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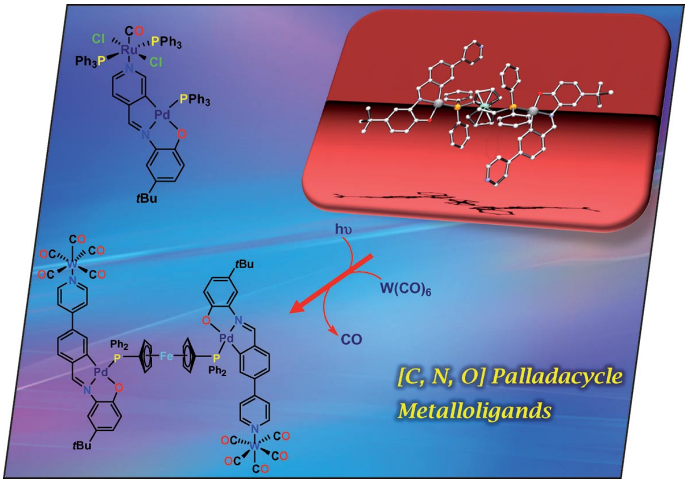
A union formed by chemical societies in Europe (ChemPubSoc Europe) has taken the significant step into the future by merging their traditional journals, to form two leading chemistry journals, the *European Journal of Inorganic Chemistry* and the *European Journal of Organic Chemistry*. Three further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

COVER PICTURE

The cover picture shows (left) the new heteropentametallic $[\{Pd[4\text{-}[W(CO)_5WNC_5H_4]C_6H_3C(H){=}N\{2'\text{-}(O)\text{-}5'\text{-}tBuC_6H_3\}]\}_2(\mu\text{-}PPh_2(\eta\text{-}C_5H_4)Fe(\eta^5\text{-}C_5H_4)PPh_2)]$ and heterodimetallic $[Pd\{4\text{-}[RuCl_2(CO)(PPh_3)_2]NC_5H_3]C(H){=}N[2'\text{-}(O)\text{-}5'\text{-}tBuC_6H_3]\}(PPh_3)]$ cyclometallated complexes synthesized from [C,N,O] palladacycles, which behave as metalloligands by coordination through the pyridine nitrogen atom. The crystal structure (right) shows the precursor for the tungsten complex, which like its chromium and molybdenum analogues, requires UV radiation in the preparative process. Details are discussed in the article by J. J. Fernández, J. M. Vila et al. on p. 3071ff.



CONTENTS

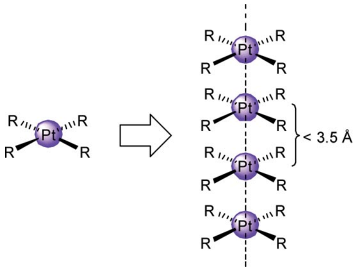
MICROREVIEW

Platinum Polymers

B. M. Anderson, S. K. Hurst* ... 3041–3054

Platinum Stacking Interactions in Homoleptic Platinum Polymers

Keywords: Platinum / Platinates / Chain structures / Electron-deficient compounds / Metal–metal interactions / Stacking interactions / Ligand effects



All Stacked Up: The ability of platinum complexes to form columnar structures arises from the overlap of d_{z^2} orbitals. This microreview summarizes progress in the synthesis, characterization, and material properties of homoleptic platinum complexes with significant Pt–Pt overlap (≤ 3.5 Å), where the platinum metal over1jylap is the primary bonding interaction.

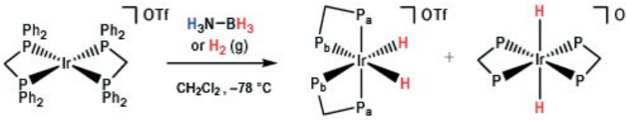
SHORT COMMUNICATIONS

Ammonia Borane Activation

A. Rossin, M. Caporali, L. Gonsalvi,
A. Guerri, A. Lledós, M. Peruzzini,*
F. Zanobini 3055–3059

Selective B–H versus N–H Bond Activation in Ammonia Borane by $[Ir(dppm)_2]OTf$

Keywords: Boranes / NMR spectroscopy / Iridium / Hydrogen storage / P ligands



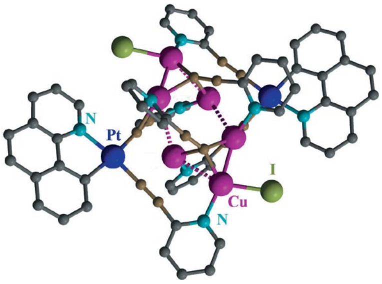
Reaction between ammonia borane (AB, NH_3-BH_3) and the highly reactive Ir^I species $[Ir(dppm)_2][OTf]$ led to the formation of Ir^{III} hydrides, as a consequence of a selective B–H versus N–H bond activation.

