

ПИ  
I-76/a

Volume 19 | Number 2 | February 2013

# Ionics

International Journal  
of Ionics The Science  
and Technology of Ionic  
Motion

REVIEW

**Synthesis, crystal structure, and spectroscopic study of**

$K_{0.92(2)}Zn_{0.08(2)}H_{1.92(2)}(PO_4)$  (Zn-KDP)  
H. Ettoumi · F.B. Brahim · M. Toumi · T. Mhiri 193

ORIGINAL PAPERS

**Electrical behavior of an octahedral layered OL-1-type manganese oxide material**

N.P. Arias · M.T. Dávila · O. Giraldo 201

**Preparation of  $Co_3O_4$  nanoplate/graphene sheet composites and their synergistic electrochemical performance**

L. Wang · D. Wang · J. Zhu · X. Liang 215

**Electrochemical performance of modified artificial graphite as anode material for lithium ion batteries**

C. Wang · H. Zhao · J. Wang · J. Wang · P. Lv 221

**Enhanced electrochemical performance of  $LiFePO_4/C$  prepared by sol-gel synthesis with dry ball-milling**

Y. Lin · J. Wu · W. Chen 227

**A carbothermal reduction method for enhancing the electrochemical performance of  $LiFePO_4/C$  composite cathode materials**

S. Weng · Z. Yang · Q. Wang · J. Zhang · W. Zhang 235

**Modified carbothermal synthesis and electrochemical performance of  $LiFePO_4/C$  composite as cathode materials for lithium-ion batteries**

Q. Wang · D. Wang · B. Wang 245

**Hierarchical nanostructure  $CuO$  with peach kernel-like morphology as anode material for lithium-ion batteries**

C. Hu · J. Guo · J. Wen 253

**Synthesis of sea urchin-like  $LiMn_2O_4$  hollow microspheres via in situ conversion for rechargeable lithium-ion batteries**

L. Ni · X. Cheng · X. Wang · Y. Tao · Y. Shen · T. Zhang · H. Sun · A. Xie 259

**Evaluation of solid electrolyte cells with a versatile electrochemical technique**

R.E. Clarke · A. Kulkarni · S. Giddey · S.P.S. Badwal 265

**$LiClO_4$ -doped plasticized chitosan and poly(ethylene glycol) blend as biodegradable polymer electrolyte for supercapacitors**

Y.N. Sudhakar · M. Selvakumar · D.K. Bhat 277

**A study of hydrated nanostructured tungsten trioxide as an electroactive material for pseudocapacitors**

H. Farsi · F. Gopal · Z. Barzqari 287

**Three-dimensional macroporous Sn-Ag thin film anode prepared by electro-less reduction method: effect of micro-structure**

J. Yao · P. Zhang · C. Shen · K.-F. Aguey-Zinsou · L. Wang 295

**Conductivity relaxation in  $Ag^+$  ion conducting PEO-PMMA-PEG polymer blends**

P. Sharma · D.K. Kanchan · N. Gondaliya · M. Pant · M.S. Jayswal 301

**Electrochemical behavior and DNA-binding properties of binuclear copper(II) complex containing mixed ligands of *N*-hydroxyethylaminoethyl oxamido and 2,2'-bipyridine**

G. Xu · L. Tang · H. Liu 309

**Transport numbers in the molten system  $NaF-KF-AlF_3-Al_2O_3$**

J. Híveš · P. Fellner · J. Thonstad 315

**Determination of density and conductivity of the binary mixtures of the ionic liquid 1,2-dimethyl-3-hexylimidazolium bis(trifluoromethylsulfonyl)imide and dimethyl carbonate via mole fraction and temperature**

L. Changshi 321

**Study of the ion exchange equilibrium of  $Cl^-$ ,  $NO_3^-$ , and  $SO_4^{2-}$  ions on the AMX membrane**

C. Hannachi · F. Guesmi · B. Hamrouni 329

**Electrochemical responses of carbon nanotubes-based films printed on polymer substances**

N.G. Tsierkezos · N. Wetzold · U. Ritter 335

**PVA-assisted synthesis and characterization of nano-crystalline  $La^{3+}$  and  $Mg^{2+}$  co-doped  $CeO_2$  electrolyte for intermediate-temperature solid oxide fuel cells**

C. Wang · L. Luo · Y. Wu · Y. Dong · Y. Chen · J. Shi · L. Cheng · B. Lin 343

**Effect of nitrogen and carbon dioxide as fuel impurities on PEM fuel cell performances**

N. Nachiappan · G.P. Kalaignan · G. Sasikumar 351

**Template-free hydrothermal synthesis of  $ZnO$  microrods for gas sensor application**

X. Wang · C. Yu · J. Wu · Y. Zhang 355

**DC conductivity and dielectric properties of maize starch/methylcellulose blend films**

M.F.H. Abd El-Kader · H.S. Ragab 361

SHORT COMMUNICATIONS

**Electrochemical performance of surfactant-processed  $LiFePO_4$  as a cathode material for lithium-ion rechargeable batteries**

J. Lee · P. Kumar · G. Lee · B.M. Moudgil · R.K. Singh 371

**Capacity fading reason of  $LiNi_{0.5}Mn_{1.5}O_4$  with commercial electrolyte**

X. Wu · X. Li · Z. Wang · H. Guo · P. Yue 379

Further Articles can be found at [www.springerlink.com](http://www.springerlink.com)

**Abstracted/Indexed in:**

Science Citation Index Expanded (SciSearch), Journal Citation Reports/Science Edition, SCOPUS, Chemical Abstracts Service (CAS), Google Scholar, Academic OneFile, Chemistry Citation Index, ChemWeb, El Encompass, El-Compendex, EnCompassLit, Gale, Materials Science Citation Index, OCLC, SCImago, Summon by Serial Solutions

Instructions for Authors for *Ionics* are available at [www.springer.com/11581](http://www.springer.com/11581)