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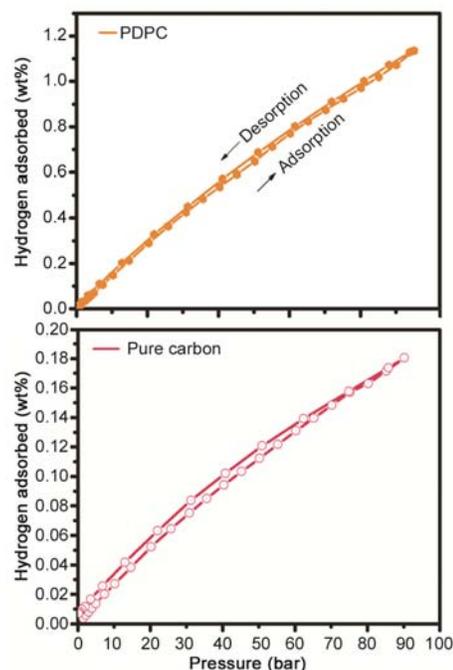
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CONTENTS

649 Phosphorous-doped porous carbon derived from paste of newly growing *Ficus benghalensis* as hydrogen storage material

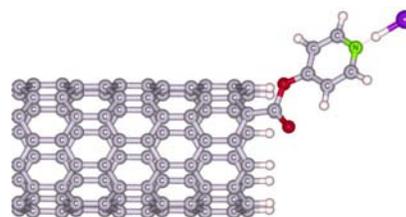
Synthesis of heteroatom (P) doped porous carbon (PDPC) derived from the paste of newly growing Indian banyan tree (*Ficus benghalensis*), involving activation, carbonization and phosphorous-doping processes using H_3PO_4 as activating agent and as phosphorous source, is reported. PDPC shows a wafer-like morphology with specific surface area of $1406\text{ m}^2/\text{g}$ and hydrogen storage capacity of $\sim 1.2\text{ wt}\%$ at 298 K and 100 bar.



Arjunan Ariharan, Balasubramanian Viswanathan* & Vaiyapuri Nandhakumar

657 Computational studies on chemically engineered carbon nanotubes as HCl sensor

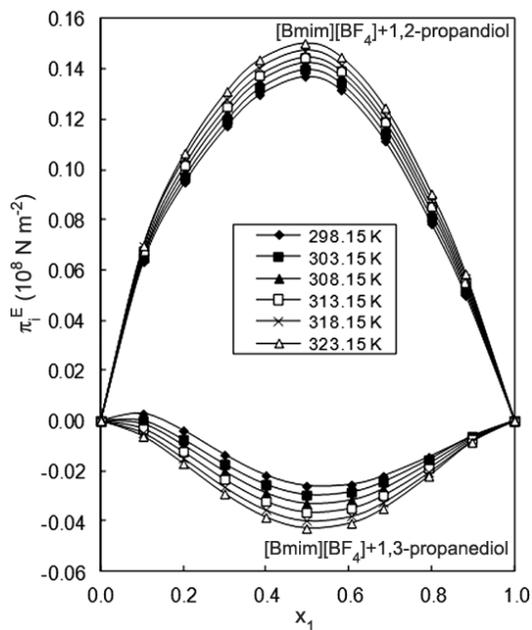
The effect of functionalization on sensing properties of SWNT on work function and HOMO-LUMO gap changes is studied by DFT calculations. Protonation of the basic group induces electron transfer from the semiconducting SWNTs, thereby altering the HOMO and LUMO levels and significantly changing the electronic properties and work function.



Taghi Haghtalab & Hamed Soleymanabadi*

664 Temperature dependent study of thermophysical and optical properties of binary mixtures of imidazolium based ionic liquids

The excess thermodynamic parameters and deviations in refractive index of [Bmim][PF₄]+ α,ω -propanediol binary mixtures indicate significant interactions in these mixtures, which follows the order: 1,2-propanediol > 1,3-propanediol. The results indicate the applicability of various mixing rules of refractive index in theoretically estimating refractive indices of these mixtures.

