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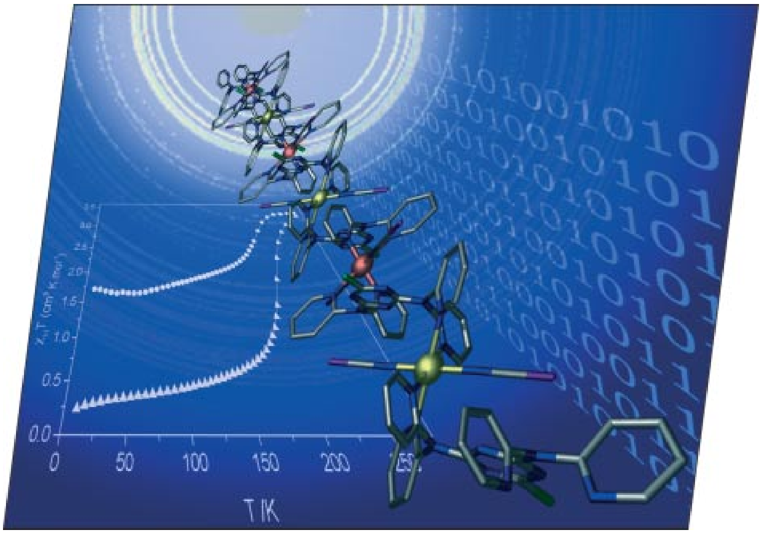
The EUChemSoc Societies have taken the significant step into the future by merging their traditional journals, to form two leading chemistry journals, the *European Journal of Inorganic Chemistry* and the *European Journal of Organic Chemistry*. Three further EUChemSoc Societies (Austria, Czech Republic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

COVER PICTURE

The cover picture shows the one-dimensional polymeric iron(II) spin crossover material, $Fe(NCX)_2(cddt)\cdot n(guest)$ (X = S or Se) containing the ligand 2-chloro-4,6-bis(dipyrid-2-ylamino)-1,3,5-triazine. The thiocyanate analogue undergoes a "half" spin crossover, illustrated at the bottom, where at low temperatures there are alternating, crystallographically distinct, high spin (yellow) and low spin (red) iron(II) centres (as can be seen in the structural diagram). The selenocyanate material undergoes a full spin crossover illustrated at the base of the image. Further characterisation of the thiocyanate material has been carried out by powder X-ray diffraction using synchrotron radiation; a representative image is shown in the background of the picture. Details are discussed in the article by K. S. Murray et al. on p. 1073 ff.



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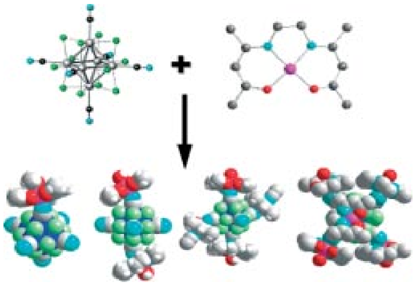
MICROREVIEW

Cluster-Based Materials

H. Zhou, A. Lachgar* 1053–1066

Octahedral Metal Clusters $[Nb_6Cl_{12}(CN)_6]^{4-}$ as Molecular Building Blocks: From Supramolecular Assemblies to Coordination Polymers

Keywords: Metal clusters / Self-assembly / Supramolecular Chemistry / Coordination polymers



Reactions between octahedral niobium cyanochloride metal clusters and coordinatively unsaturated metal complexes in different solvents led to the formation of supramolecular moieties with different sizes and different charges. Judicious choice of the synthetic conditions led to the preparation of either supramolecules that are hydrogen bonded, or to coordination polymers with 1D, 2D, and 3D frameworks built from cluster anions and metal complexes linked by CN ligands.

