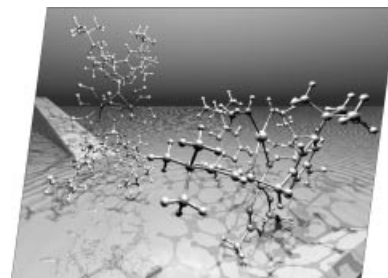


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COVER PICTURE

The cover picture shows the structures of two new types of calix[4]arene complexes obtained by deprotonating the calix-arene with an alkaline earth metal, or potassium metal, followed by reaction with selected titanium(IV) compounds. The alkaline earth metals form dimeric alkaline earth-titanium(IV) complexes, containing at the core a rhombus of alternating alkaline earth metal and μ_3 -oxo centres. Each oxo centre of the rhombic core is the apical ligand of a square-pyramidal titanium(IV) centre, whose basal plane donors are the four phenolate oxygen atoms from a calix[4]arene arrayed in the symmetrical cone conformation. Terminal methanol ligands surround the alkaline earth centres, and simultaneously hydrogen-bond to the adjacent phenolate oxygen atoms. Potassium reacts with calix[4]arene and the titanium(IV) source to give a monomeric mixed potassium-titanium complex. The potassium cation binds within the π -basic calix[4]-arene cavity, whilst the titanium centre is octahedrally complexed in the *exo* position by four phenolate and one acetyl-acetonate ligands. A solution pathway exists for the inter-conversion between the potassium-titanium calix[4]arene monomer and the alkaline earth-titanium dimers, where the product is dictated by the choice of solvent. Details are discussed in the article by R. N. Lamb et al. on p. 4153 ff.



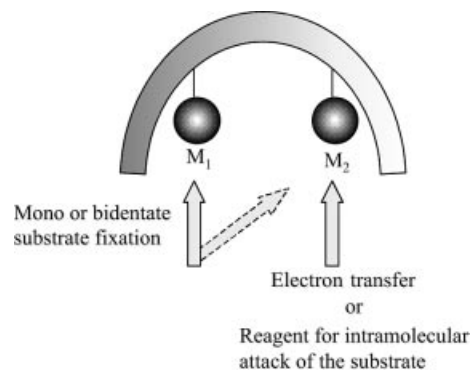
MICROREVIEW

Contents

4137 C. Belle,* J.-L. Pierre*

Asymmetry in Bridged Binuclear Metallo-enzymes: Lessons for the Chemist

Keywords: Unsymmetrical binuclear metalloenzymes / Superoxide dismutase / Purple acid phosphatases / Catechol oxidases / Model complexes



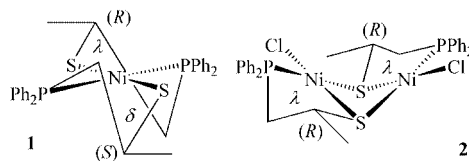
SHORT COMMUNICATION

- 4147** J. Duran, A. Polo,* J. Real,*
J. Benet-Buchholz, A. Poater, M. Solà



Stereodiscrimination in Phosphanylthiolato Nickel(II) Complexes

Keywords: Nickel / P,S ligands / Conformation Analysis / Chiral resolution / Density functional calculations

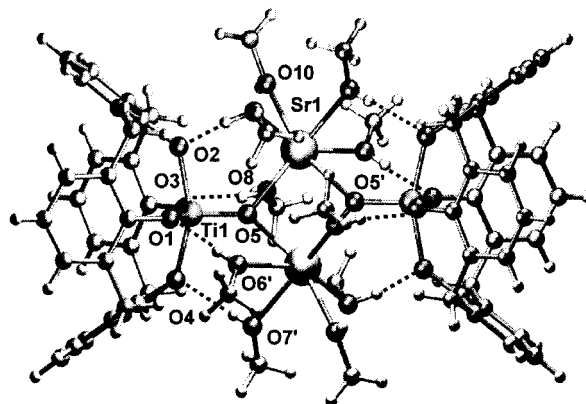


FULL PAPERS

- 4153** A. J. Petrella, N. K. Roberts, C. L. Raston,
D. C. Craig, M. Thornton-Pett,
R. N. Lamb*

