

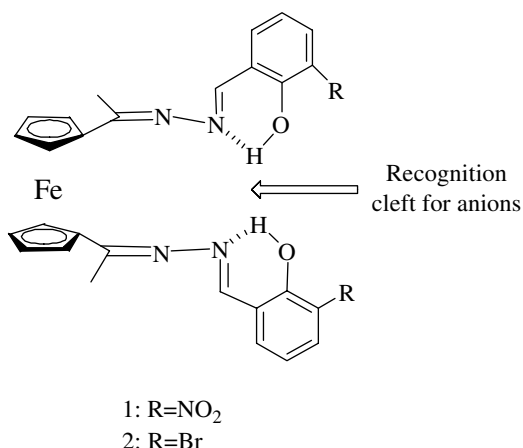
## CONTENTS

Volume 21 Number 10

Papers published online October 2007

### Section: Bioorganometallic Chemistry

The anion-binding properties of ferrocene-based receptors bearing phenol group are evaluated for  $F^-$ ,  $Cl^-$ ,  $Br^-$ ,  $I^-$ ,  $AcO^-$  and  $H_2PO_4^-$  by UV-vis,  $^1H$  NMR titration and cyclic voltammetry experiments. Results indicate that the anion binding abilities can be effectively tuned by introducing nitro group in the ortho position of phenyl ring of the receptors, and the most obvious effect is for  $H_2PO_4^-$ .



X. F. Shang, H. Lin, X. F. Xu, P. Jiang and H. K. Lin\* ..... 821–825

*Ferrocene-based derivative bearing phenol group recognitive sites: efficient  $H_2PO_4^-$  receptor*

Retracted.

M. M. Naseer\* and Z. H. Chohan ..... 826–835

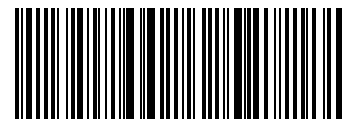
*Synthesis, characterization and reactivity towards first-row d-transition metals and biological significance of new pyridinyl derived N-substituted sulfonamides*

Continued overleaf

### Identification statement

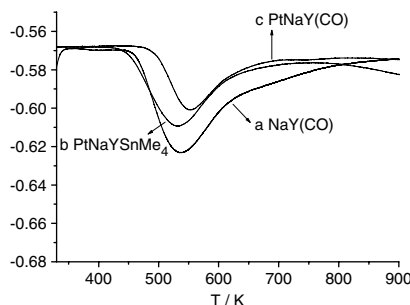
*Applied Organometallic Chemistry* (Print ISSN 0268-2605; Online ISSN 1099-0739 at Wiley InterScience, www.interscience.wiley.com) (USPS 005409) is published monthly by John Wiley & Sons, Ltd., The Atrium, Southern Gate, Chichester, West Sussex, PO19 8SQ, UK. Periodicals postage paid at Rahway, NJ. Air freight and mailing in the USA by Mercury Airfreight International Ltd. Inc., 365 Blair Road, Avenel, NJ 07001, USA. USA POSTMASTER—please send address changes to *Applied Organometallic Chemistry*, c/o Mercury Airfreight International Ltd. Inc., 365 Blair Road, Avenel, NJ 07001, USA.

Discover papers in this journal online,  
ahead of the print issue, through EarlyView® at



## Section: Materials, Nanoscience and Catalysis

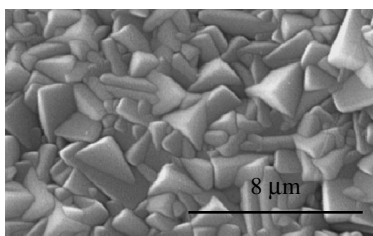
The grafted  $\text{Me}_3\text{Sn}$ -complex alters the electronic properties of Pt atoms, and thus results in decreased CO desorption temperature on the grafted sample.



