



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](http://www.angewandte.org) soon:

Z. Zhang, Z. Wang, R. Zhang, K. Ding\*

**Extremely Efficient Titanium Catalyst for the Enantioselective Cyanation of Aldehydes Using Cooperative Catalysis**

Q. Wang, M. Zhang, C. Chen, W. Ma, J. Zhao\*

**Photocatalytic Aerobic Oxidation of Alcohols on TiO<sub>2</sub>: The Acceleration Effect of Brønsted Acids**

Y. Fu, Q. Dai, W. Zhang, J. Ren, T. Pan,\* C. He\*

**AlkB Domain of Mammalian ABH8 Catalyzes Hydroxylation of 5-Methoxycarbonylmethyluridine at the Wobble Position of tRNA**

C. Apostolidis, B. Schimmelpfennig, N. Magnani, P. Lindqvist-Reis,\* O. Walter, R. Sykora, A. Morgenstern, E. Colineau, R. Caciuffo, R. Klenze, R. G. Haire, J. Rebizant, F. Bruchertseifer, T. Fanghänel  
[An(H<sub>2</sub>O)<sub>9</sub>](CF<sub>3</sub>SO<sub>3</sub>)<sub>3</sub> (An=U–Cm, Cf): Exploring Their Stability, Structural Chemistry, and Magnetic Behavior by Experiment and Theory

S. Rizzato, J. Bergès, S. A. Mason, A. Albinati, J. Kozelka\*

**Dispersion-Driven Hydrogen Bonding: Theoretically Predicted H–Bond between H<sub>2</sub>O and Platinum(II) Identified by Neutron Diffraction**

D. R. Dreyer, H. Jia, C. W. Bielawski\*

**Graphene Oxide: A Convenient Carbocatalyst for Facilitating Oxidation and Hydration Reactions**

H. Amouri,\* J. Moussa, A. K. Renfrew, P. J. Dyson, M. N. Rager, L.-M. Chamoreau

**Metal Complex of Diselenobenzoquinone : Discovery, Structure, and Anticancer Activity**

H. Wang, A. Pyatenko, K. Kawaguchi, X. Li, Z. Swiatkowska-Warkocka, N. Koshizaki\*

**Selective Pulsed Heating for the Synthesis of Semiconductor and Metal Submicrometer Spheres**



“The three qualities that make a good scientist are creativity, persistence, and knowledge.

My favorite subject at school was chemistry, but also history ...”

This and more about Thomas Braun can be found on page 5824.

## Author Profile

Thomas Braun \_\_\_\_\_ 5824

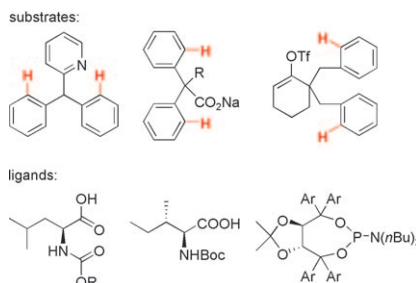
Mirror-Image Asymmetry

James P. Riehl

## Books

reviewed by J. M. Ribo \_\_\_\_\_ 5825

**Easy as pie:** Simple amino acid derivatives and phosphoramidites assist palladium in the enantioselective direct alkylation and olefination of simple arenes (see scheme; Boc = *tert*-butoxycarbonyl, Tf = trifluoromethanesulfonyl). Under mild reaction conditions, a practical level of enantiomeric excess was obtained.



## Highlights

### Asymmetric Catalysis

H. M. Peng, L.-X. Dai, S.-L. You\* \_\_\_\_\_ 5826 – 5828

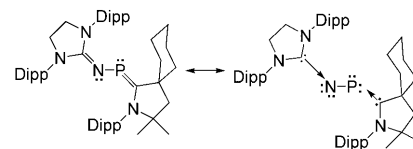
**Enantioselective Palladium-Catalyzed Direct Alkylation and Olefination Reaction of Simple Arenes**

## Phosphorus Mononitride

L. Weber\* ————— 5829 – 5830

A Different View of Coordination Chemistry: Bis(carbene) Adducts of ( $P \equiv N$ ) and ( $P \equiv N$ )<sup>+</sup>

**The taming of the shrew:** If the familiar method of stabilizing small reactive molecules in the coordination sphere of transition-metal complexes fails, an inverse approach is recommended: Clasp the elusive particle, ( $P \equiv N$ ), with two nucleophilic singlet carbenes and tame it (see mesomeric limiting structures; Dipp = 2,6-diisopropylphenyl).



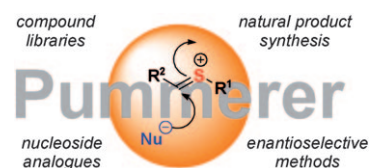
## Minireviews

### Pummerer Chemistry

L. H. S. Smith, S. C. Coote, H. F. Sneddon, D. J. Procter\* ————— 5832 – 5844

Beyond the Pummerer Reaction: Recent Developments in Thionium Ion Chemistry

**Thionium ions** have assumed great importance as electrophiles in organic chemistry in recent years. From classical Pummerer reactions to extended and connective variants, these versatile reactive intermediates have found applications in the synthesis of a wide range of compounds, including alkaloids, nucleoside derivatives, and heterocycles.



