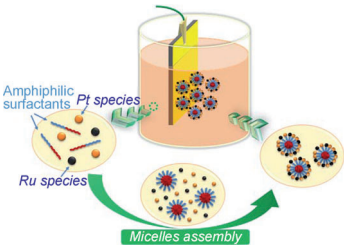
Mesoporous Materials

H. Wang, M. Imura, Y. Nemoto, L. Wang, H. Y. Jeong, T. Yokoshima, O. Terasaki, Y. Yamauchi*

Electrochemical Design of Mesoporous Pt–Ru Alloy Films with Various Compositions toward Superior Electrocatalytic Performance

Electrochemical deposition: Mesoporous Pt–Ru alloy films with various compositions were synthesized by electrochemical plating in an aqueous surfactant solution. The Ru content in the films could be controlled from 0 to 13 at% by changing the precursor compositions. These films showed superior electrocatalytic activity for the methanol oxidation reaction (see scheme).



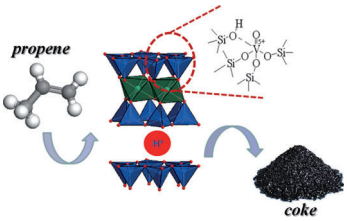
Chem. Eur. J.
DOI: **10.1002/chem.201201964**

Oxidative Dehydrogenation

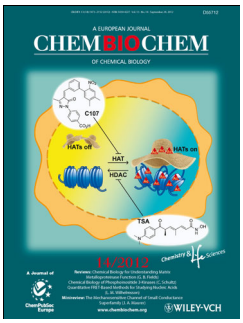
L. Ostinelli, S. Recchia,* C. Bisio, F. Carniato, M. Guidotti, L. Marchese, R. Psaro

Acid/Vanadium-Containing Saponite for the Conversion of Propene into Coke: Potential Flame-Retardant Filler for Nanocomposite Materials

A hard day's saponite: An acid/vanadium-containing saponite (H/V-SAP) was synthesized and its physicochemical properties were compared to those of a V-modified saponite material that did not contain acid sites. Both samples were tested in the oxidative dehydrogenation (ODH) reaction of propene to study the capability of the samples to form coke species. H/V-SAP was the most interesting catalyst for the production of coke.



Chem. Asian J.
DOI: **10.1002/asia.201200268**

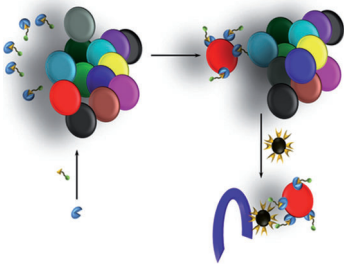


Serine Hydrolases

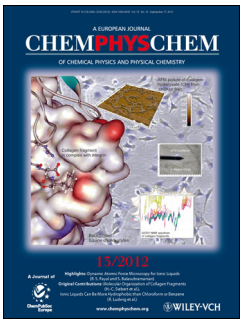
X. Liu, M. Dix, A. E. Speers, D. A. Bachovchin, A. M. Zuhl, B. F. Cravatt,* T. J. Kodadek*

Rapid Development of a Potent Photo-triggered Inhibitor of the Serine Hydrolase RBBP9

Light up, shut down: Serine hydrolases play important physiological roles; however, their traditional inhibitors often lack selectivity within the superfamily. Using RBBP9 as a model target, we have developed a rapid and inexpensive route to identify highly selective peptoid-based inhibitors that can be activated by visible light.



ChemBioChem
DOI: **10.1002/cbic.201200445**

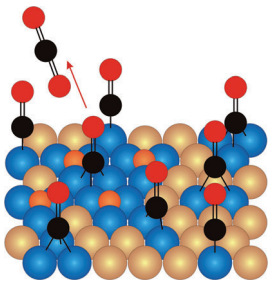


Surface Science

A. P. Farkas, T. Diemant, J. Bansmann, R. J. Behm*

The Adsorption of Oxygen and Coadsorption of CO and Oxygen on Structurally Well-Defined PdAg Surface Alloys

Planar PdAg surface alloys: Oxygen adsorption on Pd_xAg_{1-x}/Pd(111) surface alloys is dominated by ensemble effects and is limited to Pd_3 threefold-hollow sites. Coadsorption of CO on oxygen pre-covered surfaces is possible on different Pd_x adsorption sites. Additionally, CO converts to CO_2 even at low temperatures (see picture). Complete reactive removal of the remaining O_{ad} is achieved after heating.



