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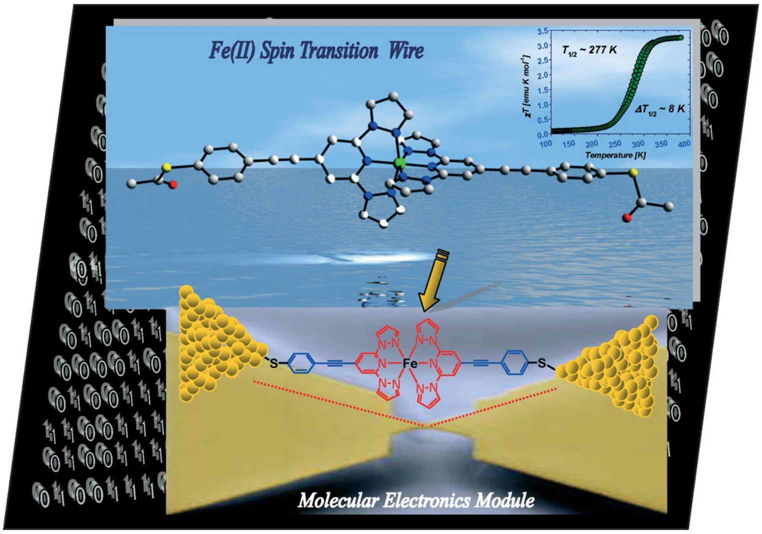
The EUChemSoc Societies have taken the significant step into the future by merging their traditional journals, to form two leading chemistry journals, the *European Journal of Inorganic Chemistry* and the *European Journal of Organic Chemistry.* Three further EUChemSoc Societies (Austria, Czech Republic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

COVER PICTURE

The cover picture shows the solid-state structure and magnetic susceptibility data of an iron(II) spin-transition complex, which was designed, synthesized and characterized in the group of Mario Ruben at the Institute of Nanotechnology in Karlsruhe. The complex, which undergoes a near-room-temperature transition from a closed-shell spin singlet to an open-shell high-spin state, holds promise for the controlled manipulation and readout of the magnetic states of single molecules. In order to integrate and to implement such switchable spin-transition units into electronic devices, the molecule bears protected thiol linkers, which allows its attachment to gold electrodes (bottom). Details are discussed in the Short Communication on p. 2649ff.



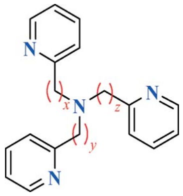
MICROREVIEW

Tripodal N Ligands

A. G. Blackman* 2633–2647

Tripodal Tetraamine Ligands Containing Three Pyridine Units: The *other* Polypyridyl Ligands

Keywords: Tripodal ligands / Tripyridyl ligands / Tetradentate ligands / N ligands / Metal complexes



The chemistry of tetradentate tripodal ligands containing three (2-pyridyl)-alkyl arms and an aliphatic N atom, and metal complexes thereof, is outlined. Particular emphasis is placed on tpa and its derivatives, ligands which form homologous series, and those which differ in the nature and number of substituents on the pyridine rings.

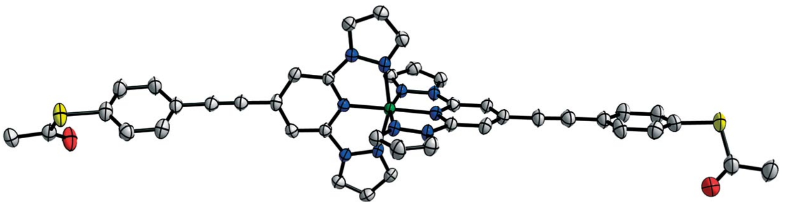
SHORT COMMUNICATIONS

Spin-Transition Wire

R. Chandrasekar, F. Schramm, O. Fuhr,
M. Ruben* 2649–2653

An Iron(II) Spin-Transition Compound with Thiol Anchoring Groups

Keywords: Iron / Spin crossover effect / Magnetic properties / S ligands / N ligands