Y. Zheng\*, X.-X Wang, X.-Z. Fu and K.-M. Wei ..... 836–840

*Preparation and catalytic properties of a bimetallic Sn–Pt complex in the supercages of NaY zeolite by use of surface organometallic chemistry*

Synthesized continuous NaA membranes were prepared using a  $0.5\ \mu\text{m}$  NaA crystal seed via vacuum seeding. The optimum conditions were 363 K synthesis temperature for 15–20 min via microwave heating. The flux and separation factor obtained were  $1.56\ \text{kg/m}^2\ \text{h}$  and 1760.52, respectively, for the substrate without an intermediate layer.

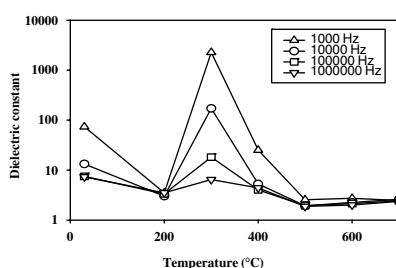


N. Kuanchertchoo, R. Suwanpreedee, S. Kulprathipanja, P. Aungkavattana, D. Atong, K. Hemra, T. Rirksomboon and S. Wongkasemjit\* ..... 841–848

*Effects of synthesis parameters on zeolite membrane formation and performance by microwave technique*

Interestingly, the substrate *with* an intermediate layer showed better flux and separation factor at  $1.69\ \text{kg/m}^2\ \text{h}$  and 6532.72, respectively.

A perovskite lead zirconate was synthesized, using lead glycolate and sodium tris (glycozirconate) as the starting precursors, by the sol-gel process. The structure obtained was the orthorhombic form when calcined at low temperature at  $300\ ^\circ\text{C}$  for 1 h and transformed to the monoclinic and cubic forms of the perovskite phase at higher temperatures above the Curie temperature as verified by X-ray data. The lead zirconate synthesized and calcined at  $300\ ^\circ\text{C}$  for 1 h has the highest dielectric constant, the highest electrical conductivity, and the dielectric loss tangent of 2267,  $3.058 \times 10^{-4}$  ( $\Omega\cdot\text{m}$ ) $^{-1}$ , and 2.484 at 1000 Hz, respectively.

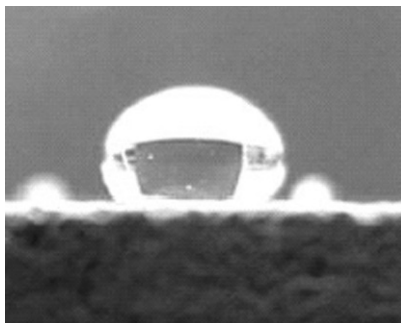


N. Tangboriboon, A. Jamieson, A. Sirivat and S. Wongkasemjit\* ..... 849–857

*A novel route to perovskite lead zirconate from lead glycolate and sodium tris(glycozirconate) via the sol-gel process*

Continued from overleaf

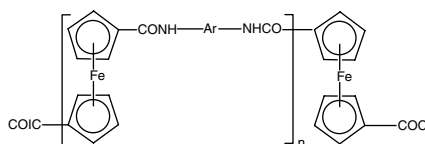
The surface of quarry stone was modified by continuous plasma polymerization of hexamethyldisiloxane. The hydrophilic surface of the quarry stone was made hydrophobic and impermeable to water. Three different reaction times were analyzed. Contact angle and FT-IR analyses show that the hydrophobic character of the surface is due to methyl groups on the surface. The change in the contact angle with temperature and the wetting temperature ( $T_w$ ) were measured.



