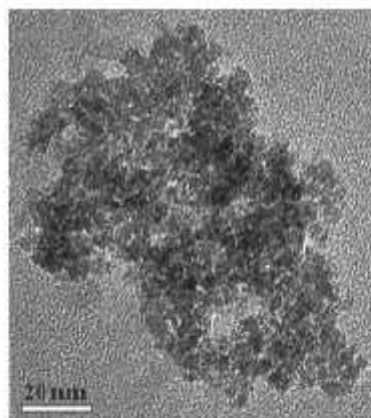


CONTENTS

- 155 Hydrothermal synthesis and LPG sensing ability of SnS nanomaterial

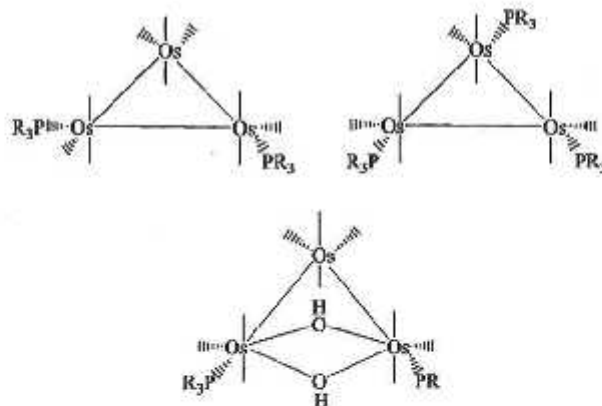
SnS nanoparticles with high crystallinity have been prepared by hydrothermal method with good control over particle size. The prepared nanomaterial shows good gas sensing response for liquefied petroleum gas at low operating temperatures.



A Muthuvinayagam & B Viswanathan*

- 161 New tertiary phosphine derivatives of $\text{Os}_2(\text{CO})_{12}$: X-ray structures of $1,2\text{-}[\text{Os}_2(\text{CO})_{10}\{\text{PhP}(o\text{-Tol})_2\}_2]$, $1,2,3\text{-}[\text{Os}_3(\text{CO})_9\{(4\text{-FC}_6\text{H}_4)_3\text{P}\}_3]$, $1,2,3\text{-}[\text{Os}_3(\text{CO})_9\{\text{PhP}(\text{Cy})_2\}_3]$ and $[\text{Os}_2(\mu\text{-OH})_2(\text{CO})_8\{(4\text{-FC}_6\text{H}_4)_3\text{P}\}_2]$

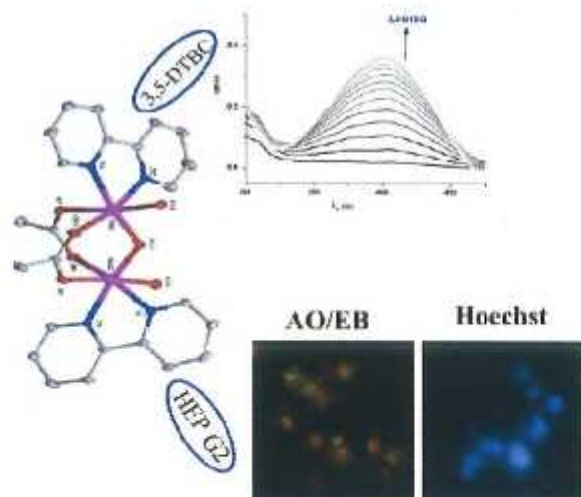
Di- and tri-substituted compounds, $1,2\text{-}[\text{Os}_2(\text{CO})_{10}(\text{PR}_3)_2]$ and $1,2,3\text{-}[\text{Os}_3(\text{CO})_9(\text{PR}_3)_3]$, along with the dihydroxyl-bridged complexes, $1,2\text{-}[\text{Os}_2(\text{CO})_8(\text{PR}_3)_2(\mu\text{-OH})_2]$ ($\text{PR}_3 = (4\text{-FC}_6\text{H}_4)_3\text{P}$, $\text{PhP}(o\text{-Tol})_2$ and $\text{PhP}(\text{Cy})_2$), are obtained from the reactions of $1,2\text{-}[\text{Os}_2(\text{CO})_{12}(\text{NCMe})_2]$ with PR_3 .



Abdur R Miah, Subas Rajbangshi, Ahibur Rahaman,
 Kamal Hossain, Tasneem A Siddiquee &
 Shariff E. Kabir*

170 **Synthesis, crystal structure, catecholase activity, DNA cleavage and anticancer activity of a dinuclear manganese(III)-bipyridine complex**