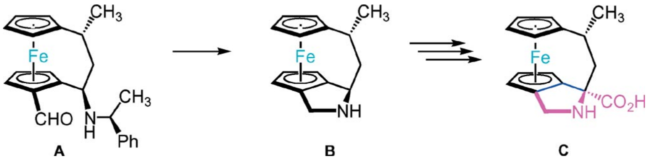
A novel iron(II) coordination complex $[Fe^{II}(\mathbf{L})_2](ClO_4)_2$ [**L** = *S*-(4-{[2,6-(Dipyrazol-1-yl)pyrid-4-yl]ethynyl}phenyl) ethanethioate] carrying terminal acetyl-protected thiol anchoring groups exhibits reversible spin transition at 277 K with a ca. 8 K wide hysteresis loop.

Artificial Amino Acids

L. Tebben, G. Kehr, R. Fröhlich,
G. Erker* 2654–2658

quart-Feproline: Synthesis of a Very Rigid [3]Ferrocenophane-Derived Artificial Amino Acid

Keywords: Artificial amino acids / Carbamates / Ferrocenes / Ferrocenophanes / Proline

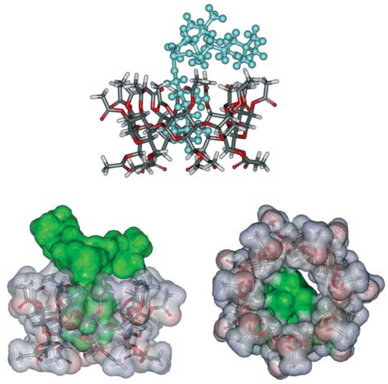


The artificial amino acid "*quart*-Feproline" (*R*,*S*,*pS*)-**C** was synthesized in good yield starting from the enantiomerically pure [3]ferrocenophanecarbaldehyde reagent **A** via the dihydropyrrole-anellated intermediate **B**. The final C–H activation step was carried out by carbamate-induced metallation (*sec*-butyllithium) directed by the *N*-Boc derivative of **B**.

FULL PAPERS

Catalysis

The catalytic behaviour of rhodium species with phosphite ligands in the hydroformylation of 1-octene was greatly affected by the presence of peracetylated β-cyclodextrin in the reaction medium. These results were explained by considering an interaction between the peracetylated β-cyclodextrin and the P-donor ligands.

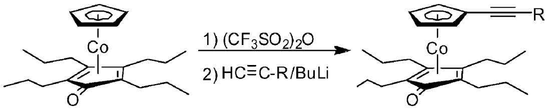


C. Tortosa Estorach, M. Giménez-Pedrós,
A. M. Masdeu-Bultó,* A. D. Sayede,
E. Monflier* 2659–2663

Hydroformylation of 1-Octene in Supercritical Carbon Dioxide with Alkyl P-Donor Ligands on Rhodium Using a Peracetylated β-Cyclodextrin as a Solubiliser

Keywords: Hydroformylation / Supercritical carbon dioxide / Rhodium / Cyclodextrins / P ligands

Electroactive Cobalt Compounds



A simple method is presented to substitute a CpCo unit by an alkyne unit using an S_N' mechanism. The scope and limitations of this approach are demonstrated.

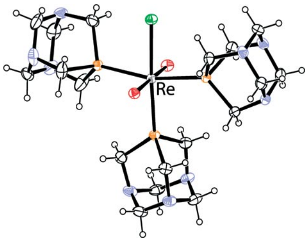
M. von der Grün, R. Gleiter,*
F. Rominger 2664–2669

Alkyne Substitution on Cobaltocenium Triflates

Keywords: Alkynes / Conjugation / S_N' substitution / Cyclopentadienone / Rodlike molecules / Cobalt

PTA-Rhenium Complexes

The synthesis, characterization, and X-ray crystal structures of new water-soluble nitrido- and dioxido-rhenium(V)-PTA complexes are described. The reactivity of $[ReNCl_2(PTA)_3]$, $[ReO_2Cl(PTA)_3]$, with sodium *N*,*N*-diethyldithiocarbamate is reported.

