

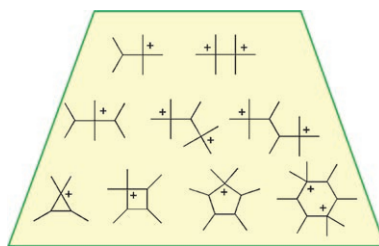
Phosphorus Chemistry

C. A. Dyker, N. Burford*

catena-Phosphorus Cations

Chem. Asian J.

DOI: 10.1002/asia.200700229



A new chapter: *catena*-Phosphorus cations represent a new and developing area in fundamental phosphorus chemistry that complements the series of neutral and anionic polyphosphorus compounds. The picture shows examples of phosphinophosphonium frameworks (each vertex represents a phosphorus center).

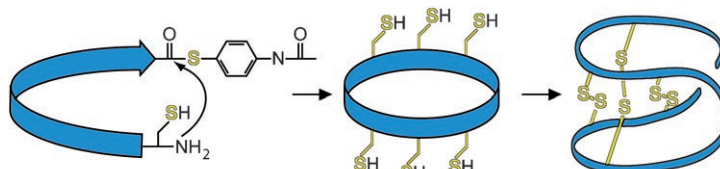
Protein Engineering

T. Leta Aboye, R. J. Clark, D. J. Craik,
U. Göransson*

Ultra-Stable Peptide Scaffolds for Protein Engineering—Synthesis and Folding of the Circular Cystine Knotted Cyclotide Cycloviolacin O2

ChemBioChem

DOI: 10.1002/cbic.200700357



Key to the challenge of cross-linking disulfide bonds in a circular peptide backbone. The cyclic cystine knot motif is an attractive scaffold for protein engineering. However, the synthesis and folding of members of the most diverse and

biologically active cyclotide subfamily, the bracelets, has been a big challenge. This study describes the key solution to these problems and thus provides an efficient method of exploring the most potent cyclic cystine knot peptides.

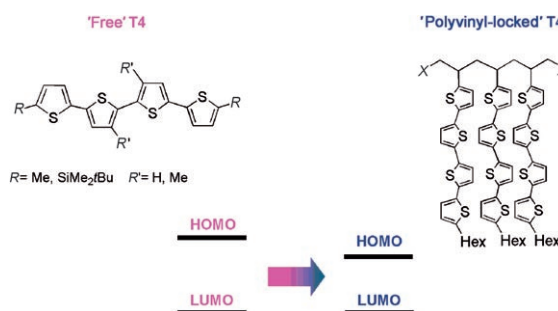
Electronic properties

M. Melucci,* M. Zambianchi,
A. Zanelli, N. Camaioni, M. Gazzano,
A. Bongini, G. Barbarella

Polyvinyl-Locked versus Free Quaterthiophene: Effect of Spatial Constraints on the Electronic Properties of *n*-Hexylquaterthiophene

ChemPhysChem

DOI: 10.1002/cphc.200700459



Close chromophores: In a triad of quaterthiophene covalently linked to a polymer backbone (see figure), intramolecular as well as intermolecular interactions between pendant quaterthiophenes lead

to a peculiar solid-state supramolecular organization which is responsible for a marked enhancement of the electron affinity.

Kinase Inhibitors

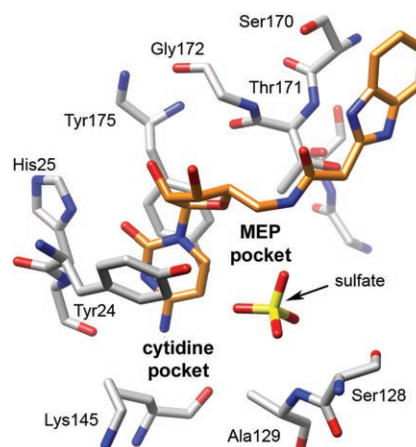
C. M. Crane, A. K. H. Hirsch,
M. S. Alpey, T. Sgraja, S. Lauw,
V. Illarionova, F. Rohdich,*
W. Eisenreich, W. N. Hunter,* A. Bacher,
F. Diederich*

