

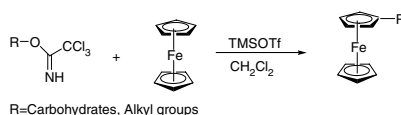
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### Section: Bioorganometallic Chemistry

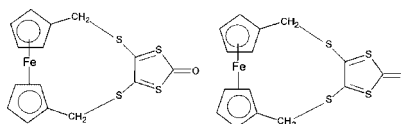
Reaction of ferrocene with trichloroacetimidates in presence of TMSOTf as a catalyst gave a series of novel ferrocenyl compounds **1–7** in good yield and by a simple method using the Friedel–Crafts reaction. The prepared compounds showed medium to good antimicrobial activity against *Bacillus subtilis* (+ve), *Staphylococcus aureus* (+ve), *Candida albicans* (yeast), *Escherichia coli* (–ve), *Salmonella typhi* (–ve), *Aspergillus niger* (fungi) and *Fusarium solani* (fungi).



M. M. Abd-Elzaher\* and I. A. I. Ali ....  
107–111

*Preparation, characterization and biological studies of some novel ferrocenyl compounds*

Two antibacterial and antifungal ferrocene-incorporated compounds have been synthesized, characterized and screened for their *in vitro* antibacterial activity against *Escherichia coli*, *Klebsiella pneumoniae*, *Proteus mirabilis*, *Pseudomonas aeruginosa*, *Salmonella typhi*, *Shigella dysenteriae*, *Bacillus cereus*, *Corynebacterium diphtheriae*, *Staphylococcus aureus* and *Streptococcus pyogenes* bacterial strains and for *in vitro* antifungal activity against *Trichophyton longifusus*, *Candida albicans*, *Aspergillus flavus*, *Microsporum canis*, *Fusarium solani* and *Candida glabrata*. The results show that these compounds have significant activity against the tested bacterial and fungal strains and thus introduce a novel class of ferrocene-incorporated antibacterial and antifungal compounds.

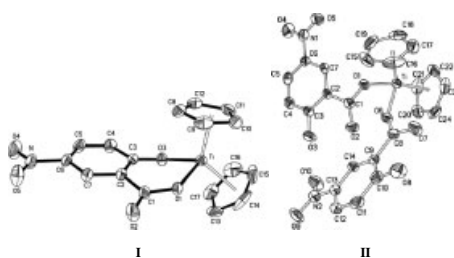


Z. H. Chohan\* ..... 112–116

*Antibacterial and antifungal ferrocene incorporated dithiothione and dithioke-tonone compounds*

### Section: Materials, Nanoscience and Catalysis

Two 4-coordinated titanocene complexes,  $[(\eta^5\text{-C}_5\text{H}_5)_2\text{Ti}(\text{O},\text{O}')(\text{5-NO}_2\text{-OCC}_6\text{H}_3)]$  (**I**) and  $[(\eta^5\text{-C}_5\text{H}_5)_2\text{Ti}(2\text{-OH-5-NO}_2\text{-O}_2\text{CC}_6\text{H}_3)_2]$  (**II**), were synthesized in aqueous media. Single-crystal X-ray analysis determination showed that the dramatic change of conditions has great effect on the molecular structure of 5-nitrosalicylate titanocene, thereby has significant influence on the weak interactions and the specific framework structure.



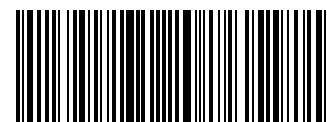
Z. Gao\*, C. Zhang, M. Dong, L. Gao, G. Zhang, Z. Liu, G. Wang and D. Wu ..... 117–124

*Syntheses and supramolecular structures of two 5-nitrosalicylate titanocene complexes*

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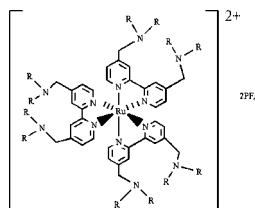
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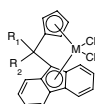
A new series of homoleptic ruthenium complexes based on 4,4'-dialkylaminomethyl-2,2'-bipyridine (bpy) ligands has been prepared and their spectroscopy properties have been investigated. The complexes exhibit Ru-to-bpy MLCT absorption centered about 462 nm. Band maxima of metal-to-ligand charge transfer emission of ruthenium complexes were observed at 632, 623 and 638 nm, respectively.



