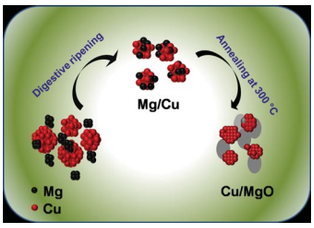
Nanocomposites

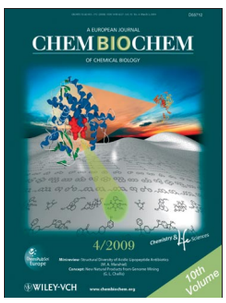
S. B. Kalidindi, B. R. Jagirdar*

Magnesium/Copper Nanocomposite through Digestive Ripening

Composing nanocomposites: Co-digestive ripening of as-prepared Mg and Cu colloids prepared by the solvated metal atom dispersion method results in a highly monodisperse colloid of Mg/Cu nanocomposite with an average particle size of 3.0±0.5 nm. Annealing of these samples at 300 °C gives the Cu/MgO nanocomposite.



Chem. Asian J.
DOI: **10.1002/asia.200800447**

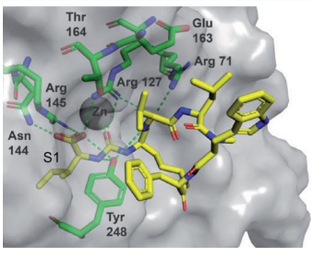


Cyclopeptides

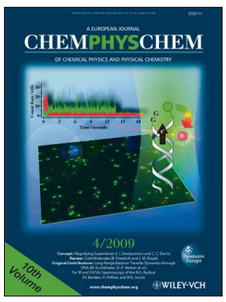
T. Walther, S. Renner, H. Waldmann,* H.-D. Arndt*

Synthesis and Structure–Activity Correlation of a Brunsvicamide-Inspired Cyclopeptide Collection

Cyanobacterial cyclopeptides: A series of analogues of the cyanobacterial cyclopeptide brunsvicamide A was prepared by effective solid-support-based total synthesis. Variations in stereochemistry revealed the importance of the D-lysine and the L-isoleucine residues for the substrate-competitive inhibitory activity of brunsvicamide A against carboxypeptidase A.



ChemBioChem
DOI: **10.1002/cbic.200900035**

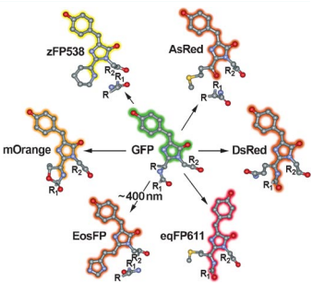


Fluorescent Proteins

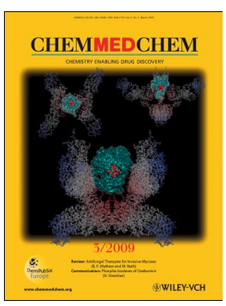
G. U. Nienhaus,* J. Wiedenmann

Structure, Dynamics and Optical Properties of Fluorescent Proteins: Perspectives for Marker Development

Glow in the dark: Fluorescent proteins of the GFP family (see picture) are key tools for life sciences research. Recent structure–dynamics–function studies have yielded new insights that aid in the rational development of advanced fluorescent marker proteins. These new markers should further extend the range of possible applications.



ChemPhysChem
DOI: **10.1002/cphc.200800839**

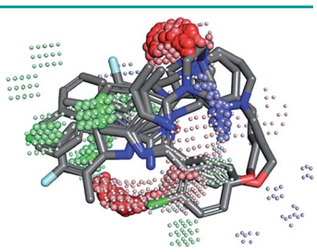


Virtual Screening

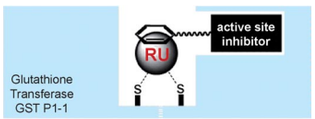
Y. Tanrikulu, E. Proschak, T. Werner, T. Geppert, N. Todoroff, A. Klenner, T. Kottke, K. Sander, E. Schneider, R. Seifert, H. Stark, T. Clark, G. Schneider*

Homology Model Adjustment and Ligand Screening with a Pseudoreceptor of the Human Histamine H_4 Receptor

A new pseudoreceptor modeling method (PRPS) was applied to the refinement of a homology model of the human histamine H_4 receptor (H_4R), the prediction of a ligand binding site, and virtual screening. Retrieval of two new H_4R ligands demonstrates the biological relevance of the pseudoreceptor model and provides a means for finding new hits and leads in the early phases of drug discovery.



