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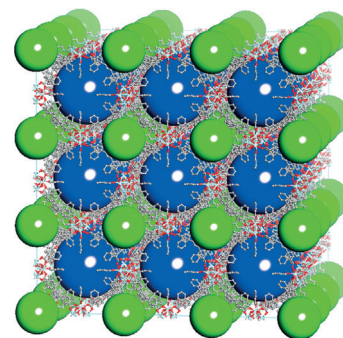


### Metal-Organic Frameworks

H. Liu, Y. He,\* J. Jiao, D. Bai, D.-I. Chen, R. Krishna,\* B. Chen\*

A Porous Zirconium-Based Metal-Organic Framework with the Potential for the Separation of Butene Isomers

**MOFs in the butene business:** We report the first zirconium-based metal-organic framework constructed from a triangular tricarboxylate ligand exhibiting a promising potential for the separation of butene isomers, which is very difficult in petrochemical processing.



Chem. Eur. J.  
DOI: 10.1002/chem.201602892

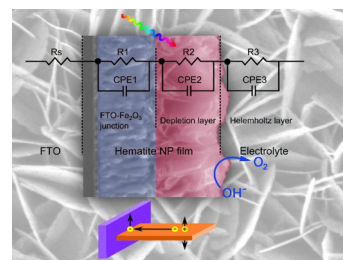


### Photoelectrochemistry

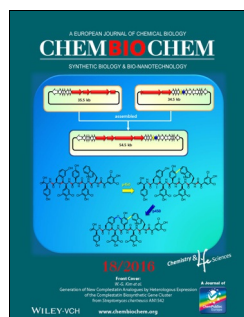
J. Wang, J. Su,\* L. Guo

Controlled Aqueous Growth of Hematite Nanoplate Arrays Directly on Transparent Conductive Substrates and Their Photoelectrochemical Properties

**Film studies:** Porous hematite nanoplate arrays have been prepared directly on a fluorine-doped tin oxide (FTO) substrate (see figure). After annealing at 800 °C the morphology of the nanoplates was retained. The backside (FTO side) photocurrent generated with bare hematite nanoplate arrays was about four times that of the frontside (film side) photocurrent.



Chem. Asian J.  
DOI: 10.1002/asia.201600888

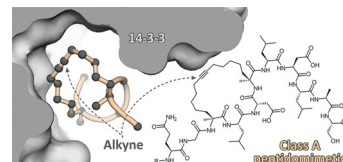


### Peptidomimetics

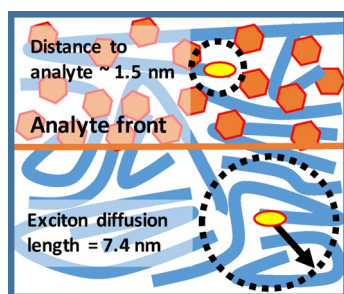
P. M. Cromm, K. Wallraven, A. Glas, D. Bier, A. Fürstner, C. Ottmann, T. N. Grossmann\*

Constraining an Irregular Peptide Secondary Structure through Ring-Closing Alkyne Metathesis

**Rigidification of macrocycles:** We report alkyne-macrocyzled peptidomimetics that are accessible through ring-closing alkyne metathesis. The resulting molecules target the human adaptor protein 14-3-3 through direct engagement of the alkyne crosslink. The crystal structure of the highest-affinity derivative in a complex with 14-3-3 was determined.



ChemBioChem  
DOI: 10.1002/cbic.201600362



ChemPhysChem

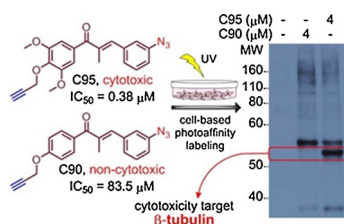
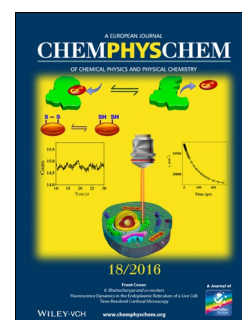
DOI: 10.1002/cphc.201600767

## Sensors

M. A. Ali, S. Shoaee, S. Fan, P. L. Burn,\* I. R. Gentle, P. Meredith, P. E. Shaw\*

Detection of Explosive Vapors: The Roles of Exciton and Molecular Diffusion in Real-Time Sensing

**Explosive sensing:** By correlating the uptake of nitroaromatic (explosive) vapor by a porous conjugated polymer film with the quenching of the fluorescence the origins of the high sensitivity of this material are probed. It is found that even at low vapor pressures, the nitroaromatic diffuses into the film as a high concentration front with average chromophore–analyte separation of  $\approx 1.5$  nm. The implications for sensing materials design strategies are discussed.



