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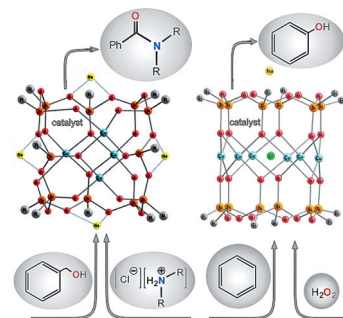


### Metallacycles

A. N. Bilyachenko,\* M. S. Dronova, A. I. Yalymov, F. Lamaty,\* X. Bantreil, J. Martinez, C. Bizet, L. S. Shul'pina, A. A. Korlyukov,\* D. E. Arkhipov, M. M. Levitsky,\* E. S. Shubina, A. M. Kirillov, G. B. Shul'pin\*

Cage-like Copper(II) Silsesquioxanes: Transmetalation Reactions and Structural, Quantum Chemical, and Catalytic Studies

**Keep it in the family:** A series of hexanuclear cylinder-like copper silsesquioxanes were produced by the transmetalation of Cu,Na-silsesquioxanes of different nuclearity and molecular architecture (see figure). X-ray studies revealed the structural flexibility of the hexanuclear copper silsesquioxanes. Some of these compounds were also effectively applied as precatalysts in amidation and oxidation reactions.



Chem. Eur. J.  
DOI: 10.1002/chem.201500791

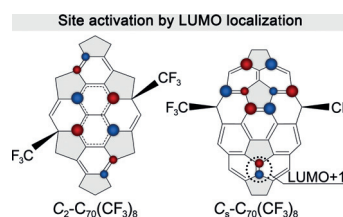


### Fullerenes

M. G. Apenova, O. O. Semivrazhskaya, E. V. Borkovskaya, N. M. Belov, I. N. Ioffe, V. Y. Markov, S. I. Troyanov, N. S. Lukonina,\* L. N. Sidorov, A. A. Goryunkov\*

Orienting Effect of the Cage Addends: The Case of Nucleophilic Cyclopropanation of  $C_2-C_{70}(CF_3)_8$

**Conventional vs. unconventional:** Acceptor-derivatized fullerene substrates can exhibit an enhanced reactivity and regioselectivity in important organic reactions. Bingel and Bingel–Hirsch functionalization of  $C_2-C_{70}(CF_3)_8$  are reported, which affords rapid and LUMO-directed regioselective formation of both conventional cyclopropanated and unusual alkylated products. The mechanistic and regiochemical aspects of the reaction are explained with the aid of the DFT calculations.



Chem. Asian J.  
DOI: 10.1002/asia.201500079

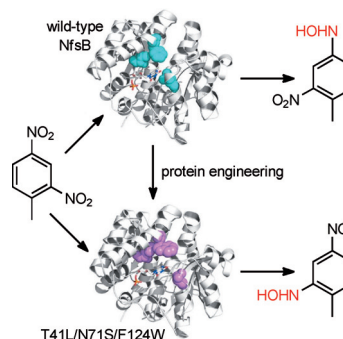


### Protein Engineering

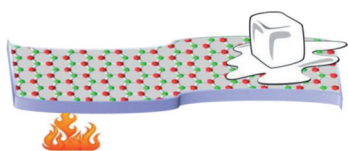
J. Bai, Y. Zhou, Q. Chen, Q. Yang, J. Yang\*

Altering the Regioselectivity of a Nitroreductase in the Synthesis of Arylhydroxylamines by Structure-Based Engineering

**The regioselectivity of nitroreductase NfsB** from *E. coli* toward 2,4-dinitrotoluene was shifted from the 4-NO<sub>2</sub> group to the 2-NO<sub>2</sub> group without loss of activity, by introducing three mutations: T41L, N71S, and F124W. This study provides an example of a tailored enzyme for regioselective synthesis of the target arylhydroxylamines.



