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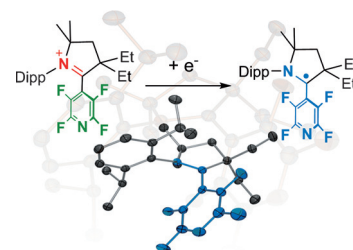


Radicals

S. Styra, M. Melaimi, C. E. Moore, A. L. Rheingold, T. Augenstein, F. Breher,* G. Bertrand*

Crystalline Cyclic (Alkyl)(amino)carbene-tetrafluoropyridyl Radical

Presumed non-innocent! The chemical reduction of a pyridyl-substituted cyclic (alkyl)(amino)carbene (CAAC) iminium gave a highly stable organic radical. The neutral paramagnetic species was fully characterized; the unpaired electron is delocalized on both the CAAC and the pyridine heterocycles (see scheme).



Chem. Eur. J.
DOI: [10.1002/chem.201500740](https://doi.org/10.1002/chem.201500740)

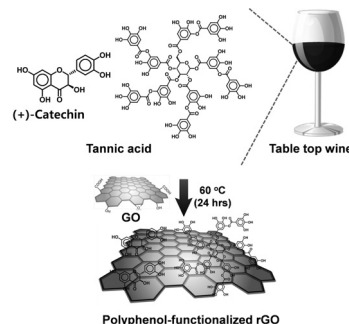


Graphene

S.-J. Kim, J. M. Lee, R. A. Kumer, S. Y. Park,* S. C. Kim,* I. In*

Environmentally Friendly Synthesis of p-Doped Reduced Graphene Oxide with High Dispersion Stability by Using Red Table Wine

Worth raising a glass to: Reduced graphene oxide (rGO) with high dispersion stability was synthesized by means of noncovalent interactions with (+)-catechin and tannic acid, which are polyphenolic model compounds present in wine.



Chem. Asian J.
DOI: [10.1002/asia.201500010](https://doi.org/10.1002/asia.201500010)

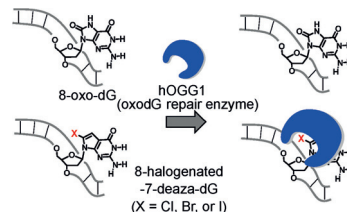


DNA Repair

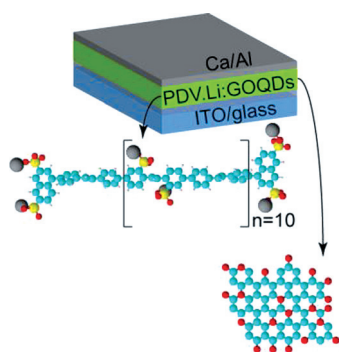
Y. Yin, S. Sasaki, Y. Taniguchi*

Recognition and Excision Properties of 8-Halogenated-7-Deaza-2'-Deoxyguanosine as 8-Oxo-2'-Deoxyguanosine Analogues and Fpg and hOGG1 Inhibitors

The damage has been done: The binding affinities of 8-halogenated-7-deaza-dG derivatives for 8-oxo-dG repair enzymes and their effects on those enzymes' DNA repair properties were evaluated. In particular, Cl- and Br-deaza-dG were excised by Fpg, whereas they were less efficient substrates for hOGG1.



ChemBioChem
DOI: [10.1002/cbic.201402690](https://doi.org/10.1002/cbic.201402690)



ChemPhysChem

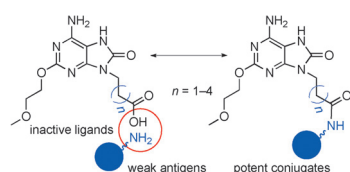
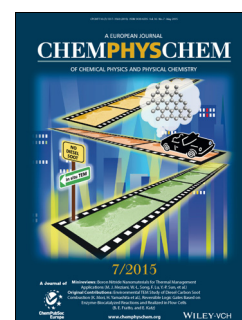
DOI: 10.1002/cphc.201402744

Quantum Dots

P. Li, F. Di Stasio, G. Eda, O. Fenwick, S. O. McDonnell, H. L. Anderson, M. Chhowalla, F. Cacialli*

Luminescent Properties of a Water-Soluble Conjugated Polymer Incorporating Graphene-Oxide Quantum Dots

Strange but true: Small quantities of graphene-oxide quantum dots blended in the active layer of polymer light-emitting diodes boost the current density by reducing the turn-on voltage; yet, unexpectedly, they do not decrease the photoluminescence efficiency of the active layer.



