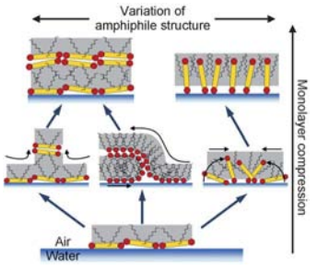
On these pages, we feature a selection of the excellent work that has recently been published in our sister journals. If you are reading these pages on a computer, click on any of the items to read the full article. Otherwise please see the DOIs for easy online access through Wiley Online Library.

Langmuir–Blodgett Films

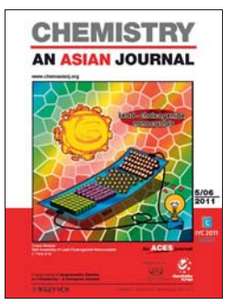
P. Nitoń, A. Żywociński, J. Paczesny, M. Fiałkowski, R. Hołyst,* B. Glettner, R. Kieffer, C. Tschierske,* D. Pociecha, E. Górecka

Aggregation and Layering Transitions in Thin Films of X-, T-, and Anchor-Shaped Bolaamphiphiles at the Air–Water Interface

Film studies: Bolaamphiphiles of different shapes (X-, T-, and anchor-shaped) with different degrees of fluorination in their lateral chains were studied as thin films at the air–water interface. Depending on the molecular structure, the amphiphiles present very different behaviour during film compression. Phase transitions from planar to vertical orientation, and layering transitions or collapse with aggregation are reported.



Chem. Eur. J.
DOI: **10.1002/chem.201003671**

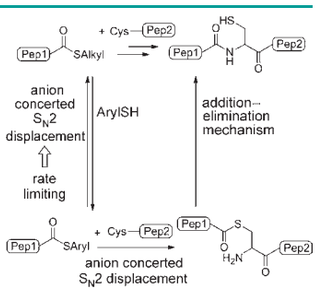


Chemical Ligation

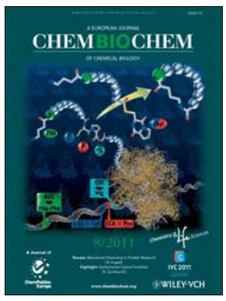
C. Wang, Q.-X. Guo, Y. Fu*

Theoretical Analysis of the Detailed Mechanism of Native Chemical Ligation Reactions

Two becomes one: A systematic theoretical investigation was carried out to fully understand the detailed mechanism of ligation (see scheme). Based on the elucidated mechanism, the reactivity of native chemical ligation (NCL) reactions for various C-terminal amino acids was compared through calculation. The detailed mechanism of auxiliary-mediated peptide ligation was also studied.



Chem. Asian J.
DOI: **10.1002/asia.201000760**

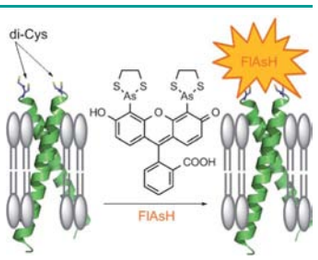


Membrane Proteins

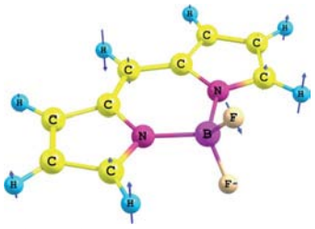
C. J. Pace, Q. Huang, F. Wang, K. S. Palla, A. A. Fuller, J. Gao*

A FlAsH–Tetracysteine Assay for Quantifying the Association and Orientation of Transmembrane α-Helices

Lighting up protein dimers in membranes: The association of membrane proteins plays a critical role in biology. We describe a FlAsH–tetracysteine (tC) assay that detects protein dimerization in lipid bilayers with a fluorescent readout. The stringent spatial requirement of FlAsH–tC complex formation readily differentiates helix dimers in parallel and antiparallel orientations.



ChemBioChem
DOI: **10.1002/cbic.201000736**



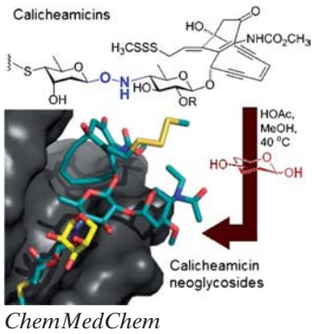
ChemPhysChem
DOI: **10.1002/cphc.201001076**

Molecular Beams

A. Stromeck-Faderl, D. Pentlehner, U. Kensy, B. Dick*

High-Resolution Electronic Spectroscopy of the BODIPY Chromophore in Supersonic Beam and Superfluid Helium Droplets

Arresting a floppy mode: Borondipyrromethene (see picture), the core compound of the BODIPY dye class, shows a rich vibrational structure in the supersonic jet. A mode with very low frequency is assigned to a wagging motion of the BF_2 group. This mode disappears when the molecule is isolated in a matrix of superfluid He droplets.



