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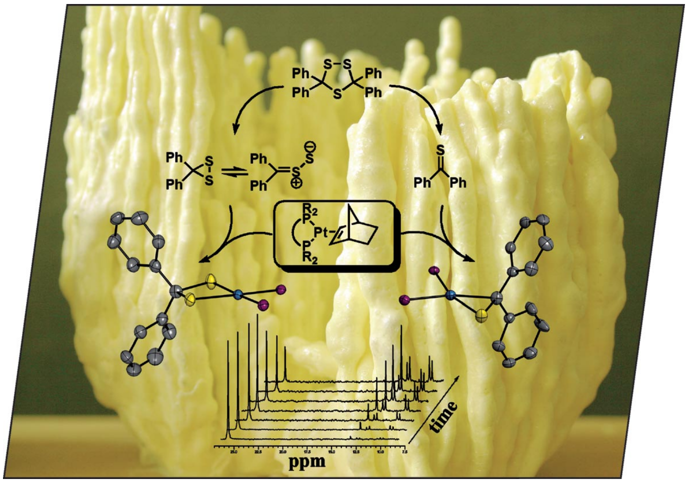
A union formed by chemical societies in Europe (ChemPubSoc Europe) has taken the significant step into the future by merging their traditional journals, to form two leading chemistry journals, the *European Journal of Inorganic Chemistry* and the *European Journal of Organic Chemistry*. Three further members of ChemPubSoc Europe (Austria, Czech Republic and Sweden) are Associates of the two journals.

COVER PICTURE

The cover picture shows the mechanism of the treatment of (bisphosphane)platinum(0) complex fragments bearing various bridged bisphosphane ligands with the 3,3,5,5-tetraphenyl-1,2,4-trithiolane. As a result of these reactions dithiolato complexes and the appropriate η^2-thioketone complexes could be isolated. This, as well as the determined first-order reaction kinetics in the trithiolane, approves the depicted mechanism starting with its decomposition into thioketone and thiosulfine, which is in equilibrium with the corresponding tautomeric dithiirane. The background shows sublimed sulfur (photo by Thomas Weisheit) referring to the investigated sulfur-rich heterocycle. Details are discussed in the article by W. Weigand et al. on p. 3545ff.



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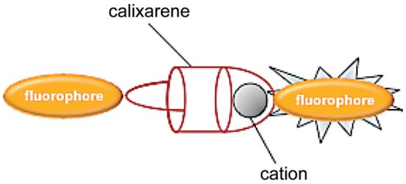
MICROREVIEW

Fluorescent Molecular Sensors

I. Leray*, B. Valeur **3525–3535**

Calixarene-Based Fluorescent Molecular Sensors for Toxic Metals

Keywords: Sensors / Fluorescence / Calixarenes / Heavy metals



This microreview focuses on literature studies dedicated to calixarene-based fluorescent molecular sensors for the detection of toxic metal ions. Special attention is paid to the nature of the cation-induced photophysical effects.

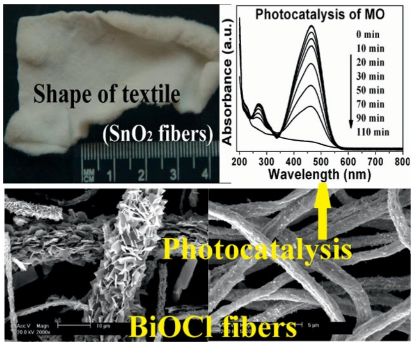
SHORT COMMUNICATIONS

Nanofibers

R. Yuan,* C. Lin, B. Wu, X. Fu **3537–3540**

Synthesis of SnO_2, Fe_2O_3, and BiOCl Fibers from Inorganic Salts by a Templating Route

Keywords: Nanostructures / Template synthesis / Solvothermal processes / Photochemistry



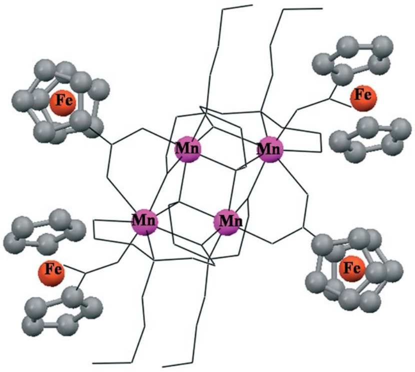
SnO_2, Fe_2O_3, and BiOCl fibers were synthesized using metal chlorides as the precursors through a combined templating route. Interestingly, BiOCl fibers with different morphologies were obtained by varying the solvent and reaction temperature, and they present good photocatalytic activity for the degradation of methyl orange.

