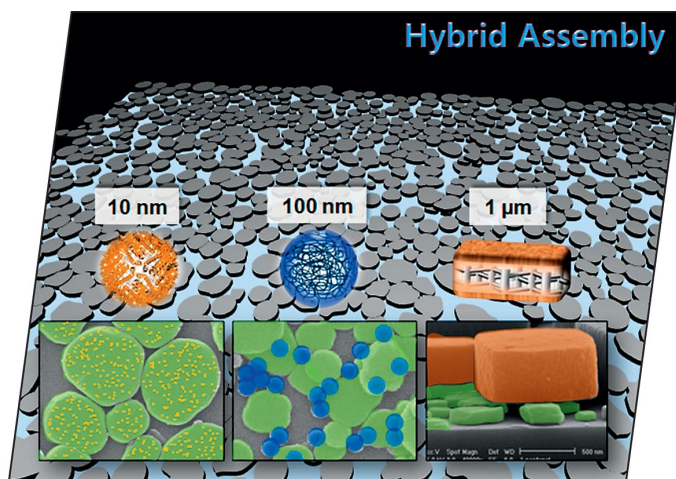




A union formed by chemical societies in Europe (ChemPubSoc Europe) has taken the significant step into the future by merging their traditional journals, to form two leading chemistry journals, the *European Journal of Inorganic Chemistry* and the *European Journal of Organic Chemistry*. Three further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



SHORT COMMUNICATIONS

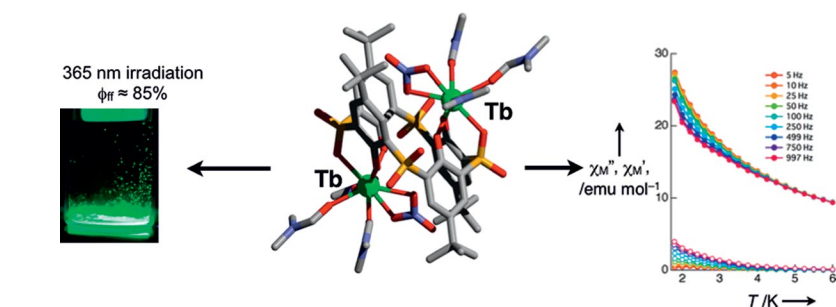
Terbium-Based Magnetism

T. Kajiwara,* M. Hasegawa,* A. Ishii,
K. Katagiri, M. Baatar, S. Takaishi,
N. Iki, M. Yamashita 5565–5568



Highly Luminescent Superparamagnetic Diterbium(III) Complex Based on the Bifunctionality of *p*-*tert*-Butylsulfonylcalix[4]arene

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.

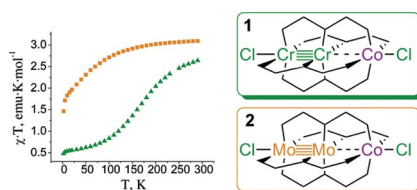
Heterometallic Interactions

M. Nippe, E. Victor,
J. F. Berry* 5569–5572



Do Metal–Metal Multiply-Bonded “Ligands Have a *trans* Influence? Structural and Magnetic Comparisons of Heterometallic $\text{Cr}\equiv\text{Cr}\cdots\text{Co}$ and $\text{Mo}\equiv\text{Mo}\cdots\text{Co}$ Interactions

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



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

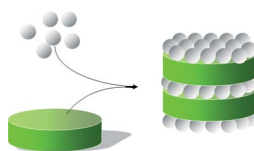
FULL PAPERS

Hybrid Assembly

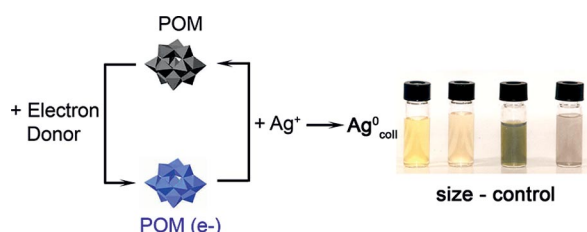
J. H. Lee, H. J. Nam, S. W. Rhee,
D.-Y. Jung* 5573–5578

Hybrid Assembly of Layered Double Hydroxide Nanocrystals with Inorganic, Polymeric and Biomaterials from Micro- to Nanometer Scales

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.