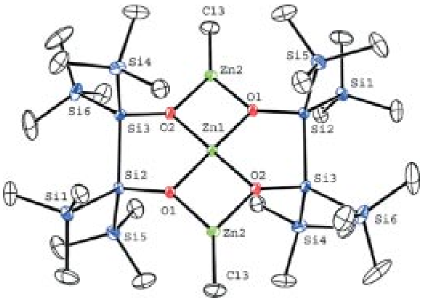
SHORT COMMUNICATION

Zinc Siloxides

C. Krempner,* H. Reinke,
K. Weichert 1067–1071

Synthesis and Structure of Cyclic Trinuclear Zinc Disiloxides

Keywords: Oligosilanes / Zinc / Siloxides / Clusters



The synthesis of three new cyclic trinuclear zinc disiloxides has been reported from reactions of $ZnMe_2$ with various vicinal silanediols. The solid-state structure of one of the zinc siloxides (see Figure) reveals unusual square-planar coordination geometry of the inner Zn^{2+} ion, which is enforced by steric interactions of the silyl groups.

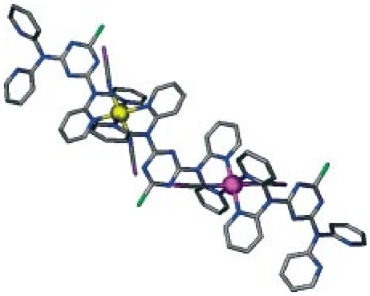
FULL PAPERS

Iron(II) Spin Crossover

S. M. Neville, B. A. Leita,
D. A. Offermann, M. B. Duriska,
B. Moubaraki, K. W. Chapman,
G. J. Halder, K. S. Murray* ... 1073–1085

Spin-Crossover Studies on a Series of 1D Chain and Dinuclear Iron(II) Triazine-Dipyridylamine Compounds

Keywords: Iron / N ligands / Spin crossover / 1D chains / Dinuclear / Magnetic properties



Detailed structural and magnetic studies on a series of polynuclear and dinuclear iron(II) materials, several of which show spin crossover.

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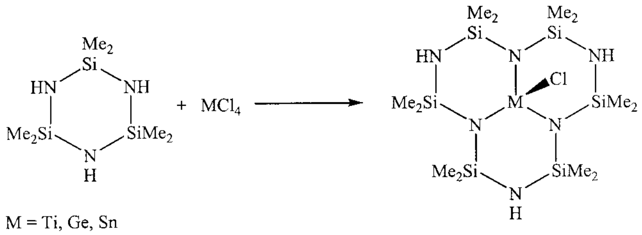
Silazane Complexes



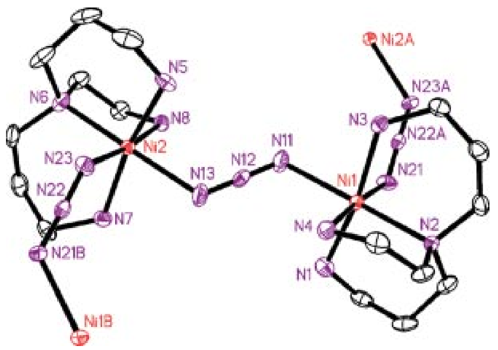
Novel titanium, germanium and tin silazane complexes can be synthesized by the reactions of 1,1,3,3,5,5-hexamethylcyclotrisilazane H_3(HMCTS) with the corresponding metal tetrachloride under various reaction conditions. The molecular structures of these complexes exhibit a new dodecamethylcyclohexasilazane system with the Ti, Ge, and Sn atom in the center. The metal atoms are coordinated by one chlorine atom and three nitrogen atoms that are part of three six-membered heterosilazane rings.