Molecular Magnets

K. J. Heroux, A. L. Rheingold, D. N. Hendrickson* **3541–3544**

Ferrocene-Substituted $[Mn_4]$ Dicubane Single-Molecule Magnets

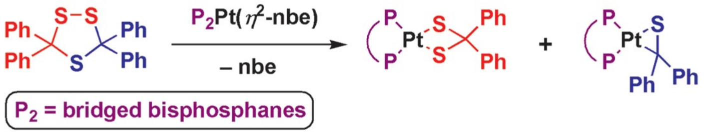
Keywords: Ferrocene / Magnetic properties / Magnetoanisotropy / Manganese / Oxidation / Single-molecule magnet



These $[Mn_4]$ dicubanes are the first ferrocene-substituted single-molecule magnets (SMMs), which are of great interest for further magnetic and electrochemical studies. Redox-active ferrocene-based ligands are attractive for limiting intermolecular interactions by providing steric bulk as well as the possibility of creating cationic species, which can then be further isolated by large counterions.

FULL PAPERS

Fragmentation of Trithiolanes



The reaction of 3,3,5,5-tetraphenyl-1,2,4-trithiolane with several Pt^0 complex fragments bearing bridged bisphosphane ligands results in the formation of the corresponding dithiolato as well as the η^2-thioketone complex. The reactions were found to be of first order, pointing to thermal cycloreversion of the heterocycle as the initial step.

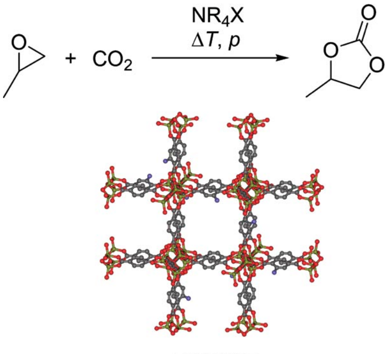
T. Weisheit, H. Petzold, H. Görls, G. Mloston, W. Weigand* 3545–3551

Reaction of 3,3,5,5-Tetraphenyl-1,2,4-trithiolane with Pt^0(bisphosphane)(η^2-nbe) Complexes Bearing Bridged Bisphosphane Ligands with Various Bite Angles

Keywords: P ligands / S ligands / Rearrangement / Thiosulfines / Platinum

Metal-Organic Framework Catalysts

Zn-based mixed-linker metal-organic frameworks (MIXMOFs), in which benzene-1,4-dicarboxylate linkers are partially substituted by functionalized 2-aminobenzene-1,4-dicarboxylate, represent a new class of catalysts for the synthesis of propylene carbonate. The amount of catalytically active amino groups can be controlled by choosing the desired ratio of the two linker molecules.



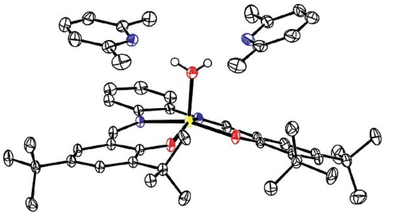
W. Kleist, F. Jutz, M. Maciejewski, A. Baiker* 3552–3561

Mixed-Linker Metal-Organic Frameworks as Catalysts for the Synthesis of Propylene Carbonate from Propylene Oxide and CO_2

Keywords: Carbon dioxide / Coordination polymers / Metal–organic frameworks / Propylene carbonate / Heterogeneous catalysis

A Steric Challenge

The supramolecular interaction between various Zn(salphen) complexes and (substituted) pyridine donors has been studied in detail. The strength of the interaction depends both on the rigidity of the salen bridging fragment as well as on the presence of *ortho*-substituents on the pyridine ligand. Two remarkable four component assemblies were crystallographically characterized.



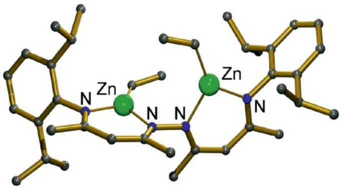
E. C. Escudero-Adán, J. Benet-Buchholz, A. W. Kleij* 3562–3568

Ligation of Substituted Pyridines to Metallosalphen Complexes – Crystallographic Characterization of an Unexpected Four-Component Supramolecular Assembly Comprising a Sterically Demanding Ligand

Keywords: Coordination chemistry / N-heterocyclic ligands / Salen / Supramolecular chemistry / Zinc

Bimetallic Complexes

Bis(salicylaldiminate) and bis(β-diketiminate) ligands, in which the *O*,*N*- and *N*,*N*-chelating units are directly coupled by nitrogen–nitrogen bonding, have been used to prepare a series of Mg, Ca and Zn complexes. In some cases heteroleptic complexes that are stable towards ligand exchange could be isolated.



