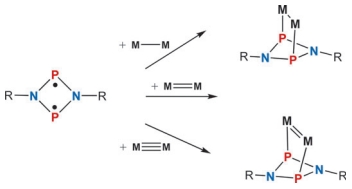
On these pages, we feature a selection of the excellent work that has recently been published in our sister journals. If you are reading these pages on a computer, click on any of the items to read the full article. Otherwise please see the DOIs for easy online access through Wiley Online Library.

Radicals

A. Hinz, R. Kuzora, U. Rosenthal, A. Schulz,* A. Villinger

Activation of Small Molecules by Phosphorus Biradicaloids

Catch me if you can, radical! The reactivity of biradicaloid $[P(\mu\text{-NTer})]_2$ was utilized to activate small molecules bearing single, double, and triple bonds (see scheme). Novel P_2N_2 bridged heterocycles are formed in the formal [2+2] addition reactions.



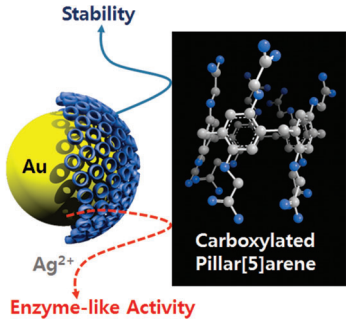
Chem. Eur. J.
DOI: **10.1002/chem.201403964**

Metal Nanoparticles

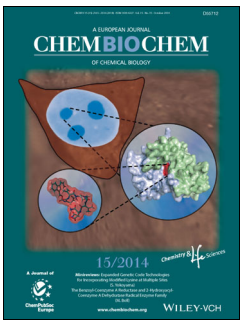
C. Park,* E. S. Jeong, K. J. Lee, H. R. Moon,* K. T. Kim*

Carboxylated Pillar[5]arene-Coated Gold Nanoparticles with Chemical Stability and Enzyme-like Activity

All wrapped up! A multidentate macrocycle, carboxylated pillar[5]arene (**CP**), can stabilize gold nanoparticles (AuNPs) in various conditions in which citrate-stabilized AuNPs are not stable. In addition, **CP**-coated AuNPs exhibit greater peroxidase-like activity than citrate-stabilized AuNPs in the presence of silver cations.



Chem. Asian J.
DOI: **10.1002/asia.201402574**

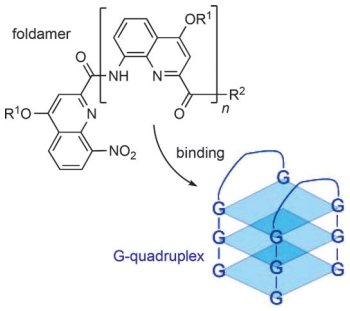


G-Quadruplexes

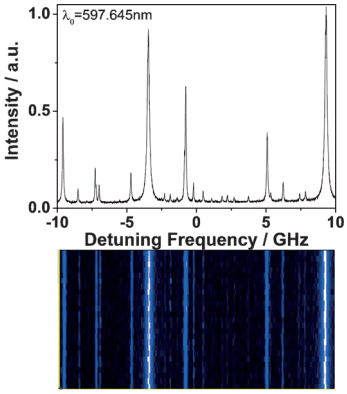
S. Müller, K. Laxmi-Reddy, P. V. Jena, B. Baptiste, Z. Dong, F. Godde, T. Ha, R. Rodriguez, S. Balasubramanian, I. Huc*

Targeting DNA G-Quadruplexes with Helical Small Molecules

Helical foldamer ligands were shown by FRET melting and single-molecule FRET to have high binding potency to the human telomeric G-quadruplex and an array of promoter G-quadruplexes. Their modes of interaction differ from those of traditional G-tetrad binders, thus opening avenues for further developments towards selective ligands for certain G-quadruplex conformations.