Heterobimetallic Calix[4]arene Complexes:
Interconversion of Dimeric (Ca, Sr or Ba)/Ti^{IV}
Complexes with a Monomeric K/Ti^{IV} Complex

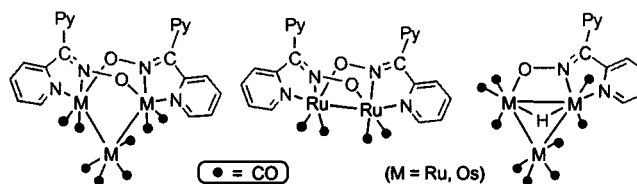
Keywords: Calixarenes / Heterometallic complexes / Alkaline earth metals / Potassium / Titanium



- 4159** J. A. Cabeza,* I. del Río, V. Riera,
M. Suárez, C. Álvarez-Rúa,
S. García-Granda, S. H. Chuang,
J. R. Hwu*

Di- and Trinuclear Ruthenium and Osmium
Bis(2-pyridyl) Ketone Oximate Derivatives

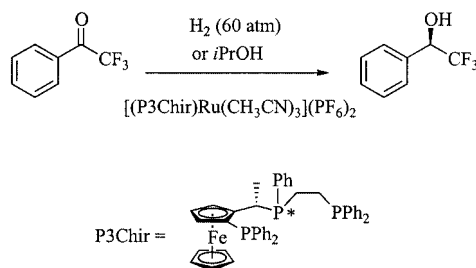
Keywords: Ruthenium / Osmium / Cluster compounds / Oximes / DNA cleavage



- 4166** P. Barbaro,* C. Bianchini,
G. Giambastiani,* A. Togni

Ruthenium(II) Complexes with Triphosphane Ligands Combining Planar, Phosphorus, and Carbon Chirality: Application to Asymmetric Reduction of Trifluoroacetophenone

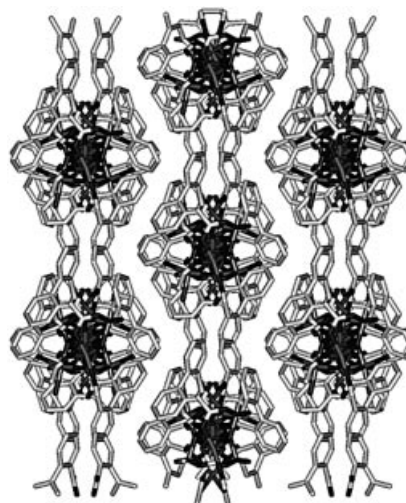
Keywords: Asymmetric catalysis / Tridentate ligands / Ruthenium / Hydrogen transfer / Chiral ferrocenyls



4173 J.-M. Rueff, S. Pillet, G. Bonaventure,
M. Souhassou, P. Rabu*

Synthesis, Structure and Magnetic Properties of the Cobalt(II) 1,1'-Biphenyl-2,2'-dicarboxylate Hydroxide Chain Compound $[\text{Co}_3\{\text{O}_2\text{CC}_{12}\text{H}_8\text{-CO}_2\}_{2.5}(\text{OH})(\text{H}_2\text{O})_2]_n$

Keywords: Carboxylate ligands / Hydrothermal synthesis / Cobalt / Magnetic properties