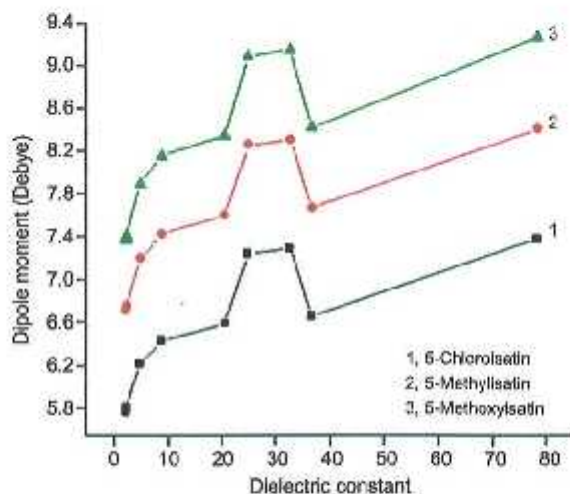
X-ray crystallographically characterized dinuclear acetate-oxo-bridged Mn(III) complex has been evaluated as model system for the catechol oxidase enzyme by using 3,5-di-*tert*-butylcatechol as the substrate in methanol medium. The complex cleaves the pBR 322 supercoiled DNA without addition of an activating agent. Anticancer activity on human hepatocarcinoma cell line shows the efficacy of the complex to induce 55% of apoptotic for 24 h.



Dhananjay Dey, Abhranil De, Sukanta Pal,
Partha Mitra, Anandan Ranjani,
Loganathan Gayathri, Saravanan Chandrleka,
Dharumadurai Dhanasekaran, Mohammad Abdulkadhar
Akbarsha, Niranjan Kole & Bhaskar Biswas*

179 **Polarizable continuum model solvation analysis of some isatin derivatives**

Polarizable continuum model analysis has been carried out for 5-chloroisatin, 5-methylisatin and 5-methoxyisatin in ten solvents at 298 K. The electrostatic, dispersion and repulsion interaction components of Gibb's free energy of solution along with cavitation energies and induced dipole moments are computed.

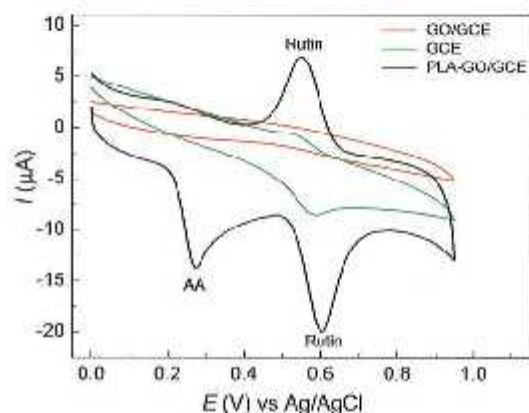


P Vidhya, V Kannappan* & V Sathyanarayanamoorthi

Notes

187 Electrochemical behavior of ascorbic acid and rutin on poly(L-arginine)-graphene oxide modified electrode

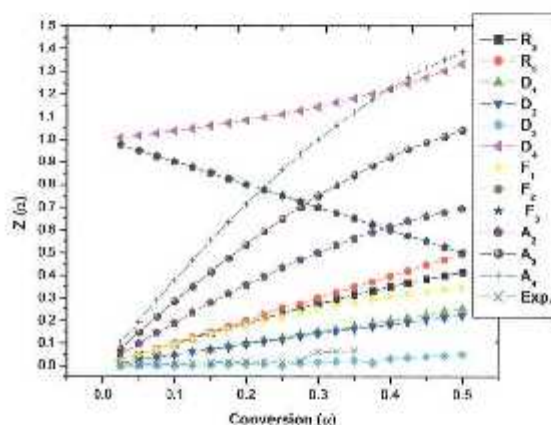
Compared with graphene oxide modified electrode (GO/GCE) and bare GCE, poly(L-arginine)-graphene oxide modified electrode (PLA-GO/GCE) has high electrocatalytic ability for ascorbic acid (AA) and rutin.



Yan Luo, Qingqing Hu, Gen Liu* & Dengming Sun*

193 Model-free thermal degradation kinetics of bio-based phenolic resin derived from vanillin oxime

A new terpolymer resin is synthesized with the monomer vanillin oxime and *p*-bromoacetophenone and formaldehyde as a condensing agent and characterized by FTIR, ¹H NMR, GPC, DSC and TG-DTG data. The apparent activation energy values for different conversions (0.1 ≤ α ≤ 0.7) are close to each other. The solid state decomposition mechanism is three dimensional deceleration type.



Narendra Pal Singh Chauhan*,
Nirmala Kumari Jangid, Jyoti Chandhary,
Ritu Tomar & Paridhi Kataria

199 Hydroisomerization of long chain saturated hydrocarbon over Pt/SiO₂-Al₂O₃ catalysts

Hydroisomerization of hexadecane and the linear saturated hydrocarbon product obtained from the hydroprocessing of jatropha oil have been carried out over different silica-alumina supported platinum catalysts for the reduction of pour point. The 0.3% Pt and amorphous silica-alumina support with SiO₂/Al₂O₃ ratio as 0.67 is found to be optimum. Under the optimized conditions for hexadecane, pour point as low as -15 °C and -10 °C has been obtained for the batch as well as continuous fixed bed reactor respectively, along with good conversion and selectivity.



J K Satyarthi, T Chiranjeevi*, Sudha Tyagi & D T Gokak

203 Corrigendum**204 Author Guidelines for Online Submission**

Authors for correspondence are indicated by (*)