Luminescent Clusters

Á. Díez, A. García, E. Lalinde*,
M. T. Moreno* 3060–3066

A Luminescent Heteronuclear Cluster Featuring an Unusual Cu_6 Boat-Shaped Core Assembled by Two Dialkynyl-Cycloplatinated Units

Keywords: Cluster compounds / Copper / Platinum / Luminescence / Metal-metal interactions / Alkynyl ligands



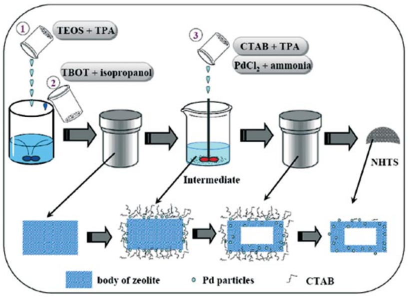
An unusual luminescent octanuclear cluster $[Pt_2Cu_6(bzq)_2(C{\equiv}C-C_5H_4N\text{-}2)_6I_2]$ formed by a central dicationic hexanuclear copper core $[Cu_6(C{\equiv}C-C_5H_4N\text{-}2)_2I_2]^{2+}$ assembled by two monoanionic $[Pt(bzq)(C{\equiv}C-C_5H_4N\text{-}2)_2]^-$ fragments is described.

Titanium Silicalite Hollow Structures

C. Shi, B. Zhu, M. Lin,*
J. Long* 3067–3070

Semi In Situ Synthesis of NHTS: A New Hollow Titanium Silicalite Modified by a Noble Metal

Keywords: Zeolites / Hydrothermal synthesis / Titanium silicalite / Noble metals / Palladium / Mesoporous materials

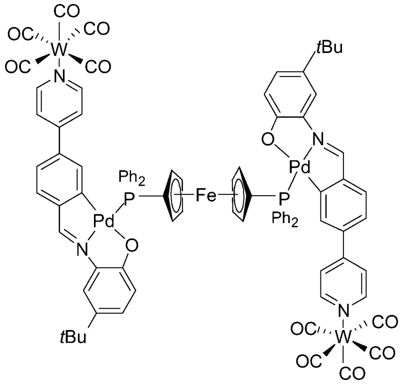


NHTS, a new hollow titanium silicalite with a noble metal incorporated into it, was synthesized by the addition of a noble metal to a mixture of tetraethyl orthosilicate and tetrabutylorthotitanate, with the formation of an intermediate, under basic conditions. The entire process is called a "semi in situ" synthesis. This NHTS has intraparticle voids and exhibits bifunctional catalytic performance.

FULL PAPERS

Cyclopalladated Metalloligands

Palladium(II) compounds with terdentate [C,N,O] ligands bearing pyridine rings may behave as new metalloligands through their non-coordinated nitrogen atoms. The π−π slipped stacking interactions found in the solid state for these complexes suggest a certain degree of metalloaromaticity.



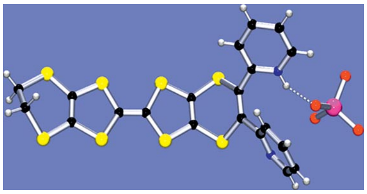
N. Gómez-Blanco, J. J. Fernández,*
A. Fernández, D. Vázquez-García,
M. López-Torres,
J. M. Vila* .... **3071−3083**

Cyclometalated [C,N,O] Complexes as Metalloligands: Synthesis and Structural Characterisation of New Di-, Tri-, Tetra- and Pentanuclear Heterometallic Complexes

Keywords: Palladium / Metallation / Phosphanes / Polynuclear complexes / Carbonyl complexes / Metalloligands

Substituted Tetrathiafulvalenes

A group of vinylenedithio−TTFs bearing two or four 2- or 4-pyridyl groups are described, along with related nickel and gold bidithiolene complexes, as potential substrates for preparing multifunctional materials.



