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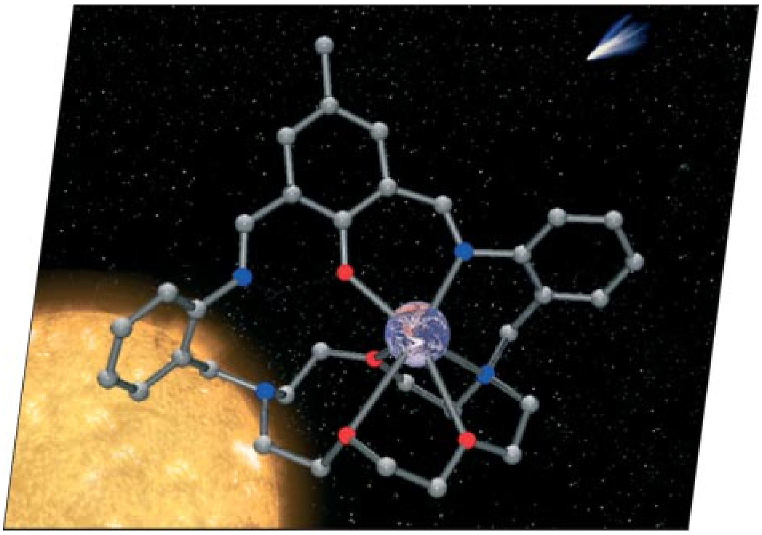
The EUChemSoc Societies have taken the significant step into the future by merging their traditional journals, to form two leading chemistry journals, the *European Journal of Inorganic Chemistry* and the *European Journal of Organic Chemistry.* Three further EUChemSoc Societies (Austria, Czech Republic and Sweden) are Associates of the two journals.

COVER PICTURE

The cover picture shows a crown-based lateral macrobicycle designed by our research group as a potential ligand for Pb^{II} complexation. Lead is recognized worldwide as a serious environmental pollutant, and although it is a natural component of soil, water and vegetation, anthropogenic emissions have contributed to the dramatic increase in its level in the environment. The removal of lead from the environment and biological systems is the aim of many research groups. In particular, we are interested in the design of Pb^{II}-complexing agents based on crown frameworks. In this picture, the complexed Pb^{II} ion has been replaced by our beautiful but polluted blue planet. The cover picture symbolizes the need for innovative ideas to solve the problem of environmental lead pollution − one solution includes the design of selective complexing agents. Details are discussed in the article by A. de Blas, T. Rodríguez-Blas et al. on p. 1635 ff.



CONTENTS

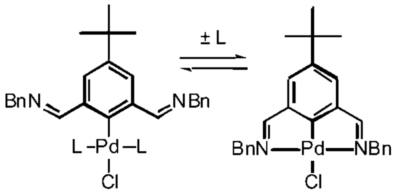
SHORT COMMUNICATIONS

Ligand Indexing

M. Minakawa, K. Takenaka, Y. Uozumi* **1629–1631**

Pd Pincer Complex as a Probe To Index the Coordination Ability of Various Ligands

Keywords: Pincer complexes / Coordination / Palladium / Phosphane ligands / Mondentate ligands



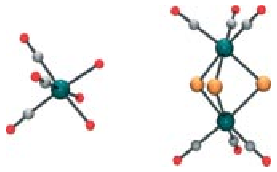
The coordination constants of 27 monodentate ligands (L) with a pincer palladium complex to form complexes of the type ArPd(L)$_2$Cl were determined by *1*H NMR spectroscopy. This allowed the coordination ability of a wide variety of ligands, including P-, N-, and As-coordinating ligands, to be indexed.

Bioorganometallic Re Complexes

R. S. Herrick,* C. J. Ziegler,* A. Çetin, B. R. Franklin **1632–1634**

Structure of the Triaquatricarbonylrhenium(I) Cation and Its Conjugate Base

Keywords: Aqua ligands / Carbonyl ligands / Hydrolysis / Rhenium



The crystal structure of the Re(CO)$_3$(H$_2$O)$_3^+$ cation has been determined, once with the Re$_2$(CO)$_9$(μ$_3$-Br)$_3^-$ anion and once co-crystallized with the conjugate base, Re(CO)$_3$(OH)(H$_2$O)$_2$, with a PF$_6^-$ anion. The unexpected stability of the hydroxo compound may be due to disordering of the hydroxo and aqua ligands.