D. F. -J. Piesik, R. Stadler, S. Range, S. Harder* 3569–3576

Binuclear Magnesium, Calcium, and Zinc Complexes Based on Nitrogen–Nitrogen-Coupled Salicylaldiminate and β-Diketiminate Ligands

Keywords: Alkaline earth metals / Magnesium / Calcium / Zinc / Bimetallic complexes

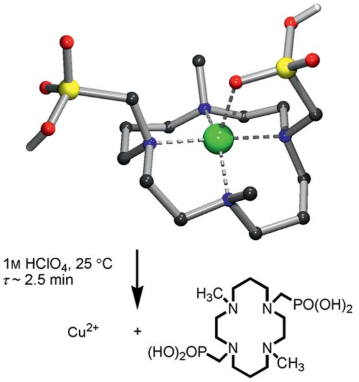
CONTENTS

Copper(II) Selectivity

I. Svobodová, J. Havlíčková, J. Plutnar,
P. Lubal,* J. Kotek,*
P. Hermann 3577–3592

Metal Complexes of 4,11-Dimethyl-1,4,8,11-tetraazacyclotetradecane-1,8-bis-(methylphosphonic acid) – Thermodynamic and Formation/Decomplexation Kinetic Studies

Keywords: Cyclam derivatives / Copper / Kinetics / Macrocyclic ligands / Stability constants



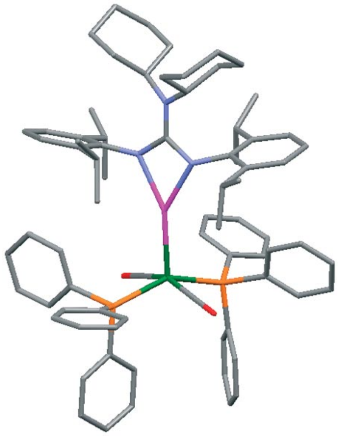
A novel synthetic approach for the introduction of a methylphosphonic acid pendant arm onto the cyclam backbone is presented. The stability of selected divalent metal complexes is described as well as the X-ray structure of the copper(II) complex. Mechanisms of formation/dissociation of copper(II), zinc(II) and cadmium(II) complexes were established.

Metal–Metal Bonds

C. Jones,* A. Stasch, G. J. Moxey,
P. C. Junk, G. B. Deacon 3593–3599

Complexes of Four-Membered Group 13 Metal(I) N-Heterocyclic Carbene Analogues with Metal Carbonyl Fragments

Keywords: Gallium / Indium / Heterocycles / Metal–metal bonding / Structure elucidation / Group 13 elements



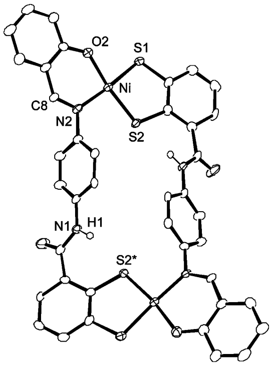
The reactions of gallium(I) and indium(I) heterocycles with transition metal carbonyl compounds have afforded a series of complexes in which the heterocycles act as σ-donors and display negligible π-accepting capabilities. Color code: purple = In, green = Ru, orange = P, red = O, light blue = N.

Dinuclear Nickel Complexes

J. Dömer, F. Hupka, F. E. Hahn,*
R. Fröhlich 3600–3606

Mono- and Dinuclear Coordination Compounds with Directional Bis(bidentate) Ligands

Keywords: Heterodonor ligands / S ligands / N,O ligands / Titanium / Nickel



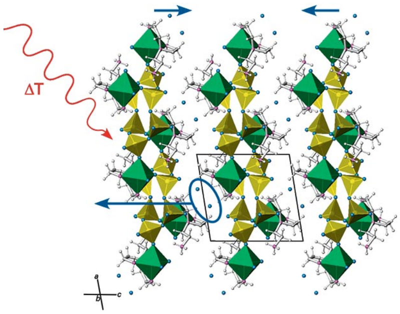
The reaction of a bis(bidentate) heterodonor S-S/N-O ligand with nickel(II) ions yields either a mononuclear complex with an $\{NiS_4\}$ coordination polyhedron or a dinuclear double-stranded complex with two identical $\{Ni(S\text{-}S)(N\text{-}O)\}$ coordination polyhedra, depending on the stoichiometric conditions employed.

