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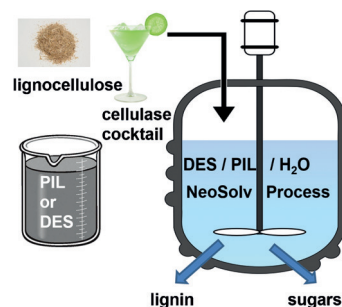


### Ionic Liquids

R. A. Sheldon\*

Biocatalysis and Biomass Conversion in Alternative Reaction Media

**Medium well done:** Second-generation protic ionic liquids (PILs) and deep eutectic solvents (DESSs) have emerged in the last decade as environmentally attractive reaction media for biocatalytic processes. These solvents are of particular interest as reaction media for biocatalytic conversions of substrates that have limited solubility in common organic solvents, such as carbohydrates, nucleosides, steroids, and polysaccharides.



Chem. Eur. J.  
DOI: 10.1002/chem.201601940

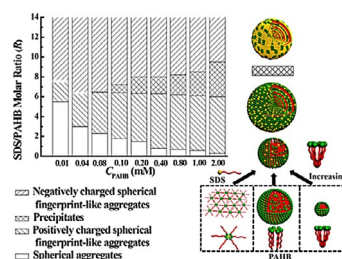


### Surfactants

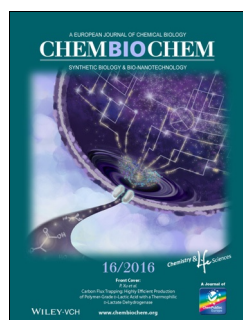
F. Qiao, M. Wang, Z. Liu, Y. Fan,\* Y. Wang\*

Transitions in the Molecular Configuration and Aggregates for Mixtures of a Star-Shaped Hexameric Cationic Surfactant and a Monomeric Anionic Surfactant

**She's a star:** Adding monomeric anionic surfactant SDS to an aqueous solution of hexameric cationic surfactant PAHB induced a change in the molecular configuration of PAHB from stretched star-shaped or claw-like configurations to a pyramid-like configuration, which led to transition of the aggregates from small spheres into spherical fingerprint-like shapes, regardless of the initial state of the PAHB molecules.



Chem. Asian J.  
DOI: 10.1002/asia.201600432

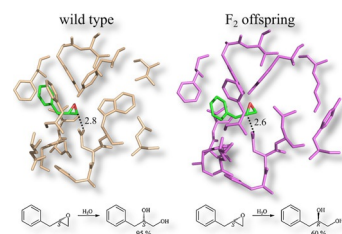


### Protein Engineering

Å. Janfalk Carlsson, P. Bauer, D. Dobritzsch,\* M. Nilsson, S. C. L. Kamerlin,\* M. Widersten\*

Laboratory-Evolved Enzymes Provide Snapshots of the Development of Enantioconvergence in Enzyme-Catalyzed Epoxide Hydrolysis

**Choose your pathway:** It is possible to engineer enantioconvergence into the biocatalytically important epoxide hydrolase from potatoes. Through X-ray crystallography and molecular docking calculations, we provide unprecedented atomic-level snapshots into how this enantioconvergence evolves.



ChemBioChem  
DOI: 10.1002/cbic.201600330



ChemPhysChem

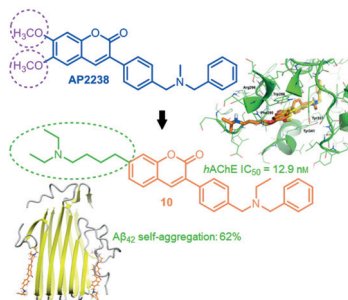
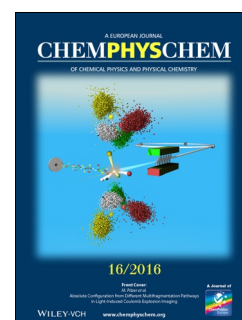
DOI: 10.1002/cphc.201600268

## Computational Chemistry

A. Mariani,\* P. Ballirano, F. Angiolari, R. Caminiti, L. Gontrani

Does High Pressure Induce Structural Reorganization in Linear Alcohols? A Computational Answer

**Under pressure!** High pressures have a direct effect on the structure of n-alcohols. Our molecular dynamics models show that above 5 kbar the characteristic micro-heterogeneity of these compounds is replaced by a far more chaotic organization, induced by alkyl-tail folding.



