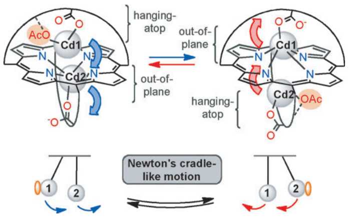
Auf diesen Seiten weisen wir auf wichtige aktuelle Beiträge in unseren Schwesterzeitschriften hin. Wenn Sie die Seiten online lesen, dann können Sie die Artikel mit einem Klick direkt aufrufen, ansonsten sind sie durch Eingabe der DOIs über Wiley Online Library leicht zugänglich.

Bimetallic Complexes

S. Le Gac,* L. Fusaro, V. Dorcet, B. Boitrel*

Formation and Dynamic Behavior of Mono and Bimetallic Cadmium(II) Porphyrin Complexes: Allosteric Control of Coupled Intraligand Metal Migrations

Coupled motion: An original fluxional behavior has been characterized in a bimetallic Cd^{II} porphyrin complex. It consists of a coupled intraligand migration of the two cations, resembling the motion of spheres in a Newton's cradle device (see figure). The cations switch concomitantly between out-of-plane and hanging-atop coordination modes, while staying on their respective side of the ligand. The motion can be switched on and off by addition and removal of an allosteric effector.



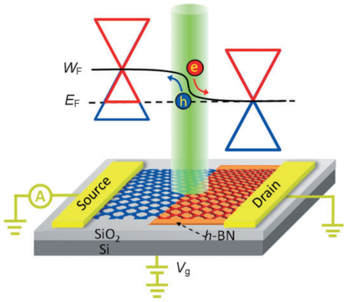
Chem. Eur. J.
DOI: **10.1002/chem.201302178**

Field-Effect Transistors

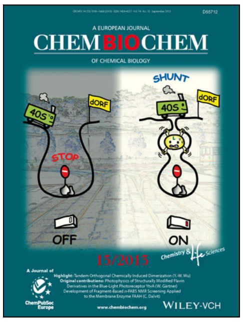
H. Xu, J. Wu, Y. Chen, H. Zhang, J. Zhang*

Substrate Engineering by Hexagonal Boron Nitride/SiO_2 for Hysteresis-Free Graphene FETs and Large-Scale Graphene p–n Junctions

FET accompli: The electrical properties of four types of graphene/h-BN FETs indicate that graphene on h-BN substrate can efficiently suppress the p-doping and the hysteresis effect that exist in graphene/SiO_2 FETs. Using this difference, a large-scale graphene p–n junction with great photocurrent was obtained.



Chem. Asian J.
DOI: **10.1002/asia.201300505**

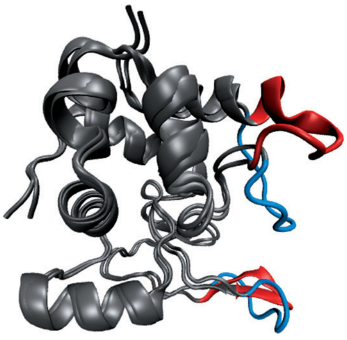


Lysozymes

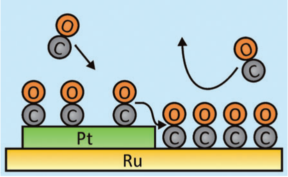
L. J. Smith,* A. M. Bowen, A. Di Paolo, A. Matagne, C. Redfield*

The Dynamics of Lysozyme from Bacteriophage Lambda in Solution Probed by NMR and MD Simulations

Flexible lips: NMR studies, complemented by MD simulations, showed that the upper and lower lip regions in λ lysozyme are dynamic in solution containing fluctuating regions of secondary structure. This might allow the enzyme to access a range of different conformers needed for substrate binding and enzyme activity.