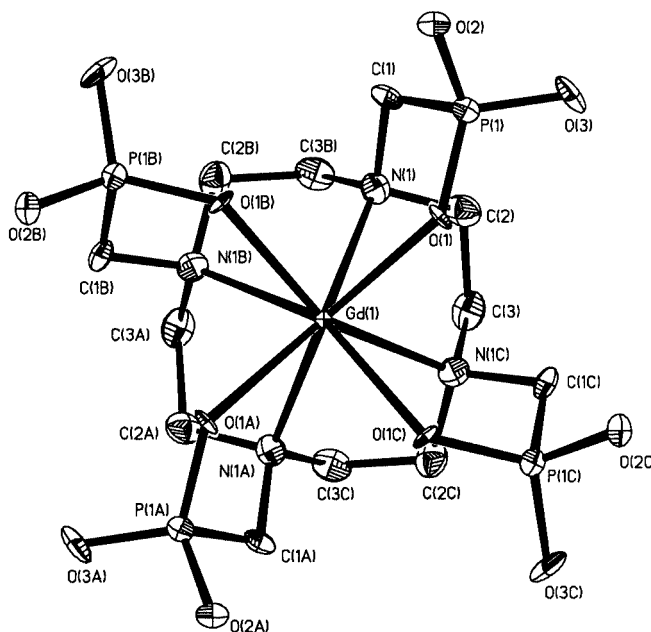


4179 F. Avecilla,* J. A. Peters,
C. F. G. C. Geraldès*



X-ray Crystal Structure of a Sodium Salt of $[\text{Gd}(\text{DOTP})]^{5-}$: Implications for Its Second-Sphere Relaxivity and the ^{23}Na NMR Hyperfine Shift Effects of $[\text{Tm}(\text{DOTP})]^{5-}$

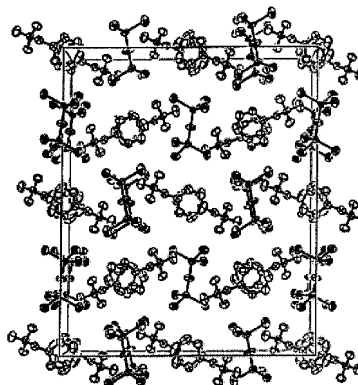
Keywords: Gadolinium / Imaging agents / Solid-state structures / Hydration / NMR shift reagents



4187 A. Lledós,* M. Moreno-Mañas,*
M. Sodupe, A. Vallribera, I. Mata,
B. Martínez, E. Molins*

Bent and Linear Forms of the $(\mu\text{-Oxo})\text{bis}[\text{trichloroferrate(III)}]$ Dianion: An Intermolecular Effect – Structural, Electronic and Magnetic Properties

Keywords: Iron / Oxygen / $(\mu\text{-Oxo})\text{trichloroferrate}$ dianion / Packing effects / Magnetic properties / DFT calculations

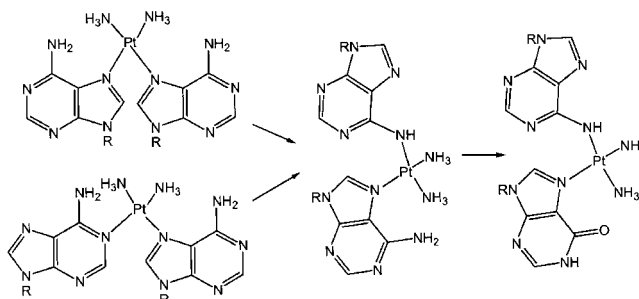


4195 J. Arpalahti,* K. D. Klika



Platinum–Nitrogen Bond Rearrangements in Isomeric *cis*-Pt^{II}(NH₃)₂-bis(9-methyladenine) Complexes under Alkaline Conditions

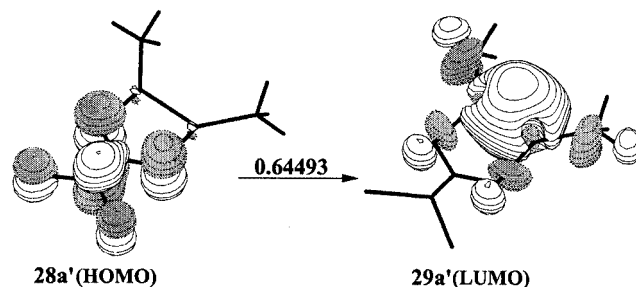
Keywords: Platinum / Nucleobases / Antitumor agents / N ligands



