

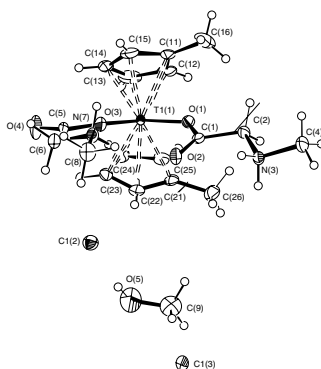
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Volume 19 Number 6

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Section: Bioorganometallic Chemistry

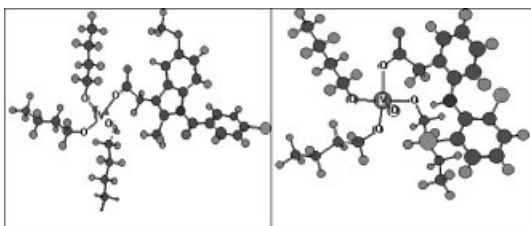
Five cationic complexes of the general formula $[\text{Cp}'_2\text{Ti}(\text{A})_2]^{2+} [\text{Cl}^-]_2$ [$\text{Cp}' = \eta^5\text{-(CH}_3\text{)}_5\text{C}_5\text{H}_4$ and $\text{A} = \text{glycine, 1; 2-methylalanine, 2; } N\text{-methylglycine, 3; L-alanine, 4; and D-alanine 5}$] were prepared by the reaction of $\text{Cp}'_2\text{TiCl}_2$ and the appropriate α -amino acid in 1 : 2 molar ratio from methanol–water solution in high yield.



R. Bína*, M. Pavlišta, Z. Černošek, I. Císařová and I. Pavlík 701–710

Ionic complexes of 1,1'-dimethyltitano-cene(IV) dichloride with simple α -amino acids: synthesis, structural characterisation and investigation on hydrolytic stability in aqueous solution

Two new vanadyl(IV) complexes with the non-steroidal anti-inflammatory drugs (Indomethacin and Diclofenac) were synthesized and characterized. The structures of the complexes were obtained by carrying out *ab initio* calculations (B3LY/3-21G**) due to the difficulties to obtain single crystals of good quality for X-ray studies. The free ligands did not cause any effect when tested on cellular proliferation in the osteoblast cell lines in culture MC3T3E1 and UMR106. The biological effect of the complexes is discussed.

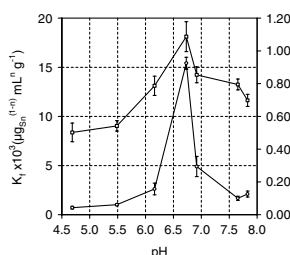


P. A. M. Williams*, M. S. Molinuevo, N. Okulik, A. H. Jubert and S. B. Etcheverry 711–718

Synthesis, characterization and biological properties of Vanadyl(IV) complexes of Diclofenac and Indomethacin: an experimental and theoretical study

Section: Speciation Analysis and Environment

The sorption behaviour of tributyltin from reconstituted seawater onto municipal solid waste compost was investigated with regard to the effects of adsorption kinetics, influence of pH, and adsorbate hydrophobicity on the partitioning process.



D. Said-Pullicino and A. J. Vella* 719–726

Adsorption characteristics of tributyltin on municipal solid waste

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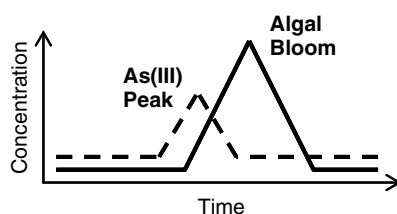
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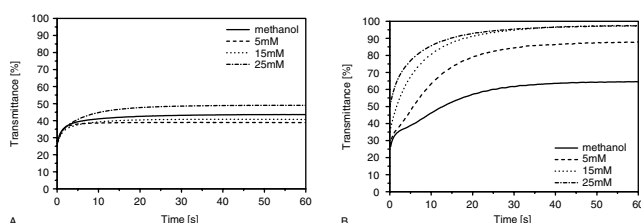
This paper analyzes data from 18 different water bodies (5 lakes, 1 river, 6 estuary/marine, 6 experimental). Algal blooms, As(III) peaks and algal blooms with preceding or coincident As(III) peaks are identified. In total, 80 algal blooms are identified, 49 (61%) of which are associated with As(III) peaks. In 78% of water bodies algal blooms were typically (>50%) associated with As(III) peaks. The average time lag between As(III) peaks and algal blooms is 20 days (standard deviation 18 days).