Uniformly sized silver nanoparticles were obtained by simply mixing reduced polyoxometalates with silver salts and con-

trolling the rate by means of redox potential differences and concentrations.

**A. Troupis,* T. Triantis, A. Hiskia,
E. Papaconstantinou*** 5579–5586

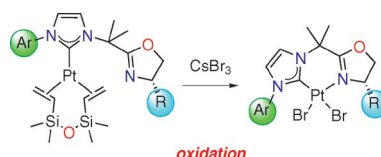
Rate-Redox-Controlled Size-Selective Synthesis of Silver Nanoparticles Using Polyoxometalates



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 heterocycles are connected by a (dimethyl)methylene bridge. The coordination behavior of the corresponding carbenes has been investigated by preparing Rh and Pt complexes.



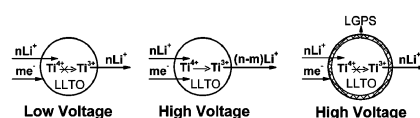
**N. Schneider, S. Bellemin-Laponnaz,*
H. Wade, L. H. Gade*** 5587–5598

A New Class of Modular Oxazoline-NHC Ligands and Their Coordination Chemistry with Platinum Metals

Keywords: Carbenes / Oxazolines / Platinum / Rhodium

Lithium Solid Electrolytes

A strategy to improve the overall performance of the lithium ion-conducting solid electrolyte $\text{Li}_{0.36}\text{La}_{0.56}\text{Ti}_{0.97}\text{Al}_{0.03}\text{O}_3$ 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.



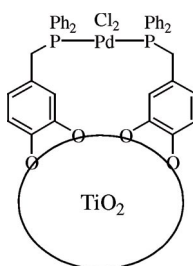
**Y. Wang, Z. Liu, F. Huang,* J. Yang,
J. Sun** 5599–5602

A Strategy to Improve the Overall Performance of the Lithium Ion-Conducting Solid Electrolyte $\text{Li}_{0.36}\text{La}_{0.56}\text{Ti}_{0.97}\text{Al}_{0.03}\text{O}_3$

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.



**S. Chikkali, D. Gudat,*
S. K. Malliserry** 5603–5608

On the Immobilisation of Catechol Phosphane Palladium Complexes on Titania

Keywords: Phosphanes / Palladium / Titanium / Immobilisation

CONTENTS

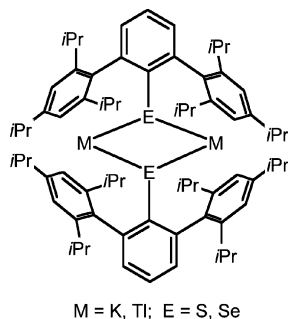
Thallium Thio- and Selenophenolates

D. Bubrin, M. Niemeyer* 5609–5616



Isostructural Potassium and Thallium Salts of Sterically Crowded Thio- and Selenophenols: A Structural and Computational Study

Keywords: Pi interactions / Potassium / S ligands / Se ligands / Terphenyl ligands / Thallium



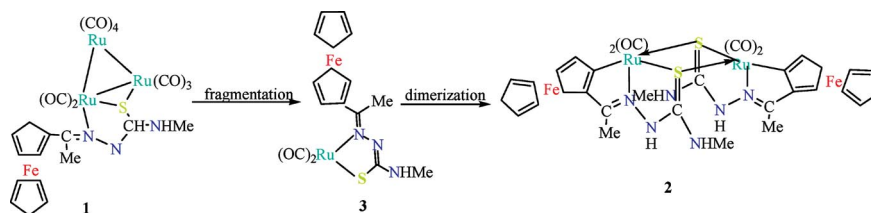
Sterically crowded, thio- and selenophenolate ligands have been used to stabilize dimeric, unsolvated complexes of potassium and thallium. The different nature of the M–E and M···C(arene) bonding was studied by density functional theory calculations that show a higher degree of covalence for the thallium compounds and no significant influence from the lone pair on Tl.