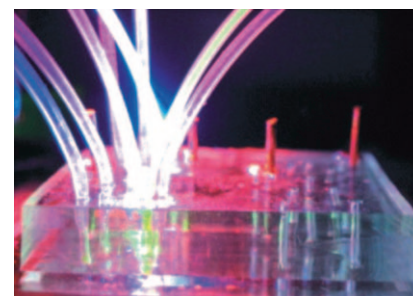
## Reviews

### Reactions in Microdroplets

A. B. Theberge, F. Courtois, Y. Schaerli, M. Fischlechner, C. Abell, F. Hollfelder, W. T. S. Huck\* ————— 5846 – 5868

Microdroplets in Microfluidics: An Evolving Platform for Discoveries in Chemistry and Biology

**More than a drop in the ocean:** Microdroplets in microfluidics has become a fast moving research area that is rapidly being established as a powerful tool for performing complex chemical and biological experiments (see picture). This Review assesses the technological challenges as well as the huge benefits compartmentalization, monodispersity, single-molecule sensitivity, and high throughput can bring to biology and chemistry.



### For the USA and Canada:

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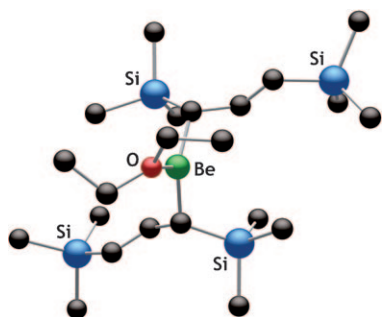
individuals who are personal members of a national chemical society prices are available on request. Postage and handling charges included. All prices are subject to local VAT/sales tax.

## Communications

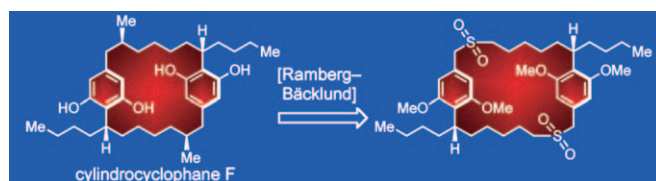
### Organoberyllium Chemistry

S. C. Chmely, T. P. Hanusa,\*  
W. W. Brennessel — 5870–5874

Bis(1,3-trimethylsilylallyl)beryllium



**Shape-shifter:** The beryllium allyl complex  $[\text{Be}\{1,3\text{-(SiMe}_3)_2\text{C}_3\text{H}_3\}_2(\text{Et}_2\text{O})]$  (see picture) has been synthesized and its X-ray structure determined. Although the allyl ligands are  $\sigma$  bonded, the molecule is fluxional in solution, and it engages in a Schlenk equilibrium with  $\text{BeCl}_2$ . DFT calculations suggest that in the absence of a coordinated base, both  $\sigma$ - and  $\pi$ -bound forms would be potential energy minima.



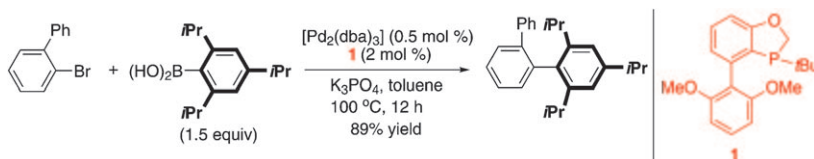
**Two make a cycle:** A Ramberg–Bäcklund reaction was employed to form the macrocyclic carbon skeleton of the marine natural products cylindrocyclophanes A

and F in an asymmetric synthesis through a head-to-tail dimerization approach (see scheme).

### Natural Product Synthesis

K. C. Nicolaou,\* Y.-P. Sun, H. Korman,  
D. Sarlah — 5875–5878

Asymmetric Total Synthesis of  
Cylindrocyclophanes A and F through  
Cyclodimerization and a Ramberg–  
Bäcklund Reaction



**Biaryl monophosphorus ligands** containing a 2,3-dihydrobenzo[*d*][1,3]oxaphosphole framework are highly effective for the palladium-catalyzed Suzuki–Miyaura cross-coupling reactions of a wide range

of substrates. Ligand **1** has demonstrated excellent performance for coupling reactions of extremely hindered arylboronic acids.

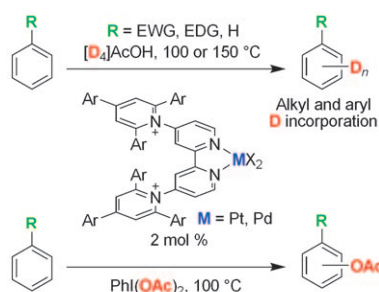
### Cross-Coupling

W. Tang,\* A. G. Capacci, X. Wei, W. Li,  
A. White, N. D. Patel, J. Savoie, J. J. Gao,  
S. Rodriguez, B. Qu, N. Haddad, B. Z. Lu,  
D. Krishnamurthy, N. K. Yee,  
C. H. Senanayake — 5879–5883

A General and Special Catalyst for Suzuki–  
Miyaura Coupling Processes



**Cationic catalysts in HD:** Palladium(II) and platinum(II) complexes of pyridinium-substituted bipyridine ligands are highly active and stable catalysts for H/D exchange and oxidation of aromatic C–H bonds (TONs up to 3200, TOFs up to  $0.1 \text{ s}^{-1}$ ; see scheme, EWG = electron-withdrawing group, EDG = electron-donating group).