P. Kirilov, H. Matondo,\* P. Vicendo, J.-C. Garrigues, M. Baboulène, H.-P. Nguyen and I. Rico-Lattes ..... 125–129

*Synthesis and photophysical properties of novel amphiphilic ruthenium(II) complexes containing 4,4'-dialkylaminomethyl-2,2'-bipyridyl ligands*

Eight new bridged (cyclopentadienyl) (fluorenyl) complexes were studied on the ethylene and propylene polymerization. The influence of substituents on the bridge carbon on the catalytic activities for ethylene polymerization was insignificant. However, for propylene polymerization, the substituents on phenyl groups of bridge carbon affected not only the catalytic activities but also the microstructure and properties of polypropylene.

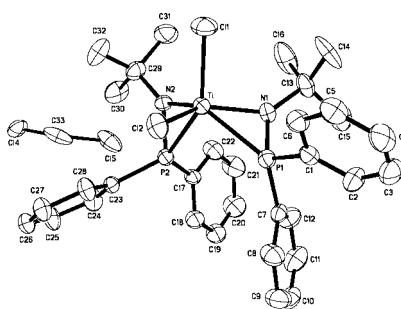


- 1  $R_1=R_2=CH_3CH_2CH_2$ ,  $M=Zr$     2  $R_1=R_2=CH_3CH_2CH_2$ ,  $M=Hf$   
 3  $R_1=R_2=CH_3OPh$ ,  $M=Zr$     4  $R_1=R_2=CH_3OPh$ ,  $M=Hf$   
 5  $R_1=R_2=Ph$ ,  $M=Zr$     6  $R_1=R_2=Ph$ ,  $M=Hf$   
 7  $R_1=R_2=PhCH_2$ ,  $M=Zr$     8  $R_1=R_2=PhCH_2$ ,  $M=Hf$

X. Yang, Y. Zhang and J. Huang\* ..... 130–137

*Ethylene and propylene polymerization by the new substituted bridged (cyclopentadienyl)(fluorenyl) zirconocenes*

Group 4 complexes containing diphosphinoamide ligands  $[Ph_2PNR]_2MCl_2$  have been synthesized and characterized, and were shown to be moderately active catalysts for polymerization of ethylene in the presence of modified methylaluminoxane or *i*-Bu<sub>3</sub>Al/Ph<sub>3</sub>BC(C<sub>6</sub>F<sub>5</sub>)<sub>4</sub>.

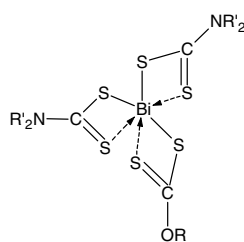


C. Qi, S. Zhang\* and J. Sun ..... 138–141

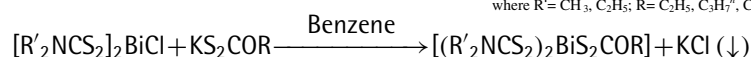
*Synthesis, structure and ethylene polymerization of group 4 complexes with phosphinoamide ligands*

## Section: Main Group Metal Compounds

The bis(diorganodithiocarbamato)organodithiocarbonatobismuth(III) complexes of the type  $[R'_2NCS_2]_2BiS_2COR$  (where,  $R' = Me$  and  $Et$ ;  $R = Et$ ,  $Pr^n$ ,  $Pr^i$ ,  $Bu^n$  and  $Bu^i$ ) have been synthesized and characterized by physico-chemical and spectral [IR, NMR (<sup>1</sup>H and <sup>13</sup>C)] methods.



where  $R' = CH_3$ ,  $C_2H_5$ ;  $R = C_2H_5$ ,  $C_3H_7^n$ ,  $C_3H_7^i$ ,  $C_4H_9^n$  and  $C_4H_9^i$



The antimicrobial activities of these bismuth complexes were found *in vitro* against a number of microorganisms by the disc diffusion method. The complexes show good antibacterial and antifungal effect than some of the previously investigated antibiotics.

