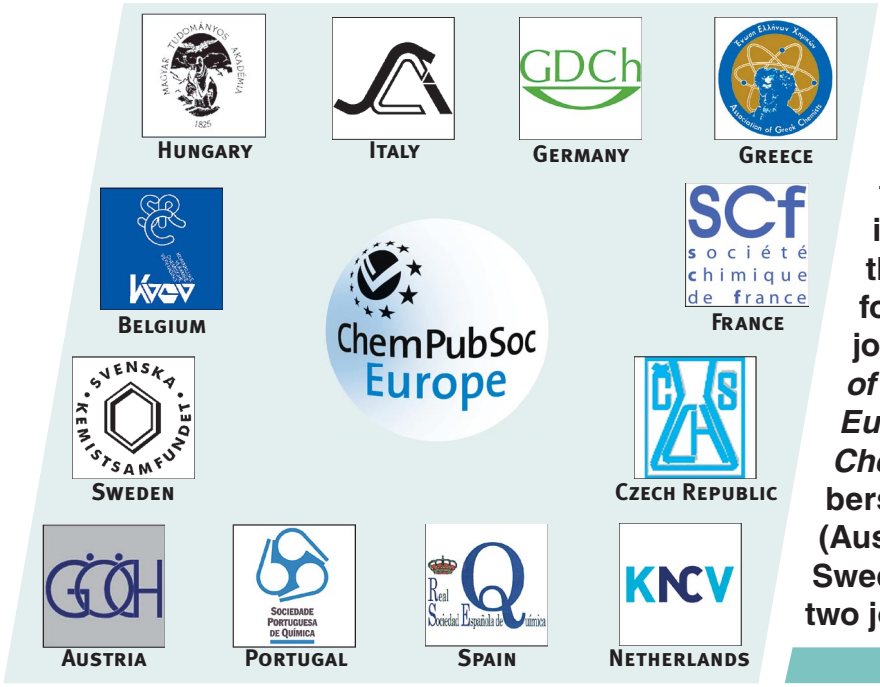
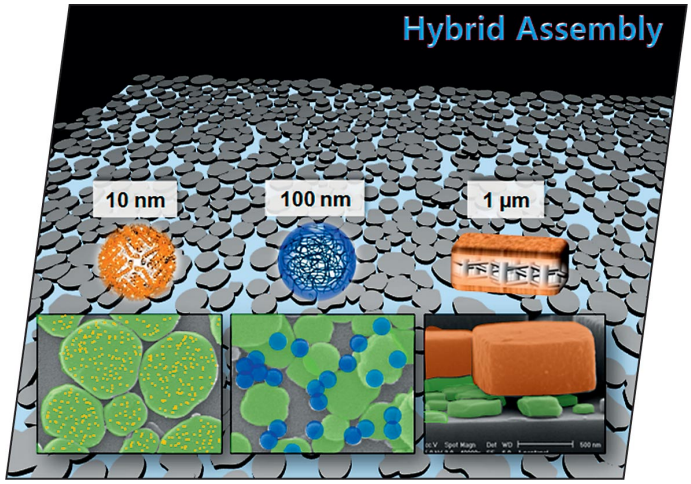


A union formed by chemical societies in Europe (ChemPubSoc Europe) has taken the significant step into the future by merging their traditional journals, to form two leading chemistry journals, the *European Journal of Inorganic Chemistry* and the *European Journal of Organic Chemistry*. Three further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

COVER PICTURE

The cover picture shows a wide range of hybrid assemblies; caged proteins (nanometer), polymer beads (hundreds nm) and zeolite crystals (micrometer scale) are self-assembled onto highly ordered monolayers of layered double hydroxide (LDH) nanocrystals by the electrostatic attraction between the negatively charged particles and the positively charged LDH surface. The various composite materials of polymer beads and LDH nanocrystals are also discussed in the article by D.-Y. Jung et al. on p. 5573ff.