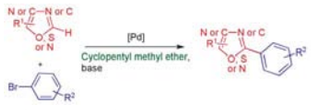
ChemMedChem
DOI: **10.1002/cmdc.201100028**

Carbohydrates

R. D. Goff, S. Singh, J. S. Thorson*

Glycosyloxyamine Neoglycosylation: A Model Study Using Calicheamicin

Sweetness & light! The glycosyloxyamine glycoside of calicheamicin was exploited to form neo-D-ribosides in one efficient chemoselective step. Assessment of the neoglycosides revealed only slight reductions in cytotoxicity or ability to cleave DNA compared to the parent aglycons. This study exposes a previously unrecognized method for efficient calicheamicin bioconjugation amenable to a wide range of cancer-selective targeting modalities.



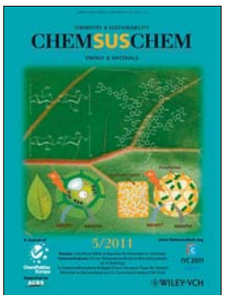
ChemSusChem
DOI: **10.1002/cssc.201000405**

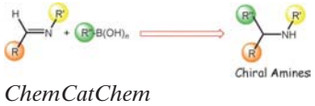
Direct Amination

K. Beydoun, H. Doucet*

Cyclopentyl Methyl Ether: An Alternative Solvent for Palladium-Catalyzed Direct Arylation of Heteroaromatics

Ethereal catalysis: Cyclopentyl methyl ether, which can be considered as a greener solvent than *N*,*N*-dimethylacetamide (DMAc) or DMF, is advantageously employed for the palladium-catalyzed direct arylation of heteroaromatics (see scheme).





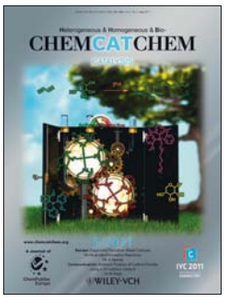
ChemCatChem
DOI: **10.1002/cctc.201000369**

Chiral Amines

C. S. Marques, A. J. Burke*

Advances in the Catalytic Asymmetric Arylation of Imines using Organoboron Reagents: An Approach to Chiral Arylamines

A quest for amine treasure: The synthesis of chiral amines is a current challenge in the field of drug discovery. One process by which chiral amines can be produced is through asymmetric catalysis. The use of cheap, easy handled and low toxicity organoboron reagents can be easily combined with imine substrates, together with rhodium or palladium catalysts, to give the corresponding chiral amine products.

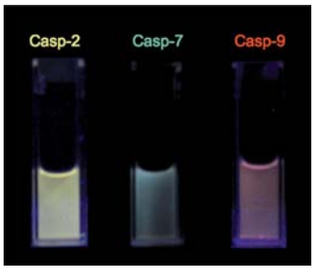


Chemosensors

N. Dai, J. Guo, Y. N. Teo, E. T. Kool*

Protease Probes Built from DNA: Multispectral Fluorescent DNA–Peptide Conjugates as Caspase Chemosensors

Shaken, not stirred: A novel design for protease sensors is described, in which peptides are conjugated to a DNA backbone carrying multiple fluorophores. The multispectral oligodeoxyfluoroside (ODF) fluorophores are strongly quenched by a dabcyl group at the end of each peptide. In vitro and cellular selectivity assays showed that a mixture of three sensors could be used to identify different caspase activities by the fluorescence outcome (see picture).



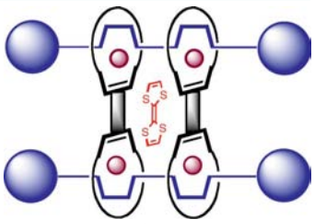
Angew. Chem. Int. Ed.
DOI: **10.1002/anie.201007805**

Host–Guest Chemistry

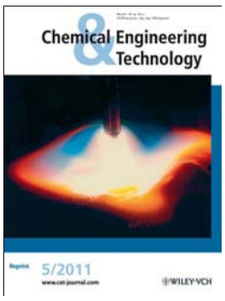
J.-P. Sauvage,* Y. Trolez, D. Canevet, M. Sallé*

Intercalation of Tetrathiafulvalene between the Two Plates of a Copper(I)-Complexed [4]Rotaxane

The ability of a cyclic copper(I)-complexed [4]rotaxane to act as receptor towards organic electron donors has been studied. In particular, TTF, which is a flat and electron-rich molecule, forms a relatively stable complex with the rotaxane host.



Eur. J. Org. Chem.
DOI: **10.1002/ejoc.201100142**

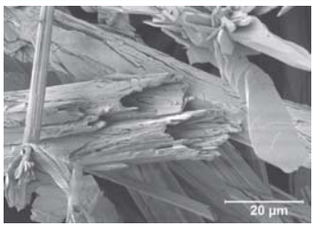


Crystalline Hollow Needles

A. Schuster, T. Stelzer, J. Ulrich*

Generation of Crystalline Hollow Needles: New Approach by Liquid-Liquid Phase Transformation

A new production method enables the growth of hollow crystalline anhydrate needles via a solvent-mediated phase transformation without the presence of the original monohydrate crystals. The variation of the transformation conditions open up a new point of view concerning the starting point of the acicular crystals.



Chem. Eng. Technol.
DOI: **10.1002/ceat.201000511**

