## VIP The following Communications have been judged by at least two referees to be "very important papers" and will be published online at www.angewandte.org soon:

*H. Chinen, K. Mawatari, Y. Pihosh, K. Morikawa, Y. Kazoe, T. Tsukahara, T. Kitamori**
**Enhancement of Proton Mobility in Extended Nanospace Channels**

*A. Marrero, S. Duquerroy, S. Trapani, T. Goulas, T. Guevara, G. R. Andersen, J. Navaza, L. Sottrup-Jensen, F. X. Gomis-Rüth**
**The Crystal Structure of Human $\alpha_2$-Macroglobulin Shows a Unique Molecular Cage**

*C. Hoch,* A. Simon*
**$Na_{11}Hg_{52}$: Complexity in a Polar Metal**

*A. Patzer, M. Schütz, T. Möller, O. Dopfer**
**IR Spectrum and Structure of the Adamantane Cation: Direct Evidence for Jahn–Teller Distortion**

*C. Parthier, S. Görlich, F. Jaenecke, C. Breithaupt, U. Bräuer, U. Fandrich, D. Clausnitzer, U. F. Wehmeier, C. Böttcher, D. Scheel, M. T. Stubbs**
**The *O*-Carbamoyl Transferase TobZ Catalyzes an Ancient Enzymatic Reaction**

*D. Globisch, C. A. Lowery, K. C. McCague, K. D. Janda**
**Uncharacterized DPD Molecules Shown by NMR Analysis: Implications for a Greater Signaling Diversity in Bacterial Species**

*C. Giese, F. Zosel, C. Puorger, R. Glockshuber**
**The Most Stable Protein/Ligand Complex: Applications for One-Step Affinity Purification and Identification of Protein Assemblies**

*C. Lux, M. Wollenhaupt, T. Bolze, Q. Liang, J. Köhler, C. Sarpe, T. Baumert**
**Circular Dichroism in the Photoelectron Angular Distributions of Camphor and Fenchone from Multiphoton Ionization with Femtosecond Laser Pulses**

*M. Murakami, R. Okamoto, M. Izumi, Y. Kajihara**
**Chemical Synthesis of a Homogeneous Erythropoietin Analogue Having a Complex Type Disialyloligosaccharide by Use of the Improved *tert*-Boc Conditions**

## Author Profile

*"When I was eighteen I wanted to be a rice farmer. The biggest challenge facing scientists is solar energy capture …"*
This and more about Masahiro Murakami can be found on page 2808.

## News

Y. Hayashi

H. Gohlke

E. Giralt

T. Rovis

## Books

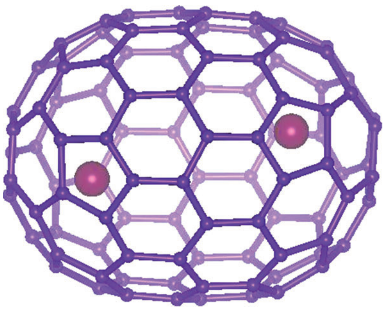
# Highlights

**Supramolecular Chemistry**

X. Lu, T. Akasaka,*
S. Nagase* ______________ **2812 – 2814**

Soluble and Tubular Higher Fullerenes that Encapsulate Metals

**Tubular!** The detection of a series of very large, soluble endofullerenes extending from $La_2C_{90}$ to $La_2C_{138}$ proves that endohedral metal doping is an effective strategy for stabilizing these giant molecules. The X-ray structure of the most abundant isomer, $La_2@D_5(450)\text{-}C_{100}$ (see image), shows a tubular structure featuring a long La–La distance and maximal separation of pentagons within the cage framework.



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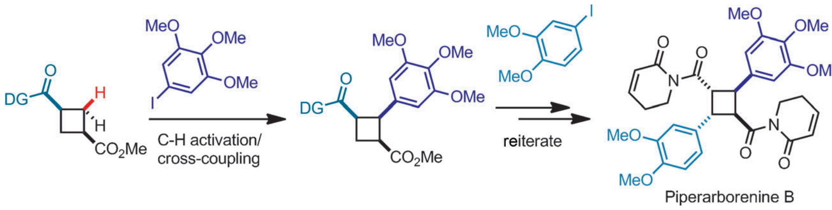
**Total Synthesis**

F. Frébault, N. Maulide* ____ **2815 – 2817**

Total Synthesis and Structural Revision of the Piperarborenines: When Photochemistry Meets C—H Activation



**Activate and reiterate**: The activation of C(sp$^3$)—H bonds is a highly desirable transformation because molecular complexity can be increased at the expense of the most simple and readily available organic linkage. In recent contributions this approach was used for coupling reactions with small all-carbon rings, as exemplified by the sequential C—H activation steps in an elegant total synthesis of the piperarborenines (see scheme; DG = directing group).

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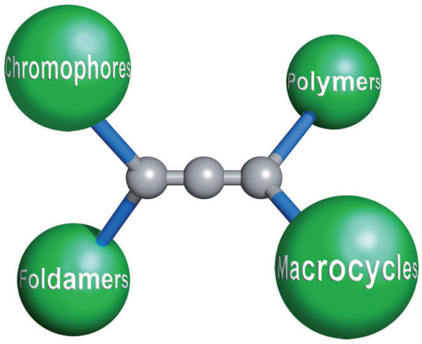
# Minireviews

**Molecular Materials**

P. Rivera-Fuentes,
F. Diederich* ______________ **2818 – 2828**

Allenes in Molecular Materials

**Property development**: A critical account of the development of allene-based molecular materials is presented in this Minireview. Shape-persistent macrocycles, foldamers, polymers, and other allene-containing functional materials are discussed, with a focus on their synthesis and chiroptical properties.