J. A. López-Barrera, A. Avila-Ortega, J. Morales, J. Cervantes and R. Olayo\* ..... 858–861

*Surface modification of quarry stone by hexamethyldisiloxane plasma treatment*

Three aromatic diamines, 2,6-di-(4-aminophenyl) toluene (A), 2,2'-di-[4-(4-aminophenyl) phenyl] propane (B) and 4,4'-di (4-aminophenyl)-oxy biphenyl (C), were obtained by

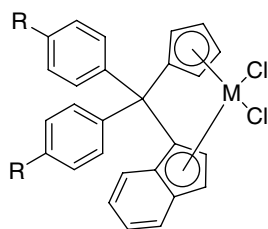


N. Iqbal, M. S. Khan, M. A. Saeed and Z. Akhter\* ..... 862–869

*Synthesis and physicochemical studies of ferrocene-containing materials*

reacting 2,6-dihydroxytoluene, bisphenol-A and 4,4'-dihydroxybiphenyl with *p*-nitrochlorobenzene. The synthesized diamines were then polymerized with 1,1'-ferrocenedicarboxylic acid chloride with low-temperature polycondensation to produce organometallic aromatic polyamides (aramids). The synthesized monomers and polymers were characterized by their solubilities, elemental analysis, FTIR spectroscopy and  $^1\text{H}$ -NMR spectroscopy. The inherent viscosities, differential scanning calorimetry and thermogravimetry were also used for polymer characterization.

The new *ansa*-complexes were used on ethylene homopolymerization,  $\alpha$ -olefin homopolymerization, ethylene/ $\alpha$ -olefin copolymerization. When  $^t\text{Bu}$  was introduced into the *para* position on phenyl groups in  $(\text{Ph}_2\text{C}(\text{Cp})(\text{Ind})\text{ZrCl}_2)$ , the activity and the incorporation of 1-hexene on copolymerization were both increased.



3. R=  $^t\text{Bu}$ , M=Ti
4. R=  $^t\text{Bu}$ , M=Zr
5. R=  $^t\text{Bu}$ , M=Hf
6. R= MeO, M=Zr
7. R= MeO, M=Hf

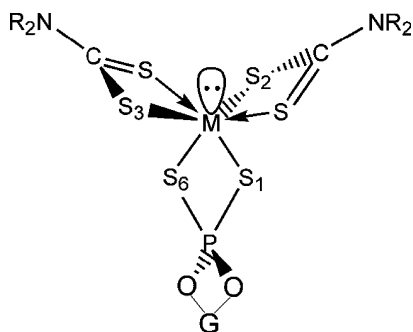
X. Yang, Y. Zhang and J. Huang\* ..... 870–879

*$\alpha$ -olefin homopolymerization and ethylene/1-hexene copolymerization catalysed by novel *ansa*-group IV complexes/MAO system*

Continued overleaf

## Section: Main Group Metal Compounds

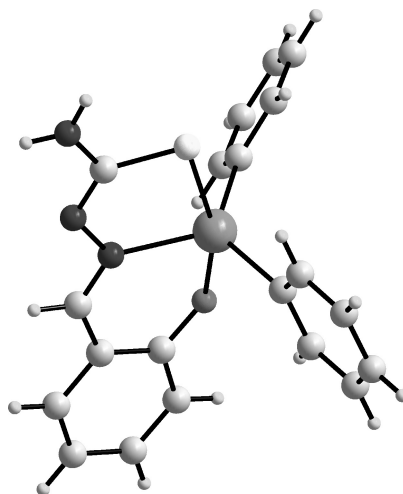
Bis(*N,N*-dialkyldithiocarbamato)antimony(III) alkylenedithiophosphate of the type  $[R_2NCS_2]_2SbS(S)\overline{POGO}$  [where  $NR_2 = N(CH_3)_2$ ,  $N(C_2H_5)_2$  and  $N(CH_2)_4$ ;  $G = -CH_2-C(C_2H_5)_2-CH_2-$ ,  $-CH_2-C(CH_3)_2-CH_2-$ ,  $-CH(CH_3)-CH(CH_3)-$  and  $-C(CH_3)_2-C(CH_3)_2-$ ] were synthesized and characterized by physico-chemical, spectral [UV, IR and NMR ( $^1H$ ,  $^{13}C$  and  $^{31}P$ )] and thermal (TG, DTA and DSC) analysis. The TG decomposition step of the complex indicated the formation of  $Sb_2S_3$  as final product. The melting point of these complexes was confirmed by DSC analysis. These complexes were screened for antibacterial and antifungal activity using the disk diffusion method. All the complexes showed good affinity as antibacterial and antifungal agents, which increased with increasing concentration.



