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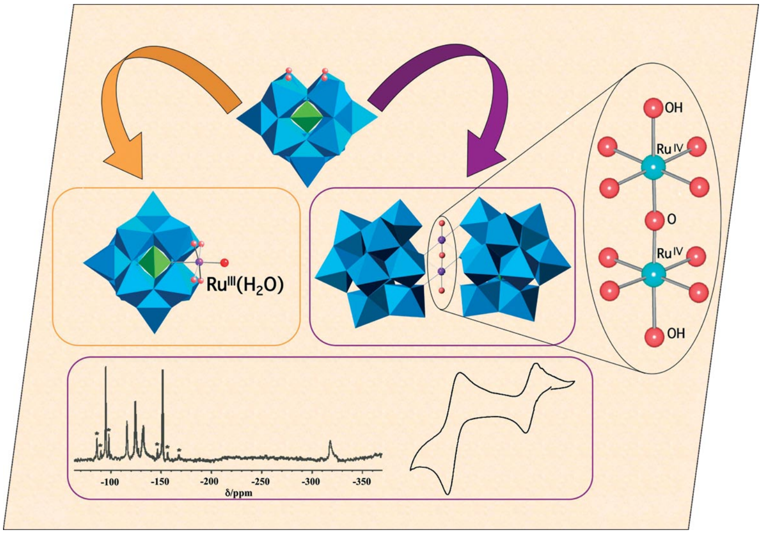
The EUChemSoc Societies have taken the significant step into the future by merging their traditional journals, to form two leading chemistry journals, the *European Journal of Inorganic Chemistry* and the *European Journal of Organic Chemistry.* Three further EUChemSoc Societies (Austria, Czech Republic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

COVER PICTURE

The cover picture shows the formation of water-soluble ruthenium derivatives of heteropolytungstates. Depending on the experimental conditions, the authors were able to isolate the new $[\{PW_{11}O_{39}\}_2\{(HO)Ru^{IV}-O-Ru^{IV}(OH)\}]^{10-}$ anion. This complex, which has been obtained under hydrothermal conditions, contains an $\{(HO)Ru^{IV}-O-Ru^{IV}(OH)\}$ moiety that links two monovacant $[\alpha\text{-}PW_{11}O_{39}]^{7-}$ subunits. It is one of the rare examples of a polyoxometalate that contains noble-metal cations in a high oxidation state. The strategy for the synthesis and the full characterization in the solid-state and in solution of this compound are discussed in the article by A. Proust et al. on p. 2137ff.



CONTENTS

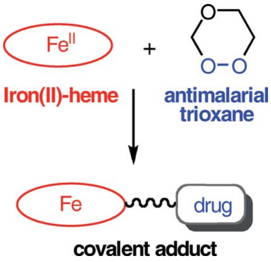
SHORT COMMUNICATION

Alkylating Trioxanes against Malaria

F. Bousejra-El Garah, B. Meunier,
A. Robert* 2133–2135

The Antimalarial Artemisone Is an Efficient Heme Alkylating Agent

Keywords: Alkylation / Artemisone / Heme / Malaria / Trioxane



The antimalarial 1,2,4-trioxane artemisone is an efficient alkylating agent of heme in vitro. This property shared by all biologically active artemisinin derivatives may be responsible for their activity against *Plasmodium*, the malaria parasite located in red blood cells.

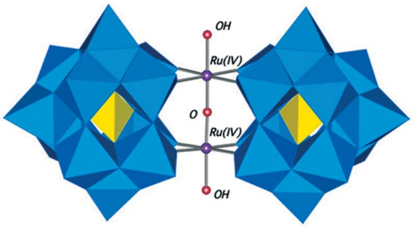
FULL PAPERS

Ru-Containing Polyoxometalates

S.-W. Chen, R. Villanneau, Y. Li,
L.-M. Chamoreau, K. Boubekeur,
R. Thouvenot, P. Gouzerh,
A. Proust* 2137–2142

