the Facile
Oxidation of Electron-Rich Diborenes



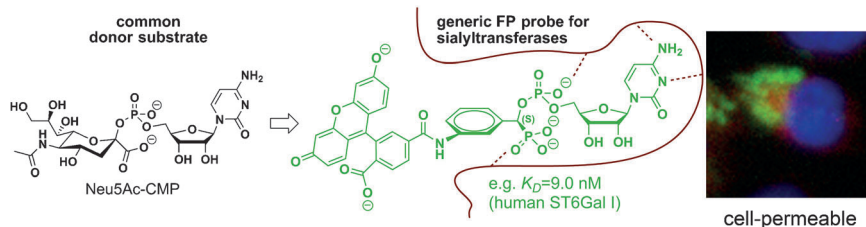
Strong and diagnostic induced circular dichroism signals in the near-UV or visible region are obtained when chiral, optically transparent analytes bind to an achiral

chemosensing ensemble composed of a macrocyclic host and dye. This affords a novel, supramolecular detection method for chiral aromatic analytes in water.

Host–Guest Chemistry

F. Biedermann,*
W. M. Nau* 5694 – 5699

Noncovalent Chirality Sensing Ensembles
for the Detection and Reaction
Monitoring of Amino Acids, Peptides,
Proteins, and Aromatic Drugs



You can't run, you can't hide: Sialyltransferases cover cancer cells with neuraminic acids, enabling them to escape from tissues and to metastasize. Cell-

permeable chemical probes targeting this class of enzymes might help to study, understand, and inhibit such processes.

Biomimetics of Carbohydrate Nucleotides

J. J. Preidl, V. S. Gnanapragassam,
M. Lisurek, J. Saupe, R. Horstkorte,
J. Rademann* 5700 – 5705

Fluorescent Mimetics of CMP-Neu5Ac
Are Highly Potent, Cell-Permeable
Polarization Probes of Eukaryotic and
Bacterial Sialyltransferases and Inhibit
Cellular Sialylation

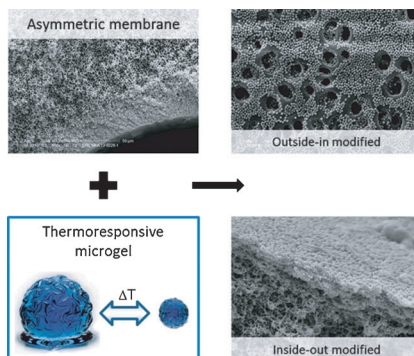


Thermoresponsive Membranes

D. Menne, F. Pitsch, J. E. Wong, A. Pich,
M. Wessling* — 5706–5710



Temperature-Modulated Water Filtration
Using Microgel-Functionalized Hollow-
Fiber Membranes



Hollow-fiber membranes can be modified in a straightforward fashion with thermoresponsive microgels when the microgels are infiltrated into the porous structure of the membrane in dead-end mode at constant flux. The resulting membranes show thermoresponsive properties in terms of resistance and retention.



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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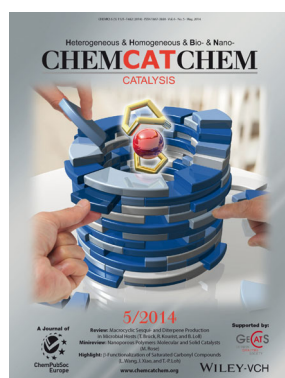


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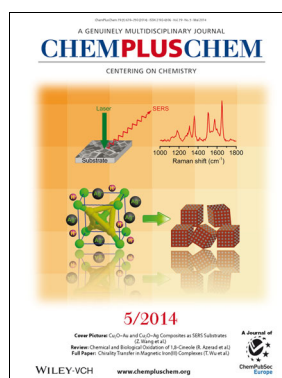
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