### C–H Activation

M. H. Emmert, J. B. Gary, J. M. Villalobos,  
M. S. Sanford\* — 5884–5886

Platinum and Palladium Complexes  
Containing Cationic Ligands as Catalysts  
for Arene H/D Exchange and Oxidation



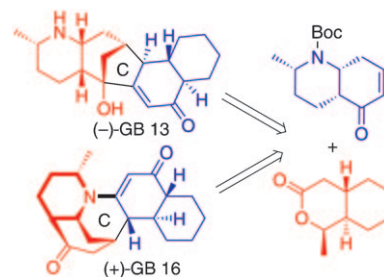
## Natural Products

W. Zi, S. Yu, D. Ma\* — 5887–5890



A Convergent Route to the *Galbulimima* Alkaloids (–)-GB 13 and (+)-GB 16

**Alkaloids all round:** A 19-step total synthesis of the *galbulimima* alkaloid (–)-GB 13 starting from commercially available starting material and the first total synthesis of the *galbulimima* alkaloid (+)-GB 16 have been achieved (see scheme; Boc = *tert*-butoxycarbonyl).



## Nanocarbon Chemistry

M. D. Tzirakis,  
M. Orfanopoulos\* — 5891–5893



Photochemical Addition of Ethers to  $C_{60}$ : Synthesis of the Simplest [60]Fullerene/Crown Ether Conjugates

**Easy crowning for [60]fullerene:** The simplest and hitherto elusive  $C_{60}$ /crown ether conjugates have been prepared through an effective free-radical approach. This approach includes the activation of the otherwise unreactive  $\alpha$ -C–H bond in a series of structurally diverse mono- or polyethers and sulfides. This facile method provides an expedient entry into a novel class of fullerene-based materials.



## Oxocarbenium Ions

L. Liu, P. E. Floreancig\* — 5894–5897



Stereoselective Synthesis of Tertiary Ethers through Geometric Control of Highly Substituted Oxocarbenium Ions

**Fully substituted, fully controlled!** The geometries of 1,1-disubstituted oxocarbenium ions and the conformations of oxocarbenium ions that contain a tertiary stereocenter can be predicted based on simple models. These models have been applied to highly stereoselective syntheses of tetrahydropyran derivatives that contain tertiary ethers (see scheme;  $R_L$ ,  $R_S$ , and  $R_N$  represent large, small, and nucleophilic groups, respectively).



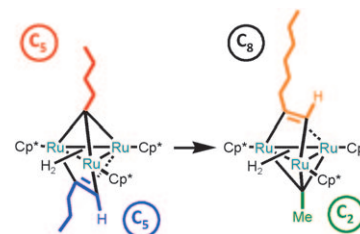
## Cluster Compounds

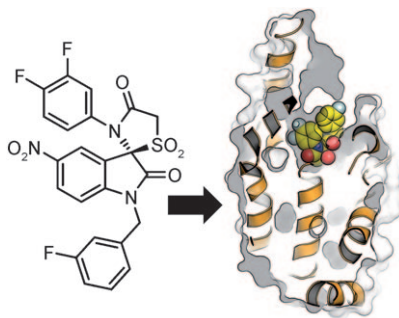
A. Tahara, M. Kajigaya, M. Moriya,  
T. Takao, H. Suzuki\* — 5898–5901



Metathesis Reaction of Hydrocarbyl Ligands across the Triruthenium Plane

**Trains and boats and planes:** The thermolysis of a triruthenium complex having  $\mu_3$ -pentylidyne and  $\mu_3$ -pentynyl ligands on each face of the trimetallic plane exclusively afforded the  $\mu_3$ -ethylidyne- $\mu_3$ -octyne complex. In this reaction, a  $C_3$  fragment migrated from one face of the  $Ru_3$  plane to the other. This corresponds to the selective redistribution of two  $C_5$  molecules into  $C_2$  and  $C_8$  molecules.



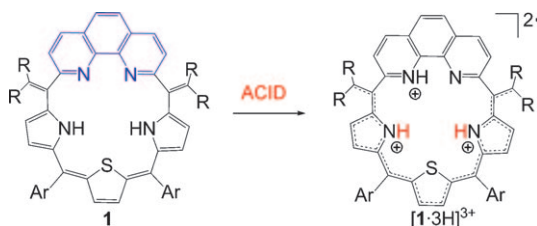


**The best of 40 000:** Detailed structure–activity–relationship studies revealed key structural elements of indolin-2-on-3-spirothiazolidinones (see example) and their appropriate configuration for strong inhibitory activity against the pathophysiologically relevant title protein.

