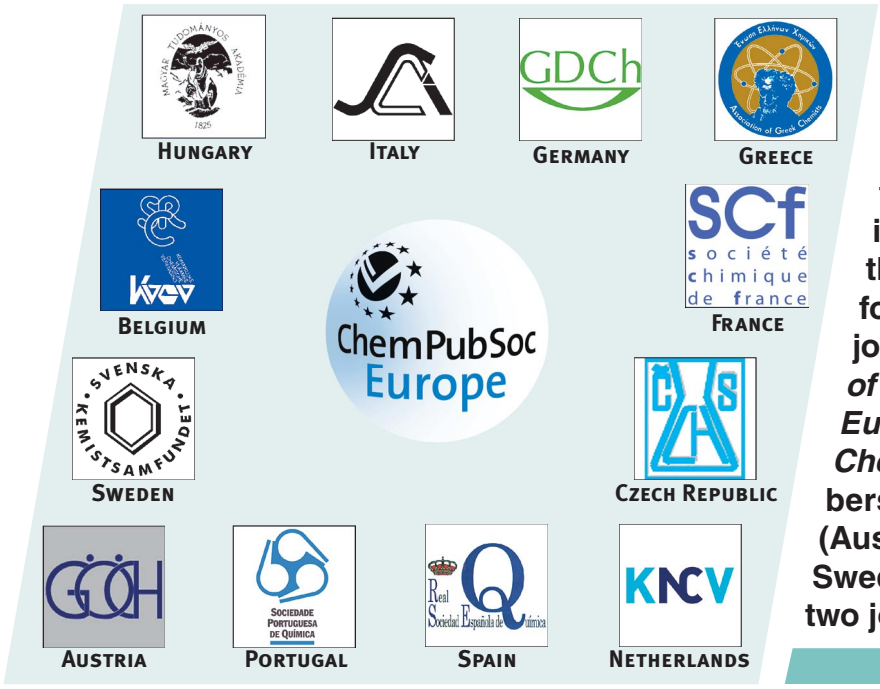
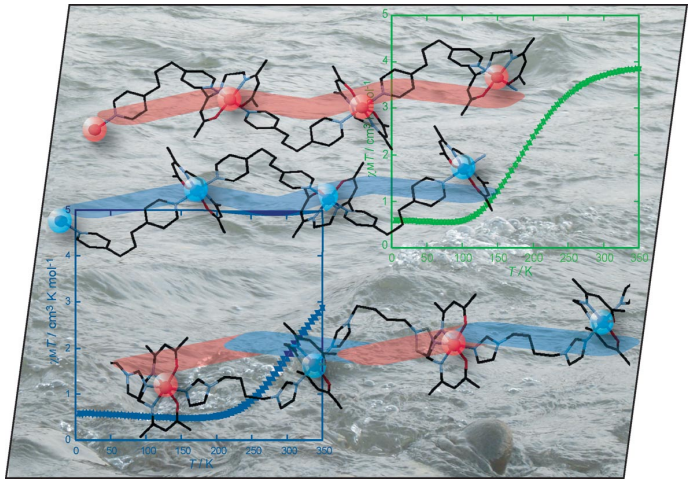


A union formed by chemical societies in Europe (ChemPubSoc Europe) has taken the significant step into the future by merging their traditional journals, to form two leading chemistry journals, the *European Journal of Inorganic Chemistry* and the *European Journal of Organic Chemistry*. Three further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

COVER PICTURE

The cover picture shows two types of 1D polynuclear spin crossover (SCO) iron(III) complexes, in which planar iron(III) species are bridged axially by a linear bridging ligand to give a 1D structure. In the intermediate spin state between the HS and LS states, the one complex consists of alternately arrayed HS and LS chains, whereas the other consists of alternately arrayed HS and LS units within a chain. The results demonstrate two different SCO transmission mechanisms, that is, SCO occurs in a chain-by-chain manner for the first complex and between adjacent units within a chain for the second one. Details are discussed in the article by N. Matsumoto et al. on p. 721ff.



CONTENTS

MICROREVIEW

Carbide Nanomaterials

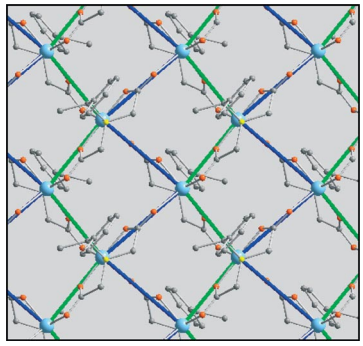
Keywords: Carbides / Synthesis design / Nanotubes / Nanorods / High-surface-area materials

This microreview discusses a novel approach for the syntheses of silicon, tungsten, and molybdenum carbides in the form of either nanoparticles/nanorods or nanotubes at a relatively low temperature by employing the solvent-, template-free and straightforward RAPET (Reactions under Autogenic Pressure at Elevated Temperature) process.