C. Lehnert, J. Wagler, E. Kroke, G. Roewer* 1086–1090

Synthesis and Characterization of Novel Titanium, Germanium, and Tin Silazane Complexes Bearing a Cyclohexasilazanetriido Ligand

Keywords: Heterometallic complexes / N ligands / Titanium / Germanium / Tin / Cyclohexasilazane complexes

Bridged Azido – Nickel(II) Complexes



A new series of azido–Ni^{II} complexes $[Ni_2(trpn)_2(\mu_{1,3}\text{-}N_3)_2](ClO_4)_2$ (**1**), 1D *cis*-$[Ni(abap)(\mu_{1,3}\text{-}N_3)]_n(ClO_4)_n$ (**2**), 1D *cis*-$[Ni(Me_6trien)(\mu_{1,3}\text{-}N_3)]_n(ClO_4)_n\cdot nH_2O$ (**3a**), and $[Ni(Me_6trien)(N_3)]ClO_4$ (**3b**) were synthesized and structurally characterized by spectroscopic techniques, X-ray crystallography, and magnetic measurements.

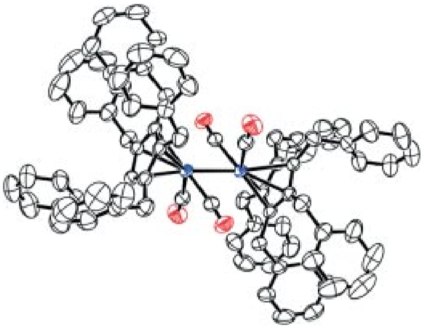
S. S. Massoud,* F. A. Mautner, R. Vicente, A. A. Gallo, E. Ducasse 1091–1102

Dinuclear and Polynuclear Bridged Azido–Nickel(II) Complexes: Synthesis, Structure Determination, and Magnetic Properties

Keywords: Nickel / Azido bridges / Crystal structure / Magnetic properties

Mo and W Metallocenes

$[MoCpBz(CO)_2]_2$ (**5**) and $[MCpBz(CO)_3]_2$ (M = Mo, W; CpBz = pentabenzylcyclopentadienyl) are described. Hydrido complexes $[MH(CpBz)(CO)_3]$ have been obtained from reactions of $Li[MCpBz(CO)_3]$ with H^+. Cyclic voltammetry and controlled potential coulometry of **5** have been performed and mechanisms for the redox behaviour are proposed.



S. Namorado, J. Cui, C. G. de Azevedo, M. A. Lemos, M. T. Duarte, J. R. Ascenso, A. R. Dias, A. M. Martins* .. 1103–1113

(Pentabenzylcyclopentadienyl)molybdenum Complexes: Synthesis, Structures and Redox Properties

Keywords: Molybdenum / Tungsten / Cyclopentadienyl ligands / Half-sandwich complexes / Cyclic voltammetry

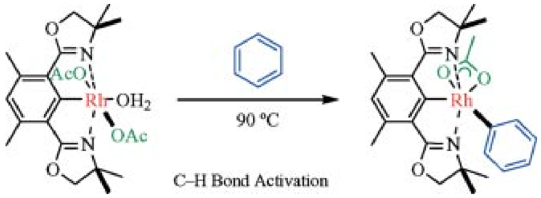
CONTENTS

C−H Activation

J. Ito, H. Nishiyama* .... 1114−1119

Carbon−Hydrogen Bond Activation of Arenes by a [Bis(oxazolinyl)phenyl]rhodium(III) Acetate Complex

Keywords: C−H activation / Arenes / Rhodium / Substituent effects



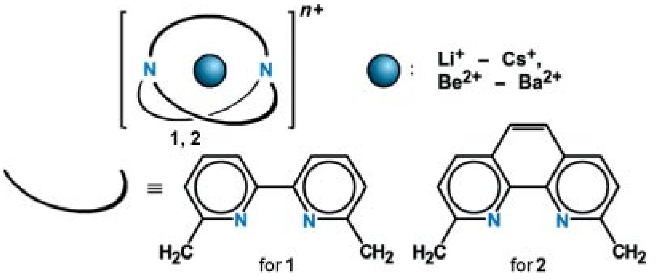
Thermolysis of a [bis(dimethyloxazolinyl)-phenyl]rhodium(III) acetate complex in the presence of various arenes results in the formation of the corresponding aryl complexes by intermolecular C−H bond activation assisted by the acetato ligand as a proton acceptor.

