

**Indian Journal of Chemistry**  
**Sect. A: Inorganic, Bio-inorganic, Physical, Theoretical & Analytical**

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 CODEN: ICACEC; ISSN: 0376-4710 (Print), 0975-0975 (Online)

VOLUME 56A

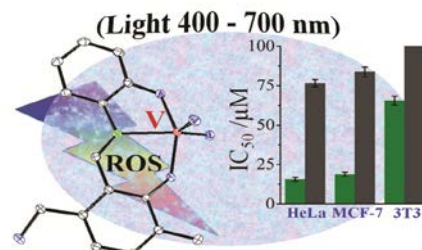
NUMBER 8

AUGUST 2017

**CONTENTS**

**805 Vitamin-B6 Schiff base dioxovanadium(V) complex for targeted visible light-induced anticancer activity**

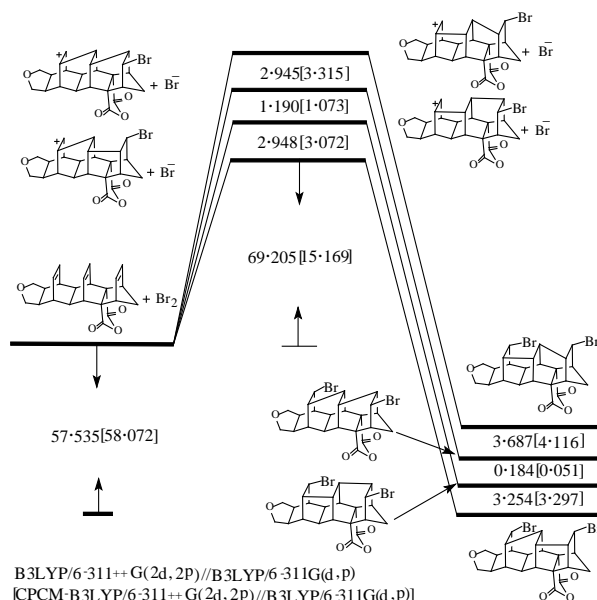
The structurally characterized dioxovanadium(V) vitamin-B6 Schiff base complex with a *cis*-oriented  $\text{VO}_2^+$  moiety,  $[\text{VO}_2\text{L}]$  (**1**), where  $\text{H}_2\text{L}\cdot\text{HCl}$  is 3-hydroxy-5-(hydroxymethyl)-4-((2-hydroxyphenyl)imino)-methyl)-2-methylpyridin-1-ium chloride, shows cancer cell targeting and significant photo-cytotoxicity in visible light by ROS-mediated apoptosis with low dark toxicity. The photocytotoxicity is significantly more in the HeLa and MCF-7 cancer cells in comparison with 3T3 normal cells.



Arun Kumar, Samya Banerjee, Sanjoy Mukherjee & Akhil R Chakravarty\*

**814 DFT study of the mechanism and stereochemistry of electrophilic transannular addition reaction of bromine to 6-oxa-heptacyclo[9.6.2.2<sup>3,9</sup>.1<sup>13,16</sup>.0<sup>2,10</sup>.0<sup>4,8</sup>.0<sup>12,17</sup>]docosan-14,18,20-triene-12,17-dicarboxylic anhydride**

The nucleophilic attack of bromide anion ( $\text{Br}^-$ ) on the cation centre of U-N-type ion occurs on the endo face. As a result the exo,endo-dibromide isomer of U-N-type product, which is 6.913 kcal  $\text{mol}^{-1}$  more stable than the exo,exo-isomer, is obtained.

