Substrate integrated Lead-Carbon hybrid ultracapacitor with flooded, absorbent glass mat and silica-gel electrolyte configurations

A Banerjee, M K Ravikumar, A Jalajakshi, P Suresh Kumar, S A Gaffoor and A K Shukla ...................................... xxx–xxx

Substrate-integrated Lead-Carbon hybrid ultracapacitor are fabricated with varying electrolyte configurations, namely flooded, absorbent-glass-mat (AGM) and silica gel, and performance tested. A cause and effect analysis of the various physical and electrical parameters pertaining to the aforesaid Lead-Carbon hybrid ultracapacitors is presented.

Does polar interaction influence medium viscosity? A computer simulation investigation using model liquids

Snehasis Daschakraborty and Ranjit Biswas......................... xxx–xxx

Simulated results for Lennard-Jones and Stockmayer fluids at 300 K using parameters for argon at ~1. 14 g/cm³ are brown. Lines going through the simulated data are for visual guide. Note that the maximum increase in viscosity with dipole moment is nearly 60%.

Allyl functionalized phosphinite and phosphonite ligands: Synthesis, transition metal chemistry and orthopalladation reactions

Singappagudem Govindaraju, Guddekoppa S Ananthnag, Susmita Naik, Shaikh M Mobin and Maravanji S Balakrishna ....................... xxx–xxx

Coordination chemistry of allyl functionalized phosphinite and phosphonite ligands PPh(OAr) [Ar = C6H4(oC3H5)] (1) and phosphonite PPh(OAr)2 (2) is described. Reactions of 1 and 2 with ruthenium and gold yield simple mononuclear complexes, whereas the reaction of 1 with palladium(II) reagents produce both cis- and trans-orthometallated complexes.

Synthesis and structural characterization of a calcium coordination polymer based on a μ3-bridging tetratentate binding mode of glycine

Subramanian Natarajan, Bikshandarkoil R Srinivasan, J Kalyana Sundar, K Ravikumar, R V Krishnakumar and J Suresh ....................... xxx–xxx

The synthesis and structural characterization of a new coordination polymer namely [(Ca(hgly)₂(H₂O)]₈[Cl₃·₆H₂O] = (1) (H-gly = glycine) isolated from the calcium chloride-glycine-water system is reported.
Contents

One-pot multi-component synthesis of 1,4-dihydropyridine derivatives in biocompatible deep eutectic solvents
Suhas Pednekar, Rahul Bhalerao and Nitin Ghadge ............. 615 621
An environmentally benign one-pot synthesis of 1,4-dihydropyridine derivatives using recyclable biocompatible deep eutectic solvent (DES) is reported.

Mechanistic studies of copper(II)-mediated oxidation of vic-dioxime to furoxan
Oindrila Das and Tapan Kanti Paine ........................................................... 1269 1273
Copper(II) salts in acetonitrile oxidize vic-dioximes to furoxans gave high yields under ambient conditions. A dioximate-copper(II)-dinitrosoalkene intermediate is implicated in the reaction pathway.

Photocytotoxic lanthanide complexes
Akhtar Hussain and Akhil R Chakravarty .......................1327 1342
The emerging chemistry of lanthanide complexes showing photo-induced DNA cleavage activity and photocytotoxicity in cancer cells is reviewed. Lanthanide complexes of pyridyl bases show significant photocytotoxicity in HeLa cells in UV-A light of 365 nm. The cell death is apoptotic in nature as revealed from the fluorescence microscopic studies.