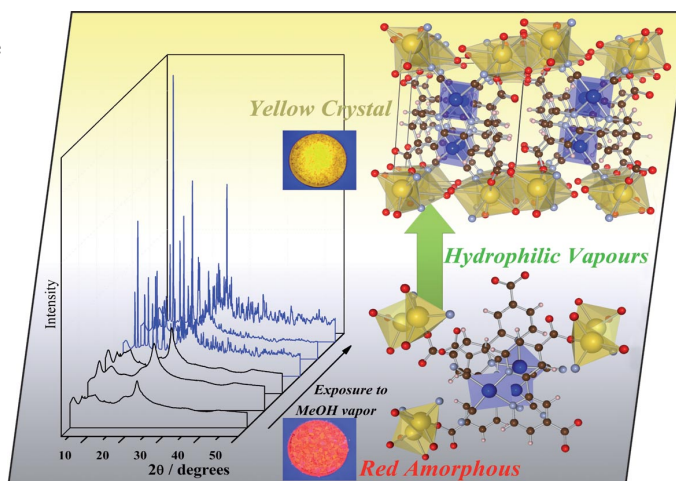


EurJIC is co-owned by 11 societies of ChemPubSoc Europe, a union of European chemical societies for the purpose of publishing high-quality science. All owners merged their national journals to form two leading chemistry journals, the *European Journal of Inorganic Chemistry* and the *European Journal of Organic Chemistry*. Three further members of ChemPubSoc Europe (Austria, Czech Republic and Sweden) are Associates of the two journals.

Other ChemPubSoc Europe journals are *Chemistry – A European Journal*, *ChemBioChem*, *ChemPhysChem*, *ChemMedChem*, *ChemSusChem* and *ChemCatChem*.

COVER PICTURE

The cover picture shows the amorphous–crystalline transformation of the newly synthesized platinum(II)–diimine complex $\text{Na}_2[\text{Pt}(\text{CN})_2(\text{dcbpy})]\cdot 2\text{H}_2\text{O}$ induced by exposure to several hydrophilic solvent vapours. The transformation is accompanied by significant colour and luminescence changes. Details are discussed in the article by M. Kato et al. on p. 2465ff.



CONTENTS

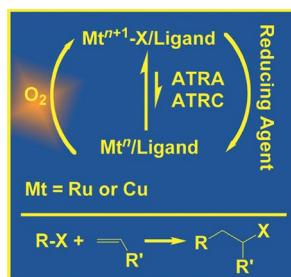
MICROREVIEW

Catalyst Regeneration

T. Pintauer* 2449–2460

Catalyst Regeneration in Transition-Metal-Mediated Atom-Transfer Radical Addition (ATRA) and Cyclization (ATRC) Reactions

Keywords: ATRA / ATRC / Homogeneous catalysis / Metal-mediated reactions / Radicals / Reducing agents



Recent advances in the area of catalyst regeneration in copper- and ruthenium-mediated atom transfer radical addition (ATRA) and cyclization (ATRC) reactions in the presence of free-radical diazo initiators or magnesium as reducing agents were reviewed. Reducing agents regenerate the activator in both processes, enabling selective ATRA and ATRC reactions using very small amounts of metal catalysts.

SHORT COMMUNICATION

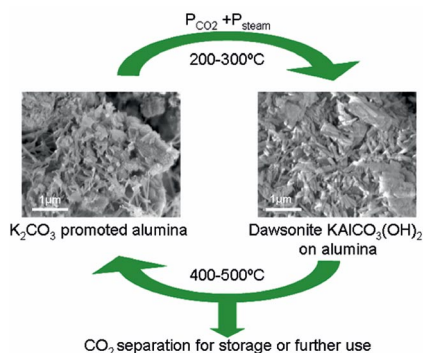
Carbon Dioxide Capture

S. Walspurger*, P. D. Cobden,
W. G. Haije, R. Westerwaal, G. D. Elzinga,
O. V. Safonova 2461–2464



In Situ XRD Detection of Reversible Dawsonite Formation on Alkali Promoted Alumina: A Cheap Sorbent for CO₂ Capture

Keywords: Dawsonite / Solid state reaction / Carbon capture / Carbon dioxide / Carbonates / Absorption



A needle-shaped crystalline K-Dawsonite phase is formed from K₂CO₃-promoted transitional alumina under an equimolar pressurized gaseous mixture of CO₂ and steam at about 300 °C. This phase decomposes above 300 °C and is reformed on cooling. Cyclic sorption experiments show a breakthrough capacity of 1.5–1.7 mmol g⁻¹. This opens new pathways for the design of cheap and robust CO₂ materials to be used in carbon capture.

