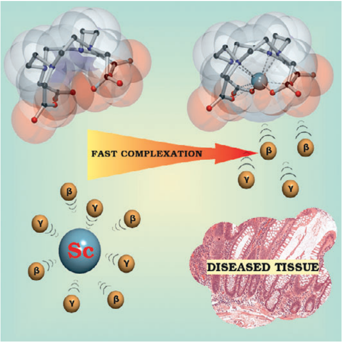
On these pages, we feature a selection of the excellent work that has recently been published in our sister journals. If you are reading these pages on a computer, click on any of the items to read the full article. Otherwise please see the DOIs for easy online access through Wiley Online Library.

Radiopharmaceuticals

M. Pniok, V. Kubíček, J. Havlíčková, J. Kotek, A. Sabatie-Gogová, J. Plutnar, S. Huclier-Markai, P. Hermann*

Thermodynamic and Kinetic Study of Scandium(III) Complexes of DTPA and DOTA: A Step Toward Scandium Radiopharmaceuticals

New Sc^{3+} carrier delivers: Complexes of trivalent scandium with 1,4,7,10-tetraazacyclododecane-1,4,7,10-tetraacetic acid (DOTA) and diethylenetriamine-*N,N,N′,N″,N″*-pentaacetic acid (DTPA) were investigated in solution and in the solid state. Potentiometry and multinuclear NMR spectrometry revealed relatively fast complexation of Sc^{3+} with DOTA, as well as very high stability constants and high kinetic inertness for the complex. The data confirmed that DOTA-like ligands are very suitable for the development of scandium-based radiopharmaceuticals (see figure).



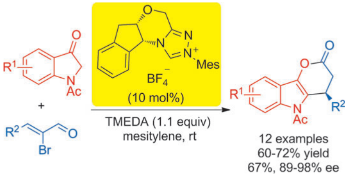
Chem. Eur. J.
DOI: **10.1002/chem.201402041**

Asymmetric Synthesis

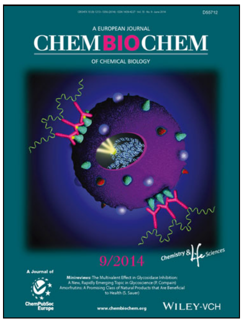
Q. Ni, X. Song, G. Raabe, D. Enders*

N-Heterocyclic Carbene-Catalyzed Enantioselective Annulation of Indolin-3-ones with Bromoenals

More NHC-organocatalysis: *N*-Heterocyclic carbene-catalyzed reactions of indolin-3-ones with 2-bromoenals opened an asymmetric access to 3,4-dihydropyrano[3,2-*b*]indol-2(5*H*)-ones in good yields and with good to excellent enantioselectivities. This protocol tolerates a broad substrate scope. In addition, a possible mechanism for the annulation reaction is presented.



Chem. Asian J.
DOI: **10.1002/asia.201402052**

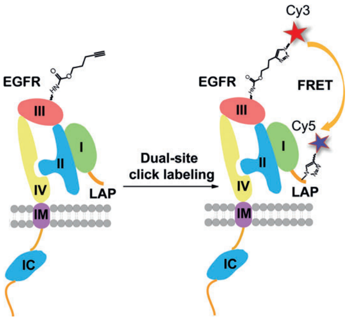


Bioimaging

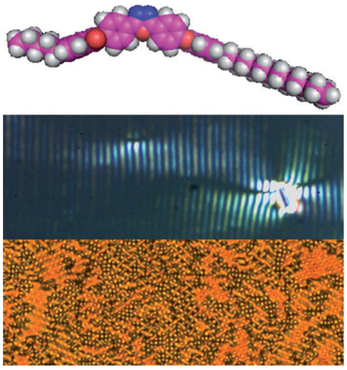
Y. Yang, S. Lin, W. Lin, P. R. Chen*

Ligand-Assisted Dual-Site Click Labeling of EGFR on Living Cells

Dual-site click labeling: A ligand-assisted CuAAC reaction, pyrrolysine-based genetic code expansion strategy, and the PRIME labeling technique were integrated for dual-site click labeling of EGFR at the surface of mammalian cells. This strategy enabled simultaneous installation of a FRET donor–acceptor pair onto the extracellular domains of EGFR, thereby allowing *cis*-membrane FRET imaging of receptor dynamics.



