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 Online Library.

Porphyrinoids

Z. L. Xue, J. Mack, H. Lu, L. Zhang, X. Z. You, D. Kuzuhara, M. Stillman, H. Yamada,* S. Yamauchi, N. Kobayashi,* Z. Shen*

The Synthesis and Properties of Free-Base [14]Triphyrin(2.1.1) Compounds and the Formation of Subporphyrinoid Metal Complexes

A general synthetic approach for the synthesis of free-base [14]triphyrin(2.1.1) compounds and metal [14]tribenzotriphyrin-(2.1.1) complexes (see graphic) is described based on a modified Lindsey method reaction. The mechanism of [14]triphyrins (2.1.1) formation is described in detail and the effects of exocyclic ring annulation with benzo and naphtho rings are examined based on optical spectroscopy, theoretical calculations, and electrochemical measurements.

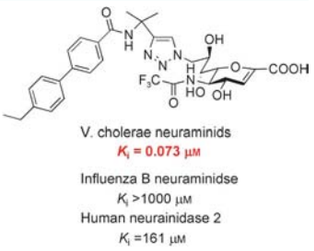
Chem. Eur. J.
DOI: **10.1002/chem.201003100**

Glycosidase Inhibitors

H. Hinou,* R. Miyoshi, Y. Takasu, H. Kai, M. Kurogochi, S. Arioka, X.-D. Gao, N. Miura, N. Fujitani, S. Omoto, T. Yoshinaga, T. Fujiwara, T. Noshi, H. Togame, H. Takemoto, S.-I. Nishimura*

A Strategy for Neuraminidase Inhibitors Using Mechanism-Based Labeling Information

A library without books: A potent inhibitor (K_i = 73 nM, mixed inhibition, see graphic) for *Vibrio cholerae* neuraminidase (VCNA) was developed by using a novel two-step strategy, a target amino acid validation using mechanism-based labeling information, and a potent inhibitor search using a focused library.



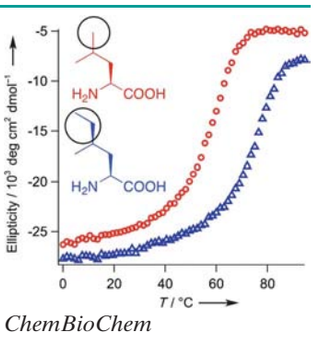
Chem. Asian J.
DOI: **10.1002/asia.201000594**

Peptides

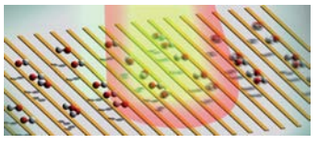
J. A. Van Deventer, J. D. Fisk, D. A. Tirrell*

Homoisoleucine: A Translationally Active Leucine Surrogate of Expanded Hydrophobic Surface Area

Hil of a strong peptide! Homoisoleucine (Hil) serves as an effective surrogate for leucine with respect to protein translation in bacterial cells. Replacement of Leu by Hil stabilizes coiled-coil peptides, as shown by the elevation of the thermal denaturation temperature. The increase in denaturation temperature is larger than that observed previously for replacement of Leu by trifluoroleucine.



ChemBioChem
DOI: **10.1002/cbic.201000731**



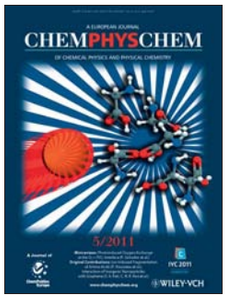
ChemPhysChem
DOI: **10.1002/cphc.201001007**

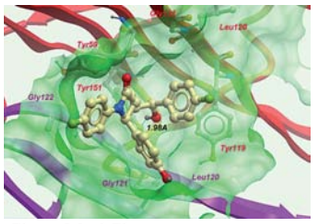
Molecules on a Chip

G. Santambrogio,* S. A. Meek, M. J. Abel, L. M. Duffy, G. Meijer

Driving Rotational Transitions in Molecules on a Chip

Playing tricks with molecules on a chip: Polar molecules in selected quantum states can be guided, decelerated, and trapped using electric fields created by microstructured electrodes on a chip. Herein we explore how transitions between two of these quantum states can be induced while the molecules are on the chip (see picture).





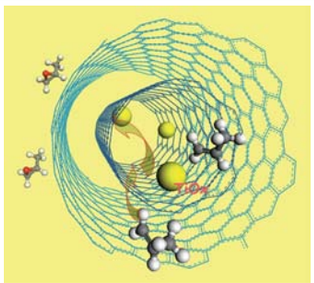
ChemMedChem
DOI: **10.1002/cmdc.201100016**

Drug Discovery

C.-H. Leung,* S.-H. Chan, M. H.-T. Kwan, Z. Cheng, C.-Y. Wong, G.-Y. Zhu, W.-F. Fong, D.-L. Ma*

Structure-Based Repurposing of FDA-Approved Drugs as TNF-α Inhibitors

Old dogs, new tricks! We applied structure-based virtual screening methods to identify small-molecule inhibitors of tumor necrosis factor-α (TNF-α) from a database of 3000 US Food and Drug Administration (FDA)-approved drugs. Darifenacin (Enablex) and ezetimibe (Zetia) were identified as direct TNF-α inhibition, representing only the fifth and sixth examples of small-molecule TNF-α inhibitors.



