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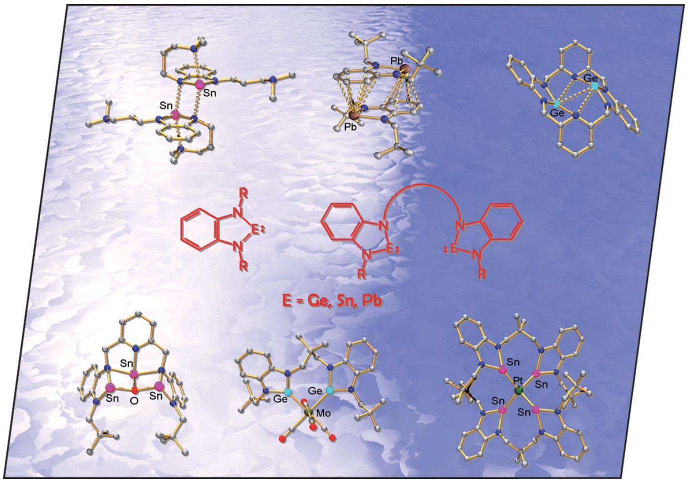
A union formed by chemical societies in Europe (ChemPubSoc Europe) has taken the significant step into the future by merging their traditional journals, to form two leading chemistry journals, the *European Journal of Inorganic Chemistry* and the *European Journal of Organic Chemistry*. Three further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

COVER PICTURE

The cover picture shows some selected examples of benzannulated germylenes, stannylenes and plumbylenes and their aggregation behaviour. In addition, some complexes of bidentate bis(germylenes) and bis(stannylenes) are depicted, demonstrating the versatile coordination chemistry of these ligands with transition and main group metals. Details are presented in the Microreview by A. V. Zabula and F. E. Hahn on p. 5165ff.



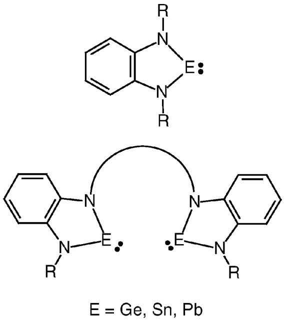
MICROREVIEW

Heavier Analogues of NHCs

A. V. Zabula, F. E. Hahn* 5165–5179

Mono- and Bidentate Benzannulated N-Heterocyclic Germylenes, Stannylenes and Plumbylenes

Keywords: Carbene analogues / Germylenes / Stannylenes / Plumbylenes / Complexes



The chemistry of mono- and polydentate N-heterocyclic carbene analogues of the group 14 elements is reviewed focussing on the preparation, aggregation behaviour and coordination chemistry of benzannulated germylenes, stannylenes and plumbylenes.

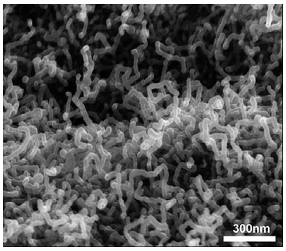
SHORT COMMUNICATIONS

Ceramic Nanowires

**M. Veith,* E. Sow, U. Werner,
C. Petersen, O. C. Aktas 5181–5184**

The Transformation of Core/Shell Aluminium/Alumina Nanoparticles into Nanowires

Keywords: Al/Al_2O_3 Composite / Nanowires / Catalyst-free nanowire formation / Core-shell structures



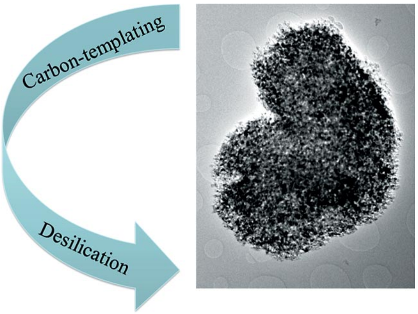
An old material dressed up: A chemical approach has been developed to selectively synthesize a core shell structure of aluminium nanowires coaxially wrapped up in an Al_2O_3 shell. The wires have reproducible thickness and length.