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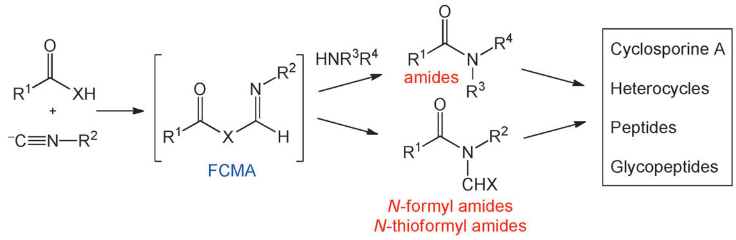
## Reviews

### Synthetic Methods

R. M. Wilson, J. L. Stockdill, X. Wu, X. Li, P. A. Vadola, P. K. Park, P. Wang, S. J. Danishefsky* ———— **2834 – 2848**

A Fascinating Journey into History: Exploration of the World of Isonitriles En Route to Complex Amides



**New take on an old classic**: Recent explorations in the field of isonitrile chemistry led to the development of an array of broadly useful coupling methods for the formation of peptidyl and glycopeptidyl amide bonds. The methods were applied to the syntheses of complex systems, including the cyclic peptide cyclosporine A, constrained peptide systems, and heterocycles (see scheme; FCMA = formimidate carboxylate mixed anhydride).

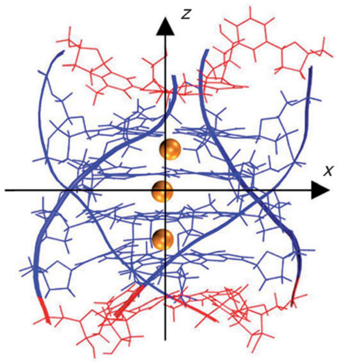
## Communications

### G-Quadruplex DNA Channels

P. Akhshi, N. J. Mosey, G. Wu* ———— **2850 – 2854**

Free-Energy Landscapes of Ion Movement through a G-Quadruplex DNA Channel

Frontispiece



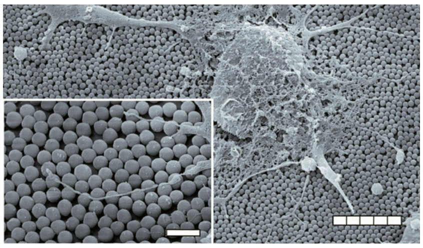
**How easily can ions move in DNA channels?** Three-dimensional free-energy landscapes for the movement of $Na^+$, $K^+$, and $NH_4^+$ ions through G-quadruplex DNA channels have been obtained by molecular dynamics simulations. The computed results are in qualitative agreement with the limited experimental data: large $K^+$ and $NH_4^+$ ions squeeze through the G-quartets with some difficulty, while $Na^+$ ions pass through with less impedance.

### Neurite Outgrowth

K. Kang, S.-E. Choi, H. S. Jang, W. K. Cho, Y. Nam,* I. S. Choi,* J. S. Lee* ———— **2855 – 2858**

In Vitro Developmental Acceleration of Hippocampal Neurons on Nanostructures of Self-Assembled Silica Beads in Filopodium-Size Ranges

Front Cover



**Something to sprout about**: The developmental acceleration of hippocampal neurons occurred on well-packed structures of silica beads with diameters over 200 nm (see picture; scale bar: 5 μm, inset scale bar: 1 μm). The neurons sensed the size differences of the nanostructures and altered their behaviors, thus implying that nanotopographical stimuli are one of the important features for guiding neurites during neural developments in vivo.

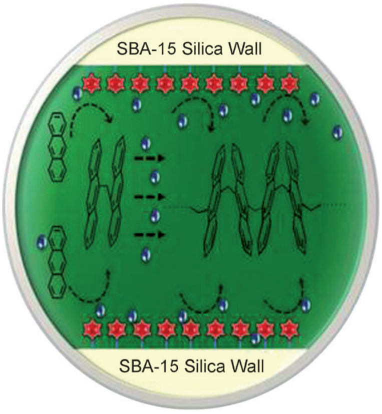
## Heterogeneous Catalysis

J. Kim, C. Anand, S. N. Talapaneni, J. You, S. S. Aldeyab, E. Kim,* A. Vinu* ———— **2859 – 2863**

Catalytic Polymerization of Anthracene in a Recyclable SBA-15 Reactor with High Iron Content by a Friedel–Crafts Alkylation

**Inside Cover**

**Ironing it out**: A FeSBA-15 catalyst with a high iron content as well as a large pore diameter has been synthesized and used for the production of soluble poly(methylene anthracene) (PMAn, see scheme). The catalyst is stable, active, reusable, and affords a high yield of high-molecular-weight PMAn. The properties of the PMAns obtained can be controlled by tuning the specific surface area, pore diameter, pore volume, and Fe content of the catalysts.



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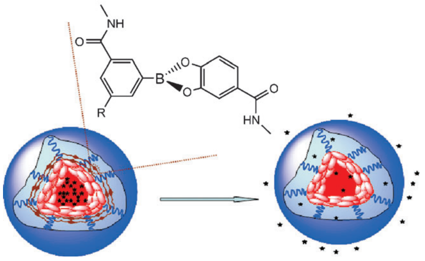
## Drug Delivery

Y. Li, W. Xiao, K. Xiao, L. Berti, J. Luo,* H. P. Tseng, G. Fung, K. S. Lam* ———— **2864 – 2869**

Well-Defined, Reversible Boronate Crosslinked Nanocarriers for Targeted Drug Delivery in Response to Acidic pH Values and *cis*-Diols

**Inside Back Cover**



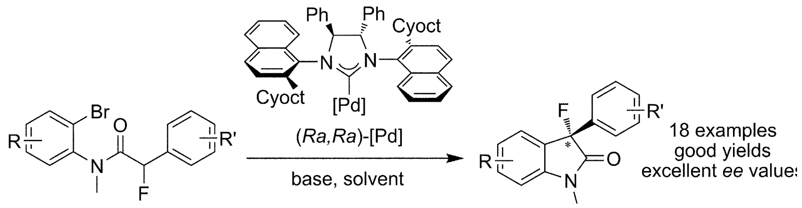
**Demand and deliver**: Micelles reversibly crosslinked by boronate esters (see scheme) show in vitro and in vivo stability, and thus minimize premature drug release under physiological conditions. After reaching the tumor sites, drug (stars in scheme) release is activated by cleavage of the boronate esters by the acidic conditions around the tumor or in the target cells, or by the administration of mannitol.

