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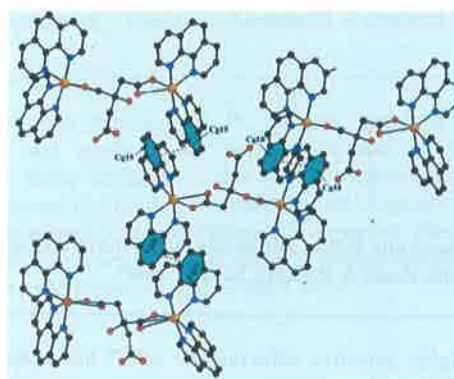
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CONTENTS

- 469 Hydrogen bonded supramolecular architecture of a copper(II)-citrate coordination building block: Synthesis and crystal structure with theoretical insight**

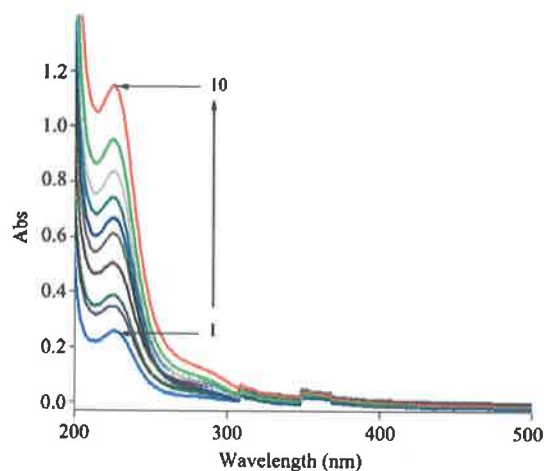
A metal-organic hybrid material of Cu(II) unit has been designed employing citrate and 1,10-phenanthroline, where the carboxylate acts as the bridging ligand and phenanthroline as chelator. The dimeric unit has been transformed into a supramolecular architecture through hydrogen bonding and other non-covalent interactions (like π - π interactions) and water of crystallization. Additional support to the solid state structure has been obtained through DFT based calculations and Hirshfeld surface analysis.



Sougata Sarkar*, Dibakar Deb*, Avijit Sarkar*,
 Shouvik Chattopadhyay*, Bipan Dutta &
 Soumen Khanra

- 477 Kinetic and mechanistic studies of oxidation of chloramphenicol by sodium metaperiodate using Rh(III)-chloride as homogeneous catalyst**

The kinetics of oxidation of the antibiotic drug, chloramphenicol, by NaIO_4 in the presence of Rh(III) catalyst in alkaline medium is investigated at 35 °C. The most probable reaction mechanism of Rh(III)-catalyzed oxidation of chloramphenicol by NaIO_4 in alkaline medium is proposed.

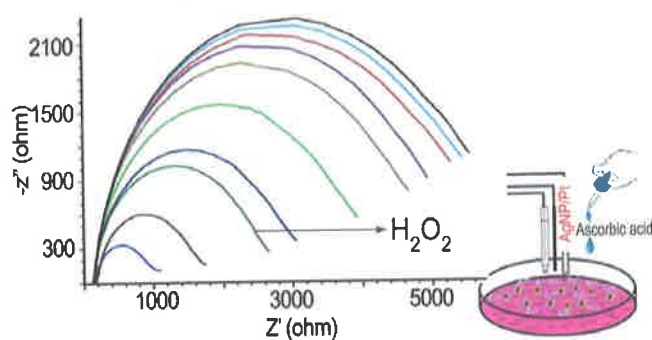


Ranju Pradhan, Jaya Srivastava, Ritu Swamini Bala,
 Rupam Yadav, Shahla Rahmani &
 Ashok Kumar Singh*

NOTES

485 Silver nanoparticle modified Pt electrode as voltammetric and electrochemical impedance sensor for hydrogen peroxide in live biological cells

