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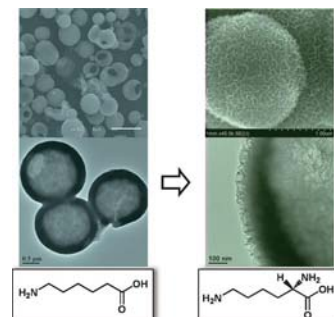


Amino Acids

S. Ding, Y. Wang,* Z. Hong,* X. Lü, D. Wan, F. Huang*

Biomolecule-Assisted Route to Prepare Titania Mesoporous Hollow Structures

Magnum pI: Amino acids exhibit multifunctional template effects and possess the general capability to construct mesoporous TiO_2 hollow spheres through solvothermal reactions. The obtained nanostructures of TiO_2 are highly dependent on the isoelectric points (pI) of amino acids. Molecular-structure variations lead to pI differences and significantly influence the final TiO_2 morphologies (see figure).



Chem. Eur. J.

DOI: 10.1002/chem.201101314

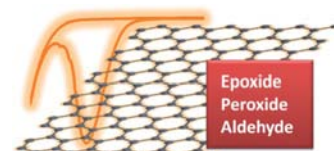


Graphene Oxide

E. L. K. Chng, M. Pumera*

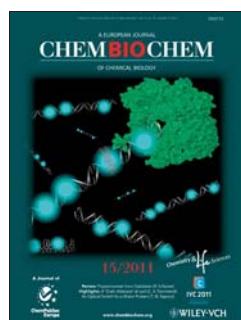
Solid-State Electrochemistry of Graphene Oxides: Absolute Quantification of Reducible Groups using Voltammetry

Do not pass GO: The number of electrochemically reducible oxygen-containing groups in graphene oxide and chemically modified graphene oxide has been absolutely quantified using the solid-state electrochemistry of graphene itself using voltammetry.



Chem. Asian J.

DOI: 10.1002/asia.201100464

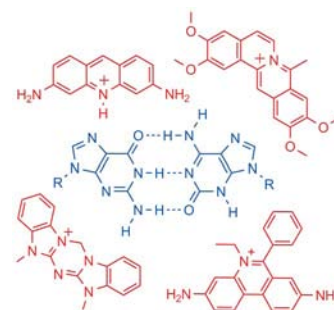


Synthetic Biology

R. Buckley, C. D. Enekwa, L. D. Williams, N. V. Hud*

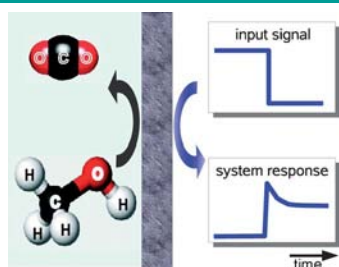
Molecular Recognition of Watson–Crick–Like Purine–Purine Base Pairs

Selection of a larger pair: Nucleic acid duplexes with non-Watson–Crick base pairs are of interest to fields that span structural biology, supramolecular chemistry, origin of life, and synthetic biology. Here we demonstrate that intercalating molecules can exhibit selective binding of duplexes with purine–purine base pairs over duplexes with Watson–Crick base pairs, and vice versa.



ChemBioChem

DOI: 10.1002/cbic.201100375



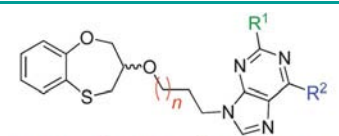
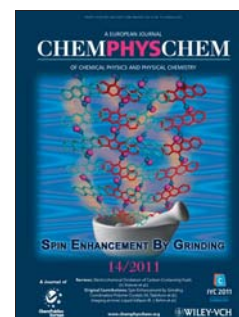
ChemPhysChem
DOI: 10.1002/cphc.201100095

Fuel Cells

U. Krewer,* T. Vidakovic-Koch, L. Rihko-Struckmann

Electrochemical Oxidation of Carbon-Containing Fuels and Their Dynamics in Low-Temperature Fuel Cells

Alternative power supply: Carbon-containing fuels are attractive for low-temperature fuel cells due to their high energy densities. Their production routes from renewable sources, their total and partial oxidation in fuel cells, and methods to benefit from the characteristic dynamic behavior of the oxidation process (see picture) are discussed.



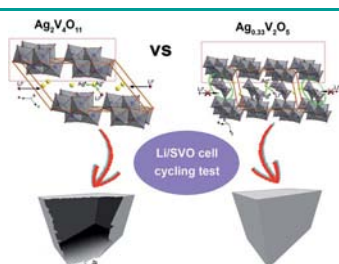
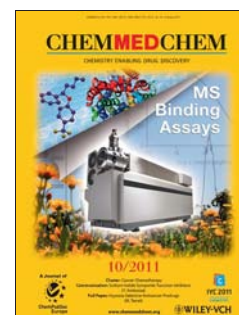
$n = 0, 1$; $R^1 = H, Cl$; $R^2 = H, Cl, Br, NH_2$
ChemMedChem
DOI: 10.1002/cmdc.201100276

Antitumor Agents

M. Kimatrai, A. Conejo-García, A. Ramírez, E. Andreolli, A. Da Silveira-Gomes, M. A. García, A. Aránega, J. A. Marchal,* J. M. Campos*

Synthesis and Anticancer Activity of the (*R,S*)-Benzofused 1,5-Oxathiepine Moiety Tethered to Purines through Alkylidenoxy Linkers

Tethered to fight cancer: 3,4-Dihydro-2*H*-1,5-benzoxathiepins linked to substituted 9*H*-purines through 2-ethylenoxy or 3-propylenoxy spacers were synthesized and screened for anticancer activity toward the MCF-7 breast cancer cell line. Inhibition of eIF2 α phosphorylation and of the PI3 kinase pathway are the molecular targets for the most active compounds.