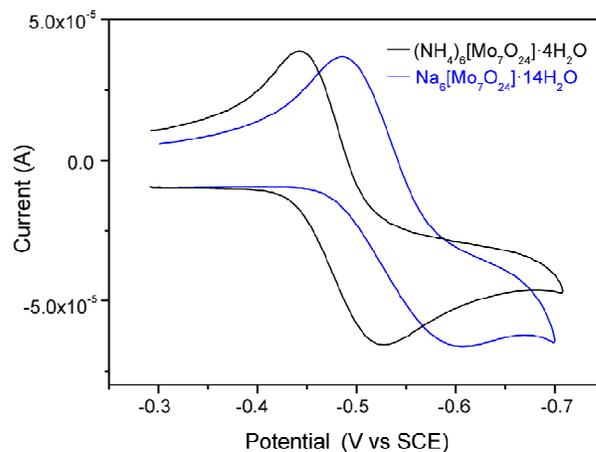


T S Krishna, M G Sankar, A K Nain* & B Munibhadrayya

Notes

676 Sodium paramolybdate revisited

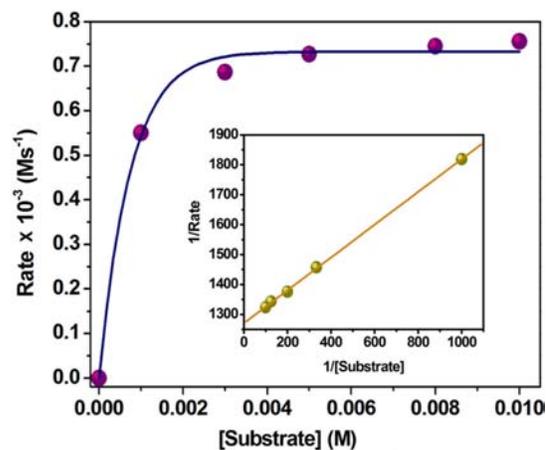
A rational synthesis of Na₆[Mo₇O₂₄].14H₂O and its spectral, thermal and electrochemical characterization is reported. Cyclic voltammetric and conductivity studies of an aqueous solution of Na₆[Mo₇O₂₄].14H₂O reveal the presence of hydrated Na⁺ ions and heptamolybdate anions in solution, unlike a sodium coordinated heptamolybdate in the solid state.



Bikshandarkoil R Srinivasan* & Sudesh M Morajkar

681 Phenoxazinone synthase activity of a mononuclear cobalt(III) complex

The trivalent cobalt complex, $[\text{Co}(\text{HL})_2](\text{OAc})\cdot\text{H}_2\text{O}$ (**1**) [$\text{H}_2\text{L} = N$ -(2-hydroxyethyl)-3-methoxysalicylaldehyde], is as an effective model for phenoxazinone synthase to oxidize *o*-aminophenol to 2-aminophenoxazine-3-one in methanol in presence of aerial oxygen. The reaction follows Michaelis-Menten enzymatic reaction kinetics with high turnover number ($K_{\text{cat}} = 2.83 \times 10^4 \text{ h}^{-1}$).



Merry Mitra & Rajarshi Ghosh*

686 One-step synthesis of ZnO nanowires on zinc foils and their photocatalytic properties

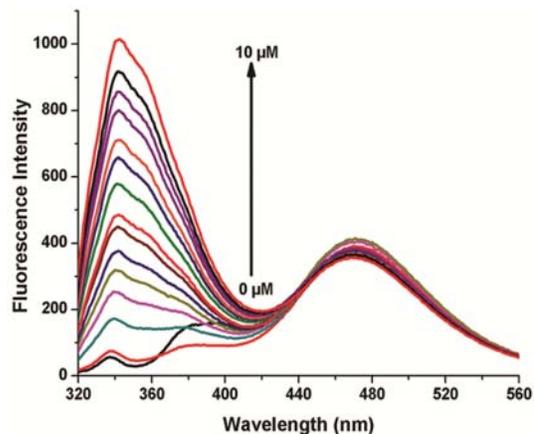
ZnO nanostructures with different morphologies have been grown on zinc foil substrate by a novel and facile hydrothermal method, without the assistance of any catalyst or template. The resulting ZnO nanorods have diameter of ~ 70 -90 nm and average length in the range of 0.5-2.0 μm . The as-grown ZnO samples have very good crystallinity. A comparison of the photocatalytic degradation of methyl orange with different ZnO shows that the photocatalytic properties of the ZnO nanostructures depend on the morphology of ZnO. The growth process of the ZnO nanorods is proposed based on the solid-liquid-solid mechanism.



Mohamad Mohsen Momeni*

692 Naphthalimide based hybrid nanoparticles for selective recognition of Hg(II)

Anu Saini & Navneet Kaur*



698 Corrigendum

Authors for correspondence are indicated by (*)

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