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:

R. Matsui, K. Seto, K. Fujita, T. Suzuki, A. Nakazaki, S. Kobayashi
Unusually *E*-Selective Ring-Closing Metathesis to Form Eight-Membered Rings

*J. S. Chen, T. Zhu, C. M. Li, X. W. Lou**
Building Hematite Nanostructures Using Oriented Attachment

*S. Sun, G. Zhang, D. Geng, Y. Chen, R. Li, M. Cai, X. Sun**
A New Highly Durable Platinum Nanocatalyst for PEM Fuel Cells: Multiarmed Star-like Nanowire Single Crystals

*T. J. Hebden, A. J. S. John, D. G. Gusev, W. Kaminsky, K. I. Goldberg, D. M. Heinekey**
Preparation of a Dihydrogen Complex of Cobalt

*Y. Matsuki, M. T. Eddy, R. G. Griffin, J. Herzfeld**
Rapid 3D MAS NMR Spectroscopy at Critical Sensitivity

*Y. Zhang, G. M. Miyake, E. Y.-X. Chen**
Alane-Based Classical and Frustrated Lewis Pairs in Polymer Synthesis: Rapid Polymerization of Methyl Methacrylate and Naturally Renewable Methylene Butyrolactones to High-Molecular-Weight Polymers

K. Breuker, S. Brüschweiler, M. Tollinger*
Electrostatic Stabilization of Native Protein Structure in the Gas Phase

*J. Zeng, X. Xia, M. Rycenga, P. Henneghan, Q. Li, Y. Xia**
Successive Deposition of Silver on Silver Nanoplates: Lateral Versus Vertical Growth

M. Mastalerz, M. W. Schneider, I. M. Oppel, O. Presly*
A Salicylbisimine Cage Compound with a High Surface Area and Selective CO_2/CH_4 Adsorption

*J. Ballmann, A. Yeo, B. O. Patrick, M. D. Fryzuk**
Carbon–Nitrogen Bond Formation by Reaction of 1,2-Cumulenes with a Ditantalum Complex That Contains a Side-On- and End-On-Bound Dinitrogen

*W. Liu, H. Zhong, R. Wang, N. C. Seeman**
Crystalline Two-Dimensional DNA Origami Arrays

S. Lee, I. Chataigner, S. R. Piettre**
Facile Dearomatization of Nitrobenzene Derivatives and Other Nitroarenes with *N*-Benzyl Azomethine Ylide

Author Profile

"My favorite subject at school was physics.
When I was eighteen I wanted to be a scientist ..."
This and more about J. Antoine Baceiredo can be found on page 9810.

News

G. Férey

D. Hinderberger

D. Leigh

H. W. Spiess

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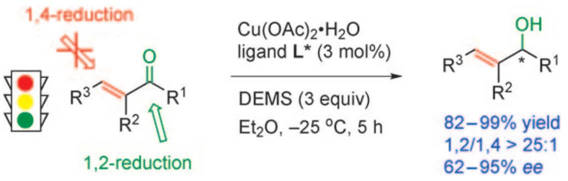
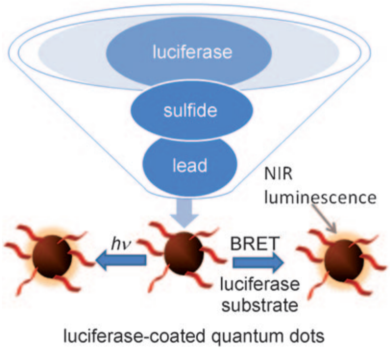
Highlights

Selective Reduction



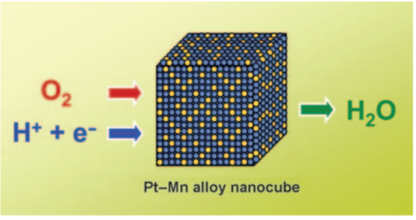
Follow diversion: α Substitution in the substrate along with the finely tuned steric and electronic properties of the chiral ligand lead to a complete switch in the regioselectivity of CuH-catalyzed hydrosilylations of unsaturated ketones from the natural 1,4- to a less common 1,2-reaction manifold, as shown by Lipshutz and co-workers (see scheme, DEMS = diethoxymethylsilane).

In Vivo Imaging



A multitalented protein: Fluorescence and bioluminescence resonance energy transfer, FRET and BRET, respectively, are viable strategies for the generation of near-infrared light for in vivo imaging. In a recent ground-breaking study, luciferase was used first to mediate the growth and stability of quantum dots and then as a light source for BRET (see picture).

Nanocrystals



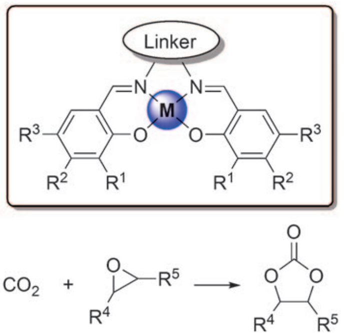
Shape matters: Platinum-based alloy nanocrystals can be used as electrocatalysts that facilitate the oxidation and reduction reactions involved in a proton-exchange membrane fuel cell (see picture). Recent work has demonstrated how the shape control of Pt–Mn alloy nanocrystals can result in increased activities when the alloys are used in fuel-cell electrocatalysts.

For the USA and Canada:
ANGEWANDTE CHEMIE International Edition (ISSN 1433-7851) is published weekly by Wiley-VCH, PO Box 191161, 69451 Weinheim, Germany. Air freight and mailing in the USA by Publications Expediting Inc., 200 Meacham Ave., Elmont, NY 11003. Periodicals postage paid at Jamaica, NY 11431. US POSTMASTER: send address changes to *Angewandte Chemie*, Journal Customer Services, John Wiley & Sons Inc., 350 Main St., Malden, MA 02148-5020. Annual subscription price for institutions: US$ 9442/8583 (valid for print and electronic / print or electronic delivery); for individuals who are personal members of a national chemical society prices are available on request. Postage and handling charges included. All prices are subject to local VAT/sales tax.

