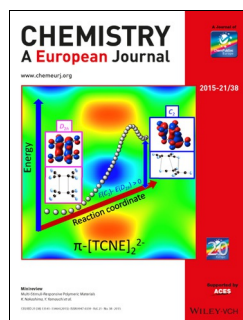




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computer, click on any of the items to read the full article. Otherwise please see the DOIs for easy online access through Wiley Online Library.



Luminescence

E. M. Sánchez-Carnerero, A. R. Agarrabeitia, F. Moreno, B. L. Maroto, G. Muller, M. J. Ortiz, S. de la Moya*

Circularly Polarized Luminescence from Simple Organic Molecules

Will it be possible to generate circularly polarized luminescence (CPL) efficiently from simple organic molecules (SOM) in solution? This Concept article highlights the interest of this difficult question, the efforts realized up to now to solve it, and the most significant milestones achieved to date. The article postulates the important role that molecular designs based on helical structures could play in overcoming limiting factors.



Chem. Eur. J.
DOI: 10.1002/chem.201501178

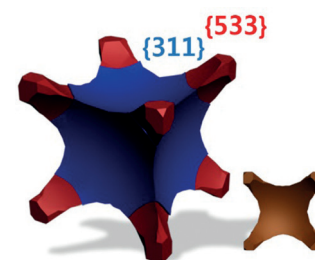


Nanostructures

D. Shin, M. Kim, H. Song*

Selective Growth and Structural Analysis of Regular MnO Nanooctapods Bearing Multiple High-Index Surface Facets

Keeping a straight {100} face: Regular MnO octapods were synthesized in a simple procedure comprising the thermal decomposition of manganese oleate. The concentrations of oleate and chloride ions were the determining factors for the octapod formation. Selective coordination of the oleate ions to the {100} faces led to edge growth along the $\langle 111 \rangle$ direction, which was then limited by the chloride ions bound to the high-index surface facets.



Chem. Asian J.
DOI: 10.1002/asia.201500471

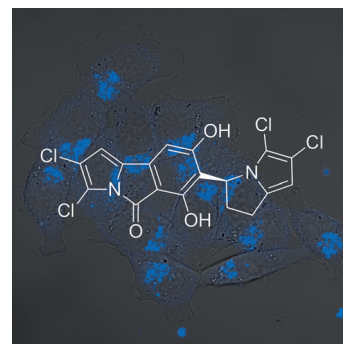


Natural Products

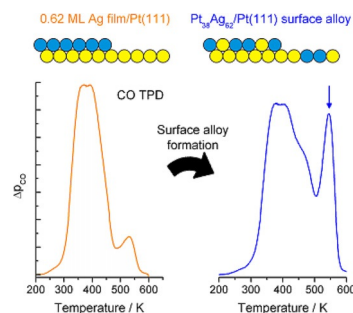
X. Álvarez-Micó, D. D. Rocha, L. A. Guimarães, A. Ambrose, E. Chapman, L. V. Costa-Lotufo, J. J. La Clair,* W. Fenical*

The Hybrid Pyrroloisindolone–Dehydropyrrolizine Alkaloid (–)-Chlorizidine A Targets Proteins within the Glycolytic Pathway

Cellular and molecular biological studies have identified that the chlorinated marine alkaloid (–)-chlorizidine A targets the cytosolic proteins GAPDH and ENO1, two multifunctional proteins associated with the glycolytic pathway and implicated in multiple diseases, including metastatic cancer, autoimmune disorders, neurological disorders, and bacterial infections.