Ferdi L. Hellweger* 727–735

Dynamics of speciation in surface waters: As(III) production by algae

The analysis of the haemolysis kinetics of human erythrocytes in the presence of diphenyltin dichloride (A) and triphenyltin chloride (B) shows differences between the effect of the compound studied on mechanical properties at the so-called non-lytic concentrations. Diphenyltin dichloride shows a limited effect on erythrocyte haemolysis, whereas triphenyltin chloride affects all the parameters measured (extent of initial haemolysis, extent of final haemolysis and membrane mechanical strength). We correlate these effects with location of the investigated compounds in liposomes.

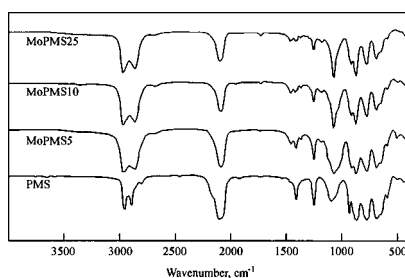


Adam Miszt, Janina Gabrielska*,
Stanisław Przestalski and Marek Langner
..... 736–741

The effect of phenyltin chlorides on osmotically induced erythrocyte haemolysis

Section: Materials, Nanoscience and Catalysis

A molybdenum-containing preceramic polymer, MoPMS, was synthesized for the first time by HCl elimination of polymethylsilane (PMS) and MoCl_5 at room temperature in tetrahydrofuran. The preceramic polymer and the ceramic were characterized by IR, thermogravimetric analysis, X-ray diffraction, scanning and transmission electron microscopy, and BET surface area.



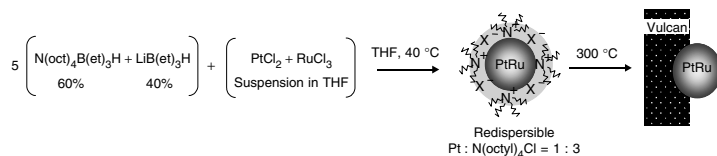
Hao Wang*, Xiao-dong Li and Dong-pyo Kim 742–749

Macroporous SiC-MoSi_2 ceramics from templated hybrid MoCl_5 -polymethylsilane

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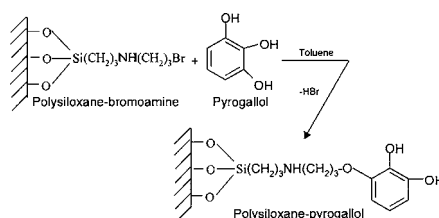
Optimization of platinum and PtRu colloid syntheses via $\text{NR}_4(\text{BEt}_3\text{H})$ reduction was achieved via the 'reverse addition mode'. The amount of stabilizing agent could be reduced by 40%. This improvement leads to a better particle size control and a considerable reduction of unwanted organic residues on the metal colloid particle surface.



S. Kinge and H. Bönnemann* 750–758

Optimization of colloidal nanoparticle synthesis via $\text{NR}_4(\text{BEt}_3\text{H})$ reduction

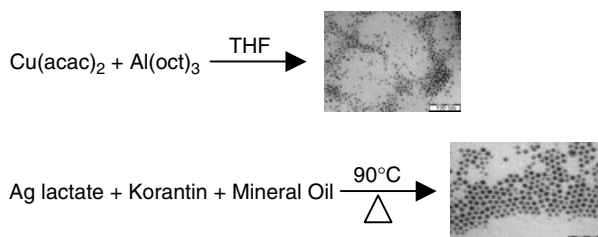
A porous, solid insoluble polysiloxane-immobilized ligand system bearing pyrogallol active sites has been prepared and characterized.



S. M. Saadeh, N. M. El-Ashgar, I. M. El-Nahhal*, M. M. Chehimi, J. Maquet and F. Babonneau 759–767

Synthesis, characterization and applications of polysiloxane networks with immobilized pyrogallol ligands

'Reductive stabilization' was performed to give colloidal copper particles (7–15 nm). Thermal decomposition of silver lactate yields air-stable silver nanofluids (size distribution 9.5 ± 0.7 nm). Both products are suitable precursors for heat conductive media.

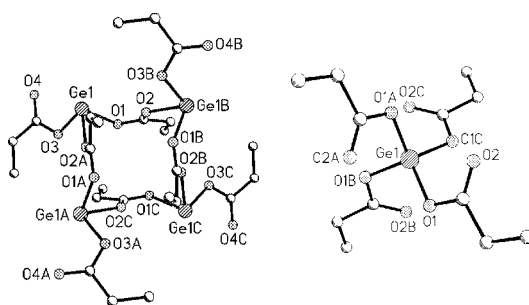


H. Bönnemann*, S. S. Botha, B. Bladergroen and V. M. Linkov 768–773

Monodisperse copper- and silver-nanocolloids suitable for heat conductive fluids

Section: Main Group Metal Compounds

Germanium(II) dipropionate (1) has been synthesized. Its crystal structure, as well as the crystal structure of germanium(IV) tetrapropionate (2), has been determined. Although compound 2 is monomeric with monodentate propionate ligands, compound 1 is associated, forming a cyclotetramer via intermolecular dative $\text{C}=\text{O} \rightarrow \text{Ge}$ interactions.