ChemBioChem
DOI: **10.1002/cbic.201400057**



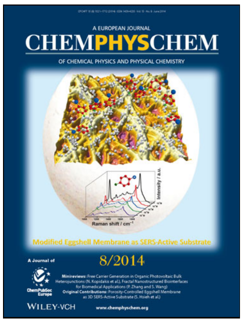
Liquid Crystals

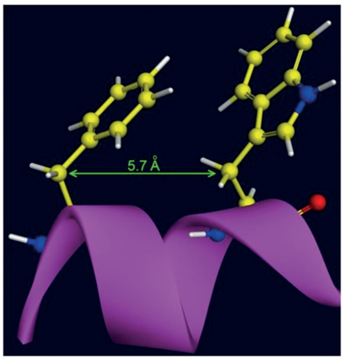
H. F. Gleeson,* S. Kaur, V. Görtz, A. Belaissaoui, S. Cowling, J. W. Goodby

The Nematic Phases of Bent-Core Liquid Crystals

Bent on stability: The nematic liquid-crystal phases formed by bent-core molecules have remarkable properties. This Minireview reports recent progress in stabilizing the nematic phase at accessible temperatures, concentrating on oxadiazole-based materials. It also describes recent measurements of their physical properties, including optical, dielectric, elastic, and flexoelectric coefficients, and electric field effects (see graphic).

ChemPhysChem
DOI: **10.1002/cphc.201400014**





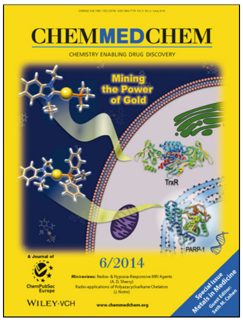
Metals in Medicine

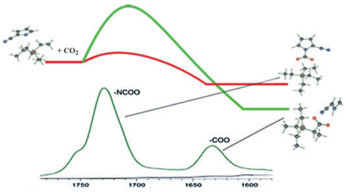
E. S. F. Ma, A. G. Daniel, N. P. Farrell*

Dinuclear Platinum Complexes Containing Planar Aromatic Ligands to Enhance Stacking Interactions with Proteins

The life of π: Pt-based quinoline and benzothiazole complexes were synthesized with an aim to design drugs with higher affinity for π–π stacking and electrostatic interactions with targeted biomolecules. Fluorescence spectroscopy and molecular modeling led to candidate complexes with significant cytotoxicity toward various tumor cell lines.

ChemMedChem
DOI: **10.1002/cmdc.201402052**





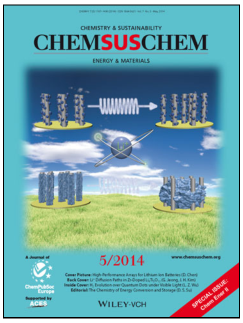
Carbon Dioxide Chemistry

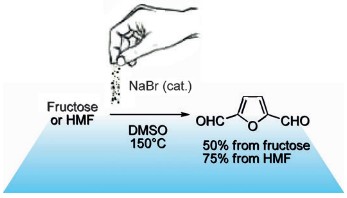
T. R. Gohndrone, T. Bum Lee, M. A. DeSilva, M. Quiroz-Guzman, W. F. Schneider,* J. F. Brennecke*

Competing Reactions of CO_2 with Cations and Anions in Azolide Ionic Liquids

Two different paths: Phosphonium azolide ionic liquids of interest for CO_2 capture applications react with CO_2 both through the normal anion channel and, at elevated temperatures, through a previously unrecognized cation channel. The cation channel involves a phosphonium ylide intermediate that is formed due to cation/anion interactions. This channel is suppressed with less-acidic ammonium cations.

ChemSusChem
DOI: **10.1002/cssc.201400009**





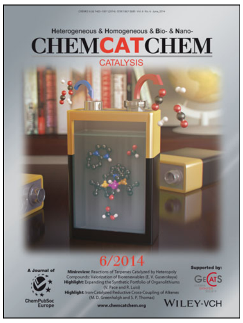
HMF Valorization

C. Laugel, B. Estrine,* J. Le Bras,* N. Hoffmann, S. Marinkovic, J. Muzart

NaBr/DMSO-Induced Synthesis of 2,5-Diformylfuran from Fructose or 5-(Hydroxymethyl)furfural

With a pinch of salt: The association of NaBr as a catalyst and DMSO as a solvent allows the synthesis of 2,5-diformylfuran from 5-(hydroxymethyl)furfural (HMF) or fructose in 75 or 50% yield, respectively. This transformation occurs through the formation of 5-(bromomethyl)furan-2-carbaldehyde followed by a Kornblum-type reaction.