Hydrothermal Synthesis and Structural Characterization of the High-Valent Ruthenium-Containing Polyoxoanion $[\{PW_{11}O_{39}\}_2\{(HO)Ru^{IV}{-}O{-}Ru^{IV}(OH)\}]^{10-}$

Keywords: Polyoxometalates / Ruthenium / Tungsten / Raman spectroscopy



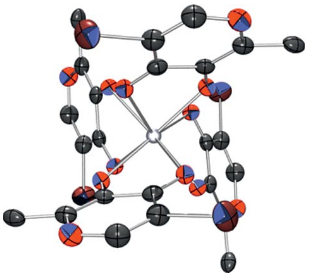
The hydrothermal synthesis and characterization (X-ray diffraction, IR, multinuclear NMR spectroscopy, electrochemistry) of the high-valent ruthenium-containing heteropolytungstate $[\{PW_{11}O_{39}\}_2\{(HO)Ru{-}O{-}Ru(OH)\}]^{10-}$ are reported. This complex can be obtained by the association of two $[PW_{11}O_{39}]^{7-}$ subunits linked by a $\{Ru^{IV}{-}O{-}Ru^{IV}\}$ diamagnetic core. Electrochemistry shows that it can be reversibly oxidized (one-electron process) or reduced (two-electron process).

Pu^{IV} Coordination Geometries

G. Szigethy, J. Xu, A. E. V. Gorden,
S. J. Teat, D. K. Shuh,
K. N. Raymond* 2143–2147

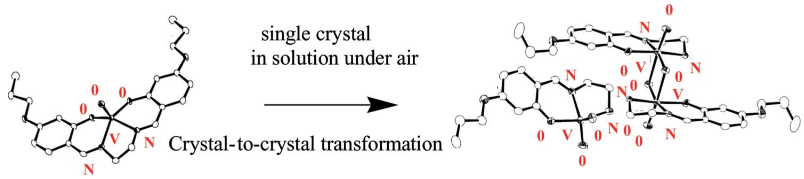
Surprising Coordination Geometry Differences in Ce^{IV}- and Pu^{IV}-Maltol Complexes

Keywords: Actinoids / Chelating agents / Coordination compounds / Plutonium



The Pu^{IV} and Ce^{IV} tetrakis complexes of maltol and bromomaltol are reported. While Ce^{IV} is usually a close structural analog for Pu^{IV} there is a dramatic difference in geometry between their bromomaltol complexes with the Ce^{IV} complex (shown) displaying a previously unknown trigonal-faced dodecahedral geometry.

VO_2^V and VO^V Complexes



The different compounds of the VO_2^V or VO^V complexes with shorter 4-substituted alkoxy chains (n = **3**, **4**, and **6**) from the corresponding VO^{IV} complexes have been obtained under aerobic conditions in the absence or presence of $HClO_4$. For the longer alkoxy chains with $n \geq 8$, the crystal-to-crystal transformation from the VO^{IV} to the VO_2^V complexes did not occur under aerobic conditions. The ion-association properties of $[VO\{(4\text{-}C_nH_{2n+1}O)_x\text{salen}\}]^+\text{-}ClO_4^-$ (x = 1, 2, n = 3–12) in methanol are independent of alkoxy chain lengths and are discussed with those of the solid-sate materials.

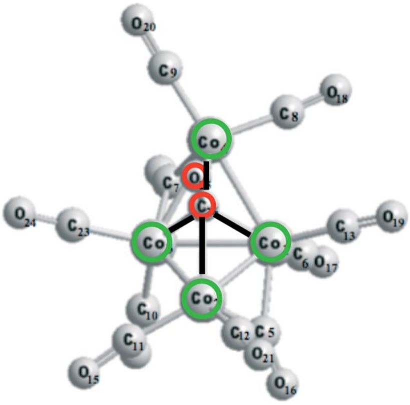
Y. Abe,* A. Iyoda, K. Seto, A. Moriguchi, T. Tanase, H. Yokoyama 2148–2157