ChemPhysChem
DOI: **10.1002/cphc.201200477**

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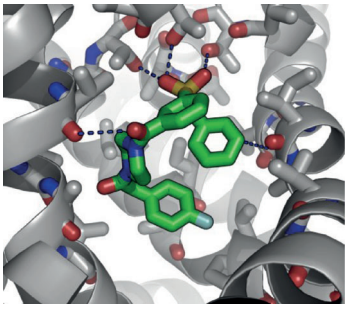


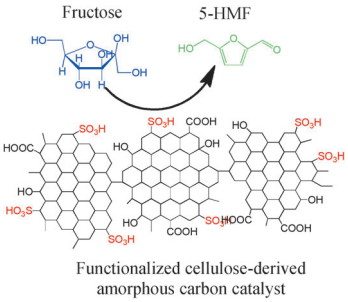
Drug Design

S. J. Wacker, W. Jurkowski, K. J. Simmons, C. W. G. Fishwick, A. P. Johnson, D. Madge, E. Lindahl, J.-F. Rolland,* B. L. de Groot*

Identification of Selective Inhibitors of the Potassium Channel Kv1.1–1.2$_{(3)}$ by High-Throughput Virtual Screening and Automated Patch Clamp

Show me some ID: Lead compounds as potassium channel Kv1.1–1.2$_{(3)}$ inhibitors were identified by structure-based virtual screening and automated patch clamp. The inner cavity of Kv1.1–1.2$_{(3)}$ was subjected to a target-specific and consensus-based molecular docking approach, and 14 active compounds (IC_{50}: 0.6–6 μM) were identified. Two of these are at least 30-fold more potent against Kv1.1-1.2$_{(3)}$ than toward a set of cardiac ion channels (hERG, Nav1.5, and Cav1.2), yielding a profile of selectivity and cardiac safety.

ChemMedChem
DOI: **10.1002/cmdc.201100600**



Functionalized cellulose-derived amorphous carbon catalyst

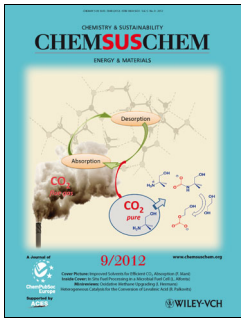
Biomass Conversion

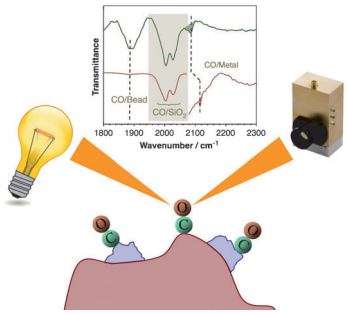
X. Qi,* H. Guo, L. Li, R. L. Smith, Jr.

Acid-Catalyzed Dehydration of Fructose into 5-Hydroxymethylfurfural by Cellulose-Derived Amorphous Carbon

Solid improvement: Cellulose-derived carbon catalysts with $-SO_3H$, $-COOH$, and phenolic $-OH$ groups are used for the efficient catalytic conversion of fructose into 5-hydroxymethylfurfural in an ionic liquid (see picture).

ChemSusChem
DOI: **10.1002/cssc.201200363**





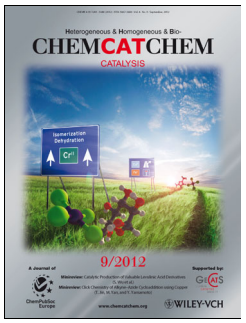
Analysis of Nanocatalysts

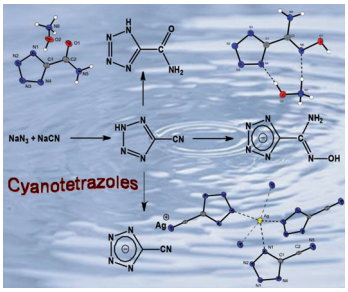
F. Zaera*

Infrared Absorption Spectroscopy of Adsorbed CO: New Applications in Nanocatalysis for an Old Approach

An oldie but goodie: The power of using well-established CO infrared absorption spectroscopy to characterize novel nanostructured catalysts is discussed.

ChemCatChem
DOI: **10.1002/cctc.201200195**





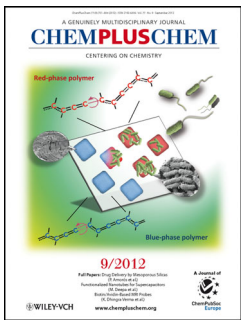
Energetic Materials

N. Fischer, T. M. Klapötke,* S. Rappenglück, J. Stierstorfer

The Reactivity of 5-Cyanotetrazole towards Water and Hydroxylamine

Chemistry with a bang! The hydrolysis of 5-cyano-2*H*-tetrazole and its reaction with hydroxylamine has been investigated. Several different ionic derivatives were identified as new energetic materials. Highly sensitive silver 5-cyanotetrazole was characterized as a promising primary explosive.