ChemBioChem
DOI: **10.1002/cbic.201300193**



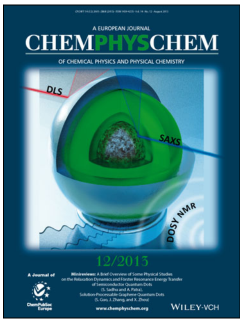
Surface Science

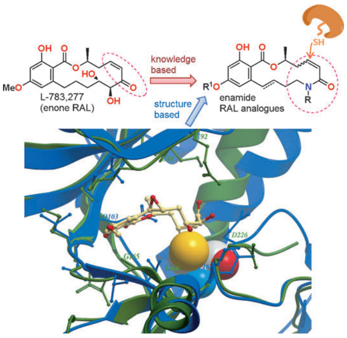
H. Hartmann, T. Diemant, R. J. Behm*

Kinetically Limited CO Adsorption: Spill-Over as a Highly Effective Adsorption Pathway on Bimetallic Surfaces

CO spill-over on bimetallic surfaces: The (locally) adsorbed carbon monoxide coverage, CO_{ad}, on Pt-free areas of bimetallic Pt/Ru(0001) surfaces, a Ru(0001) substrate partly covered by Pt monolayer (ML) islands, can be increased well above the established usual saturation CO_{ad} coverage of 0.68 ML, even under ultrahigh vacuum conditions, by using spill-over of CO adsorbed on the Pt islands to the Ru areas.

ChemPhysChem
DOI: **10.1002/cphc.201300722**





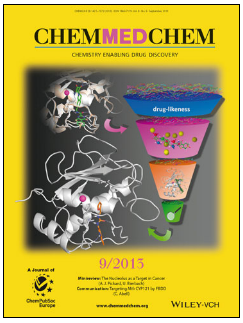
Antitumor Agents

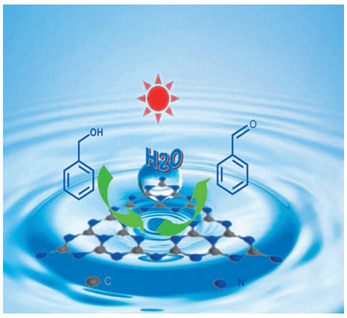
J. Xu, A. Chen,* J. Joy, V. J. Xavier, E. H. Q. Ong, J. Hill, C. L. L. Chai*

Rational Design of Resorcylic Acid Lactone Analogues as Covalent MNK1/2 Kinase Inhibitors by Tuning the Reactivity of an Enamide Michael Acceptor

Reactivity-tunable Michael acceptor: Enamide analogues of resorcylic acid lactone (RAL) as novel covalent inhibitors of MNK1/2 kinases were developed in this study. The covalent binding ability of such enamides can be tuned by attaching an electron-withdrawing motif to enhance its reactivity toward the cysteine residues at the MNK1/2 binding sites.

ChemMedChem
DOI: **10.1002/cmdc.201300231**





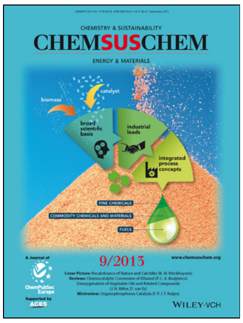
Photocatalysis

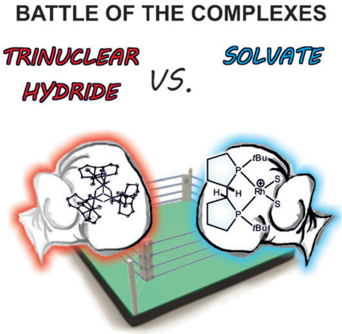
B. Long, Z. Ding, X. Wang*

Carbon Nitride for the Selective Oxidation of Aromatic Alcohols in Water under Visible Light

The selective oxidation of aromatic alcohols in water is achieved by using a carbon nitride (CN) catalyst, dioxygen, and visible light. The unique electronic structure of CN avoids the direct formation of hydroxyl radicals, which typically cause the total oxidation of organics. The chemical stability of CN allows several chemical protocols for photoredox catalysis in water, as exemplified by cooperative catalysis involving Brønsted acids. This leads to a new, green pathway for diverse organic transformations using sunlight and water.