Mesoporous Zeolites

**M. S. Holm, K. Egeblad,
P. N. R. Vennestrøm,
C. G. Hartmann, M. Kustova,
C. H. Christensen* 5185–5189**

Enhancing the Porosity of Mesoporous Carbon-Templated ZSM-5 by Desilication

Keywords: ZSM-5 / Zeolites / Desilication / Carbon-templating / Mesoporous materials

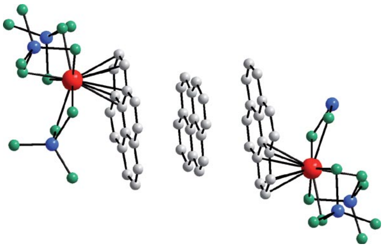


A carbon-templated zeolite ZSM-5 was desilicated to obtain a multi-level hierarchical material with a very high mesopore volume. Carbon-templating and desilication can produce mesopores of different sizes, and by coupling the two protocols we observe contributions to mesoporosity over a wide range.

FULL PAPERS

Arene Complexes of the Lanthanides

Ga^{III} halide and benzene reaction media have been utilized to synthesize a selection of organometallic lanthanide–arene complexes in high yields. The lability of the arene ligands provides a straightforward route for the exchange of larger polyaromatic hydrocarbon ligands, such as naphthalene or pyrene, resulting in the isolation and characterization of new compounds.



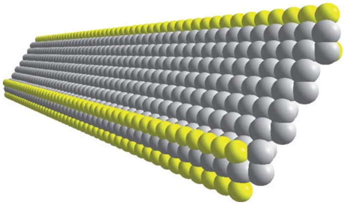
M. Gorlov, L. L. Hussami, A. Fischer, L. Kloo* **5191–5195**

Mononuclear η^6-Arene Complexes of Lanthanides: One-Step Syntheses, Crystal Structures, and Arene Exchange

Keywords: Lanthanides / Gallium halides / Arene ligands

Bismuth-Rich Subhalides

The new bismuth subhalide $Bi_{16}I_4$ has been synthesized and structurally characterized. It consists of 1D ribbons with a corrugated Bi-atom structure highly similar to the layered structure of bismuth metal. The electronic and geometric structural features of all three known bismuth-rich subhalides are described and rationalized, giving some insights into the stability of this family of compounds.



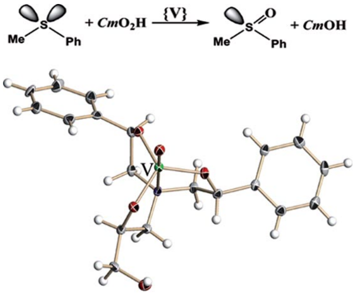
M. Lindsjö, L. Kloo,* A. Kuznetzov, B. Popovkin **5196–5202**

$Bi_{16}I_4$ – A New Bismuth Subiodide: An Analysis of Molecular Packing and Electronic Structures of the Compounds in the Bi_mI_4 (m = 14, 16, 18) Family

Keywords: Subvalent / Bismuth iodide / Chemical Bonding

Vanadium-Based Peroxidase Model

Trigonal-bipyramidal oxidovanadium(V) complexes {V} containing ligands such as those derived from the trichiral aminotetraol (shown) are able to model vanadate-dependent peroxidases. They catalyse, in homogeneous systems or anchored to a resin, the sulfoxygenation of prochiral thioanisol to chiral sulfoxide.



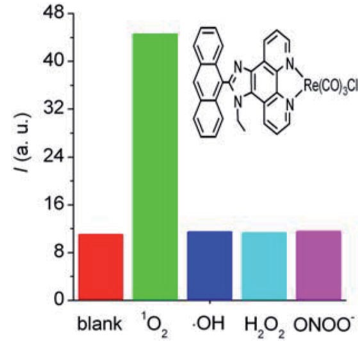
P. Wu, C. Çelik, G. Santoni, J. Dallery, D. Rehder* **5203–5213**

Sulfoxygenation Catalysed by Oxidovanadium Complexes

Keywords: Oxidovanadium complexes / Ethanolamines / Sulfoxygenation / Models of peroxidases / Vanadate-dependent peroxidase

Singlet-Oxygen Luminescence Probe

The Re^I complex acts as a luminescence probe specific for singlet oxygen ($^1O_2$) under visible light excitation at 410 nm, which results in remarkable luminescence enhancements, with 8- and 18.7-fold increases in the luminescence quantum yields in neutral and alkaline media, respectively. The visible light excitation may allow the complex to be useful for biosystems.