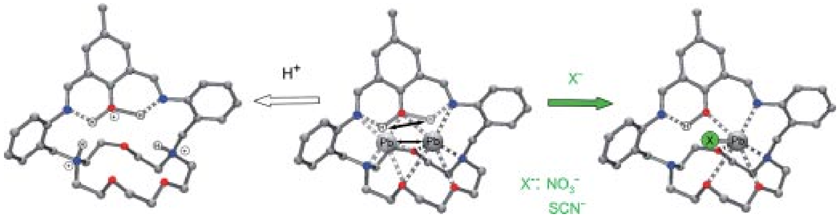
FULL PAPERS

Lead(II) Coordination

D. Esteban-Gómez, C. Platas-Iglesias, F. Avecilla, A. de Blas,* T. Rodríguez-Blas* **1635–1643**

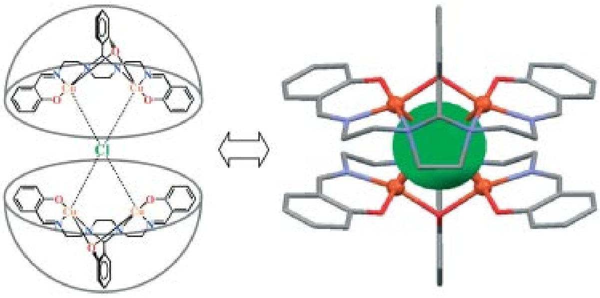
Effect of Protonation and Interaction with Anions on a Lead(II) Complex with a Lateral Macrobicycle Containing a Phenol Schiff-Base Spacer

Keywords: Lead / Macrocycles / N,O ligands / Density functional calculations



The macrobicyclic receptor derived from 1,10-diaza-15-crown-5 incorporating a phenol Schiff-base spacer forms stable complexes with lead(II). In [Pb(L^4)(ClO$_4$)](ClO$_4$)·CH$_3$CN the Pb^{II} ion is asymmetrically placed at the one end of the macrobicyclic cavity inducing chirality in the corresponding complex. The effect of the protonation on the complex at room temperature has been studied, finding that protonation causes demetallation of the complex without receptor destruction i.e. the receptor is recovered in its protonated form. Likewise, since in solution the Pb^{II} ion is coordinatively unsaturated in the complex, the interaction of the Pb^{II} complex with anions such as NO$_3^-$ and SCN$^-$ has been evaluated by using spectrophotometric titrations in acetonitrile.

Tetracopper Clusters



The new cluster $[Cu_4(\mu_4\text{-}Cl)L_2]ClO_4{\cdot}12H_2O$ is obtained by self-assembly of two $[Cu_2L]^+$ cations around the spherical Cl^- anion and shows an unprecedented single atom nucleating exogenous symmetric bridging mode. This anion-centred cluster formation is responsible for Cl^- entrapment during metal coordination in a μ_4 fashion.

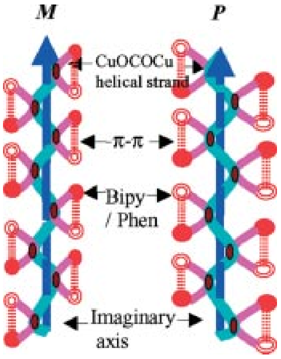
A. R. Paital, C. S. Hong, H. C. Kim, D. Ray* .... **1644−1653**

$[Cu^{II}_4]$ Clusters From the Self-Assembly of Two Imidazolidinyl 2-Phenolate-Bridged $[Cu^{II}_2]$ Units: The Role of the Chloride Bridge

Keywords: Template synthesis / Self-assembly / Cluster compounds / Copper / Magnetic properties

Helical Coordination Polymers

Self-assembled ternary Cu^{II} complexes containing a diamine and a racemic amino acid are shown to form optically pure homochiral and racemic helicates. The folded and extended conformations of the amino acid moieties in $[Cu(DA)(\text{D,L-phe})]^+$ (DA = 1,10-phenanthroline; D,L-phe = racemic phenylalanine) are found to form novel chiral helical structures



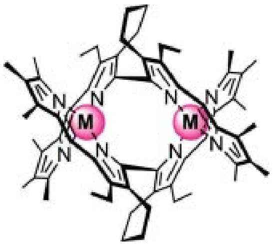
P. S. Subramanian,* E. Suresh, L. Casella* .... **1654−1660**

Supramolecular Helical Architectures Dictated by Folded and Extended Conformations of the Amino Acid in Ternary Cu^{II}/Diamine/Racemic Amino Acid Complexes

Keywords: Helicates / Self-assembly / Copper / Chiroptical properties / Amino acids

Helicates

Helical mono- and dinuclear transition-metal chelates form upon treatment of simple Ni^{II}, Pd^{II}, Cu^{II} and Zn^{II} salts with new constrained 2,2′-bidipyrrin ligands. X-ray crystallographic work revealed that dinuclear helicates of Cu^{II} and Zn^{II} form interesting packing patterns in the solid.

