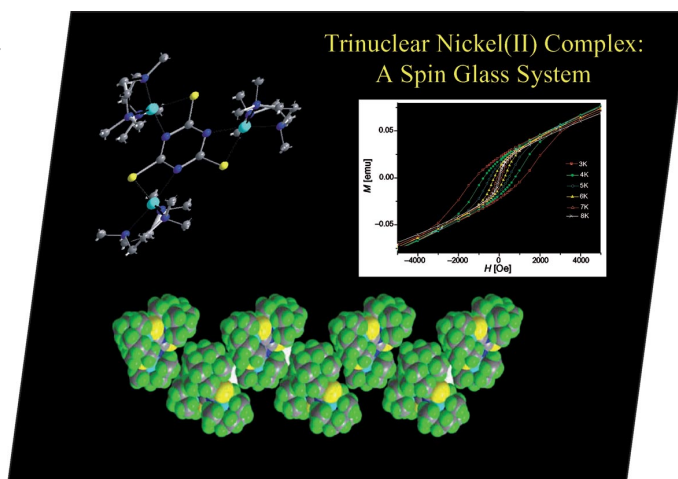




A union formed by chemical societies in Europe (ChemPubSoc Europe) has taken the significant step into the future by merging their traditional journals, to form two leading chemistry journals, the *European Journal of Inorganic Chemistry* and the *European Journal of Organic Chemistry*. Three further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

## COVER PICTURE

The cover picture shows the structure of a new trinuclear nickel(II) complex with *N,N,N',N'',N'''*-pentamethyldiethylenetriamine (pmdien) and a tri-thiocyanurate(3<sup>-</sup>) (ttc<sup>3-</sup>) bridge, [Ni<sub>3</sub>(pmdien)<sub>3</sub>(μ-ttc)](ClO<sub>4</sub>)<sub>3</sub>. This trimer shows ferromagnetic interactions among nickel(II) magnetic centers and spin glass properties, which has been confirmed by the magnetization measurements at different temperatures, where the hysteresis loop is well visible in AC, FCM, and ZFCM measurements. Details are discussed in the article by J. Mrozinski et al. on p. 5475ff.



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## SHORT COMMUNICATION

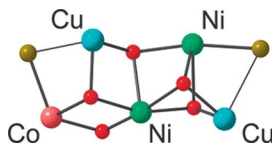
### A Cu/Co/Ni Pentanuclear Core

D. S. Nesterov\*, V. N. Kokozay,  
B. W. Skelton ..... 5469–5473



A Pentanuclear Cu/Co/Ni Complex with 2-(Dimethylamino)ethanol – Observation of a Rare Molecular Structure Type and Its Place in General Structural Types: An Analysis of the Cambridge Structural Database

**Keywords:** Heterometallic complexes / Direct synthesis / X-ray diffraction / Cambridge Structural Database / Amino alcohols



The heterotrimetallic Cu/Co/Ni complex with 2-(dimethylamino)ethanol has been prepared by direct synthesis. The pentanuclear coordination core of the presented complex possesses extremely rare asymmetric organization. The general pentanuclear molecular structure types and their comparison with the structure of the presented compound are discussed.

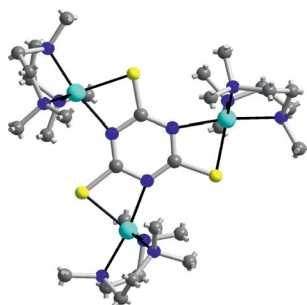
## FULL PAPERS

### Trinuclear Ni(II) Complexes

P. Kopel, J. Mrozinski,\* K. Doležal,  
V. Langer, R. Boča, A. Bieńko,  
A. Pochaba ..... 5475–5482

Ferromagnetic Properties of a Trinuclear Nickel(II) Complex with a Trithiocyanurate Bridge

**Keywords:** Nickel / Magnetic properties / Bridging ligands / Multinuclear complexes



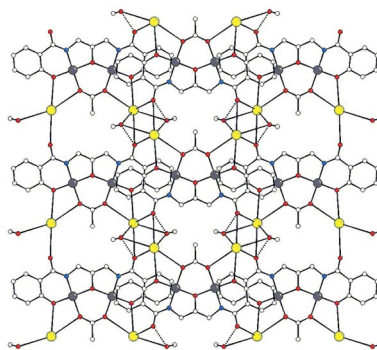
The trinuclear nickel(II) complex  $[\text{Ni}_3(\text{pmdien})_3(\mu\text{-ttc})](\text{ClO}_4)_3$  with  $N,N,N',N',N''$ -pentamethyldiethylenetriamine (pmdien) and a trithiocyanurate(3–) ( $\text{ttc}^{3-}$ ) bridge was synthesized. This trinuclear nickel(II) complex has a regular triangular  $\text{Ni}_3$  core. The trimer showed ferromagnetic interactions among the  $\text{Ni}^{\text{II}}$  magnetic centers and spin-glass properties.

