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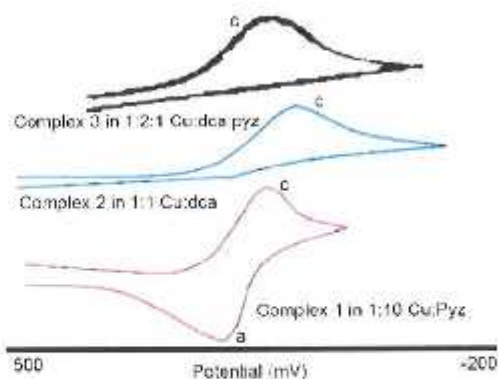
NUMBER 6

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CONTENTS

585 Electrochemistry of binary and mixed-ligand copper(II) complexes with pyrazine and dicyanamide bridging ligands in aqueous medium

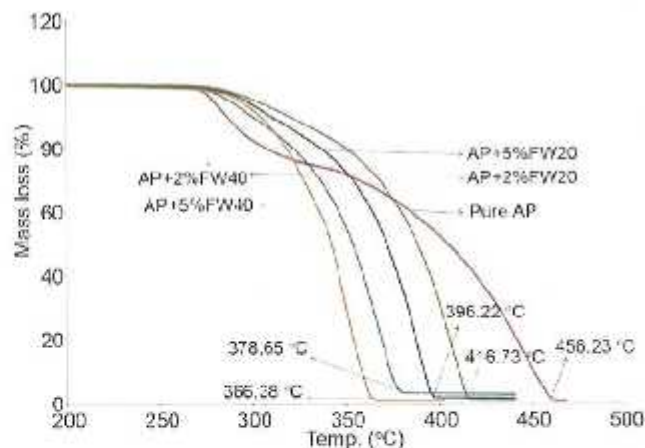
Binary and mixed ligand copper(II) complexes with pyrazine and dicyanamide are synthesized in aqueous medium. The binary complex $[\text{Cu}(\text{II})(\text{pyz})_n(\text{H}_2\text{O})_m]$ (1) shows quasi-reversible behavior, while the binary complex, $[\text{Cu}(\text{II})(\text{dca})_n(\text{H}_2\text{O})_m]$ (2) and mixed ligand complex, $[\text{Cu}(\text{II})(\text{dca})_n(\text{pyz})_m] \cdot n\text{H}_2\text{O}$ (3) show totally irreversible redox behavior.



Ved Prakash*, Krishna Srivastava & Jagdish Prasad

592 Synthesis of $\alpha\text{-Fe}_2\text{O}_3$ nanoparticles via wet high-energy ball-milling and its catalytic application in thermal decomposition of ammonium perchlorate

Hematite nanoparticles have been successfully prepared by wet high-energy ball-milling method. These $\alpha\text{-Fe}_2\text{O}_3$ NPs exhibit excellent catalytic effect on thermal decomposition properties of ammonium perchlorate particles.

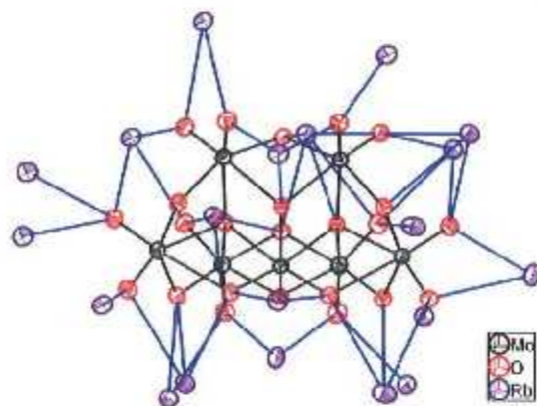


Seyed Ghorban Hosseini*, Esmail Ayoman & Azam Ghavi

Notes

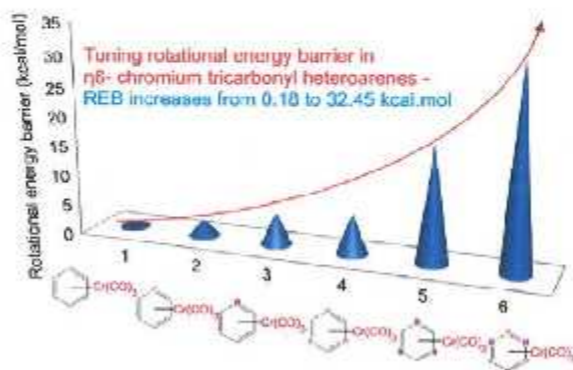
- 601 Synthesis, structure and properties of a hexarubidium heptamolybdate with bridging aqua ligands

Synthesis, single crystal structure and properties of a hexarubidium heptamolybdate $[\text{Rb}_6(\text{H}_2\text{O})_4(\text{Mo}_7\text{O}_{24})]$ is reported. The bridging binding modes of the unique $(\text{Mo}_7\text{O}_{24})^{7-}$ ion and the four crystallographically independent coordinated water molecules result in coordination numbers ranging from 8 to 10 for the six unique $\text{Rb}(\text{I})$ ions.



