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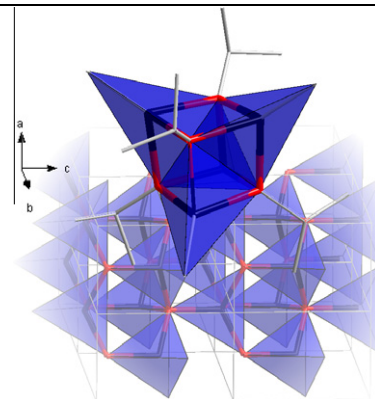
Reviews

Sebastian Polarz, Carlos Lizandara Pueyo, Michael Krumm

Inorganica Chimica Acta 363 (2010) 4148

The molecular path to inorganic materials – Zinc oxide and beyond

A concept for the synthesis of complex nanoscaled inorganic materials is presented. It involves the assembly of materials using special molecular precursors. The article focuses on the relation between inorganic materials chemistry, solid-state chemistry and molecular chemistry. The concept is highlighted by examples from the field of zinc oxide materials.

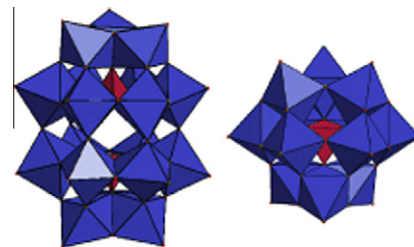


Adam Bielański, Anna Micek-Ilnicka

Inorganica Chimica Acta 363 (2010) 4158

Kinetics and mechanism of gas phase MTBE and ETBE formation on Keggin and Wells–Dawson heteropolyacids as catalysts

Review presents the mechanism and kinetics of catalytic gas phase formation of tertiary ethers: methyl-*tert*-butyl ether (MTBE) and ethyl-*tert*-butyl ether (ETBE).

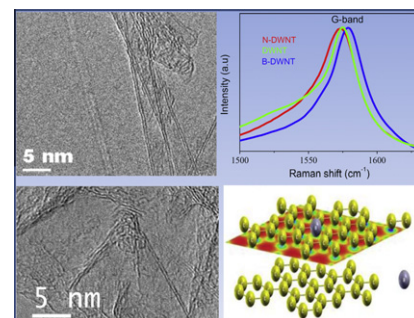


L.S. Panchakarla, A. Govindaraj, C.N.R. Rao

Inorganica Chimica Acta 363 (2010) 4163

Boron- and nitrogen-doped carbon nanotubes and graphene

Doping in carbon nanotubes and graphene makes them interesting materials. Doping brings significant changes in their electronic and other properties which make them suitable for specific applications. This review presents the synthetic procedures, properties and applications of boron- and nitrogen-doped carbon nanotubes and graphene.



Articles

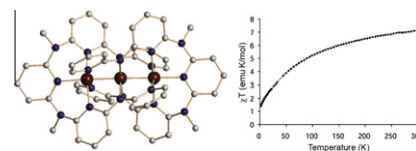
F. Albert Cotton, Carlos A. Murillo, Qingsheng Wang

Inorganica Chimica Acta 363 (2010) 4175

Symmetrical linear Co_3^{6+} chains cocooned by two polypyridylamide ligands: How do they compare to open chains?

Three species with *extended metal atom chains* (EMACs) having symmetrical Co_3^{6+} cores and partial $\text{Co} \cdots \text{Co}$ bonds cocooned by two polypyridyl ligands have been synthesized and characterized by X-ray crystallography, mag-

netic and electrochemical measurements and spectroscopic techniques. Variable temperature magnetic susceptibility measurements suggest that at 300 K there may be up to seven unpaired electrons but electron coupling at low temperatures lowers the magnetism. This magnetic behavior differs from that of the open chain compound $\text{Co}_3(\text{dipyridylamide})_4\text{Cl}_2$ that has a maximum of five unpaired electrons at room temperature.

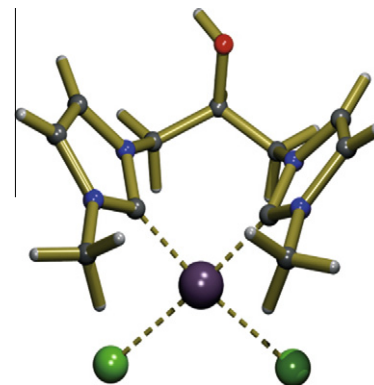


Nadežda B. Jokić, Claudia S. Straubinger, Serena Li Min Goh, Eberhardt Herdtweck, Wolfgang A. Herrmann, Fritz E. Kühn

Inorganica Chimica Acta 363 (2010) 4181

Symmetrical bis-(NHC) palladium(II) complexes: Synthesis, structure, and application in catalysis

Symmetrically substituted bis-*N*-heterocyclic carbene palladium(II) complexes with a functional group attached to the bridging moiety are prepared, characterized, immobilized and applied for catalytic Suzuki–Miyaura cross-coupling.



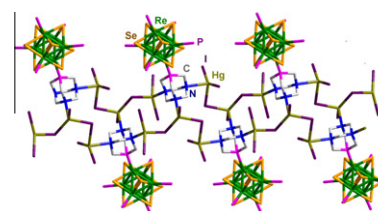
Xiaoyan Tu, Huong Truong, Gary S. Nichol, Zhiping Zheng

Inorganica Chimica Acta 363 (2010) 4189

Molecular and polymeric Hg(II) complexes with a PTA (1,3,5-triaza-7-phosphaadamantane) complex of the $[\text{Re}_6(\mu_3\text{-Se})_8]^{2+}$ core-containing cluster as ligand

The synthesis and structural studies of three novel Hg(II) complexes, molecular and polymeric, produced with the use of a PTA (1,3,5-triaza-7-phosphaadamantane)

complex of the $[\text{Re}_6(\mu_3\text{-Se})_8]^{2+}$ core-containing cluster as ligand, are reported. The distinctly different compounds were isolated from otherwise identical reaction mixtures at different reaction temperatures. The salient coordination modes of the cluster-bound PTA ligand, including one for which there is no literature precedent, are discussed, together with some discussion of the profound temperature effects observed on the identity of the products.

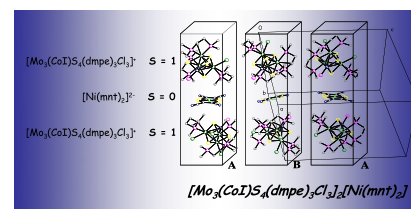


Sebastian Krackl, Antonio Alberola, Rosa Llusar, Gerd Meyer, Cristian Vicent

Inorganica Chimica Acta 363 (2010) 4197

Use of a cubane-type Mo_3CoS_4 molecular cluster as paramagnetic unit in the synthesis of hybrid charge-transfer salts

Oxidation of the 15 metal electron $\text{Mo}_3(\text{CoCl})\text{S}_4(\text{dmpe})_3\text{Cl}_3$ cluster causes selective substitution of the chlorine atom coordinated to cobalt to produce $[\text{Mo}_3(\text{CoI})\text{S}_4(\text{dmpe})_3\text{Cl}_3]^+$ (1^+) with 14 metal electrons and a $S = 1$ ground state. Combination of this magnetic cluster cation with square planar nickel dithiolate complexes affords charge-transfer salts.



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