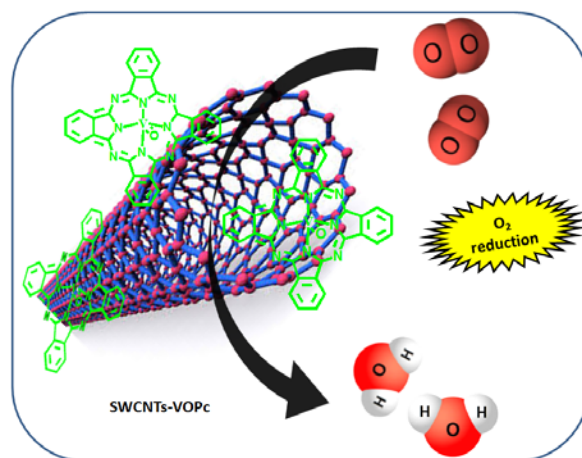


Rza Abbasoglu\* & Abdurrahman Atalay

## Notes

**821 Single walled carbon nanotubes decorated vanadyl phthalocyanine composite for electrochemical oxygen reduction in fuel cells**

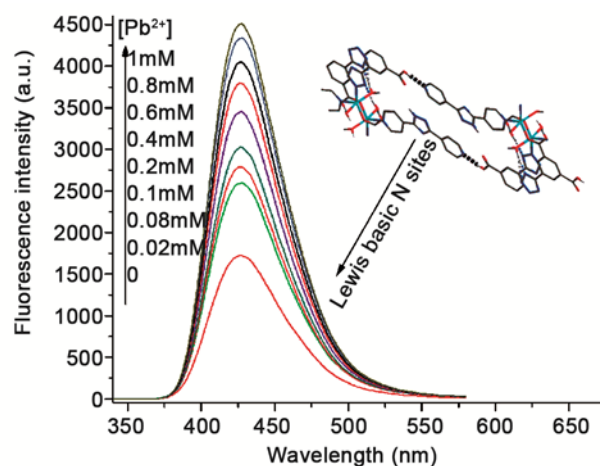
GC/SWCNTs-VOPc electrode exhibits a pair of peaks at  $-265$  and  $-97$  mV (at  $20 \text{ mV s}^{-1}$  in  $0.1 \text{ M H}_2\text{SO}_4$ ) due to the characteristic redox process,  $\text{V}^{\text{IV/III}}$ , of VOPc. It efficiently reduces oxygen in  $0.1 \text{ M H}_2\text{SO}_4$  with a low onset potential of  $0.16 \text{ V}$ . It also exhibits significant storage stability, retaining 91% of its original catalytic reduction current after 10 days storage at room temperature in air under dry conditions.



Piyush Kumar Sonkar, Vellaichamy Ganesan\*,  
Ravi Kant Singh, Dharmendra Kumar Yadav,  
Rupali Gupta & Mamta Yadav

**826 A supramolecular microporous network of zinc(II) coordination polymer for highly selective fluorescent detection of  $\text{Pb}^{2+}$**

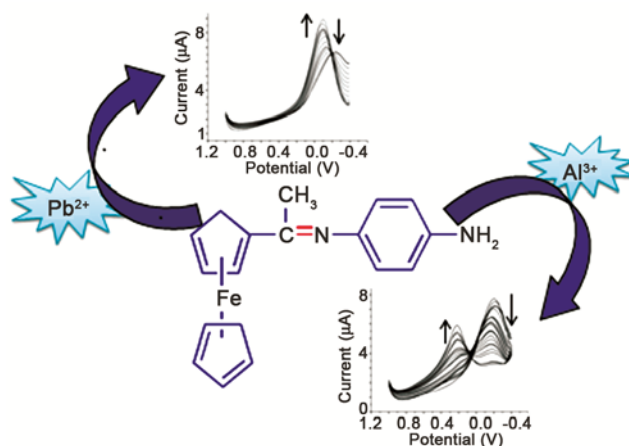
A hydrogen bonded microporous network with Lewis basic N sites has been hydrothermally prepared by dual ligand synthetic strategy. With fast detection time, excellent selectivity and high sensitivity, this microporous network is capable of detecting trace  $\text{Pb}^{2+}$  ions ( $10^{-3}$ – $10^{-5} \text{ mol L}^{-1}$ ) in biological and environmental materials.