FULL PAPERS

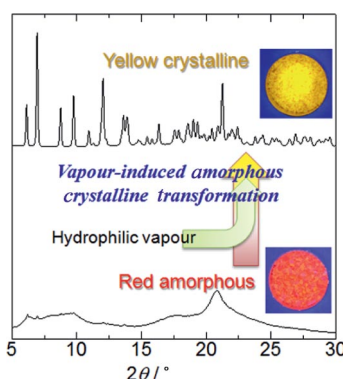
A Vapour History Sensor

A. Kobayashi, T. Yonemura,
M. Kato* 2465–2470



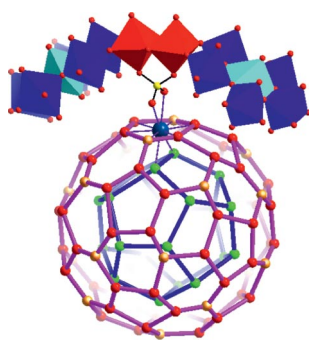
Vapour-Induced Amorphous–Crystalline Transformation of a Luminescent Platinum(II)–Diimine Complex

Keywords: Luminescence / Amorphous–crystalline transformation / Platinum / Vapochromism / Sensors



A newly synthesized Pt^{II}–diimine complex, Na₂[Pt(CN)₂(dcbpy)]·2H₂O, exhibited a vapour-induced amorphous–crystalline transformation responding to hydrophilic solvent vapour, which is a promising phenomenon for a vapour history sensor.

An interesting, encapsulated underoccupied two-shell water $[\{H_2O\}_{60+20} + \{H_2O\}_{20}]$ cluster acts as a polydentate ligand coordinating to encapsulated Gd^{3+} ions; 20 $CH(NH_2)_2^+$ cations interact with the 20 surface pores through hydrogen bonds, which brings about a new type of supramolecular surface chemistry. The compound demonstrates a strong self-defocusing effect, which may find applications in materials science.



L. Zhang, Y. Zhou,*

R. Han 2471–2475

A Supramolecular Derivative of a Nanorous Molybdenum Oxide Based Inorganic Keplerate with Self-Defocusing Nonlinear Optical Properties

Keywords: Structure elucidation / Organic–inorganic hybrid composites / Nonlinear optics / Keplerates

Redox Reactivity of Iron Oxazolines

R. C. R. Bottini, R. A. Gariani,

C. de O. Cavalcanti, F. de Oliveira,

N. de L. G. da Rocha, D. Back, E. S. Lang,

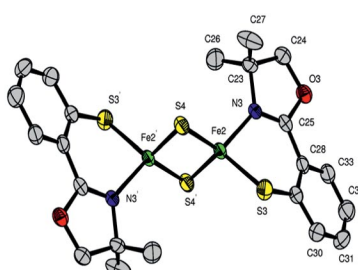
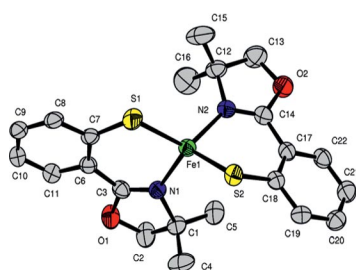
P. B. Hitchcock, D. J. Evans, G. G. Nunes,

F. Simonelli, E. L. de Sá,

J. F. Soares* 2476–2487

Redox Processes Involved in the Synthesis and Reactivity of Oxazolinylthiophenolato Complexes of Iron(II)/(III)

Keywords: Iron / S ligands / Structure elucidation / Redox chemistry / Density functional calculations



This first report on the reactivity of iron halides towards chalcogen derivatives of hydroxyphenylmonooxazolines describes

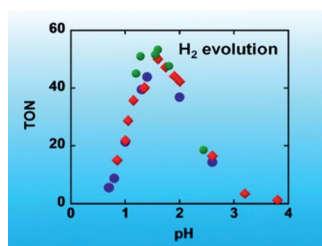
the occurrence of ligand oxidation and metal-based redox transformations.