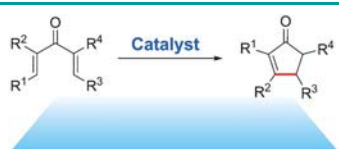
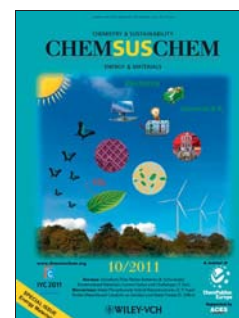
ChemSusChem
DOI: 10.1002/cssc.201100124

Batteries

W. Hu, X.-b. Zhang,* Y.-l. Cheng, C.-y. Wu, F. Cao, L.-m. Wang*

Mild and Cost-Effective One-Pot Synthesis of Pure Single-Crystalline β - $Ag_{0.33}V_2O_5$ Nanowires for Rechargeable Li-ion Batteries

Crunch time! Or? Pure, single-crystalline β - $Ag_{0.33}V_2O_5$ nanowires are prepared to serve as electrode materials in lithium-ion batteries. In contrast to stoichiometric counterparts, the structure of the β - $Ag_{0.33}V_2O_5$ nanowires is retrievable upon repeated lithium-ion displacement/intercalation reactions. The proposed strategy to stabilize the crystal structure of electrode materials based on a displacement/intercalation mechanism shows promise for application in rechargeable lithium-ion batteries.



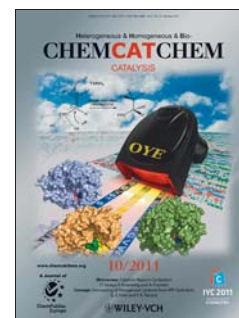
ChemCatChem
DOI: 10.1002/cctc.201100137

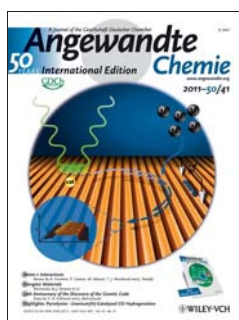
Nazarov Cyclization

T. Vaidya, R. Eisenberg,* A. J. Frontier*

Catalytic Nazarov Cyclization: The State of the Art

The Nazarov reaction has been known for a long time. However, there were only a few catalytic Nazarov reactions reported until the early twenty-first century. Since then, the number of studies employing Nazarov chemistry has expanded considerably, with numerous reports of catalysis addressing synthetic problems associated with this transformation. This manuscript describes developments on catalysis of the Nazarov cyclization and variants thereof since 2005.



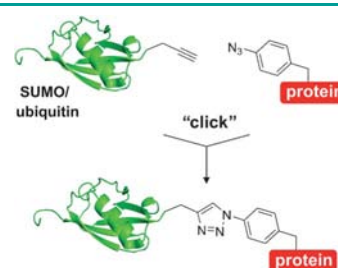


Posttranslational Modification

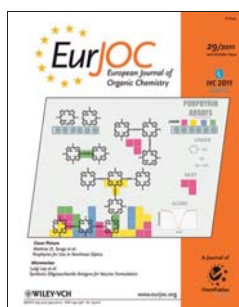
S. Sommer, N. D. Weikart, A. Brockmeyer, P. Janning, H. D. Mootz*

Expanded Click Conjugation of Recombinant Proteins with Ubiquitin-Like Modifiers Reveals Altered Substrate Preference of SUMO2-Modified Ubc9

Wrestling with SUMO: The chemical conjugation of proteins with small ubiquitin-like modifiers (SUMO) can be achieved by a copper(I)-catalyzed cycloaddition and unnatural amino acid mutagenesis (see scheme). This approach overcomes previous restrictions related to the primary sequence of proteins and coupling conditions. Moreover, biochemical data suggests that this triazole linkage presents the modifier in a proper distance and orientation relative to the target protein.



Angew. Chem. Int. Ed.
DOI: [10.1002/anie.201102531](https://doi.org/10.1002/anie.201102531)



Gemini Surfactants

A. Di Crescenzo, R. Germani, E. Del Canto, S. Giordani, G. Savelli, A. Fontana*

Effect of Surfactant Structure on Carbon Nanotube Sidewall Adsorption

Gemini surfactants with a rigid spacer are demonstrated to be good dispersing agents for single-walled carbon nanotubes at very low surfactant concentrations.



Eur. J. Org. Chem.
DOI: [10.1002/ejoc.201100720](https://doi.org/10.1002/ejoc.201100720)

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