ChemBioChem
DOI: **10.1002/cbic.201402439**



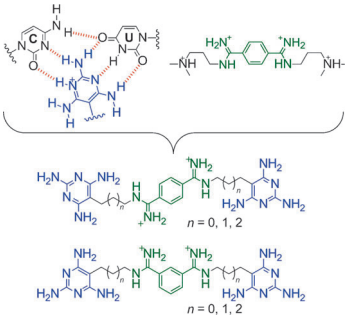
Single-Molecule Spectroscopy

P. Navarro, Y. Tian, M. van Stee, M. Orrit*

Stable Single-Molecule Lines of Terrylene in Polycrystalline *para*-Dichlorobenzene at 1.5 K

Polyaromatics for quantum optics: A new host–guest system for single-molecule spectroscopy at low temperature is studied by confocal fluorescence microscopy (see graphic). The preparation of the sample is very simple and reproducible. The use of capillaries allows the testing of multiple samples, and the polycrystalline structure of the host allows the observation of lifetime-limited lines over the entire 25 nm inhomogeneous distribution.

ChemPhysChem
DOI: **10.1002/cphc.201402200**

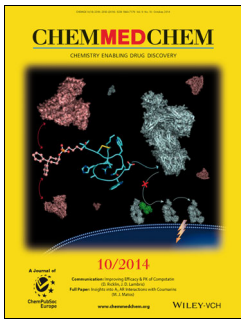


Drug Design

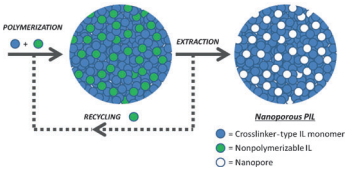
L. Nguyen, J. Lee, C.-H. Wong, S. C. Zimmerman*

Small Molecules that Target the Toxic RNA in Myotonic Dystrophy Type 2

Targeting toxic RNA: A series of optimized ligands with two triaminopyrimidine recognition units linked to a bisamidinium groove binder is described. They exhibit low-micromolar inhibition potency to the MBNL1–r(CCUG)$_8$ interaction and are the first to show the ability to disrupt the MBNL1–r(CCUG)$_n$ foci in DM2 model cell culture and exhibit low cytotoxicity.



ChemMedChem
DOI: **10.1002/cmdc.201402095**



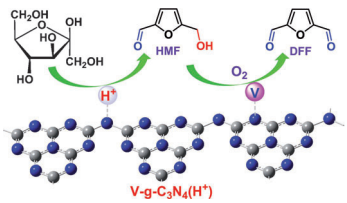
Nanoporous Materials

I. Azcune,* I. García, P. M. Carrasco, A. Genua, M. Tanczyk, M. Jaschik, K. Warmuzinski, G. Cabañero, I. Odriozola*

Facile and Scalable Synthesis of Nanoporous Materials Based on Poly(ionic liquid)s

Jagged little PIL: We present a very simple and convenient strategy to prepare nanoporous poly(ionic liquid)s (PILs) in a sustainable and scalable manner. An ionic liquid (IL) analogous to the polymerizable IL is used as the solvent and porogen, which can be extracted after polymerization and recycled for further use. The resulting nanoporous materials have been investigated as CO_2 sorbents.

ChemSusChem
DOI: **10.1002/cssc.201402593**

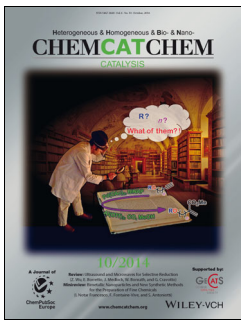


Sustainable Chemistry

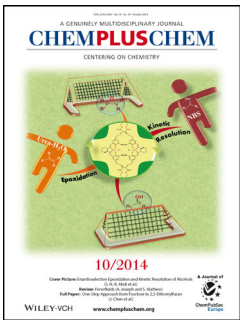
J. Chen,* Y. Guo, J. Chen, L. Song, L. Chen

One-Step Approach to 2,5-Diformylfuran from Fructose by Proton- and Vanadium-Containing Graphitic Carbon Nitride

Bypass operation: A combination of protonated graphitic carbon nitride [g-C_3N_4(H^+)] and vanadium-doped g-C_3N_4 (V–g-C_3N_4) successfully affords direct synthesis of 2,5-diformylfuran (DFF) from fructose in a one-pot reaction. Moreover, a bifunctional catalyst made of protonated V–g-C_3N_4 [V–g-C_3N_4(H^+)] allows one-pot as well as one-step direct transformation of fructose into DFF.