SHORT COMMUNICATION

Chiral Coordination Networks

Keywords: Coordination modes / N,O ligands / Ligand design / Chirality / Magnetic properties

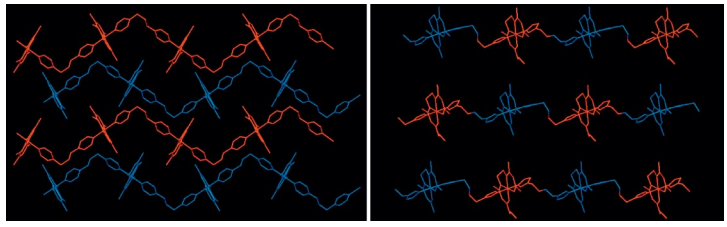


(*S*)-phenylethylaminodiacetate [(*S*)-peadaa] directs formation of a novel, homochiral 4^4 net displaying an unusual Cu···Cu connectivity mode.

FULL PAPERS

Spin-Crossover Complexes

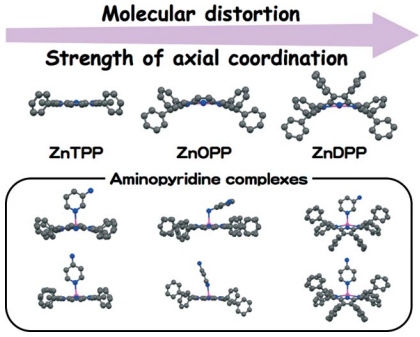
Keywords: Iron / Spin crossover / Chain structures / Solid-state structures / Magnetic properties



Two types of one-dimensional (1D) spin-crossover (SCO) iron(III) complexes were studied. One consists of two crystallographically independent 1D chains, and SCO occurs in chain-by-chain fashion, and the other consists of two molecular units within a chain, whereby SCO is confined to adjacent Fe units within the chain.

Porphyrin Distortion

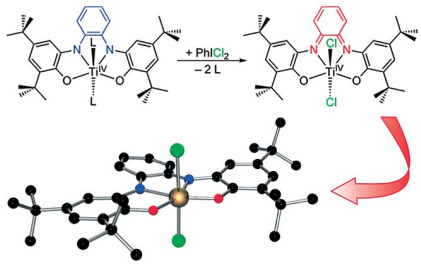
The effect of conformational distortion of a porphyrin ring on the Lewis acidity of a metal center was examined for (porphyrinato)zinc(II) complexes with porphyrin ligands at various extents of distortion. The binding constants of pyridine derivatives reveal that the distortion of the porphyrin ring enhances the Lewis acidity of the Zn center to strengthen the axial coordination of pyridine derivatives.



Keywords: Porphyrinoids / N ligands / Coordination modes / Zinc / Molecular distortion

Redox-Active Ligands

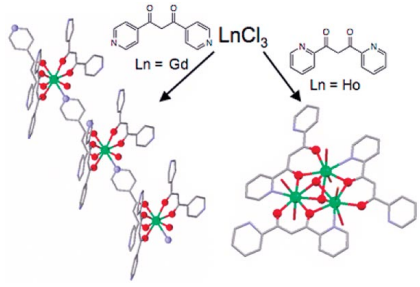
Group IV metal complexes of the redox-active ligand $[N_2O_2^{red}]^{4-}$ react with halogen oxidants to afford oxidative-addition-type products. The salen-like ligand binds strongly to the d^0 metal atoms titanium(IV), zirconium(IV) and hafnium(IV) and acts as a two-electron reservoir to enable an oxidative addition pathway.



Keywords: Redox-active ligands / Oxidation / N,O ligands / d^0 metals / Macrocyclic ligands

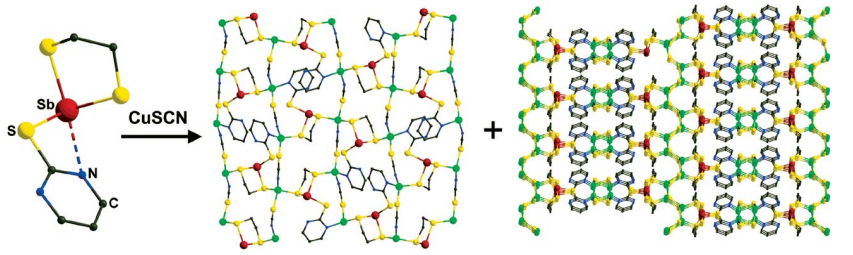
Lanthanoid Clusters and Polymers

Regioisomers (*ortho* and *para*) of pyridyl-functionalised propane-1,3-diones yielded a monodimensional polymeric chain or a trinuclear hydroxo cluster upon reaction with $LnCl_3$ (Ln = Gd, Ho). Structural and magnetic investigation of these compounds is herein reported.