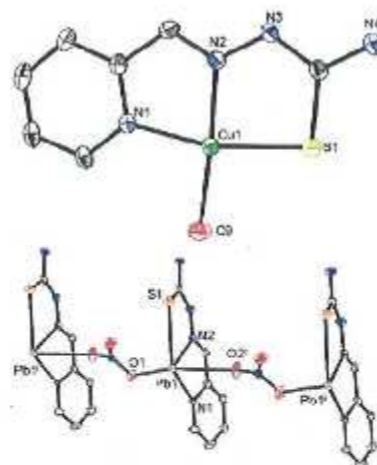
Bikshandarkoil R Srinivasan*, Sudesh M Morajkar, Savita S Khandolkar, Christian Näther & Wolfgang Bensch

- 610 Tuning the tripodal rotational barrier in η^6 -chromium tricarbonyl heteroarenes – A step towards torsional switches



A Kalpana & L Akilandeswari*

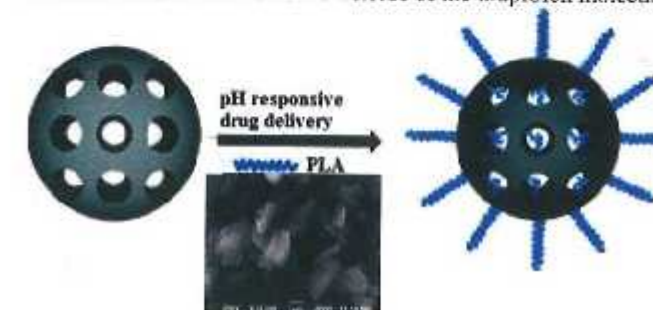
- 616 Synthesis and crystal structures of pyridine-2-carboxaldehyde thiosemicarbazone, its mononuclear and cytotoxic $\text{Cu}(\text{II})$ and polynuclear $\text{Pb}(\text{II})$ complexes: Effect of size of metal ion on nucleation of the complexes



Ayon Kanti Ghosh, Hare Ram Yadav, Anshuman Roy Choudhury, N Durairamian, Manikanta Symala Kiran & Rajarshi Ghosh*

- 621 Polylactic acid coated SBA-15 functionalized with 3-aminopropyl triethoxysilane

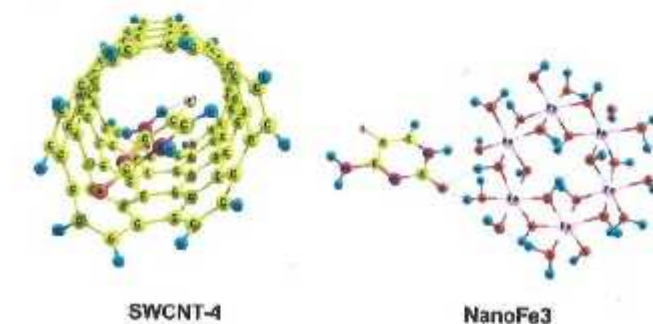
A new method of coating PLA on amine functionalized mesoporous silica is reported. Drug release studies with this material under different pH conditions show that mild acidic condition favours the successful release of the ibuprofen molecule.



Jose Varghese, Pachianan Sakthipriya, Gunalan Rachel & Nallamuthu Ananthi*

- 626 Tautomerism and non-covalent interactions of flucytosine with armchair (5,5) SWCNT and $\gamma\text{-Fe}_2\text{O}_3$ nanoparticles: A DFT study

Structural parameters, energetic behavior and NBO analysis of flucytosine, as well as its tautomerization mechanism are explored using DFT calculations. Due to the large HOMO-LUMO energy gap, the flucytosine molecule is highly stable, with the most stable tautomer being F3. Non-covalent interactions of F3 with SWCNT shows the most stable form to be SWCNT-4, where the flucytosine drug is encapsulated inside the SWCNT. In its non-covalent interactions with $\gamma\text{-Fe}_2\text{O}_3$ nanoparticles, NANO-Fe1 involving three strong H-bonds is the most stable form.



Elham Mohammad-Hasani, S Ali Beyramabadi* & Mehdi Pordel

Authors for correspondence are indicated by (*)