ChemMedChem

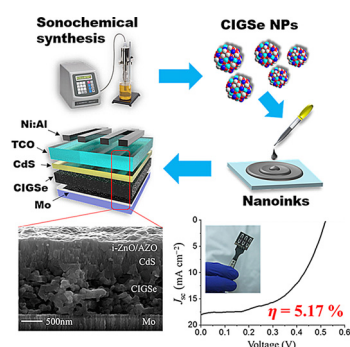
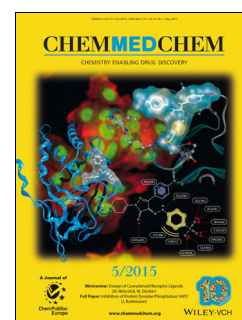
DOI: 10.1002/cmdc.201500088

Vaccines

D. Gao,* Y. Diao, W. Li, N. Gao, Y. Liu, Z. Wang, W. Jiang, G. Jin*

Toll-Like Receptor 7 Inactive Ligands Enhanced Cytokine Induction by Conjugation to Weak Antigens

Awakened by conjugation: We revealed that the conjugates between antigens and a series of inactive adenine analogues can trigger a profound induction of inflammatory cytokines. The free adenine analogues themselves lack such immunostimulatory activity and agonism toward toll-like receptors 7/8, making them better suited as inert adjuvants with decreased side effects.



ChemSusChem

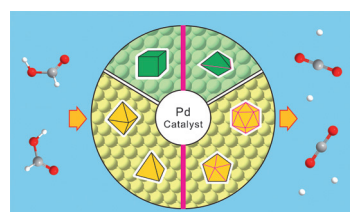
DOI: 10.1002/cssc.201403464

Batteries

J.-H. Cha, S. J. Noh, D.-Y. Jung*

Synthesis and Nanostructures of Metal Selenide Precursors for Cu(In,Ga)Se₂ Thin-Film Solar Cells

GaGa over nanoparticles: Variation of the gallium concentration in Cu(In_{0.7}Ga_{0.3})Se₂ nanoparticles (CIGSe NPs) is investigated by sonochemical synthesis in hydrazine/ethylene glycol solution. The CIGSe device prepared by the nanoink solution based process exhibits a conversion efficiency of 5.17%.



ChemCatChem

DOI: 10.1002/cctc.201500094

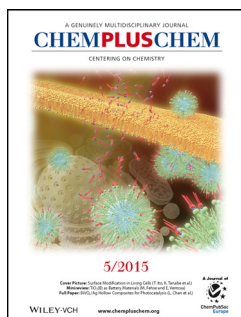
Oxidation

S.-I. Choi, J. A. Herron, J. Scaranto, H. Huang, Y. Wang, X. Xia, T. Lv, J. Park, H.-C. Peng, M. Mavrikakis, Y. Xia*

A Comprehensive Study of Formic Acid Oxidation on Palladium Nanocrystals with Different Types of Facets and Twin Defects

Which mechanism on which facet? This work systematically evaluates the activities of Pd nanocrystals with different types of facets and twin defects towards formic acid oxidation.



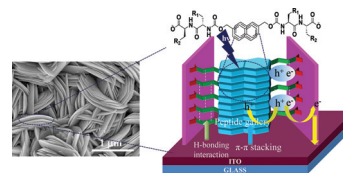


Lamellar Nanostructures

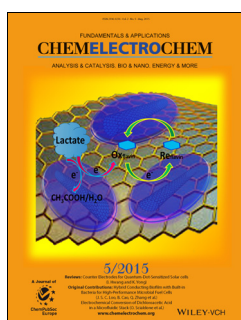
M. K. Manna, S. K. Pandey, I. Maity, S. Mukherjee,* A. K. Das*

Electrodeposited Lamellar Photoconductor Nanohybrids Driven by Peptide Self-Assembly

Peeling back the layers: Self-assembled lamellar nanostructures as photoconductor hybrids are constructed by an electrochemical deposition technique (see figure). Morphological, structural, photoconduction, and optical studies of such peptide-based hybrid nanostructures are examined in detail.



ChemPlusChem
DOI: 10.1002/cplu.201402348

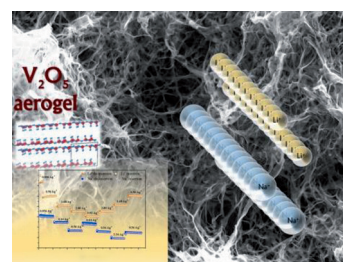


Batteries

A. Moretti, F. Maroni, I. Osada, F. Nobili,* S. Passerini*

V₂O₅ Aerogel as a Versatile Cathode Material for Lithium and Sodium Batteries

A structural matter: A V₂O₅ aerogel is shown to be a promising cathode material for high energy density batteries. An alternative and greener electrode formulation is presented and successfully tested in lithium and sodium batteries.



ChemElectroChem
DOI: 10.1002/celc.201402394



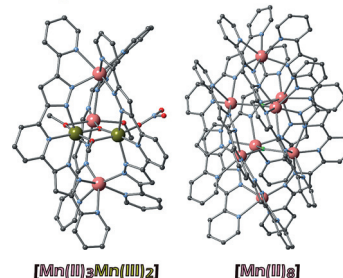
Magnetic Manganese Helices

H. Sato, M. Yamaguchi, T. Onuki, M. Noguchi, G. N. Newton, T. Shiga,* H. Oshio*

Pentanuclear and Octanuclear Manganese Helices

Pentanuclear and octanuclear manganese helices are obtained by the reactions of a multidentate polypyridine ligand with manganese nitrate and chloride. The Mn ions in the pentanuclear complex are in a mixture of +2 and +3 valence states, whereas those of the octanuclear complex are homodivalent. Both compounds show antiferromagnetic interactions.

