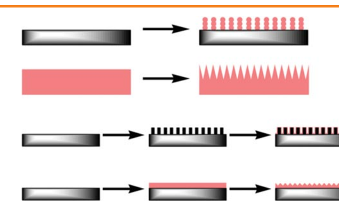
On these pages, we feature a selection of the excellent work that has recently been published in our sister journals. If you are reading these pages on a computer, click on any of the items to read the full article. Otherwise please see the DOIs for easy online access through Wiley InterScience.


### *Hydrophobic Effect*

C. R. Crick, I. P. Parkin*

**Preparation and Characterisation of Super-Hydrophobic Surfaces**

**Simply super!** The interest in highly water-repellent surfaces has grown in recent years due to the desire for self-cleaning surfaces. This review identifies four methods for the construction of super-hydrophobic surfaces (see figure) along with a summation of the key properties of the surface that result in hydrophobicity. A summary of the different routes to super-hydrophobicity is also given.



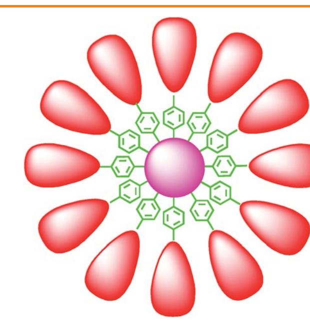
*Chem. Eur. J.*
DOI: **10.1002/chem.200903335**


### *Dendrimers*

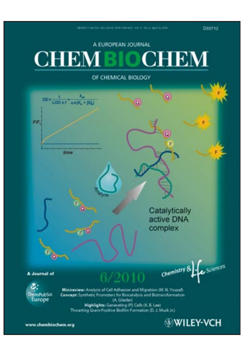
V. K. R. Kumar, K. R. Gopidas*

**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**

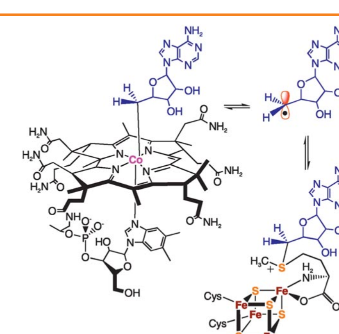



### *Enzymes*

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

**Adenosyl Radical: Reagent and Catalyst in Enzyme Reactions**

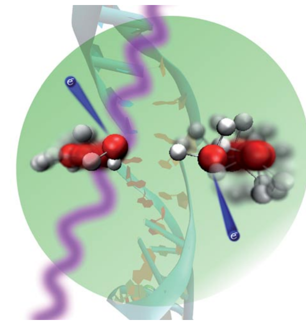
**Primordial molecules**: An adenosyl radical is generated as a reactive intermediate by two families of enzymes that use either adenosylcobalamin or *S*-adenosylmethionine as cofactors. We review and contrast the wide range of unusual reactions catalyzed by these enzyme families and discuss the likelihood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



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

*Water Radicals*

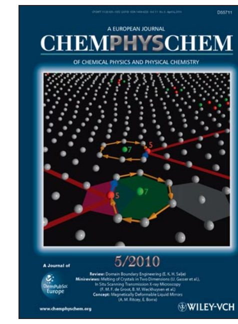


*ChemPhysChem*
DOI: **10.1002/cphc.201000034**

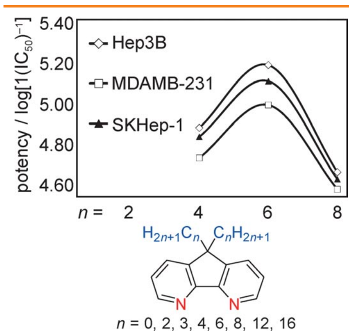
O. Vendrell,* S. D. Stoychev, L. S. Cederbaum*

**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).




*Antitumor Agents*

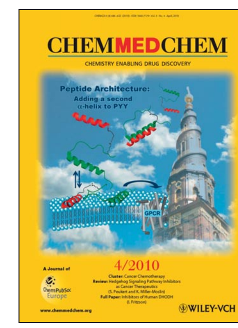



*ChemMedChem*
DOI: **10.1002/cmdc.201000034**

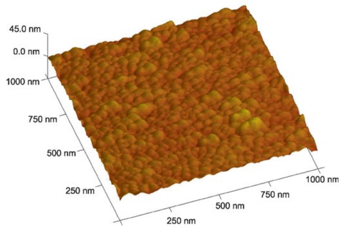
Q. Wang, M. C.-W. Yuen, G.-L. Lu, C.-L. Ho, G.-J. Zhou, O.-M. Keung, K.-H. Lam, R. Gambari, X.-M. Tao, R. S.-M. Wong, S.-W. Tong, K.-W. Chan, F.-Y. Lau, F. Cheung, G. Y.-M. Cheng,* C.-H. Chui,* W.-Y. Wong*

**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.




*Photoelectron Generation*

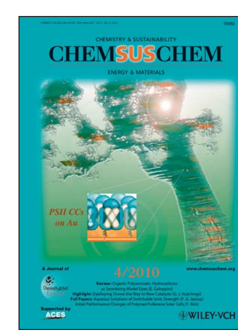



*ChemSusChem*
DOI: **10.1002/cssc.200900255**

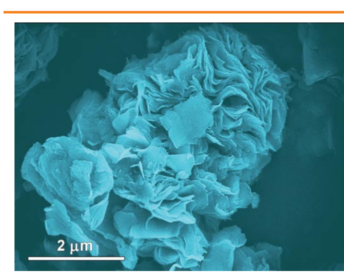
M. Vittadello,* M. Y. Gorbunov, D. T. Mastrogiovanni, L. S. Wielunski, E. L. Garfunkel, F. Guerrero, D. Kirilovsky, M. Sugiura, A. W. Rutherford, A. Safari, P. G. Falkowski

**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.




*Heterogenous Catalysis*

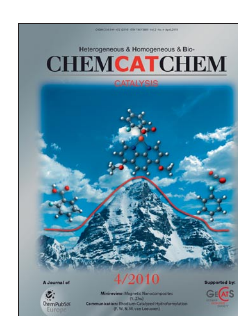



*ChemCatChem*
DOI: **10.1002/cctc.200900274**

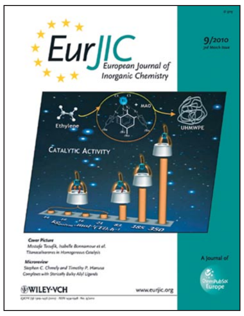
R. Al Otaibi, W. Weng, J. K. Bartley, N. F. Dummer, C. J. Kiely, G. J. Hutchings*

**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.



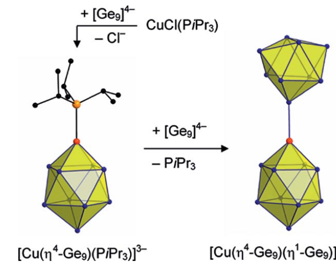



### *Intermetalloid Clusters*

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 $\eta^4$ 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).



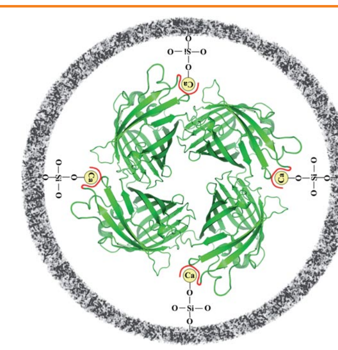

*Eur. J. Inorg. Chem.*
DOI: **10.1002/ejic.200901038**


### *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**