Multinuclear Ruthenium Complexes

J.-M. Yang, B. Hu, X.-X. Hu,
C.-G. Xia* 5617–5621



Reaction of (Carbonyl)triruthenium with Acetylferrocene Thiosemicarbazone: Synthesis, X-ray Diffraction, and Insight into the Solution Structures



Keywords: Ruthenium / Carbonyl ligands / Multinuclear compounds / Structure elucidation

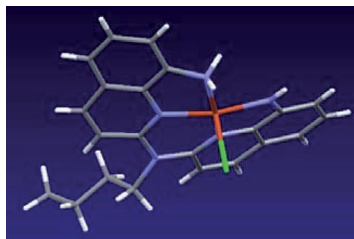
The first triruthenium complex with an acetylferrocene thiosemicarbazone ligand was prepared. Upon heating, the breakdown of **1** gives rise to the intermediate

$Ru(CO)_2(L-H)$ (**3**). Finally, the dimerization of **3** occurs rapidly to generate the first bis(cycloruthenated acetylferrocene thiosemicarbazone)carbonyl complex **2**.

Chelation of Aminoquinoline Ligands

C. Deraeve, A. Maraval, L. Vendier,
V. Faugetoux, M. Pitić,*
B. Meunier 5622–5631

Preparation of New Bis(8-aminoquinoline) Ligands and Comparison with Bis(8-hydroxyquinoline) Ligands on Their Ability to Chelate Cu^{II} and Zn^{II}



New bis(8-aminoquinoline) ligands linked on the C2 carbon atom of both quinolines have been prepared. When the linker includes a one-atom amino group, the ligands appear to be excellent chelators of Cu^{II} and form mononuclear species with high selectivity relative to Zn^{II} .

Keywords: Copper / Zinc / Chelates / N ligands

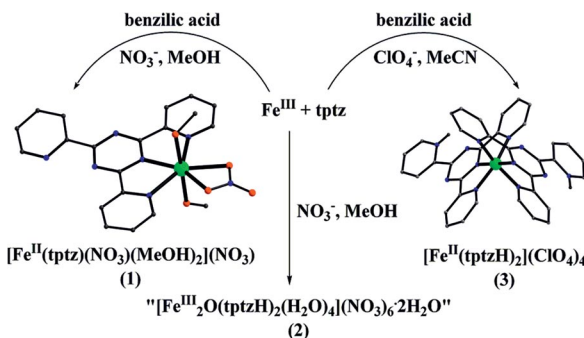
Aerobic Fe(III) to Fe(II) Reduction

C. P. Raptopoulou,* Y. Sanakis,
A. K. Boudalis 5632–5641



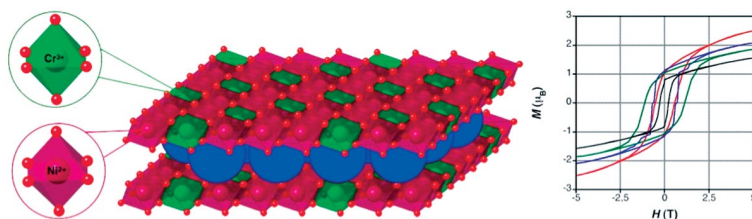
Aerobic Fe^{III} – Fe^{II} Reduction in the Presence of 2,4,6-Tri(2-pyridyl)-1,3,5-triazine and Benzoic Acid: Synthesis and Characterization of a Heptacoordinate Fe^{II} –Nitrate Complex

Keywords: Aerobic reduction / Iron / N ligands / Moessbauer spectroscopy



The aerobic reduction of Fe^{III} to Fe^{II} affords heptacoordinate HS $[Fe^{II}(tptz)(NO_3)(MeOH)_2](NO_3)$ [tptz = 2,4,6-tri(2-pyridyl)-1,3,5-triazine] and hexacoordinate LS $[Fe^{II}(tptzH)_2](ClO_4)_4$ complexes. The +2

oxidation state is stabilized by coordination of tptz and simultaneous presence of benzoic acid in the mixture, whereas the absence of benzoic acid affords an oxido-bridged diferric complex.



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 $[\text{Ni}^{\text{II}}_{3-x}\text{Cr}^{\text{III}}_x(\text{OH})_6](\text{CO}_3)_{x/2} \cdot y\text{H}_2\text{O}$ [$x = 0.57$ (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.