---

## Heterocycles

L. Wu, L. Falivene, E. Drinkel, S. Grant, A. Linden, L. Cavallo, R. Dorta* ———— **2870 – 2873**

Synthesis of 3-Fluoro-3-aryl Oxindoles: Direct Enantioselective α Arylation of Amides



**Modus operandi**: Catalytic access to the title compounds through a new asymmetric α-arylation protocol is reported (see scheme). These products are formed in good yields and excellent enantioselectivities by using a new and easily synthesized chiral N-heterocyclic carbene (NHC) ligand. Advanced DFT calculations reveal the properties of the NHC ligand and the mode of operation of the catalyst.

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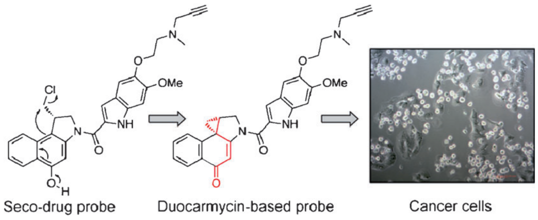
## Drug Development

T. Wirth, K. Schmuck, L. F. Tietze,* S. A. Sieber* ———— **2874 – 2877**

Duocarmycin Analogues Target Aldehyde Dehydrogenase 1 in Lung Cancer Cells

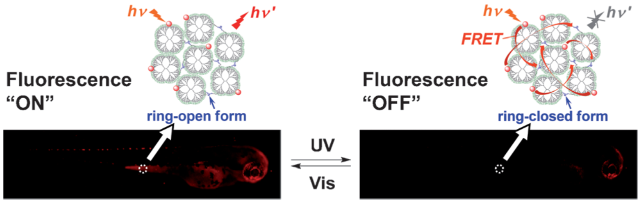


**Reacquiring the target**: A proteomic profiling approach has been used to show that aldehyde dehydrogenase 1 may be an additional or alternative target of duocarmycin. Selective inhibition of this enzyme in lung cancer cells explains the antitumor activity of duocarmycin analogues (see scheme).

## Photoswitchable Compounds

Y. Kim,* H.-y. Jung, Y. H. Choe, C. Lee, S.-K. Ko, S. Koun, Y. Choi, B. H. Chung, B. C. Park, T.-L. Huh, I. Shin, E. Kim ______ 2878 – 2882

High-Contrast Reversible Fluorescence Photoswitching of Dye-Crosslinked Dendritic Nanoclusters in Living Vertebrates

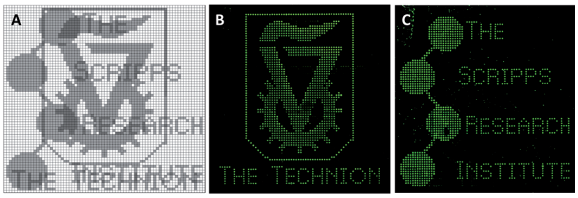


**Dendrimers crosslinked with a photochromic diarylethene** (blue in picture) were labeled with the fluorescent dye Cy3 (red) for reversible fluorescence photoswitching. If the obtained nanoclusters are irradiated with UV light, the Cy3 fluorescence is quenched by the diarylethene in its ring-closed form, whereas upon irradiation with visible light, the nanoclusters show fluorescence. High-contrast fluorescence imaging was achieved inside a living zebrafish.

## DNA Nanotechnology

S. Shoshani, R. Piran, Y. Arava, E. Keinan* ______ 2883 – 2887

A Molecular Cryptosystem for Images by DNA Computing

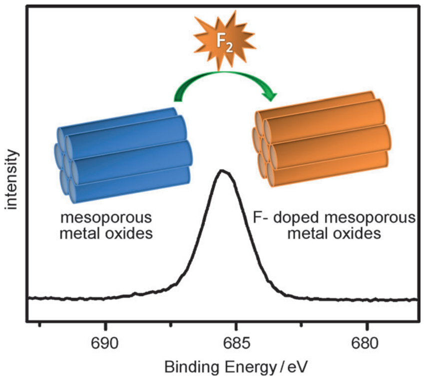


**Cracking the encryption**: Parallel computing with molecular finite-state automata and fluorescently labeled DNA molecules has been used to decipher two different images encrypted onto a single DNA chip (see picture). The images were deciphered by a mixture of input molecules that were processed by biomolecular automata, a strategy that potentially offers a huge diversity of encrypted images.

## Mesoporous Salts

Z. A. Qiao, S. S. Brown, J. Adcock, G. M. Veith, J. C. Bauer, E. A. Payzant, R. R. Unocic, S. Dai* ______ 2888 – 2893

A Topotactic Synthetic Methodology for Highly Fluorine-Doped Mesoporous Metal Oxides

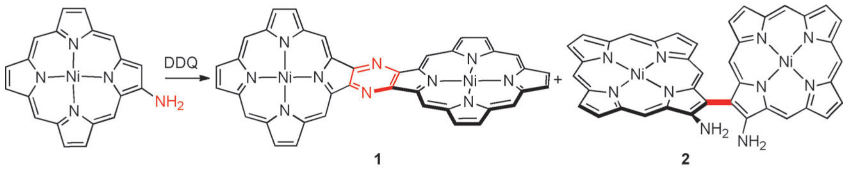


**F tactic**: Highly fluorine-doped mesoporous metal oxides (up to 40 atom %) were synthesized by topotactic fluorination synthesis with mesoporous metal oxides as starting materials and fluorine as the fluorination agent. The surface areas, pore sizes, pore volumes, and F atomic concentrations of these materials could be adjusted over a wide range by varying the fluorination time and temperature.