### Versatile Coordination in Supramolecules

L. Stoicescu,\* C. Duhayon, L. Vendier,  
A. Tesouro-Vallina, J.-P. Costes,  
J.-P. Tuchagues\* ..... 5483–5493

Structure and Properties of Copper(II), Manganese(III), and Iron(III) Complexes with Potentially Pentaanionic Heptadentate Ligands Including Alkoxido, Amido, and Phenoxido Donors

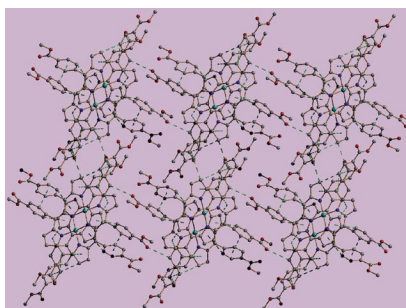
**Keywords:** Dinuclear complexes / Coordination modes / Copper / Iron / Manganese / Magnetic properties



The coordination ability and versatility of the potentially pentaanionic heptadentate ligands  $\text{H}_5\text{L}^1\text{--H}_5\text{L}^3$  towards transition-metal ions is demonstrated by the different dinucleating chelation modes described in this report. The sheetlike packing in the 2D  $[\text{Cu}_2(\text{L}^1)(\text{OAc})\text{Cs}_2(\text{MeOH})_2]_n$  coordination polymer is shown.

## Tuning Supramolecular Networks

Eight esterified TCPP compounds were successfully synthesized by solvothermal reactions and characterized. The reaction mechanism was investigated. Esterification plays a vital role in the properties, structural motifs and supramolecular networks.



W. Chen, S. Fukuzumi\* ..... 5494–5505

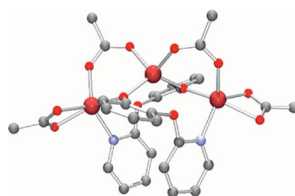
Change in Supramolecular Networks through In Situ Esterification of Porphyrins



**Keywords:** Solid-state structures / Esterification / Porphyrinoids / Phosphorescence / Luminescence / Nitrogen heterocycles

## Biomimetic Chemistry

Carboxylate-rich diiron compounds are prepared with tethered aromatic substrates as structural and functional models for the active sites of non-heme diiron metalloproteins.



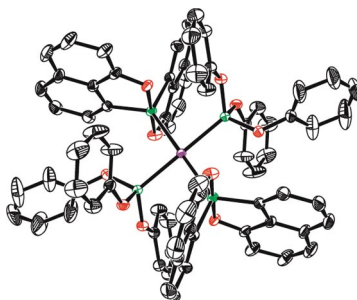
S. Friedle, S. J. Lippard\* ..... 5506–5515

Synthesis, Characterization, and Oxygenation Studies of Carboxylate-Bridged Diiron(II) Complexes with Aromatic Substrates Tethered to Pyridine Ligands and the Formation of a Unique Trinuclear Complex

**Keywords:** Bioinorganic chemistry / Enzyme models / Iron / Diiron hydroxylase / Oxidation / Steric hindrance / Carboxylate ligands / EPR spectroscopy / Moessbauer spectroscopy

## Bis(phosphoranido) Complexes

*trans*-Bis(phosphoranido)platinum(II) complexes, which are the first square-planar complexes to bear two phosphoranide ligands in a *trans* array, were synthesized. The structural property was confirmed by X-ray structural analysis of the bis(phosphoranido) complex bearing triphenyl phosphites.