Hydrogen Evolution

E. Szajna-Fuller, A. Bakac* ... 2488–2494

Catalytic Generation of Hydrogen with Titanium Citrate and a Macrocyclic Cobalt Complex

Keywords: Hydrogen / Cobalt / Titanium / Macrocycles / Kinetics / Hydrides



The complex $Co^{II}(dmgBF_2)_2$ catalyzes hydrogen evolution from acidic aqueous solutions of Ti^{III} citrate. The main H_2 -generating pathway appears to involve attack by H^+ or protonated citrate at a hydridocobalt(III) intermediate.

Metal-Ion Discrimination

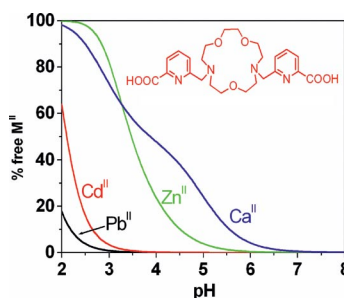
R. Ferreira-Martínez, C. Platas-Iglesias,

A. de Blas, D. Esteban-Gómez,*

T. Rodríguez-Blas* 2495–2503

Macrocyclic Receptor Showing Improved Pb^{II}/Zn^{II} and Pb^{II}/Ca^{II} Selectivities

Keywords: Macrocycles / Selectivity / Lead / Cadmium / Crown compounds



The macrocyclic ligand N,N' -bis[(6-carboxy-2-pyridyl)methyl]-1,10-diaza-15-crown-5 (**bp15c5**) is shown to display remarkable Pb^{II}/Zn^{II} and Pb^{II}/Ca^{II} selectivities in aqueous solution.

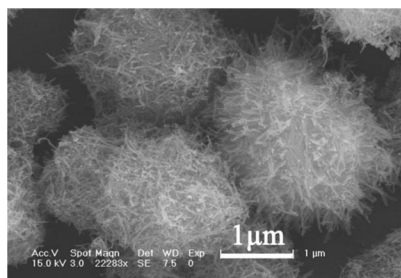
CONTENTS

Clew-Like Nanostructures

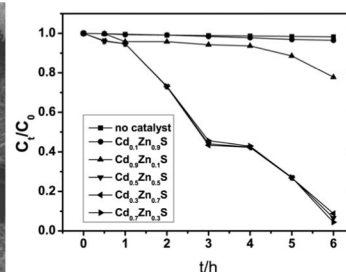
L. Dong, Y. Liu,* Y. Zhuo,
Y. Chu* 2504–2513

General Route to the Fabrication of ZnS and M-Doped ($M = \text{Cd}^{2+}$, Mn^{2+} , Co^{2+} , Ni^{2+} , and Eu^{3+}) ZnS Nanoclews and a Study of Their Properties

Keywords: Nanostructures / Doping / Heterogeneous catalysis / Zinc / Photochemistry



Pure and ion-doped (Cd^{2+} , Mn^{2+} , Co^{2+} , Ni^{2+} , Eu^{3+} , etc.) clew-like ZnS nanostructures self-assembled by curled ZnS nanowires were synthesized by using a hydrothermal route in a mixed solvent



composed of water and ethylenediamine. Both the pure ZnS nanoclews and the $\text{Cd}_x\text{Zn}_{1-x}\text{S}$ nanoclews showed high photocatalytic activity driven by UV and visible light, respectively.

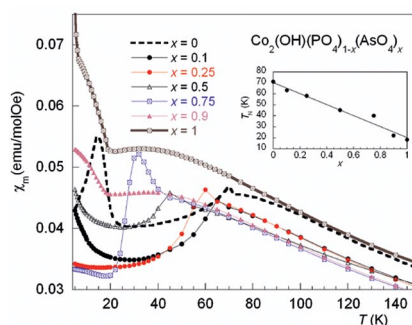
Solid Solution

I. de Pedro, J. M. Rojo,
J. Rodríguez Fernández, L. Lezama,
T. Rojo* 2514–2522



Synthesis, Spectroscopic and Magnetic Properties of the $\text{Co}_2(\text{OH})(\text{PO}_4)_{1-x}(\text{AsO}_4)_x$ [$0 \leq x \leq 1$] Solid Solution