Host−Guest Complexes

R. Puchta,* R. van Eldik .... 1120−1127

Host−Guest Complexes of Oligopyridine Cryptands: Prediction of Ion Selectivity by Quantum Chemical Calculations

Keywords: Density functional calculations / Semiempirical calculations / Cryptands / Host−guest systems / Cation selectivity



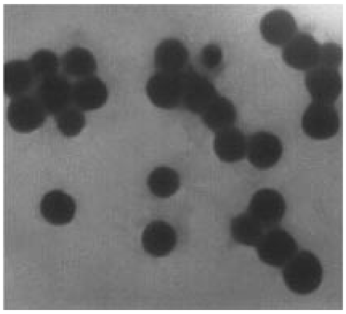
Quantum chemical investigations of endohedral ion complexation by the cryptands **1** and **2** predict a favourable binding of K^+, Ca^{2+} and Sr^{2+} by **1** and Na^+, Ca^{2+} and Sr^{2+} by **2**. To obtain the best coordination mode for each cation, the cryptands fold around the ions by twisting their torsion angles.

Nanomaterials

L. B. Yang, Y. H. Shen,* A. J. Xie,
J. J. Liang, J. M. Zhu,
L. Chen .... 1128−1134

Synthesis of Controllable-Size Core−Shell Se@Ag and Se@Au Nanoparticles in UV-Irradiated TSA Solution

Keywords: Nanostructures / Photochemistry / Core−shell structures / Selenium



The formation of Se-core−Au-shell and Se-core−Ag-shell nanoparticles by using photochemically reduced tungstosilicate Keggin ions has been described. With this method, the core size and the shell thickness can be controlled by varying the conditions.

A Volatile Iron Amidinate

X.-G. Li,* Z. Li, H. Li,
R. G. Gordon* .... 1135−1142

Synthesis and Sublimation Kinetics of a Highly Volatile Asymmetric Iron(II) Amidinate

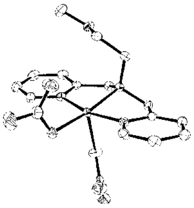
Keywords: Asymmetric iron(II) amidinate / Bridging ligands / Metathesis / Sublimation kinetics / Thermochemistry

Iron(II) bis(*N*-*tert*-butyl-*N′*-ethylacetamidinate), was synthesized and characterized for the first time by NMR spectroscopy, MS, IR spectroscopy and TG techniques. The activation energy of the sublimation is 105 kJ mol^{-1}. The optimal starting iron (II) compound and reaction medium are iron (II) acetylacetonate and diethyl ether, respectively. The combination offers the highest yield, the greatest volatilizability of 98%, and thus the purest product.

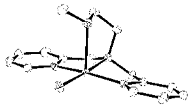
Copper Complexes

Y. Mikata,* T. Fujimoto, Y. Sugai,
S. Yano 1143–1149

Control of Intramolecular Ether-Oxygen Coordination in the Crystal Structure of Copper(II) Complexes With Dipicolylamine-Based Ligands



