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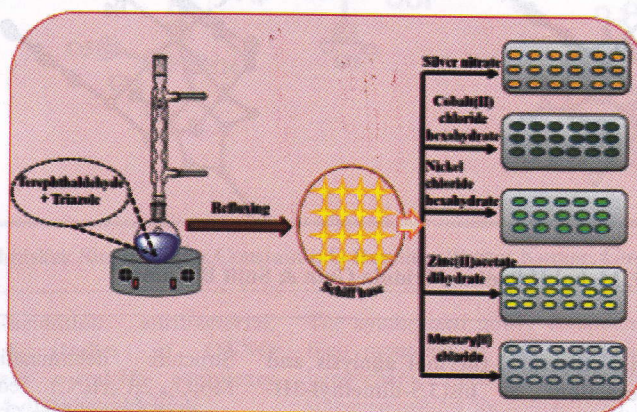
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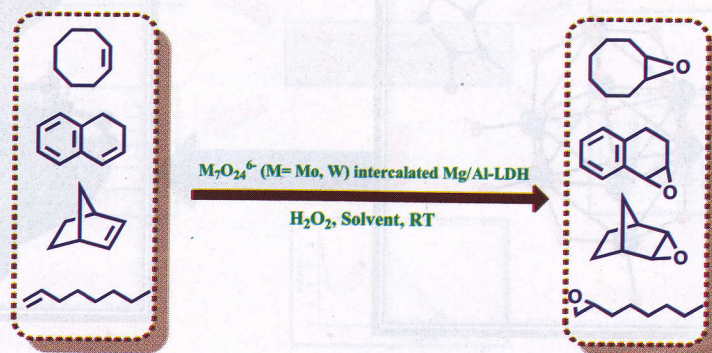
Papers

- 649 **Synthesis of 4-*(E)*-[(3-methyl-5-sulphonyl-4H-1,2,4-triazol-4-yl)imino]methyl} benzaldehyde and its complexes with Ag(I), Hg(II), Zn(II), Co(II), Ni(II) ions and its characterisation**
- A novel Schiff base 4-*(E)*-[(3-methyl-5-sulphonyl-4H-1,2,4-triazol-4-yl)imino]methyl} benzaldehyde (MSTB) and its complexes with Ag(I), Hg(II), Cu(II), Ni(II) and Co(II) have been prepared. MSTB is prepared by the condensation reaction between triazole and terephthalaldehyde.



Ashwini*, Gopalakrishna Bhat N & Ronald A Nazareth

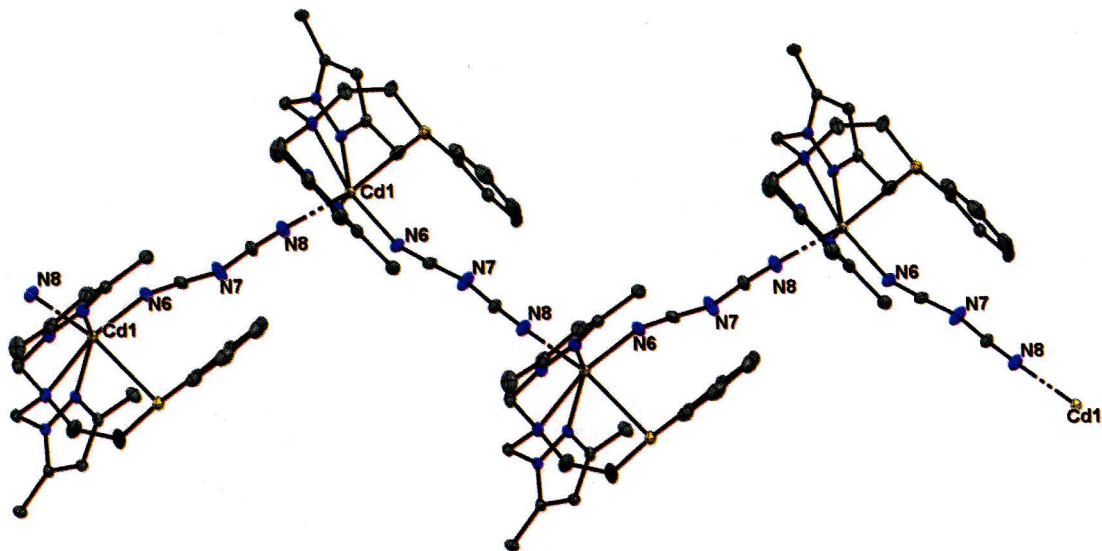
- 656 **Mo- and W-containing layered double hydroxides: Mild and selective oxidation of alkenes with H_2O_2**
- Polyoxometalate anions ($M_7O_{24}^{6-}$, $M = Mo, W$) intercalated layered double hydroxides (with Mg^{2+} and Al^{3+} cations in the brucite-like layer efficiently catalyzes the epoxidation of a series of alkenes at room temperature with environmentally benign oxidizing agent H_2O_2 . The catalysts are reused for three successive cycles without significant loss of catalytic activity.