ChemBioChem  
DOI: 10.1002/cbic.201500070



ChemPhysChem

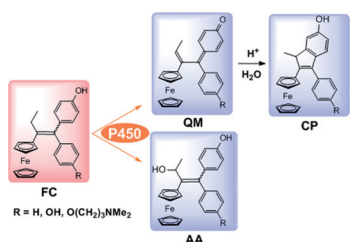
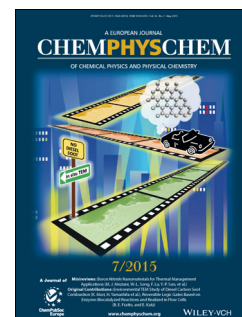
DOI: 10.1002/cphc.201402814

## Nanomaterials

M. J. Meziani,\* W.-L. Song,\* P. Wang, F. Lu,\* Z. Hou, A. Anderson, H. Maimaiti, Y.-P. Sun\*

Boron Nitride Nanomaterials for Thermal Management Applications

**Carbon copy?** Significant recent advances in boron nitride nanosheets, including their production, properties, and dispersion into polymeric matrices for thermally conductive yet electrically insulating nanocomposite materials and systems, are highlighted.



ChemMedChem

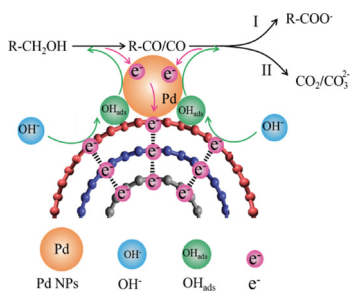
DOI: 10.1002/cmdc.201500075

## Metals in Medicine

M.-A. Richard, D. Hamels, P. Pigeon, S. Top,\* P. M. Dansette, H. Z. S. Lee, A. Vessi  res, D. Mansuy,\* G. Jaouen\*

Oxidative Metabolism of Ferrocene Analogues of Tamoxifen: Characterization and Antiproliferative Activities of the Metabolites

**Allez Paris FC!** Ferrociphenols (FCs) show antitumor activities against estrogen-independent breast cancer cells. Their oxidation by rat and human liver microsomes leads to the formation of three main classes of metabolites: quinone methides (QMs), cyclic indene products (CPs), and allylic alcohols (AAs). Some of these ferrocene compounds were found to exhibit remarkable antiproliferative effects.



ChemSusChem

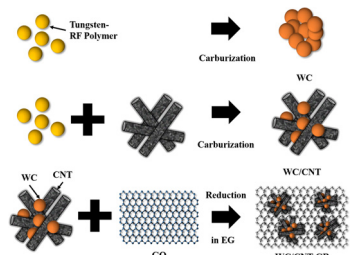
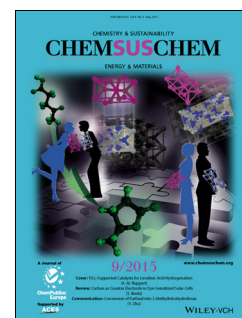
DOI: 10.1002/cssc.201500107

## Fuel Cells

J. Zhang, S. Lu, Y. Xiang, P. K. Shen, J. Liu, S. P. Jiang\*

Carbon-Nanotubes-Supported Pd Nanoparticles for Alcohol Oxidations in Fuel Cells: Effect of Number of Nanotube Walls on Activity

**Three's the magic number:** Palladium nanoparticles (NPs) with controlled particle size are uniformly assembled on the surface of carbon nanotubes CNTs with varying numbers of walls. Pd NPs supported on triple-walled CNTs (TWNTs) have the highest mass activity and stability for methanol, ethanol and ethylene glycol oxidation reactions, as compared to Pd NPs supported on single-walled and multi-walled CNTs.



ChemCatChem

DOI: 10.1002/cctc.201500154

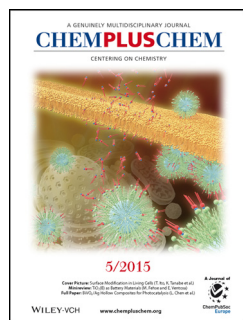
## Electrocatalysis

S. Han, D. H. Youn, M. H. Lee, J. S. Lee\*

Tungsten Carbide and CNT-Graphene-Supported Pd Electrocatalyst toward Electrooxidation of Hydrogen

**Helpful web of multiple carbon forms:** Tungsten carbide and carbon nanotube (CNT) graphene composite supported Pd electrocatalyst exhibits higher activity for hydrogen oxidation reaction than commercial Pt/C catalyst in half cell test and comparable stability in single cell test. RF = resorcinol formaldehyde, WC = tungsten carbide, EG = ethylene glycol, GO = graphene oxide, GR = graphene.