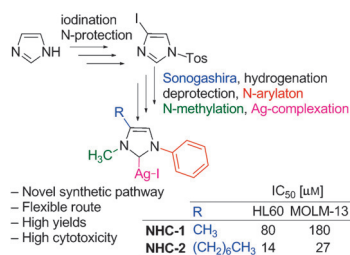


ChemBioChem
DOI: 10.1002/cbic.201500229



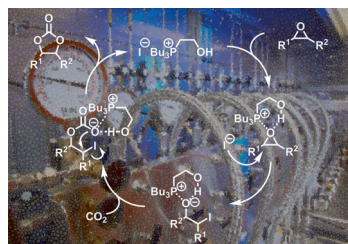
ChemPhysChem

DOI: 10.1002/cphc.201500528



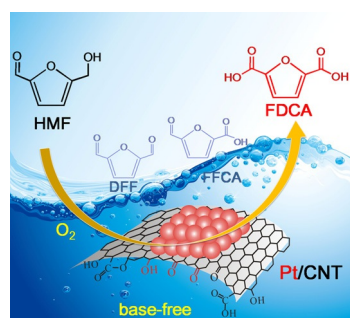
ChemMedChem

DOI: 10.1002/cmdc.201500234



ChemSusChem

DOI: 10.1002/cssc.201500612



ChemCatChem

DOI: 10.1002/cctc.201500352

Surface Science

T. Diemant,* K. M. Schüttler, R. J. Behm

Ag on Pt(111): Changes in Electronic and CO Adsorption Properties upon PtAg/Pt(111) Monolayer Surface Alloy Formation

Bimetallic surfaces: When going from a separated (Ag film/Pt) to intermixed (surface alloy) morphology, the electronic and chemical properties of AgPt surfaces change profoundly. Most prominently, isolated Pt sites (small ensembles surrounded by Ag layer) are formed, on which CO binds more strongly (see picture).

Metals in Medicine

A. H. Sandtorv, C. Leitch, S. L. Bedringaas, B. T. Gjertsen, H.-R. Bjørsvik*

4-Alkylated Silver–N-Heterocyclic Carbene (NHC) Complexes with Cytotoxic Effects in Leukemia Cells

Silver lining: A new class of Ag–NHC complex involving imidazoles with alkyl side chains on the backbone 4-position were realized by de novo synthesis using new methods developed by our research group. Two Ag–NHC complexes were prepared with different side chains, namely **NHC-1** (methyl) and **NHC-2** (heptyl). Both complexes exhibit potent cytotoxicity against two human leukemia cell lines (HL60 and MOLM-13) in the micromolar range.

Carbon Dioxide Chemistry

H. Büttner, J. Steinbauer, T. Werner*

Synthesis of Cyclic Carbonates from Epoxides and Carbon Dioxide by Using Bifunctional One-Component Phosphorus-Based Organocatalysts

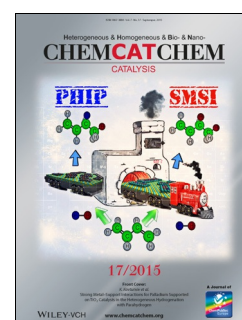
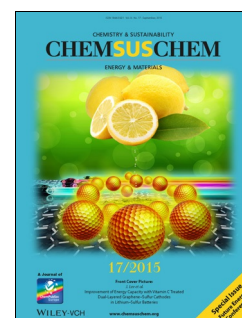
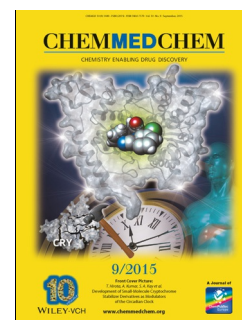
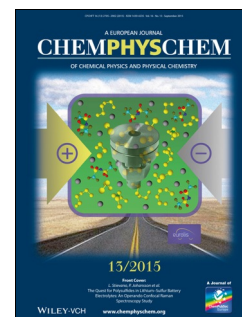
Two heads are better than one! Bifunctional organocatalysts are synthesized and tested in the catalytic reaction of epoxides and carbon dioxide to give the respective cyclic carbonates. Product formation is significantly increased by hydrogen-bond donation from the bifunctional phosphonium catalyst.

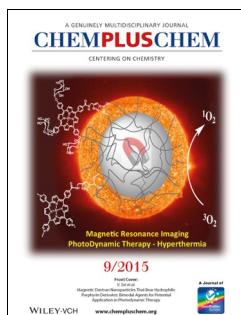
Biomass Conversion

C. Zhou, W. Deng,* X. Wan, Q. Zhang, Y. Yang,* Y. Wang*

Functionalized Carbon Nanotubes for Biomass Conversion: The Base-Free Aerobic Oxidation of 5-Hydroxymethylfurfural to 2,5-Furandicarboxylic Acid over Platinum Supported on a Carbon Nanotube Catalyst

Biomass oxidation: Functionalized Pt nanoparticles supported on carbon nanotubes (Pt/CNT) catalyze the aerobic oxidation of 5-hydroxymethylfurfural (HMF) into 2,5-furandicarboxylic acid (FDCA) in water in the absence of any base additives. The alcohol group in HMF is preferentially oxidized to form 2,5-diformylfuran (DFF) as a primary product. The carbonyl/quinone and/or phenol groups on the CNTs play crucial roles in the formation of FDCA via DFF and 5-formyl-2-furancarboxylic acid (FFCA).