Uday Sankar Agarwalla*

- 663 Synthesis, structure and molecular Hirshfeld surface analysis of polymeric cadmium(II) complex involving tetradentate N₃S-donor ligand and dicyanamide as bridging ligand

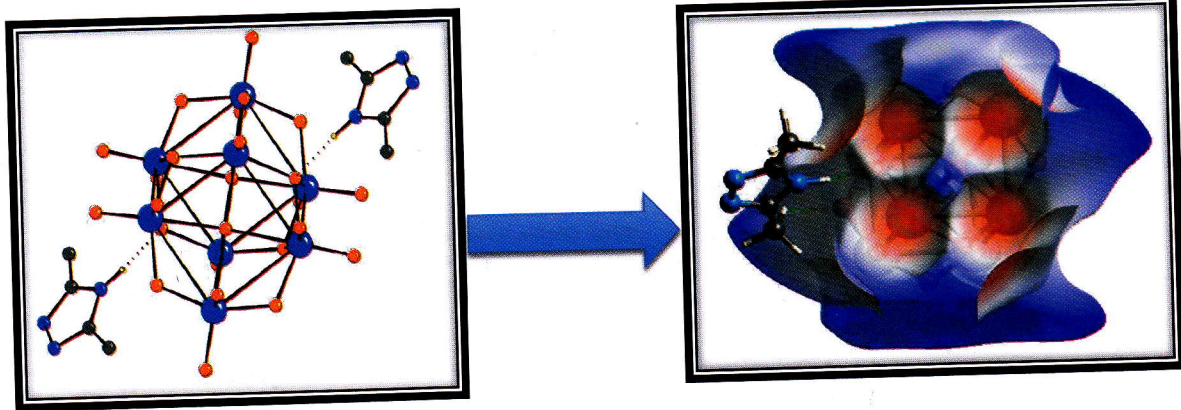
Polymeric octahedral cadmium(II) complex has been synthesized by the reaction of *N,N*-bis((3,5-dimethyl-1*H*-pyrazol-1-yl)methyl)-2-(phenylthio)ethan-1-amine (bdmpe), cadmium salt and sodium dicyanamide in methanol at room temperature. Two cadmium centres are bridged by $\mu_{1,5}$ -dicyanamide ion. Intermolecular interactions and packing modes of the compound are described by Hirshfeld surface analysis.



Sadeka J Munshi, Mehul H Sadhu, Mridula Guin & Sujit B Kumar*

- 669 Synthesis, crystal structure, thermal analysis and molecular interactions of bis(3,5-dimethyl-3*H*-1,2,4-triazole)octamolybdate