Minireviews

CO_2 Fixation

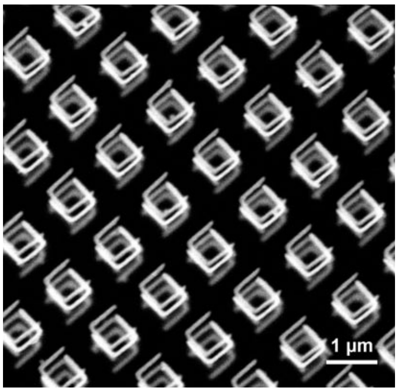
Not all plain salen: Metal complexes of the salen ligand have found wide application in the synthesis of cyclic carbonates from epoxides and carbon dioxide. Reactivity can be controlled by the substituents on the bridging unit and on the phenyl rings and also by the addition of co-catalysts. Current research is focused on the development of rational syntheses taking into account mechanistic considerations.



Reviews

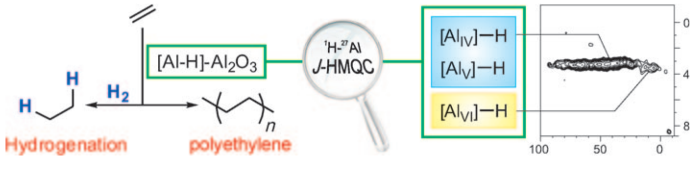
Metamaterials

A negative refractive index is an example of the fascinating properties that are unattainable in naturally occurring materials but can be engineered into artificially structured metamaterials. This Review gives an overview of the coupling principles and highlights the coupling effects in simple to complex optical metamaterials. The picture shows a four-layer stacked split-ring resonator metamaterial prepared by a layer-by-layer nanotechnique.



Communications

Aluminum Hydrides



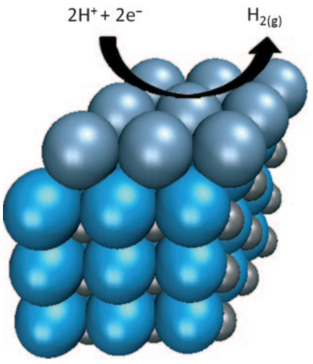
Surface details: Aluminum hydrides supported on partially dehydroxylated alumina have been synthesized through the hydrogenolysis of grafted alkyl precursors. The key feature in multinuclear NMR studies with these species is the strong dipolar coupling between ^1H and ^{27}Al nuclei. In HMQC correlations, Al–H entities were identified by filtering out the signal of the Al_2O_3 bulk (see picture). These main-group-metal hydrides catalyze both ethylene polymerization and hydrogenation.

Contents

Hydrogen Evolution

D. V. Esposito, S. T. Hunt,
A. L. Stottlemyer, K. D. Dobson,
B. E. McCandless, R. W. Birkmire,
J. G. Chen* ______ **9859 – 9862**

Low-Cost Hydrogen-Evolution Catalysts Based on Monolayer Platinum on Tungsten Monocarbide Substrates



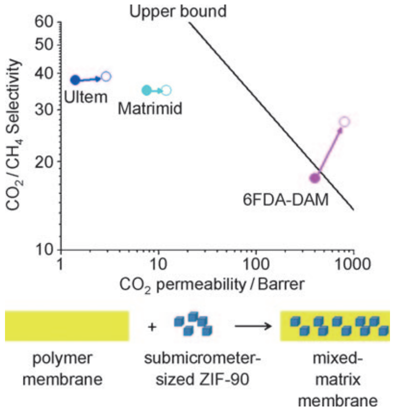
How low can you go? The lower limits of platinum loading, in the sub-monolayer to monolayer range, have been explored for the hydrogen evolution reaction (HER). A low-cost substrate material, tungsten monocarbide (see picture; W blue, C small gray spheres) is capable of supporting monolayer amounts of platinum (large blue-gray spheres) to produce an electrocatalyst with the same HER activity as bulk platinum.

MOF Membranes

T.-H. Bae, J. S. Lee, W. Qiu, W. J. Koros,
C. W. Jones,* S. Nair* ______ **9863 – 9866**

A High-Performance Gas-Separation Membrane Containing Submicrometer-Sized Metal–Organic Framework Crystals

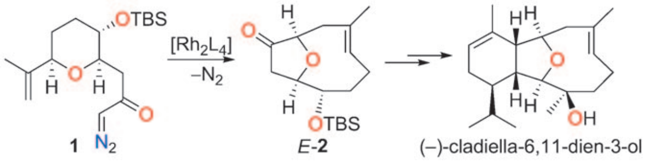
Well matched: Submicrometer-sized metal–organic framework (MOF) crystals (ZIF-90) were synthesized by a nonsolvent-induced crystallization technique and incorporated in mixed-matrix gas-separation membranes. ZIF-90/6FDA-DAM membranes (empty pink circle; beyond the upper bound for polymer membranes) show unprecedented high performance for CO_2/CH_4 separation by a MOF-based membrane. The key is the combination of the highly selective MOF and a highly permeable polymer.



Natural Product Synthesis

J. S. Clark,* R. Berger, S. T. Hayes,
L. H. Thomas, A. J. Morrison,
L. Gobbi ______ **9867 – 9870**

Enantioselective Total Syntheses of Three Cladiellins (Eunicellins): A General Approach to the Entire Family of Natural Products

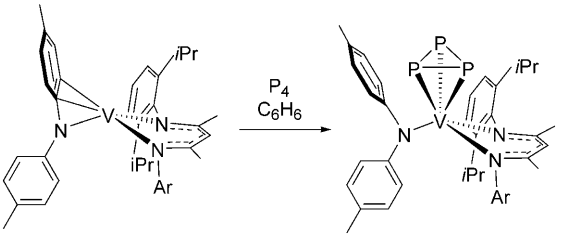


Stereoselective rearrangement of a free or metal-bound oxonium ylide, generated by rhodium-catalyzed intramolecular cyclization of the diazo ketone **1**, afforded *E*-configured O-bridged bicyclic ether (*E*)-**2**, which was efficiently transformed into (−)-cladiella-6,11-dien-3-ol. TBS = *tert*-butyldimethylsilyl.