### Enzyme Inhibitors

V. V. Vintonyak, K. Warburg, H. Kruse, S. Grimme, K. Hübel, D. Rauh, H. Waldmann\* \_\_\_\_\_ **5902 – 5905**

Identification of Thiazolidinones Spiro-Fused to Indolin-2-ones as Potent and Selective Inhibitors of the *Mycobacterium tuberculosis* Protein Tyrosine Phosphatase B



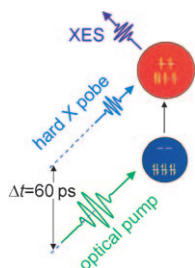
**Acid does the trick:** A novel 1,10-phenanthroline-embedded sapphyrin analogue **1** (see scheme; R = COOEt, Ar = *p*-tolyl) bearing meso alkylidenyl double bonds

has been synthesized. Interestingly, the protonated form of **1** ([**1.3H**]<sup>3+</sup>) exhibits singlet biradicaloid character.

### Sapphyrin Derivatives

M. Ishida, S. Karasawa, H. Uno, F. Tani, Y. Naruta\* \_\_\_\_\_ **5906 – 5909**

Protonation-Induced Formation of a Stable Singlet Biradicaloid Derived from a Modified Sapphyrin Analogue

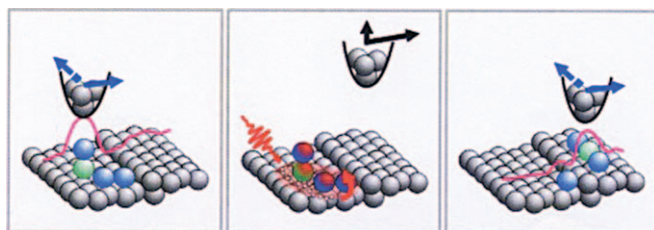


**Ultrafast spin probe:** A short-lived transient species of light-excited [Fe(bpy)<sub>3</sub>]<sup>2+</sup> (bpy = 2,2'-bipyridine) shows geometry variations that correspond to excitation to a high-spin state, in which the spin momentum of Fe<sup>II</sup> has now been directly determined to be *S* = 2 by spin-sensitive ultrafast X-ray emission spectroscopy.

### Time-Resolved Spectroscopy

G. Vankó,\* P. Glatzel,\* V.-T. Pham, R. Abela, D. Grolimund, C. N. Borca, S. L. Johnson, C. J. Milne, C. Bressler\* \_\_\_\_\_ **5910 – 5912**

Picosecond Time-Resolved X-Ray Emission Spectroscopy: Ultrafast Spin-State Determination in an Iron Complex



**Cannonball run:** Preparation of CO<sub>2</sub> has been achieved with CO and O<sub>2</sub> coadsorbed onto a Cu(111) surface by illumination with 40 fs pulses of laser light at 400 nm. The hot adatom mechanism that follows O<sub>2</sub> dissociation leads to a can-

nonball trajectory of the product molecules and thus escape of CO<sub>2</sub> from the reactant site to the bare terrace (see figure). It was thus demonstrated that non-adiabatic heterogeneous catalysis may be followed in real space.

### Surface Chemistry

H. Gawronski, M. Mehlhorn, K. Morgenstern\* \_\_\_\_\_ **5913 – 5916**

Real-Space Investigation of Non-adiabatic CO<sub>2</sub> Synthesis

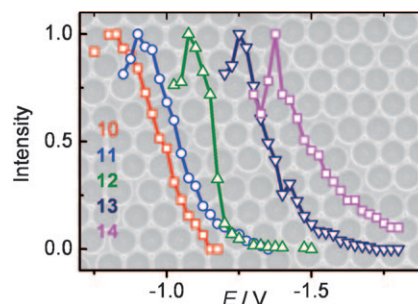
## DNA Analysis

D. K. Corrigan, N. Gale, T. Brown,  
P. N. Bartlett\* 5917 – 5920



Analysis of Short Tandem Repeats by  
Using SERS Monitoring and  
Electrochemical Melting

**Take-away:** Electrochemical melting with SERS detection on nanostructured electrodes was utilized to discriminate between DNA sequences with different numbers of the GATA short tandem repeat sequence (see diagram). The technique has unique advantages for incorporation into a field-operable DNA analysis device.

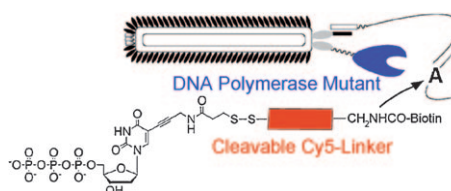


## Novel Polymerases

A. M. Leconte, M. P. Patel, L. E. Sass,  
P. McInerney, M. Jarosz, L. Kung,  
J. L. Bowers, P. R. Buzby, J. W. Efcavitch,  
F. E. Romesberg\* 5921 – 5924



Directed Evolution of DNA Polymerases  
for Next-Generation Sequencing



**Speeding evolution:** An activity-based phage display method was used to address the title application. A mutant of Taq DNA polymerase was identified (see scheme) that incorporates the fluoro-phore-labeled dA, dT, dC, and dG sub-

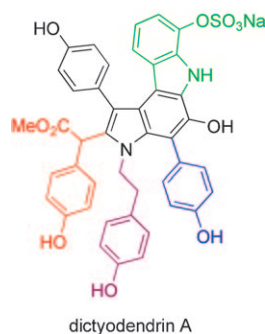
strates 50 to 400-fold more efficiently into scarred primers in solution and that also demonstrates significantly improved performance under actual sequencing conditions.

