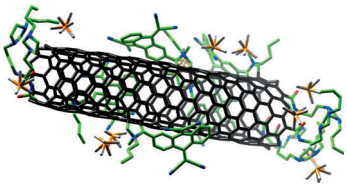
On these pages, we feature a selection of the excellent work that has recently been published in our sister journals. If you are reading these pages on a computer, click on any of the items to read the full article. Otherwise please see the DOIs for easy online access through Wiley Online Library.

Organic Electronics

L. Rodríguez-Pérez, R. García, M. Á. Herranz,* N. Martín*

Modified SWCNTs with Amphoteric Redox and Solubilizing Properties

Dual functions: The incorporation of two different functional groups, a tetracyanoanthra-*para*-quinodimethane (TCAQ) unit and an imidazolium-based ionic liquid, on single-wall carbon nanotubes (SWCNTs; see the picture) creates a potential electroactive material with tunable hydrophilic/hydrophobic polarity by simple ion exchange. The functional group position was interchanged and further studied to evaluate its influence.



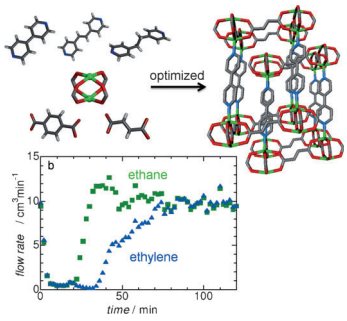
Chem. Eur. J.
DOI: **10.1002/chem.201400183**

Coordination Polymers

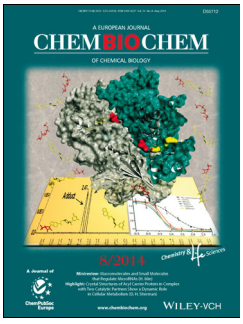
K. Kishida, S. Horike, Y. Watanabe, M. Tahara, Y. Inubushi, S. Kitagawa*

Structural Optimization of Interpenetrated Pillared-Layer Coordination Polymers for Ethylene/Ethane Separation

Separation is never easy: With the goal of achieving effective ethylene/ethane separation, we evaluated the gas sorption properties of four flexible pillared-layer-type porous coordination polymers (PCPs) with double interpenetration. Among these compounds, a PCP containing the narrowest pores exhibits ethylene-selective sorption property at ambient temperature and pressure, as examined by breakthrough experiments with ethylene/ethane gas mixtures.



Chem. Asian J.
DOI: **10.1002/asia.201400122**

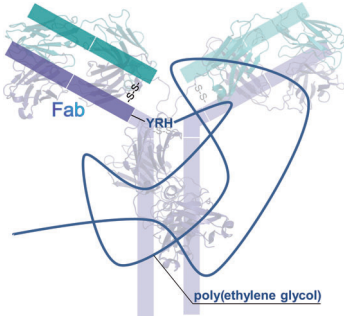


Antibody Conjugation

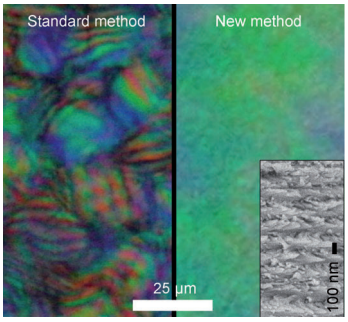
S. Liebscher, P. Kornberger, G. Fink, E.-M. Trost-Gross, E. Höss, A. Skerra, F. Bordusa*

Derivatization of Antibody Fab Fragments: A Designer Enzyme for Native Protein Modification

Trypsin in reverse: Trypsiligase (trypsin K60E/N143H/E151H/D189K) was used for highly selective PEGylation of the anti-Her2 Fab fragment under native conditions. The approach resulted in a fully functional antibody fragment with good product yield.



ChemBioChem
DOI: **10.1002/cbic.201400059**



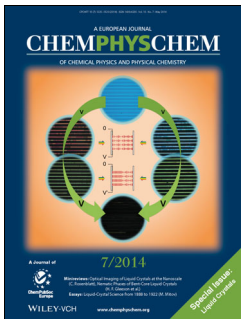
Nanocrystals

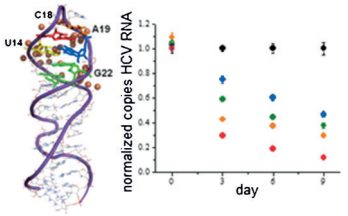
J. H. Park, J. Noh, C. Schütz, G. Salazar-Alvarez, G. Scalia, L. Bergström, J. P. F. Lagerwall*

Macroscopic Control of Helix Orientation in Films Dried from Cholesteric Liquid-Crystalline Cellulose Nanocrystal Suspensions

Film star: A new method for drying cholesteric liquid-crystalline cellulose nanocrystal suspensions into solid films avoids phase coexistence and, with an applied circular shear flow, yields unprecedented structural control. The commonly observed mosaic-like structure, with randomly varying orientation of the cholesteric helix axis, is replaced by a macroscopically uniform film with improved optical properties (see figure).