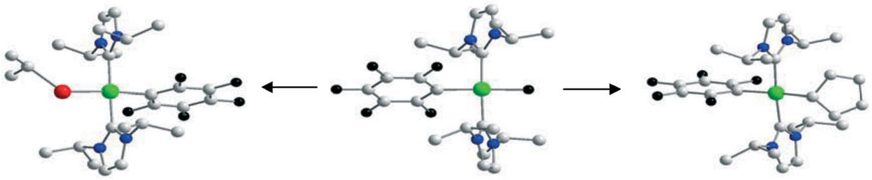


A. Marchi,* E. Marchesi, L. Marvelli,
P. Bergamini, V. Bertolasi,
V. Ferretti 2670–2679

New Water-Soluble Rhenium Complexes with 1,3,5-Triaza-7-phosphaadamantane (PTA) – X-ray Crystal Structures of $[ReNCl_2(PTA)_3]$, $[ReO_2Cl(PTA)_3]$, $[ReCl_3(PTA)_2(PPh_3)]$, and $[Re_2N_2Cl_3(Et_2dtc)(PTA)_4$

Keywords: Water-soluble complexes / Rhenium / 1,3,5-Triaza-7-phosphaadamantane complexes / Dithiocarbamate complexes

C–F Activation



The square-planar nickel(II) complex $[Ni(iPr_2Im)_2(F)(C_6F_5)]$ (**1**) [iPr_2Im = 1,3-bis(isopropyl)imidazol-2-ylidene] can be easily obtained by a C–F activation reaction starting from $Ni(cod)_2$, iPr_2Im, and hexafluorobenzene. Reactions of **1** with silylated reagents and organolithium compounds give access to new (pentafluorophenyl)nickel(II) complexes of the type $[Ni(iPr_2Im)_2(X)(C_6F_5)]$ (X = halide, triflate, organyl, hydride).

T. Schaub, M. Backes,
U. Radius* 2680–2690

Square-Planar (Pentafluorophenyl)nickel(II) Complexes by Derivatization of a C–F Activation Product

Keywords: C–F activation / Carbene ligands / NHC / Nickel / Silanes

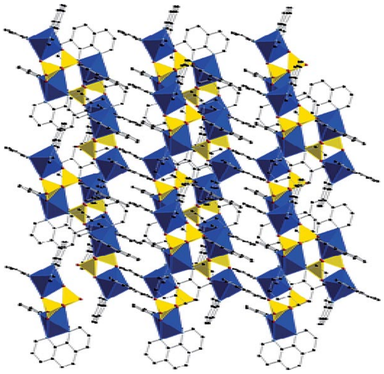
CONTENTS

Structure-Function Relationship

O. F. Ikotun, W. Ouellette, F. Lloret, P. E. Kruger, M. Julve,* R. P. Doyle* .... 2691−2697

Synthesis, Structural, Thermal and Magnetic Characterization of a Pyrophosphato-Bridged Cobalt(II) Complex

Keywords: Cobalt complexes / Pyrophosphate / Magnetic coupling / Crystal structure / Polynuclear compounds



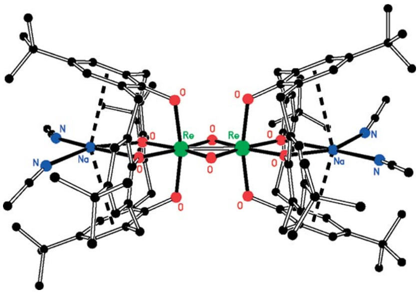
The reaction in water of Co^{II} sulfate with 1,10-phenanthroline and sodium pyrophosphate ($Na_4P_2O_7$) in a 2:4:1 ratio resulted in the crystallization of a neutral dinuclear complex, $\{[Co(phen)_2]_2(\mu\text{-}P_2O_7)\}\cdot 6MeOH$, as revealed by a X-ray diffraction study. The ability of the pyrophosphato ligand to mediate magnetic interactions between different first-row transition-metal ions is analyzed and discussed in the light of the small number of magneto-structural reports on this type of compounds.