Synthesis, Structures and Ion-Association Properties of a Series of Schiff Base Oxidovanadium(V) Complexes with 4-Substituted Long Alkoxy Chains

Keywords: Schiff base ligands / Oxidovanadium(V) complexes / Crystal-to-crystal transformation / Ion association / DFT calculations

Carbonylcobalt Clusters

The unsaturated $Co_4(CO)_{11}$ is predicted by density functional theory to have a structure with one μ_4-CO group bridging all four cobalt atoms in a Co_4 butterfly. This μ_4-CO group is predicted to have a relatively long C–O bond of 1.226 (BP86) with a correspondingly low ν(CO) frequency of 1636 cm^{-1}.



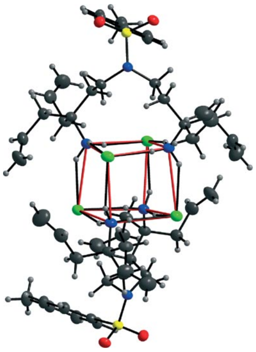
X. Zhang, Q.-s. Li,* Y. Xie, R. B. King,* H. F. Schaefer III 2158–2164

A Carbonyl Group Bridging Four Metal Atoms in a Homoleptic Carbonylmetal Cluster: The Remarkable Case of $Co_4(CO)_{11}$

Keywords: Cobalt / Metal clusters / Carbonylmetal groups / μ_4-Carbonyl groups

Ammonium Chloride Clusters

A tetrameric ammonium chloride cluster with a heterocubane structure held together by hydrogen bonding has been synthesized and structurally characterized.



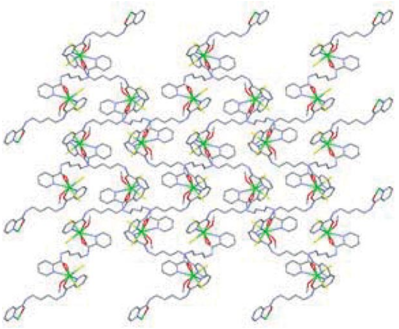
N. Schulenberg, O. Hübner, E. Kaifer, H.-J. Himmel* 2165–2169

Synthesis and Structural Characterization of a Tetrameric Ammonium Chloride Cluster

Keywords: Atmospheric chemistry / Cluster compounds / Hydrogen bonding / Quantum chemical calculations

Rare-Earth Complexes

The self-assembly reaction of $RECl_3 \cdot nH_2O$ (RE = Pr, Nd, Eu, Tb) with 1,4-bis(pyridine-2-carboxamido)butane as a flexible coordination unit led to the formation of two-dimensional coordination networks.



M. G. van der Horst, G. A. van Albada, R.-M. Ion, I. Mutikainen, U. Turpeinen, S. Tanase,* J. Reedijk 2170–2176

Extended Networks Generated from the Interaction of Rare-Earth(III) Ions and Pyridine-2-carboxamide-Based Ligands

Keywords: Rare earths / Crystal structure / Bridging ligands / Magnetic properties / Luminescence

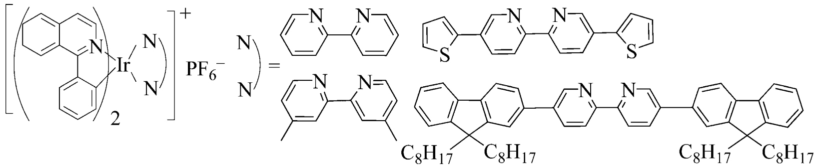
CONTENTS

Ionic Iridium Complexes

S.-J. Liu, Q. Zhao, Q.-L. Fan,*
W. Huang* 2177–2185

A Series of Red-Light-Emitting Ionic Iridium Complexes: Structures, Excited State Properties, and Application in Electroluminescent Devices

Keywords: Excited states / Iridium / Ionic complexes / Phosphorescence



The substituents on the N^N ligands of the ionic diiminoiridium complexes [Ir(piq-C^N)$_2$(L-N^N)](PF$_6$) were found to influence the photophysical and electrochemical properties of the complexes. A nondoped, single-layer device was fabricated and red phosphorescence was obtained.