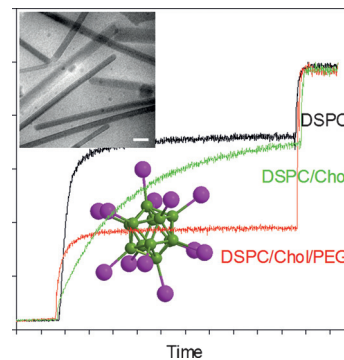


### Trigger Release of Liposomal Content

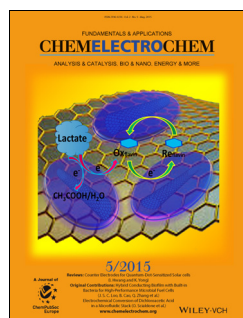
D. Awad, M. Bartok, F. Mostaghimi, I. Schrader, N. Sudumbrekar, T. Schaffran, C. Jenne, J. Eriksson, M. Winterhalter, J. Fritz, K. Edwards, D. Gabel\*

Halogenated Dodecaborate Clusters as Agents to Trigger Release of Liposomal Contents

**Clusters for cancer treatment:** Dodecaiodododecaborate triggers the release of liposomal contents from liposomes with high stability in serum (see figure). The administration of the dodecaborate following administration and distribution of the liposomes in the body might enhance their effectiveness in cancer treatment.



ChemPlusChem  
DOI: 10.1002/cplu.201402286

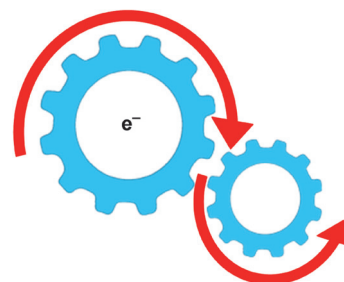


### Molecular Machines

N. Le Poul,\* B. Colasson\*

Electrochemically and Chemically Induced Redox Processes in Molecular Machines

**Molecular machines:** This review highlights recent developments in redox molecular machines that are set in motion by an electrochemical input. Examples in fluid solutions or in more organized matter such as surfaces, liquid crystal, and polymers, are discussed.



ChemElectroChem  
DOI: 10.1002/celec.201402399

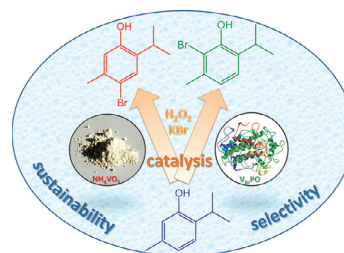


### V-Catalyzed Oxidative Bromination

F. Sabuzi, E. Churakova, P. Galloni, R. Wever, F. Hollmann, B. Floris, V. Conte\*

Thymol Bromination – A Comparison between Enzymatic and Chemical Catalysis

Catalysis of thymol bromination by vanadium derivatives is directly compared to catalysis by a V-dependent bromoperoxidase. All reactions were performed under mild and sustainable conditions with relatively inexpensive reagents. Appealing results were obtained in terms of selectivity and sustainability.



Eur. J. Inorg. Chem.  
DOI: 10.1002/ejic.201500086

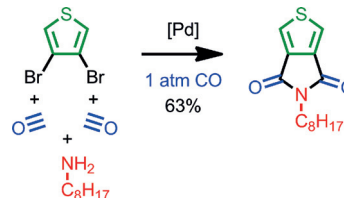


### Carbonylation

S. Fuse,\* R. Takahashi, T. Takahashi

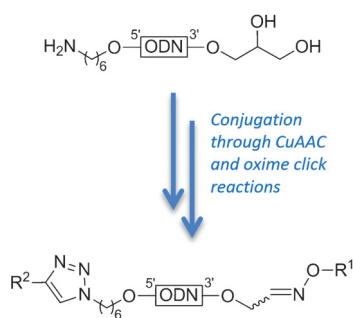
Facile, One-Step Synthesis of 5-Substituted Thieno[3,4-c]pyrrole-4,6-dione by Palladium-Catalyzed Carbonylative Amidation

A facile, one-step synthesis of 5-substituted thieno[3,4-c]pyrrole-4,6-diones (TPDs) by a palladium-catalyzed carbonylative amidation of commercially available dibromoaryl compounds under mild conditions was achieved. In addition, the developed method was applied to the syntheses of pyridinopyrroledione (PPD) and pyrroloisindoletrione (PIT).