Rhenium Calixarenes

C. Redshaw,* X. Liu, S. Zhan, D. L. Hughes, H. Baillie-Johnson, M. R. J. Elsegood, S. H. Dale ... 2698−2712

Rhenium Calix[4]arenes: Precursors to Novel Imaging and Cancer Therapy Agents

Keywords: Rhenium / Calixarenes / Oxo groups / Organoimido groups



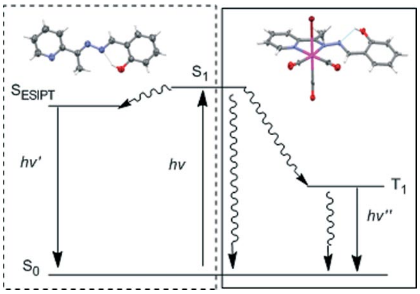
Structural characterisation of oxo and organoimido rhenium calix[4]arene complexes using single-crystal X-ray diffraction has revealed a number of intriguing structures, including the first examples of rhenium−rhenium bonding supported by calixarene ligands.

Rh^I Hydrazone Complexes

P. Barbazán, R. Carballo, B. Covelo, C. Lodeiro, J. C. Lima, E. M. Vázquez-López* .... 2713−2720

Synthesis, Characterization, and Photophysical Properties of 2-Hydroxybenzaldehyde [(1*E*)-1-pyridin-2-ylethylidene]hydrazone and Its Rhenium(I) Complexes

Keywords: Rhenium / Hydrazones / Carbonyl ligands / Luminescence



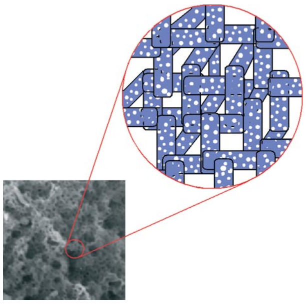
The 2-hydroxybenzaldehyde [(1*E*)-1-pyridin-2-ylethylidene]hydrazone (HL^2) ligand and its rhenium(I) complexes were obtained, characterized by spectroscopic methods, and the structures established by X-ray diffraction. The free ligand shows interesting luminescence properties; the effects of metal coordination on the photophysical behavior of the resulting complexes were also studied.

Hierarchical Porous Nanostructure

X.-J. Zhang, T.-Y. Ma, Z.-Y. Yuan* .... 2721−2726

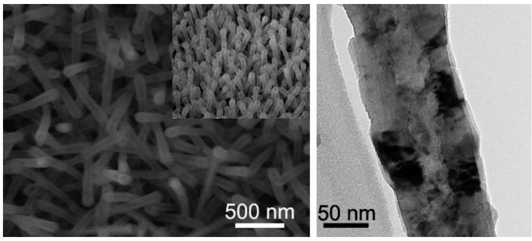
Nanostructured Titania−Diphosphonate Hybrid Materials with a Porous Hierarchy

Keywords: Nanostructure / Titanium phosphonates / Hierarchical porosity / Organic−inorganic hybrids / Self-assembly



The assembly of a hierarchically macroporous nanoarchitecture from mesostructured titania−diphosphonate hybrid nanorods is demonstrated by the use of 1-hydroxyethane-1,1-diphosphonic acid (HEDP). The nanostructure exhibited an efficient photocatalytic performance and metal ion adsorption behavior.

Hollow MgO Architectures



A newly developed solid–gas chemical reaction route has been used to produce MgO nanotube arrays by using prefabricated ZnO nanorod templates. Other types of novel and complex hollow MgO architectures with different aspect ratios can be further manipulated by this method, depending on the morphologies of the ZnO nanostructures used as templates.

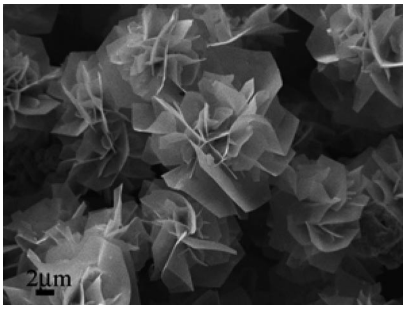
H.-B. Lu, L. Liao, H. Li, D.-F. Wang, Y. Tian, J.-C. Li,* Q. Fu, B.-P. Zhu, Y. Wu 2727–2732

Hollow MgO Nanotube Arrays by Using ZnO Nanorods as Templates

Keywords: MgO / Nanotubes / Chemical reactions / Template synthesis / Optical properties

Cobalt Hierarchical Structures

Cobalt flowerlike architectures composed of hexagonal nanoplatelets and showing ferromagnetic properties have been synthesized from $CoCl_2$, NaOH, and sodium dodecyl benzenesulfonate (SDBS) by a simple surfactant-assisted hydrothermal reduction method. A mechanism for the formation of the flowerlike structures is proposed.