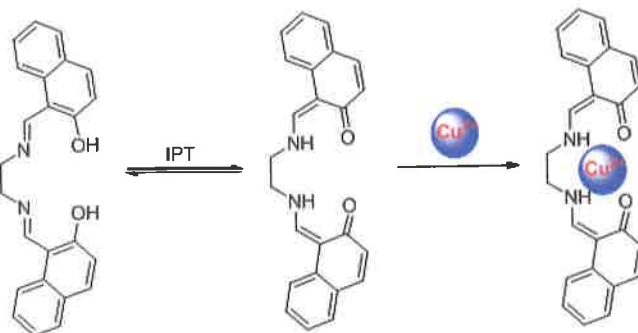
A non-enzymatic electrochemical sensor for hydrogen peroxide based on silver nanoparticle (AgNP) modified platinum electrode has been fabricated by multiple cyclic voltammetric scan of platinum electrode in AgNP solution in aqueous medium. The modified electrode (Pt/AgNP) can detect hydrogen peroxide in aqueous medium, bovine serum albumin and live L6 rat myoblast cells with high sensitivity and selectivity by cyclic voltammetry and electrochemical impedance spectroscopy. The limit of detection of Pt/AgNP towards H_2O_2 is 5.4×10^{-7} M.



Kangkana Deka, Jutika Kumar, Ananya Bhowmick, Sofia Banu & Diganta Kumar Das*

490 Highly selective colorimetric schiff base chemosensor for detection of Cu^{2+}

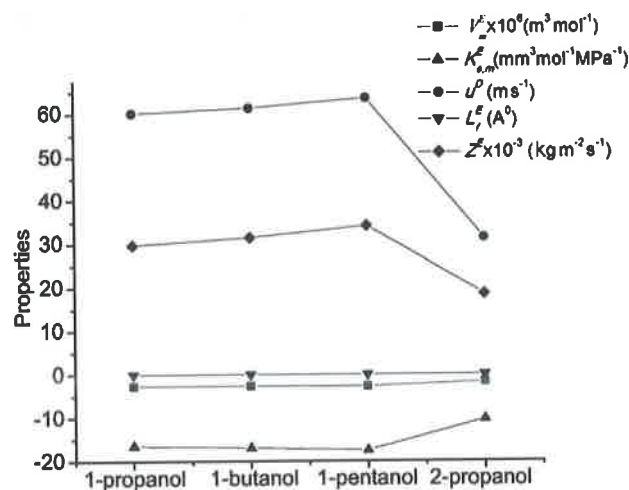
A highly selective colorimetric chemosensor for Cu^{2+} using a novel Schiff base based on 2-hydroxy-1-naphthaldehyde is reported. On addition of Cu^{2+} to the sensor L1, intramolecular proton transfer takes place, leading to keto-enol tautomerization. Cu^{2+} conjugates with N and O atom on the keto form of L1, to generate a small conjugation length, which leads to the blue shift and fading of color. The sensor L1 may be utilized as a colorimetric sensor for monitoring Cu^{2+} .



Dan Liu, Hua Zhu* & Li Yang

495 Volumetric and acoustic studies of binary liquid mixtures containing diisopropylamine and alcohols at different temperatures

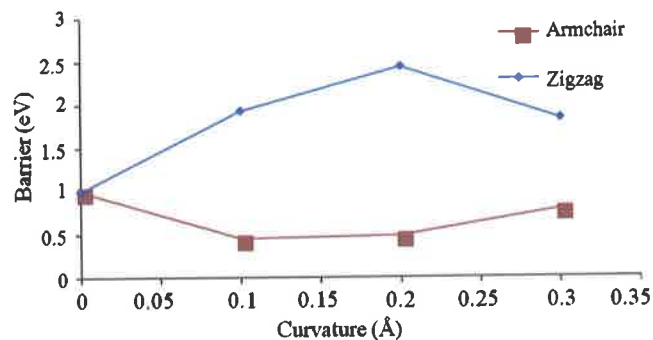
A study on the intermolecular interactions of diisopropylamine with 1-propanol, 2-propanol, 1-butanol, 1-pentanol including the effect of temperature, chain length of alcohol, and position of functional group is reported.



Seema Rani & Gyan Prakash Dubey*

503 DFT study on ammonium perchlorate bond activation by Pt clusters supported by carbon nanotubes and graphene

The N-H bond breaking on Pt₄ clusters supported by carbon nanotubes and graphene has been investigated by the density functional theory method. In this study, comparison of (10-10), (8-8), (10-0) and (5-5) carbon nanotube models in zigzag and armchair forms is presented. The results show that opportune selection of size and chirality of carbon nanotubes supports can provide stable support for Pt clusters and improve their catalytic activity.



Hosseini, Seyed Ghorban* & Mohammad Hossein Zanghenehjad

507 Guide to Authors

Authors for correspondence are indicated by (*)

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