## Porphyrin Chemistry

M. Akita, S. Hiroto, H. Shinokubo* ______ 2894 – 2897

Oxidative Annulation of β-Aminoporphyrins into Pyrazine-Fused Diporphyrins



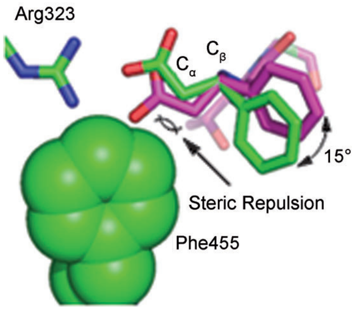
**Dimers are a girl's best friend**: The oxidative fusion reaction of β-aminoporphyrins with 2,3-dichloro-5,6-dicyano-1,4-benzoquinone (DDQ) under high-dilution conditions furnishes pyrazine-fused diporphyrins **1** in high yields. In a further application of the reaction, the oxidation of a 5,10,15,20-tetraphenylporphyrin derivative provides a singly linked diaminodiporphyrin **2** along with the pyrazine-fused diporphyrin (see scheme; only core structures are shown).

### Enzyme Structure/Mechanism

S. Strom, U. Wanninayake,
N. D. Ratnayake, K. D. Walker,*
J. H. Geiger* ______ **2898 – 2902**

Insights into the Mechanistic Pathway of the *Pantoea agglomerans* Phenylalanine Aminomutase

**The structure of** the title aminomutase has been solved. The steric bulk of Phe 455 (green CPK structure) twists the phenylpropanoate ligand (green stick) by approximately 15° about the $C_\beta$ axis, which precludes a stronger bidentate salt bridge with Arg 323 (magenta structure). Instead, a weaker monodentate bridge may partially explain the different configuration of the product, relative to that obtained with an isoenzyme that forms a bidentate intermediate.



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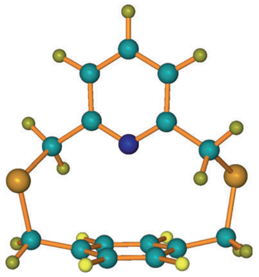
### Polar–π Interactions

K. K. Baldridge,* F. Cozzi,*
J. S. Siegel* ______ **2903 – 2906**

Basicity of (2,6-Pyridino)paracyclophanes: Lone Pair–π, Cation–π, and Solvation Effects

**Lost in solvation**: A study of the basicity of (2,6-pyridino)paracyclophanes (see picture; C light blue, N blue, S orange, F yellow, H green) reveals the importance of bulk solvation compared to cation–π effects in determining the relative stability of cations.



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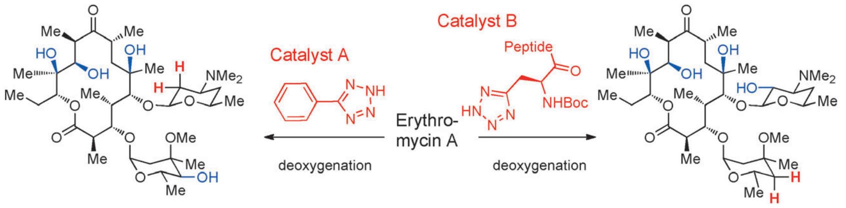
### Synthetic Methods

P. A. Jordan, S. J. Miller* ___ **2907 – 2911**

An Approach to the Site-Selective Deoxygenation of Hydroxy Groups Based on Catalytic Phosphoramidite Transfer



**Selective**: The deoxygenation of simple and complex natural products employing a readily synthesized phosphoramidite and tetrazole catalysts can be executed as a two-step process, without the need to isolate intermediate deoxygenation precursors. Furthermore, a peptide-based tetrazole catalyst controls the site selectivity of deoxyerythromycin synthesis (see scheme), thus overcoming the notorious challenges with unprotected erythromycin A.

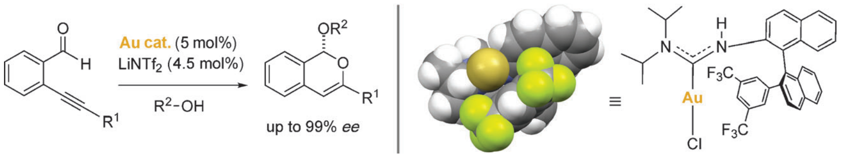
---

### Enantioselective Gold Catalysis

S. Handa, L. M. Slaughter* **2912 – 2915**

Enantioselective Alkynylbenzaldehyde Cyclizations Catalyzed by Chiral Gold(I) Acyclic Diaminocarbene Complexes Containing Weak Au–Arene Interactions

**Back Cover**

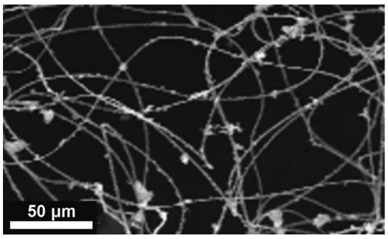


**Hold me close**: Highly enantioselective catalysis of tandem acetalization/cycloisomerization reactions of *o*-alkynylbenzaldehydes has been achieved using gold complexes of chiral acyclic diaminocarbene ligands that have electron-deficient aryl substituents. X-ray crystallography and DFT calculations implicate weak gold-arene interactions—absent in the case of simple phenyl substituents—that define the chirality of the substrate binding site.

### Carbon Nanotubes

V. Gupta,* R. K. Kotnala ______ 2916 – 2919

Multifunctional Ferromagnetic Carbon-Nanotube Arrays Prepared by Pulse-Injection Chemical Vapor Deposition



**Particles in tubes**: Multiwalled carbon nanotubes containing $Fe_3C$ particles (see SEM image) have been prepared by pulse-injection chemical vapor deposition. The $Fe_3C$ particles provide the nanotubes with magnetic properties. The use of the nanotubes was also investigated in in vitro drug-release studies.