Y.-J. Liu, K.-Z. Wang* **5214–5219**

Visible-Light-Excited Singlet-Oxygen Luminescence Probe Based on $Re(CO)_3Cl$-(aeip)

Keywords: Rhenium / Luminescence probe / Singlet oxygen

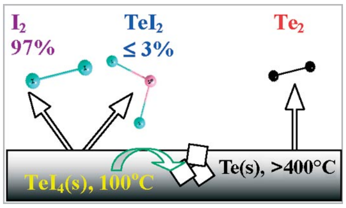
CONTENTS

Te Halides

**S. A. Shlykov,* H. Oberhammer,
A. V. Titov, N. I. Giricheva,
G. V. Girichev 5220–5227**

A Combined Gas-Phase Electron Diffraction/Mass Spectrometric Study of the Sublimation Processes of $TeBr_4$ and TeI_4: The Molecular Structure of Tellurium Dibromide and Tellurium Diiodide

Keywords: Tellurium halides / Gas-phase electron diffraction / Mass spectrometry / Quantum chemical calculations



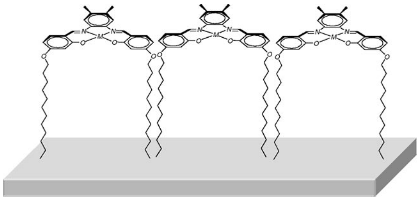
The sublimation of $TeBr_4$ and TeI_4 was studied by gas-phase electron diffraction/mass spectrometry (GED/MS). $TeBr_4$(s) forms gaseous $TeBr_2$ and Br_2. TeI_4(s) decomposes to I_2(g) and Te(s) with a small amount of TeI_2 forming. "Metallic" Te accumulated in the solid phase vaporizes at above 400 °C as predominately Te_2.

Functional LS Multilayers

**S. Di Bella,* G. Consiglio, S. Sortino,*
G. Giancane, L. Valli* 5228–5234**

Langmuir–Schäfer Films of Functional Amphiphilic Nickel(II) and Zinc(II) Schiff Base Complexes

Keywords: Multilayers / Fluorescence / Schiff bases / Nickel / Zinc



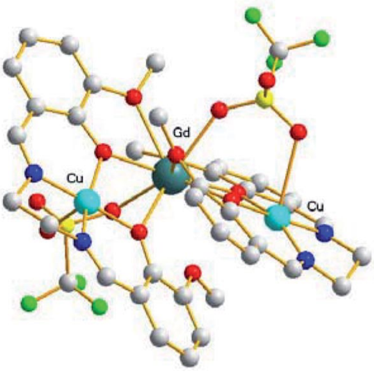
Langmuir–Schäfer (LS) deposition allows the fabrication of multilayer films of dipodal Ni^{II} and Zn^{II} Schiff base complexes; the latter exhibit fluorescence emission in the presence of arachidic acid as suitable spacer diluent.

Nuclearity of 3d–4f Complexes

**J.-P. Costes,* B. Donnadieu, R. Gheorghe,
G. Novitchi, J.-P. Tuchagues,
L. Vendier 5235–5244**

Di- or Trinuclear 3d–4f Schiff Base Complexes: The Role of Anions

Keywords: Anions / Schiff bases / Transition metals / Lanthanides / Heterometallic complexes



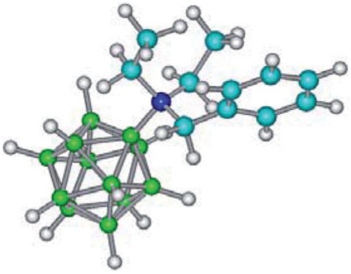
3d Schiff base complexes (3d = Cu, Ni) used as ligands react with gadolinium ions to yield dinuclear 3d-Gd or trinuclear 3d-Gd-3d complexes depending on the 3d/4f ratio if poorly coordinating anions such as triflate are used, whereas the strong affinity of nitrato anions for lanthanides only yields dinuclear complexes regardless of the 3d/4f ratio.

