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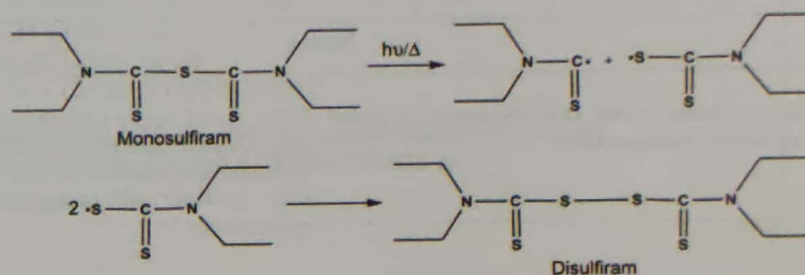
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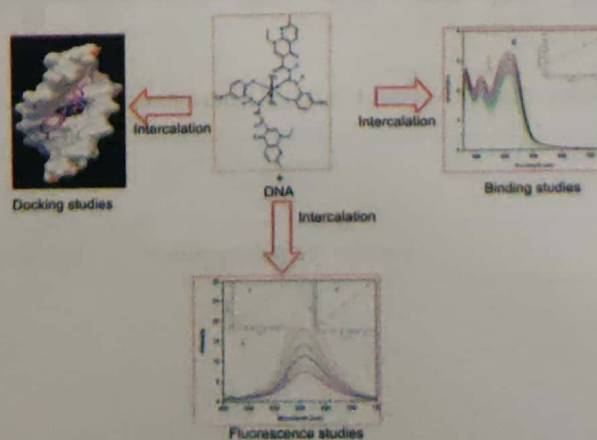
### Papers

- 429 **Exploring the mechanism of conversion of monosulfiram into disulfiram** The mechanism of conversion of monosulfiram into disulfiram investigated computationally reveals that conversion occurs in both thermal and photochemical environments. Dissociation of MS in a photolytic fashion being more feasible, due to lesser activation energy barrier for  $S_1$  PES than that observed for  $S_0$  PES in case of thermal dissociation.



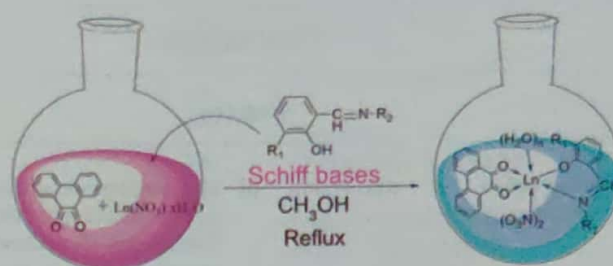
Vineet Kumar Singh, Sukirti Gupta & Ashutosh Gupta\*

- 436 **Spectro-analytical and *in vitro* biological studies of novel nalidixic acid hydrazone and its transition metal complexes** A novel potential chelating agent (NTEMNC) derived from nalidixic acid and its binary Cu(II), Ni(II) and Co(II) metal complexes exhibited intercalative mode of binding involving hydrogen bonding and  $\pi$ - $\pi$  interactions, investigated via DNA docking studies. Antitumor and antimicrobial activity of the compounds under investigation followed the order: Ni(II) > Cu(II) > Co(II) > NTEMNC.



Nagula Narsimha, Mohmed Jaheer, Palreddy Ranjith Reddy, Kunche Sudeepa & Ch. Sarala Devi\*

- 446 **Synthesis and spectroscopic characterization of lanthanide complexes derived from 9,10-phenanthrenequinone and Schiff base ligands containing N, O donor atoms** A series of mixed ligand lanthanide complexes of the general formula  $[\text{Ln}(\text{PhenQ})(\text{L}_{1-3})(\text{NO}_3)_2(\text{H}_2\text{O})_n]$  [where  $n = 0$ ,  $\text{Ln} = \text{Yb}(\text{III})$ ;  $n = 1$ ,  $\text{Ln} = \text{Dy}(\text{III})$ ; and  $n = 2$ ,  $\text{Ln} = \text{Nd}(\text{III})$ ] derived from 9,10-phenanthrenequinone (PhenQ) and Schiff bases ( $\text{L}_{1-3}\text{H}$ ), exhibit stone-like surface morphology (rough, with indefinite shape). The metal complexes of Nd and Dy are ten coordinated, whereas metal complex of Yb is found to be eight coordinated.



Sikandar Paswan, Afreen Anjum, Avadhesh Pratap Singh\* & Raj Kumar Dubey\*\*

### Notes

- 454 **Synthesis, characterization and properties of nickel based zinc ferrite nanoparticles** Cubic spinel ferrite nanoparticles of  $\text{Ni}_x\text{Zn}_{1-x}\text{Fe}_2\text{O}_4$  prepared by a cost effective and environment friendly sol-gel auto-combustion technique and found to be superparamagnetic at room temperature, may act as soft magnetic nanoparticles with interesting applications.



Hemant Kumar Dubey, Chanda Verma, U S Rai, Atendra Kumar & Preeti Lahiri\*\*

- 459 **Guide to Authors**

Authors for correspondence are indicated by (\*)