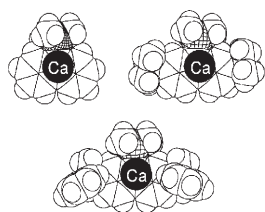
Synthesis and Characterization of Cytidine Derivatives that Inhibit the Kinase IspE of the Non-Mevalonate Pathway for Isoprenoid Biosynthesis

ChemMedChem

DOI: 10.1002/cmdc.200700208

The binding modes of two water-soluble, cytidine-based inhibitors in complex with the *A. aeolicus* kinase IspE were elucidated by co-crystal structure analysis. Because key active site residues in *A. aeolicus* IspE are identical to those of the corresponding enzymes of *M. tuberculosis* and *P. falciparum*, useful structural information was gained for future structure-based development of inhibitors of the parasite enzymes.





Increase of the steric bulk in the 2- and 7-positions of the fluorenyl ligands in several new organocalcium initiators led to a considerable improvement in the stereoselectivity for styrene polymerization. Syntheses, structures and polymerization results are discussed.

Ca-Mediated Styrene Polymerization

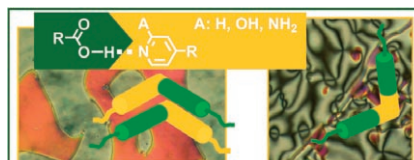
D. F. -J. Piesik, K. Häbe, S. Harder*

Ca-Mediated Styrene Polymerization:
Tacticity Control by Ligand Design

Eur. J. Inorg. Chem.

DOI: 10.1002/iejic.200700802

H-bonds offer a convenient and versatile strategy for the design and understanding of supramolecular arrangements. Different approaches to the design of non-covalent structures leading to both calamitic and bent-core liquid crystals, as well as their characterization, are reported. A possible correlation between the promoted liquid crystal order and the structure of the noncovalent complex is proposed.



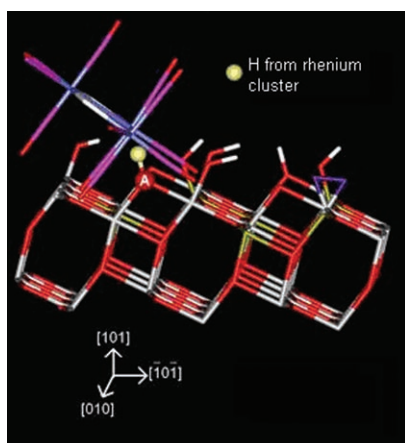
H-Bonded Liquid Crystals

A. Pérez, N. Gimeno, F. Vera,
M. B. Ros,* J. L. Serrano,
M. R. De la Fuente

New H-Bonded Complexes and Their
Supramolecular Liquid-Crystalline
Organizations

Eur. J. Org. Chem.

DOI: 10.1002/ejoc.200700725



Rhenium clusters probe reactivity of TiO₂ surface-defect sites: Graphical representation of deprotonated rhenium clusters adsorbed on defective TiO₂ surface interacting with surface after sites.

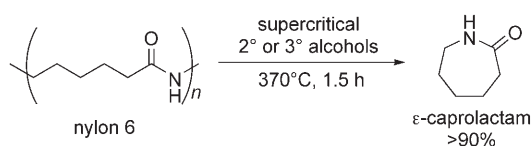
Surface Chemistry

K. Suriye, R. J. Lobo-Lapidus,
G. J. Yeagle, P. Praserttham, R. D. Britt,
B. C. Gates*

Probing Defect Sites on TiO₂ with
[Re₃(CO)₁₂H₃]: Spectroscopic
Characterization of the Surface Species

Chem. Eur. J.

DOI: 10.1002/chem.200701514



Towards sustainable stockings? Nylon 6 was efficiently converted into its monomer caprolactam, which was isolated in over 90% yield with excellent purity as the sole product of the reaction, by treat-

ment with supercritical secondary or tertiary alcohols. The present method opens up a new avenue in plastic recycling chemistry.

Polymer Recycling

A. Kamimura,* Y. Oishi, K. Kaiso,
T. Sugimoto, K. Kashiwagi

Supercritical Secondary Alcohols as
Useful Media To Convert Polyamide into
Monomeric Lactams

ChemSusChem

DOI: 10.1002/cssc.200700024



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