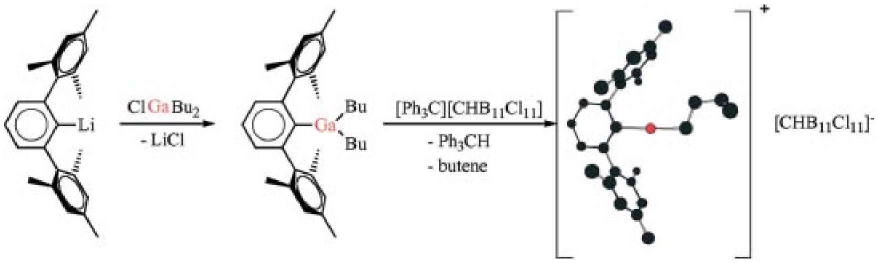


M. Bröring,* S. Link, C. D. Brandt, E. C. Tejero .... **1661−1670**

Helical Transition-Metal Complexes of Constrained 2,2′-Bidipyrrins

Keywords: 2,2′-Bidipyrrins / Helicates / Constrained ligands / Porphyrinoids / Coordination modes

Cationic Organogallanes



m-Terphenylalanes and -gallanes are obtained from the reaction of *m*-terphenyllithium with MCl_3, $AlH_3{\cdot}NMe_3$, or $ClGaBu_2$. Butanide abstraction from the dibutyl(*m*-terphenyl)gallanes [(terph)$GaBu_2$] with trityl salts of weakly coordinating anions ($[A]^-$) affords the ionic species $[(terph)GaBu]^+[A]^-$.

J. D. Young, M. A. Khan, D. R. Powell, R. J. Wehmschulte* .... **1671−1681**

m-Terphenylaluminum and -gallium Compounds: Synthesis and Conversion into Low-Coordinate Organogallium Cations

Keywords: Aluminum / Cations / Gallium / Lewis acids / Low coordination

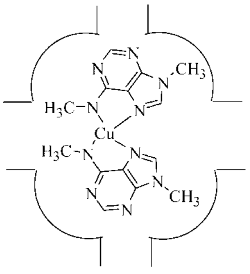
CONTENTS

Host−Guest Chemistry

N. Nunes, R. Amaro, F. Costa, E. Rombi, M. A. Carvalho, I. C. Neves,* A. M. Fonseca .... 1682−1689

Copper(II)−Purine Complexes Encapsulated in NaY Zeolite

Keywords: N ligands / Copper / NaY / Encapsulation / Host−guest chemistry / Oxidation



A

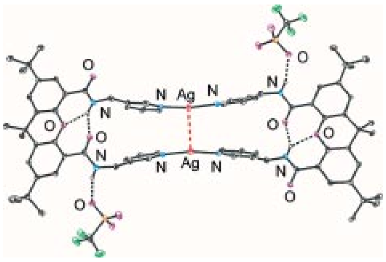
Copper−purine complexes were encapsulated in Y zeolite. A combination of different characterization techniques (XPS, SEM, XRD, ICP-AES, EPR, FTIR, UV/Vis and TGA) was used to identify the different copper−purine species. Complex **A** was formed at pH ≥ 7.

Supramolecular Chemistry

N. L. S. Yue, M. C. Jennings, R. J. Puddephatt* .... 1690−1697

Supramolecular Chemistry and Anion Binding in Palladium(II) and Silver(I) Complexes Containing *N,N′*-Dipyridylxanthene-4,5-dicarboxamide Ligands

Keywords: Supramolecular / Polymers / Silver / Palladium



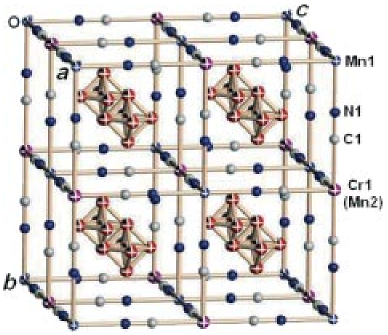
Hydrogen bonding in ligands containing *N,N′*-dipyridylxanthene-4,5-dicarboxamide units can orient the pyridine donor groups to favor macrocycle formation, in complexes of silver(I) or palladium(II), and can either enhance anion binding or control self-assembly of supramolecular polymers.