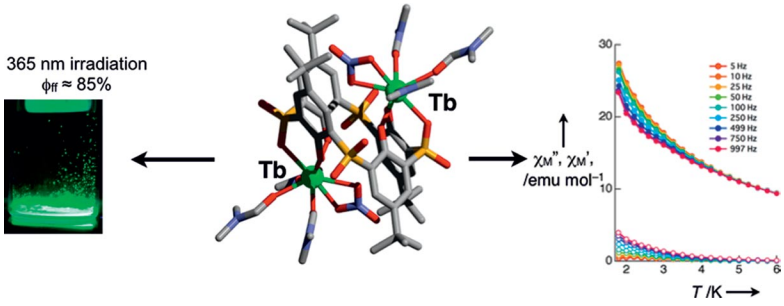


CONTENTS

SHORT COMMUNICATIONS

Terbium-Based Magnetism

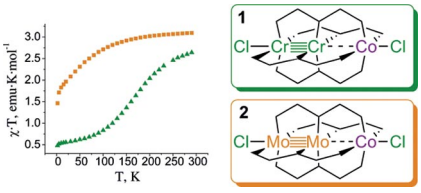
Keywords: Terbium / Calixarenes / Dinuclear complexes / Luminescence / Magnetic properties



A diterbium complex, which was synthesized by using *p-tert*-butylsulfonylcalix[4]-arene, shows highly efficient luminescence with a quantum yield of 85% as well as superparamagnetic behaviour due to slow magnetic relaxation at low temperatures, and both were achieved by controlling the conformation of the calixarene in the complex.

Heterometallic Interactions

Keywords: Heterometallic complexes / Multiple bonds / Metal–metal interactions / Ligand effects / Spin crossover

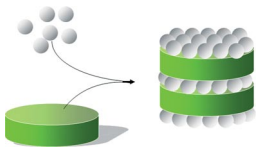


The first heterometallic Cr≡Cr···Co (**1**) and Mo≡Mo···Co (**2**) complexes synthesized feature surprisingly short heterometallic Cr···Co or Cr···Mo distances and unexpectedly different spin states. Furthermore, the Co–Cl bond lengths in these compounds are inversely proportional to the Cr···Co or Mo···Co separation, suggesting that the M≡M group has a *trans* influence on the Co^{2+} ion.

FULL PAPERS

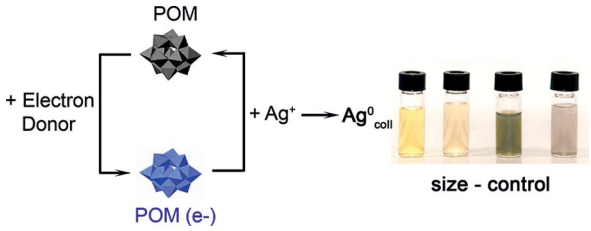
Hybrid Assembly

Keywords: Layered double hydroxide / Hybrid assembly / Inorganic particles / Polymer beads / Ferritin



Nanosized PMMA beads were uniformly assembled on LDH nanocrystals through electrostatic interaction to form homogeneous polymer-LDH nanocomposites with conformal polymer layers.

Polyoxometalate Ag Nanoparticles

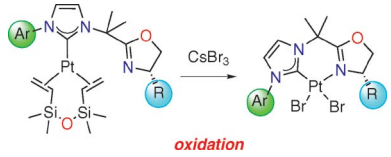


Uniformly sized silver nanoparticles were obtained by simply mixing reduced polyoxometalates with silver salts and controlling the rate by means of redox potential differences and concentrations.

Keywords: Polyoxometalates / Nanostructures / Silver nanoparticles / Rate-redox-controlled reactions

N-Heterocyclic Carbenes

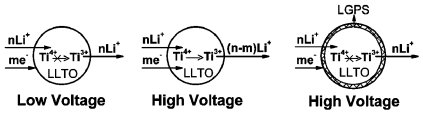
A novel family of enantiomerically pure imidazolium salts has been generated bearing an oxazoline unit and in which both heterocyles are connected by a (dimethyl)-methylene bridge. The coordination behavior of the corresponding carbenes has been investigated by preparing Rh and Pt complexes.



Keywords: Carbenes / Oxazolines / Platinum / Rhodium

Lithium Solid Electrolytes

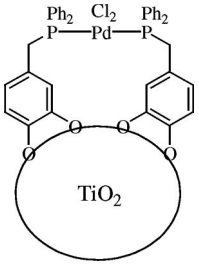
A strategy to improve the overall performance of the lithium ion-conducting solid electrolyte $Li_{0.36}La_{0.56}\square_{0.08}Ti_{0.97}Al_{0.03}O_3$ is proposed. With the coating of LGPS on LLTO to serve as continuous grain boundaries, the ionic conductivity of LLTO was highly enhanced, the electrochemical window was greatly broadened, and the electronic conductivity was sufficiently suppressed.



