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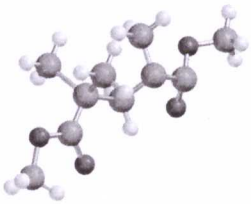

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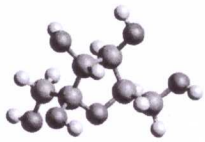

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POSTER PRESENTATION (PP)

PP 01 Plant-extract assisted green synthesis of silver nanoparticles using nyctanthes arbor-tristis flower at room temperature. 77
V. Abinaya and H. Gurumallesh Prabu

PP 02 Synthesis and characterization of groundnut-ZnO composites. 77
R. Aiswarya and S.Thambidurai

PP 03 Plant mediated green synthesis of TiO_2 and MgO nanoparticles using abutilon indicum flowers extract and their antibacterial activity. 78
V. Aiswarya, M. Balaji, P. Nithya, S. Gowri, K. Kottaisamy and M. Sundrarajan

PP 04 Cyclic Voltammetric Studies on New Nitro Chalcones. 79
A. Akilan and S. Senguttuvan

PP 05 Structural, Photo-physical and Biomedcial applications of Curcumin-based Novel Conjugated Triazine Centred Metal Complexes. 80
Fr. L. Alphonse and P. Tharmaraj

PP 06 Selective Sensing of Dopamine on Mn_2O_3-TiO_2-Graphene Nano structured electrodes. 81
Arockiajawahar Anancia Grace, Karutha Pandian Divya and Venkataraman Dharuman

PP 07 Effect of pH on the Physical and NLO Behavier of Ammonium Dihydrogen Phosphate (ADP) crystals. 82
J. Anandakumaran and G. Ramasamy

PP 08 Corrosion inhibition of carbon steel in 1m hno_3 solution by *Aubutilon X Hybridum yellow* extract/powder as an eco-friendly inhibitor using weight loss method. 83
V. Anusiya, M. Muthu Kaviya, C. Ramya and M. Srimathi

PP 09 Relation between biomarker enzyme and tissue damage of clam, *donax faba* exposure to lead. 83
C. Archana Devi, C. M. Ramakritinan and A. K. Kumaraguru

PP 10 A novel schiff base ligand and its complexes for sensor application. 84
V. Aruldeepa, P. Tharmaraj and C. D. Sheela

PP 11 Synthesis and electrochemical characterization of high voltage cathode material ($LiCo_{0.5}Mn_{1.5}O_4$) for lithium ion batteries. 85
N. Azhagumeenal, N. Radha and S. T. Nishanthi

PP 12 Photophysical studies on Donor-Acceptor blends of Picene-PTCDI. 86
B. Balambiga, R. Dheepika and S. Nagarajan

PP 13 Hydrothermal approach of nano silver doping on the CuO nanomaterial and study of its photocatalytic activity under UV-light. 87
E. Bharathi, G. Sivakumari, B. Karthikeyan and S. Senthilvelan

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Abstract

Lead (Pb) is one of the most widely distributed metals in the marine ecosystem. The acute toxicity tests of *D. faba* exposed to lead under acute Continuous Flow Through (CFT) method was conducted. After 24 h exposure, 100% survival of test animal was in all five lead exposed concentrations and after 48 h exposure, mortality was observed in the concentrations - 1.7, 3.4, 6.8 and 13.6mg.l^{-1} and as compared to control animal, sudden reduction in protein level was noticed in the lowest concentration (0.85 mg.l^{-1}) 52% and in the highest concentration (13.6 mg.l^{-1}) the reduction was 69%. More damage of gill and foot tissue was observed in Pb exposed *D. faba*. In the highest concentration of 13.6 mg. l^{-1}, coagulated gill filaments with disintegrated secretary vesicles found along the margin and also within the gill membrane. In the lowest concentration (0.85 mg l^{-1}), the activation of enzyme was only 17%, however the activation was 172% when *D. faba* was exposed in the highest concentration (13.6 mg l^{-1}). This present study indicates that *D. faba* is a marine bivalve molluscs species deserving of greater attention in future. Meanwhile, this could be regarded as a suitable bio indicator of Cd, Cu, Pb and Mn exposure by measuring Protein and LPO as biomarkers. LPO was considered to be an important feature in cellular injury. The reactive oxygen forms (O_2, H_2O_2,OH) which are produced during oxidative stresses potentially damaging cells and tissues.

Keywords: Lead, Accumulation, Tissue, Lipid peroxidation, Histology.

PP 10

A NOVEL SCHIFF BASE LIGAND AND ITS COMPLEXES FOR SENSOR APPLICATION

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Abstract

The versatile ligational behaviour of Schiff base compounds had evoked considerable interest in the past. It is our aim to synthesize new azo methine derivative and expected to

exhibit variety of characteristics such as biological and catalytic properties. We have demonstrated that metal ions acting as modulators (or inputs, in digital design parlance) can generate absorbance changes in accordance with the operation of a half-adder. It was also obtained exploiting differential binding affinities of metal ions for different ligands. The present work focuses on the synthesis of ligand HPBABF and its complexes of copper, zinc, cobalt and nickel. All the synthesized compounds were characterized using various physical and chemical methods of analysis such as UV-Vis, FTIR, NMR, fluorescence, CV, TG, SEM, XRD and elemental analysis.

Keywords: Hydroxypyrimidine, antimicrobial, metal complexes.

PP 11

SYNTHESIS AND ELECTROCHEMICAL CHARACTERIZATION OF HIGH VOLTAGE CATHODE MATERIAL ($LiCo_{0.5}Mn_{1.5}O_4$) FOR LITHIUM ION BATTERIES

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Abstract

Cathode material $LiCo_{0.5}Mn_{1.5}O_4$ of was successfully synthesized by as sol-gel method. The cathode material was calcinated different temperature 120 0 C, 600 0 C, 900 0 C. The XRD result reveals Spinel compound of $LiCo_{0.5}Mn_{1.5}O_4$ for 600 0 C-12 hrs $LiCo_{0.5}Mn_{1.5}O_4$ for 600 0 C-12 hrs is well crystallized and lattice parameter, space group, cell volume is evaluated. The surface morphology, particle size and elemental analysis were analysis the SEM and EDAX spectrum. SEM result shows the smooth morphology and less particle size and EDAX shows weight percentage elements is better for $LiCo_{0.5}Mn_{1.5}O_4$ at 900 0 C -5hrs compared than $LiCo_{0.5}Mn_{1.5}O_4$ at 600 0 C -12hrs. The oxidation state is analysis by XPS and the highest binding energy occur that $LiCo_{0.5}Mn_{1.5}O_4$ at 900 0 C -5hrs compare than $LiCo_{0.5}Mn_{1.5}O_4$ at 600 0 C - 12hrs. Half cells were assembled and tested at C/10 rate. The maximum discharge capacity of around 106 mAh/g was obtained for the sample $LiCo_{0.5}Mn_{1.5}O_4$ at 900 0 C -5hrs. The charge transfer resistance value of $LiCo_{0.5}Mn_{1.5}O_4$ at 900 0 C -5hrs is 411.341 Ω also better compare than 600 0 C at 12 hrs