ChemMedChem

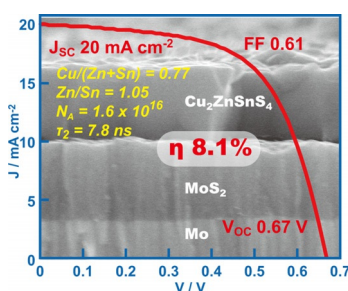
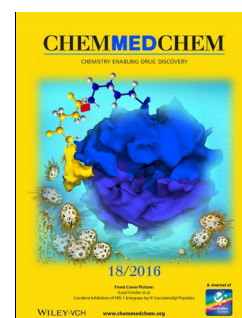
DOI: 10.1002/cmdc.201600150

## Anticancer Agents

B. Zhou, X. Yu, C. Zhuang,\* P. Villalta, Y. Lin, J. Lu, C. Xing\*

Unambiguous Identification of  $\beta$ -Tubulin as the Direct Cellular Target Responsible for the Cytotoxicity of Chalcone by Photoaffinity Labeling

**Best PALs:** A photoaffinity labeling approach was used to search for the direct cellular target responsible for the cytotoxicity of chalcone in a whole-cell-based assay.  $\beta$ -Tubulin was unambiguously revealed by mass spectrometric analysis to be this target. Evidence suggests that the potential binding site of chalcones on  $\beta$ -tubulin is the colchicine binding site.



ChemSusChem

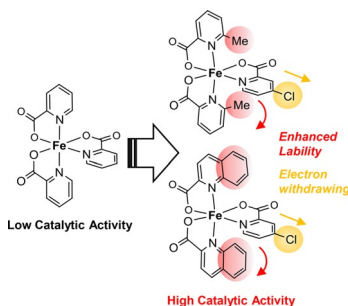
DOI: 10.1002/cssc.201600641

## Photovoltaics

T. H. Nguyen, S. Fujikawa, T. Harada, J. Chantana, T. Minemoto, S. Nakanishi, S. Ikeda\*

Impact of Precursor Compositions on the Structural and Photovoltaic Properties of Spray-Deposited  $\text{Cu}_2\text{ZnSnS}_4$  Thin Films

**Efficient and cheap:** The metallic compositions of the precursor solutions were found to have a significant effect on the grain sizes, morphologies, acceptor densities, the nature of the acceptor defects, and carrier density of  $\text{Cu}_2\text{ZnSnS}_4$  films. A device with high conversion efficiency of 8.1 % was obtained from the film with an optimal composition.



ChemCatChem

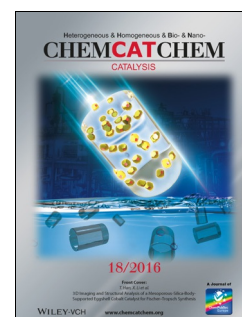
DOI: 10.1002/cctc.201600362

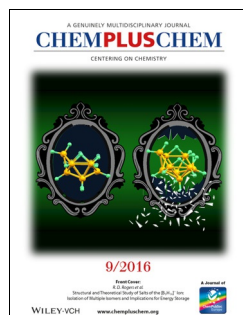
## Oxidation

S. Tanaka, Y. Kon, A. Ogawa, Y. Uesaka, M. Tamura, K. Sato\*

Mixed Picolinate and Quinaldinate Iron(III) Complexes for the Catalytic Oxidation of Alcohols with Hydrogen Peroxide

**Mixing ligands:** Mixed picolinate and quinaldinate iron(III) complexes show high catalytic activity for the  $\text{H}_2\text{O}_2$  oxidation of alcohols. The suitable combination of sterically hindered and electronegative ligands enabled the efficient generation of catalytically active species from the coordinatively saturated iron(III) ion, which has been less investigated as a catalyst owing to low activity in spite of its potentially high practicality.