## Natural Product Synthesis

K. Okano, H. Fujiwara, T. Noji,  
T. Fukuyama, H. Tokuyama\* 5925 – 5929



Total Synthesis of Dictyodendrin A and B



**In-do-line of fire:** A highly efficient total synthesis of the title compounds features a novel benzyne-mediated one-pot indoline formation/cross-coupling sequence for the construction of a highly substituted key indoline intermediate. The peripheral substituents were then introduced onto the intermediate in a modular fashion to complete the total syntheses of dictyodendrin A and B.

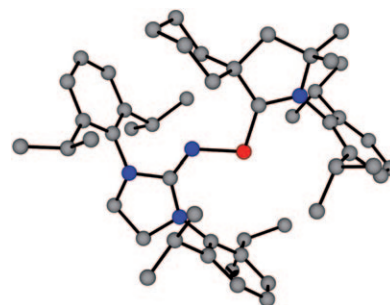
## Phosphorus Mononitride

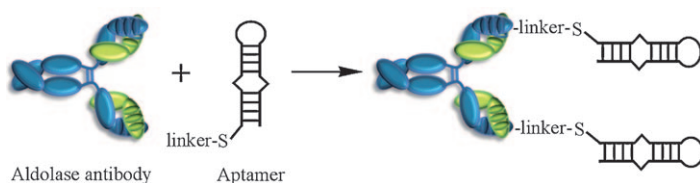
R. Kinjo, B. Donnadieu,  
G. Bertrand\* 5930 – 5933



Isolation of a Carbene-Stabilized  
Phosphorus Mononitride and Its Radical  
Cation (PN<sup>•+</sup>)

**Carbenes can do better than metals:** Phosphorus mononitride transition-metal complexes have never been isolated, but a PN fragment capped by two bulky, strongly electron-releasing singlet carbenes can be prepared at room temperature (see picture; P red, N blue, C gray). The one-electron oxidation produced the corresponding stable radical cation.





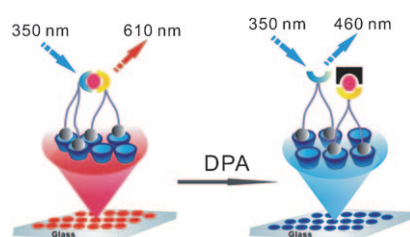
**Aptamer-programmed antibodies:** An RNA aptamer was covalently attached to antibody 38C2 (see scheme) to provide an aptamer-programmed antibody with significantly higher affinity and improved

pharmacokinetic properties compared to the parent aptamer. This strategy may provide a promising new class of immunotherapeutics that derive their specificity from nucleic acids.

## RNA-Aptamers

U. Wuellner, J. I. Gavriluk,  
C. F. Barbas, III\* — 5934 – 5937

Expanding the Concept of Chemically Programmable Antibodies to RNA Aptamers: Chemically Programmed Biotherapeutics

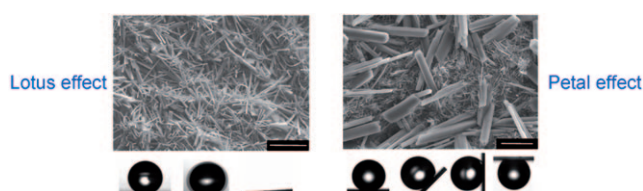


**Sense and sense ability:** A novel surface-assisted fluorescent sensing system has been developed for the ratiometric detection of the anthrax biomarker dipicolinic acid (DPA, black, see picture) on a molecular printboard. The system affords a nanomolar sensitivity and high selectivity towards DPA.

## Biomarker Detection

M. D. Yilmaz, S. H. Hsu, D. N. Reinhoudt,  
A. H. Velders, J. Huskens\* — 5938 – 5941

Ratiometric Fluorescent Detection of an Anthrax Biomarker at Molecular Printboards



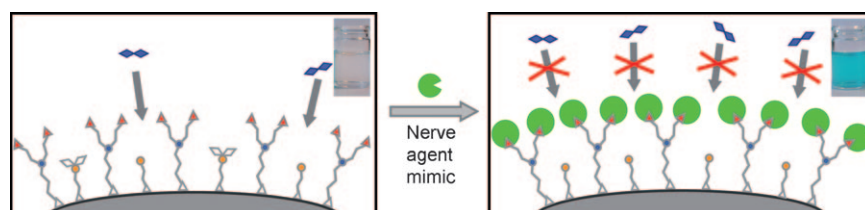
**Don't get wet!** The UV irradiation of a photochromic diarylethene microcrystalline film and its subsequent temperature treatment leads to the formation of water-repellant surfaces with different micro-

structures. Depending on the microstructure, a water droplet will either roll off the surface (lotus effect) or stay pinned to it (petal effect; see picture).