Boranes as Ionic Liquids

**E. Justus, A. Vöge,
D. Gabel* 5245–5250**

N-Alkylation of Ammonioundecahydro-*closo*-dodecaborate(1–) for the Preparation of Anions for Ionic Liquids

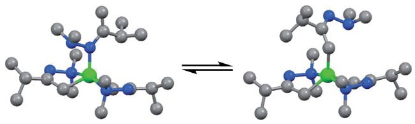
Keywords: Boron / Boranes / Alkylation / Amines / Ionic liquids



N-Alkylammonioundecahydrododecaborates form ionic liquids with organic and alkali counterions. Methods for their preparation are described. Ways to introduce two different side chains are presented.

(Hydrazonido)aluminum Complexes

The ligands in [Al(hydrazonido)$_3$] complexes were found to bond to aluminum as chelating alkyl, monodentate alkyl, and monodentate hydrazido ligands. In solution, the monodentate alkyl and hydrazido isomers are in equilibrium.



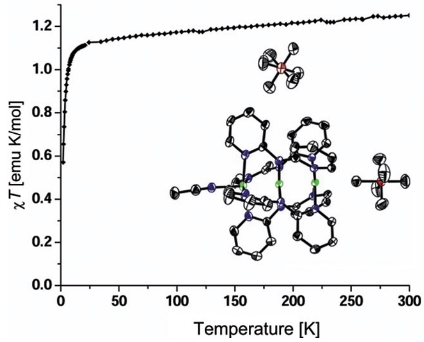
S. Javed, D. M. Hoffman* **5251–5256**

Synthesis of (Hydrazonido)aluminum Complexes

Keywords: Aluminum / Alkyl ligands / Hydrazido ligands / Hydrazonido ligands / Isomers

EMAC Compounds

An extended metal atom chain (EMAC) with an unsymmetrical trinickel core, $Ni_3(dpa)_4(CH_3CN)(PF_6)_2 \cdot 2CH_2Cl_2$, ($\mathbf{1} \cdot 2CH_2Cl_2$) was synthesized in crystalline form. Compound **1** contains two non-magnetic Ni^{II} units in a nearly square-planar arrangement and a paramagnetic entity in a pyramidal environment. The magnetic behavior differs considerably from that of symmetrical trinickel EMACs.



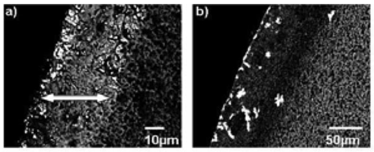
F. A. Cotton, C. A. Murillo,* Q. Wang,
M. D. Young **5257–5262**

Unusual Magnetism of an Unsymmetrical Trinickel Chain

Keywords: Extended metal atom chain, EMAC / Nickel compounds / Magnetism / Square-planar and square-pyramidal arrangements

Coating of Alumina Pellets

The process of coating spherical alumina pellets with dielectric materials derived from sol–gel synthesis was investigated. An impregnation zone with a depth of 50 µm was obtained for $Li_xTi_yNi_{(1-x)}$, while a homogeneous deposit of 5 µm was obtained for $BaTiO_3$ materials.



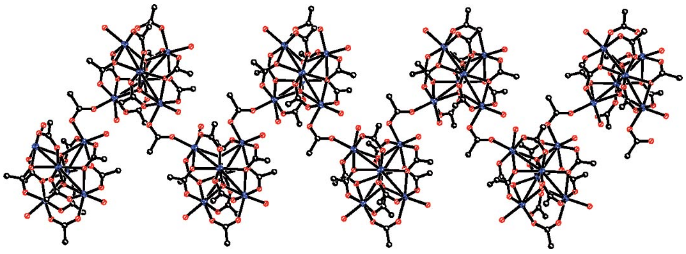
a) Impregnation zone of $Li_{0.10}Ti_{0.02}Ni_{0.88}O$ and
b) Deposit of $BaTiO_3$ materials over alumina balls