Manganese Helices



Eur. J. Inorg. Chem.
DOI: 10.1002/ejic.201500096

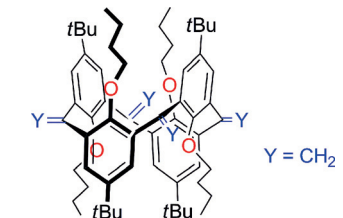


Calixradialenes

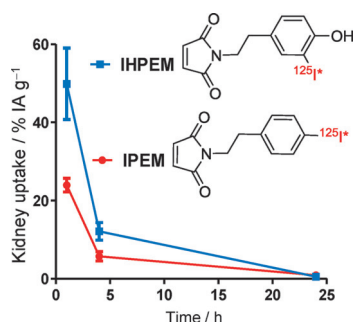
N. Itzhak, S. E. Biali*

Preparation and Crystal Structure of the 1,3-*alternate* Atropisomer of a Calix[4]radialene

A rigid calix[4]radialene was prepared and structurally characterized. The crystal structure determination corroborates the presence of the four exocyclic double bonds and the 1,3-*alternate* arrangement of the aryl rings.



Eur. J. Org. Chem.
DOI: 10.1002/ejoc.201500319



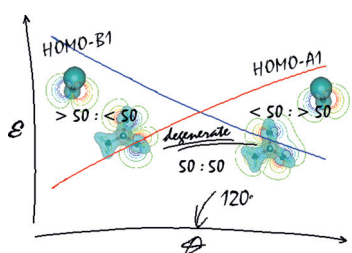
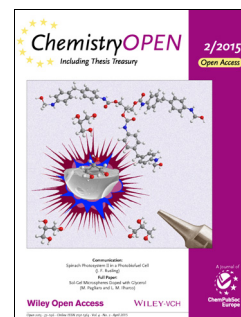
ChemistryOpen
DOI: 10.1002/open.201402097

Drug Design

J. Strand, P. Nordeman, H. Honarvar, M. Altai, A. Orlova, M. Larhed, V. Tolmachev*

Site-Specific Radioiodination of HER2-Targeting Affibody Molecules using 4-Iodophenethylmaleimide Decreases Renal Uptake of Radioactivity

Reducing renal radioactivity! Affibody molecules are small scaffold-based affinity proteins with promising properties as probes for radio-nuclide-based molecular imaging. The use of the more lipophilic ^{125}I -4-iodophenethylmaleimide (IPEM) instead of ^{125}I -3-iodo-((4-hydroxyphenyl)ethyl)maleimide (IHPEM) for site-specific radioiodination of Affibody molecules leads to a twofold decrease in renal retention of radioactivity.



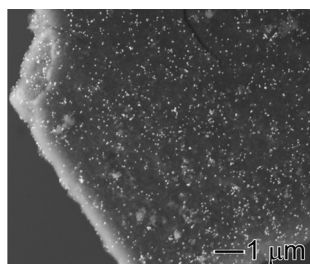
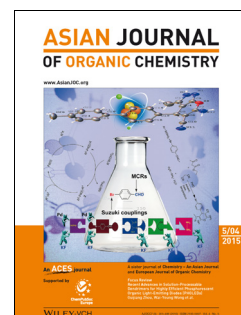
Asian J. Org. Chem.
DOI: 10.1002/ajoc.201500054

Molecular Orbitals

M. Tsuji*

Geometrical Dependence of the Highest Occupied Molecular Orbital in Bicyclic Systems: π -Facial Stereoselectivity of Bicyclic and Tricyclic Olefins

Choosing sides: An interpretation of the stereochemical preference of electrophilic attacks of olefins in bicyclic and tricyclic systems is proposed. The selectivity of these systems is thought to be controlled by two types of HOMO, which are formed by a combination of different orbitals, depending on the geometrical conditions.



ChemNanoMat
DOI: 10.1002/cnma.201500025

Heterogeneous Catalysis

T. S. Rodrigues, A. G. M. da Silva, M. C. Gonçalves, H. V. Fajardo, R. Balzer, L. F. D. Probst, P. H. C. Camargo*

AgPt Hollow Nanodendrites: Synthesis and Uniform Dispersion over SiO_2 Support for Catalytic Applications

Hollow, controlled, and uniformly dispersed over SiO_2 : AgPt hollow nanodendrites could be obtained in 15 s by the addition of PtCl_6^{2-} to a suspension containing Ag nanospheres. Their size and composition could be tuned by the growth time, and they could be uniformly supported onto commercial silica for gas-phase catalytic applications.



ChemViews magazine
DOI: 10.1002/chemv.201500018

Career

V. Köster

A Chemist Working as an Independent Consultant in China

In an interview series, *ChemistryViews.org* gives readers a glimpse into the wide range of career paths in chemistry. This time, Dr. Kai Pflug, CEO of Management Consulting – Chemicals, Shanghai, China, talks about his career path and the freedom of being your own boss, and gives advice for budding consultants.

