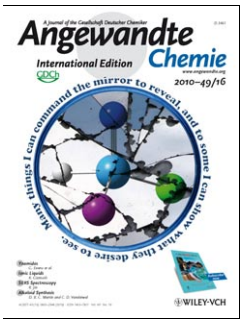
On these pages, we feature a selection of the excellent work that has recently been published in our sister journals. If you are reading these pages on a computer, click on any of the items to read the full article. Otherwise please see the DOIs for easy online access through Wiley InterScience.

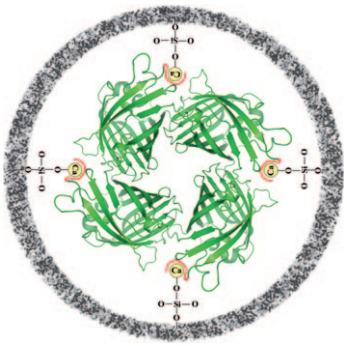


Protein Encapsulation

A. Cao,* Z. Ye, Z. Cai, E. Dong, X. Yang, G. Liu, X. Deng, Y. Wang, S.-T. Yang, H. Wang,* M. Wu, Y. Liu

A Facile Method To Encapsulate Proteins in Silica Nanoparticles: Encapsulated Green Fluorescent Protein as a Robust Fluorescence Probe

Si'l vous plait? A facile and general method has been developed to encapsulate polyhistidine-tagged proteins in silica nanoparticles (NPs; gray, see picture) using calcium ions (yellow). The enhanced green fluorescence protein (EGFP) encapsulated in the silica NPs shows a substantial increase in fluorescence intensity and stability against denaturants, protease, and heat.



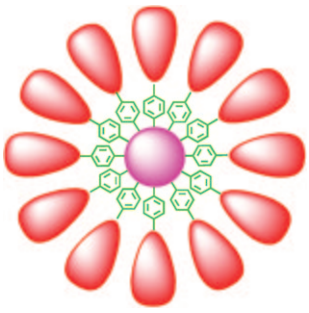
Angew. Chem. Int. Ed.
DOI: **10.1002/anie.201906883**

Dendrimers

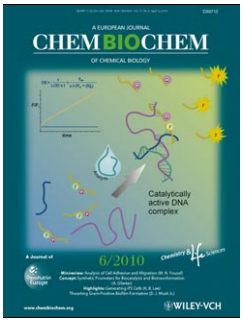
V. K. R. Kumar, K. R. Gopidas*

Synthesis and Characterization of Gold-Nanoparticle-Cored Dendrimers Stabilized by Metal–Carbon Bonds

A heart of gold: Reduction of $HAuCl_4$, phase-transferred into toluene in the presence of diazonium salt capped Fréchet-type dendrons (G_1–G_4), results in the formation of gold-nanoparticle-cored dendrimers (NCDs; see graphic) that have carbon–gold covalent bonds, which have been characterized by TEM, thermogravimetric analysis (TGA), and IR, UV, and NMR spectroscopy.



Chem. Asian J.
DOI: **10.1002/asia.200900388**

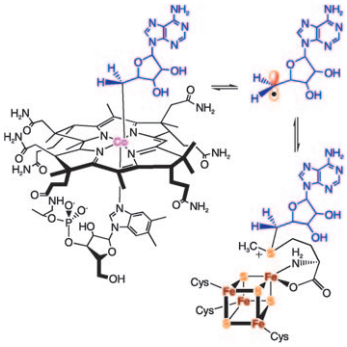


Enzymes

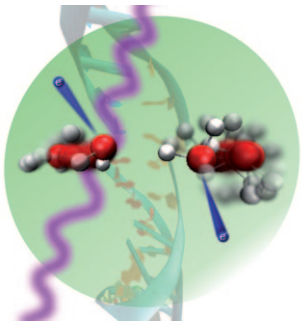
E. N. G. Marsh,* D. P. Patterson, L. Li*

Adenosyl Radical: Reagent and Catalyst in Enzyme Reactions

Primordial molecules: An adenosyl radical is generated as a reactive intermediate by two families of enzymes that use either adenosylcobalamin or *S*-adenosylmethionine as cofactors. We review and contrast the wide range of unusual reactions catalyzed by these enzyme families and discuss the likelihood that the highly oxygen-sensitive radical *S*-adenosylmethionine enzymes are also active in aerobic organisms.



ChemBioChem
DOI: **10.1002/cbic.200900777**



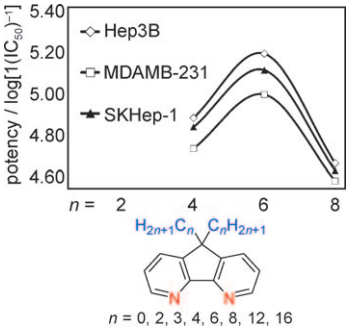
ChemPhysChem
DOI: **10.1002/cphc.201000034**

Water Radicals

O. Vendrell,* S. D. Stoychev, L. S. Cederbaum*

Generation of Highly Damaging H_2O^+ Radicals by Inner Valence Shell Ionization of Water

Bye bye friend: Water molecules surround all biological structures. Inner-valence ionization of water, followed by intermolecular Coulombic decay, generates two water radical cations in close proximity. The two fragments strongly repel each other and quickly separate, gaining a large amount of translational and rotational energy (see graphic).