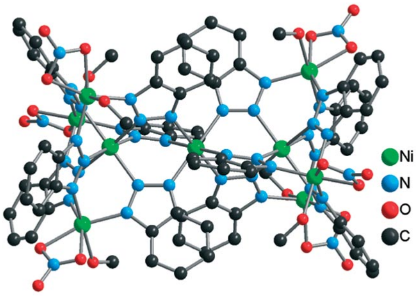
A. C. Brooks, P. Day, S. I. G. Dias,
S. Rabaça, I. C. Santos, R. T. Henriques,
J. D. Wallis, M. Almeida* ..... **3084−3093**

Pyridine-Functionalised (Vinylenedithio)-tetrathiafulvalene (VDT−TTF) Derivatives and Their Dithiolene Analogues

Keywords: Tetrathiafulvalenes / Gold / Nickel / Charge transfer / Polycycles / S ligands / Redox chemistry

Nonanuclear Clusters

Three novel nonanuclear coordination compounds possessing $\{M_9L_{12}\}^{6+}$ cores (M = Ni^{II}, Co^{II}, or Zn^{II}; L = 1,2,3-benzotriazolate) were successfully synthesized and their structures and magnetic properties studied.



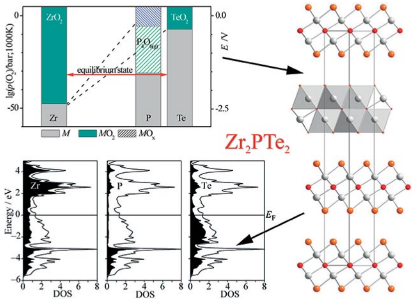
S. Biswas, M. Tonigold, M. Speldrich,
P. Kögerler, D. Volkmer* .... **3094−3101**

Nonanuclear Coordination Compounds Featuring $\{M_9L_{12}\}^{6+}$ Cores (M = Ni^{II}, Co^{II}, or Zn^{II}; L = 1,2,3-Benzotriazolate)

Keywords: Benzotriazole / Cluster compounds / Transition metals / N ligands / Magnetic properties

Phosphide Tellurides

The synthesis of Zr_2PTe_2 was accomplished by either a solid-state reaction from the elements or by a thermite-type reaction of Zr and $Te_8O_{10}(PO_4)_4$. Crystals were grown by chemical vapour transport by using iodine. The compound exhibits metallic behaviour and temperature-independent Pauli paramagnetism.



K. Tschulik, M. Ruck, M. Binnewies,
E. Milke, S. Hoffmann, W. Schnelle,
B. P. T. Fokwa, M. Gilleßen,
P. Schmidt* .... **3102−3110**

Chemistry and Physical Properties of the Phosphide Telluride Zr_2PTe_2

Keywords: Phosphorus / Tellurium / Zirconium / Chemical vapor transport / Thermodynamics / Structure elucidation

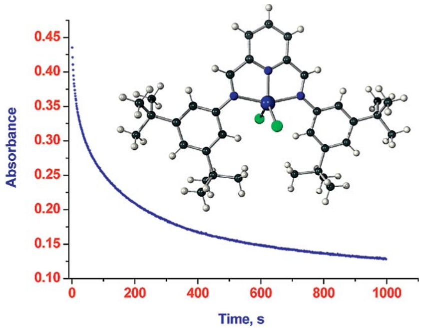
CONTENTS

Copper Chelate Complexes

S. Y. Shaban, F. W. Heinemann,
R. van Eldik* .... 3111−3118

A New Trigonal-Bipyramidal [Cu^{II}-(py$t$BuN$_3$)Cl$_2$] Complex: Synthesis, Structure and Ligand Substitution Behaviour

Keywords: Copper / Chelates / Copper(II) complexes / Kinetics / UV/Vis spectroscopy / Biphasic reaction



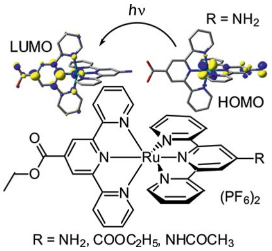
A five-coordinate copper(II) complex containing a sterically constrained py$t$BuN$_3$ chelate ligand was synthesized, characterized by X-ray diffraction and the ligand substitution behaviour was kinetically studied. The substitution reaction is a biphasic process that involves the subsequent displacement of both chloride ligands and follows an associative interchange (I$_a$) mechanism.