ChemSusChem
DOI: **10.1002/cssc.201300360**





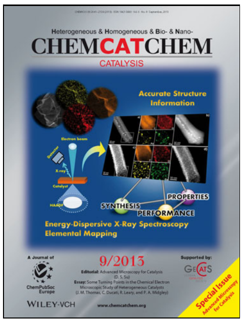
Selective Hydrogenation

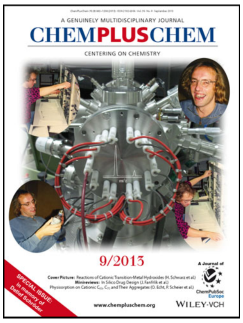
C. Kohrt, G. Wienhöfer, C. Pribbenow, M. Beller, D. Heller*

Selective Hydrogenation of Alkynes Catalyzed by Trinuclear Rhodium Hydride Complexes of the Type $[\{(Rh[PP^*]H)_3(\mu_2\text{-}H)_3(\mu_3\text{-}H)\}(BF_4)_2]$

A clean win: A novel trinuclear rhodium(III)-hydride species allows for highly selective hydrogenation of diarylacetylenes under mild conditions (1 bar of hydrogen pressure at 30.0 °C in methanol) with low catalyst loadings (substrate/catalyst molar ratio $\leq 10\,000$). In contrast to the mononuclear complex of the type $[\{Rh(PP^*)(MeOH)_2\}BF_4]$, no overhydrogenation of the diphenylacetylene to the alkane is observed. The hydrogen consumption follows Michaelis–Menten kinetics.

ChemCatChem
DOI: **10.1002/cctc.201300328**



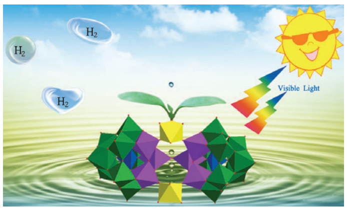


Photocatalysis

P. Huang, C. Qin, X.-L. Wang,* C.-Y. Sun, Y.-Q. Jiao, Y. Xing,* Z.-M. Su,* K.-Z. Shao

Self-Assembly and Visible-Light Photocatalytic Properties of W/Nb Mixed-Addendum Polyoxometalate and Transition-Metal Cations

Making light work: Three novel W/Nb mixed-addendum polyoxometalates, which all contain the $\{SiNb_3W_9O_{40}\}$ cluster, have been synthesized by conventional aqueous methods. Visible-light photocatalytic H_2 evolution activity (see figure) was observed for two of the compounds, with H_2PtCl_6 as a cocatalyst and triethylamine as a sacrificial electron donor.



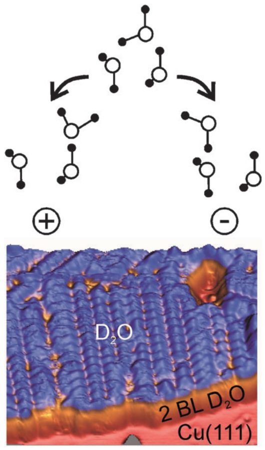
ChemPlusChem
DOI: **10.1002/cplu.201300175**

Electrical Double Layer

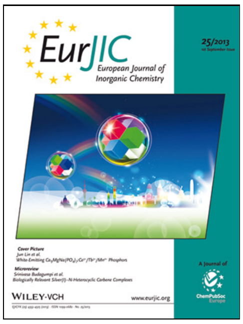
M. Mehlhorn, S. Schnur, A. Groß, K. Morgenstern*

Molecular-Scale Imaging of Water Near Charged Surfaces

So simple? Since the basic idea of ultrahigh-vacuum (UHV) electrochemical modeling emerged, it has been claimed that UHV model experiments are too simple because they do not include the electrode potential. This combined scanning tunneling microscopy and density functional theory study gives insight into the influence of the electric field on single molecules in the diffusive layer. A field reorients adsorbed water molecules on water bilayers on Cu(111) at a distance of about 1 nm from the surface.



