

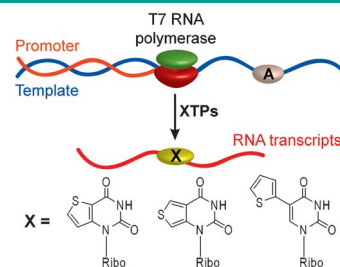


Emissive Nucleosides

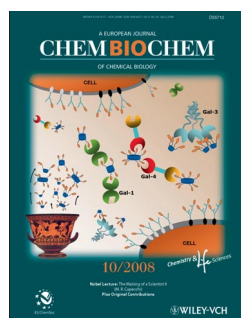
S. G. Srivatsan, Y. Tor*

Enzymatic Incorporation of Emissive Pyrimidine Ribonucleotides

Making an emission: T7 RNA polymerase incorporates a series of thiophene-modified uridine triphosphate (UTP) analogues to generate emissive RNA transcripts. Labeling experiments suggested that the enzyme frequently pauses at the incorporation position and, when incorporation does take place, T7 RNA polymerase fails to elongate the modified oligonucleotides and yields aborted transcripts. TPs = triphosphates.



Chem. Asian J.
DOI: 10.1002/asia.200800370

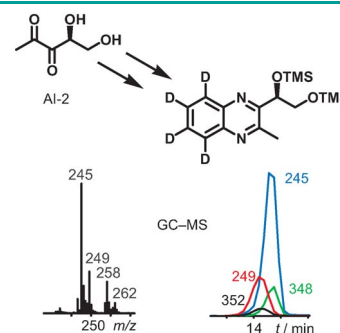


Quorum Sensing

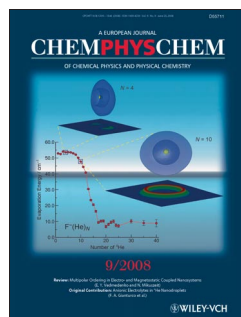
V. Thiel, R. Vilchez, H. Sztajer, I. Wagner-Döbler, S. Schulz*

Identification, Quantification, and Determination of the Absolute Configuration of the Bacterial Quorum-Sensing Signal Autoinducer-2 by Gas Chromatography–Mass Spectrometry

Sensing the signal: A gas chromatography–mass spectrometry (GC–MS) method for the analysis of the quorum-sensing autoinducer-2 is described. It allows, for the first time, the direct analysis and accurate determination of this highly water soluble signaling compound, which exists in complex equilibria. The application on the caries-causing bacterium *Streptococcus mutans* is described.



ChemBioChem
DOI: 10.1002/cbic.200800606

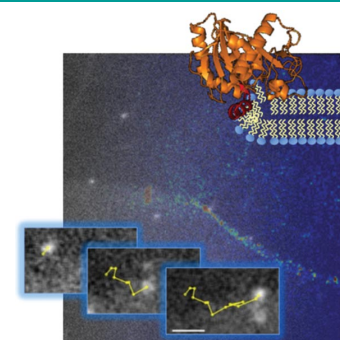


Enzymes

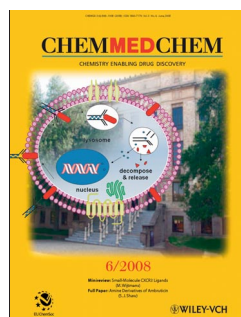
S. Rocha, J. A. Hutchison, K. Peneva, A. Herrmann, K. Müllen, M. Skjöt, C. I. Jørgensen, A. Svendsen, F. C. De Schryver, J. Hofkens,* H. Uji-i*

Linking Phospholipase Mobility to Activity by Single-Molecule Wide-Field Microscopy

Single Enzymes at Work: Single-particle tracking is used to follow the diffusion of individual phospholipase enzymes acting on phospholipid bilayers, while simultaneously visualising local structural changes to those layers (see image). By comparison with related enzymes with different behaviour, the diffusive motions of the enzyme can be linked to different stages in its catalytic cycle.



ChemPhysChem
DOI: 10.1002/cphc.200800537

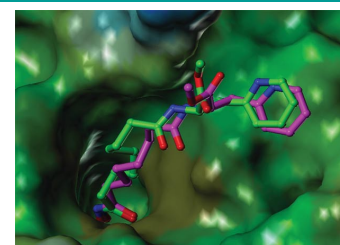


Antitumor Agents

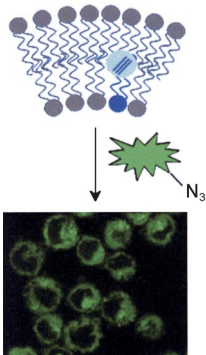
S. Schäfer, L. Saunders, S. Schlimme, V. Valkov, J. M. Wagner, F. Kratz, W. Sippl, E. Verdin, M. Jung*

Pyridylalanine-Containing Hydroxamic Acids as Selective HDAC6 Inhibitors

Pyridylalanine inhibitors of histone deacetylase (HDAC) have been synthesized that show selectivity for the isoform HDAC6 over HDAC1 in vitro. This selectivity was also identified in cancer cells by analyzing tubulin versus histone acetylation. The compounds show decreased intrinsic cytotoxicity relative to pan-HDAC inhibitors, but show antiproliferative synergy with the proteasome inhibitor bortezomib.