## Surface Chemistry

K. Uchida,\* N. Nishikawa, N. Izumi,  
S. Yamazoe, H. Mayama, Y. Kojima,  
S. Yokojima, S. Nakamura,\* K. Tsujii,  
M. Irie — 5942 – 5944

Phototunable Diarylethene Microcrystalline Surfaces: Lotus and Petal Effects upon Wetting



**Limited access:** Silica nanoparticles functionalized with alcohols and thiols have been used for the chromofluorogenic detection of nerve agent mimics. In the absence of the mimics, the thiol groups (yellow circles) react with squaraine dyes

(blue diamonds) and result in the bleaching of the solution. In the presence of the mimics, the squaraine–thiol reaction is inhibited (see picture; red triangle = hydroxy, empty triangles = silicate, blue circle = nitrogen).

## Sensors

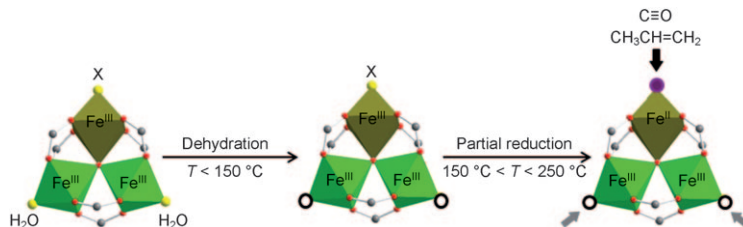
E. Climent, A. Martí, S. Royo,  
R. Martínez-Mañez,\* M. D. Marcos,  
F. Sancenón, J. Soto, A. M. Costero,\*  
S. Gil, M. Parra — 5945 – 5948

Chromogenic Detection of Nerve Agent Mimics by Mass Transport Control at the Surface of Bifunctionalized Silica Nanoparticles



## Gas Sorption

J. W. Yoon, Y.-K. Seo, Y. K. Hwang, J.-S. Chang,\* H. Leclerc, S. Wuttke, D. P. Bazin, A. Vimont, M. Daturi, E. Bloch, P. L. Llewellyn, C. Serre,\* P. Horcajada, J.-M. Grenèche, A. E. Rodrigues, G. Férey — **5949–5952**

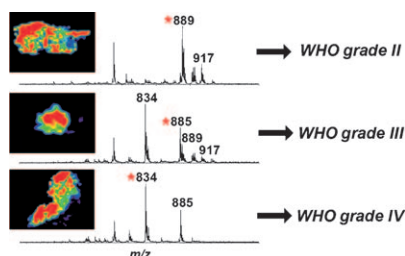


**Gas grabber:** Reduction of the porous metal–organic framework MIL-100(Fe) (see picture; X<sup>−</sup>: OH<sup>−</sup> or F<sup>−</sup>; red: O of trimesate ligands) to form coordinatively

unsaturated sites at iron(II) (depicted as a violet circle) is essential for selective gas purification or the selective removal of unsaturated gas impurities.

## Imaging Mass Spectrometry

L. S. Eberlin, A. L. Dill, A. J. Golby, K. L. Ligon, J. M. Wiseman, R. G. Cooks,\* N. Y. R. Agar\* — **5953–5956**

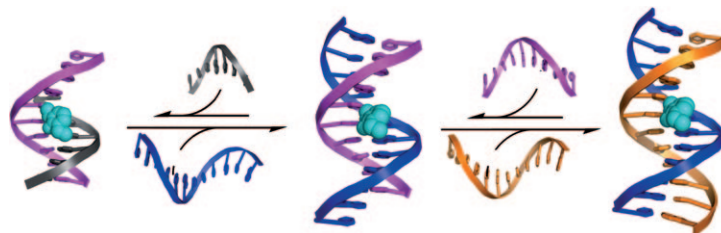


**Differentiation** of human brain astrocytic tumor grades can be achieved by direct lipid analysis using desorption electrospray ionization mass spectrometry (DESI-MS). Distinctive lipid profiles are associated with the degree of malignancy, grades II, III, and IV (see picture).

Discrimination of Human Astrocytoma Subtypes by Lipid Analysis Using Desorption Electrospray Ionization Imaging Mass Spectrometry

## Quinone Methides

H. Wang, S. E. Rokita\* — **5957–5960**



**Strands may come and go**, but cross-linking is forever: Dynamic combinatorial chemistry can respond to changing environments, a characteristic that is now

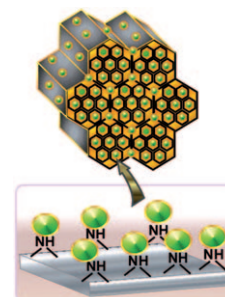
demonstrated with DNA cross-linking based on reversible alkylation of a quinone methide intermediate (see picture).

