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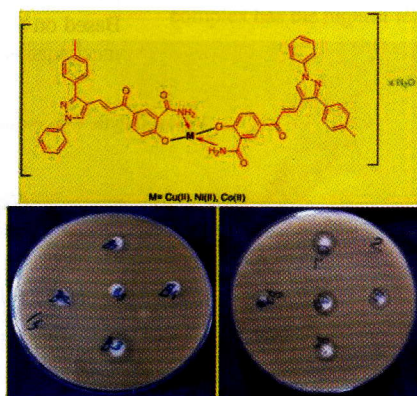
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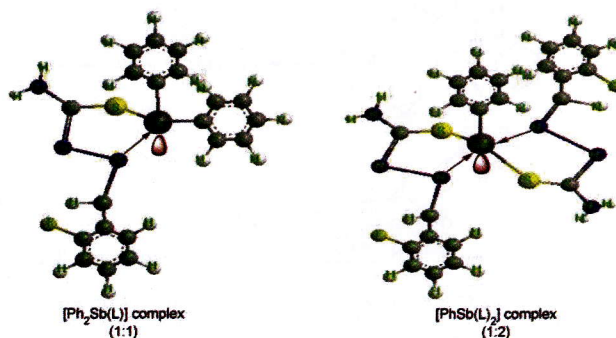
### Papers

- 332** **Synthesis and characterization of Schiff bases of pyrazole aldehyde and their metal complexes of Cu(II), Ni(II) and Co(II)** Synthesis of some novel metal complexes of different transition metal likes Co, Cu, Ni are carried out with (E)-5-(3-(3-(4-chlorophenyl)-1-phenyl-1H-pyrazol-4-yl)acryloyl)-2-hydroxybenzamide. Good to moderate biological activity of these metal complexes against selected bacterial and fungal strains are observed in DMF and DMSO solvents.



Pratap Odedra & Atul Rojivadiya\*

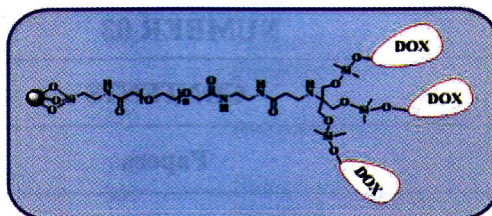
- 341** **Synthesis, characterization, antimicrobial and DNA cleavage study of organoantimony(III) and organoarsenic(III) complexes with monofunctional bidentate Schiff base** Tetra and penta-coordinated organoantimony(III) and organoarsenic(III) complexes have been synthesized and characterized. All synthesised compounds are found to possess appreciable fungicidal and bactericidal properties and the complexes show better DNA cleaving activity than the ligand.



Anita Kumari, Ramhari Meena, R V Singh & Nighat Fahmi\*

- 348 **One pot synthesis of luminescent Mn doped ZnSe nanoparticles and their silica based water dispersible formulation for targeted delivery of doxorubicin**

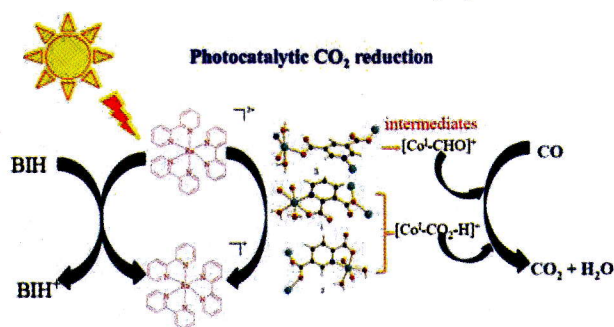
We have developed the formulation, ZnSe:Mn@mSilica-PEG-Tris-O-Si(Me<sub>2</sub>)-O-Dox which exhibited cytotoxicity against WEHI-164 mouse fibrosarcoma and RAJI human hematopoietic origin cancer cell lines (IC<sub>50</sub> ≈ 45 nM). The results revealed that the formulation has potential for the applications in drug delivery and in diagnosis also due to the emissive properties.