ChemMedChem

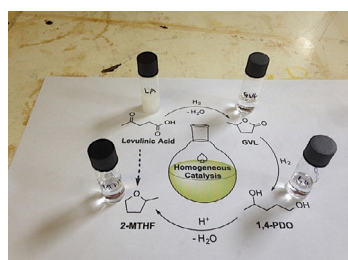
DOI: 10.1002/cmdc.201500392

## Polypharmacology: Alzheimer's Disease

S. Montanari, M. Bartolini, P. Neviani, F. Belluti, S. Gobbi, L. Pruccoli, A. Tarozzi, F. Falchi, V. Andrisano, P. Miszt, A. Cavalli, S. Filipek, A. Bisi, A. Rampa\*

Multitarget Strategy to Address Alzheimer's Disease: Design, Synthesis, Biological Evaluation, and Computational Studies of Coumarin-Based Derivatives

**Forget me not:** Coumarin derivatives related to AP2238 are reported as disease-modifying multitarget-directed ligands for the treatment of Alzheimer's disease. Coumarin-based derivatives were designed and synthesized with the aim to expand the biological profile of AP2238. One compound emerged as a nanomolar inhibitor of human acetylcholinesterase with significant potency at blocking Aβ<sub>42</sub> self-aggregation, and endowed with additional promising neuroprotective behavior.



ChemSusChem

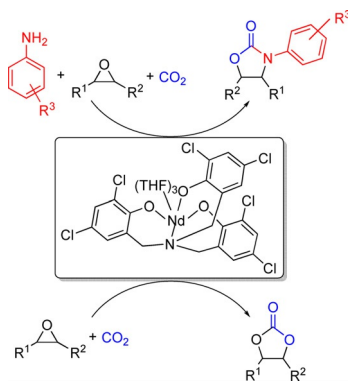
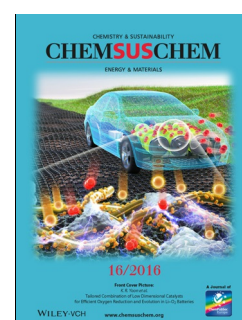
DOI: 10.1002/cssc.201600517

## Biomass Conversion

U. Omoruyi, S. Page, J. Hallett, P. W. Miller\*

Homogeneous Catalyzed Reactions of Levulinic Acid: To γ-Valerolactone and Beyond

**Homogeneous biomass conversion:** Levulinic acid (LA) is an important biomass platform chemical that can be converted to higher value compounds. This Minireview highlights recent advances in the area of homogeneous catalysis for the conversion of levulinic acid and levulinic ester derivatives to γ-valerolactone (GVL), 1,4-pentanediol (1,4-PDO) and 2-methyltetrahydrofuran (2-MTHF).



ChemCatChem

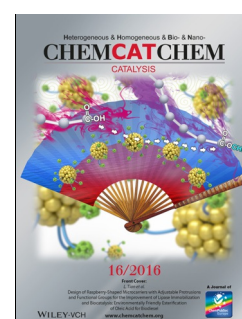
DOI: 10.1002/cctc.201600534

## Rare-Earth Metals

B. Xu, P. Wang, M. Lv, D. Yuan,\* Y. Yao\*

Transformation of Carbon Dioxide into Oxazolidinones and Cyclic Carbonates Catalyzed by Rare-Earth-Metal Phenolates

**A rare find:** Rare-earth-metal complexes stabilized by amine-bridged tri(phenolato) ligands are active in catalyzing transformations of CO<sub>2</sub>. A series of terminal and disubstituted epoxides are converted into cyclic carbonates in yields of 58 to 96%. In addition, these rare-earth-metal complexes show good activities in catalyzing the three-component reaction of anilines, epoxides, and CO<sub>2</sub>, which provides a useful strategy to prepare oxazolidinones.



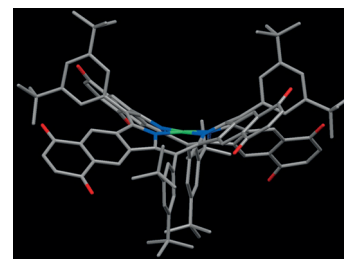
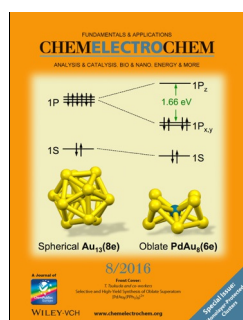


## Porphyrins

S. Banala, K. Wurst, B. Kräutler\*

Panchromatic  $\pi$ -Extended Porphyrins from Conjugation with Quinones

**The new black:** The synthesis and structural and spectroscopic studies of metal-free and Ni<sup>II</sup>-containing quinonoporphyrins expand the set of “black” porphyrins. Such  $\pi$ -extended porphyrins are pigments of interest for solar energy conversion, and are building blocks for synthesis of covalent supra-porphyrinoid assemblies that might contribute to advances in optoelectronics and in the nanosciences.