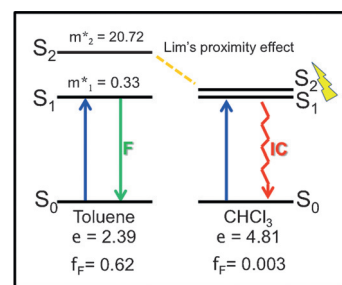


Fluorescence

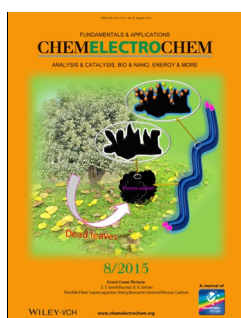
R. Flamini, A. Marrocchi, A. Spalletti*

Spectroscopic and Photophysical Characterization of Acetylenic Fluorophores: The Role of the Proximity Effect on Increasing Internal Conversion

Push and pull: The spectroscopic and photophysical properties of a series of six extended arylacetylenes and one 1,3-diyne derivative were studied in solvents of different polarity to gain insight into the relationships between molecular architecture and optical/photophysical properties. A scheme like Lim's proximity effect model was evoked to explain the fluorescence quenching in nitro-substituted systems.



ChemPlusChem
DOI: 10.1002/cplu.201402448

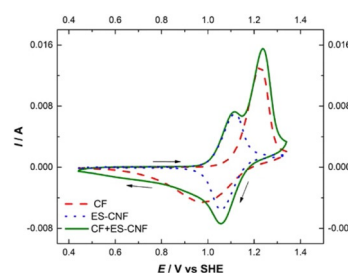


Vanadium Redox Flow Batteries

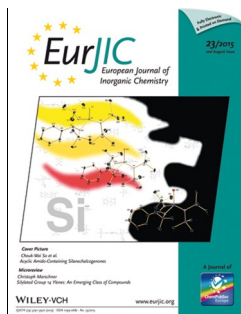
A. Fetyan,* I. Derr, M. K. Kayarkatte, J. Langner, D. Bernsmeier, R. Kraehnert, C. Roth

Electrospun Carbon Nanofibers as Alternative Electrode Materials for Vanadium Redox Flow Batteries

Conducting experiments: Carbon-based nanofibers are produced through electrospinning, forming a free-standing conductive network that can be used directly as an electrode in vanadium redox flow batteries. X-ray diffraction and Raman spectroscopy are used to investigate the structure and stability of the electrospun carbon nanofibers before and after charging and discharging.



ChemElectroChem
DOI: 10.1002/celec.201500284

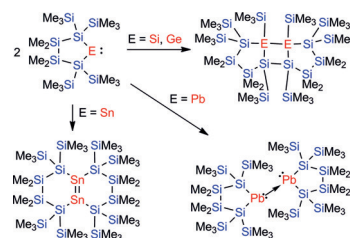


Silylated Ylenes

C. Marschner*

Silylated Group 14 Ylenes: An Emerging Class of Reactive Compounds

Silyl-substituted heavy-element tetrylenes are reactive species that either dimerize or undergo rearrangement of some kind. Trapping them as phosphine adducts prevents dimerization and allows study of the reactivity of the free tetrylenes and their introduction as ligands into transition-metal complexes.



Eur. J. Inorg. Chem.
DOI: 10.1002/ejic.201500495

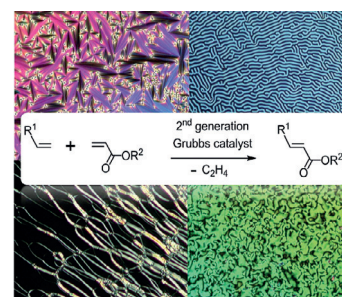


Olefin Cross-Metathesis

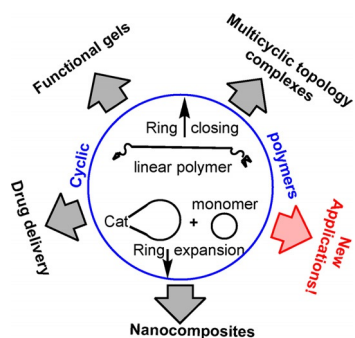
T. M. N. Trinh, T. T. Nguyen, C. Kopp, P. Pieper, V. Russo, B. Heinrich, B. Donnio,* T. L. A. Nguyen,* R. Deschenaux*

Olefin Cross-Metathesis: a Versatile Synthetic Reaction for the Design of Janus Liquid Crystals

New Janus-like liquid crystals were synthesized by olefin cross-metathesis in the presence of the 2nd generation Grubbs catalyst. Linear, chiral, dendritic and nonmesomorphic olefins were used. Smectic C, smectic A, nematic and chiral phases were observed in agreement with the structure and nature of the mesogens.