ChemCatChem
DOI: **10.1002/cctc.201402323**

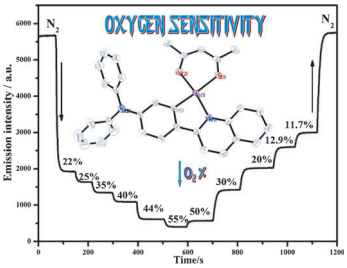


Sensors

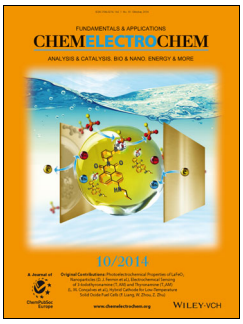
C. Liu,* X. Song, Z. Wang, J. Qiu

2-Phenylquinoline-Based Cyclometalated Platinum(II) Complexes: Synthesis and Structure–Photoelectric Properties Relationship in Oxygen Sensing

Phosphorescence: A series of novel 2-phenylquinoline-based cyclometalated Pt^{II} complexes are synthesized and fully characterized. The results of the O_2-sensing sensitivity analyses of the Pt^{II} complexes show that the complex with a triphenylamine group on the quinoline exhibits the highest sensitivity (see figure). The present work provides the first example of a series of 2-phenylquinoline-based cyclometalated Pt^{II} complexes for efficient O_2 sensing.



ChemPlusChem
DOI: **10.1002/cplu.201402125**

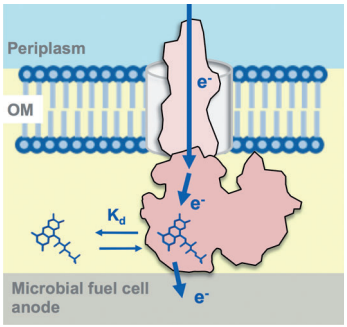


Microbial Fuel Cells

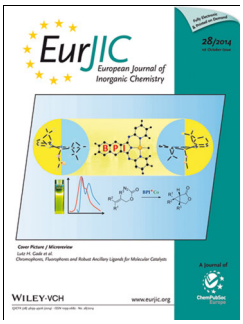
A. Okamoto,* R. Nakamura, K. H. Nealson, K. Hashimoto*

Bound Flavin Model Suggests Similar Electron-Transfer Mechanisms in *Shewanella* and *Geobacter*

Extracellular activity: Bacterial interfacial electron-transport mechanisms are important for maximizing the performance of microbial fuel-cell anodes. Recent work is reviewed, presenting a "bound-flavin cofactor" model, which is believed to provide a suitable explanation for the published data to date, in terms of model electrogenic microbes *Geobacter* and *Shewanella*.



ChemElectroChem
DOI: **10.1002/celc.201402151**

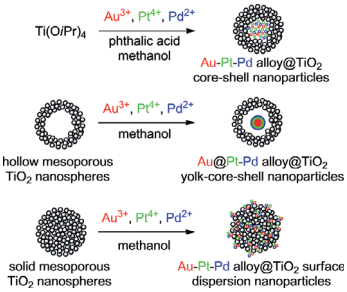


Mesoporous Nanoparticles

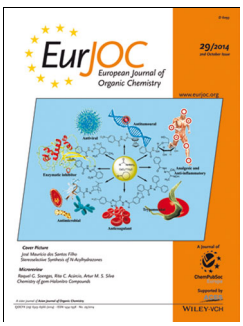
P. Wang,* H. Tooriyama, K. Yokoyama, M. Ohtani, H. Asahara, T. Konishi, N. Nishiwaki, M. Shimoda, Y. Yamashita, H. Yoshikawa, K. Kobiro*

Smart Decoration of Mesoporous TiO_2 Nanospheres with Noble Metal Alloy Nanoparticles into Core–Shell, Yolk–Core–Shell, and Surface-Dispersion Morphologies

Au–Pt–Pd@TiO_2, Au–Pt@TiO_2, and Au@TiO_2 mesoporous nanoparticles with core–shell, yolk–core–shell, and surface-dispersion morphologies are synthesized by a solvothermal method in methanol. The alloy cores of the Au–Pt–Pd@TiO_2 and Au–Pt@TiO_2 yolk–core–shell nanoparticles have Au@Pt–Pd and Au@Pt embedded sub-core–shell structures, respectively.



