

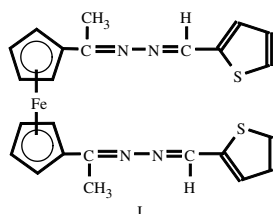
## CONTENTS

Volume 19 Number 8

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### Section: Bioorganometallic Chemistry

A new ferrocenyl ligand was prepared from the condensation of 1,1'-diacetylferrocene dihydrazone with 2-thiophenealdehyde. The ligand, 1,1'-bis[(2-thienylmethylidene)hydrazono-1-ethyl]ferrocene, forms 1 : 1 complexes with Co(II), Ni(II), Cu(II) and Zn(II) in good yield. Biological activity of the ligand and its complexes indicated that the prepared complexes are more active than the ligand.

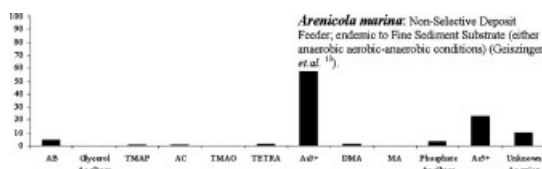


M. M. Abd-Elzaher\*, W. H. Hegazy and A. E.-D. M. Gaafar..... 911–916

*Synthesis, characterization and biological studies of ferrocenyl complexes containing thiophene moiety*

### Section: Speciation Analysis and Environment

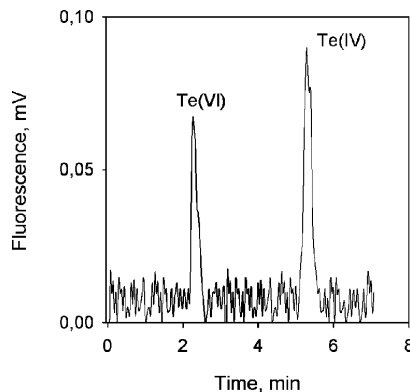
Published whole tissue arsenic concentrations in polychaete species tissues range from 1.5–2739 µg arsenic/g dry mass. Higher mean total arsenic concentrations are found in deposit-feeding polychaetes relative to non-deposit-feeding polychaete species collected from the same locations.



J. Waring and W. Maher\* ... 917–929

*Review: Arsenic bioaccumulation and species in marine Polychaeta*

The LC–HG–AFS coupling allows tellurium to be speciated with an excellent sensitivity. The approach here discussed represents a suitable alternative choice to the use of LC–HG–ICP–MS for the same purpose.



Pilar Viñas, Ignacio López-García, Beatriz Merino-Meroño and Manuel Hernández-Córdoba\* ..... 930–934

*Ion chromatography–hydride generation–atomic fluorescence spectrometry speciation of tellurium*

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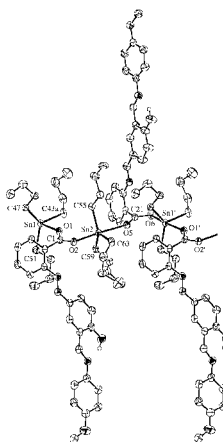


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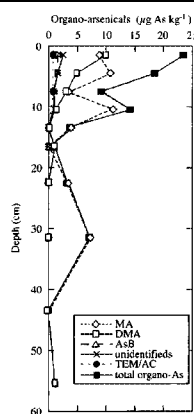
The tributyltin(IV) complexes of 2-[(E)-2-(3-formyl-4-hydroxyphenyl)-1-diazenyl]benzoic acid and 4-[[[(E)-1-{2-hydroxy-5-[(E)-2-(2-carboxyphenyl)-1-diazenyl]phenyl}methylidene)amino]aryls have been investigated by electrospray mass spectrometry (MS) and tandem MS techniques. The crystal structure of  $(\text{Bu}_3\text{Sn}[\text{O}_2\text{CC}_6\text{H}_4\{\text{N}=\text{N}(\text{C}_6\text{H}_3-4-\text{OH}(\text{C}(\text{H})=\text{NC}_6\text{H}_4\text{OCH}_3-4))\}-\text{o}])_n$  has been determined, revealing that it is polymeric. The results of a toxicity study of tributyltin compounds on the second instar of *Aedes aegypti* and *Anopheles stephensi* mosquito larvae are reported.