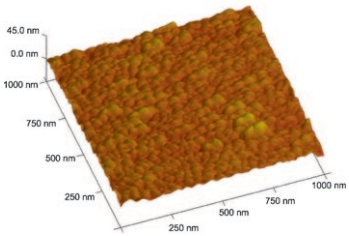
ChemMedChem
DOI: **10.1002/cmdc.201000034**

Antitumor Agents

Q. Wang, M. C.-W. Yuen, G.-L. Lu, C.-L. Ho, G.-J. Zhou, O.-M. Keung, K.-H. Lam, R. Gambari, X.-M. Tao, R. S.-M. Wong, S.-W. Tong, K.-W. Chan, F.-Y. Lau, F. Cheung, G. Y.-M. Cheng,* C.-H. Chui,* W.-Y. Wong*

Synthesis of 9,9-Dialkyl-4,5-diazafluorene Derivatives and Their Structure–Activity Relationships Toward Human Carcinoma Cell Lines

A homologous series of 9,9-dialkyl-4,5-diazafluorenes were prepared. Their spectroscopic properties and biological activities toward three human cancer cell lines, including Hep3B hepatocellular carcinoma, MDAMB-231 breast carcinoma, and SKHep-1 hepatoma, were investigated to understand their structure–activity relationships.



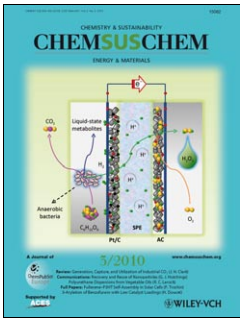
ChemSusChem
DOI: **10.1002/cssc.200900255**

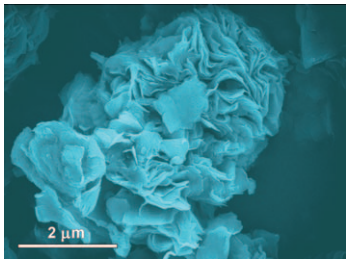
Photoelectron Generation

M. Vittadello,* M. Y. Gorbunov, D. T. Mastrogiovanni, L. S. Wielunski, E. L. Garfunkel, F. Guerrero, D. Kirilovsky, M. Sugiura, A. W. Rutherford, A. Safari, P. G. Falkowski

Photoelectron Generation by Photosystem II Core Complexes Tethered to Gold Surfaces

For Your Electrons Only: By using a nondestructive, ultrasensitive, fluorescence kinetic technique, the photochemical energy conversion efficiency and electron transfer kinetics on the acceptor side of histidine-tagged photosystem II core complexes tethered to gold surfaces are measured in situ.





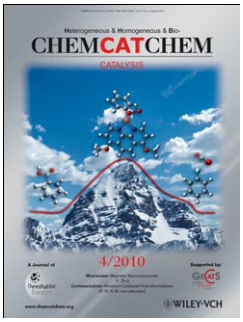
ChemCatChem
DOI: **10.1002/cctc.200900274**

Heterogenous Catalysis

R. Al Otaibi, W. Weng, J. K. Bartley, N. F. Dummer, C. J. Kiely, G. J. Hutchings*

Vanadium Phosphate Oxide Seeds and Their Influence on the Formation of Vanadium Phosphate Catalyst Precursors

Seeds of change: Vanadium phosphate oxides (VPO) were prepared with the use of hemihydrate 'seeds' and evaluated for selective butane oxidation. This seeding concept is shown to have a dramatic effect on the morphology of the final activated catalyst. In the case of the reaction of $VOPO_4{\cdot}2H_2O$ in 3-octanol with a $VOHPO_4{\cdot}0.5H_2O$ seed, a mixed phase was formed which has a specific activity almost 2.5 times greater than the standard VPO preparation.

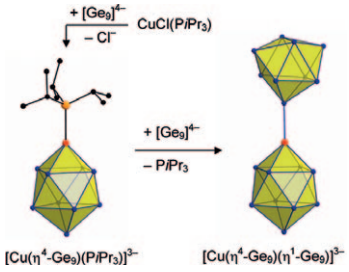


Intermetalloid Clusters

S. Scharfe, T. F. Fässler*

Varying Bonding Modes of the Zintl Ion $[Ge_9]^{4-}$ in Cu^I Complexes: Syntheses and Structures of $[Cu(\eta^4\text{-}Ge_9)(PR_3)]^{3-}$ (R = *i*Pr, Cy) and $[Cu(\eta^4\text{-}Ge_9)(\eta^1\text{-}Ge_9)]^{7-}$

The Cu-capped Ge_9 clusters $[Cu(\eta^4\text{-}Ge_9)R]^{3-}$ (R = PCy_3, $PiPr_3$) and $[Cu(\eta^4\text{-}Ge_9)(\eta^1\text{-}Ge_9)]^{7-}$ show that homoatomic Zintl anions can act as multifunctional ligands. The clusters serve as a six-electron donor with η^4 coordination and can also act as a two-electron σ donor. The stepwise exchange of ligands at the Cu^I atom shows how metal clusters can form larger intermetalloid clusters (Cu: red, Ge: blue, P: orange).



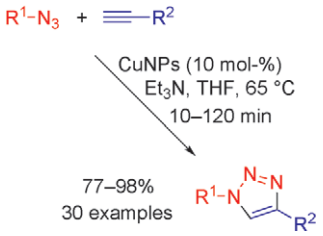
Eur. J. Inorg. Chem.
DOI: **10.1002/ejic.200901038**

Click Chemistry

F. Alonso,* Y. Moglie, G. Radivoy, M. Yus*

Unsupported Copper Nanoparticles in the 1,3-Dipolar Cycloaddition of Terminal Alkynes and Azides

The 1,3-dipolar cycloaddition of terminal alkynes and azides catalysed by readily generated copper nanoparticles is reported. Reactions are fast and lead to the corresponding triazoles in good-to-excellent yields. A reaction mechanism involving copper(I) acetylides is proposed on the basis of different reactivity studies and deuteration experiments.



Eur. J. Org. Chem.
DOI: **10.1002/ejoc.200901446**

