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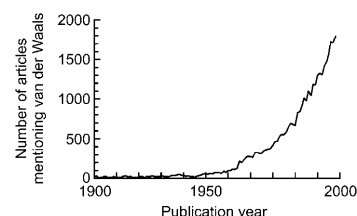


van der Waals

K. T. Tang,* J. P. Toennies*

Johannes Diderik van der Waals: A Pioneer in the Molecular Sciences and Nobel Prize Winner in 1910

Evergreen: The work of Johannes Diderik van der Waals continues to have an impact in the sciences even 100 years after he was awarded the Nobel Prize in Physics for “his work on the equation of state for gases and liquids”. His name is associated with many modern physical concepts in the molecular sciences, as the adjacent plot, referring to articles in which “van der Waals” is mentioned in the title, abstract, or keywords, shows.



Angew. Chem. Int. Ed.
DOI: 10.1002/anie.201002332

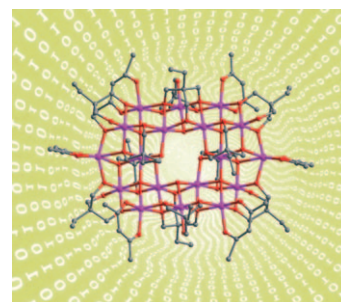


Manganese Clusters

C.-M. Liu,* D.-Q. Zhang, D.-B. Zhu

Ring Like Octadecanuclear Mixed-valence Manganese Cluster with a Spin Ground State of 20

Big spin! In the presence of 2-aminopropane-1,2-diol, the reaction of 1,1,1-tris-(hydroxymethyl)propane and $Mn(acac)_2$ in MeCN yielded a novel ring like octadecanuclear mixed-valence manganese cluster complex, which exhibits an overall ferromagnetic property and possesses a large spin ground state of 20.



Chem. Asian J.
DOI: 10.1002/asia.201000511

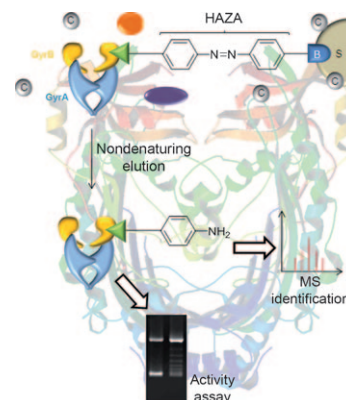


Proteomics

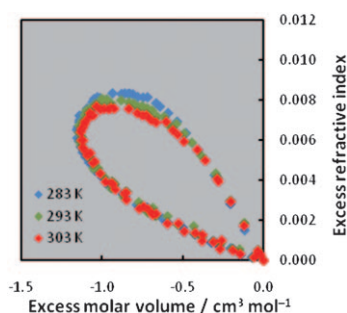
G. Budin, M. Moune-Dimala, G. Leriche, J.-M. Saliou, J. Papillon, S. Sanglier-Cianfèrari, A. Van Dorselaer, V. Lamour,* L. Brino,* A. Wagner*

Nondenaturing Chemical Proteomics for Protein Complex Isolation and Identification

Controlled fishing: Mild cleavage conditions enabled by the use of the HAZA linker allowed smooth release of captured proteins under nondenaturing conditions. A DNA gyrase complex A2B2 was enriched then released in native form by chemical cleavage while preserving its enzymatic activity. This procedure allows the capture and release of endogenous protein complexes under native conditions.



ChemBioChem
DOI: 10.1002/cbic.201000574



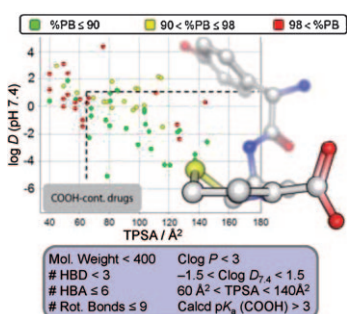
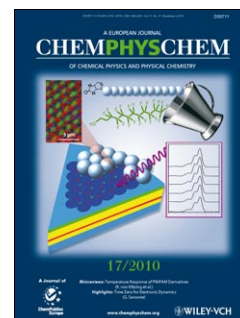
ChemPhysChem
DOI: 10.1002/cphc.201000566

Liquid Mixtures

J. C. R. Reis,* I. M. S. Lampreia, Â. F. S. Santos,
M. L. C. J. Moita, G. Douhéret

Refractive Index of Liquid Mixtures: Theory and Experiment

A thermodynamic formalism is developed to analyse refractive index data of liquid mixtures. A positive change of refractive index upon ideal mixing is predicted and interpreted in terms of London dispersion forces. The correlation between excess refractive indices and excess molar volumes is pear-shaped for an amphiphile/water system at different temperatures (see picture).