T. S. Basu Baul\*, K. S. Singh,  
M. Holčapek, R. Jirásko, A. Linden\*\*,  
X. Song, A. Zapata and G. Eng  
..... 935–944

*Electrospray ionization mass spectrometry of tributyltin(IV) complexes and their larvicidal activity on mosquito larvae: crystal and molecular structure of polymeric  $(\text{Bu}_3\text{Sn}[\text{O}_2\text{CC}_6\text{H}_4\{\text{N}=\text{N}(\text{C}_6\text{H}_3-4-\text{OH}(\text{C}(\text{H})=\text{NC}_6\text{H}_4\text{OCH}_3-4))\}-\text{o}])_n$*

Methylarsonic acid, dimethylarsinic acid, trimethylarsine oxide, arsenobetaine, arsenocholine and other unidentified arsenic species were detected in marine sediment by high-performance liquid chromatography–inductively coupled plasma mass spectrometry analysis. Arsenobetaine was the dominant organoarsenical at four of the seven stations. Total organoarsenicals (as arsenic) in the surface sediment amounted to  $10.6\text{--}47.5\ \mu\text{g kg}^{-1}$  dry sediment. The core analysis revealed that concentrations of organoarsenicals decreased with depth, and they are considered to be degraded within 60 years of deposition.

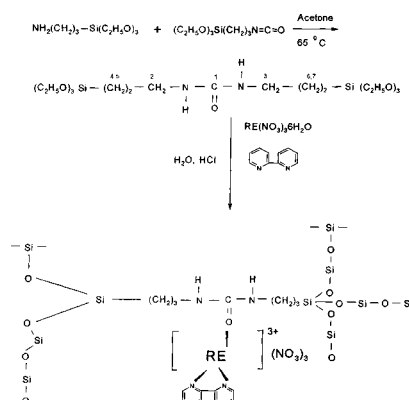


M. Takeuchi\*, A. Terada, K. Nanba,  
Y. Kanai, M. Owaki, T. Yoshida, T. Kuroiwa,  
H. Nirei and T. Komai ... 945–951

*Distribution and fate of biologically formed organoarsenicals in coastal marine sediment*

## Section: Materials, Nanoscience and Catalysis

In this research, a novel monomer composed by modified 3-(triethoxysilyl)-propyl isocyanate was synthesized and two class new molecular-based hybrid materials were prepared. We found that the triplet energy of 2,2-dipyridyl in this favorable hybrid system matches with the emissive energy level of  $\text{RE}^{3+}$  and strong green and red emissions of  $\text{RE}^{3+}$  have been obtained.



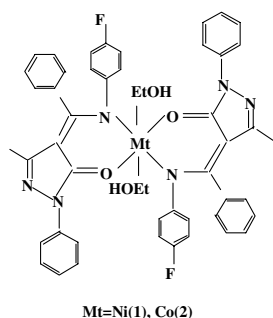
Q. M. Wang and B. Yan\* .... 952–956

*Optically hybrid lanthanide ions ( $\text{Eu}^{3+}$ ,  $\text{Tb}^{3+}$ )-centered materials with novel functional di-urea linkages*

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Late transition metal (nickel, cobalt) complexes (1, 2) with  $\beta$ -ketoamine ligand (L) based on the pyrazolone derivative are synthesized by condensing 1-phenyl-3-methyl-4-benzoyl-5-pyrazolone with *p*-fluoroaniline, and then treating the  $\beta$ -ketoamine (L) produced with the respective metal halide. The bis( $\beta$ -ketoamine)metal complexes can act as catalyst precursors for norbornene polymerization with activation by methylaluminoxane. The effects of the central metal variation in the complex on catalyst activities and polymer microstructure are described.

