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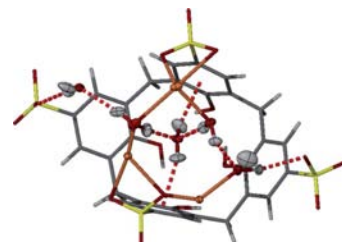


Water Chemistry

K. Fucke, K. M. Anderson, M. H. Filby, M. Henry, J. Wright, S. A. Mason, M. J. Gutmann, L. J. Barbour, C. Oliver, A. W. Coleman, J. L. Atwood, J. A. K. Howard, J. W. Steed*

The Structure of Water in *p*-Sulfonatocalix[4]arene

H₂O-h! Highly hydrated tetrasodium *p*-sulfonatocalix[4]arene exists in three polymorphic modifications, all of which contain a “compressed” water molecule in the molecular cavity engaged in OH... π interactions. A single-crystal neutron structure of the hydrated pentasodium salt shows an intracavity water molecule engaged in OH... π and OH...O hydrogen bonding (see figure).



Chem. Eur. J.
DOI: 10.1002/chem.201101748



Fluorescence

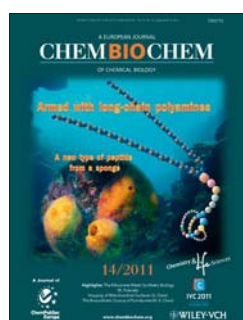
V. Chandrasekhar,* M. D. Pandey, S. K. Maurya, P. Sen,* D. Goswami*

Two-Photon-Absorption Technique for Selective Detection of Copper(II) Ions in Aqueous Solution Using a Dansyl–Pyrene Conjugate

Rhythm is a dansyl: A novel dansyl–pyrene conjugate functions as a fluorescence signaling unit showing strong fluorescence quenching upon interaction with copper(II) metal ions. On the other hand, the two-photon absorption (TPA) cross-section increased from 374 to 3022 GM (at 770 nm) upon interaction with copper(II) ions, thus allowing their selective detection in aqueous solutions.



Chem. Asian J.
DOI: 10.1002/asia.201100032

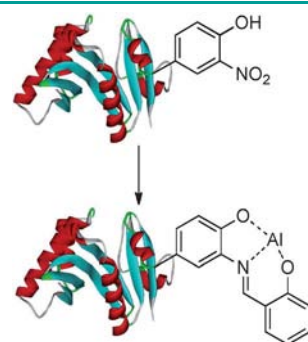


Histochemistry

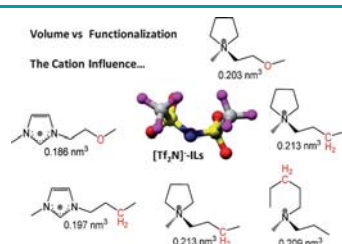
R. Wisastra, K. Poelstra, R. Bischoff, H. Maarsingh, H. J. Haisma, F. J. Dekker*

Antibody-Free Detection of Protein Tyrosine Nitration in Tissue Sections

Inflamed proteins: Tyrosine nitration is a covalent post-translational protein modification that represents a biomarker for inflammatory diseases. We introduce a novel method to detect nitrotyrosine in biological samples by chemoselective conversion into a fluorophore. We describe the applicability of this methodology to detect protein-bound nitrotyrosine by fluorescence microscopy in tissue sections and on Western blot membranes.



ChemBioChem
DOI: 10.1002/cbic.201100148



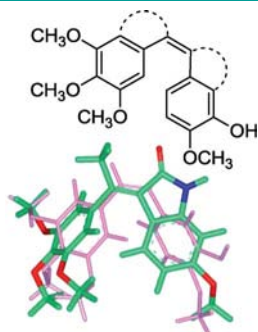
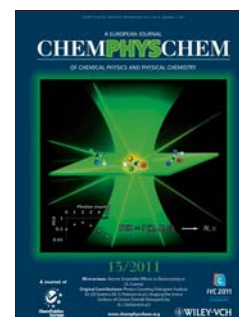
ChemPhysChem
DOI: 10.1002/cphc.201100214

Ionic Liquids

S. Bulut, P. Eiden, W. Beichel, J. M. Slattery, T. F. Beyersdorff, T. J. S. Schubert, I. Krossing*

Temperature Dependence of the Viscosity and Conductivity of Mildly Functionalized and Non-Functionalized [Tf₂N]⁺ Ionic Liquids

Even odds: The chances of limits to the volume-based temperature-dependent prediction of the viscosities and conductivities of nine selected [Tf₂N]⁺ ionic liquids (ILs) are investigated in the context of Arrhenius, Litovitz and Vogel–Fulcher–Tammann approaches (see picture).