Ferrimagnets

X.-P. Shen, Y.-Z. Li, Y. Song, Z. Xu,* G.-C. Guo .... 1698−1702

Single-Crystal Structure and Magnetic Behavior of a Molecule-Based Ferrimagnet Mn[$Mn_{0.2}Cr_{0.8}(CN)_6$]·$4H_2O$

Keywords: Prussian blue analogue / Crystal structure / Magnetic properties / Chromium / Manganese



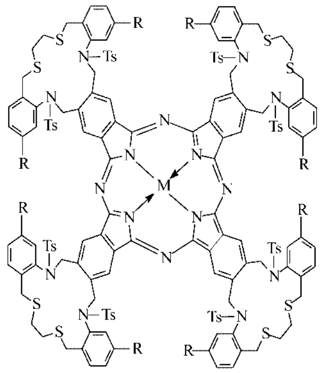
A novel Prussian-blue-type ferrimagnet Mn[$Mn_{0.2}Cr_{0.8}(CN)_6$]·$4H_2O$ has been characterized by single-crystal X-ray structure analysis and magnetic measurements. The complex has a face-centered cubic lattice and indicates ferrimagnetic ordering below $T_c = 63$ K.

Organosoluble Phthalocyanines

A. Bilgin,* B. Ertem, Y. Gök .... 1703−1712

Highly Organosoluble Metal-Free Phthalocyanines and Metallophthalocyanines: Synthesis and Characterization

Keywords: Soluble phthalocyanine / Phthalonitrile / Macrocycles / Nickel / Zinc

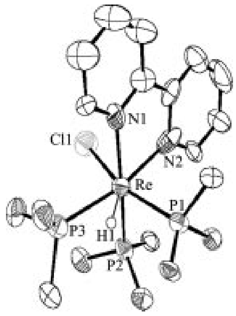


M: 2H, Zn, Cu, Ni
R: *tert*-butyl, X: CN or Br

Cation-binding abilities, electrical conductivities and thermal properties of metal-free phthalocyanines and metallophthalocyanines containing macrocyclic units were evaluated.

Classical Polyhydrido Complexes

Protonation of heptacoordinate mixed-ligand mono- and dihydridorhenium(III) complexes with $HBF_4{\cdot}Et_2O$ leads to Re^V polyhydrido derivatives, whereas treatment with terminal alkynes affords vinylrhenium complexes.



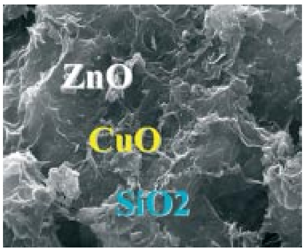
G. Albertin,* S. Antoniutti, J. Castro, S. García-Fontán, G. Schipilliti .... 1713−1722

Preparation and Reactivity of Hydridorhenium Complexes with Polypyridine and Phosphonite Ligands

Keywords: Hydrido ligands / P ligands / Protonation / Rhenium / Vinyl complexes

Heterogeneous Catalysis

By a combination of sol-gel synthesis and subsequent photochemical oxidation, nanoparticles of CuO and ZnO are imbedded into a matrix of amorphous silica. The composites show a high specific surface area and a considerable activity in methanol synthesis.



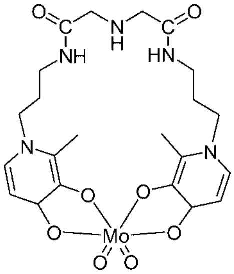
B. Rohe, R. Weiss, S. Vukojević, C. Baltes, M. Muhler, M. Tausch, M. Epple* .... 1723−1727

CuO/ZnO Nanoparticles in a Matrix of Amorphous Silica as High-Surface Precursors for Methanol Synthesis

Keywords: Heterogeneous catalysis / Copper / Zinc oxide / Silica / Nanoparticles / Surface coating

Molybdenum(VI) Chelates

The molybdenum(VI) binding properties of bis(3-hydroxy-2-methyl-4-pyridinone)IDA and -EDTA derivatives were studied. Both of the ligands form quite stable 1:1 Mo^{VI} complexes. However, the extra functional groups of the EDTA derivative can improve the bioavailability of the complexes and also potentiate extra interactions with biological sites.