$[\mathrm{Cu}(\mathbf{L1})(\mathrm{NO}_3)_2]$



$[\mathrm{Cu}(\mathbf{L1})\mathrm{Cl}]^+$

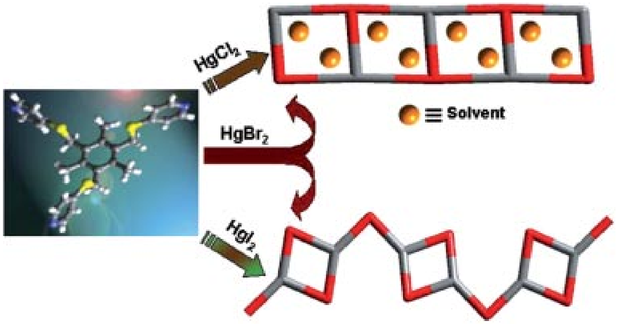
Thirteen crystal structures of copper(II) complexes with a series of dipicolylamine (DPA)-based ligands, namely *N*-(2-methoxyethyl)-*N*,*N*-bis(2-pyridylmethyl)amine (**L1**), *N*-[2-(2-hydroxyethyloxy)ethyl]-*N*,*N*-bis(2-pyridylmethyl)amine (**L2**) and *N*-(3-methoxypropyl)-*N*,*N*-bis(2-pyridylmethyl)amine (**L3**), have been determined and the factors that control the coordination of the ether-oxygen atom of these ligands to the copper centre are discussed.

Keywords: N,O ligands / Copper / Coordination modes / Ligand effects

Coordination Polymers with Channels

J. PrakashaReddy,
V. R. Pedireddi* 1150–1158

Metal–Organic Hybrids of 1,3,5-Tris(4-pyridylsulfanylmethyl)-2,4,6-trimethylbenzene with Mercuric Halides



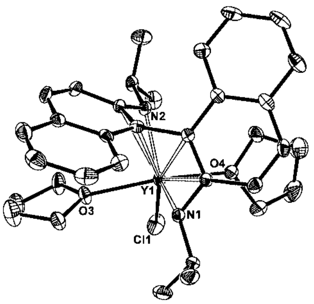
Coordination assemblies of conformationally flexible 1,3,5-tris(4-pyridylsulfanylmethyl)-2,4,6-trimethylbenzene with different mercuric halides have been shown to form significantly different complexes, which can be differentiated by composition and structural features (solvated and unsolvated structures).

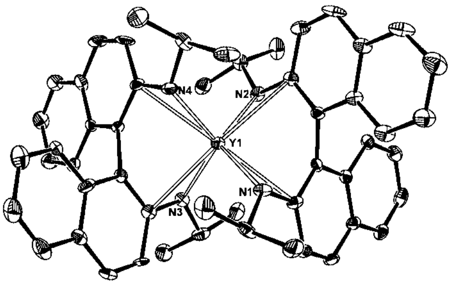
Keywords: Metal–organic hybrids / Supramolecular chemistry / Crystal engineering / Fluxional thio ligands / Mercuric halides

Catalysis of Hydroaminations

D. Riegert, J. Collin,* J.-C. Daran,
T. Fillebeen, E. Schulz, D. Lyubov,
G. Fukin, A. Trifonov* 1159–1168

Neutral Yttrium Tris(amide) and Ate Complexes Coordinated by an (*R*)-*N*,*N*′-Diisopropyl-1,1′-binaphthyl-2,2′-diamido Ligand as Enantioselective Catalysts for Intramolecular Hydroamination





$[\mathrm{Y}\{(R)\text{-}\mathrm{C}_{20}\mathrm{H}_{12}(\mathrm{N}i\mathrm{Pr})_2\}\mathrm{Cl(thf)}_2]$ has been prepared and characterized by X ray analysis as well as the corresponding yttrium ate complex $[\mathrm{Li(thf)}_4][\mathrm{Y}\{(R)\text{-}\mathrm{C}_{20}\mathrm{H}_{12}(\mathrm{N}i\mathrm{Pr})_2\}_2]$. The neutral yttrium complex $[\mathrm{Y}\{(R)\text{-}\mathrm{C}_{20}\mathrm{H}_{12}(\mathrm{N}i\mathrm{Pr})_2\}\{\mathrm{N}i\mathrm{Pr}_2\}\{\mathrm{LiCl(thf)}_2\}]$ and the ate complex catalyze the formation of several pyrrolidines and piperidines with different activities and enantioselectivities.

Keywords: Asymmetric catalysis / N ligands / Yttrium / Hydroamination / Nitrogen heterocycles

If not otherwise indicated in the article, papers in issue 7 were published online on February 16, 2007