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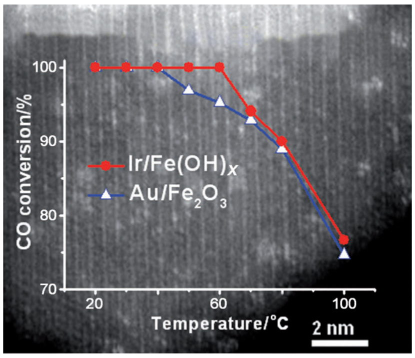
### Heterogeneous Catalysis

J. Lin, B. Qiao, J. Liu, Y. Huang, A. Wang, L. Li, W. Zhang, L. F. Allard, X. Wang,* T. Zhang* ______ 2920 – 2924

Design of a Highly Active $Ir/Fe(OH)_x$ Catalyst: Versatile Application of Pt-Group Metals for the Preferential Oxidation of Carbon Monoxide



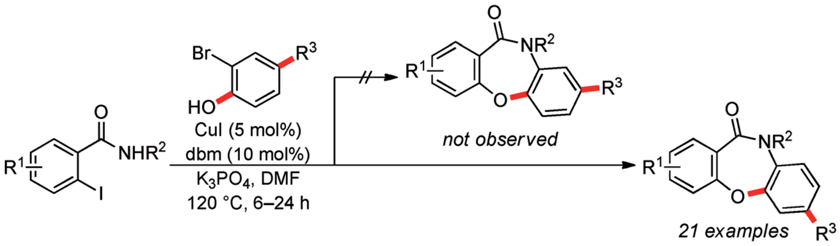
**With the right support**: A $Ir/Fe(OH)_x$ catalyst was designed. The $Fe(OH)_x$ support stabilizes the metal catalyst used for the oxidation of carbon monoxide. The catalyst was highly active for the oxidation of carbon monoxide in the presence of excess hydrogen at room temperature and showed a wide temperature range for the total conversion of CO (see picture).

---

### Domino C–O/C–N Bond Formation

M. O. Kitching, T. E. Hurst, V. Snieckus* ______ 2925 – 2929

Copper-Catalyzed Cross-Coupling Interrupted by an Opportunistic Smiles Rearrangement: An Efficient Domino Approach to Dibenzoxazepinones



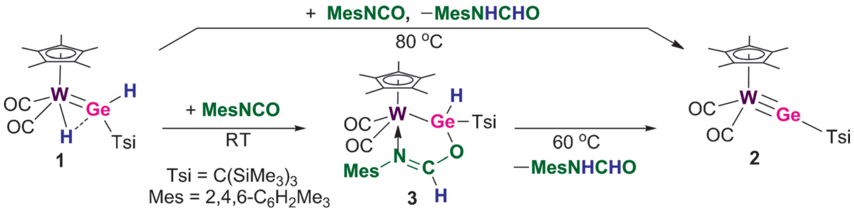
**Unexpected Smiles!** An unusual and highly regioselective synthesis of dibenzoxazepinones by a domino sequence assisted by an unexpected Smiles rearrangement is reported. The process is effective on electronically differentiated phenols and shows a high tolerance to variation in the benzamide substituents. A plausible path for the reaction, supported by preliminary mechanistic data, is offered.

---

### Multiple Bonds

H. Hashimoto,* T. Fukuda, H. Tobita,* M. Ray, S. Sakaki ______ 2930 – 2933

Formation of a Germylyne Complex: Dehydrogenation of a Hydrido(hydrogermylene)tungsten Complex with Mesityl Isocyanate

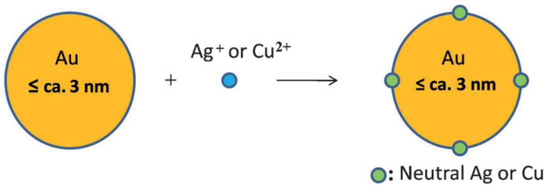


**The germylyne complex 2** was obtained by dehydrogenation of a hydrido (hydrogermylene) complex **1** with mesityl isocyanate on heating. A reaction intermediate **3** was also isolated by a room temperature reaction, which was converted into **2** by heating, with elimination of MesNHCHO. A possible mechanism for the formation of **2** was elucidated by kinetic studies and DFT calculations.

## Metal Nanoparticles

Z. Wu* 2934 – 2938

### Anti-Galvanic Reduction of Thiolate-Protected Gold and Silver Nanoparticles



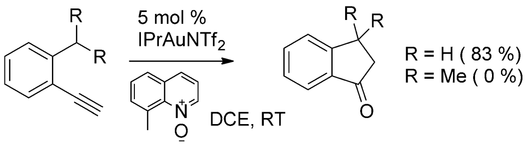
**Unexpected**: Anti-galvanic reduction (AGR), that is, metal ions are reduced by more-noble metals, was found in small thiolated gold (see figure) and silver nanoparticles! These findings are not only unexpected considering the classic galvanic theory, but also provide a facile and mild method to make alloys on the nanoscale or tune the compositions, structures, and properties of nanostructures that are otherwise difficult to obtain.

---

## C–H Insertion

S. Bhunia, S. Ghorpade, D. B. Huple, R.-S. Liu* 2939 – 2942

### Gold-Catalyzed Oxidative Cyclizations of *cis*-3-En-1-ynes To Form Cyclopentenone Derivatives



**Golden tendencies**: The title reaction for synthesizing cyclopentenone derivatives utilizes a gold complex and 8-methylquinoline oxide as the catalyst system (see scheme; IPr = 1,3-bis(diisopropylphenyl)-imidazol-2-ylidene). Such products are not attainable using diazocarbonyl reagents, as the gold carbenoids tend to react with C–H bonds.