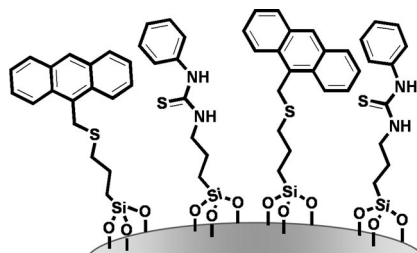
J. J. Almansa, E. Coronado,*
C. Martí-Gastaldo,
A. Ribera* 5642–5648

Magnetic Properties of $\text{Ni}^{\text{II}}\text{Cr}^{\text{III}}$ Layered Double Hydroxide Materials

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

Hybrid Silica Nanoparticles

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.

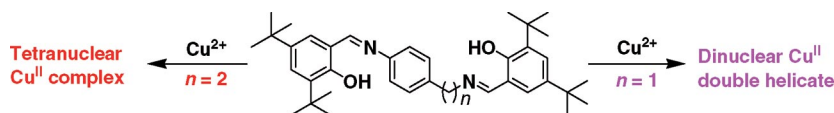


P. Calero, R. Martínez-Máñez,*
F. Sancenón,* J. Soto 5649–5658

Synthesis, Characterisation and Optical Properties of Silica Nanoparticles Coated with Anthracene Fluorophore and Thiourea Hydrogen-Bonding Subunits

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

Metallosupramolecular Architectures



The introduction of asymmetric spacers between the two donor sites of bis(N,O-bidentate) ligands gives rise to different metallosupramolecular structures. The for-

mation of a double helical, dinuclear copper(II) and a tetrahedrally arranged tetranuclear copper(II) complex is discussed.

P. Halder, P. R. Banerjee, E. Zangrando,
T. K. Paine* 5659–5665

Effect of Ligand Spacer on Metallosupramolecular Architectures: From a Dinuclear Copper(II) Double Helicate to a Tetranuclear Copper(II) Complex

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

CONTENTS

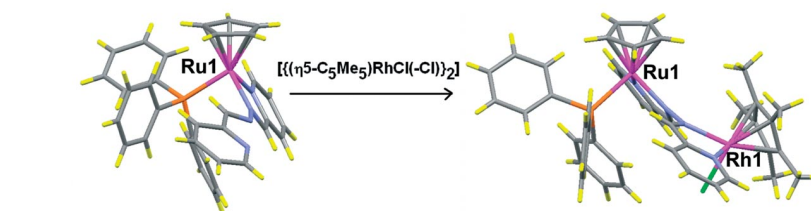
Bi- and Trimetallic Complexes

S. D. Dwivedi, A. K. Singh, S. K. Singh,
S. Sharma, M. Chandra,
D. S. Pandey* 5666–5673



Ruthenium Complexes Containing Pyridine-2-carbaldehyde Azine as a Synthon in the Synthesis of Bi-/Trimetallic Complexes

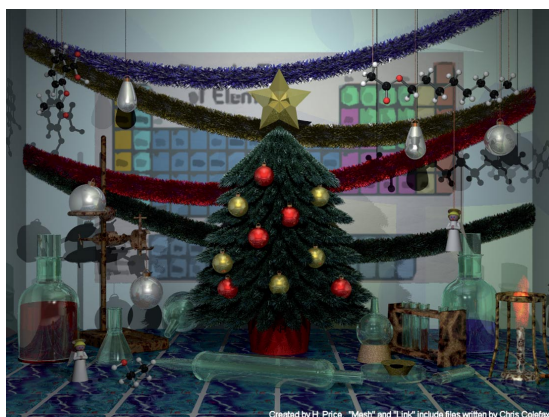
Keywords: Ruthenium / Arenes / Bimetallic complexes / Trimetallic complexes / Synthetic methods



Arene-ruthenium complexes $[(\eta^5\text{-C}_5\text{H}_5)\text{-Ru}(\text{PPh}_3)(\kappa^2\text{-paa})]\text{PF}_6$ and $[(\eta^5\text{-C}_5\text{H}_5)\text{Ru}(\kappa^1\text{-dppm})(\kappa^2\text{-paa})]\text{BF}_4$ (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.

INDEX 2008 5677–5687



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.

* 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 35 were published online on November 28, 2008