Inorganic–Organic Hybrid Vanadates

E. S. Larrea, J. L. Mesa,* J. L. Pizarro,
J. Rodríguez-Fernández, M. I. Arriortua,
T. Rojo 3607–3612

Mild Hydrothermal Synthesis and Structural Determination of Two Layered, Structurally Related Inorganic–Organic Hybrid Vanadates with Nickel(II) and Tris(2-aminoethyl)amine

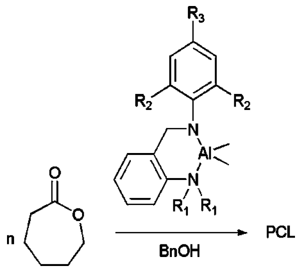
Keywords: Hydrothermal synthesis / X-ray diffraction / Thermochemistry / UV/Vis spectroscopy / Magnetic properties



$Ni_2(C_6H_{19}N_4)_2(V_6O_{18})\cdot 2H_2O$ (**1**) and $Ni_2(C_6H_{19}N_4)_2(V_6O_{18})\cdot H_2O$ (**2**) are structurally related, as the layers from which they are built have the same composition and connectivity. The main difference between them is the layer stacking and water content. Phase **1** undergoes a reversible structural transformation at ca. 60 °C as a result of the dehydration process involving the approach of the layers.

Bidentate N,N Aluminum Complexes

A number of Al complexes were synthesized, characterized, and investigated as catalysts for ring-opening polymerization of ε-caprolactone in the presence of benzyl alcohol.



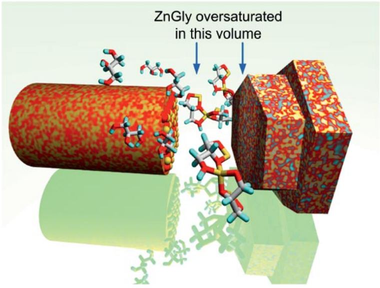
A. Gao, Y. Mu,* J. Zhang, W. Yao 3613–3621

Aluminum Complexes with Bidentate *N*,*N*-Dialkylaniline-arylamido Ligands: Synthesis, Structures, and Catalytic Properties for Efficient Ring-Opening Polymerization of ε-Caprolactone

Keywords: Aluminum / Ring-opening polymerization / N ligands

Reactive Templating

The hydrothermal conversion of ZnO nanorod bundles into zinc glycerolate (ZnGly) microstacks of linear morphology is reported. The hexagonal prisms forming the synthesized ZnGly microstacks are bound together strongly enough to withstand mechanical perturbation by a contacting AFM tip.



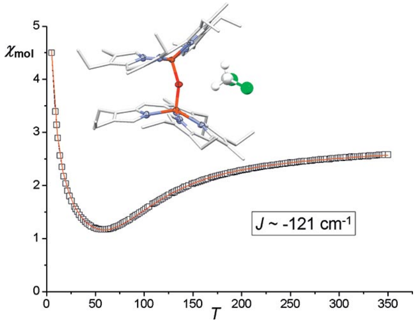
R. Rémiás, Á. Kukovecz,* M. Darányi, G. Kozma, S. Varga, Z. Kónya, I. Kiricsi 3622–3627

Synthesis of Zinc Glycerolate Microstacks from a ZnO Nanorod Sacrificial Template

Keywords: Electron microscopy / Zinc / Nanostructures / Chelates / Sacrificial templating

Iron Bilines

A series of μ-oxido-bridged (2,2′-bidipyrrinato)iron(III) complexes was prepared by a one-pot method and investigated by spectroscopic, crystallographic and magnetic methods. Electronically, the new species are found between related porphyrinoid and salen-type complexes. These compounds show much promise as precursors for the further development of iron chelates with open-chain tetrapyrroles.



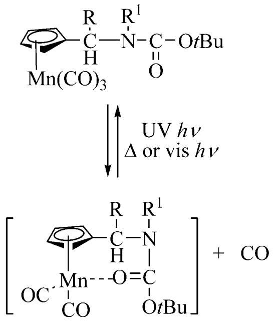
M. Bröring,* S. Köhler, T. Ostapowicz, M. Funk, C. Pietzonka 3628–3635

Preparation, Magnetic and Structural Study on Oxido-Bridged Diiron(III) Complexes with Open-Chain Tetrapyrrolic 2,2′-Bidipyrrin Ligands

Keywords: Iron / Porphyrinoids / Magnetic properties / Oxido ligands

Reversible Photochromic Systems

UV irradiation of Boc-substituted 1-aminoalkylcymantrenes yields dicarbonyl chelate complexes as a result of the coordination of the oxygen atom of the carbamate ligand to the manganese atom. These complexes possess high thermodynamic and kinetic stability in solution and in closed systems can be used for the creation of photochromic systems.



