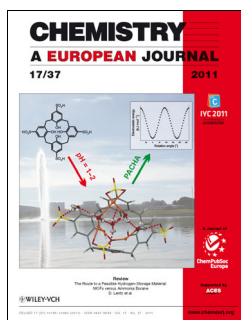




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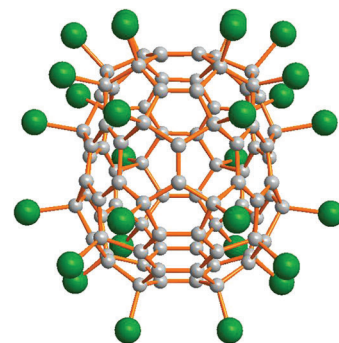


Fullerenes

S. I. Troyanov,* S. Yang, C. Chen, E. Kemnitz

Six IPR Isomers of C_{90} Fullerene Captured as Chlorides: Carbon Cage Connectivities and Chlorination Patterns

Caught by chlorination! C_{90} from three HPLC fractions was chlorinated with VCl_4 or $SbCl_5$ and resulted in the formation of seven $C_{90}Cl_{22-32}$ compounds. Chlorination patterns of $C_{90}Cl_n$ molecules (see the structure of $C_{90}(35)Cl_{28}$; grey C, green Cl) are discussed in terms of the formation of aromatic systems and isolated double bonds on the C_{90} fullerene cages.



Chem. Eur. J.
DOI: 10.1002/chem.201100908

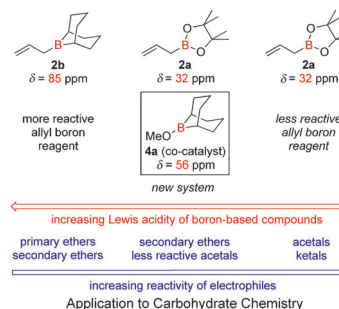


Boron-ate Complexes

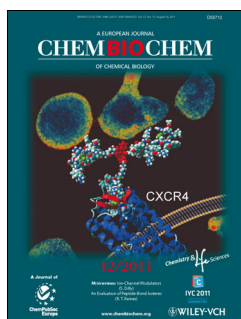
H. T. Dao, U. Schneider, S. Kobayashi*

“Design” of Boron-Based Compounds as Pro-Nucleophiles and Co-Catalysts for Indium(I)-Catalyzed Allyl Transfer to Various Csp^3 -Type Electrophiles

Getting your carbs! We have developed In^I -catalyzed allylations of challenging acetals and ethers by using allyl boronate **2a** as a pro-nucleophile and borinic ester **4a** as a co-catalyst. This conceptually new approach correlates the Lewis acidity of “electrophilic” boron-based compounds with their “nucleophilic” reactivity in Csp^3 – Csp^3 couplings. Our concept is applicable to the selective synthesis of carbohydrate derivatives.



Chem. Asian J.
DOI: 10.1002/asia.201100096

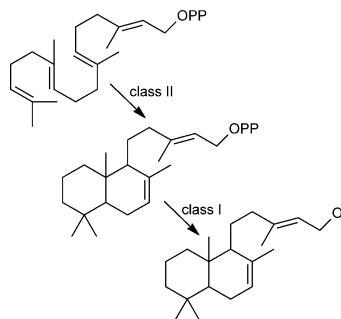


Terpenoids

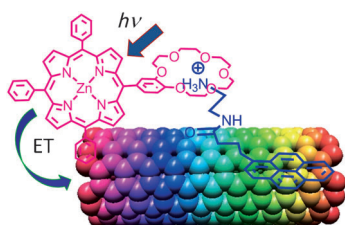
S. Mafu, M. L. Hillwig, R. J. Peters*

A Novel Labda-7,13E-dien-15-ol-Producing Bifunctional Diterpene Synthase from *Selaginella moellendorffii*

Two-in-one enzyme: A bifunctional diterpene synthase from the lycophte *Selaginella moellendorffii* has been characterized. The structure of its product, labda-7,13E-dien-15-ol, demonstrates that this enzyme catalyzes a novel class II diterpene cyclization reaction, and clarifies the biosynthetic origins of the family of derived natural products.



ChemBioChem
DOI: 10.1002/cbic.201100336



ChemPhysChem

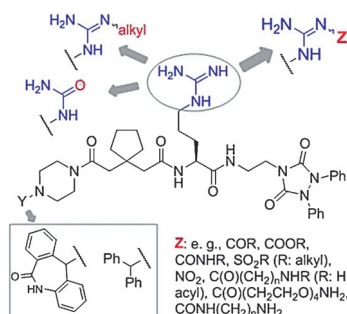
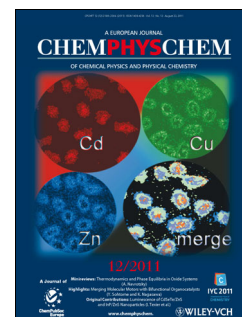
DOI: 10.1002/cphc.201100377

Light Harvesting

A. S. D. Sandanayaka, N. K. Subbaiyan, S. K. Das, R. Chitta, E. Maligaspe, T. Hasobe, O. Ito,* F. D'Souza*

Diameter-Sorted SWCNT–Porphyrin and SWCNT–Phthalocyanine Conjugates for Light-Energy Harvesting

Light-harvesting tetrapyrrole–nanotube donor–acceptor conjugates: Using a double-decker binding strategy involving π – π stacking and cation–dipole interactions, donor–acceptor hybrids comprised of diameter-sorted nanotubes and tetrapyrroles are described (see picture). Photochemical and photoelectrochemical studies collectively demonstrate their ability to convert light energy to electricity.