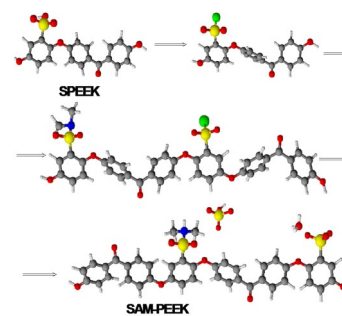


### Membranes

R. Narducci, L. Pasquini, J.-F. Chailan, P. Knauth,\* M. L. Di Vona\*

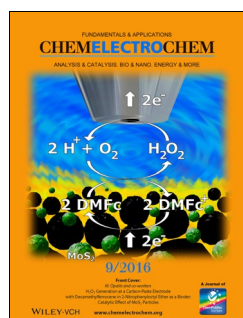
Low-Permeability Poly(ether Ether Ketone)-Based Ampholytic Membranes

**Good conduct:** A simple and inexpensive synthesis leading to ampholytic membranes with ultra-low cation permeability is reported (see figure). Such membranes can be important for water purification and electrochemical energy technologies, such as redox flow batteries.



ChemPlusChem

DOI: 10.1002/cplu.201600076

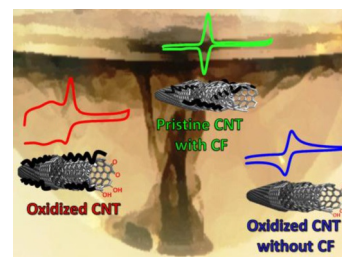


### Carbon Materials

R. Gusmão, E. Cunha, C. Paiva, D. Geraldo, F. Proença, F. Bento\*

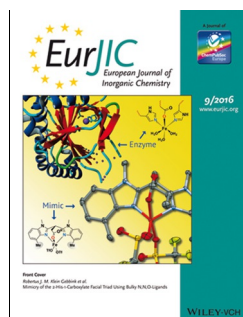
Role of Carbonaceous Fragments on the Functionalization and Electrochemistry of Carbon Materials

**Friend or foe?** Carbonaceous fragments (CF) impart different voltammetric responses at the surface of carbon nanotubes (CNT). CF at oxidized CNT or at pristine CNT lead to adsorption-controlled electrochemical oxidation of hydroquinone, whereas diffusion-controlled responses are obtained at oxidized CNT after CF removal. CF can thus be used to tailor CNT-based sensors for polyphenol detection.



ChemElectroChem

DOI: 10.1002/celec.201600399

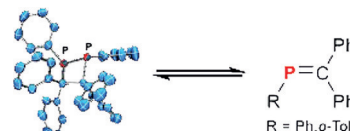


### Phosphaalkene Monomers

S. Wang, K. Samedov, S. C. Serin, D. P. Gates\*

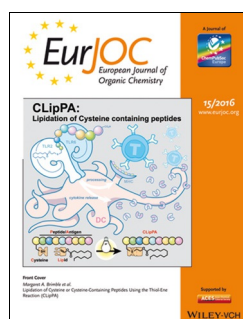
PhP=CPh<sub>2</sub> and Related Phosphaalkenes: A Solution Equilibrium between a Phosphaalkene and a 1,2-Diphosphetane

The isolable 1,2-diphosphetane [PhPCPh<sub>2</sub>]<sub>2</sub> serves as a precursor to phosphaalkene PhP=CPh<sub>2</sub> in solution. This, and related phosphaalkenes may be isolated as tungsten(0) complexes.



Eur. J. Inorg. Chem.

DOI: 10.1002/ejic.201600599

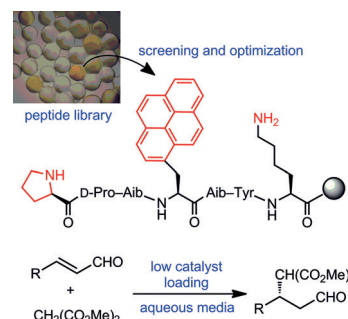


### Library Screening

K. Akagawa, Y. Iwasaki, K. Kudo\*

Library Screening in Aqueous Media To Develop a Highly Active Peptide Catalyst for Enantioselective Michael Addition of a Malonate

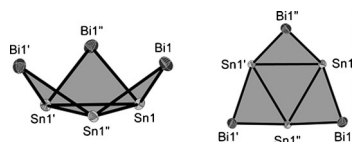
The screening of peptide libraries under aqueous conditions affords capable catalysts for the asymmetric Michael addition of a malonate. An optimized D-prolyl catalyst having pyrenylalanine and lysine residues within an appropriate peptide framework efficiently promotes the reaction in aqueous media at a low catalyst loading.