ChemPlusChem
DOI: **10.1002/cplu.201200136**



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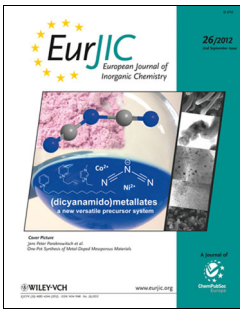
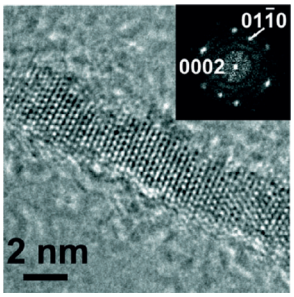


Doped Nanocrystals

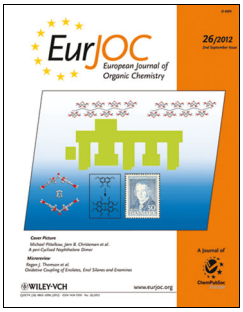
Y. Jin,* Q. Yi, L. Zhou, D. Chen, H. He, Z. Ye, J. Hong, C. Jin

Synthesis and Characterization of Ultrathin Tin-Doped Zinc Oxide Nanowires

Ultrathin tin-doped zinc oxide (Sn-doped ZnO) nanowires with uniform diameters of 2.3 ±0.2 nm were synthesized by a facile colloidal method. The introduction of group IV dopants may serve as an effective strategy to control the shape of doped ZnO nanocrystals. This doping procedure, based on the aminolysis approach, may be extended to the synthesis of other doped oxide nanocrystals.



Eur. J. Inorg. Chem.
DOI: **10.1002/ejic.201200659**

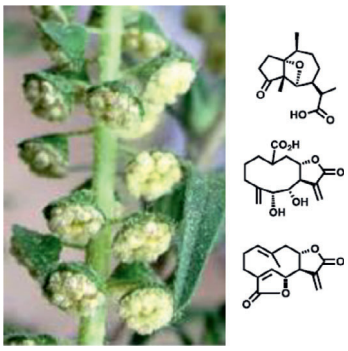


Natural Products

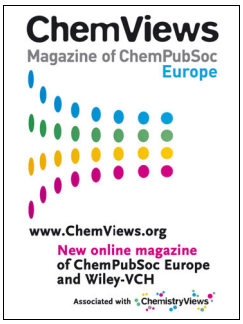
O. Taglialatela-Scafati,* F. Pollastro, A. Minassi, G. Chianese, L. De Petrocellis, V. Di Marzo, G. Appendino*

Sesquiterpenoids from Common Ragweed (*Ambrosia artemisiifolia* L.), an Invasive Biological Polluter

Eight novel sesquiterpenoids were isolated from the aerial parts of *Ambrosia artemisiifolia*, an invasive weed whose pollen is responsible for severe allergic reactions. α,β-Unsaturated carbonyl derivatives were present in all aerial parts of the plant, and their reaction with thiols was correlated with the activation of TRPA1, a polymodal sensor involved in airways sensory irritation.



Eur. J. Org. Chem.
DOI: **10.1002/ejoc.201200650**



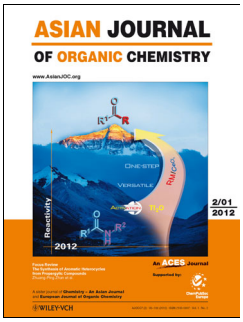
Chemistry and Religion

Klaus Roth

Chemical Production in Compliance with Torah and the Koran: Part 1

Industrial chemical production in agreement with the laws of Islamic or Jewish religion puts a considerable challenge on both the companies and the religious authorities. The difficult problems can only be solved through trustworthy cooperation. In a win-win-situation new markets will be opened for the chemical industry in this unusual interface between chemistry and religion.

ChemViews magazine
DOI: **10.1002/chemv.201200088**

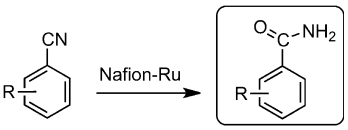


Nitrile Hydration

G. K. S. Prakash,* S. B. Munoz, A. Papp, K. Masood, I. Bychinskaya, T. Mathew,* G. A. Olah

Nafion-Ru: A Sustainable Catalyst for Selective Hydration of Nitriles to Amides

Going round again: Catalytic selective hydration of nitriles to amides by a safe and recyclable catalyst, Nafion-Ru, is described. The reaction is general, inexpensive, conveniently carried out in water as solvent, and is applicable to diverse benzonitriles and heteroaromatic nitriles. Easy preparation of the catalyst and separation of the product, as well as simple regeneration and recycling of the catalyst are the salient features of this method.



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Asian J. Org. Chem.
DOI: **10.1002/ajoc.201200043**

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