Keywords: Lithium ion conductivity / Solid electrolytes / Mechanical milling / Materials science / Amorphous materials

Immobilised Phosphane Complexes

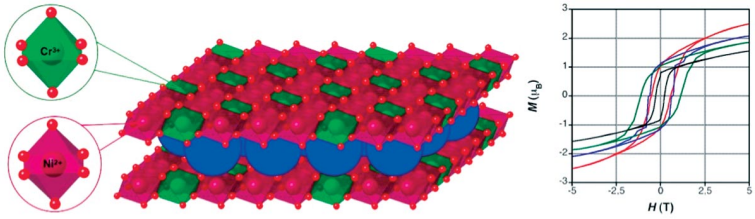
Pd complexes of catechol phosphanes were deposited on TiO_2. ^{31}P HRMAS NMR studies of the dry materials and of suspensions in different solvents showed that the binding strength and the resistance towards leaching vary noticeably with the properties of the supporting material.



Keywords: Phosphanes / Palladium / Titanium / Immobilisation

CONTENTS

Layered Magnets



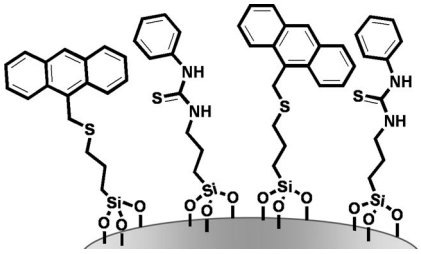
Keywords: Layered compounds / Chromium / Nickel / Magnetic properties / Spin frustration

By employing homogeneous precipitation methods and varying the metal ratio in the synthetic gel, we succeeded in isolating four layered double hydroxide compounds having the general formula $[Ni^{II}_{3-x}Cr^{III}_{x}(OH)_6](CO_3)_{x/2}\cdot yH_2O$ [x = 0.57 (**1**), 0.69 (**2**), 0.81 (**3**) and 0.93 (**4**)]. This class of layered materials can be used as model systems to correlate magnetic properties with metal composition along the hydroxide layers.

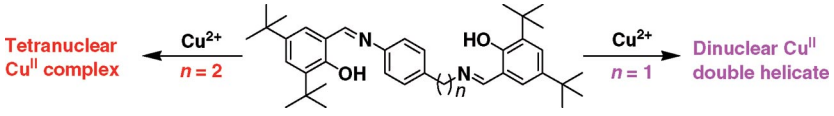
Hybrid Silica Nanoparticles

Keywords: Silica nanoparticles / Molecular recognition / Anions / Fluorescence / Langmuir isotherm

Bifunctionalised hybrid nanoparticles containing anthracene and thiourea have been synthesised and characterised, and their emission properties in the presence of anions have been studied. The apparent binding constants (adsorption constants) for the interaction of the fluorescent nanoparticles with anions in acetonitrile were determined by performing a Langmuir-type analysis of fluorescence titration data.



Metallosupramolecular Architectures



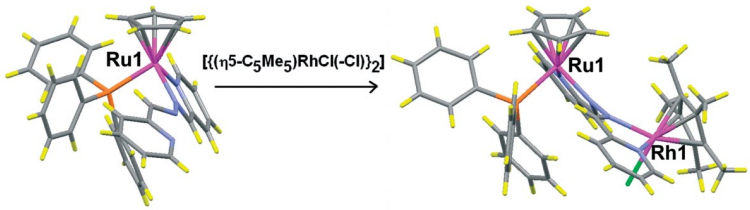
Keywords: Copper / Helical structures / Hydrogen bonds / N,O ligands / Solid-state structures

The introduction of asymmetric spacers between the two donor sites of bis(N,O-bidentate) ligands gives rise to different metallosupramolecular structures. The formation of a double helical, dinuclear copper(II) and a tetrahedrally arranged tetranuclear copper(II) complex is discussed.

CONTENTS

Bi- and Trimetallic Complexes

Keywords: Ruthenium / Arenes / Bimetallic complexes / Trimetallic complexes / Synthetic methods



Arene-ruthenium complexes $[(\eta^5\text{-}C_5H_5)\text{-}Ru(PPh_3)(\kappa^2\text{-}paa)]PF_6$ and $[(\eta^5\text{-}C_5H_5)Ru\text{-}(\kappa^1\text{-}dppm)(\kappa^2\text{-}paa)]BF_4$ (paa = pyridine-2-carbaldehyde azine) have been employed as synthons in the synthesis of homo/hetero bi- and trimetallic complexes. Details of their spectroscopic, electrochemical and spectroelectrochemical properties have been investigated and molecular structures of Ru complexes have been determined crystallographically.

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The editorial staff and the publishers thank all readers, authors, referees, and advertisers for their interest and support over the past year and wish them all a happy new year.

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

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