ChemPhysChem
DOI: **10.1002/cphc.201400062**





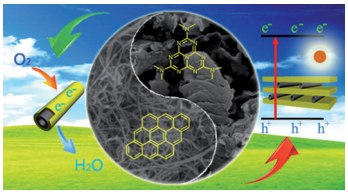
Metals in Medicine

S. S. Bradford, M. J. Ross, I. Fidai, J. A. Cowan*

Insight into the Recognition, Binding, and Reactivity of Catalytic Metallodrugs Targeting Stem Loop IIb of Hepatitis C IRES RNA

Metal with mettle: Catalytic metallodrugs are a new compound class with potential for high therapeutic activity and low toxicity. The Cu-GGHYrFK-amide complex was reported earlier to catalytically inactivate stem loop IIb of the HCV internal ribosomal entry site RNA, and to show significant antiviral activity in a cellular HCV replicon assay. Herein we describe our studies focused on understanding the cleavage mechanism and the relationship of catalyst configuration to structural recognition and site-selective cleavage of the structured RNA motif.

ChemMedChem
DOI: **10.1002/cmdc.201400070**



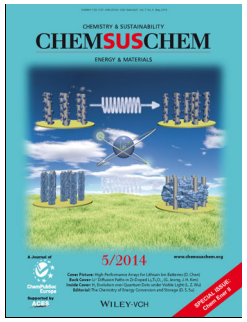
Carbon Catalysis

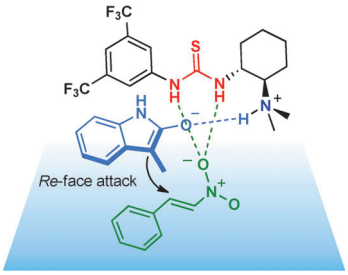
Y. Gong, J. Wang, Z. Wei, P. Zhang, H. Li, Y. Wang*

Combination of Carbon Nitride and Carbon Nanotubes: Synergistic Catalysts for Energy Conversion

The start of a beautiful friendship: A series of graphitic carbon nitride/carbon nanotubes (g-C_3N_4/CNTs) composites are fabricated. They demonstrated different practical applications with different weight ratios of the components, that is, they showed synergistic effects in optoelectronic conversion when g-C_3N_4 was the main ingredient and in oxygen reduction reaction (ORR) when CNTs dominated the composites. The individual components show synergistic effects in both aspects.

ChemSusChem
DOI: **10.1002/cssc.201402078**





Michael Addition

C. Reiter, S. López-Molina, B. Schmid, C. Neiss, A. Görling,* S. B. Tsogoeva*

Michael Addition of N-Unprotected 2-Oxindoles to Nitrostyrene Catalyzed by Bifunctional Tertiary Amines: Crucial Role of Dispersion Interactions

The importance of being dispersed: Bifunctional thiourea- or sulfonamide-derived tertiary amines such as Takemoto's catalyst catalyze the enantioselective nitro-Michael addition of N-unprotected 3-substituted 2-oxindoles to nitrostyrene in high yields and enantiomeric and diastereomeric ratios. DFT calculations including van der Waals corrections are performed for the stereoisomers.

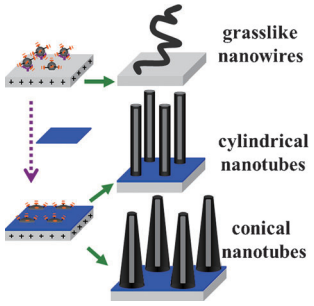
ChemCatChem
DOI: **10.1002/cctc.201301052**

Conducting Materials

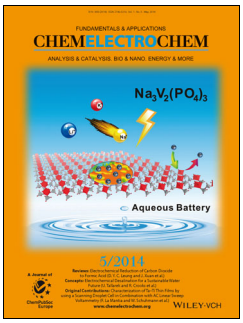
J. Liao, C. Ning,* G. Tan, G. Ni, H. Pan*

Conducting Polypyrrole Nanotube Arrays as an Implant Surface: Fabricated on Biomedical Titanium with Fine-Tunability by Means of Template-Free Electrochemical Polymerization

Grass roots: Template-free electrochemical polymerization in phosphate buffer solution has been used to obtain grasslike polypyrrole (PPy) nanowires of low density on titanium (see figure). By introducing a prenucleation film on the titanium, conducting PPy nanotube arrays (CPNAs) of large area were fabricated. The architectures of the CPNAs can be finely tuned between cones and cylinders by changing the electrochemical parameters.