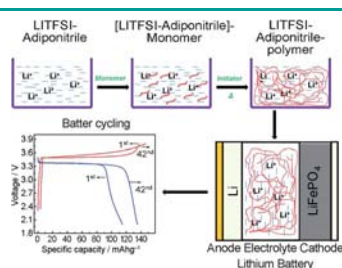
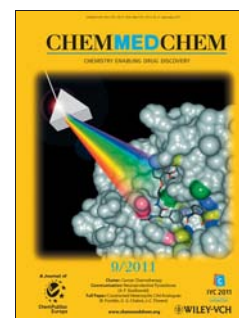
ChemMedChem
DOI: 10.1002/cmdc.201100154

Antivascular Agents

M. Arthuis, R. Pontikis,* G. G. Chabot,* J. Seguin, L. Quentin, S. Bourg, L. Morin-Allory, J.-C. Florent*

Synthesis and Structure–Activity Relationships of Constrained Heterocyclic Analogues of Combretastatin A4

A welcome restriction! Conformationally restricted analogues of combretastatin A4 were synthesized by using palladium-catalyzed domino reactions. Among these, oxindole **9b** is of particular interest, as it combines chemical stability with a biological activity profile characteristic of a vascular-disrupting agent.



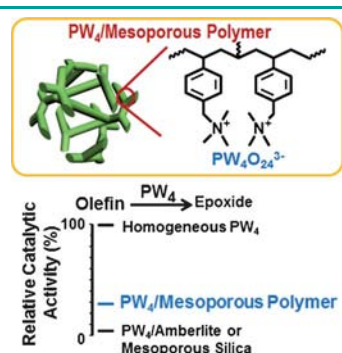
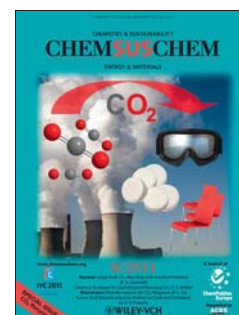
ChemSusChem
DOI: 10.1002/cssc.201100249

Biomass Conversion

H. Jadhav, C. M. Pedersen, T. Sølling, M. Bols*

3-Deoxy-glucosone is an Intermediate in the Formation of Furfurals from D-Glucose.

The acid-catalyzed dehydration of glucose to hydroxymethylfurfural (**6**) can occur via two possible mechanisms. 3-deoxy-D-erythro-hex-2-ulose (**3**) is found to be an intermediate in the formation of **6** from glucose (**1**). This finding implies that elimination of the glucose 3-OH group is the important step, rather than isomerization of the carbonyl group.



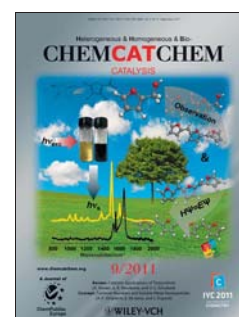
ChemCatChem
DOI: 10.1002/cctc.201100045

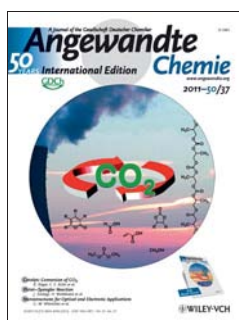
Epoxidation

S. P. Maradur, C. Jo, D.-H. Choi, K. Kim, R. Ryoo*

Mesoporous Polymeric Support Retaining High Catalytic Activity of Polyoxotungstate for Liquid-Phase Olefin Epoxidation using H₂O₂

Tungstate turnpike: Mesoporous polymer-supported polyoxotungstate acts as an effective heterogeneous catalyst in the liquid-phase olefin epoxidation using H₂O₂. The effectiveness is attributed to optimized hydrophobic/hydrophilic balance within uniform mesoporous environment. Furthermore, the catalyst can be recycled without significant loss of activity.



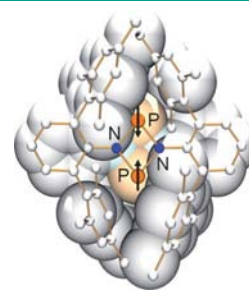


P,N Biradicaloids

T. Beweries, R. Kuzora, U. Rosenthal, A. Schulz,* A. Villinger

[P(μ-NTer)]₂: A Biradicaloid That Is Stable at High Temperature

Radical protection makes a biradical: High-temperature-stable biradicaloids [P(μ-NR)]₂ (R = Ter, Hyp) were isolated from [CIP-(μ-NR)]₂ when mild reducing agents were employed. The bulky substituents prevent dimerization. Ter = 2,6-Mes₂C₆H₃, with Mes = 2,4,6-Me₃C₆H₂; Hyp = (Me₃Si)₃Si.



Angew. Chem. Int. Ed.
DOI: 10.1002/anie.201103742

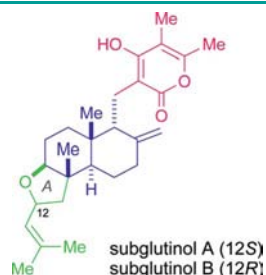


Natural Product Synthesis

T. Kikuchi, M. Mineta, J. Ohtaka, N. Matsumoto, T. Katoh*

Enantioselective Total Synthesis of (–)-Subglutinols A and B: Potential Immunosuppressive Agents Isolated from a Microorganism

The potential immunosuppressive agents (–)-subglutinols A and B have been efficiently synthesized in an enantioselective manner starting from a known *trans*-decalone derivative. The method features construction of a characteristic tetrahydrofuran ring (A ring) in one-pot fashion through an internal S_N2-type cyclization reaction.



Eur. J. Org. Chem.
DOI: 10.1002/ejoc.201100517

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