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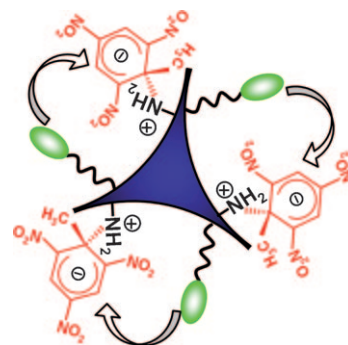


Chemosensors

Q. Fang, J. Geng, B. Liu, D. Gao, F. Li, Z. Wang, G. Guan, Z. Zhang*

Inverted Opal Fluorescent Film Chemosensor for the Detection of Explosive Nitroaromatic Vapors through Fluorescence Resonance Energy Transfer

Explosive detection: A fluorescence film chemosensor has been fabricated by the modification of fluorophores and amino ligands at the porous inner surface of inverted opal, achieving the ultrasensitive detection of explosive nitroaromatic vapors through a fluorescent resonance energy transfer (FRET) mechanism at spatial proximity (see figure).



Chem. Eur. J.
DOI: 10.1002/chem.200901488

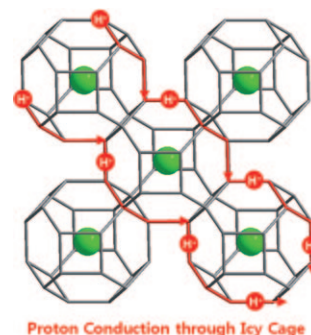


Clathrate Hydrates

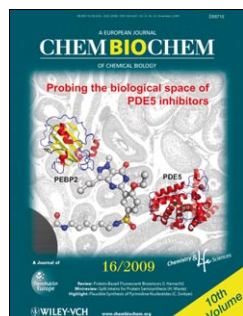
K. Shin, J.-H. Cha, Y. Seo, H. Lee*

Physicochemical Properties of Ionic Clathrate Hydrates

Icy functional materials: Ionic clathrate hydrates are considered for their potential applicability in various fields, including those that involve solid electrolytes, gas separation, and gas storage. This Focus Review concentrates on the physicochemical properties and the notable characteristics of the ionic clathrate hydrates.



Chem. Asian J.
DOI: 10.1002/asia.200900219

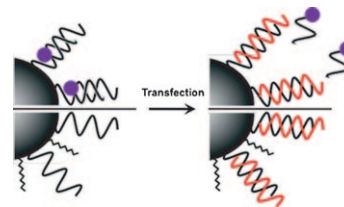


Nucleic Acids

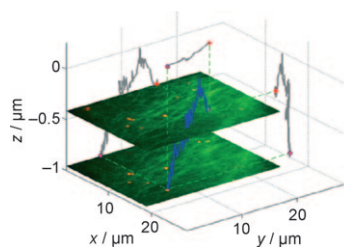
N. M. Bell, J. Micklefield*

Chemical Modification of Oligonucleotides for Therapeutic, Bioanalytical and other Applications

Made-to-order: We discuss modified oligonucleotides and mimics that have been developed with improved physicochemical and biological properties, and utilised in a wide range of applications. New conjugation strategies have been developed to aid delivery and cellular localisation. Modified oligonucleotides are also widely used as probes for bioanalytical applications and as building blocks for assembly of higher-order nanostructures.



ChemBioChem
DOI: 10.1002/cbic.200900341



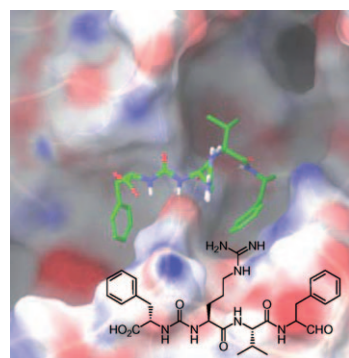
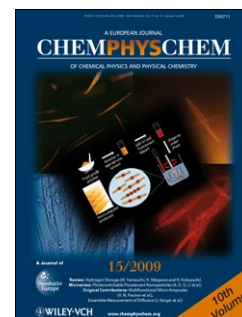
ChemPhysChem
DOI: 10.1002/cphc.200900436

Nanomicroscopy

Y. Katayama, O. Burkacky, M. Meyer, C. Bräuchle, E. Gratton, D. C. Lamb*

Real-Time Nanomicroscopy via Three-Dimensional Single-Particle Tracking

Life in 3D: A novel tracking microscope is presented using a feedback control system to follow individual particles in 3D in real time (see figure). The system is synchronized to a wide-field setup allowing individual particles and their direct environment and interactions to be imaged simultaneously.