K. Kajiyama,\* I. Sato, S. Yamashita, T. K. Miyamoto ..... 5516–5521

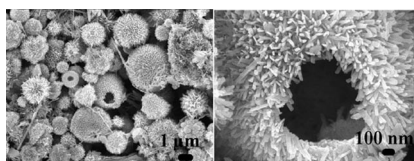
Syntheses and Characterization of Novel *trans*-Bis(phosphoranido)platinum(II) Complexes: Reactions of Lithium Bis(naphth-1,8-diyl-8-oxy)phosphoranide with *cis*-PtCl<sub>2</sub>(PR<sub>3</sub>)<sub>2</sub> (R = OPh, OMe, Me)



**Keywords:** Hypervalent compounds / Platinum / Phosphane ligands / Ligand effects

## Hydroxyapatite Hollow Spheres

The solvothermal synthesis of hierarchically nanostructured hydroxyapatite hollow spheres assembled from nanorods was carried out at 200 °C for 24 h in water/*N,N*-dimethylformamide (DMF) mixed solvents.



M.-G. Ma,\* J.-F. Zhu ..... 5522–5526

Solvothermal Synthesis and Characterization of Hierarchically Nanostructured Hydroxyapatite Hollow Spheres

**Keywords:** Materials science / Nanostructures / Self-assembly

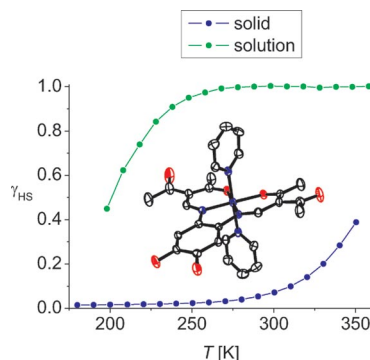
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## Spin-Crossover Complexes

B. Weber,\* J. Obel, D. Henner-Vásquez,  
W. Bauer ..... 5527–5534

Two New Iron(II) Spin-Crossover Complexes with  $N_4O_2$  Coordination Sphere and Spin Transition around Room Temperature

**Keywords:** Iron / Magnetic properties / Spin crossover / Schiff bases



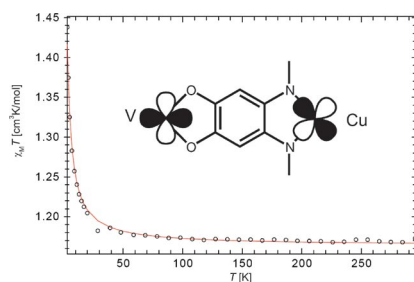
A new modification of an  $N_2O_2$  coordinating Schiff base like ligand enables a more detailed investigation of the influence of H-bonds on spin-crossover properties. A significant increase in the transition temperature was observed.

## Trinuclear Complexes

B. Weber,\* J. Obel, L. R. Lorenz,  
W. Bauer, L. Carrella,  
E. Rentschler ..... 5535–5540

Control of Exchange Interactions in Trinuclear Complexes Based on Orthogonal Magnetic Orbitals

**Keywords:** Magnetic properties / Schiff bases / Copper / Vanadium / N,O ligands



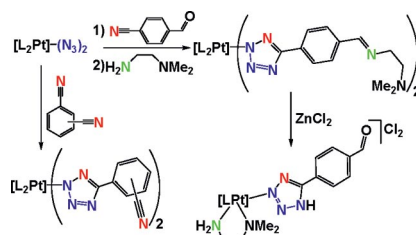
The magnetic properties of trinuclear complexes can be controlled by using the principles of strict orthogonality of the magnetic orbitals.

## Metal-Promoted Cycloadditions

J. Lasri,\* M. F. C. Guedes da Silva,\*  
M. N. Kopylovich,  
B. Ghosh Mukhopadhyay,  
A. J. L. Pombeiro\* ..... 5541–5549



Platinum(II)-Promoted [2+3] Cycloaddition of Azide with 4-Cyanobenzaldehyde, a Schiff Base Derivative or Dicyanobenzenes To Give Formyl-, Amino(imino)- or Cyano-Functionalized Tetrazolato Complexes



Cycloaddition of bis(azido)platinum(II) with 4-cyanobenzaldehyde furnishes (formylphenyl)tetrazolato  $Pt^{II}$  that reacts with 2-dimethylaminoethylamine to give the corresponding Schiff base derivative; the latter undergoes hydrolysis in the presence of a metal salt. Reactions with dicyanobenzenes give (cyanophenyl)tetrazolato complexes.