Vanadium(II) Complexes

B. L. Tran, M. Singhal, H. Park, O. P. Lam,
M. Pink, J. Krzystek, A. Ozarowski,
J. Telser, K. Meyer,
D. J. Mindiola* ______ **9871 – 9875**

Reactivity Studies of a Masked Three-Coordinate Vanadium(II) Complex

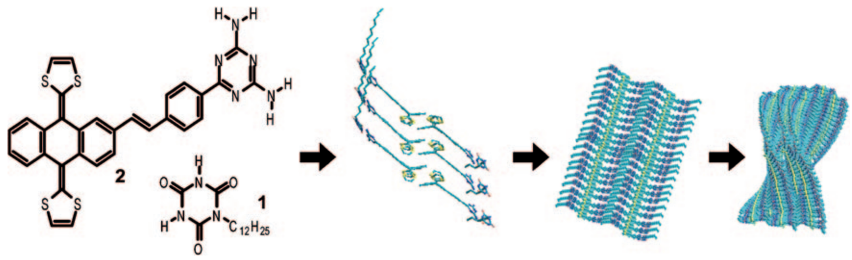


An arene interaction can mask a low-valent and low-coordinate V^{II} complex, [(nacnac)V(Ntol$_2$)] (see structure), which allows for facile coordination of terminal ligands on the vanadium center. Small-molecule activation by this $S = 3/2$ complex provides facile access to a wide range of ligand frameworks such as terminal V^{IV} imido, V^{IV} cyclopropene, V^{V} nitride, and the first V^{V} *cyclo*-P_3 complex (see scheme).

Supramolecular Nanoarchitectures

J. L. López, C. Atienza, W. Seitz, D. M. Guldi,* N. Martín* ___ 9876 – 9880

Controlling the Transformation of Primary into Quaternary Structures: Towards Hierarchically Built-Up Twisted Fibers

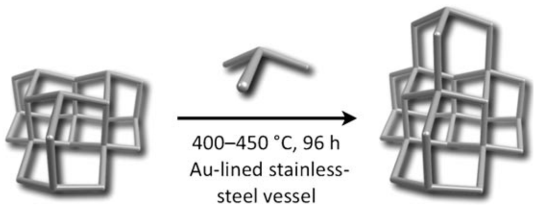


From the ground up: In the hierarchical organization of cyanurate **1** and π-extended tetrathiafulvalene (π-exTTF) **2**—an example of the controlled one-, two, and three-dimensional assembly of non-planar building blocks on different scales—highly ordered lamellar crystalline packing based on π–π interactions between π-exTTF units ensured the unidirectional growth of twisted nanofibers as the quaternary structure.

Nanodiamonds

J. E. P. Dahl,* J. M. Moldowan, Z. Wei, P. A. Lipton, P. Denisevich, R. Gat, S. Liu, P. R. Schreiner,* R. M. K. Carlson ___ 9881 – 9885

Synthesis of Higher Diamondoids and Implications for Their Formation in Petroleum

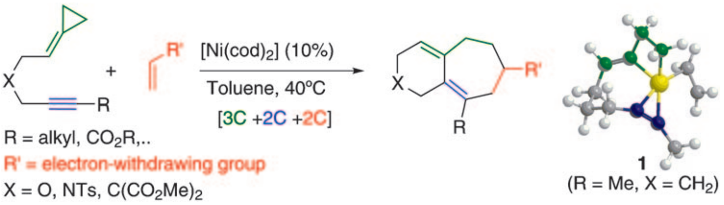


Could chemistry be as easy as A + B = C? Higher diamondoids form from lower ones in experiments mimicking petroleum cracking. The yields are low but can be significantly improved by the addition of isobutane or isobutene. Rather than through superacid-catalyzed carbocation rearrangement reactions—long assumed to be responsible for diamondoid growth—the reactions take place through free-radical mechanisms akin to CVD growth.

Cycloaddition

L. Saya, G. Bhargava, M. A. Navarro, M. Gulías, F. López,* I. Fernández, L. Castedo, J. L. Mascareñas* ___ 9886 – 9890

Nickel-Catalyzed [3+2+2] Cycloadditions between Alkynylidenecyclopropanes and Activated Alkenes



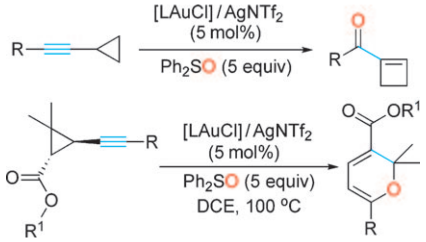
Now with nickel: [3C+2C+2C] cycloadditions involving non-activated alkylidenecyclopropanes provide a practical entry to a variety of interesting 6,7-fused bicyclic systems (see scheme; cod = 1,5-cyclooctadiene). DFT calculations, combined with experimental data, suggest that the catalytic cycle involves the initial formation of 1-alkylidenenickelacyclobutane intermediates, such as **1**.

Synthetic Methods

C.-W. Li, K. Pati, G.-Y. Lin, S. M. A. Sohel, H.-H. Hung, R.-S. Liu* ___ 9891 – 9894

Gold-Catalyzed Oxidative Ring Expansions and Ring Cleavages of Alkynylcyclopropanes by Intermolecular Reactions Oxidized by Diphenylsulfoxide

A golden opportunity: A novel gold-catalyzed oxidative ring-expansion of unactivated cyclopropylalkynes using Ph_2SO has been developed (see scheme). For substrates bearing a donor group at the cyclopropane ring, preliminary results reveal a distinct cleavage of the cyclopropane unit; such a ring cleavage is further applicable to the synthesis of 2*H*-pyrans. L = P(*t*Bu)$_2$(*o*-biphenyl), Tf = triflate.