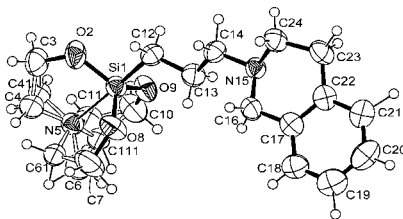
H. P. S. Chauhan\*, N. M. Shaik and U. P. Singh ..... 142–148

*Synthesis, spectroscopic characterization and in vitro studies of antimicrobial activity of bis(diorganodithiocarbamato)organodithiocarbonatobismuth(III) complexes*

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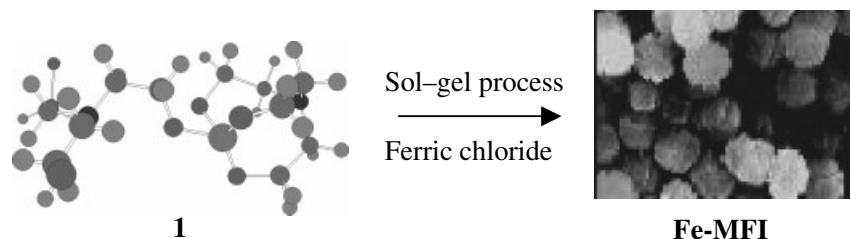
*N*-(trialkoxysilylalkyl) derivatives of 1,2,3,4-tetrahydroquinoline, 1,2,3,4-tetrahydroisoquinoline and 4,4-dimethyl-4-sila-1,2,3,4-tetrahydroisoquinoline were prepared and characterized by elemental analysis,  $^1\text{H}$ ,  $^{13}\text{C}$  and  $^{29}\text{Si}$  NMR spectroscopy. *In vivo* psychotropic properties and *in vitro* cytotoxic effects of 3-[*N*-(1,2,3,4-tetrahydroisoquinolyl)]propyltriethoxysilane methiodide and 3-[*N*-(1,2,3,4-tetrahydroisoquinolyl)]propylsilatrane are reported. Comparative study of  $^{29}\text{Si}$  shifts in newly synthesized compounds suggests donor-acceptor interaction between nitrogen and silicon atom, which increases electron density at Si nuclei, revealing a stronger increment of  $\text{N} \rightarrow \text{Si}$  transannular bond in comparison with  $\text{N} \rightarrow \text{Si}$   $\alpha$ -effect. The molecular structure of 3-[*N*-(1,2,3,4-tetrahydroisoquinolyl)]propylsilatrane features a penta-coordinate silicon atom having  $\text{CSiO}_3$  pattern and  $\text{Si} \dots \text{N}$  intramolecular interaction.



A. Zablotskaya\*, I. Segal, S. Belyakov and E. Lukevics ..... 149–154

*Silyl modification of biologically active compounds. 11. Synthesis, physico-chemical and biological evaluation of N-(trialkoxysilylalkyl)tetrahydro(iso,silaiso)-quinoline derivatives*

Silatrane (**1**) directly synthesized via the oxide one pot synthesis (OOPS) process is used as the precursor to prepare Fe-loaded MFI zeolite via sol-gel process using tetrapropyl ammonium bromide as a template.



N. Kritchayanon, N. Thanabodeekij, S. Jitkarnka, A. M. Jamieson and S. Wongkasemjit\* ..... 155–160

*Synthesis of Fe-loaded MFI zeolite using silatrane as precursor and its CO activity*