Ling-Yun Xin, Yun-Ping Li, Feng-Yang Ju,  
Xiao-Ling Li & Guang-Zhen Liu\*

832 Schiff base modified Pt electrode as sensor for detecting Al(III) and Pb(II)

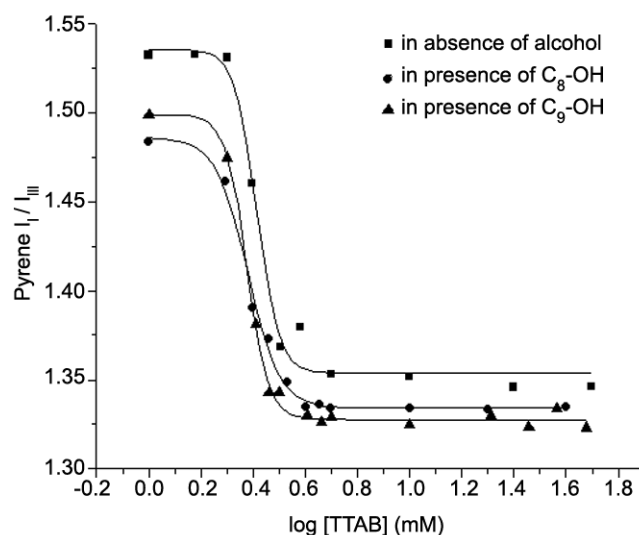
The square wave voltammogram of the Pt electrode with its surface modified with the condensation product of *p*-phenylenediamine and acetylferrocene (PPDA-AcFc) in aqueous medium gradually shifts by 0.440 V in the positive direction and by 0.090 V in negative direction on interaction with Al<sup>3+</sup> and Pb<sup>2+</sup> respectively. EIS study shows that its charge transfer resistance increases in the case of Al<sup>3+</sup>, while it decreases in the case of Pb<sup>2+</sup>. The linear range of detection is 0-12 μM and 0-6 μM for Al<sup>3+</sup> and Pb<sup>2+</sup> respectively.



Kangkana Deka & Diganta Kumar Das\*

838 Self-assembly of tetradecyltrimethylammonium bromide in long chain alcohols

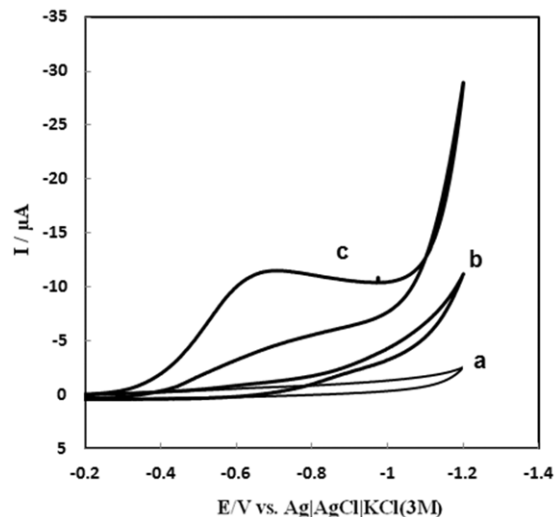
The effect of organic additives, C<sub>8</sub>-OH and C<sub>9</sub>-OH, on the micellar behavior of the cationic surfactant, tetradecyltrimethylammonium bromide is reported.



Neelima Dubey

**843 Synthesis of silver nanocatalyst in presence of poly(ethylene glycol) and its application for electrocatalytic reduction of hydrogen peroxide**

Synthesis of Ag NPs in presence of poly(ethylene glycol) as reducing agent and stabilizer in aqueous medium is reported. The catalytic activity of the nanocrystalline AgNPs, for reduction of  $H_2O_2$  is studied at the surface of glassy carbon electrode modified with Ag NPs and poly(methyl methacrylate) prepared by casting of the AgNPs-PMMA solution on GCE. The sensor responds to  $H_2O_2$  with high selectivity, good reproducibility and stability, over a linear range of 22–1700  $\mu M$  with a detection limit of 4.8  $\mu M$ .



Samira Ghasemi, Jahan Bakhsh Raoof\*,  
Fereshteh Chekin & Reza Ojani

Authors for correspondence are indicated by (\*)

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