## Nanoparticle Catalysts

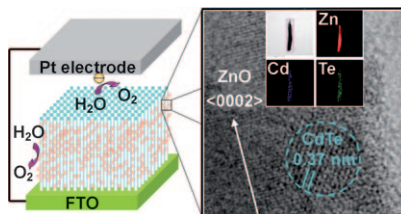
K. K. R. Datta, B. V. S. Reddy, K. Ariga, A. Vinu\* — **5961–5965**

Gold Nanoparticles Embedded in a Mesoporous Carbon Nitride Stabilizer for Highly Efficient Three-Component Coupling Reaction

**Support with triple function:** Au nanoparticles with sizes of less than 7 nm were fabricated in the channels of a mesoporous carbon nitride (MCN) support, which acts as a stabilizing, size-controlling, and reducing agent (see picture; Au NPs in green). The embedded, well-dispersed Au nanoparticles are a highly active, selective, and recyclable catalyst for the three-component coupling reaction of benzaldehyde, piperidine, and phenylacetylene for the synthesis of propargylamine.



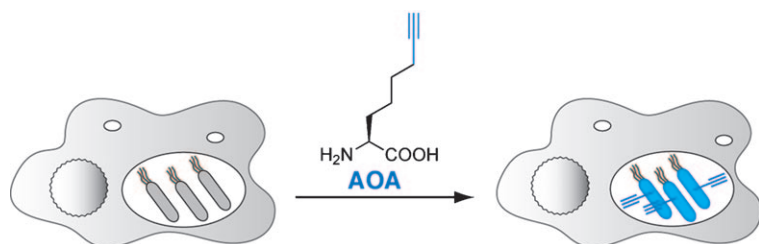
**A photoconversion efficiency of 1.83 %** was observed for a photodevice based on ZnO nanowires sensitized with CdTe quantum dots (QDs; see picture; FTO = F-doped SnO<sub>2</sub>), which is more than 200 % greater than that of pristine ZnO nanowires. The presence of CdTe QDs on the surface of ZnO nanowires was confirmed by HRTEM and elemental mapping.



### Water Splitting

H. M. Chen, C. K. Chen, Y.-C. Chang, C.-W. Tsai, R. S. Liu,\* S. F. Hu, W.-S. Chang, K. H. Chen — **5966 – 5969**

Quantum Dot Monolayer Sensitized ZnO Nanowire-Array Photoelectrodes: True Efficiency for Water Splitting



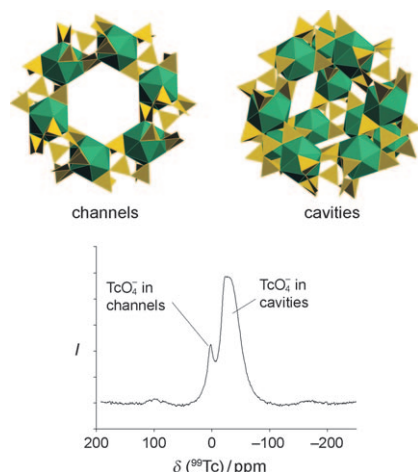
**Bacterial proteins in the haystack:** The alkynyl amino acid reporter AOA (see scheme) can be used to visualize and identify newly synthesized bacterial proteins during *Salmonella* infection of

mammalian cells by the copper(I)-catalyzed azide–alkyne cycloaddition. This technique opens new opportunities for the system-wide analysis of bacterial pathogens.

### Protein Identification

M. Grammel, M. M. Zhang, H. C. Hang\* — **5970 – 5974**

Orthogonal Alkynyl Amino Acid Reporter for Selective Labeling of Bacterial Proteomes during Infection



**No chance for technetium:** <sup>99</sup>Tc magic-angle spinning (MAS) NMR spectra show that TcO<sub>4</sub><sup>-</sup> ions, which are generated by nuclear fission and can contaminate the environment, can be trapped within the channels and cavities of a cationic framework material (see picture). These spectra are among the first <sup>99</sup>Tc MAS NMR spectra reported to date, and show that the TcO<sub>4</sub><sup>-</sup> ions can be efficiently removed from simulated nuclear waste solutions.

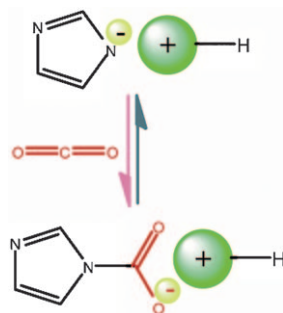
### Host–Guest Systems

P. Yu, S. Wang, E. V. Alekseev, W. Depmeier, D. T. Hobbs, T. E. Albrecht-Schmitt,\* B. L. Phillips,\* W. H. Casey\* — **5975 – 5977**

Technetium-99 MAS NMR Spectroscopy of a Cationic Framework Material that Traps TcO<sub>4</sub><sup>-</sup> Ions



**CO<sub>2</sub> capture:** Protic ionic liquids (PILs) from a superbases and fluorinated alcohol, imidazole, pyrrolinone, or phenol were designed to capture CO<sub>2</sub> based on the reactivity of their anions to CO<sub>2</sub>. These PILs are capable of rapid and reversible capture of about one equivalent of CO<sub>2</sub>, which is superior to those sorption systems based on traditional aprotic ILs.