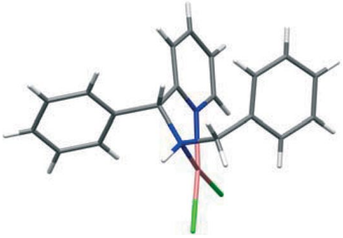
Y.-j. Zhang,* Y. Zhang, Z.-h. Wang, D. Li, T.-y. Cui, W. Liu, Z.-d. Zhang 2733–2738

Controlled Synthesis of Cobalt Flowerlike Architectures by a Facile Hydrothermal Route

Keywords: Hydrothermal synthesis / Cobalt / Nanostructures / Magnetic properties

Benzhydrylamine Ligands

The synthesis of new *N*,*N*-bidentate ligands and their corresponding palladium complexes based on a π-deficient N-heterocyclic benzhydrylamine core is described. The effects of both electronic and steric modulations at the benzhydrylamine core on the catalytic activity are also reported.



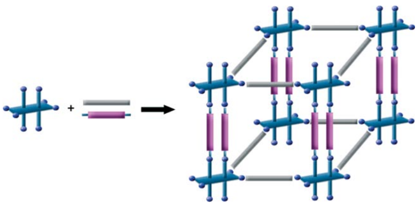
V. Terrasson, D. Prim,* J. Marrot 2739–2745

N-Heterocyclic Benzhydrylamines as New *N*,*N*-Bidentate Ligands in Palladium Complexes: Synthesis, Characterization and Catalytic Activity

Keywords: Nitriles / Benzhydrylamines / *N*,*N*-Ligands / Palladium

Double-Pillared MOFs

Double-pillared metal-organic frameworks based on dinuclear cadmium-cluster building-blocks are described.



I. F. Hernández-Ahuactzi, H. Höpfl,* V. Barba, P. Román-Bravo, L. S. Zamudio-Rivera, H. I. Beltrán 2746–2755

Pore-Size Tuning in Double-Pillared Metal-Organic Frameworks Containing Cadmium Clusters

Keywords: Cadmium / Crystal engineering / Metal-organic frameworks / Self-assembly / Supramolecular chemistry

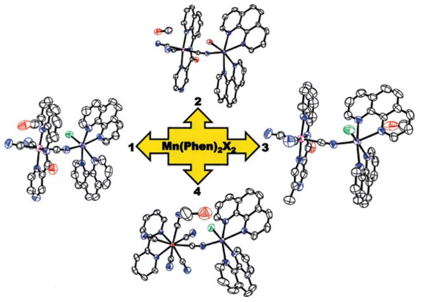
CONTENTS

Cyanido-Bridged Dimetallic Systems

J. I. Kim, J. H. Yoon, H. Y. Kwak,
E. K. Koh, C. S. Hong* .... 2756−2763

Crystal Structures and Magnetic Behaviors of Cyanido-Bridged Dinuclear Dimetallic Systems Involving 3d−3d or 3d−5d Metal Centers

Keywords: Magnetism / Crystal structure / Cyanides / Dinuclear complexes / N ligands



Three cyanido-bridged $Fe^{III}-Mn^{II}$ dimers (**1**−**3**) and one $W^{V}-Mn^{II}$ dinuclear system (**4**) were prepared by allowing the corresponding molecular precursors to react. Magnetic analyses of the $Fe^{III}-Mn^{II}$ dinuclear systems (**1**−**3**) revealed that a shorter Mn−N(cyanide) bond and a more linear Mn−N−C(cyanide) angle allow for stronger magnetic exchange coupling. Moreover, 3d−5d magnetic coupling in **4** is stronger than the 3d−3d coupling in **1**−**3** under the given structural environments.