SPOTLIGHTS …

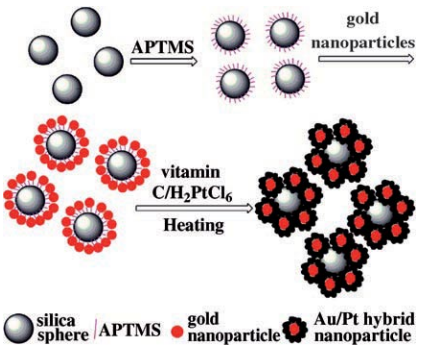
Hybrid Nanoparticles

S. Guo, J. Zhai, Y. Fang, S. Dong, E. Wang*

Nanoelectrocatalyst Based on High-Density Au/Pt Hybrid Nanoparticles Supported on a Silica Nanosphere

Chem. Asian J.
DOI: **10.1002/asia.200700422**

Good things come in small packages: A high-efficiency nanoelectrocatalyst based on high-density Au/Pt hybrid nanoparticles supported on a silica nanosphere (Au-Pt/SiO_2) can be prepared easily by a wet chemical process. This Au-Pt/SiO_2 nanostructure exhibits a high electrocatalytic activity for oxygen reduction and methanol oxidation, making it an interesting candidate for application in fuel cells. APTMS = (3-aminopropyl)trimethoxysilane.

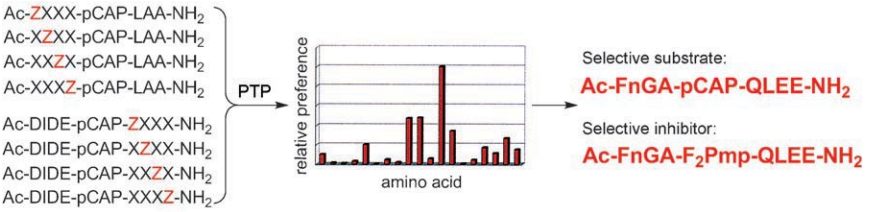


Combinatorial Libraries

S. Mitra, A. M. Barrios*

Identifying Selective Protein Tyrosine Phosphatase Substrates and Inhibitors from a Fluorogenic, Combinatorial Peptide Library

ChemBioChem
DOI: **10.1002/cbic.200800046**



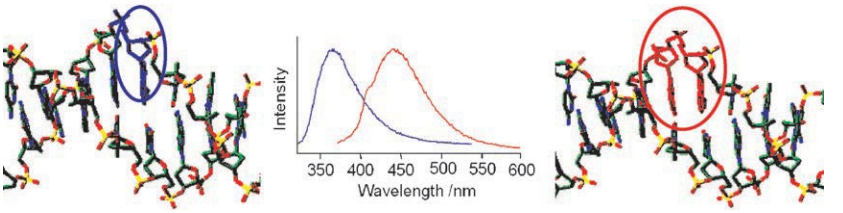
Protein tyrosine phosphatases are increasingly recognized as enzymes that exhibit exquisite substrate selectivity with important roles in cellular signaling, and have been identified as attractive therapeutic targets in human diseases including autoimmunity, obesity, diabetes, and cancer. A new approach was developed to rapidly and efficiently profile the substrate selectivity of protein tyrosine phosphatase and is described herein.

DNA Dimers

E. Y. M. Bonnist, A. C. Jones*

Long-Wavelength Fluorescence from 2-Aminopurine-Nucleobase Dimers in DNA

ChemPhysChem
DOI: **10.1002/cphc.200700813**



Illuminating interactions: A fluorescent analogue of adenine illuminates interbase interactions in DNA. Long-wavelength spectra arise from the formation of a ground-state heterodimer with an adjacent π-stacked, natural base, in addition to the familiar short-wavelength spectra (see figure).

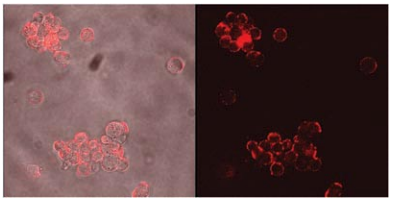
Imaging Agents

H. W. Chen, C. D. Medley, K. Sefah, D. Shangguan, Z. Tang, L. Meng, J. E. Smith, W. Tan*

Molecular Recognition of Small-Cell Lung Cancer Cells Using Aptamers

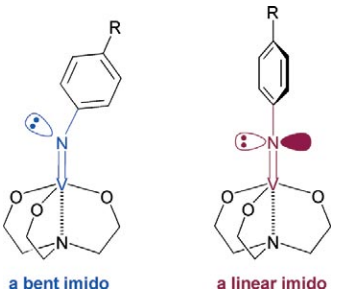
ChemMedChem
DOI: **10.1002/cmdc.200800030**

Early diagnosis is the key for lung cancer survival. Novel aptamer-based molecular probes were developed for the recognition of specific small-cell lung cancer (SCLC) cell-surface molecular markers. They show high affinity and specificity in various assay formats. This approach shows the potential for early lung cancer detection.