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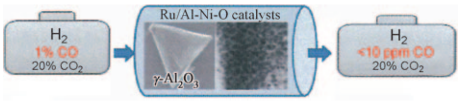
Hydrogen Purification

A. Chen, T. Miyao, K. Higashiyama,
H. Yamashita,
M. Watanabe* ______________ **9895 – 9898**

High Catalytic Performance of Ruthenium-Doped Mesoporous Nickel–Aluminum Oxides for Selective CO Methanation

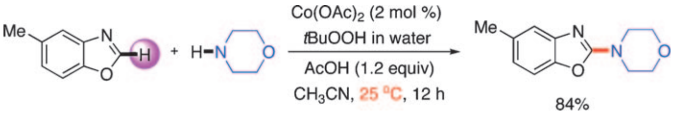


Deep-cleaned hydrogen can be made available for fuel cells in one step. 1 vol% CO contained in hydrogen was removed to levels of less than 10 ppm over ruthenium-doped mesoporous Ni-Al oxides (see picture) by selective CO methanation, with a working temperature window greater than 50 °C that included the 200–250 °C range. The catalysts exhibited excellent long-term stability.

C–N Bond Formation

J. Y. Kim, S. H. Cho, J. Joseph,
S. Chang* ______________ **9899 – 9903**

Cobalt- and Manganese-Catalyzed Direct Amination of Azoles under Mild Reaction Conditions and the Mechanistic Details

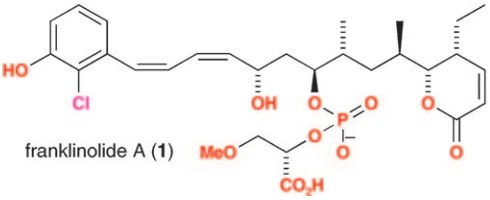


A bonding moment: A new cobalt- or manganese-catalyzed amination of azoles has been developed using peroxide and an acid additive to couple various types of azoles with ammonia, and primary or secondary amines (see scheme). The catalyst loadings are low, the optimal reaction conditions are mild, and the substrate scope is broad. The product azoles are an important pharmacophore of high biological activity.

Cytotoxic Polyketides

H. Zhang, M. M. Conte,
R. J. Capon* ______________ **9904 – 9906**

Franklinolides A–C from an Australian Marine Sponge Complex: Phosphodiesters Strongly Enhance Polyketide Cytotoxicity



franklinolide A (**1**)

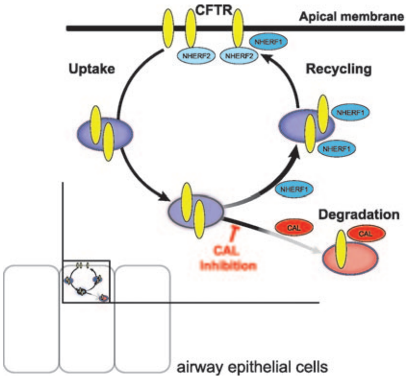
Rare discovery: Three novel polyketide phosphodiesters, franklinolides A–C, were identified as the cytotoxic components from an Australian marine sponge complex. Preliminary structure–activity relationship studies, using in vitro cytotoxicity and cell proliferation assays, demonstrated that the introduction of the phosphodiester moiety significantly improved the cytotoxicity by 30 to >300 fold.

Cystic Fibrosis

P. R. Cushing, L. Vouilleme, M. Pellegrini,
P. Boisguerin,*
D. R. Madden* ______________ **9907 – 9911**

A Stabilizing Influence: CAL PDZ Inhibition Extends the Half-Life of ΔF508-CFTR

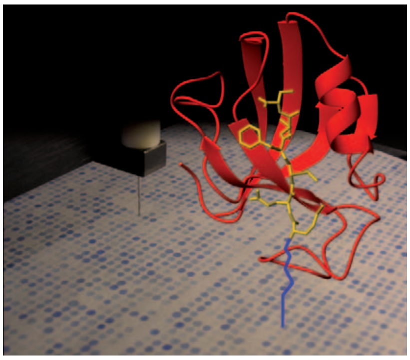
It pays to recycle! The most common mutation in cystic fibrosis (CF) impedes maturation and accelerates breakdown of the ion channel CFTR. A “stabilizer” has been characterized that blocks a PDZ domain responsible for CFTR degradation. The inhibitor iCAL36 extends the chloride channel’s half-life in airway epithelial cells. It also complements the activity of a corrector of the maturation defect, thus suggesting the potential for combination CF therapies.



PDZ Inhibitors

L. Vouilleme, P. R. Cushing, R. Volkmer,
D. R. Madden,*
P. Boisguerin* ______ 9912 – 9916

Engineering Peptide Inhibitors To Overcome PDZ Binding Promiscuity

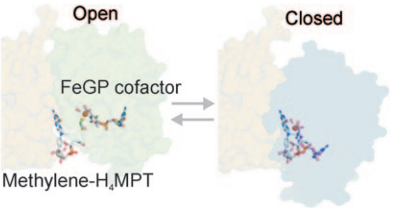


Design of inhibitors: PDZ domains are conserved modules regulating the localization and activity of effector proteins. An integrated approach has been developed that uses peptide-array screening technologies and fluorescence polarization measurements to analyze five promiscuous PDZ domains. By combining both methods, a highly specific inhibitor (iCAL36$_{10}$ = ANSRWPTSII) for one of the five PDZ domains was designed.