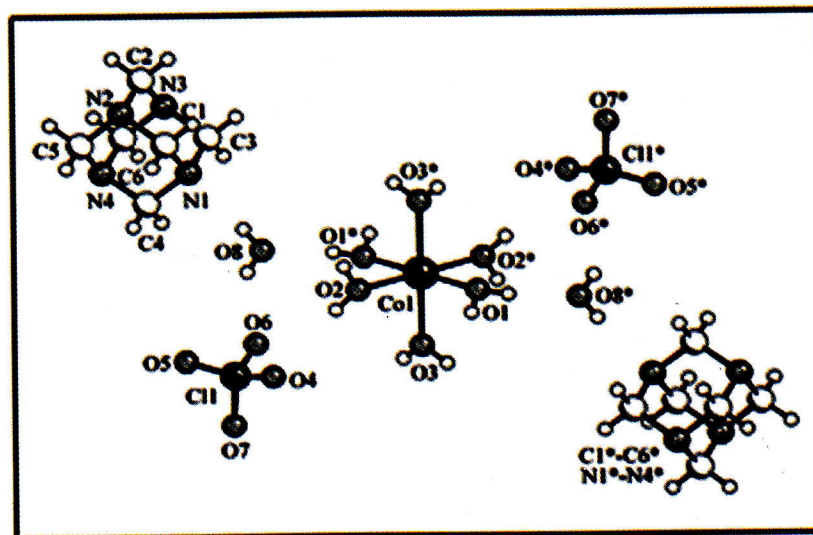
Structure determination reveals that the complex $\text{Mo}_8\text{O}_{26} \cdot 2(\text{C}_4\text{H}_9\text{N}_3)$ contains two moieties namely an octamolybdate $[\text{Mo}_8\text{O}_{26}]$ complex, and 3,5-dimethyl-1,2,4-triazole $[2(\text{C}_4\text{H}_9\text{N}_3)]$ in the unit cell. The $[\text{Mo}_8\text{O}_{26}]$ unit consists of two $\{\text{Mo}_4\text{O}_{13}\}$ subunits linked together by bridging oxygen atoms with an approximate C_{2h} symmetry under Triclinic system, $\text{P}\bar{1}$ space group, with lattice parameters $a = 10.1007(2)$, $b = 10.3887(2)$, $c = 13.0380(3)$ Å, $\alpha = 66.921(3)$ °, $\beta = 69.466(3)$ °, $\gamma = 62.892(2)$ °.



K Hussain Reddy*, C Phanimala, P Murali Krishna*, G N Anil Kumar

- 676 **Synthesis, crystal structure and thermolysis kinetics of $[\text{Co}(\text{H}_2\text{O})_6](\text{ClO}_4)_2 \cdot (\text{HMTA})_2 \cdot 2\text{H}_2\text{O}$ (HMTA = hexamethylenetetramine)**

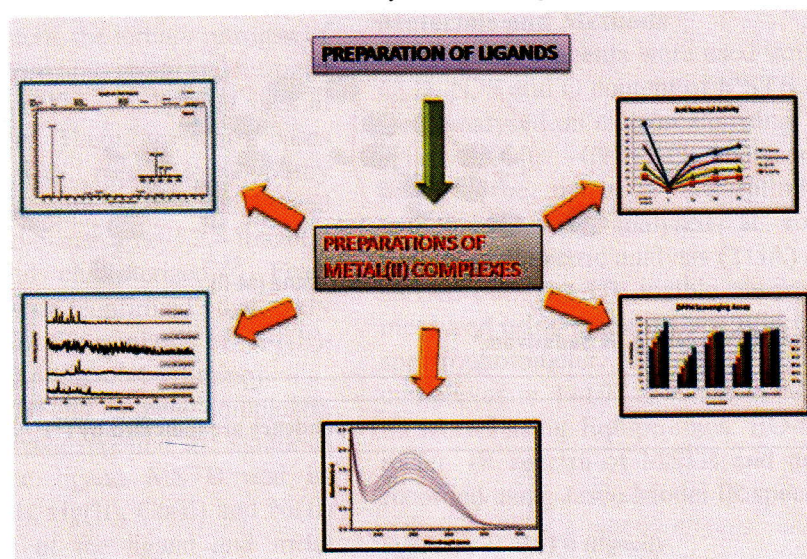
X-ray crystallographic analysis of a new compound, $[\text{Co}(\text{H}_2\text{O})_6](\text{ClO}_4)_2 \cdot (\text{HMTA})_2 \cdot 2\text{H}_2\text{O}$ (HMTA = hexamethylenetetramine) reveals the formation of a hexacoordinated cationic species with cobalt atom surrounded with six water molecules, while the HMTA ligands remain uncoordinated in outer coordination sphere. TG-DTA and DSC study reveal that the compound remains thermally stable upto 100 °C in static air, whereas it gradually decomposes in four steps in inert N_2 atmosphere involving removal of eight water molecules.