Eur. J. Inorg. Chem.
DOI: **10.1002/ejic.201402646**



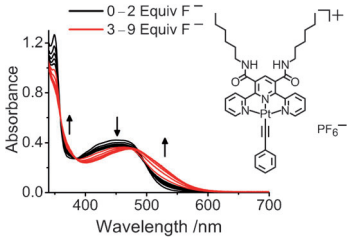
Synthesis of Retinals

M. S. Andrä, C. C. Tzschucke*

Short, Convergent Synthesis of Locked Retinals

A short synthesis of two configurationally locked retinals is reported, that relies on alkoxycarbonylation and Wittig olefination as key steps. The convergent reaction sequence differs from previous syntheses of comparable locked retinoids by a common preparative approach of the two carbonyl precursors for the Wittig olefination and by a useful total yield of both retinals.

Eur. J. Org. Chem.
DOI: **10.1002/ejoc.201403006**



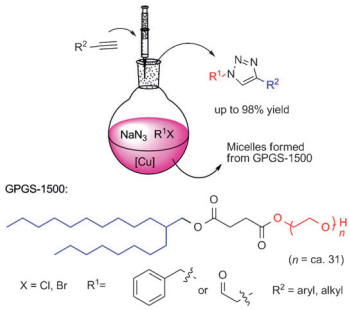
Molecular Sensors

M. C.-L. Yeung, B. W.-K. Chu, V. W.-W. Yam*

Anion Binding Properties of Alkynylplatinum(II) Complexes with Amide-Functionalized Terpyridine: Host–Guest Interactions and Fluoride Ion-Induced Deprotonation

Anion sensors: The anion binding properties of the alkynylplatinum(II) terpyridine complexes with amide-based receptor moiety have been examined. These complexes were found to be capable of signaling the anion binding events with significant changes to the UV-vis and emission spectra based on the host–guest interactions and F^- ion-induced deprotonation of the amide functionalities.

ChemistryOpen
DOI: **10.1002/open.201402019**

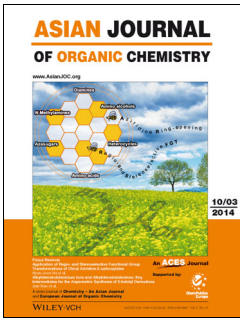


Click Chemistry

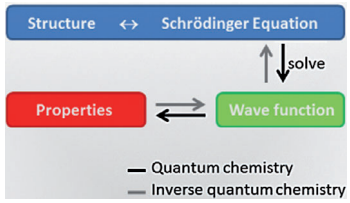
A. Xie, X. Xu, J. Li, B. Wang, W. Dong*

One-Pot Synthesis of Triazoles from Organic Halides and Alkynes in Nonionic Nanomicelles at Room Temperature

Azides aside: A mild method for the one-pot synthesis of triazoles from benzyl halides in a nonionic nanomicelle system has been developed. In this protocol, water was used as the only solvent and hazardous organic azides were avoided.



Asian J. Org. Chem.
DOI: **10.1002/ajoc.201402153**



Computational Chemistry

Vera Köster

New Challenges in Quantum Chemistry

Calculating a molecular structure with defined properties – thus inverting the usual quantum chemistry approach – is a difficult challenge, but could also be an exciting new way of finding useful compounds. Vera Köster looks at the research of Markus Reiher, ETH Zurich, who develops inverse quantum chemistry concepts for rational compound design.

ChemViews magazine
DOI: **10.1002/chemv.201400071**