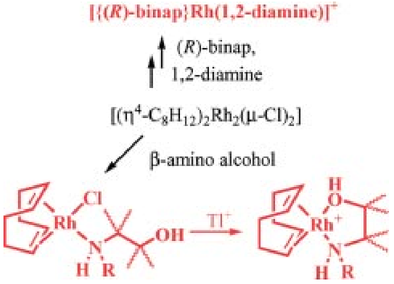
M. A. Santos,* S. Gama, J. C. Pessoa, M. C. Oliveira, I. Tóth, E. Farkas* .... 1728−1737

Complexation of Molybdenum(VI) with Bis(3-hydroxy-4-pyridinone)amino Acid Derivatives

Keywords: Molybdenum / Hydroxypyridinones / Hydroxypyridinonate complexes / Chelates

Low-Valent Rh Complexes

New rhodium complexes with κ*N*-monodentate and κ*N*,κ*O*-bidentate β-amino alcohols, as well as chelating 1,2-diamine ligands, were prepared. Coordination chemistry and catalytic C=O hydrogenation reactions were investigated.



L. Dahlenburg,* H. Treffert, C. Farr, F. W. Heinemann, A. Zahl .... 1738−1751

Rhodium(I) Complexes Containing β-Amino Alcohol and 1,2-Diamine Ligands: Syntheses, Structures, and Catalytic Applications

Keywords: Rhodium / N,O ligands / N,N ligands / X-ray diffraction / Catalysis

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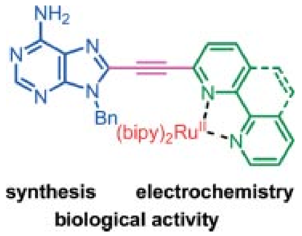
Ru-Labelled Purines

M. Vrábel, M. Hocek,* L. Havran, M. Fojta,* I. Votruba, B. Klepetářová, R. Pohl, L. Rulíšek, L. Zendlová, P. Hobza, I-h. Shih, E. Mabery, R. Mackman .... 1752−1769

Purines Bearing Phenanthroline or Bipyridine Ligands and Their Ru^{II} Complexes in Position 8 as Model Compounds for Electrochemical DNA Labeling − Synthesis, Crystal Structure, Electrochemistry, Quantum Chemical Calculations, Cytostatic and Antiviral Activity

Keywords: Purines / Nucleobases / Bipyridines / Phenanthrolines / Ru complexes / Electrochemistry



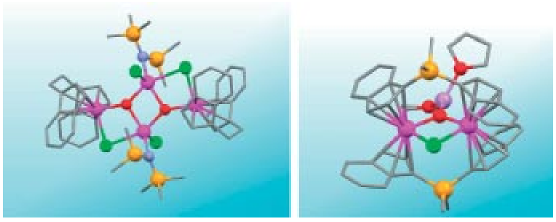
Model compounds for DNA labeling: a series of diverse adenine- and oligopyridine-type ligand conjugates and their Ru and Os complexes were prepared by cross-coupling and/or complexation reactions. Interesting electrochemical properties and strong antiviral activity were found and are discussed.

Ytterbium Complexes

L. Cheng, Y. Feng, S. Wang,* W. Luo, W. Yao, Z. Yu, X. Xi, Z. Huang .... 1770−1777

Synthesis and Structural Characterization of Novel Ytterbium(III) Complexes with both a μ-Oxo Group and Bridged Indenyl Ligands, and Ytterbium(II) Complexes with Bridged Indenyl Ligands

Keywords: Organometallic compounds / Lanthanoids / Synthesis / Ytterbium / X-ray diffraction



The reaction of the ytterbium(III) amide $[(Me_3Si)_2N]_3Yb(\mu\text{-}Cl)Li(thf)_3$ with different bridged indene compounds in the presence of external donor ligands led to the isolation and characterization of ytterbium(II) and ytterbium(III) complexes containing μ-oxo group(s), depending on the reaction conditions.

If not otherwise indicated in the article, papers in issue 11 were published online on March 27, 2007