Chandra Prakash Singh, Abhishek Singh, Nibha, Constantin G Daniliuc, Bharat Kumar, Gurdip Singh & D P Rao*

- 682 **Synthesis, spectral elucidation, antibacterial, antioxidant and DNA studies of ONNO tetradentate Schiff base metal(II) complexes derived from Benzene-1,4-dicarboxaldehyde**

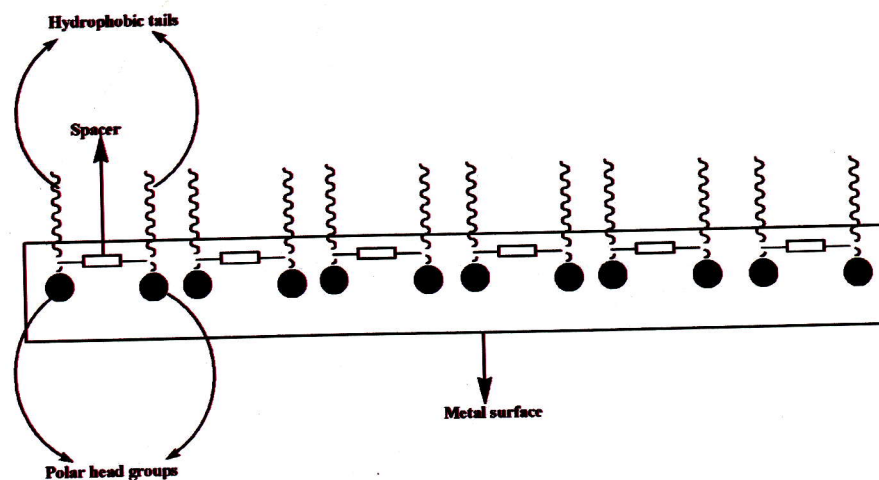
The synthesized newly compounds of tetradentate ligands and their mononuclear four coordinated metal(II) complexes have been characterized by various studies. All the compounds are screened against for antibacterial, antioxidant and DNA cleavage studies. DNA binding and cytotoxicity effect of Cu(II) complexes gives more potent activity as compared to the other synthesized compounds.



Kumarasamy Savitha & Subramaniam Vedanayaki*

- 692 **Synthesis of cationic (CTAB-EDTA-CTAB/ CTAB-Glu-CTAB) and anionic (SDS-EDTA-SDS/ SDS-Glu-SDS) Gemini surfactants: Surface and anticorrosive properties**

Gemini surfactants that served as environmentally friendly corrosion inhibitors have been successfully synthesized by the reaction of SDS/ CTAB with glucose/ EDTA as spacer.

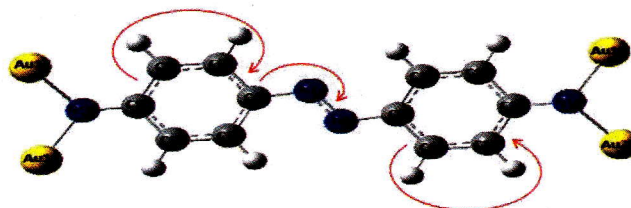


Adsorption of Gemini surfactant molecules on the metal surface

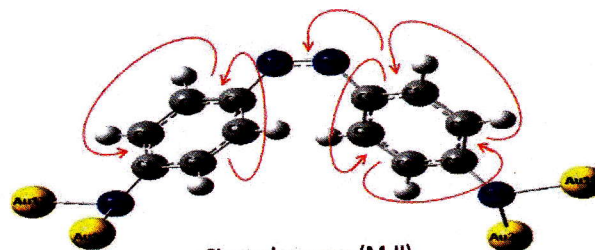
Kuldeep Kumar*, Priyanka Sharma & Saurabh Sharma

- 700 **A DFT approach to analyze charge transfer path through *trans* and *cis* isomers of azobenzene**

Prediction of possible charge transfer path with the aid of natural bond orbital analysis in *trans* and *cis* azobenzene under the influence of external electric field are studied. Arrow mark in the figure represents the direction of charge flow in the molecule.



Trans-azobenzene (M-I)



Cis-azobenzene (M-II)

C Karthika, R Praveena & K Sadasivam*

Authors for correspondence are indicated by (*)