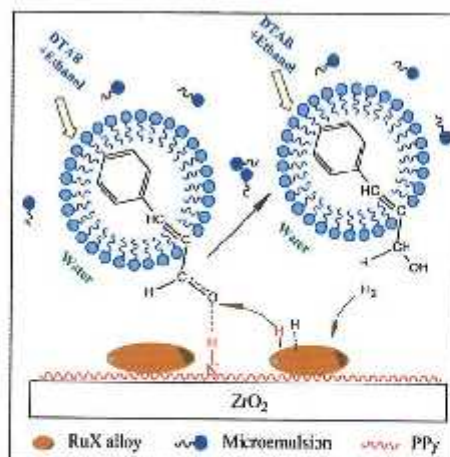


- 309 Promotional effects of PPy-modified ZrO_2 composite as support and microemulsion medium for selective hydrogenation of cinnamaldehyde over supported Ru catalyst

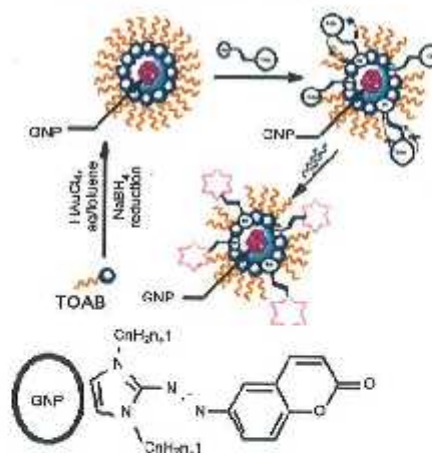
Adsorption ability of PPy/ ZrO_2 in microemulsion promotes selective hydrogenation of cinnamaldehyde and shows high conversion and good selectivity for cinnamyl alcohol. Also, the conversion and selectivity for cinnamyl alcohol in microemulsion medium are higher than in ethanol medium.



Lei Zong, Zhengbin Tian, Yan Li* & Fusui Li*

- 316 Surface embedded enhancement of fluorescence of coumarinyl-azo-imidazolium stabilized gold nanoparticles

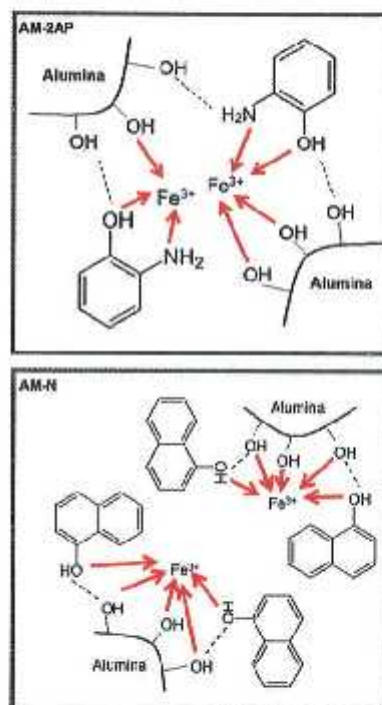
Surface implantation of 1,3-dialkyl-2-(coumarinyl-6-azo)-imidazolium bromide (CAI-(C_nH_{2n+1}) $_2$ Br) stabilizes gold nanoparticles and reduces the size from 20.5 nm to 2-10 nm. The quantum yields of CAI-(C_nH_{2n+1}) $_2$ Br are increased by 10-25 times, which may be due to the reduction of PET (Coumarin* \rightarrow Imidazolium) and vibrational relaxation of imidazolium coated GNP surface.



Chiranjit Patra, Himanish Roy, Chandana Sen, Ambikesh Mahapatra & Chittaranjan Sinha*

324 Solid phase extraction of Fe(III) utilizing alumina modified with phenolic compounds produced via microwave approach

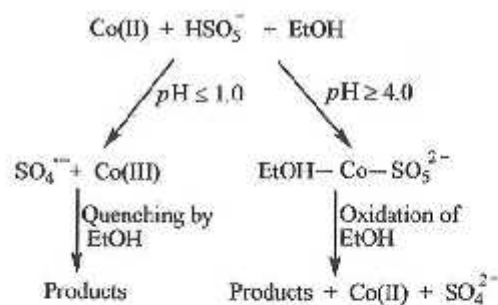
Increase in adsorptive efficiency of alumina surface toward Fe(II) has been achieved by modification of its surface with 2-aminophenol and 1-naphthol by microwave technique. The two new alumina adsorbents show a higher percentage extraction ($\geq 98.2\%$) and uptake capacity (>1.0 mmol/g) of Fe(III) from aqueous media in comparison with native alumina.