EurJOC European Journal of Organic Chemistry

(Arylimido)vanadium(V) Species



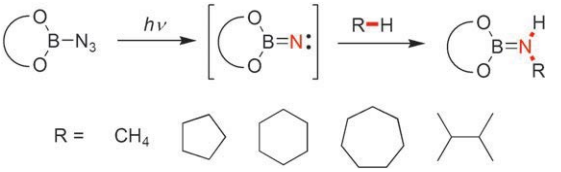
Structural characterisation of (arylimido)triethanolaminatovanadium(V) compounds was carried out by single-crystal X-ray structure determinations to elucidate the substituent effect on the imido structures in which the imido structures are strongly controlled through π conjugation by the *para* substituents of the aryl moieties.

T. Moriuchi,* T. Beppu, K. Ishino, M. Nishina, T. Hirao*

Structural Control of (Arylimido)vanadium(V) Compounds through π Conjugation

Eur. J. Inorg. Chem.
DOI: **10.1002/ejic.200701252**

Alkane Activation



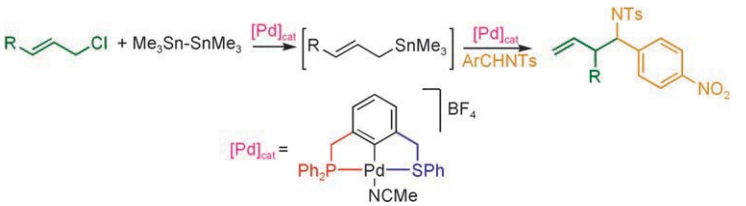
C–H insertion: Borylnitrenes, which are generated in situ by photoylsis of azides, convert unactivated alkanes by intermolecular C–H insertion into aminoboranes (see scheme), which in turn can be reacted further to give amines or amides. The boryl group serves two purposes: it converts the nitrene into a highly reactive BN vinylidene analogue, and it is easily cleaved from the product.

H. F. Bettinger,* M. Filthaus, H. Bornemann, I. M. Oppel

Metal-Free Conversion of Methane and Cycloalkanes to Amines and Amides By Employing a Borylnitrene

Angew. Chem. Int. Ed.
DOI: **10.1002/anie.200705936**

Pincer Complexes



Novel catalytic features: This paper describes the development of a new unsymmetrical PCS-pincer palladium complex (see scheme) for catalytic aldol reactions and coupling of allyl chlorides and vinyloxiranes with aldehyde and imine electrophiles. The synergic electronic effects of the phosphorus and sulfur side-arms of this pincer complex generate novel catalytic features, one of the most interesting of which was tandem catalytic activity found for the coupling reactions of allyl chlorides with electrophiles in the presence of hexamethylditin.

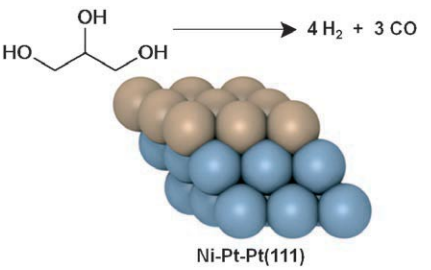
M. Gagliardo, N. Selander, N. C. Mehendale, G. van Koten, R. J. M. Klein Gebbink,* K. J. Szabó*

Catalytic Performance of Symmetrical and Unsymmetrical Sulfur-Containing Pincer Complexes: Synthesis and Tandem Catalytic Activity of the First PCS-Pincer Palladium Complex

Chem. Eur. J.
DOI: **10.1002/chem.200800350**

Glycerol Conversion

Scratching the surface: The reactions of oxygenates such as glycerol are important for the production of H_2. Temperature-programmed desorption experiments have revealed an increased production of H_2 on the Ni surface monolayer on Pt(111) (Ni-Pt-Pt(111)). Glycerol reforming activity trends are similar to previous results for ethylene glycol and ethanol, demonstrating that smaller oxygenates can be used as good models for reforming of larger, biomass-derived oxygenates.



O. Skoplyak, M. A. Barteau,* J. G. Chen

Enhancing H_2 and CO Production from Glycerol Using Bimetallic Surfaces

ChemSusChem
DOI: **10.1002/cssc.200800053**