H. P. S. Chauhan\* and U. P. Singh  
..... 880–889

*Synthetic, spectral, thermal and antimicrobial studies on some bis(*N,N'*-dialkyldithiocarbamato)antimony(III) alkylenedithiophosphates*

A series of organotin compounds have been characterised spectroscopically and by X-ray crystallography. The tin atom is penta-coordinated in each case and the majority of structures associate via eight-membered  $\{N-C-N-H\}_2$  synthons. The efficacy of these compounds against a range of bacteria, fungi, plant pathogens and human cancer cell lines is also described.



M. S. Sarma, S. Mazumder, D. Ghosh, A. Roy\*, A. Duthie and E. R. T. Tiekink  
..... 890–905

*Synthesis, spectroscopic characterization and biocidal activity of some diorganotin(IV) complexes of salicylaldehyde-thiosemicarbazones and related ligands. Molecular and supramolecular structures of  $[R_2Sn(OArCH=N-N=CSNH_2)]$ , where  $R = Me, Ph$  and  $Ar = -C_6H_4$ ,  $-C_6H_3(5-Br)$  and  $C_6H_3(5-Cl)$ , and of  $[Me_2Sn\{OC_6H_3(5-Br)CH=N-N=CSNH_2\}OH_2]$*

Continued from overleaf

Book Review

R. E. Douthwaite ..... 906

*Synthesis of inorganic materials*

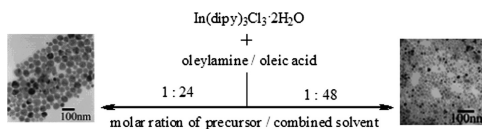
Book Review

N. T. Lucas ..... 907–908

*Carbon-rich compounds: from molecules to materials*

## Section: Materials, Nanoscience and Catalysis

By thermo-decomposition of the  $\text{In}(\text{dipy})_3\text{Cl}_3 \cdot 2\text{H}_2\text{O}$  ( $\text{dipy} = \alpha, \alpha$ -dipyridyl) precursor in the presence of stabilizing surfactant, quasi-monodisperse and size-controlled  $\text{In}_2\text{O}_3$  nanoparticles were synthesized. The PL emission at 378 nm was found at room temperature.



P. Zhu, W. Wu, J. Zhou, W. Zhang\* ..... 909–912

*Preparation of size-controlled  $\text{In}_2\text{O}_3$  nanoparticles*

## Section: Main Group Metal Compounds

Three diorganotin(IV) complexes of N-(2-hydroxy-4-nitrophenyl)-salicylideneimine derivatives have been prepared and the new compounds characterized by C, H, N analysis, mass, IR,  $^1\text{H}$ -NMR and  $^{13}\text{C}$ -NMR spectroscopy. The crystal structure of  $(\text{C}_6\text{H}_5)_2\text{Sn}(\text{OC}_6\text{H}_3\text{OC}_2\text{H}_5\text{CH}=\text{NC}_6\text{H}_3\text{NO}_2)_2$  was characterized by single crystal X-ray diffraction analysis. A coordination geometry nearly half-way between trigonal-bipyramidal- and square pyramidal- arrangement (trigonality index:  $\tau = 0.49$ ) was inferred. In the solid state,  $\pi - \pi$  interactions between the aniline fragments of neighbouring molecules exist with a centroidal distance of 3.734 (5) Å and a slip angle of 19.1°.