ChemCatChem
DOI: **10.1002/cctc.201400023**

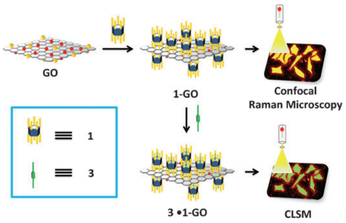


Host–Guest Systems

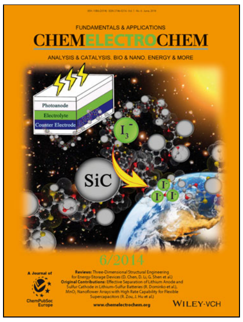
H. Zhang, X. Ma, K. T. Nguyen, Y. Zeng, S. Tai, Y. Zhao*

Water-Soluble Pillararene-Functionalized Graphene Oxide for In Vitro Raman and Fluorescence Dual-Mode Imaging

Paving the way: The successful preparation of biocompatible hybrids by integrating graphene oxide with amphiphilic pillararenes for in vitro Raman and fluorescence dual-mode bioimaging has been carried out (see scheme), thereby paving the way for utilizing these materials in combined cancer diagnostics.



ChemPlusChem
DOI: **10.1002/cplu.201300408**

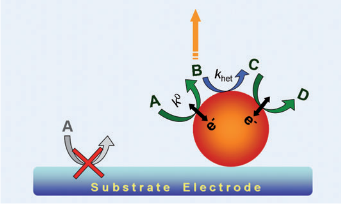


Electrocatalysis

E. Laborda, C. C. M. Neumann, Y. Wang, K. R. Ward, Á. Molina, R. G. Compton*

Heterogeneous Catalysis of Multiple-Electron-Transfer Reactions at Nanoparticle-Modified Electrodes

Control freak: The final product of important multistep electrode reactions, such as the electro-reduction of oxygen, depends on the extent of a surface-catalysed reaction and, therefore, on the nature and coverage of the nanoparticles employed for the electrode modification.



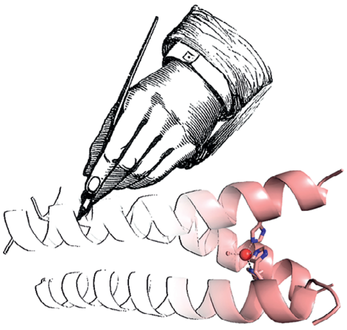
ChemElectroChem
DOI: **10.1002/celc.201300256**

Copper Peptides

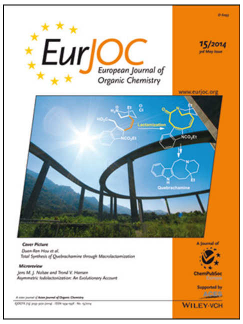
M. Tegoni*

De Novo Designed Copper α-Helical Peptides: From Design to Function

De novo designed α-helical peptides have been used to design structural and functional copper sites in minimum protein scaffolds. The design of structural copper Type 1, Type 2, Type A, and Cu–S_{Cys} centers in α-helical constructs is described. Catalytic copper Type 2 centers are also presented, along with their functional features.



Eur. J. Inorg. Chem.
DOI: **10.1002/ejic.201400057**

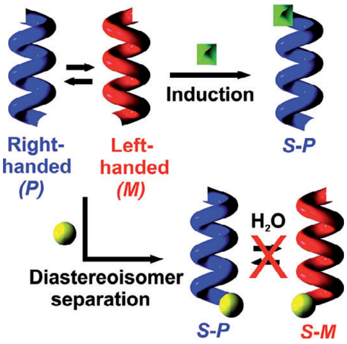


Helical Chirality

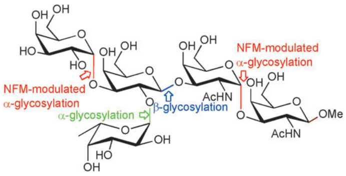
S. J. Dawson, Á. Mészáros, L. Pethő, C. Colombo, M. Csékei, A. Kotschy,* I. Huc*

Controlling Helix Handedness in Water-Soluble Quinoline Oligoamide Foldamers

The control of the helix handedness of water-soluble quinoline-based oligoamide foldamers has been investigated by the installation of chiral end groups at either the N or C terminus. This has respectively afforded either quantitative induction of handedness or the ability to separate kinetically locked *P* and *M* helices as diastereoisomers.



Eur. J. Org. Chem.
DOI: **10.1002/ejoc.201402247**



Asian J. Org. Chem.
DOI: **10.1002/ajoc.201402057**

Glycosylation

A. B. Ingle, C.-S. Chao, W.-C. Hung, K.-K. T. Mong*

Chemical Synthesis of the O-Antigen Repeating Unit of *Escherichia coli* O86 by an *N*-Formylmorpholine-Modulated One-Pot Glycosylation Strategy

O, I say! An *N*-formylmorpholine (NFM)-modulated one-pot glycosylation was used for the synthesis for construction of 1,2-*cis* α-glycosidic linkages in the synthesis of the pentasaccharide repeating unit of the O-antigen that is found in *Escherichia coli* O86.