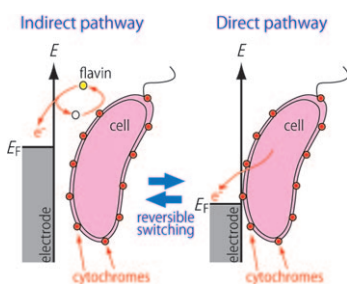
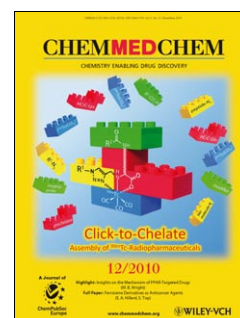
ChemMedChem
DOI: 10.1002/cmdc.201000355

Computational Medicinal Chemistry

A. Böcker, P. R. Bonneau,* O. Hucke, A. Jakalian, P. J. Edwards

Development of Specific “Drug-Like Property” Rules for Carboxylate-Containing Oral Drug Candidates

Acid rules! The carboxylate moiety is an important pharmacophore in medicinal chemistry and is often irreplaceable in drug–target interactions. Based on an analysis of key physicochemical and ADMET-PK properties of oral drugs, we propose “drug-like” property rules for carboxylic acids that can help in the design of better drug candidates and decrease liabilities generally associated with acids.



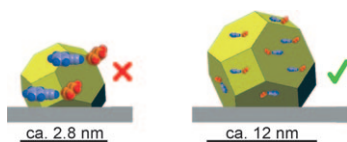
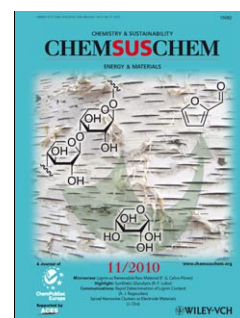
ChemSusChem
DOI: 10.1002/cssc.201000213

Electron Transfer

H. Liu, S. Matsuda, S. Kato, K. Hashimoto,* S. Nakanishi*

Redox-Responsive Switching in Bacterial Respiratory Pathways Involving Extracellular Electron Transfer

Go with the flow: *Shewanella* is capable of transferring respiratory electrons to solid-state metal-oxides through physical contact (direct pathway) or by using electron shuttles (indirect pathway). We reveal, by using an electrochemical approach, that these pathways are switched depending on the redox state of the cytochromes.



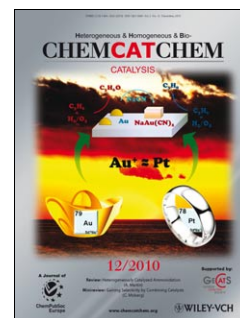
ChemCatChem
DOI: 10.1002/cctc.201000154

Cross-Coupling Reactions

G. Kyriakou, S. K. Beaumont, S. M. Humphrey, C. Antonetti,
R. M. Lambert*

Sonogashira Coupling Catalyzed by Gold Nanoparticles: Does Homogeneous or Heterogeneous Catalysis Dominate?

Some kind of ‘geneous: Gold nanoparticles catalyze the Sonogashira cross coupling of iodobenzene with phenylacetylene. Large particles are much more selective than small ones and gold species leached into solution are catalytically inert, consistent with the view that the dominant reaction pathway is heterogeneous.



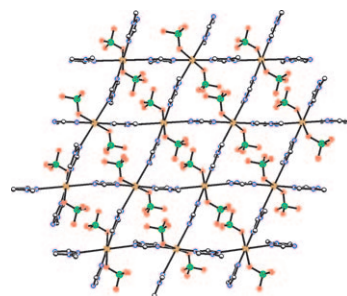


Models for Metal-Mediated Base Pairs

D. A. Megger, J. Kösters, A. Hepp, J. Müller*

Silver(I) and Mercury(II) Complexes with 1-Methyl-1*H*-1,2,4-triazole as Models for Metal-Mediated Base Pairs – Formation of Discrete Complexes in Solution vs. One- and Two-Dimensional Coordination Polymers in the Solid State

The metal ion coordination behaviour of 1-methyl-1*H*-1,2,4-triazole, serving as a model for the artificial 1,2,4-triazole nucleoside, has been determined. In solution, the 2:1 stoichiometry necessary for the formation of metal-mediated base pairs is adopted. In accordance with stability constants, one- and two-dimensional cationic coordination polymers are observed in the solid state.



Eur. J. Inorg. Chem.
DOI: 10.1002/ejic.201000509

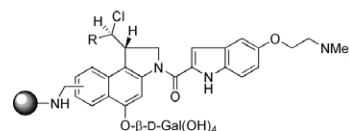
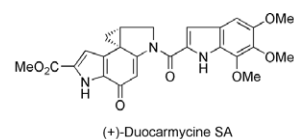


Novel Fluorescence-Labelled Prodrugs

L. F. Tietze,* F. Behrendt, F. Major, B. Krewer, J. M. von Hof

Synthesis of Fluorescence-Labelled Glycosidic Prodrugs Based on the Cytotoxic Antibiotic Duocarmycin

Fluorescence-labelled compounds can be used for verification of interaction with cellular targets on the molecular level by use of confocal laser scanning microscopy for cell cultures and the Explore-Optics instrument (GE) for mice. The described fluorescence-labelled glycosidic prodrugs based on the cytotoxic antibiotic duocarmycin SA have high potential for selective treatment of cancer.



Eur. J. Org. Chem.
DOI: 10.1002/ejoc.201000966

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