H_2 Activation

S. Shima,* S. Vogt, A. Göbels,
E. Bill ______ 9917 – 9921

Iron-Chromophore Circular Dichroism of [Fe]-Hydrogenase: The Conformational Change Required for H_2 Activation

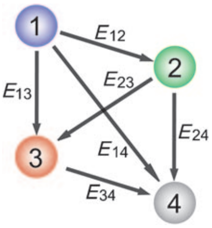


CD can see it: [Fe]-hydrogenase, which contains a unique iron cofactor (FeGP cofactor), catalyzes the reversible hydrogenation of methenyltetrahydrometanopterin (methenyl-H$_4$MPT$^+$) with H_2 to methylene-H$_4$MPT (see picture). Iron-chromophore CD data support the hypothesis that the binding of methenyl/methylene-H$_4$MPT induces a conformational change that closes the active-site cleft of [Fe]-hydrogenase to form the intact active site.

Spectroscopic Methods

J. Lee, S. Lee, K. Ragunathan, C. Joo,
T. Ha, S. Hohng* ______ 9922 – 9925

Single-Molecule Four-Color FRET

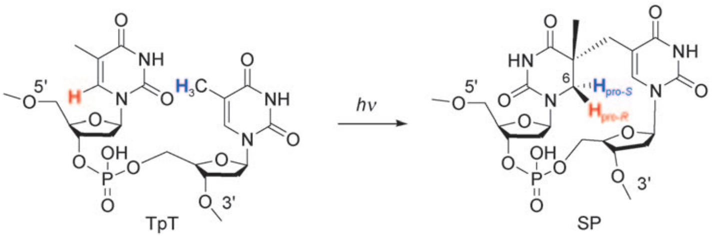


Six interfluorophore FRET efficiencies E_{ij} (see scheme) can be determined in real time by a single-molecule four-color FRET technique both in confocal and in total-internal-reflection fluorescence microscopy. This technique was used to probe the correlated motion of the four arms of the Holliday junction, and to assess correlation of RecA-mediated strand exchange events at both ends of a synaptic complex.

DNA Photochemistry

G. Lin, L. Li* ______ 9926 – 9929

Elucidation of Spore-Photoproduct Formation by Isotope Labeling



Doing some damage: Spore photoproduct (SP) is the major DNA photodamage product in bacterial endospores. NMR spectroscopic studies of deuterium-labeled TpT dinucleotides have revealed details of the mechanism for SP formation (see scheme). Upon UV irradiation of [D$_3$]TpT (with a 3′-T CD$_3$ group), a deuterium atom was transferred exclusively to the 6-H$_{pro\text{-}S}$ position. The migrated atom was a hydrogen atom when [D$_4$]TpT with a 3′-T CH$_3$ group was used.

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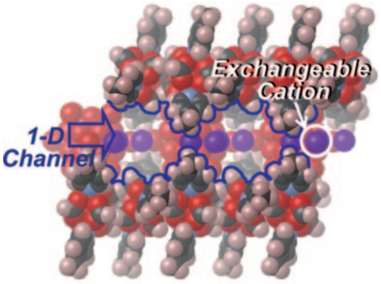
Porous Materials

S. Uchida, R. Eguchi,
N. Mizuno* ______________ 9930 – 9934

Zeotype Organic–Inorganic Ionic Crystals: Facile Cation Exchange and Controllable Sorption Properties



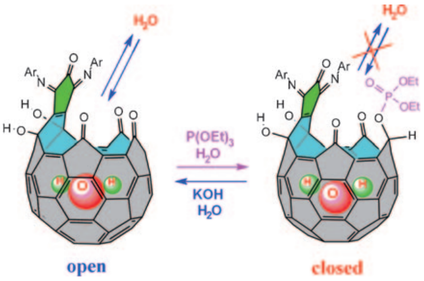
Size-selective sorption is exhibited by a zeotype organic–inorganic ionic crystal with 1D channels: the guest-free phase sorbs water and methanol, while larger molecules are excluded. Moreover, K^+ ions, which reside in the channels (see picture; O red, C black, H pink, N blue), can be exchanged with other alkali metal ions, and the guest sorption properties depend on the type of alkali metal ions.

Molecular Flasks

Q. Y. Zhang, T. Pankewitz, S. M. Liu,
W. Klopper,* L. B. Gan* ____ 9935 – 9938

Switchable Open-Cage Fullerene for Water Encapsulation

A molecular container for a single water molecule was obtained by chemical transformation of a [60]fullerene cage. A phosphate moiety acts as an effective "stopper" in the orifice (see picture).

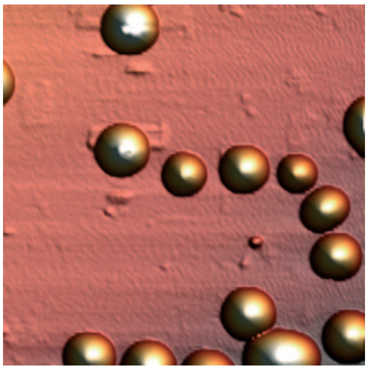


Nanotechnology

L. Adler-Abramovich, N. Kol, I. Yanai,
D. Barlam, R. Z. Shneck, E. Gazit,*
I. Rousso* ______________ 9939 – 9942

Self-Assembled Organic Nanostructures with Metallic-Like Stiffness

Stiff spheres: AFM experiments using a diamond-tip cantilever show that aromatic dipeptide nanospheres (see picture) have a remarkable metallic-like Young's modulus of up to 275 GPa. This exceptional value places these nanostructures as the stiffest organic materials reported to date, thus making them attractive building blocks for the design and assembly of ultrarigid composite biomaterials.