ChemMedChem
DOI: **10.1002/cmdc.200800443**



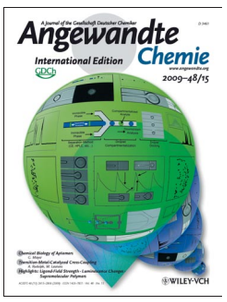
Angew. Chem. Int. Ed.
DOI: **10.1002/anie.200900185**

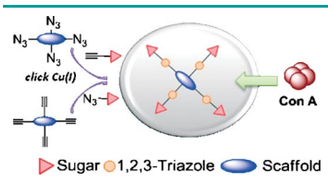
Enzyme Inhibition

W. H. Ang, L. J. Parker, A. De Luca, L. Juillerat-Jeanneret, C. J. Morton, M. Lo Bello, M. W. Parker, P. J. Dyson*

Rational Design of an Organometallic Glutathione Transferase Inhibitor

Double trouble: A hybrid organic–inorganic (organometallic) inhibitor was designed to target glutathione transferases. The metal center is used to direct protein binding, while the organic moiety acts as the active-site inhibitor (see picture). The mechanism of inhibition was studied using a range of biophysical and biochemical methods.





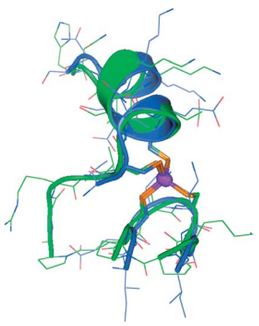
Eur. J. Org. Chem.
DOI: **10.1002/ejoc.200801170**

Click Chemistry

F. Perez-Balderas, J. Morales-Sanfrutos, F. Hernandez-Mateo, J. Isac-García, F. Santoyo-Gonzalez*

Click Multivalent Homogeneous Neoglycoconjugates – Synthesis and Evaluation of Their Binding Affinities

Structurally diverse multivalent neoglycoconjugates containing mannose (α-Man) residues were synthesized by two different click-chemistry based strategies and their binding affinities toward Con A were evaluated.



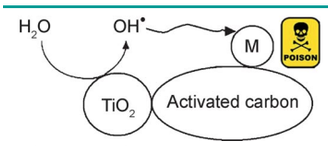
Chem. Eur. J.
DOI: **10.1002/chem.200900147**

Metallopeptides

O. Sénèque,* E. Bonnet, F. L. Joumas, J.-M. Latour*

Cooperative Metal Binding and Helical Folding in Model Peptides of Treble-Clef Zinc Fingers

Synergy in zinc fingers: The comparison between peptide folding and metal binding properties of two model peptides of treble-clef zinc fingers presenting high affinities for zinc and cobalt reveals a cooperative effect: the metal folds the peptide into a α-helix which in turn strengthens the metal core.



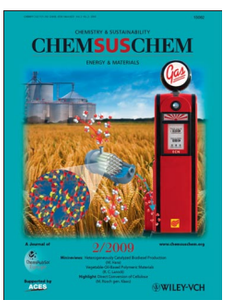
ChemSusChem
DOI: **10.1002/cssc.200800246**

Hazardous Compounds

B. Cojocaru, Ş. Neaţu, V. I. Pârvulescu,* V. Şomoghi, N. Petrea, G. Epure, M. Alvaro, H. Garcia*

Synergism of Activated Carbon and Undoped and Nitrogen-doped TiO_2 in the Photocatalytic Degradation of the Chemical Warfare Agents Soman, VX, and Yperite

The degradation of chemical warfare agents is investigated. Active carbon, in minor quantities (5–25 wt%), renders nitrogen-doped titania active towards the degradation of several such compounds. This cooperative effect is attributed to the preferential generation of reactive oxygen species on the photocatalyst and preferential adsorption of the chemical warfare agent onto carbon.



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