Keywords: Hydrothermal synthesis / Solid solution / Spectroscopic properties / Magnetic properties / Solid-state structures / Cobalt / Arsenic



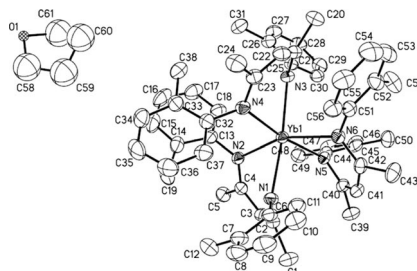
The magnetic behavior in the $\text{Co}_2(\text{OH})(\text{PO}_4)_{1-x}(\text{AsO}_4)_x$ [$0 < x < 1$] solid solution shows an evolution with the substitution of arsenate ions from a 3D antiferromagnetic ordering with a spin glass-like state to an incommensurate magnetic phase.

β-Diketiminato Ligand Effects

R. Jiao, M. Xue, X. Shen, Y. Zhang,
Y. Yao, Q. Shen* 2523–2529

A Comparative Study on the Reactivity of Tris-β-Diketiminato Ytterbium Complexes: Steric Effect of β-Diketiminato Ligands

Keywords: N ligands / Polymerization / Ytterbium / Ligand effects / Steric hindrance



A series of tris-β-diketiminato ytterbium complexes were synthesized. The catalytic activities of these complexes for polymerization and for the addition of amines to carbodiimides were found to be greatly affected by the steric bulk of the β-diketiminato ligands. The results indicate that a normally inert β-ketiminato ligand can become an active group by steric-induced activation.

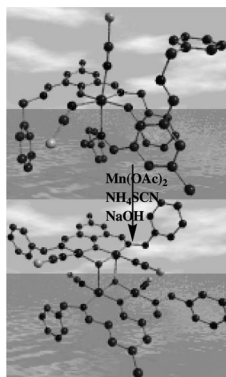
Manganese Complexes

M. Sarkar, V. Bertolasi,
D. Ray* 2530–2536



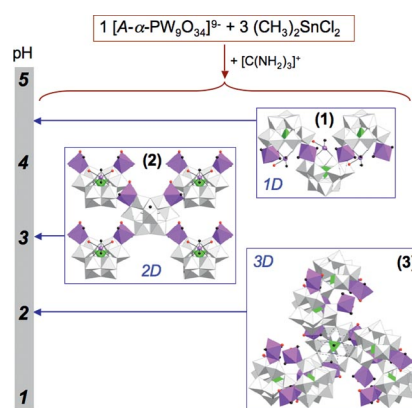
Reaction Medium pH Dependent Existence of Mn^{II} Bound [ON] Donor Zwitterionic Chelating Ligand and Self-Assembly of Hydroxido-Bridged Mn^{II}_4 Cluster

Keywords: N,O ligands / Bridging ligands / Schiff bases / Manganese / Zwitterions



Binding of the zwitterionic and anionic forms of a binucleating ligand was demonstrated for a mononuclear and an unsupported $\mu_3\text{-OH}$ coordinated tetranuclear Mn^{II} complex, establishing new hydroxido-bridge-driven aggregation chemistry.

Aqueous $3 (\text{CH}_3)_2\text{Sn}^{2+} : 1 [\text{A-}\alpha\text{-PW}_9\text{O}_{34}]^{9-}$ reaction with $[\text{C}(\text{NH}_2)_3]^+$ as structure-directing agent results in three different assemblies of dimethyltin-functionalized tungstophosphates depending on the pH: the 1-dimensional **1** (pH = 4.5), the 2-dimensional **2** (pH = 3.0) and the 3-dimensional **3** (pH = 2.0).



S. Reinoso, B. S. Bassil, M. Barsukova,
U. Kortz* 2537–2542

pH-Controlled Assemblies of Dimethyltin-Functionalized 9-Tungstophosphates with Guanidinium as Structure-Directing Cation



Keywords: Polyoxometalates / Organotin compounds / Hybrid materials / Template synthesis / Tungsten / Tin

* 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 16 were published online on May 19, 2010