K Shitaljit Sharma, Ashraf Ali, Prasad P Phadnis\*, Chandan Kumar, Anand Ballal, Ashutosh Dash & Rajesh K Vatsa\*

- 356 **1D and 2D Cobalt(II) coordination polymers with dipicolinic acid ligands and photocatalytic CO<sub>2</sub> reduction**

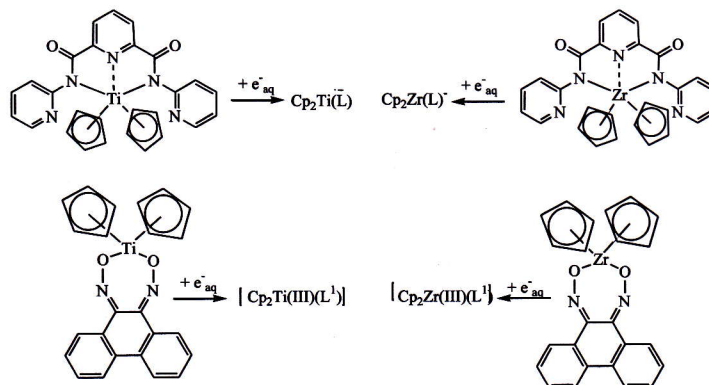
Three 1D and 2D Cobalt(II) coordination polymers with dipicolinic acid ligands are synthesized and photocatalytic CO<sub>2</sub> reduction behaviours of these three catalysts are investigated. Based on the main intermediates detected by HRMS, the plausible mechanisms are proposed.



Han Zhu, Quanqing Xu, Junfeng Kou\* & Fengyi Liu\*

- 361 **Electron transfer study on newly synthesized Ti(IV)/Zr(IV) complexes of amide and oxime functionality: A pulse radiolytic and theoretical revelation**

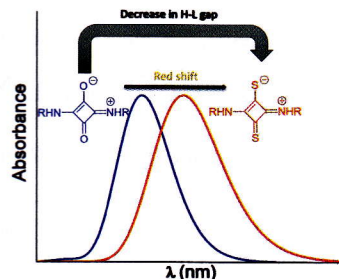
Reduction reactions of Titanium and Zirconium complexes have been carried out with hydrated electron pulse radiolytically and the mechanism has been explored by theoretical calculations.



Raji Thomas\*, Densely Dose, Nelson Joseph P, R T Pardasani & T Mukherjee

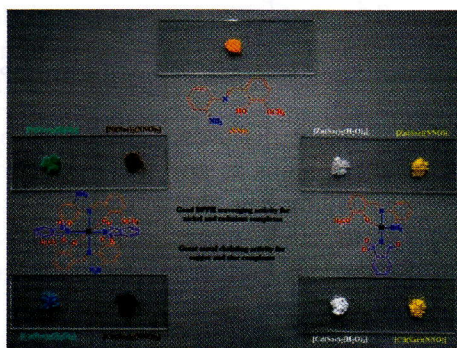


- 370 A DFT study on electronic excitations, charge transfer and NLO properties of visible absorbing squaraine and thiosquaraine dyes** DFT calculations have been performed to see the effect of sulfur substitution in place of oxygen at central four membered acceptor squarate ring on electronic excitations, charge transfer and second order non-linear optical properties in visible absorbing squaraines.



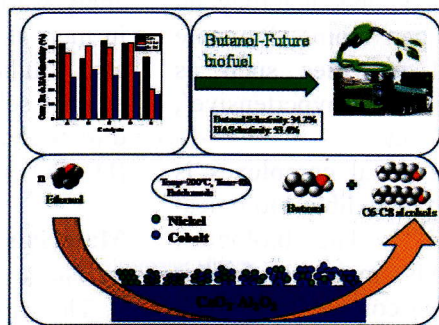
Prabhakar Chetti\*, Anuj Tripathi, Ritu Mittal & Atul Chaskar

- 378 New mixed ligand saccharin complexes with o-phenylenediamine Schiff base and antioxidant investigations** Four new mixed-ligand saccharin complexes with 2-[(2-Aminophenyl)imino]methyl]-6-methoxy phenol Schiff base and metal saccharinates (Ni, Cu, Zn and Cd) are prepared and characterized. Ni-complex has shown the best DPPH scavenging activity, while Cu-complex has the highest ferrous ion chelating ability.



Ayşegül Şenocak

- 386 Ethanol condensation to butanol and higher alcohols over nickel and cobalt decorated CeO<sub>2</sub>-Al<sub>2</sub>O<sub>3</sub> mixed oxide catalysts** Bimetallic Ni-Co catalysts, prepared by step wise substitution of Ni by Co, in mono metallic Ni (8%)/ CeO<sub>2</sub>-Al<sub>2</sub>O<sub>3</sub>, with the compositions of 6%Ni-2% Co, 4%Ni-4%Co, 2.5%Ni-5.5%Co and 8%Co, have been evaluated for conversion of ethanol to butanol and higher alcohols according to Guerbet alcohol chemistry.



R Vinayagamoorthis, K R Krishnamurthy, B Viswanathan & K Shanthi\*

Authors for correspondence are indicated by (\*)