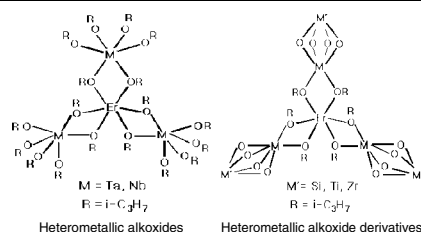


Mt=Ni(1), Co(2)

Feng Bao, Xingqiang Lü, Yuqin Qiao, Guoqiu Gui, Haiyang Gao and Qing Wu\* ..... 957–963

*Nickel and cobalt complexes bearing  $\beta$ -ketoamine ligands: syntheses, structures and catalytic behavior for norbornene polymerization*

Physico-chemical studies of alkoxydes and their derivatives were carried out using FTIR, NMR, mass spectrometry, thermogravimetric analysis (TGA)–differential thermal analysis (DTA) and scanning electron microscopy (SEM). The mass spectra show the same types of fragmentation pattern in the compounds.



Heterometallic alkoxydes

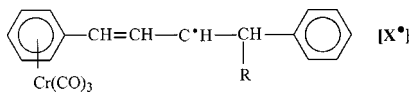
Heterometallic alkoxyde derivatives

T. Athar, J. O. Kwon and S. I. Seok\* ..... 964–970

*Synthesis and physico-chemical studies of double alkoxydes and their allied compounds*

The X-ray diffraction patterns show enhanced homogeneity. TGA–DTA measurements show that thermal decomposition occurs in steps and depends entirely on the chemical composition and the synthesis route. The SEM observations reveal a high microstructural uniformity of polycrystalline nature.

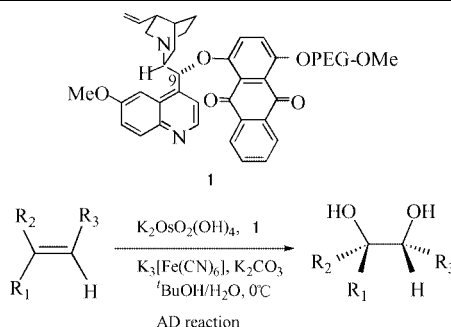
The synthesis of poly(methylmethacrylate) in the presence of diphenylbutadiene chromium tricarbonyl under radical initiation and temperature conditions that approach those in industry proceeds without autoacceleration and is characterized by a linear increase in the polymer molecular weight with conversion.



Natalia B. Valetova, Ludmila L. Semyonicheva, Ilya S. Illichev, Alexander N. Artemov and Dmitry F. Grishin\* ..... 971–974

*Diphenylbutadiene chromium tricarbonyl in radical polymerization of methylmethacrylate*

A novel soluble polymer-bound alkaloid ligand QN–AQN–OPEG–OMe (1) was synthesized, and it delivered up to 99% ees in the homogeneous catalytic asymmetric dihydroxylation of seven olefins. This ligand was recovered almost quantitatively by a simple filtration and reused for five cycles without obvious decreased enantioselectivities and catalytic activities.



AD reaction

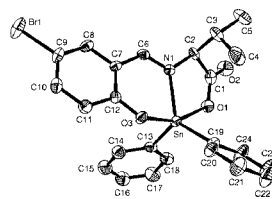
S. K. Cheng, S. Y. Zhang\*, P. A. Wang, Y. Q. Kuang and X. L. Sun ..... 975–979

*Homogeneous catalytic asymmetric dihydroxylation of olefins induced by an efficient and recoverable polymer-bound ligand QN–AQN–OPEG–OMe*

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## Section: Main Group Metal Compounds

Fourteen new diorganotin(IV) complexes of *N*-(5-halosalicylidene)- $\alpha$ -amino acid were synthesized and characterized by elemental analysis, IR and NMR ( $^1\text{H}$ ,  $^{13}\text{C}$  and  $^{119}\text{Sn}$ ) spectra and X-ray crystallography. Bioassays show that the compounds are efficient cytostatic agents.



L. Tian\*, B. Qian, Y. Sun, X. Zheng, M. Yang, H. Li and X. Liu .... 980–987

*Synthesis, structural characterization and cytotoxic activity of diorganotin(IV) complexes of N-(5-halosalicylidene)- $\alpha$ -amino acid*

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