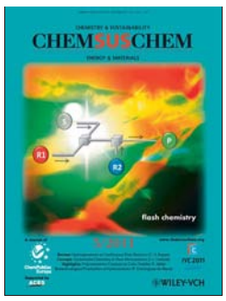
ChemSusChem
DOI: **10.1002/cssc.201000324**

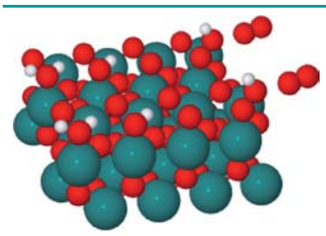
Catalytic Materials

H. Zhang, X. Pan,* J. Liu, W. Qian, F. Wei, Y. Huang, X. Bao*

Enhanced Catalytic Activity of Sub-nanometer Titania Clusters Confined inside Double-Wall Carbon Nanotubes

Confinement inside double-walled carbon nanotubes does not only provide a novel approach to highly dispersed sub-nanometer titanium oxide clusters but also induces electron transfer from titanium to carbon via interactions. The confined titanium oxide exhibits a catalytic activity in propylene epoxidation eight times higher than the oxide on the outside of the nanotubes.





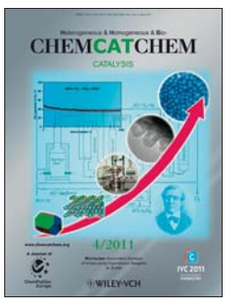
ChemCatChem
DOI: **10.1002/cctc.201000397**

Electrocatalysis

I. C. Man, H.-Y. Su, F. Calle-Vallejo, H. A. Hansen, J. I. Martínez, N. G. Inoglu, J. Kitchin, T. F. Jaramillo, J. K. Nørskov, J. Rossmeisl*

Universality in Oxygen Evolution Electrocatalysis on Oxide Surfaces

HOOt-n-HOller: Based on the scaling relations between HO* and HOO* species and on the constant difference of 3.2 eV between the two levels, theoretical overpotential trends towards oxygen evolution reaction (OER) are reported for a wide range of oxides including rutile, perovskites, spinel rock salt, and bixbyte. The theoretical and experimental trends agree. Comparing 3.2 eV with the ideal value of 2.46 eV indicates that limitations exist for OER on oxide-based electrocatalysts.

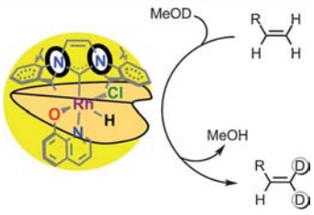


H/D Exchange

A. Di Giuseppe, R. Castarlenas,* J. J. Pérez-Torrente, F. J. Lahoz, V. Polo, L. A. Oro*

Mild and Selective H/D Exchange at the β Position of Aromatic α-Olefins by N-Heterocyclic Carbene–Hydride–Rhodium Catalysts

Pacman bites selectively! Stable rhodium(III)-N-heterocyclic carbene–hydride complexes (Pacman-like catalysts) are highly active and selective catalysts for H/D exchange at the β position of aromatic α-olefins (see picture). The interplay between bulky N-heterocyclic carbene and quinolinate ligands determines the size of the steric window responsible for this selectivity.



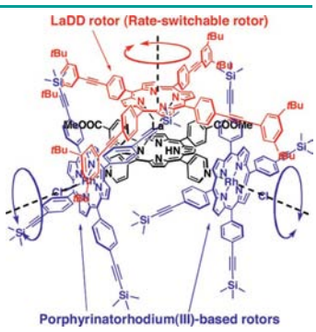
Angew. Chem. Int. Ed.
DOI: **10.1002/anie.201007238**

Molecular Gears

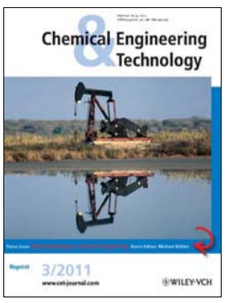
S. Ogi, T. Ikeda, R. Wakabayashi, S. Shinkai, M. Takeuchi*

Mechanically Interlocked Porphyrin Gears Propagating Two Different Rotational Frequencies

A porphyrin-based supramolecular rotor, which is composed of a rate-switchable rotor and two fast-rotating rotors, is reported. Through mechanical interaction of the teeth of the rotors, they were able to rotate with almost identical coalescence temperatures. The meshing conformation was maintained before and after changing the rotational activity of one rotor by using chemical stimulation.



Eur. J. Org. Chem.
DOI: **10.1002/ejoc.201001656**

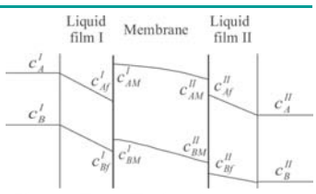


Continuous Separation

H. Bendová, Z. Palatý*

Continuous Separation of an H_2SO_4/$CuSO_4$ Mixture by Diffusion Dialysis

Experimental results of the separation of an H_2SO_4/$CuSO_4$ mixture in a two-compartment countercurrent dialyzer using an anion-exchange membrane are presented. The dialysis process is characterized by the recovery yield of acid, the rejection coefficient of salt, and the permeability coefficient of the membrane.



Chem. Eng. Technol.
DOI: **10.1002/ceat.201000381**