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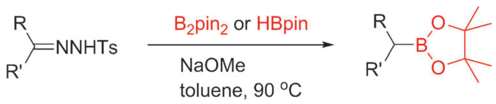
## Metal-Free Borylation

H. Li, L. Wang, Y. Zhang, J. Wang* 2943 – 2946

### Transition-Metal-Free Synthesis of Pinacol Alkylboronates from Tosylhydrazones



**Highly efficient**: Pinacol alkylboronates were synthesized by the reaction of tosylhydrazones with bis(pinacolato)diboron or pinacolborane under transition-metal-free conditions. This reaction represents an expeditious conversion of carbonyl functionality into a boronate group.

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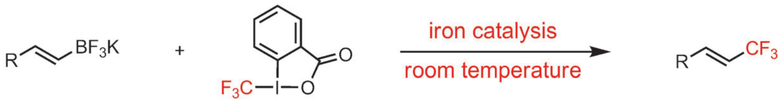
## Trifluoromethylation

A. T. Parsons, T. D. Senecal, S. L. Buchwald* 2947 – 2950

### Iron(II)-Catalyzed Trifluoromethylation of Potassium Vinyltrifluoroborates

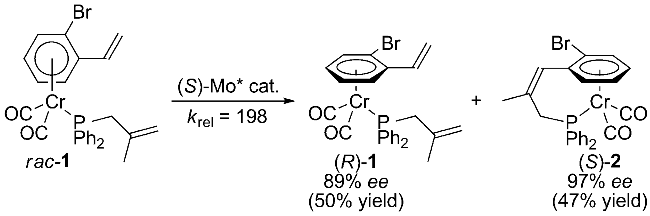


**Exchanging $BF_3$ by $CF_3$**: The title reaction proceeds under exceedingly mild reaction conditions and provides 2-arylvinyl- and 2-heteroarylvinyl-substituted substrates with *E*/*Z* selectivities of more than 95:5. Experimental observations suggest that the reaction does not proceed through a transmetalation of the $RBF_3K$ species to the iron catalyst.

## Asymmetric Synthesis

M. Ogasawara,* W.-Y. Wu, S. Arae,
S. Watanabe, T. Morita, T. Takahashi,*
K. Kamikawa* ———— **2951 – 2955**

Kinetic Resolution of Planar-Chiral ($\eta^6$-Arene)Chromium Complexes by Molybdenum-Catalyzed Asymmetric Ring-Closing Metathesis

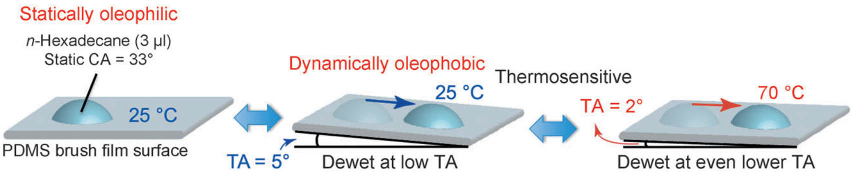


**Molybdenum-catalyzed** asymmetric ring-closing metathesis has been used for the kinetic resolution of racemic planar-chiral ($\eta^6$-arene)chromium complexes with excellent enantioselectivity. The products are excellent precursors for the synthesis of various planar-chiral ($\eta^6$-arene)chromium derivatives and can also be applied as chiral ligands in rhodium-catalyzed asymmetric reactions.

## Surface Chemistry

D. F. Cheng, C. Urata, M. Yagihashi,
A. Hozumi* ———— **2956 – 2959**

A Statically Oleophilic but Dynamically Oleophobic Smooth Nonperfluorinated Surface

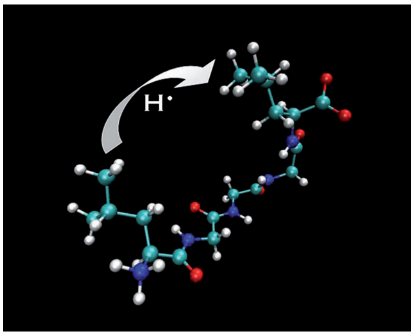


**Nonstick**: Dynamically oleophobic surfaces have been produced from low-molecular-weight poly(dimethylsiloxane) (PDMS) brush films. Despite the statically oleophilic nature of these nonroughened, nonperfluorinated surfaces, ultralow tilt angles (TAs) that set drops of various nonpolar liquids in motion were achieved. Heating the surfaces enhances droplet mobility by significantly reducing the TAs (see scheme; CA = contact angle).

## Radical Chemistry

Q. Raffy, D. A. Buisson, J.-C. Cintrat,
B. Rousseau, S. Pin,
J. P. Renault* ———— **2960 – 2963**

Carbon-Centered Radicals Can Transfer Hydrogen Atoms between Amino Acid Side Chains

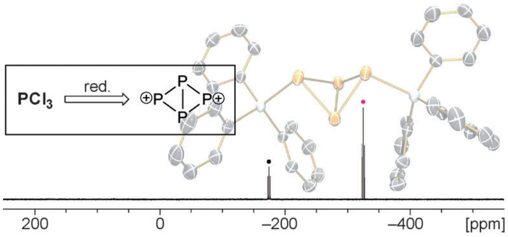


**Radical migration** between aliphatic amino acid side chains can occur in solution and intramolecularly in peptides. The kinetic constant of the hydrogen transfer reaction was measured by using competition kinetics, and the half-life as well as the distance that a radical can move within a protein was calculated.

## Cationic Phosphorus

M. Donath, E. Conrad, P. Jerabek,
G. Frenking, R. Fröhlich, N. Burford,*
J. J. Weigand* ———— **2964 – 2967**

Ligand-Stabilized $[P_4]^{2+}$ Cations



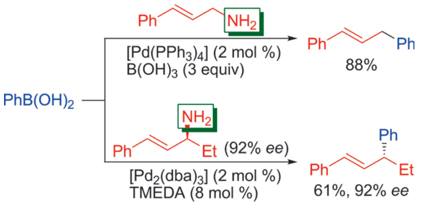
**The bis(triphenylarsane) complex** of the $[P_4]^{2+}$ dication has been formed in a high-yielding one-pot synthesis. X-ray crystallography reveals a butterfly structure of the bicyclo[1.1.0]-tetraphosphane-1,4-diium core, with two triphenylarsane ligands in an *exo*,*exo* configuration (see picture). The reaction of $[(Ph_3As)_2P_4]^{2+}$ with $Ph_3P$ results in the quantitative formation of $[(Ph_3P)_2P_4]^{2+}$ and $Ph_3As$.