B. Fournaud, A. Iordan, S. Rossignol,*
J.-M. Tatibouët, S. Thollon ... **5263–5273**

Processing and Characterization of Spherical Alumina Pellets Coated with $BaTiO_3$ and $Li_{0.10}Ti_{0.02}Ni_{0.88}O$ Dielectric Materials

Keywords: Dielectric materials / Sol–gel processes / Coating / Spherical pellets / Electron microscopy

Mn Oxide Clusters



The coordination polymer $[Mn_6O_2(O_2CEt)_{10}(H_2O)_4]_n$ (**2**), aggregated from newly prepared hexanuclear, mixed-valence Mn oxide clusters $[Mn_6O_2(O_2CEt)_{10}(H_2O)_4]$ (**1**), is reported. Complex **2** contains cage-like Mn_6 cluster building units linked by the propionato ligands to form a 1D, zig-zag-like chain network. Both the polymeric **2** and the discrete cluster **1** display moderately strong antiferromagnetic behavior.

C.-B. Ma, M.-Q. Hu, H. Chen,
C.-N. Chen,* Q.-T. Liu **5274–5280**

Aggregation of Hexanuclear, Mixed-Valence Manganese Oxide Clusters Linked by Propionato Ligands To Form a One-Dimensional Polymer $[Mn_6O_2(O_2CEt)_{10}(H_2O)_4]_n$

Keywords: Cluster-based coordination polymers / Manganese / Structural elucidation / Magnetic properties / Propionato ligands

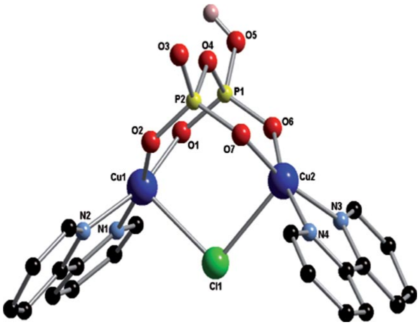
CONTENTS

Pyrophosphate Copper Complex

O. F. Ikotun, E. M. Higbee, W. Ouellette, F. Lloret, M. Julve,* R. P. Doyle* .... 5281−5286

💻 Synthesis, Structural, Magnetic and Thermal Characterization of $\{[Cu(bipy)]_2(\mu\text{-}HP_2O_7)(\mu\text{-}Cl)\}\cdot H_2O$

Keywords: Copper complexes / Pyrophosphate / Polynuclear compounds / Magnetic coupling



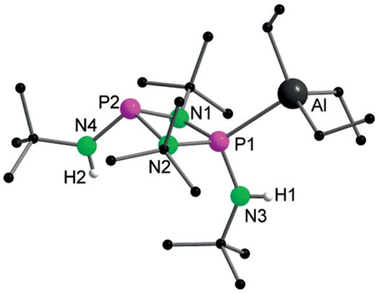
Copper(II) hydroxide reacts in acidic water with 2,2′-bipyridine and sodium pyrophosphate to give the neutral dinuclear complex $\{[Cu(bipy)]_2(\mu\text{-}HP_2O_7)(\mu\text{-}Cl)\}\cdot H_2O$. The asymmetric $[Cu(bipy)]^{2+}$ units are bridged by bis-bidentate pyrophosphate and an axially bridging chlorine atom. The incorporation of an additional bridge (halide) and the presence of protonated pyrophosphate ($HP_2O_7^{3-}$) in the structure are both rare for this family of structures. The complex is analyzed and discussed with respect to the magneto-structure characteristics.

Aluminum Compounds

M. Rastätter, P. W. Roesky* .... 5287−5291

New Bis(amino)cyclodiphosph(III)azane Complexes of Aluminum

Keywords: Aluminum / Chelates / Cage compounds / N,P ligands



The reaction of *cis*-$\{(t\text{BuNH})_2(\text{PN}t\text{Bu})_2\}$ with $AlEt_3$, $AlBrEt_2$, $AlBr_2Et$, and $AlBr_3$ led, dependending on the Lewis acidity of the aluminum compound, to either *P*- or *N*-coordinated compounds. No ethane elimination was observed.

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* Author to whom correspondence should be addressed.

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