Eur. J. Org. Chem.

DOI: 10.1002/ejoc.201600828





## Cage Molecules

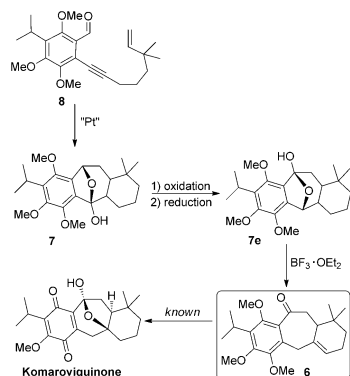
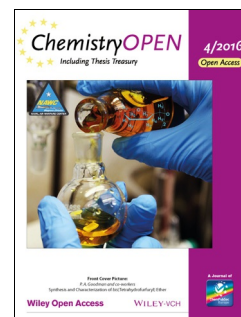
U. Friedrich, N. Korber\*

A Step in Between:  $[\text{Sn}_3\text{Bi}_3]^{5-}$  and Its Structural Relationship to  $[\text{Sn}_3\text{Bi}_3]^{3-}$  and  $[\text{Sn}_4\text{Bi}_4]^{4-}$ 

**Cage fight:** The new crown-like  $[\text{Sn}_3\text{Bi}_3]^{5-}$  anion can be seen as the missing link between the also new  $[\text{Sn}_3\text{Bi}_3]^{3-}$  anion and the previously reported  $[\text{Sn}_4\text{Bi}_4]^{4-}$  anion. Both cages are formally derived by capping the crown with either a Bi–Bi or a Sn–Bi dumbbell. The main structural and electronic features of the fragment are conserved, especially the three-center bond of the Sn triangle.

ChemistryOpen

DOI: 10.1002/open.201600037



Asian J. Org. Chem.

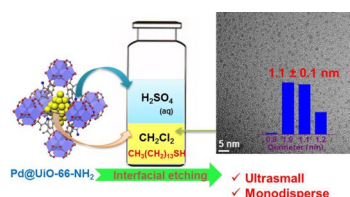
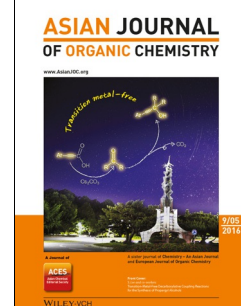
DOI: 10.1002/ajoc.201600340

## Natural Products

C. H. Oh,\* L. Piao, J. Jung, J. Kim

A Formal Synthesis of Komaroviquinone: Use of a Pt-Catalyzed Hydrative Cyclization Reaction

**Bish, bash, buzboosh:** The Pt-catalyzed hydrative cyclization of enynal substrate **8** afforded the corresponding tricyclic compound (**7**), which was subsequently transformed into known precursor **6**, thereby leading to the formation of the natural product komaroviquinone.



ChemNanoMat

DOI: 10.1002/cnma.201600121

## Clusters

X. Li, T. W. Goh, C. Xiao, A. L. D. Stanton, Y. Pei, P. K. Jain, W. Huang\*

Synthesis of Monodisperse Palladium Nanoclusters Using Metal–Organic Frameworks as Sacrificial Templates

**An interfacial etching approach** is developed for the synthesis of highly monodisperse and ultrasmall thiolated palladium nanoclusters (Pd NCs,  $1.1 \pm 0.1$  nm) using Zr–UiO-66- $\text{NH}_2$  metal–organic frameworks (MOFs) as sacrificial templates. The Pd NCs size can be tuned by using MOF templates with different cavity sizes. The Pd NCs displayed activity in the Suzuki–Miyaura coupling reaction.



ChemViews magazine

DOI: 10.1002/chemv.201600061

## Analytical Chemistry

L. Mondello

HPLC Yesterday, Today, and Tomorrow

High-performance liquid chromatography (HPLC) is an important analytical method to separate, identify, and quantify components in a mixture. This year marks the 50th anniversary of the technique. Professor Luigi Mondello shares his personal experiences with HPLC and explains how it evolves to face the challenges posed by research and industry.