Eur. J. Org. Chem.
DOI: 10.1002/ejoc.201500754



ChemistryOpen

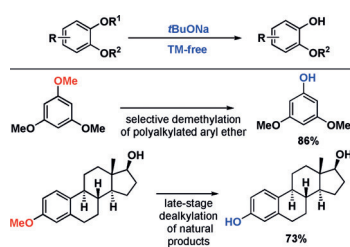
DOI: 10.1002/open.201402172

Cyclic Polymers

Y. Zhu,* N. S. Hosmane

Advanced Developments in Cyclic Polymers: Synthesis, Applications, and Perspectives

Round and round they go! Cyclic polymers have interesting topologies that allow them to have unique physical and biological properties, compared with their linear counterparts. Some examples are cyclic DNA/duplexes, which have therapeutic potential due to their structural and thermal stability. This review summarizes the most common synthetic methods as well as the most interesting properties and applications of these functional materials.



Asian J. Org. Chem.

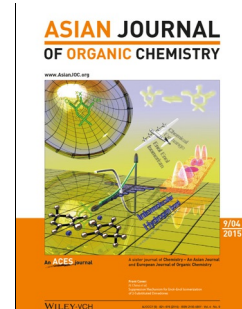
DOI: 10.1002/ajoc.201500196

Dealkylation

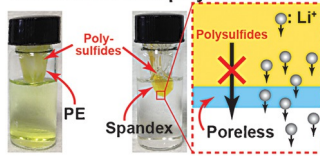
M.-X. Zhang, X.-H. Hu, Y.-H. Xu,* T.-P. Loh*

Selective Dealkylation of Alkyl Aryl Ethers

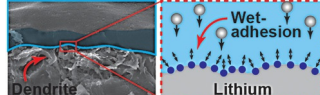
One alkyl down: We report the development of a dealkylation method that is selective, dealkylating only one of the methyl groups in polymethylated aryl ether system. This selective dealkylative method is applied to the synthesis of a few advanced intermediates for drug synthesis. Detailed mechanistic studies have shown that this reaction probably proceeds via a single-electron transfer process. TM = transition metal.



1. Protection from polysulfide



2. Suppression of lithium dendrite



ChemNanoMat

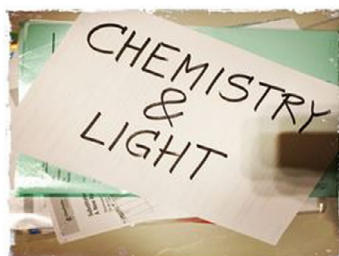
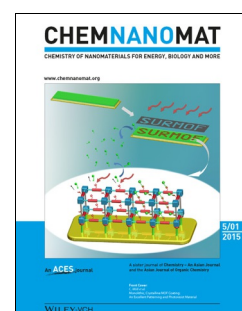
DOI: 10.1002/cnma.201500055

Lithium–Sulfur Batteries

J.-S. Kim, D.-J. Yoo, J. Min, R. A. Shakoor, R. Kahraman,* J. W. Choi*

Poreless Separator and Electrolyte Additive for Lithium–Sulfur Batteries with High Areal Energy Densities

An integrated approach of poreless separator and electrolyte additive enhances lithium–sulfur battery cycle life even at commercial levels of areal energy density.



ChemViews magazine

DOI: 10.1002/chemv.201500074

Essay Contest

ChemistryViews

Chemistry and Light Contest

2015 is the International Year of Light (IYL 2015). To promote the importance of photochemistry and optical technologies, ChemistryViews.org invites you to write about chemistry and light. Topics can range from spectroscopy to photochemistry to how chemistry and light interact in everyday life. The submissions will be published on ChemistryViews.org and the best essay will win an iPad.