ChemMedChem

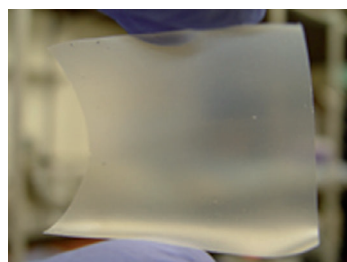
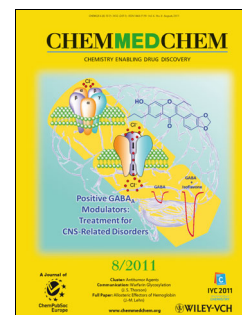
DOI: 10.1002/cmdc.201100241

Drug Design

N. Pluym, A. Brennauer, M. Keller, R. Ziemek, N. Pop, G. Bernhardt, A. Buschauer*

Application of the Guanidine–Acylguanidine Bioisosteric Approach to Arginamide-Type NPY Y₂ Receptor Antagonists

Bioisosteric replacement of the strongly basic guanidino group in arginamides derived from BIIE0246 with guanidines bearing electron-withdrawing groups (Z), in particular N^G-(ω -aminoalkylcarbonyl), resulted in potent and selective Y₂R antagonists (K_i and K_b values in the low nanomolar range). The results support the hypothesis that the guanidine–acylguanidine exchange is a broadly applicable bioisosteric approach to GPCR ligands with decreased basicity.



ChemSusChem

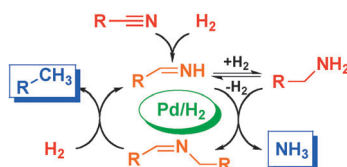
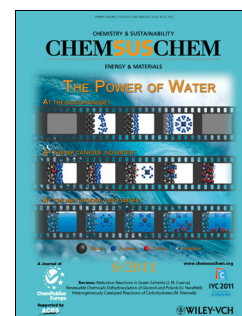
DOI: 10.1002/cssc.201100287

Fuel Cells

Y. Luo, J. Guo, C. Wang,* D. Chu

An Acrylate-Polymer-Based Electrolyte Membrane for Alkaline Fuel Cell Applications

Monomers rule: A novel bottom-up synthesis of an alkaline polymer electrolyte by applying mini-emulsion copolymerization is demonstrated. This synthesis approach can be used to control and tune conductivity and mechanical properties of the electrolyte. The processed electrolyte membrane exhibits superior power performance in alkaline fuel cells, which demonstrates the great potential of these membranes to be used in next generation energy conversion systems.



Multicascade Reaction

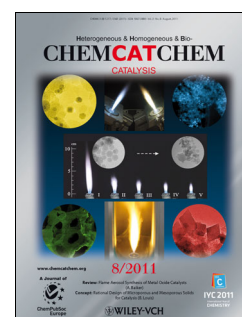
A. J. Yap, B. Chan, A. K. L. Yuen, A. J. Ward, A. F. Masters, T. Maschmeyer*

A Palladium-Catalyzed Multicascade Reaction: Facile Low-Temperature Hydrogenolysis of Activated Nitriles and Related Functional Groups

Control your children without being harsh: Herein we present a simple system for the otherwise difficult hydrogenolysis of nitriles, imines, and amines. This system can achieve high yields without using harsh conditions. Investigations into the mechanics of this system aid our understanding of what has been thought to be a simple process.

ChemCatChem

DOI: 10.1002/cctc.201100076



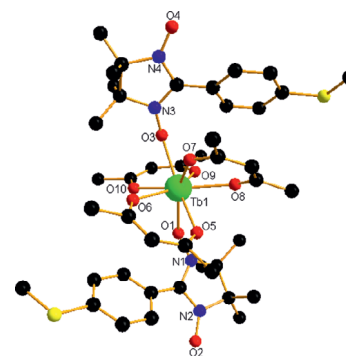


Tb^{III}–Radical Magnetic Complexes

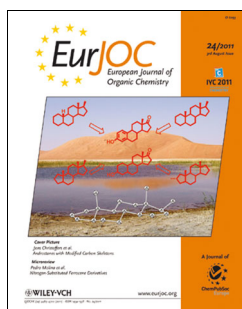
X. Wang,* X. Bao, P. Xu, L. Li

From Discrete Molecule to One-Dimension Chain: Two New Nitronyl Nitroxide–Lanthanide Complexes Exhibiting Slow Magnetic Relaxation

Two new Tb^{III}–radical complexes with tri-spin mononuclear and one-dimensional chain structures, respectively, have been prepared. Magnetic studies show that the two complexes display slow magnetic relaxation that resembles single-molecule and single-chain magnet behavior, respectively.



Eur. J. Inorg. Chem.
DOI: 10.1002/ejic.201100296

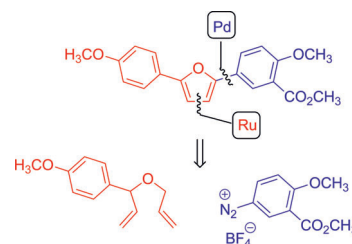


Furans

B. Schmidt,* D. Geißler

Ru- and Pd-Catalysed Synthesis of 2-Arylfurans by One-Flask Heck Arylation/Oxidation

The combination of Ru-catalysed RCM/isomerization and Pd-catalysed Heck arylation/oxidation offers a new route to 2,5-disubstituted furans.



Eur. J. Org. Chem.
DOI: 10.1002/ejoc.201100549

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