## Cross-Coupling

M.-B. Li, Y. Wang,
S.-K. Tian* ______________ 2968 – 2971

### Regioselective and Stereospecific Cross-Coupling of Primary Allylic Amines with Boronic Acids and Boronates through Palladium-Catalyzed C—N Bond Cleavage

**The $NH_2$ group** serves as an effective leaving group in the palladium-catalyzed regioselective and stereospecific title reaction (see scheme). The reaction works well with aryl- and alkenylboronic acids and aryl-, alkenyl-, allyl-, and benzylboronates, and complete transfer of chirality has been achieved when using α-chiral primary allylic amines as the allylic electrophiles.



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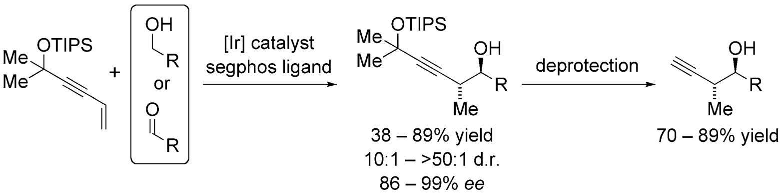
## Enantioselective Propargylation

L. M. Geary, S. K. Woo, J. C. Leung,
M. J. Krische* ______________ 2972 – 2976

### Diastereo- and Enantioselective Iridium-Catalyzed Carbonyl Propargylation from the Alcohol or Aldehyde Oxidation Level: 1,3-Enynes as Allenylmetal Equivalents



**Axial to axial to point chirality transfer**: Exposure of conjugated enynes to alcohols in the presence of an iridium catalyst modified by a segphos ligand results in the generation of aldehyde–allenyliridium pairs and formation of enantiomerically enriched products of carbonyl *anti*-(α-methyl)propargylation (see scheme). An identical set of products are obtained from aldehydes under related transfer hydrogenation conditions by employing formic acid as a reductant.

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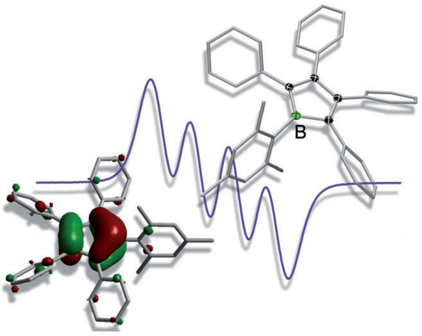
## Boron Radicals

H. Braunschweig,* V. Dyakonov,
J. O. C. Jimenez-Halla, K. Kraft,
I. Krummenacher, K. Radacki, A. Sperlich,
J. Wahler ______________ 2977 – 2980

### An Isolable Radical Anion Based on the Borole Framework



**Give me five!** A new boron-centered radical anion based on the borole framework is an example of a cyclic, planar, and conjugated π system hosting five electrons. Single-crystal X-ray analysis, EPR spectroscopy, and DFT methods indicate that the unpaired spin is delocalized within the borole ring. Despite steric shielding by the mesityl group, the boron atom is still available for radical-type reactions.

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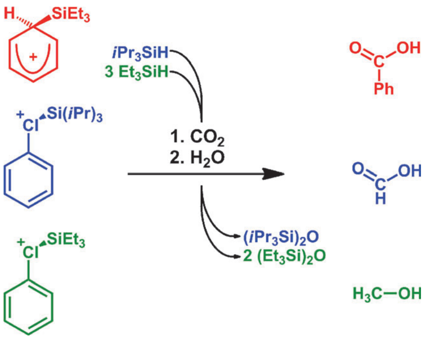
## $CO_2$ Reduction

A. Schäfer, W. Saak, D. Haase,
T. Müller* ______________ 2981 – 2984

### Silyl Cation Mediated Conversion of $CO_2$ into Benzoic Acid, Formic Acid, and Methanol



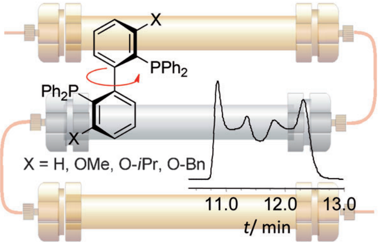
**As you like it**: The choice of solvents and substituents at the silicon atom determine what product is formed from carbon dioxide after electrophilic activation by silyl cations (see scheme). Benzoic acid as well as the C-1 building blocks formic acid and methanol are on the product tableau.

### Tropos Ligands

F. Maier, O. Trapp* ______ **2985 – 2988**

Effects of the Stationary Phase and the Solvent on the Stereodynamics of biphep Ligands Quantified by Dynamic Three-Column HPLC

**Dynamics and kinetics in a single stroke**: The stereodynamics of the tropos-chiral diphosphine biphep and its 3,3′-dialkoxy analogues were investigated by enantioselective dynamic HPLC (DHPLC) and a novel three-column approach, in with the dynamics and kinetics of the interconversion were examined in a single experimental setup (see scheme).

