

Following a bottom-up approach to supramolecular assembly, tetraporphyrinic macrocycles can be assembled in good overall yield by means of olefin metathesis. Learn more in the Communication by Langford et al. (p. 757).

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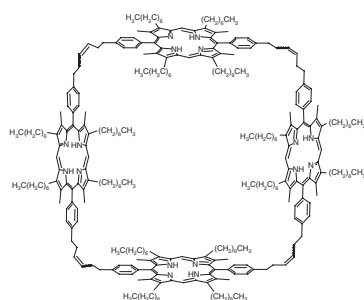
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Rapid Communications

Template-Directed Assembly of a Macrocyclic Porphyrin Tetramer Using Olefin Metathesis

Jacinta M. Bakker, Steven J. Langford,
Melissa J. Latter, Katrina A. Lee,
Clint P. Woodward

Aust. J. Chem. **2005**, 58, 757–761.

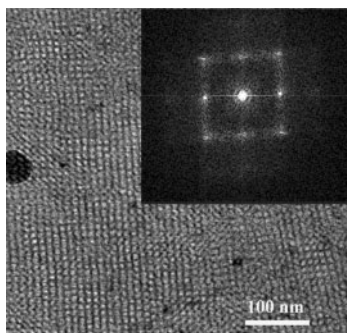


The template-directed synthesis of a macrocyclic porphyrin tetramer (shown) using olefin metathesis as a method of covalent modification about a tetrapyrrolylporphyrin template is described. Such tetraporphyrinic macrocycles act as pseudo two-dimensional models to a more complicated cube structure.

Novel Discrete Micellar Cubic Phase From a Mixture of GMO/Ethanol/Water

Rivka Efrat, Abraham Aserin,
Dganit Danino, Ellen J. Wachtel,
Nissim Garti

Aust. J. Chem. **2005**, 58, 762–766.



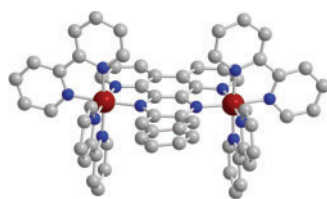
The phase behaviour of a new phase, discovered in the glycerol monooleate/ethanol/water ternary system, was investigated and a possible formation mechanism presented. Denoted Q_L (micellar cubic liquid), the phase is transparent, of a low viscosity, non-birefringent, and stable at room temperature. A *Pm3n* symmetry was determined by SAXS analysis. Cryo-TEM images show highly ordered domains with cubic symmetry (shown).

Full Papers

Driving the Localized-to-Delocalized Transition in Unsymmetrical Dinuclear Ruthenium Mixed-Valence Complexes

Deanna M. D'Alessandro,
F. Richard Keene

Aust. J. Chem. **2005**, 58, 767–777.

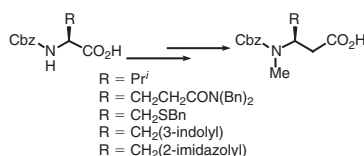


Intervalence charge transfer (IVCT) studies on the dinuclear mixed-valence complexes $[\{\text{Ru}(\text{bpy})_2\}(\mu\text{-BL})\{\text{Ru}(\text{pp})_2\}]^{5+}$ (bpy = 2,2'-bipyridine; pp represents a series of substituted bpy ligands) reveal that the degree of ground state delocalization is diminished by the introduction of redox asymmetry and stereochemically induced structural distortion.

Synthesis of New β -Amino Acids via 5-Oxazolidinones and the Arndt–Eistert Procedure

Andrew B. Hughes, Brad E. Sleebs

Aust. J. Chem. **2005**, 58, 778–784.

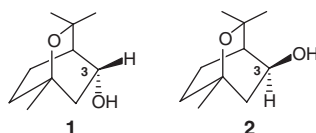


New and novel monomeric amino acid-like compounds are required for many drug development projects. The syntheses of some *N*-methylated β -amino acids are reported. The most efficient method found was by Arndt–Eistert homologation of the corresponding *N*-methyl α -amino acids.

The 3-Hydroxycineoles

Raymond M. Carman, Ward T. Robinson,
Craig J. Wallis

Aust. J. Chem. **2005**, 58, 785–791.