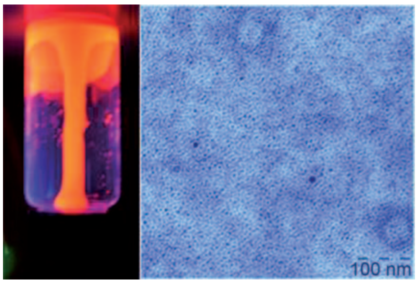


Quantum Dots

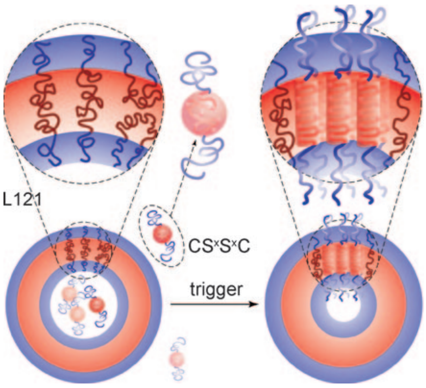
Q. Feng, L. Dong,* J. Huang, Q. Li, Y. Fan,
J. Xiong, C. Xiong* __________ 9943 – 9946

Fluxible Monodisperse Quantum Dots with Efficient Luminescence

The bright ideas flow: A simple extraction strategy involving quaternary ammonium salts with a poly(ethylene glycol) chain as a phase-transfer reagent provided a route to solvent-free fluxible quantum dots. The products are monodisperse and show low viscosity and excellent photoluminescence (see picture).



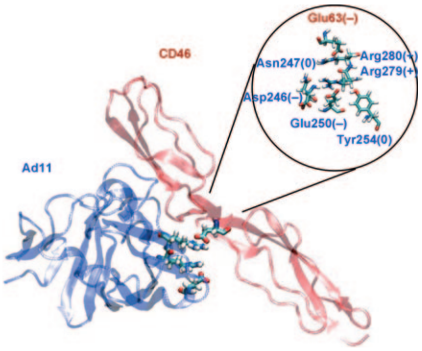
Trigger the block: Stable biocompatible protein polymersomes can be generated by a triggered templated self-assembly route (see picture). Pluronic L121 vesicles (red core with blue corona) take up a biosynthetic triblock copolymer CS^xS^xC into their unilamellar shell. In response to changes in pH (trigger), the S block becomes hydrophobic and adapts to the template vesicle, thus directing the formation of protein polymersomes.



Vesicles

F. Li, F. A. de Wolf, A. T. M. Marcelis, E. J. R. Sudhölter, M. A. Cohen Stuart, F. A. M. Leermakers* ——— 9947 – 9950

Triggered Templated Assembly of Protein Polymersomes

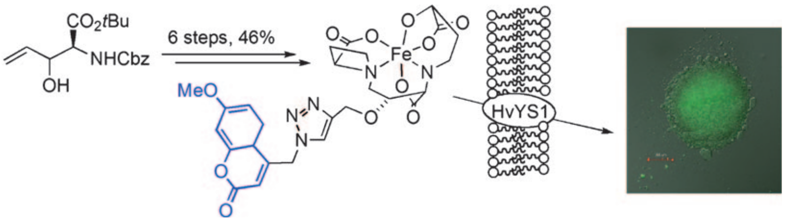


Arginine stacking: The stability of a doubly charged twin arginine pair that is crucial for the binding of an adenovirus to its preferred cellular receptor has been analyzed by quantum-chemical calculations. Both electrostatic effects and a complex network of hydrogen bonds within the microenvironment of the arginine pair stabilize this arrangement (see picture).

Twin Arginine Pairs

C. V. Sumowski, B. B. T. Schmitt, S. Schweizer, C. Ochsenfeld* ——— 9951 – 9955

Quantum-Chemical and Combined Quantum-Chemical/Molecular-Mechanical Studies on the Stabilization of a Twin Arginine Pair in Adenovirus Ad11



A light to show the way: A hydroxy group in mugineic acid (MA) that was not needed for Fe^{III} complexation was used for the introduction of various labeling groups through propargylation and a click reaction. Labeled MA was incorporated as a phytosiderophore into *Xenopus* oocytes through the HvYS1 transporter, as determined by an electrophysiological assay and fluorescence microscopy (see picture). Cbz = carbobenzyloxy.

Iron Transport

K. Namba,* K. Kobayashi, Y. Murata, H. Hirakawa, T. Yamagaki, T. Iwashita, M. Nishizawa, S. Kusumoto,* K. Tanino* ——— 9956 – 9959

Mugineic Acid Derivatives as Molecular Probes for the Mechanistic Elucidation of Iron Acquisition in Barley

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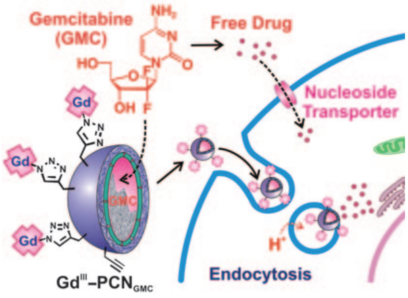
Polymer-caged nanobins (PCNs) that can undergo Cu(I)-catalyzed click reactions enable the combination of Gd^{III} magnetic resonance imaging (MRI) contrast agents and an anticancer drug (gemcitabine, GMC) into a single theranostic platform (see picture). The resulting gadolinium(III)-conjugated, GMC-loaded PCNs (Gd^{III}–PCN_{GMC}) exhibit a significantly superior performance in r_1 relaxivity, drug uptake, and pH-sensitive drug release.



Theranostics

S.-M. Lee, Y. Song, B. J. Hong, K. W. MacRenaris, D. J. Mastarone, T. V. O'Halloran, T. J. Meade,* S. T. Nguyen* ——— 9960 – 9964

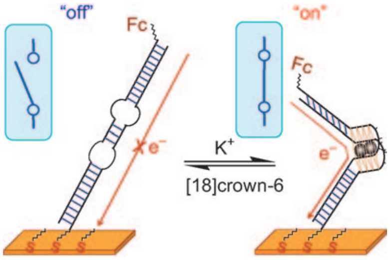
Modular Polymer-Caged Nanobins as a Theranostic Platform with Enhanced Magnetic Resonance Relaxivity and pH-Responsive Drug Release