Eur. J. Org. Chem.  
DOI: 10.1002/ejoc.201500273





ChemistryOpen

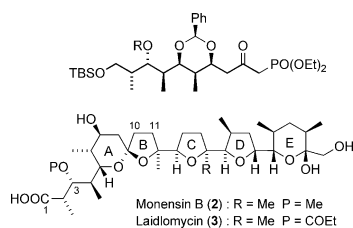
DOI: 10.1002/open.201402099

## Organic Synthesis

S. Estalayo-Adrià, R. Lartia, A. Meyer, J.-J. Vasseur, F. Morvan, E. Defrancq\*

Assessment of the Full Compatibility of Copper(I)-Catalyzed Alkyne-Azide Cycloaddition and Oxime Click Reactions for bis-Labeling of Oligonucleotides

**All roads lead to Rome!** A new procedure for the efficient bis-conjugation of oligonucleotides through successive oxime ligation (Click-O) and copper(I)-catalyzed alkyne-azide cycloaddition (Click-H) or vice-versa is reported starting from 5'-amino, 3'-diol-functionalized oligonucleotide as an easily accessible precursor. The Click-O followed by Click-H route was found to be more efficient for accessing the bis-labelled oligonucleotide than the reverse.



Asian J. Org. Chem.

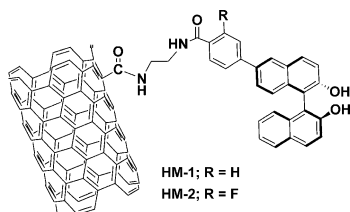
DOI: 10.1002/ajoc.201500078

## Total Synthesis

S. Kang, W. Lee, B. Jung, H.-S. Lee,\* S. H. Kang\*

Stereocontrolled Synthesis of the C1-C10 Fragments of Monensin B and Laidlomycin

**Show me the monensin:** Synthetic studies on laidlomycin (24) and monensin B (25) have been endeavored by developing an efficient synthesis of their C1–C10 fragments. The stereogenic centers have been installed by a *syn*-aldol reaction using an oxazolidinone chiral auxiliary for C6 and C7, an *anti*-aldol reaction for C3 and C4, the Tishchenko–Evans reaction for C5, and a chiral building block for C2.



ChemNanoMat

DOI: 10.1002/cnma.201500028

## Hybrid Materials

C. J. P. Monteiro, S. A. C. Carabineiro,\* T. Lauterbach, C. Hubbert, A. S. K. Hashmi, J. L. Figueiredo, M. M. Pereira\*

(S)-BINOL Immobilized onto Multiwalled Carbon Nanotubes through Covalent Linkage: A New Approach for Hybrid Nanomaterials Characterization

**Conjugated CNTs:** (S)-6-(4-(Methoxycarbonyl)phenyl)-1,1'-bis-2-naphthol and (S)-6-(3-fluoro-4-(methoxycarbonyl)phenyl)-1,1'-bis-2-naphthol, chiral 1,1'-bis-2-naphthol (BINOL) derivatives, were immobilized onto diamine-functionalized multiwalled carbon nanotubes and tested in the alkylation of benzaldehyde. Fluorine was used as a probe to quantify the ligand immobilization.



ChemViews magazine

DOI: 10.1002/chemv.201500024

## Scientific Writing

V. Köster

Writing Science Well

Andrew Moore, Editor-in-Chief of *BioEssays* and author of the free ebook *Writing Science Well: Techniques, Tips and Pitfalls*, gives advice for authors and shows them how to understand their audience, construct a scientific narrative, and successfully and accurately communicate their research.