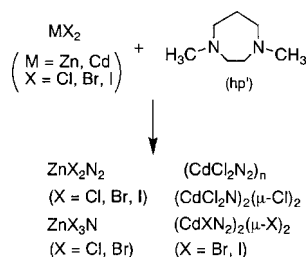
V. N. Khurstalev,* I. A. Portnyagin, N. N. Zemlyansky, I. V. Borisova, Yu. A. Ustynyuk, M. Yu. Antipin, M. S. Nechaev and R. West 774–777

Germanium carboxylates: the first X-ray diffraction study of germanium(II) dicarboxylate and germanium(IV) tetracarboxylate

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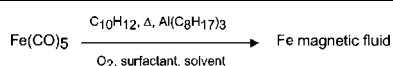
The zinc(II) and cadmium(II) complexes, which were synthesized by the reaction of metal(II) halides with 1,4-dimethylhomopiperazine (hp'), showed five coordination types (ZnX_2N_2 for $X = Cl, Br, I$; ZnX_3N for $X = Cl, Br$; $(CdCl_2N_2)_n$, $(CdCl_2N)_2(\mu-Cl)_2$ and $(CdXN_2)_2(\mu-X)_2$ for $X = Br, I$). Two structural exchanges were observed from $ZnBr_2N_2$ to $ZnBr_3N$ type and from $(CdCl_2N_2)_n$ to $(CdCl_2N)_2(\mu-Cl)_2$ type during recrystallization.



Y. Matsunaga, K. Fujisawa*, N. Amir, Y. Miyashita and K. Okamoto 778–789

Structural and physicochemical characterization of zinc(II) and cadmium(II) complexes with 1,4-dimethylhomopiperazine

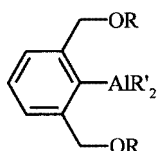
Thermolysis of $Fe(CO)_5$ or $Fe(CO)_5/CO_2$ (CO_8), dissolved in tetrahydronaphthalene, in the presence of aluminum trialkyl leads to uniform sized Fe or Fe–Co nanoparticles, respectively. Subsequent treatment with very diluted oxygen forms a shell which protects the metallic or alloyed core of the particles against further oxidation. With the help of surfactants the particles can be peptized in organic solvents, resulting in magnetic fluids with extraordinary magnetic properties.



H. Bönemann*, R. A. Brand, W. Brijoux, R. Brinkmann, H.-W. Hofstadt, M. Frerichs, V. Kempter, W. Maus-Friedrichs, N. Matoussevitch, K. S. Nagabhushana and F. Voigts 790–796

Air-stable Fe and Fe–Co magnetic fluids – synthesis and characterization

A set of organoaluminum compounds containing O,C,O-chelating ligands was prepared. The X-ray diffraction analysis showed that the aluminum atom is $[4 + 1]$ coordinated with the *trans*-trigonal bipyramidal geometry. Solution NMR studies indicated the four coordinated aluminum atom and dissociation/association dynamic process in a solution of these compounds.

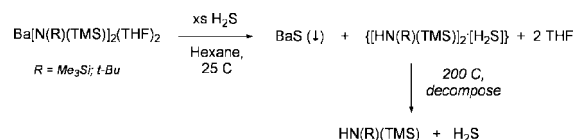


- 1 $R = Me, R' = Me$
- 2 $R = tBu, R' = Me$
- 3 $R = tBu, R' = tBu$

Libor Dostál, Roman Jambor*, Aleš Růžička, Ivana Čisarová, Jaroslav Holeček 797–802

Aluminum Alkyls With Intramolecularly Coordinated Oxygen

We have discovered that the reaction of barium disilylamides with gaseous hydrogen sulfide provides a new route to crystalline barium sulfide, BaS. This route is particularly noteworthy, in that it occurs at room temperature rather than the elevated temperatures used in previous preparations. The BaS formed in the sulfidation reaction has been shown by X-ray powder diffraction to have the face-centered cubic structure, space group $Fm\bar{3}m$ (225).



Y. Tang, D. R. Dunphy and R. A. Kemp* 803–805

Low-temperature preparation of crystalline barium sulfide