ChemMedChem
DOI: 10.1002/cmdc.200800196



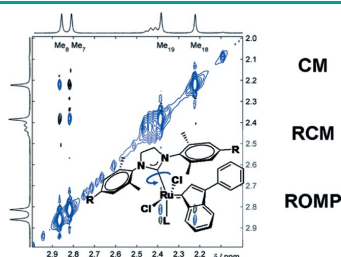
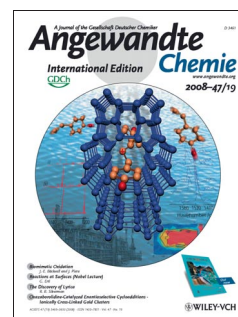
Angew. Chem. Int. Ed.
DOI: 10.1002/anie.200805507

Live-Cell Imaging

A. B. Neef, C. Schultz*

Selective Fluorescence Labeling of Lipids in Living Cells

Click chemistry in vivo: Three phosphatidic acid derivatives with alkyne groups in their fatty acid chains were synthesized and incorporated into mammalian cell membranes. Copper(I)-catalyzed and strain-promoted azide–alkyne cycloaddition reactions were used for their visualization (see schematic representation and fluorescence microscopic image).



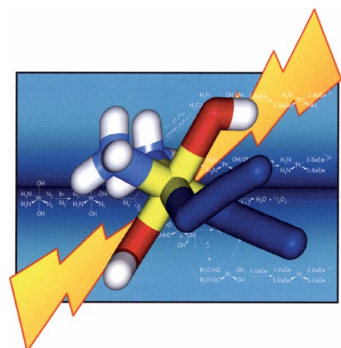
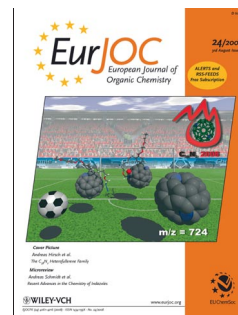
Eur. J. Org. Chem.
DOI: 10.1002/ejoc.200800973

Olefin Metathesis

S. Monsaert, E. De Canck, R. Drozdak, P. Van Der Voort, F. Verpoort,* J. C. Martins,* P. M. S. Hendrickx

Indenylidene Complexes of Ruthenium Bearing NHC Ligands – Structure Elucidation and Performance as Catalysts for Olefin Metathesis

The performance of six 2nd-generation indenylidene catalysts with formula Cl₂Ru(NHC)(L)(3-phenylinden-1-ylidene), where NHC is SIMes (R = Me) or SIMe (R = H) and L is PCy₃, PPh₃ or Py is reported, with complete NMR assignments and characterization of the rotameric behavior in solution. The results highlight the influence of *N*-aryl substitution patterns on the catalytic activity.



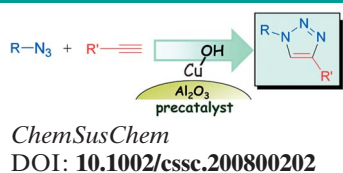
Chem. Eur. J.
DOI: 10.1002/chem.200802206

Bioinorganic Chemistry

H. I. A. Phillips, L. Ronconi, P. J. Sadler*

Photoinduced Reactions of *cis,trans,cis*-[Pt^{IV}(N₃)₂(OH)₂(NH₃)₂] with 1-Methylimidazole

Lighting up new platinum anticancer complexes—Photoactivation of a platinum(IV) diazido anticancer complex in the presence of a derivative of imidazole, an important constituent of biomolecules, gives surprising photoproducts, including a tetrakis imidazole platinum(II) adduct, together with free azide, dioxygen and ammonia.



ChemSusChem
DOI: 10.1002/cssc.200800202

Heterogeneous Catalysis

T. Katayama, K. Kamata, K. Yamaguchi, N. Mizuno*

A Supported Copper Hydroxide as an Efficient, Ligand-free, and Heterogeneous Precatalyst for 1,3-Dipolar Cycloadditions of Organic Azides to Terminal Alkynes

Click together: The supported copper hydroxide Cu(OH)_x/Al₂O₃ acts as an efficient heterogeneous precatalyst for the 1,3-dipolar cycloaddition of organic azides to terminal alkynes (click chemistry). The recovered Cu(OH)_x/Al₂O₃ retains its high activity and can be reused.