ChemPlusChem
DOI: **10.1002/cplu.201300385**

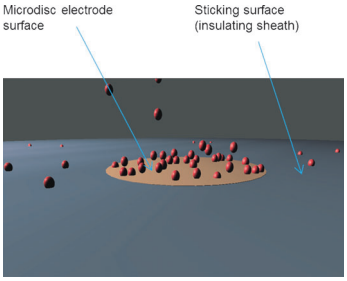


Surface Science

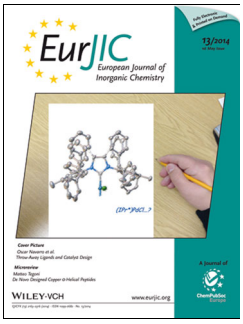
S. Eloul, R. G. Compton*

Shielding of a Microdisc Electrode Surrounded by an Adsorbing Surface

Sheath shielding: It is shown that if significant adsorption occurs on the sheath used to insulate a microdisc electrode, then it can have a high impact on the measured current–time data because of a considerable shielding effect. Chronoamperograms are simulated as a function of the sheath-to-disc electrode radius ratio and the rate constant for adsorption onto the sheath.



ChemElectroChem
DOI: **10.1002/celc.201400005**

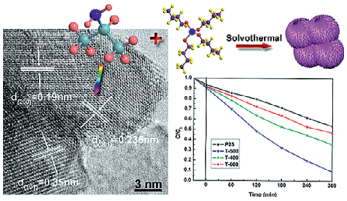


Photocatalysis

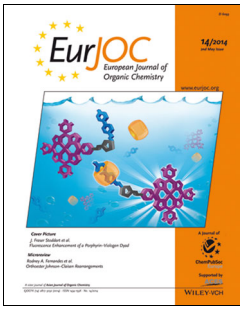
Z. Li, Z. Ren,* Y. Qu, S. Du, J. Wu, L. Kong, G. Tian, W. Zhou, H. Fu*

Hierarchical N-Doped TiO_2 Microspheres with Exposed (001) Facets for Enhanced Visible Light Catalysis

Hierarchical N-doped TiO_2 microspheres with exposed (001) facets were successfully synthesized in a fluorine-free solvothermal reaction. Isopropylamine was used as the nitrogen source and as the capping and shape-controlling agent to generate the (001) facets. The hierarchical TiO_2 microspheres exhibit good photocatalytic activity and high stability under visible-light irradiation.



Eur. J. Inorg. Chem.
DOI: **10.1002/ejic.201301561**

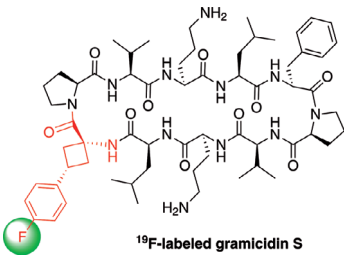


Fluorinated Amino Acids

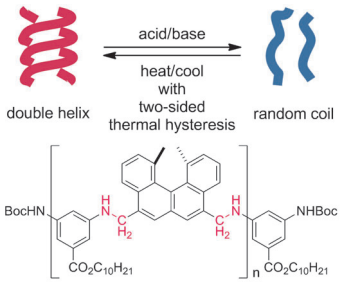
A. N. Tkachenko, P. K. Mykhailiuk,* D. S. Radchenko, O. Babii, S. Afonin,* A. S. Ulrich,* I. V. Komarov

Design and Synthesis of a Monofluoro-Substituted Aromatic Amino Acid as a Conformationally Restricted ^{19}F NMR Label for Membrane-Bound Peptides

A monofluoro-substituted cyclobutane-derived amino acid was designed and synthesized as a ^{19}F label for studying membrane-bound peptides by solid-state ^{19}F NMR spectroscopy. This amino acid can be safely used to replace aromatic proteinogenic amino acids (Phe, Tyr) within α-helices and β-turns. This was demonstrated experimentally in the cyclic gramicidin S, as well as by molecular modeling.



Eur. J. Org. Chem.
DOI: **10.1002/ejoc.201301737**



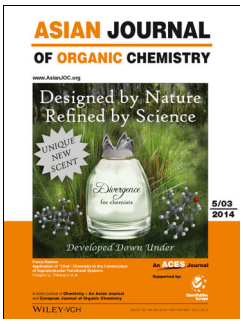
Asian J. Org. Chem.
DOI: **10.1002/ajoc.201402065**

Stimuli-Responsive Compounds

M. Shigeno, M. Sato, Y. Kushida, M. Yamaguchi*

Aminomethylenehelicene Oligomers Possessing Flexible Two-Atom Linker Form a Stimuli-Responsive Double-Helix in Solution

Getting your oligomers in a twist: Aminomethylenehelicene oligomers up to the heptamer were synthesized by reductive amination reactions, and the oligomers containing more than three helicenes formed double helices. The oligomers unfold and fold in response to heating and cooling, accompanied by a two-sided thermal hysteresis. Structural changes within the oligomers are also reversible by treatment with acid or base.



ChemViews magazine
DOI: **10.1002/chemv.201400026**

Mass Spectrometry

Gianluca Giorgi and Vera Koester

Analytical Trends of the Food Industry

Dr. Michele Suman, Barilla, and Dr. Franco Biasioli, Fondazione Edmund Mach, Italy, told *ChemViewsMagazine* that mass spectrometry plays a key role in food analysis, as it allows the rapid and non-invasive characterization of food samples. They also discussed future trends, such as the design of better methods of data analysis to keep up with the advanced analytical methods.