4202 Q.-J. Pan, H.-X. Zhang*

Ab initio Study on Luminescence and Auophilicity of a Dinuclear [(AuPH₃)₂(i-mnt)] Complex (i-mnt = isomer-Malononitriledithiolate)

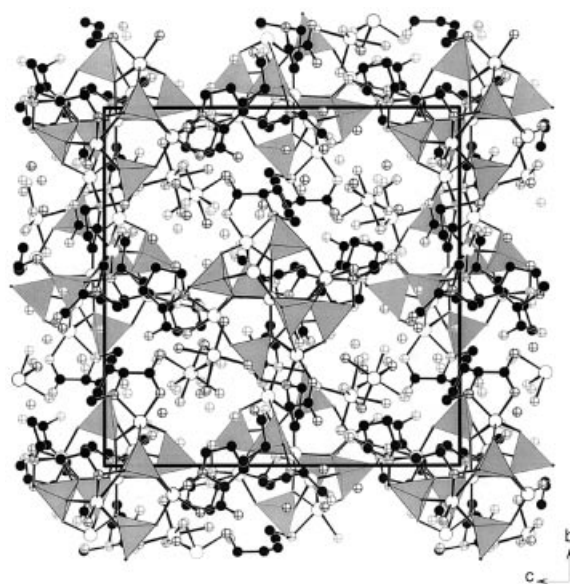
Keywords: Ab initio calculations / Luminescence / Auophilicity / Excited state



4211 B.-P. Yang, J.-G. Mao,* Y.-Q. Sun, H.-H. Zhao, A. Clearfield

Syntheses, Characterizations, and Crystal Structures of Three New Metal Phosphonocarboxylates with a Layered and a Microporous Structure

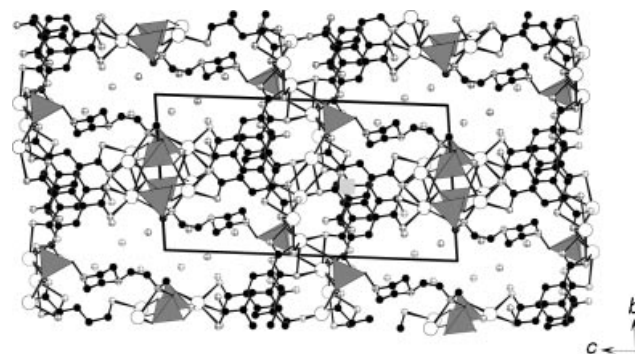
Keywords: Metal phosphonates / Hydrothermal reactions / Lead / Layered compounds / Cluster compounds



4218 J.-L. Song, J.-G. Mao,* Y. Q. Sun, A. Clearfield

Novel Hybrid Porous 3D Networks of Lead(II) Diphosphonate and Triphosphonate Containing 1,3,5-Benzenetricarboxylate

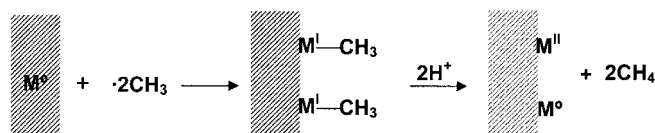
Keywords: Synthetic methods / Lead / Carboxylate ligands / P ligands



4227 I. Rusonik, H. Polat, H. Cohen,
D. Meyerstein*

Reaction of Methyl Radicals with Metal Powders Immersed in Aqueous Solutions

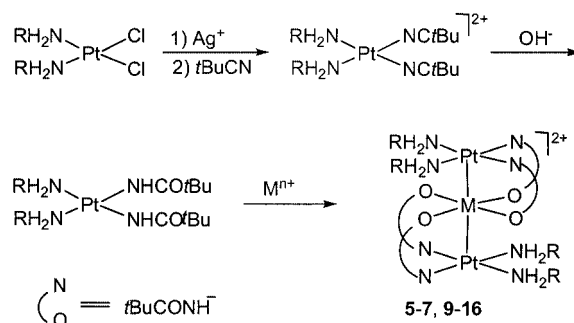
Keywords: Carbon / Energy transfer / Radicals / Oxidation



