

Applied Organometallic Chemistry

(Appl. Organometal. Chem.)

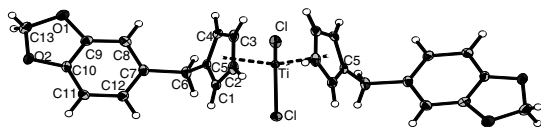
CONTENTS

Volume 21 Number 2

Papers published online February 2007

Section: Bioorganometallic Chemistry

A series of titanocenes containing benzodioxole groups were synthesized using 6-benzo[1,3]dioxolefulvene. The titanocenes were tested for cytotoxicity on the pig kidney LLC-PK cell line. They were found to be more cytotoxic than titanocene dichloride, but significantly less cytotoxic when compared with *cis*-platin and previously synthesized titanocenes.

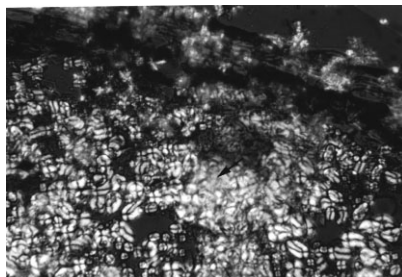


N. J. Sweeney, J. Claffey, H. Müller-Bunz,
C. Pampillón, K. Strohfeldt and M. Tacke*
.....57–65

*The synthesis and cytotoxic evaluation
of a series of benzodioxole substituted
titanocenes*

Section: Speciation Analysis and Environment

The TBTCI effects on mitotic meta-phase plates, on pollen grains and on both microtubers and adult tuber parenchymatic cells of *Allium cepa*, *Solanum tuberosum* and *Solanum melongena* were investigated and the concentration of TBTCI inside the treated parenchymatic cells was determined through ICP-mass spectrometry. Oxygen and chlorophyll productions were also determined.



R. Caratozzolo, E. Bellini, M. R. Melati,
C. Pellerito, T. Fiore, P. D'Agati,
M. Scopelliti and L. Pellerito* ...66–72

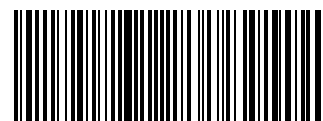
*Interference of tributyltin(IV)chloride on
the vascular plant cells*

Continued overleaf

Identification statement

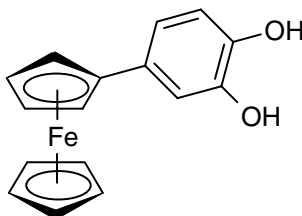
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Section: Materials, Nanoscience and Catalysis

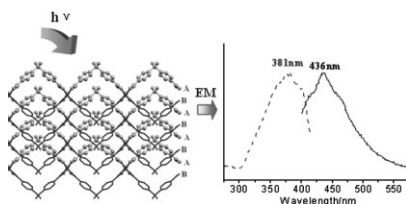
The redox behaviour of 4-ferrocenylcatechol bound to nanocrystalline TiO_2 electrodes in aprotic solvent was investigated. At an applied potential of +0.45 mV (vs Ag/AgCl) the ferrocenyl group oxidised to the ferrocenium cation and the catechol group oxidized to the benzoquinone form. At 0 V, the ferrocenium group is reduced to ferrocene but benzoquinone is not reduced to catechol and the compound desorbs from the surface. Electrochromic switching of the ferrocenyl electrochromophore on TiO_2 with aprotic electrolyte is, therefore, irreversible.



F. J. D. Maharaj, A. M. McDonagh* and S. B. Colbran73–75

The instructive redox behaviour of 4-ferrocenylcatechol on nanocrystalline titanium dioxide electrodes

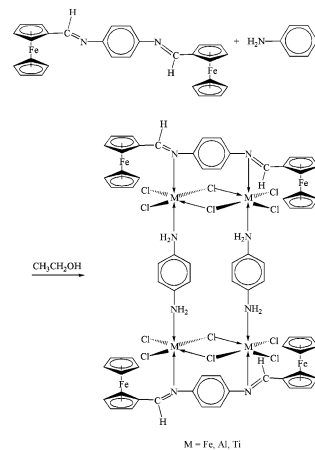
Three novel zinc(II) complexes of 4,4'-dicarboxybiphenyl sulfone were successfully synthesized. All of them are composed of 1D chains, and further architected into 3D supramolecular structures via hydrogen bonds and π - π interactions. Complexes 1–3 show blue emission under UV excitation.



W.-J. Zhuang and L.-P. Jin*76–82

Syntheses, crystal structures and blue emission of three zinc(II) coordination polymers with 4,4'-di-carboxybiphenyl sulfone ligand

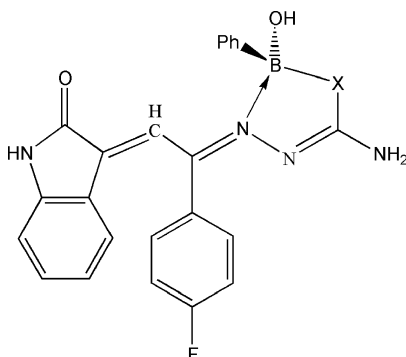
A new interesting category of organometallic charge transfer complex was obtained by the doping of ferrocenyl Schiff base with Fe^{3+} , Al^{3+} and Ti^{3+} salt. The room-temperature conductivity of FeCl_3 -, AlCl_3 - and TiCl_3 -doped complexes can reach 7.53×10^{-5} , 1.37×10^{-4} and $9.64 \times 10^{-5} \text{ S cm}^{-1}$, respectively, and the electrical activation energies of the complexes (which were in the range 0.09–1.54 eV) were calculated from Arrhenius polts, indicating their favourable semiconducting behaviour.