### Carbon Capture

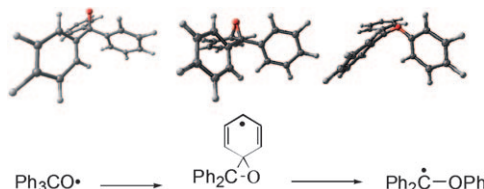
C. Wang, H. Luo, D. Jiang, H. Li,\* S. Dai\* — **5978 – 5981**

Carbon Dioxide Capture by Superbase-Derived Protic Ionic Liquids



## Wieland Rearrangement

G. A. DiLabio, K. U. Ingold,\* S. Lin,  
G. Litwinienko, O. Mozenon, P. Mulder,  
T. T. Tidwell ————— 5982–5985



Isomerization of Triphenylmethoxyl: The  
Wieland Free-Radical Rearrangement  
Revisited a Century Later

**Old wisdom teaches a new lesson:** The rate constant for the isomerization of thermally generated triphenylmethoxyl to  $\text{Ph}_2(\text{PhO})\text{C}^\bullet$  has been determined both experimentally and by DFT calculations

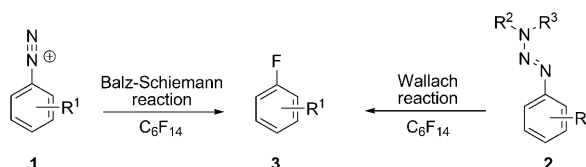
(see scheme), and the results vindicated Wieland's 1911 observations and conclusions—in contrast to photochemically based findings.

## Aromatic Fluorination

M. Döbele, S. Vanderheiden, N. Jung,\*  
S. Bräse\* ————— 5986–5988



Synthesis of Aryl Fluorides on a Solid  
Support and in Solution by Utilizing a  
Fluorinated Solvent



**F for fast:** The perfluorinated solvent  $\text{C}_6\text{F}_{14}$  is the key to a new variant of the Balz–Schiemann reaction for the synthesis of fluorinated arenes. Triazenes are converted into fluoroarenes under mild con-

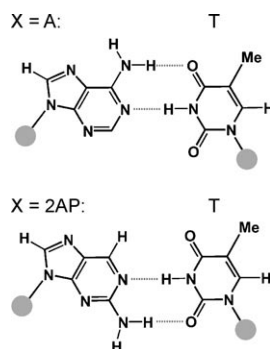
ditions on a support and in solution (see scheme). The method is straightforward and inexpensive, and yields previously difficult-to-prepare fluoroarenes in high purity.

## Nonnatural Nucleobases

A. Dallmann, L. Dehmel, T. Peters,  
C. Mügge, C. Griesinger, J. Tuma,\*  
N. P. Ernsting\* ————— 5989–5992



2-Aminopurine Incorporation Perturbs the  
Dynamics and Structure of DNA



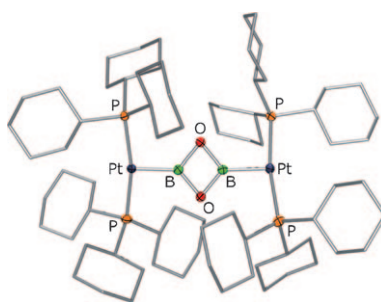
**Vive la petite différence:** 2-Aminopurine (2AP) induces small but detectable perturbations of the DNA helix. More significant are changes in the base-pair dynamics in the vicinity of 2AP. The differences have been characterized in NMR and UV spectroscopic studies on a 13-mer DNA double strand with either adenine (A) or 2AP in a central position.



## B=O Cyclization

H. Braunschweig,\* K. Radacki,  
A. Schneider ————— 5993–5996

Cyclodimerization of an Oxoboryl  
Complex Induced by *trans* Ligand  
Abstraction



**After the scattering comes the gathering:** Abstracting the bromide ligand from the novel oxoboryl complex *trans*- $[(\text{C}_3\text{P})_2\text{BrPt}(\text{B}=\text{O})]$  has dramatic consequences: instant cyclodimerization takes place, yielding an ionic compound. The cation has an unprecedented bridging dioxodiboretanediyl ligand (see picture).



Supporting information is available on [www.angewandte.org](http://www.angewandte.org)  
(see article for access details).



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

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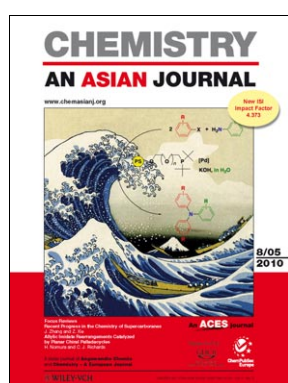
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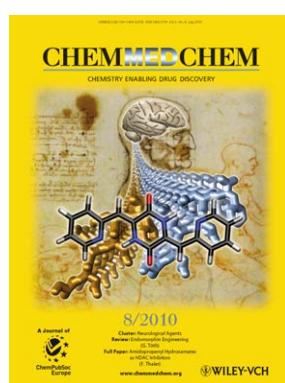
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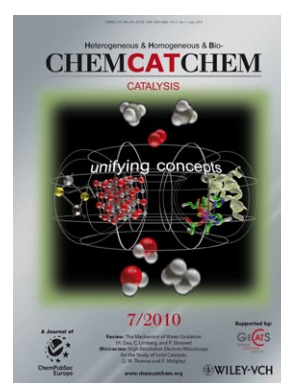
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