Salwa A Ahmed

333 Co(II) catalyzed oxidation of organic compounds by peroxomonosulphate

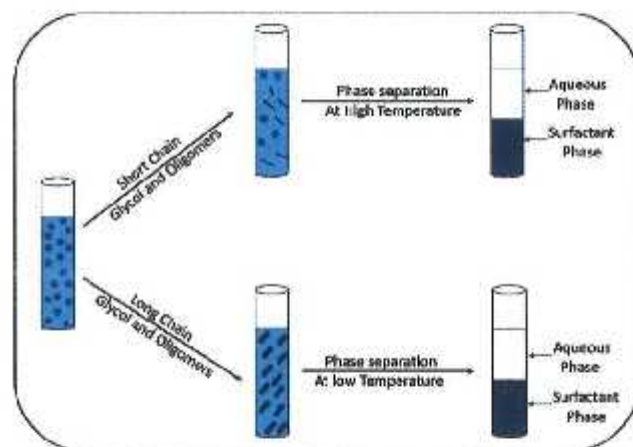
The Co(II) ion catalyzed decomposition of peroxomonosulphate and the influence of organic substrates such as ethanol, *t*-butanol, α -hydroxy acids (AHA) and glycine is studied at $\text{pH} \leq 1.0$ and 4.0–5.2. In strong acid medium, the reaction is inhibited by the organic compounds, suggesting a redox process through the formation of sulphate radical intermediate. However in buffered medium (pH 4.05–5.20), the substrates other than *t*-butanol, catalyze the reaction and get oxidized quantitatively. The catalytic effect of Co(II) is observed with concentrations of ppm or lower level.



C Lavanya, P Andal & M S Ramachandran*

345 **Clouding and hydrodynamic behaviour of Triton X-100 in aqueous media in the presence of linear and cyclic glycols, their oligomers and ethers**

The effects of various linear glycol ethers and cyclic ethers on cloud point and hydrodynamic diameter of aqueous micellar solution of Triton X-100 has been studied spectrophotometrically. For short chain glycols (TG, DEG, PG, DPG) and their oligomers, and, monoalkyl ethers, increase in the cloud point with corresponding decrease in micelle size is observed, while the opposite trend is observed for the higher homologues. The thermodynamic parameters for the mixture are also calculated as a function of glycol concentrations.

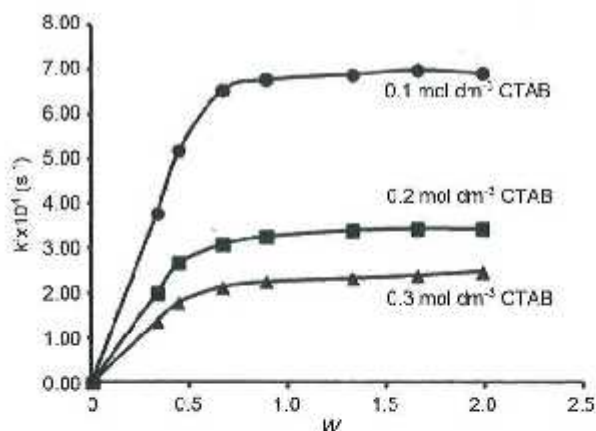


Urja Patel, P Parekh* & P Bahadur

Notes

351 **Catalytic effect of CTAB reverse micelles on the oxidation of indigo carmine by periodate**

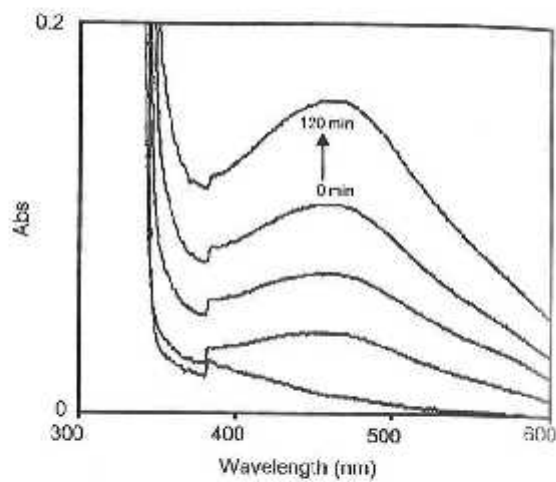
The kinetics of oxidation of indigo carmine by periodate has been investigated in the presence of CTAB reverse micellar medium. The reaction obeys first order kinetics with respect to each of the reactants and is markedly catalysed in the presence of CTAB reverse micelles as compared to in aqueous medium under identical conditions. The specific rate constant, $k_3 = k_7 [\text{IO}_4^-][\text{H}_2\text{O}]$ is found to be constant for all values of $W > 4.4$, implying that water is one of the reactants and is involved in the rate determining step.



K V Nagalakshmi, P Shyamala* & P V Subba Rao

356 Oxidation of diphenylamine on illuminated Fe_2O_3 surface

On illuminated Fe_2O_3 surface, diphenylamine in ethanol is oxidized to N-phenyl-p-benzoquinonimine. The reaction follows Langmuir-Hinshelwood kinetics.



C Karunakaran* & S Karuthapandian†

Authors for correspondence are indicated by (*)