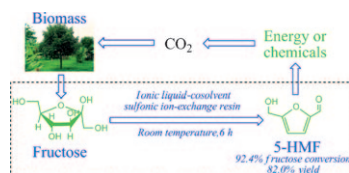
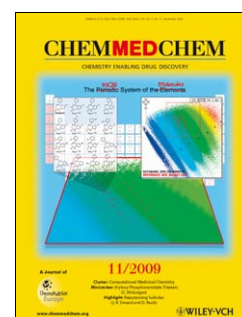
ChemMedChem
DOI: 10.1002/cmdc.200900346

Peptidomimetics

D. Haebich,* A. Hillisch, S. El Sheikh

A Practical Total Synthesis of the Microbial Alkaline Proteinase Inhibitor (MAPI)

Natural peptide aldehydes such as the “microbial alkaline proteinase inhibitor” MAPI, are valuable tools to characterize novel enzymes and to study their function in nature. A simple, practical, and scalable synthesis of MAPI from readily available amino acid building blocks is presented. The modular synthesis allows convenient structural modification of the MAPI backbone.



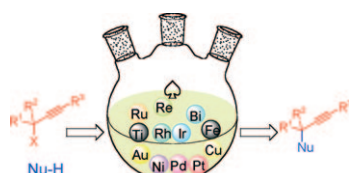
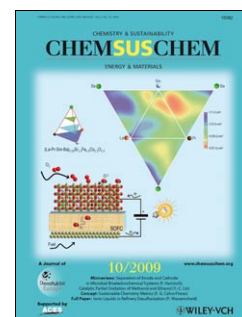
ChemSusChem
DOI: 10.1002/cssc.200900199

Biomass

X. Qi,* M. Watanabe, T. M. Aida, R. L. Smith, Jr*

Efficient Catalytic Conversion of Fructose into 5-Hydroxymethylfurfural in Ionic Liquids at Room Temperature

A green process for the efficient conversion of fructose into 5-hydroxymethylfurfural at room temperature is described. High selectivities for 5-HMF at fructose conversions of ca. 95 % are obtained at 25 °C for 6 h in the ionic liquid [BMIM][Cl], through addition of acetone or other cosolvents.



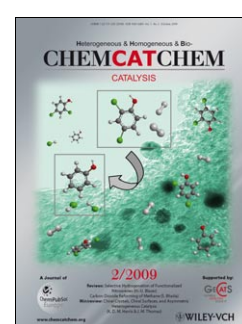
ChemCatChem
DOI: 10.1002/cctc.200900214

Homogeneous Catalysis

Y. Miyake, S. Uemura, Y. Nishibayashi*

Catalytic Propargylic Substitution Reactions

Here comes the sub: This Review describes recent advances in catalytic propargylic substitution reactions. In addition to transition metals, such as ruthenium, rhenium, copper, titanium, and gold, several Lewis acids and Brønsted acids can promote these reactions effectively. The reaction mechanism and the scope of nucleophiles that can be used depend on the nature of the catalysts. Some examples of enantioselective reactions are also included.



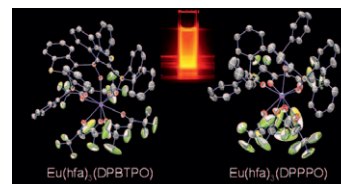


Lanthanide Complexes

K. Miyata, Y. Hasegawa,* Y. Kuramochi, T. Nakagawa, T. Yokoo, T. Kawai*

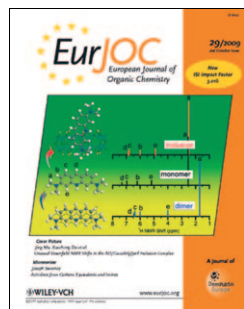
Characteristic Structures and Photophysical Properties of Nine-Coordinate Europium(III) Complexes with Tandem-Connected Tridentate Phosphane Oxide Ligands

The characteristic structures and photophysical properties of polyhedral *f*-block metal complexes, nine-coordinate Eu^{III} complexes with tridentate phosphane oxide, are demonstrated for the first time.



Eur. J. Inorg. Chem.

DOI: 10.1002/ejic.200900598

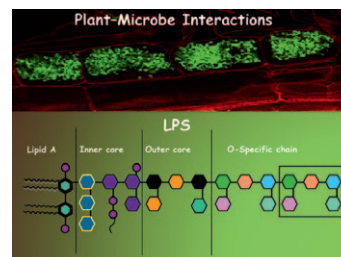


Microbial Glycolipids

A. Molinaro*, M.-A. Newman, R. Lanzetta, M. Parrilli

The Structures of Lipopolysaccharides from Plant-Associated Gram-Negative Bacteria

Gram-negative bacterial lipopolysaccharides are amphiphilic glycoconjugates present in almost all Gram-negative bacteria. The elucidation of their structures is crucial for understanding of the biological processes in which these microbes are involved. This review provides a comprehensive overview of the currently available plant pathogenic microbial lipopolysaccharide structures and substructures.



Eur. J. Org. Chem.

DOI: 10.1002/ejoc.200900682

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