The α - and β -isomers (**1,2**) have been reported as metabolites of cineole. Reported herein are data on and syntheses of **1** and **2**, to aid the identification of these metabolites and to determine their enantiomeric excess in mixtures. During one synthetic approach an unusual S_N2 -type inversion at a tertiary center was observed.

An Ab Initio Pseudopotential Study of M_nPo ($M = Cu, Ag, Au$; $n = 1, 2$) Systems

Qi-Mu Surong, Yongfang Zhao,
Xiaogong Jing, Fengli Liu,
Xinying Li, Wenhui Su

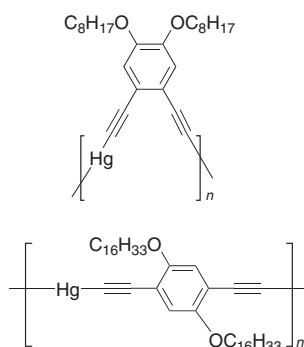
Aust. J. Chem. **2005**, 58, 792–798.

Coinage-metal clusters are widely used in catalysis, microelectronics, and non-linear optical materials; tellurium and polonium in particular are important in semiconductors and photovoltaic systems. The mechanism of cluster growth in such systems cannot be simply understood in terms of just simple ionic or covalent bonding. The complicating factor is an electron correlation effect, that creates a ‘metallophilic’ $M \cdots M$ attraction as detected through a decreased $M-Po-M$ bond angle.

Synthesis and Luminescent Properties of Mercury(II) Polyynes Containing Derivatized Benzene in the Backbone

Li Liu, Ming-Xuan Li, Wai-Yeung Wong

Aust. J. Chem. **2005**, 58, 799–802.



One known problem in organic light-emitting diodes is the excessive generation of nonemissive triplet to emissive singlet excitons. Conjugated polymers containing heavy metal atoms are studied as model systems to explain aspects of the photophysics of excited states and obtain a clear picture of the spatial extent of the singlet and triplet manifolds. Little however is known about mercury-containing polymers; this study shows such polymers are sensitive to the position of the benzene ring substituents.

Studies of Disaccharide Solvation—Molecular Dynamics versus HPLC Retention

Norman W. H. Cheetham,
Paramita Dasgupta

Aust. J. Chem. **2005**, 58, 803–809.

In solution disaccharides employ rotational and conformational freedoms to optimize their compatibility with water. Molecular dynamics simulations revealed a strong correlation between calculated disaccharide compatibility with water and a chromatographically derived index of hydrophobicity. The results support a stereospecific model of carbohydrate solvation, which has implications for biological recognition processes.

Preparation, Characterization, and Electrical Properties of a Self-Assembled *meso*-Pyridyl Porphyrin Monolayer on Gold Surfaces

Amarchand Sathyapalan, Anup Lohani,
Sangita Santra, Saurabh Goyal,
M. Ravikanth, Soumyo Mukherji,
V. Ramgopal Rao

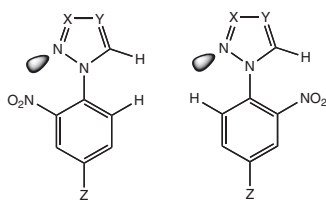
Aust. J. Chem. **2005**, 58, 810–816.

Porphyrins having *meso*-pyridyl groups are useful to prepare water-soluble porphyrins, which can bind with biological molecules such as DNA. Self-assembled monolayers are widely used in molecular electronics and sensor applications. A material combining these chemical and physical features, as a monolayer of a *meso*-pyridyl bearing porphyrin, is reported and characterized in this paper.

**The X-Ray Molecular Structure of
1-(2',4'-Dinitrophenyl)-1,2,3-triazole
and the Problem of the Orthogonal
Interaction Between a 'Pyridine-Like'
Nitrogen and a Nitro Group**

*Glenn P. A. Yap, Fernando A. Jové,
Rosa M. Claramunt, Dionisia Sanz,
Ibon Alkorta, José Elguero*

Aust. J. Chem. **2005**, 58, 817–822.



The structure of the title compound serves for a discussion about the topic of orthogonal interactions. This interaction, although weak, is important due to its peculiar geometry. Other examples from the Cambridge Crystallographic Database, together with theoretical calculations are reported.