L. N. Telegina, M. G. Ezernitskaya, I. A. Godovikov, K. K. Babievskii, B. V. Lokshin, T. V. Strelkova, Y. A. Borisov, N. M. Loim* ... 3636–3643

Investigation of the Photochemical Behaviour of Tricarbonyl(cyclopentadienyl)manganese Derivatives with Carbamate Groups

Keywords: Photolysis / Carbonyl ligands / Cyclopentadienyl ligands / Manganese

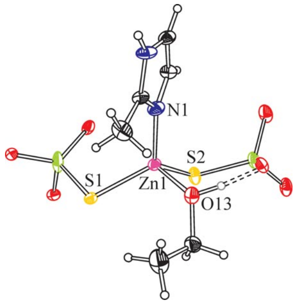
CONTENTS

Zinc Enzyme Models

A. Dołęga,* K. Baranowska, D. Gudat, A. Herman, J. Stangret, A. Konitz, M. Śmiechowski, S. Godlewska 3644–3660

💻 Modeling of the Alcohol Dehydrogenase Active Site: Two Different Modes of Alcohol Binding in Crystals of Zinc and Cadmium Tri-*tert*-butoxysilanethiolates Evidenced by X-ray Diffraction and Solid-State Vibrational Spectroscopy

Keywords: Zinc / Cadmium / N,S ligands / Structure elucidation / Enzyme models / Coordination modes



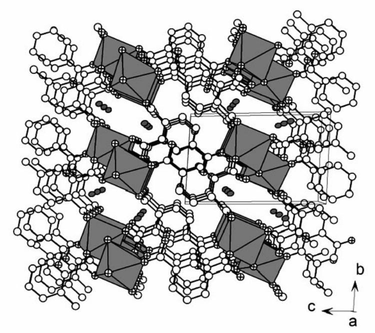
Zinc and cadmium tri-*tert*-butoxysilanethiolates with 2-methylimidazole as a co-ligand are close structural models of the active site of alcohol dehydrogenase (LADH, EC 1.1.1.1). These complexes, which are capable of binding methanol and ethanol, were characterised by FTIR, ^{13}C, ^{29}Si, and ^{113}Cd NMR spectroscopy and X-ray diffraction.

Coordination Polymers

H.-T. Chung, H.-L. Tsai, E.-C. Yang, P.-H. Chien, C.-C. Peng, Y.-C. Huang, Y.-H. Liu* 3661–3666

💻 A New Manganese Coordination Polymer Containing 1,2,4-Benzenetricarboxylic Acid

Keywords: Manganese / Metal-organic frameworks / Solvothermal synthesis / Crystal engineering / Magnetic properties



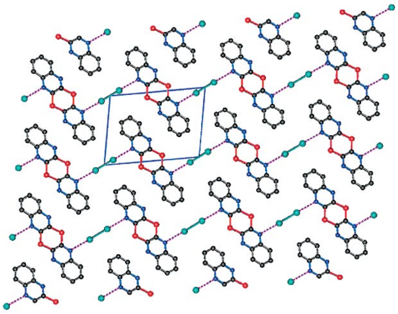
The antiferromagnetic three-dimensional coordination polymer $Mn(H_2O)[C_6H_3(CO_2)_2(CO_2H)]\cdot(H_2O)$ (**FJU-2**), which contains elliptical hydrophilic 1D channels, is assembled under pH-controlled hydrothermal conditions using a partially deprotonated unsymmetrical ligand (1,2,4-benzenetricarboxylic acid) as the organic linker.

Iodine Storage

F. Isaia,* M. C. Aragoni, M. Arca, F. Demartin, F. A. Devillanova, G. Ennas, A. Garau, V. Lippolis, A. Mancini, G. Verani 3667–3672

💻 Molecular Iodine Stabilization in an Extended N···I–I···N Assembly

Keywords: N,S Ligands / Donor-acceptor systems / Iodine / Density functional calculations / X-ray diffraction



Bis(quinoxaline)-2,2′,3,3′-disulfide (Q_2S_2) forms a stable solid adduct with molecular I_2, $(Q_2S_2\cdot I_2)_\infty$. The facile insertion of I_2 into the Q_2S_2 network makes this compound suitable for I_2 storage. Q_2S_2 can easily collect and release $I_2(g)$ by a temperature-controlled process.

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* Author to whom correspondence should be addressed.

💻 Supporting information on the WWW (see article for access details).