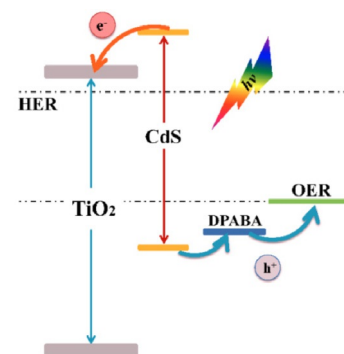
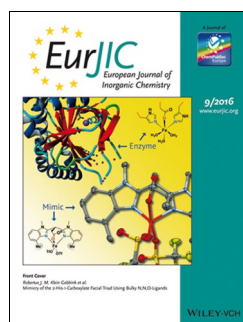
ChemPlusChem  
DOI: 10.1002/cplu.201600115

## Overall Water Splitting

C. Shen, C. S. Chua, Y.-F. Lim, J. Liu, X. Wang, B. Liu, Q. Wang\*

A Molecular Relay-Modified CdS-Sensitized Photoelectrochemical Cell for Overall Water Splitting

**Graft and evolve:** A novel approach to achieving overall water splitting in semiconductor-sensitized photoelectrochemical cells with a nonsacrificial electrolyte by grafting the CdS surface with a molecular relay, 4-(*N,N*-diphenylamino)benzoic acid (DPABA), is reported.

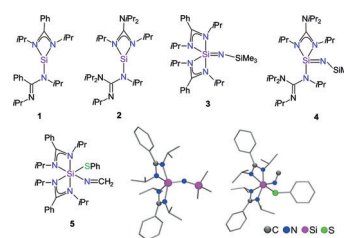
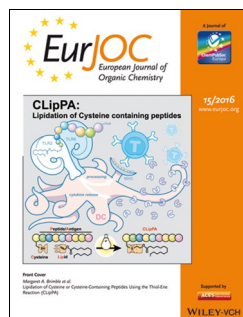
ChemElectroChem  
DOI: 10.1002/celec.201600273

## Silicon

F. M. Mück, B. Förster, J. A. Baus, M. Nutz, C. Burschka, R. Bertermann, R. Tacke\*

Four-, Five-, and Six-Coordinate Silicon(IV) Complexes: Reactivity of the Donor-Stabilized Silylenes [iPrNC(Ph)NiPr]<sub>2</sub>Si and [iPrNC(NiPr<sub>2</sub>)NiPr]<sub>2</sub>Si Towards Me<sub>3</sub>SiN<sub>3</sub> and PhSCH<sub>2</sub>N<sub>3</sub>

The donor-stabilized silylenes **1** and **2** react with Me<sub>3</sub>SiN<sub>3</sub> to afford **3** and **4**, respectively. Treatment of **1** with PhSCH<sub>2</sub>N<sub>3</sub> affords **5** (a 1:1 mixture of diastereomers **5a** and **5b**).

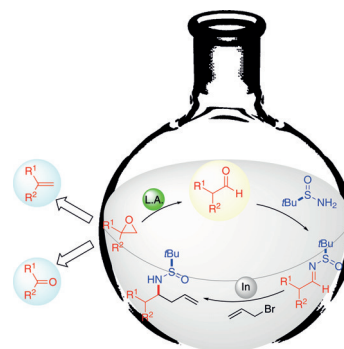
Eur. J. Inorg. Chem.  
DOI: 10.1002/ejic.201600402

## One-Pot Reactions

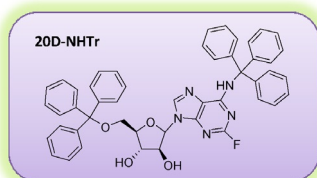
A. Lahosa, F. Foubelo,\* M. Yus\*

One-Pot Synthesis of *N*-*tert*-Butylsulfinylimines and Homoallylamine Derivatives from Epoxides

Epoxides are transformed into *N*-*tert*-butylsulfinylimines in a one-pot procedure involving a Lewis-acid-promoted isomerization to give a carbonyl compound, followed by condensation with *tert*-butanesulfonamide. Homoallylamine derivatives are also accessible in one pot when the formation of the imine is carried out in the presence of indium metal, followed by addition of an allylic bromide.