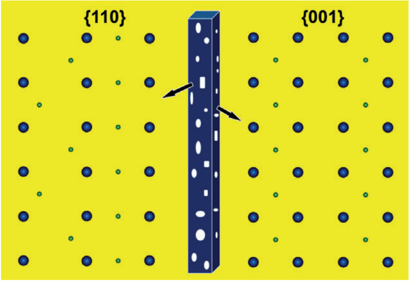


### Iron Oxide Nanorods

X. Mou, B. Zhang, Y. Li, L. Yao, X. Wei, D. S. Su,* W. Shen* ______ **2989 – 2993**

Rod-Shaped $Fe_2O_3$ as an Efficient Catalyst for the Selective Reduction of Nitrogen Oxide by Ammonia

**Nanorust**: $Fe_2O_3$ nanomaterials with controllable crystal phase and morphology have been successfully fabricated. The $\gamma$-$Fe_2O_3$ nanorods that are enclosed by the reactive {110} and {100} facets are highly active and distinctively stable for selective catalytic reduction of NO with $NH_3$. The picture shows the shape and surfaces and the surface atomic configurations of the preferentially exposed {110} and {001} planes.

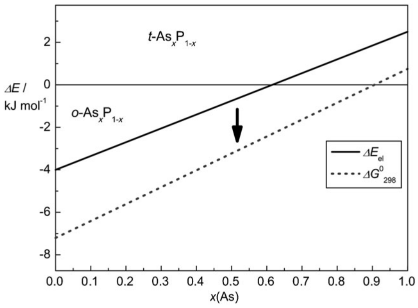


### Metastable Phases

O. Osters, T. Nilges,* F. Bachhuber, F. Pielnhofer, R. Weihrich,* M. Schöneich, P. Schmidt* ______ **2994 – 2997**

Synthesis and Identification of Metastable Compounds: Black Arsenic—Science or Fiction?

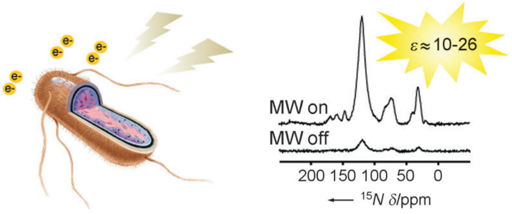
**Back in black**: All metastable and stable phases can be identified for the solid solution arsenic/phosphorus by a combination of quantum-chemical calculations and investigations of the phase formation. Reaction paths for phase formations and transitions in situ were also evaluated. The results show that orthorhombic black arsenic (*o*-As) is metastable in pure form and has only been previously obtained by stabilizing impurities.



### NMR Spectroscopy

M. Renault, S. Pawsey, M. P. Bos, E. J. Koers, D. Nand, R. Tommassen-van Boxtel, M. Rosay, J. Tommassen, W. E. Maas, M. Baldus* ______ **2998 – 3001**

Solid-State NMR Spectroscopy on Cellular Preparations Enhanced by Dynamic Nuclear Polarization



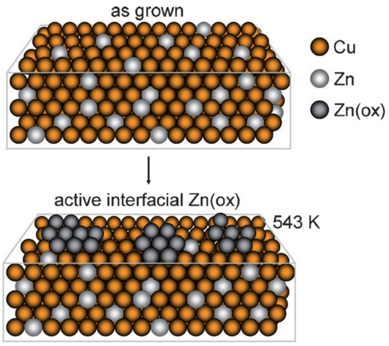
**A peek inside**: Dynamic nuclear polarization (DNP) enhances the spectroscopic sensitivity of solid-state NMR measurements of uniformly $(^{13}C,^{15}N)$-labeled preparations of *Escherichia coli* cells by more than an order of magnitude (see picture; MW = microwaves, $\varepsilon$ = enhancement factor). The major molecular components in the cells can be characterized in this way.

### Methanol Steam Reforming

C. Rameshan, W. Stadlmayr, S. Penner, H. Lorenz, N. Memmel, M. Hävecker, R. Blume, D. Teschner, T. Rocha, D. Zemlyanov A. Knop-Gericke, R. Schlögl, B. Klötzer* ______ 3002–3006

Hydrogen Production by Methanol Steam Reforming on Copper Boosted by Zinc-Assisted Water Activation

**A Zn-in-Cu near-surface** alloy covered by a thin wetting layer of interfacial Zn(ox) is the most active state of an inverse CuZn catalyst. The bifunctional action of the mixed Cu(Zn)$^0$/Zn(ox) surface allows for selective dehydrogenation of methanol to formaldehyde and for optimized water activation, thus providing the required source of oxygen for the total oxidation of HCHO to $CO_2$.



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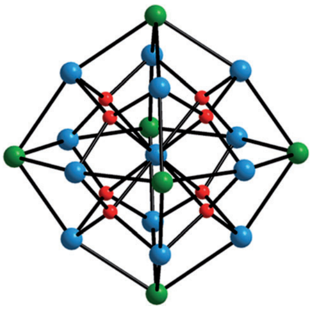
### Supramolecular Chemistry

L. Zhang, R. Clérac, P. Heijboer, W. Schmitt* ______ 3007–3011

Influencing the Symmetry of High-Nuclearity and High-Spin Manganese Oxo Clusters: Supramolecular Approaches to Manganese-Based Keplerates and Chiral Solids



**Meet me at the symmetry gates**: A supramolecular approach using chlorides as structure-directing ligands gives high-nuclearity, mixed-valent Mn coordination clusters with {Mn$^{II}$Mn$^{III}_{12}$}, {Mn$^{II}_3$Mn$^{III}_{10}$}, and {Mn$^{II}_3$Mn$^{III}_{11}$} core structures that have supramolecular chirality. The {Mn$^{II}$Mn$^{III}_{12}$} complex (see structure: Mn blue, Cl green, O red) is the first structurally characterized Mn-based Keplerate and has one of the highest symmetries reported for a high-nuclearity Mn coordination cluster.

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## And Finally

### Gilbert Stork

J. I. Seeman* ______ 3012–3023

Gilbert Stork: In His Own Words and in the Musings of His Friends

**Storkisms**: In honor of the 90th birthday of Professor Gilbert Stork, a collection of poignant quotes and anecdotes have been gathered which illustrate his philosophies of life and his unique qualities of intensity, humor, and gentleness. These stories are both entertaining and didactic, while revealing aspects of the academic life of a chemist from 1940 to 2011.

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