Keywords: β-Diketonate ligands / Coordination polymers / Cluster compounds / Molecular magnets / Ketones / N,O ligands / Chelates

Heterometallic Thiolate Polymers



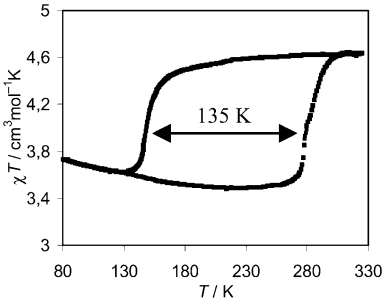
Three examples of heteromatallic Sb^{III}–Cu^{I} thiolate coordination polymers $[\{Sb_2(edt)_2(\mu_3\text{-}S)CuCl(CuSCN)\}_n]$, $[\{[Sb(edt)(pymt)]_2(CuSCN)_3\}_n]$, and $[\{[Sb(edt)(pymt)](CuSCN)_2\}_n]$ (edt = ethane-1,2-dithiolate; pymt = 2-pyrimidinethiol) were synthesized using [Sb(edt)Cl] or [Sb(edt)(pymt)] as metalloligands. Their optical absorption spectra were studied and DFT calculation were performed.

Keywords: Coordination polymers / Antimony / Structure elucidation / Band gap / Density functional calculations

CONTENTS

Prussian Blue Analogues

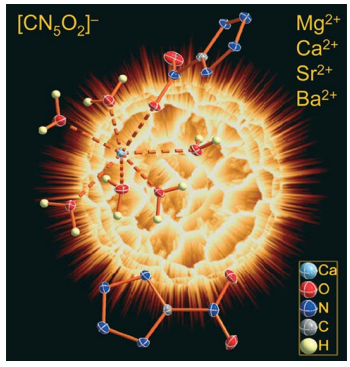
Keywords: Rubidium / Charge transfer / Nonstoichiometric compounds / Manganese / Iron



Three different stoichiometric forms of $Rb_xMn[Fe(CN)_6]_y \cdot zH_2O$ Prussian blue analogues were synthesized and characterized. ^{57}Fe Mössbauer and X-ray powder measurements revealed the electron-transfer-active centers. The stability of the compounds with time and following heat treatment is also discussed.

Energetic N-Heterocycles

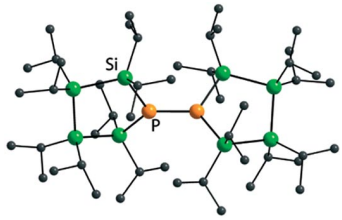
Keywords: Nitrogen heterocycles / Alkaline earth metals / Nitro compounds / Energetic materials



Alkaline earth metal salts with the 5-nitrotetrazolate anion $[CN_5O_2]^-$, a new family of thermally stable, highly sensitive compounds, show great promise as environmentally more friendly energetic materials.

Polycyclic Silylphosphanes

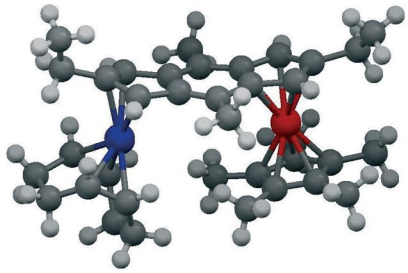
Keywords: Phosphorus / Silicon / Oligosilanes / Lithiumphosphanids / Metalation



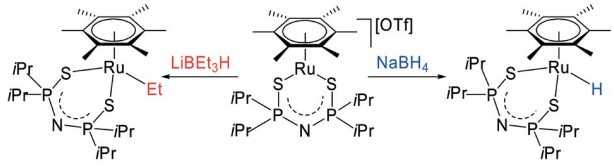
Two bicyclic silyldiphosphanes were obtained from the corresponding cyclic silaphosphanes $(i\text{Pr}_2\text{Si})_n\text{PH}$ (n = 3, 4) by lithiation with *n*BuLi and subsequent oxidative coupling with dibromethane.

Heterobinuclear Rhodium Complexes

Keywords: Heterometallic complexes / Cooperative effects / Bridging ligands / Metal–metal interactions



Heterobinuclear *s*-indacene rhodium complexes were recently synthesized, bearing secondary metallic fragments such as Cp*M (M = Fe, Co, and Ru). An unprecedented complex such as the *syn*-isomer of Cp*Ru[*s*-indacenediide]Rh(cod) was also formed and identified by X-ray diffraction techniques.



The 16-electron complexes $[Ru(\eta^6\text{-}C_6Me_6)\{\eta^2\text{-}N(R_2PQ)_2\}][OTf]$ (R = Ph, *i*Pr; Q = S, Se) have been synthesised from $[Ru(\eta^6\text{-}C_6Me_6)Cl_2]_2$, AgOTf and $K[N(R_2PQ)]_2$. Treatment of $[Ru(\eta^6\text{-}C_6Me_6)\{\eta^2\text{-}N(iPr_2PS)_2\}][OTf]$ with $Li[BEt_3H]$ and $NaBH_4$ afforded $[Ru(\eta^6\text{-}C_6Me_6)\{\eta^2\text{-}N(iPr_2PS)_2\}Et]$ and $[Ru(\eta^6\text{-}C_6Me_6)\{\eta^2\text{-}N(iPr_2PS)_2\}H]$, respectively.

Keywords: Ruthenium / Arene complexes / Sandwich complexes / Dithiolate ligand

* Author to whom correspondence should be addressed.

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

If not otherwise indicated in the article, papers in issue 5 were published online on January 29, 2009