Contents

DNA Switches

B. Ge, Y. C. Huang, D. Sen,*
H.-Z. Yu* ________________ **9965–9967**

A Robust Electronic Switch Made of Immobilized Duplex/Quadruplex DNA



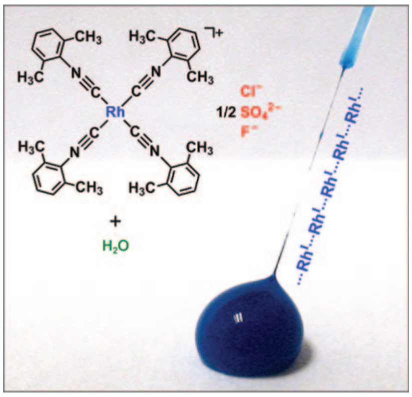
Flicking a switch: A robust DNA nanoswitch has been designed by using a contractile DNA construct (G-quadruplex) as the switch medium and ferrocene (Fc) as a redox-active indicator (see picture). The switch was electrochemically tested and can be turned "on" or "off" repeatedly by the addition or removal, respectively, of the effector (K^+ ions). The reversibility and repeatability of the DNA switch are directly monitored by electrochemical measurements.

Organometallic Superstructures

Y. Chen, K. Li, H. O. Lloyd, W. Lu,*
S. S.-Y. Chui, C.-M. Che* ___ **9968–9971**

Tetrakis(arylisocyanide) Rhodium(I) Salts in Water: NIR Luminescent and Conductive Supramolecular Polymeric Nanowires with Hierarchical Organization

Fish out of water: Amphiphilic tetrakis(2,6-xylylisocyanide)rhodium(I) complexes can self-assemble in water, through $Rh^I\cdots Rh^I$ and hydrophobic interactions, into ultralong crystalline nanowires and in turn hierarchically organize into a variety of ordered micro- and macrostructures. These solution-processable organometallic superstructures are luminescent in the near-infrared (NIR) region and are electrically conducting.

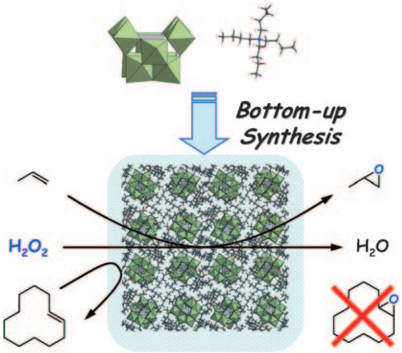


Heterogeneous Catalysis

N. Mizuno,* S. Uchida, K. Kamata,
R. Ishimoto, S. Nojima, K. Yonehara,
Y. Sumida ________________ **9972–9976**

A Flexible Nonporous Heterogeneous Catalyst for Size-Selective Oxidation through a Bottom-Up Approach

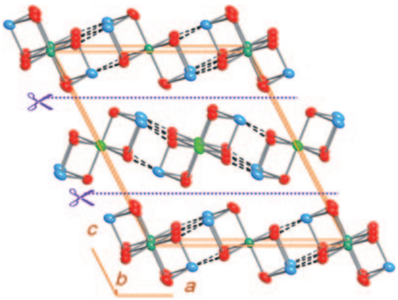
Size does matter: The nonporous tetra-*n*-butylammonium salt of silicodecatungstate, synthesized through a bottom-up approach, heterogeneously catalyzes the size-selective oxidation of various organic compounds, including olefins, sulfides, and organosilanes, with aqueous H_2O_2 in ethyl acetate. The catalyst can be easily separated by filtration and reused several times with retention of high catalytic activity.



Ferromagnetic Semiconductors

H. Djieutedjeu, P. F. P. Poudeu,*
N. J. Takas, J. P. A. Makongo, A. Rotaru,
K. G. S. Ranmohotti, C. J. Anglin, L. Spinu,
J. B. Wiley ________________ **9977–9981**

Structural-Distortion-Driven Cooperative Magnetic and Semiconductor-to-Insulator Transitions in Ferromagnetic $FeSb_2Se_4$

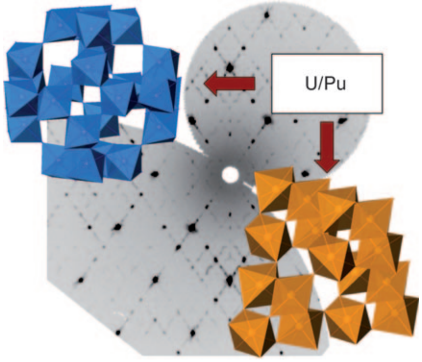


Chop and change: The $FeSb_2Se_4$ phase (see picture; Se red, Fe,Sb green and blue) features the coexistence of room-temperature ferromagnetism and cooperative magnetic and semiconductor-to-insulator transitions at about 130 K. The transitions, which manifest themselves by a spontaneous loss of magnetization and a sudden increase in electrical resistivity, are driven by preferential lattice contraction within the *ab* plane upon cooling.

Actinide Complex Oxides

S. V. Krivovichev,* S. V. Yudintsev,
S. V. Stefanovsky, N. I. Organova,
O. V. Karimova,
V. S. Urusov ———— **9982 – 9984**

Murataite–Pyrochlore Series: A Family of Complex Oxides with Nanoscale Pyrochlore Clusters



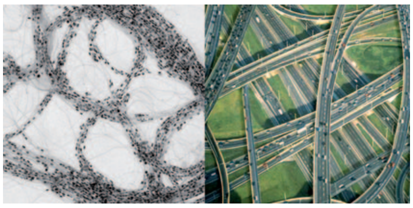
A polysomatic series of complex oxides for actinide immobilization is based on the incorporation of pyrochlore nanoclusters (light brown) into modified murataite-like frameworks (blue). Oxides from this series may be viewed as a complex form of radioactive waste and are one of the most elaborate families of nanoscale-tuned complex oxides known to date.