Charge Transfer

K. Heinze,* K. Hempel, S. Tschierlei,
M. Schmitt, J. Popp,
S. Rau .... 3119−3126

Resonance Raman Studies of Bis(terpyridine)ruthenium(II) Amino Acid Esters and Diesters

Keywords: Charge transfer / Density functional calculations / Raman spectroscopy / Ruthenium / Terpyridine



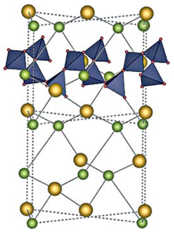
Resonance Raman (rR) spectroscopy in combination with DFT calculations was used to elucidate the nature of the ^{1}metal-to-ligand charge-transfer states (^{1}MLCT) of ester derivatives of homo- and heteroleptic bis(terpyridine)ruthenium(II) complexes.

New LED Phosphors

H. A. Höppe,*
J. M. U. Panzer .... 3127−3130

Crystal Structure, Vibrational Spectra and Activation of BaCa(P$_4$O$_{12}$) with Eu^{2+} Compared with β-Sr(PO$_3$)$_2$:Eu

Keywords: Rare earths / Phosphates / Crystal structure / Fluorescence spectroscopy / Light emitting diodes



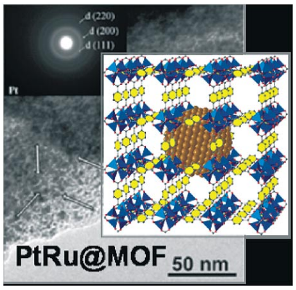
The phosphors β-Sr(PO$_3$)$_2$:Eu and BaCa(PO$_3$)$_4$:Eu emit blue light and will be useful for the development of UV-LED based white LEDs. The refinement of the new crystal structure of BaCa(PO$_3$)$_4$:Eu (Ba yellow and Ca green) is presented.

Metal-Organic Frameworks

F. Schröder, S. Henke, X. Zhang,
R. A. Fischer* .... 3131−3140

Simultaneous Gas-Phase Loading of MOF-5 with Two Metal Precursors: towards Bimetallics@MOF

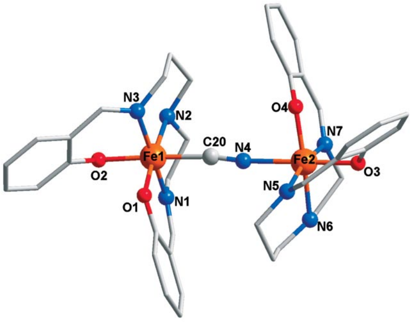
Keywords: Nanoparticles / Metal-organic frameworks / Gas-phase reactions



Simultaneous gas-phase loading of the porous host matrix [Zn$_4$O(bdc)$_3$] (bdc = 1,4-benzenedicarboxylate, MOF-5) with two different MOCVD precursors was investigated. Control of the molar ratios of the adsorbed precursors was possible. Mixed-metal PtRu 3−4 nm nanoparticles were obtained by hydrogen treatment but the MOF matrix collapsed due to some hydrogenation of bdc linkers in case of PtRu@MOF.

Spin Crossover in Fe(III) Complexes

On the basis of magnetic data and Mössbauer spectra, spin crossover was identified in a number of dinuclear and trinuclear Fe^{III} complexes. The energy bands formed of spin multiplets for the reference states LL and LH show an overlap, which results in spin crossover interference with the magnetic exchange interaction.