Eur. J. Org. Chem.  
DOI: 10.1002/ejoc.201600612





YFV inhibition [% Cells alive]			DENV D2 inhibition [% Cells alive]		
5 $\mu$ M	10 $\mu$ M	20 $\mu$ M	5 $\mu$ M	10 $\mu$ M	20 $\mu$ M
0	0.28	0.84	71.98	100	100

ChemistryOpen

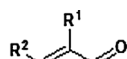
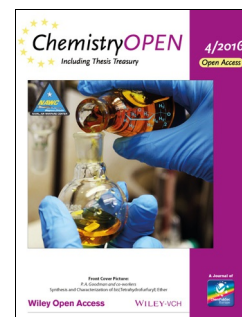
DOI: 10.1002/open.201500216

## Antiviral Compounds

C. McGuigan,\* M. Serpi, M. Slusarczyk, V. Ferrari, F. Pertusati, S. Meneghesso, M. Derudas, L. Farleigh, P. Zanetta, J. Bugert

Anti-flavivirus Activity of Different Tritylated Pyrimidine and Purine Nucleoside Analogues

**Trityl you succeed!** Trityl-containing compounds have been recently shown to possess a certain biological activity. A series of tritylated and dimethoxytritylated analogues of selected pyrimidine and purine nucleosides were prepared. Interestingly, in the series of purine analogues, the 5'-O, N-bis-tritylated fludarabine derivative revealed moderate and strong inhibitory activity respectively against the yellow fever (YFV) and dengue viruses (DENV), two important members of the genus *Flavivirus* in the *Flaviviridae* family.



R<sup>1</sup> = H, Alk, RO-Ar, Br, ArCO-, ROCNH-;  
R<sup>2</sup> = H, Alk, Ar, Hetaryl, BnOCH<sub>2</sub>-, EtO<sub>2</sub>C-,  
Cl, Me<sub>2</sub>N-, N<sub>3</sub>, MeS-

Asian J. Org. Chem.

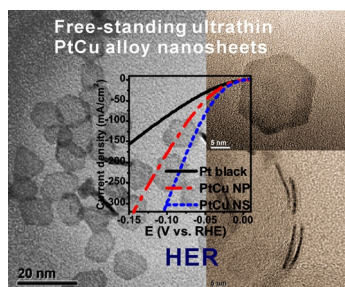
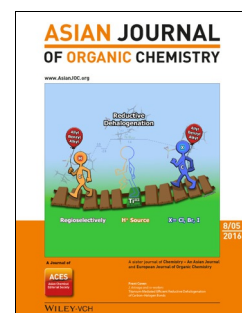
DOI: 10.1002/ajoc.201600227

## Organocatalysis

N. A. Keiko,\* N. V. Vchislo

Synthesis of Diheteroatomic Five-Membered Heterocyclic Compounds from  $\alpha,\beta$ -Unsaturated Aldehydes

**Channel 5:** This Focus Review summarizes recent methods for the synthesis of five-membered N,N-, N,O-, and N,S-heterocycles based on the transformations of 2-alkenals. A multitude of catalytic and technological novelties, such as asymmetric metal- and organocatalysis, one-pot multicomponent reactions that proceed through domino, cascade, or tandem sequences, and microwave activation, have been used to afford a diverse range of products.



ChemNanoMat

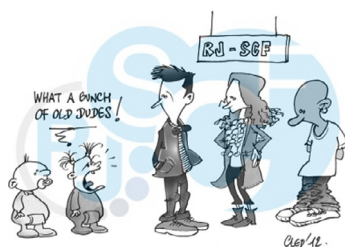
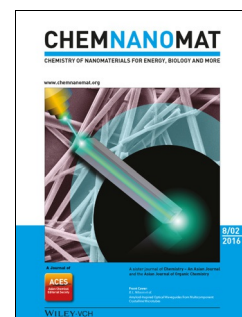
DOI: 10.1002/cnma.201600096

## Nanosheets

L. Dai, Y. Zhao, Q. Qin, X. Zhao, C. Xu, N. Zheng\*

Carbon-Monoxide-Assisted Synthesis of Ultrathin PtCu Alloy Nanosheets and Their Enhanced Catalysis

**Ultrathin PtCu alloy nanosheets** were successfully synthesized in presence of CO, which was confirmed to be the critical factor for the formation ultrathin nanosheets. Together with their ultrathin nature, the abundant active sites and synergetic effect of the two metallic components make the as-prepared PtCu alloy nanosheets exhibit enhanced catalytic performance and electrocatalytic activities in the hydrogen evolution reaction.



ChemViews magazine

DOI: 10.1002/chemv.201600051

## Chemical Societies

Camille Oger, Gregory Chatel

French Young Chemists' Network: Two Years Already!

The *Réseau des Jeunes Chimistes de la SCF* (RJ-SCF, French Young Chemists' Network) was founded in 2014. It aims to connect young researchers in France, communicate chemistry, and foster collaborations. The network gives an overview of its work in the first two years and its goals for the future.