Nanostructures

A. Sánchez-Iglesias, M. Grzelczak,*
J. Pérez-Juste,
L. M. Liz-Marzán* ———— **9985 – 9989**

Binary Self-Assembly of Gold Nanowires with Nanospheres and Nanorods

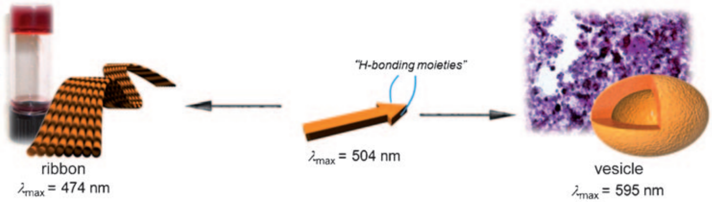
Nanohighways: Gold nanowires were used as templates to direct the one-dimensional assembly of nanospheres and nanorods under suitable evaporation conditions, and using oleylamine as a capping agent. The overall optical response of the film can be tuned by varying the distances between the nanoparticles.



Self-Assembly

S. Yagai,* Y. Nakano, S. Seki, A. Asano,
T. Okubo, T. Isoshima, T. Karatsu,
A. Kitamura, Y. Kikkawa ———— **9990 – 9994**

Supramolecularly Engineered Aggregation of a Dipolar Dye: Vesicular and Ribbonlike Architectures

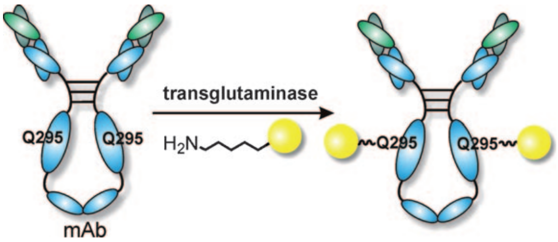


It's all in the packing: Self-assembly of the title system through hydrogen bonding and then aggregation led to vesicle formation, and capping of the hydrogen-bonding moieties with subsequent aggregation led to ribbons. The resulting self-assembled architectures exhibit distinct optical and electronic properties.

Protein Labeling

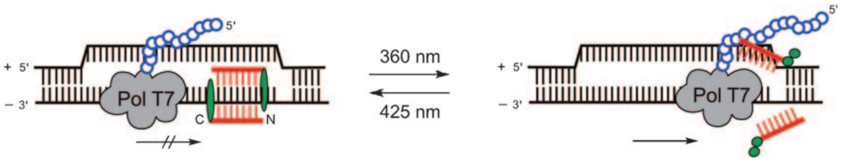
S. Jeger, K. Zimmermann, A. Blanc,
J. Grünberg, M. Honer, P. Hunziker,
H. Struthers, R. Schibli* ———— **9995 – 9997**

Site-Specific and Stoichiometric Modification of Antibodies by Bacterial Transglutaminase



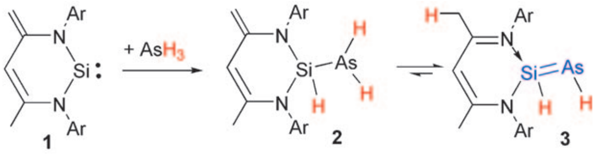
Spot on: Bacterial transglutaminase enables the site-specific modification of Gln side chains of tumor-targeting antibodies with various probes containing lysine or lysine surrogates. The method yields completely homogeneous immunoconjugates with a defined stoichiometry. In comparative in vivo studies with xenografted mice the pharmacological profiles for enzymatically conjugated antibodies were better than those of chemically modified analogues.

DNA Photocontrol



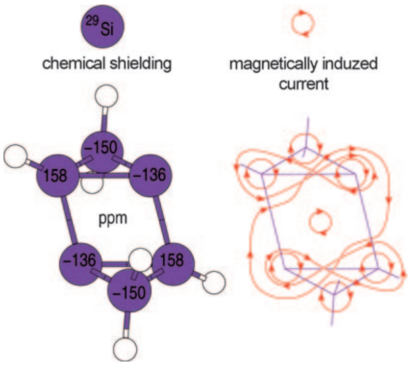
Turn it on! Hybridization of peptide nucleic acids with DNA can be efficiently manipulated by modifying the PNA with a single azobenzene photoswitch. The effect is remarkably strong in the triplex binding mode and can be exploited for the photocontrol of transcription by T7 RNA polymerase (Pol T7).

Bond Activation



Twice, and faster: Reaction of the zwitterionic silylene **1** with AsH_3 occurs stepwise at ambient temperature to give the first crystalline, donor-stabilized arsasilene **3** via its 1,1-addition product (silylarsane **2**). In contrast, the activation of PH_3 by **1** merely leads to the phosphorus analogue of **2**. The strikingly different metal-free activation of the series of Group 15 hydrides EH_3 (E = N, P, As) by **1** was rationalized with DFT calculations.

Silicon Clusters



Rollercoaster ring currents in an isomer of hexasilabenzene cause the large range of ^{29}Si NMR shifts of the central four Si atoms. The topologies of the magnetically induced currents result in the deshielding of the substituted Si atoms and the shielding of those without substituents. The absence of a paramagnetic vortex in the ring center suggests that the dismutational aromaticity of the investigated hexasilabenzene isomer is akin to spherical rather than planar aromaticity.

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).

Service

Corrigendum

In this Communication (10.1002/anie.201002369), reference [8c] was omitted. Please see the complete reference below.

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[8] For Pictet–Spengler condensations, see: a) E. D. Cox, J. M. Cook, *Chem. Rev.* **1995**, *95*, 1797–1842; b) J. Royer, M. Bonin, L. Micouin, *Chem. Rev.* **2004**, *104*, 2311–2352; c) A. K. Mandadapu, M. Saifuddin, P. K. Agarwal, B. Kundu, *Org. Biomol. Chem.* **2009**, *7*, 2796–2803.

1,5,9-Triazacoronenes: A Family of Polycyclic Heteroarenes Synthesized by a Threefold Pictet–Spengler Reaction

J. Wei,* B. Han, Q. Guo, X. Shi, W. Wang, N. Wei **8209–8213**

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