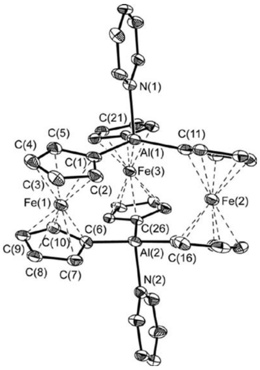
I. Šalitroš, R. Boča,* L'. Dlháň, M. Gembický, J. Kožíšek, J. Linares, J. Moncol', I. Nemec, L. Perašínová, F. Renz, I. Svoboda, H. Fuess **3141–3154**

Unconventional Spin Crossover in Dinuclear and Trinuclear Iron(III) Complexes with Cyanido and Metallacyanido Bridges

Keywords: Iron / Structure elucidation / Schiff bases / Spin crossover / Exchange interactions

Aluminum-Bridged Ferrocenophane

The dipyridine adducts of ferrocenes bearing dialkylaluminum substituents in the 1,1′-positions were transformed into dinuclear alkylaluminum-bridged [1.1]ferrocenophanes and finally into the trinuclear aluminum-bridged ferrocenophane.



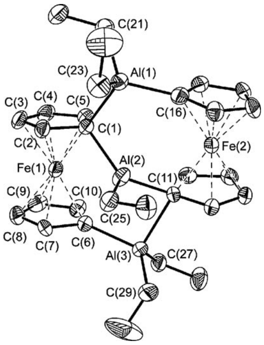
B. Wrackmeyer,* E. V. Klimkina, W. Milius **3155–3162**

1,1′-Disubstituted Ferrocenes with Aluminum: Dinuclear and Trinuclear Dialumina-[1.1]ferrocenophanes as Pyridine Adducts

Keywords: Metallocenes / Aluminum / Ferrocenophane / Nitrogen heterocycles / Structure elucidation

Aluminum-Bridged Ferrocenophanes

The formation and dynamic behaviour of base-free dinuclear and trinuclear aluminum-bridged ferrocenophanes in solution were monitored by NMR spectroscopy, and the dinuclear complex $(fc)_2Al_3Et_5$ was characterized by X-ray structural analysis.



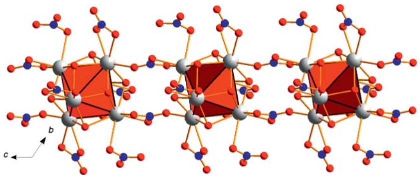
B. Wrackmeyer,* E. V. Klimkina, W. Milius **3163–3171**

Synthesis, Characterization and Reactivity of Dinuclear and Trinuclear Aluminum-Bridged Ferrocenophanes

Keywords: Metallocenes / Aluminum / NMR spectroscopy / Structure elucidation / Cyclophanes

Anhydrous Ln Hexanuclear Complexes

Lanthanide oxido/hydroxido complexes of the general formula $[Ln_6O(OH)_8(NO_3)_6(H_2O)_x]2NO_3\cdot 2H_2O$ have been obtained and characterized. Their dehydration leads to isostructural anhydrous compounds with the general formula $[Ln_6O(OH)_8(NO_3)_8]_\infty$. These anhydrous compounds can be used as molecular precursors for further chemistry.



G. Calvez, C. Daiguebonne, O. Guillou,* F. Le Dret **3172–3178**

A New Series of Anhydrous Lanthanide-Based Octahedral Hexanuclear Complexes

Keywords: Heterogeneous catalysis / Lanthanides / Polymorphism / Solid-state structures / Polyoxometalates

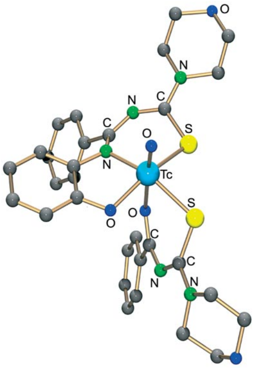
CONTENTS

Technetium and Rhenium Chemistry

H. H. Nguyen, V. M. Deflon,
U. Abram* .... 3179−3187

💻 Mixed-Ligand Complexes of Technetium and Rhenium with Tridentate Benzamidines and Bidentate Benzoylthioureas

Keywords: Technetium / Rhenium / Structure elucidation / S,N,O ligands / S,O ligands / Synthetic methods



Mixed-ligand complexes of technetium(V) or rhenium(V) containing tridentate *N*-[(dialkylamino)(thiocarbonyl)]benzamidine (H_2L^1) and bidentate *N*,*N*-dialkyl-*N*′-benzoylthiourea (HL^2) ligands were formed in high yield when $(NBu_4)[MOCl_4]$ (M = Tc or Re) or $[ReOCl_3(PPh_3)_2]$ was treated with mixtures of the proligands.

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* Author to whom correspondence should be addressed.

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