Topochemical Synthesis

L. Li, J. Chen, J. Deng, R. Yu, L. Qiao,
G. Liu, X. Xing* 2186–2190

Topochemical Synthesis of Micron-Platelet (Na$_{0.5}$K$_{0.5}$)NbO$_3$ Particles

Keywords: Template synthesis / Niobium / Layered compounds / Ceramics / Salt effect

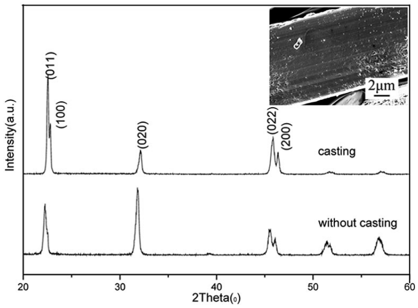


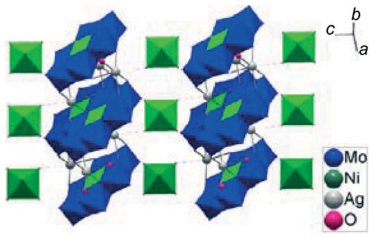
Plate-like (Na, K)NbO$_3$ particles were synthesized from the platelet precursor K$_4$Nb$_6$O$_{17}$ using a topochemical microcrystal conversion reaction. The K$^+$ ions in the molten salt competed with Na$^+$ ions to occupy the A-sites of (Na, K)NbO$_3$. Particles of (Na$_{0.5}$K$_{0.5}$)NbO$_3$ were accurately synthesized by controlling the amount of the reactant Na$_2$CO$_3$.

2D Polyoxomolybdates

F.-X. Liu,* C. Marchal-Roch,
D. Dambournet, A. Acker, J. Marrot,
F. Sécheresse 2191–2198

From Molecular to Two-Dimensional Anderson Polyoxomolybdate: Synthesis, Crystal Structure, and Thermal Behavior of [{Ni(H$_2$O)$_4$}$_2${Ni(OH)$_6$Mo$_6$O$_{18}$}]·4H$_2$O and [Ni(H$_2$O)$_6$][Ag$_2${Ni(OH)$_6$Mo$_6$O$_{18}$}]·8H$_2$O

Keywords: Polyoxometalates / Silver / Nickel / Molybdenum



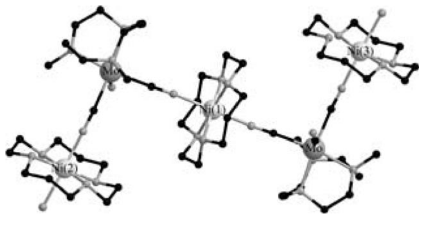
Different effects of Ni^{2+} and Ag$^+$ on polyoxometalates are studied. Ni^{2+} ions interlink the Anderson anions to form two-dimensional frameworks, whereas only Ag$^+$ ions participate in the connections when both Ni^{2+} and Ag$^+$ are present. Silver stabilizes the structure, and hydration–dehydration processes are reversible up to 220 °C for Ag–Ni mixed compounds.

Magnetostructural Correlations

Y.-Q. Zhang,* C.-L. Luo 2199–2206

Density Functional Theory Studies of the Magnetostructural Correlations in the Cyano-Bridged Mo$_2$Ni and Mo$_2$Ni$_3$ Systems

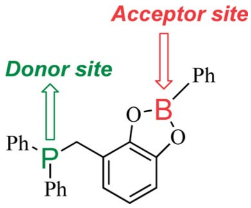
Keywords: Molecular magnetism / Density functional calculations / Broken symmetry / Cyano-bridged systems / Molybdenum



Calculations by two approaches with several local density approximations (LDAs) and generalized gradient approximations (GGAs) show that increasing the number of exchange coupling interactions from one to two will decrease the ferromagnetic MoNi interactions, but a further increase in this number from two to three or four will not weaken the MoNi interactions for the MoNi systems that we investigated.