**Keywords:** Cycloaddition / Platinum / N ligands / Azides / Schiff bases

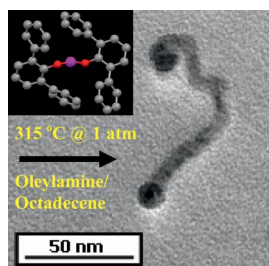
## Germanium Nanomaterials

T. J. Boyle,\* L. J. Tribby, L. A. M. Ottley,  
S. M. Han ..... 5550–5560



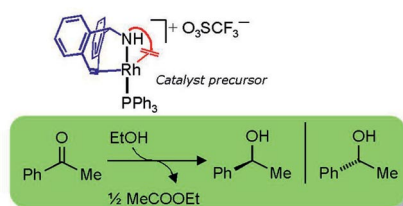
Synthesis and Characterization of Germanium Coordination Compounds for Production of Germanium Nanomaterials

**Keywords:** Germanium / Nanomaterials / Alkoxides / Thiols / Amides / Solid-state structures



A series of  $Ge^{II}$  precursors— $Ge[OC_6H_3(C_6H_5)_2]_2$  shown—were synthesized for production of  $Ge^0$  nanomaterials. Upon precipitation from solution, it was found that  $Ge^0$  nanodots were formed from the amide, nanowires from alkoxides (shown) and siloxides, and amorphous  $Ge_xSi_y$  from the silanthiolate.

A number of chiral [bis(olefin)amino]rhodium(I) complexes containing a tropylid-enyl moiety (blue) were synthesized and tested in enantioselective transfer hydro-genations by using ethanol as “green” hy-drogen donor. The best results were ob-tained with a ligand containing a cyclohex-3'-en-1'-yl group (red) (up to 44% *ee* at a substrate/catalyst ratio S/C = 10000).



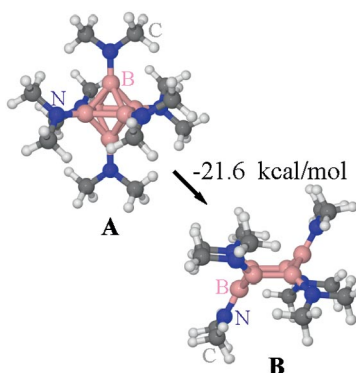
**T. Zweifel, D. Scheschkewitz, T. Ott, M. Vogt, H. Grützmacher\* .... 5561–5576**

Chiral [Bis(olefin)amine]rhodium(I) Com-plexes – Transfer Hydrogenation in Eth-anol

**Keywords:** Asymmetric catalysis / Enantio-selectivity / Ethanol / Olefin complexes / Rhodium / Transfer hydrogenation

## Boron Clusters

In spite of their weak aromaticity and in contrast to reports in the literature, *hyper-closo*-hexa(amino)hexaboranes like **A** are *higher* in energy than the corresponding cycloisomers like **B**. This is shown exper-imentally as well as by computations at the B3LYP/6-311+G\*\* level of theory. Com-pound **A** is the first *hypercloso*-hexaborane to be characterized by X-ray structural analysis.



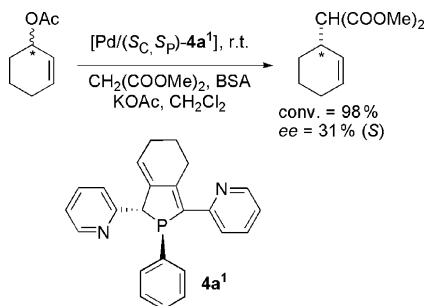
**W. Mesbah, M. Soleimani, E. Kianfar, G. Geiseler, W. Massa, M. Hofmann, A. Berndt\* ..... 5577–5582**

*hypercloso*-Hexa(amino)hexaboranes: Struc-turally Related to Known *hypercloso*-Do-decaboranes, Metastable with Regard to Their Classical Cycloisomers

**Keywords:** Aromaticity / Boron / Structure elucidation / Density functional calcu-lations

## Chiral Phospholenes

The synthesis of optically pure 2-pyridyl-phospholene ligands by diastereomeric res-olution of Pd<sup>II</sup> complexes also bearing the chiral amine (*R*)- $\alpha$ -methylbenzylamine is described. A full coordination study of these ligands and the corresponding phos-phole ligands has been carried out. Their catalytic behaviour in Pd-catalysed allylic substitutions has also been evaluated.



**F. Leca, F. Fernández, G. Muller, C. Lescop, R. Réau,\* M. Gómez\* ..... 5583–5591**

Enantiomerically Pure P,N Chelates Based on Phospholene Rings: Palladium Com-plexes and Catalytic Applications in Allylic Substitution

**Keywords:** Palladium / Asymmetric cataly-sis / Chiral resolution / P ligands / Allylic substitutions

\* Author to whom correspondence should be addressed.

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