W.-J. Liu, G.-X. Xiong and W.-P. Wang*83–88

Research on synthesis and conductivity of ferrocenyl Schiff base and its salt

Coordination complexes of boron(III) with Schiff base ligands having N^O S and N^O O donor systems were synthesized in an open vessel under microwave irradiation using a domestic microwave oven. The reaction time has been brought down from hours to seconds with improved yield in this case as compared with the conventional heating. The representative ligands and their representative complexes have been screened *in vivo* against male albino rats to test their antifertility property, sperm motility and density of cauda epididymal spermatozoa along with biochemical parameters of reproductive organs.

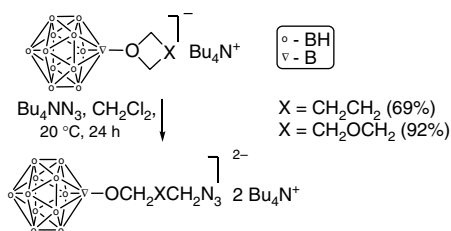


S. Gaur, N. Fahmi, M. Agarwal and R. V. Singh*89–97

Intramolecular phenylborane complexes with monobasic bidentate Schiff bases

Section: Main Group Metal Compounds

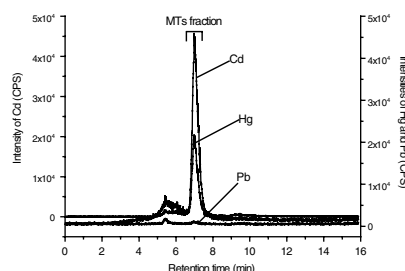
Two novel azido-derivatives of *closo*-dodecaborate anion with hydrophobic and hydrophilic spacers were prepared by reaction of tetrabutylammonium azide with cyclic oxonium derivatives of the *closo*-dodecaborate anion. The compounds prepared can be regarded as precursors of derivatives of *closo*-dodecaborate anion with amino group at the terminal position of a spacer or as building blocks for 'click chemistry', which are useful for preparation of various conjugates with targeting molecules. A concentration dependence of the ^{11}B NMR spectra of functionalized derivatives of *closo*-dodecaborate anion was discovered, which is of great importance for analytical purposes.



A. V. Orlova, N. N. Kondakov, B. G. Kimel, L. O. Kononov*, E. G. Kononova, I. B. Sivaev and V. I. Bregadze 98–100

Synthesis of novel derivatives of closo-dodecaborate anion with azido group at the terminal position of the spacer

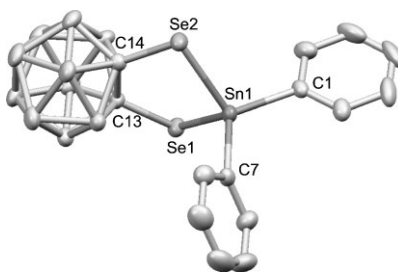
The bioaccumulation of toxic metals and MT fractions were investigated in the gill, kidney, liver and muscle of carp (*Cyprinus carpio* L.) co-exposed to $1.0 \mu\text{g ml}^{-1}$ each of Cd^{2+} , Hg^{2+} and Pb^{2+} up to 10 days. The results indicate that the metal accumulation in the tissues depend on different kinds of toxic metals and different exposure time. MTs synthesis in these tissues was clearly metal-specific. MTs in the gill may be used as a bio-marker to detect the metal pollution caused by Hg and Cd.



Z.-Y. Huang*, Q. Zhang, J. Chen, Z.-X. Zhuang and X.-R. Wang 101–107

Bioaccumulation of metals and induction of metallothioneins in selected tissues of common carp (Cyprinus carpio L.) co-exposed to cadmium, mercury and lead

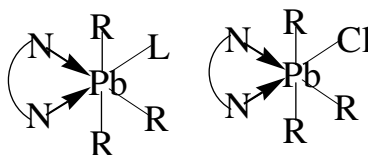
The reactions of the 1,2-diselenolato-1,2-dicarba-*closo*-dodecaborane(12) dianion $[1,2-(1,2-\text{C}_2\text{B}_{10}\text{H}_{10})\text{Se}_2]^{2-}$ with diorganoelement(IV) dichlorides gave novel five-member heterocycles. The molecular structures of the five-member rings containing CPh_2 and SnPh_2 moieties between the selenium atoms were determined using X-ray analyses. Oxidative addition of the five-member heterocycles containing tin to ethene-bis(triphenylphosphane)platinum(0) displaced ethene to give at low temperature the platinum(II) complexes, where the $\text{Pt}(\text{PPh}_3)_2$ fragment had been inserted into one of the Sn–Se bonds.



B. Wrackmeyer*, Z. G. Hernández, R. Kempe and M. Herberhold 108–116

*Diselenastanna-, -sila- and -carbacycles with an annelated dicarba-*closo*-dodecaborane(12) unit*

The antifertility and antimicrobial aspects along with the spectral characterization of lead(IV) complexes are discussed. The testicular sperm density, testicular sperm morphology, sperm motility, density of cauda epididymal spermatozoa and fertility in mat-



A. Chaudhary, K. Mahajan and R. V. Singh* 117–127

Antifertility and antimicrobial studies of pharmaceutically important organo lead(IV) complexes of phenanthrolines

ing trails and biochemical parameters of reproductive organs of an interesting class of biologically potent complexes on male albino rats at the dosages are examined and discussed. In addition to this the complexes were screened against a number of fungi and bacteria to assess their growth inhibiting potential.