ChemElectroChem
DOI: **10.1002/celc.201300063**

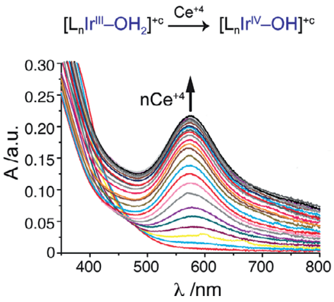


Water Oxidation

A. Savini, A. Bucci, G. Bellachioma, L. Rocchigiani, C. Zuccaccia, A. Llobet, A. Macchioni*

Mechanistic Aspects of Water Oxidation Catalyzed by Organometallic Iridium Complexes

Mechanistic studies for $[Cp^*IrL_n]^{c+}$ water-oxidation catalysts allowed the interception of an intermediate Ir^{IV}–OH species. The latter decays with second-order kinetics in Ir, probably because of disproportion into Ir^{III}–OH and $Ir^{V}{=}O$. The rate-determining step of the cycle seems to be the last oxidative step in which Ir^{IV}(O–O) is transformed into Ir^{V}-(O–O).



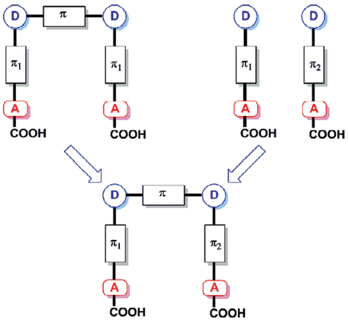
Eur. J. Inorg. Chem.
DOI: **10.1002/ejic.201300530**

Dye-Sensitized Solar Cells

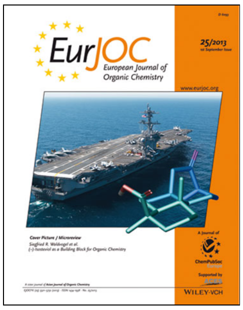
V. Leandri, R. Ruffo, V. Trifiletti, A. Abbotto*

Asymmetric Tribranched Dyes: An Intramolecular Cosensitization Approach for Dye-Sensitized Solar Cells

A multibranched organic dye combining the complementary structural, optical, and electronic properties of the constituting monobranched units is introduced as an intramolecular cosensitization strategy for dye-sensitized solar cells.



Eur. J. Org. Chem.
DOI: **10.1002/ejoc.201300962**

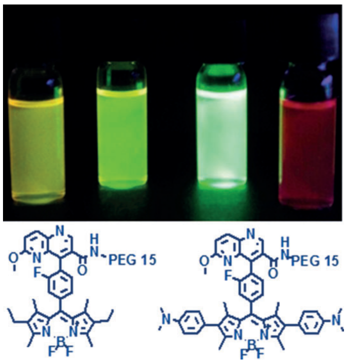


Fluorescent Probes

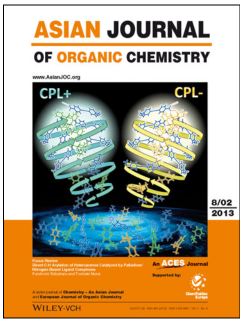
A. Martin, D. Moriarty, C. Long, R. J. Forster, T. E. Keyes*

Naphthyridyl-Substituted 4,4-Difluoro-4-bora-3a,4a-diaza-*s*-indacene (BODIPY) Luminophores: Photophysics and Application as Molecular Imaging Probes in Live Cells

The multistep synthesis, optical properties, and cellular uptake of a family of 4,4-difluoro-4-bora-3a,4a-diaza-*s*-indacene (BODIPY) derivatives that incorporate a naphthyridine substituent at the 8-position of the BODIPY core and either alkyl, bromo, or dimethylamino aryl groups at the 2- and 6-positions are described. All compounds tested exhibited good uptake by live mammalian cells, which was promoted by PEGylation, and low toxicity at 10 μM concentration.



Asian J. Org. Chem.
DOI: **10.1002/ajoc.201300137**



Fermentation

Klaus Roth

The Oktoberfest Rearrangement

The preparation of beer is a science in its own right. Starting from grain, first the starch must be converted into sugar and then fermentation with yeast can occur to finally result in a full stein of beer. K. Roth examines the chemical aspects of the beer-brewing process and shows how this chemistry contributes to the marvelous flavor of beer.

ChemViews magazine
DOI: **10.1002/chemv.201300098**