Lewis Donor−Acceptor Units

The ability of a phosphane-substituted benzo-1,3,2-dioxaborol to act as an ambiphilic ligand through simultaneous complexation at the P-donor and B-acceptor sites is demonstrated. Bifunctional adducts with Pd−P and B−N dative bonds are obtained. Although the adducts are stable only in the solid state, this approach offers prospects for the assembly of novel multimetallic complexes.



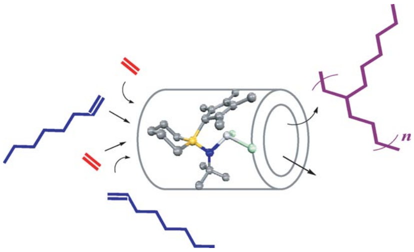
S. Chikkali, S. Magens, D. Gudat,* M. Nieger, I. Hartenbach, T. Schleid .... **2207−2213**

A Phosphanyl-Substituted Benzo-1,3,2-dioxaborol as Ambiphilic Bifunctional Lewis Donor−Acceptor Unit

Keywords: Phosphanes / Boranes / Lewis acids / Lewis bases / Donor−acceptor systems

Ring Size Effect on Catalytic Activity

Constrained geometry complexes (Cp*CySiN)$TiCl_2$, with cyclic silylene-bridges, proved to be highly efficient catalyst precursors for olefin homo- and copolymerization when activated with $Ph_3CB(C_6F_5)_4$/Al(iBu)$_3$. A six-membered cyclic silylene-bridged complex exhibited enhanced high-temperature catalytic activity due to the formation of a stable six-membered ring at the bridging position.



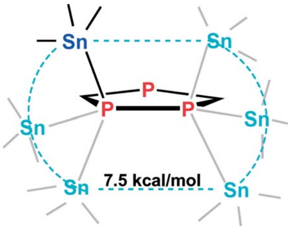
E. Kang, S.-K. Kim, T.-J. Kim, J.-H. Chung, J. S. Hahn, J. Ko,* M.-A. Ok, M. Cheong, S. O. Kang* .... **2214−2224**

Structure−Catalytic Activity Relationship in Bridging Silacycloalkyl Ring Conformations of Constrained Geometry Titanium Complexes

Keywords: Si ligands / Cyclopentadienyl ligands / Titanium / Isomers / Structure−activity relationships

Labile P−Sn Bonds

A chiral substituent allows the details of the remarkable mobility of stannyl groups attached to an unsaturated P_3 heterocycle to be determined.



M. Hofmann, T. Clark, F. W. Heinemann, U. Zenneck* .... **2225−2237**

Rock around the Ring: An Experimental and Theoretical Study of the Molecular Dynamics of Stannyltriphospholes with Chiral Tin Substituents

Keywords: Phosphorus heterocycles / Tin / Stereochemistry / Molecular dynamics / Density functional calculations

Boron and Tin(II) Heterocycles

The reaction of the diaminonaphthalene dilithium salt $(THF)_2Li_2[(NSiMe_3)_2C_{10}H_6]$ with BX_3 (X = Cl, Br) provided the monomeric complexes $BX[(NSiMe_3)_2C_{10}H_6]$ [**3** (X = Cl), **4** (X = Br)] with a tricoordinate boron atom as potential precursor of carbene analogs. The diaminonaphthalene dilithium salt of composition $(THF)_2Li_2[(N\text{-}Si\mathit{i}Pr_3)_2C_{10}H_6]$ reacts with $SnCl_2$ to yield complex **5**, a carbene analog.

V. M. Jiménez-Pérez, B. M. Muñoz-Flores, H. W. Roesky,* T. Schulz, A. Pal, T. Beck, Z. Yang, D. Stalke, R. Santillan, M. Witt .... **2238−2243**

Monomeric Boron and Tin(II) Heterocyclic Derivatives of 1,8-Diaminonaphthalenes: Synthesis, Characterization and X-ray Structures

Keywords: Boron / Stannylene / 1,8-Bis(silylamino)naphthalene