4234 W. Chen, F. Liu, T. Nishioka,
K. Matsumoto*

Heterotrimetallic Complexes $[\{\text{Pt}(\text{RNH}_2)_2(\mu\text{-NHCOtBu})_2\}_2\text{M}](\text{ClO}_4)_n$ ($\text{M} = \text{Mn}, \text{Co}, \text{Cu}, \text{Ni}, \text{Cd}$, and Zn , $n = 2$; $\text{M} = \text{In}$, $n = 3$), $[\{\text{Pt}(\text{NH}_3)(\mu\text{-DACHCOtBu})(\mu\text{-NHCOtBu})\}_2\text{-Ni}](\text{ClO}_4)_2$, and $[\{\text{Pt}(\text{RNH}_2)_2(\text{NHCOtBu})_2\}_3\text{-Ag}_3](\text{ClO}_4)_3$ Bridged by Amidate Ligands: A Novel Amidate–Amine Interligand Reaction During the Pt–Ni Bond Formation

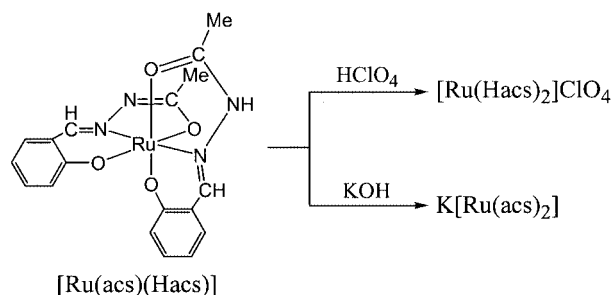
Keywords: Platinum / Amidate ligand / Metal–metal interaction / Heterotrimetallic complexes / Nickel



4244 Sat. Pal, Sam. Pal*

Ruthenium(III) Complexes with a Phenolate-O, Imine-N, and Amide-O Coordinating Ligand: Syntheses, Structures, Properties, and Protonation Studies of Coordinated Amide

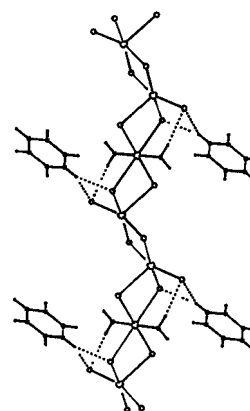
Keywords: Ruthenium / Acetylhydrazone / Crystal structures / Protonation / Redox chemistry



4253 R. Bhattacharya, A. Ghosh,* M. S. Ray,
L. Righi, G. Bocelli, S. Chaudhuri,
R. D. Willet, J. M. Clemente-Juan,
E. Coronado, C. J. Gómez-García

Synthesis, Crystal Structure, Thermal Analysis and Magnetic Behavior of a Novel One-Dimensional Polymeric Pyridinium Chlorocuprate(II): $(\text{Hpy})_2[\text{Cu}_3\text{Cl}_8(\text{H}_2\text{O})_2]$

Keywords: Coordination polymers / Copper / Magnetic properties / N ligands / X-ray crystallography



CORRECTIONS

4261 **P. Liptau, L. Tebben, G. Kehr, B. Wibbeling,
R. Fröhlich, G. Erker***

Preparation of Optically Active α -Amino[3]-
ferrocenophanes – Building Blocks for Chelate
Ligands in Asymmetric Catalysis

Keywords: Ferrocenes / Ferrocenophanes / Chelate
ligands

4262 **M. Heitzmann, J.-C. Moutet,* J. Pécaut,
O. Reynes, G. Royal,* E. Saint-Aman,
G. Serratrice**

Modulation of the Communication between
Redox Centers in a Tris(ferrocene)-tren Ligand
by Complexation of Lanthanide Ions

Keywords: Sandwich complexes / Electrostatic inter-
actions / Electrochemistry / Lanthanides
