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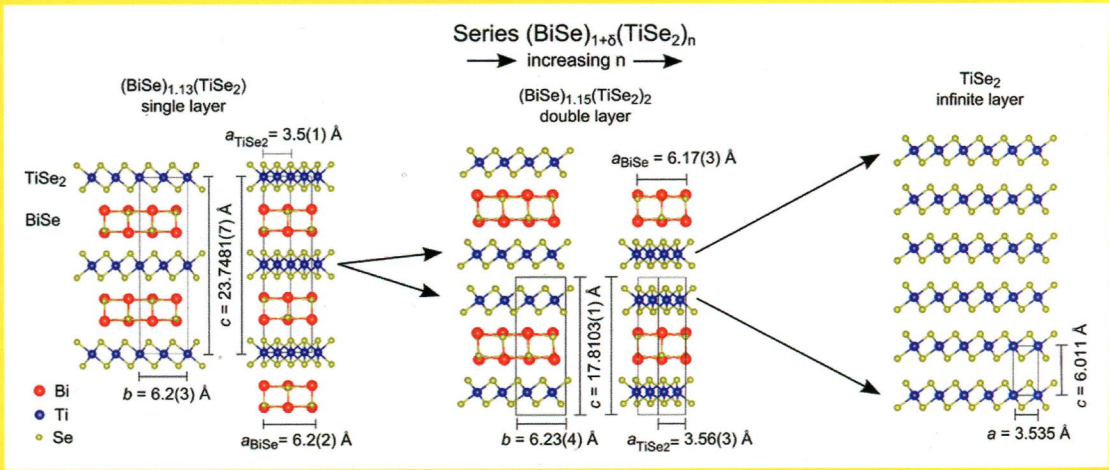
IN THIS ISSUE:

The new misfit compound $(BiSe)_{1.15}(TiSe_2)_2$ and the role of dimensionality in the $Cu_x(BiSe)_{1+\delta}(TiSe_2)_n$ series



Benjamin A. Trump, Kenneth J.T. Livi, and Tyrel M. McQueen

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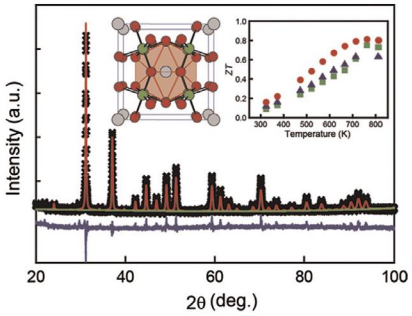
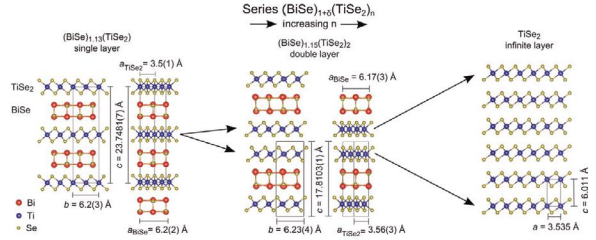
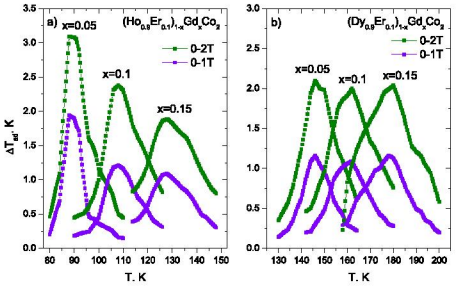
Regular Articles



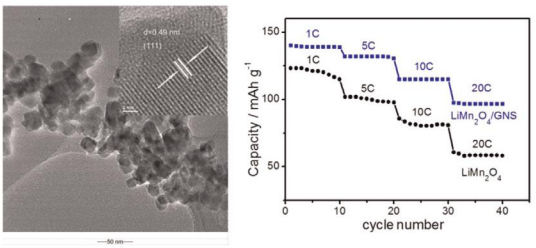


The newly discovered misfit compound $(BiSe)_{1.15}(TiSe_2)_2$ shown in the series $(BiSe)_{1+\delta}(TiSe_2)_n$.

Regular Articles—Continued

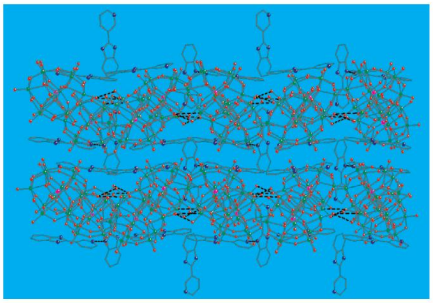


Temperature dependencies of ΔT_{ad} induced by $\mu_0 H$=1 and 2 T in (a) $(Ho_{0.9}Er_{0.1})_{1-x}Gd_xCo_2$ and (b) $(Dy_{0.9}Er_{0.1})_{1-x}Gd_xCo_2$ solid solutions.

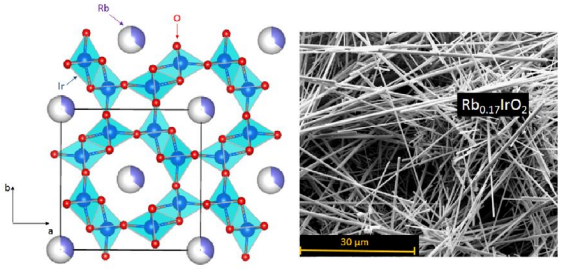


Nanocrystalline $LiMn_2O_4$/graphene nanosheets (GNS) nanocomposite exhibit superior cathode performance for lithium-ion batteries compared to the bare $LiMn_2O_4$ nanoparticles.

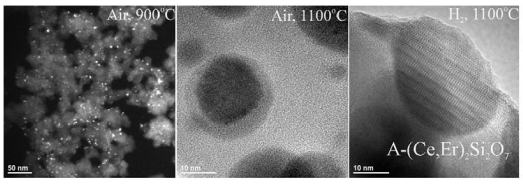
Continued



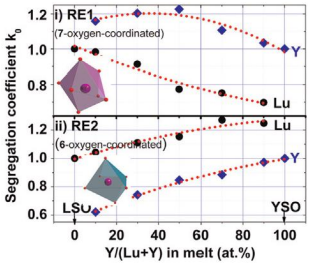
Two molecular hybrids constructed by Keggin-type heteropolyacids and 2-(3-pyridyl)benzimidazole molecules showed good proton conductivities of 10^{-3} S cm^{-1} at 100 °C under 35–98% relative humidity.



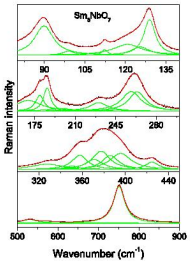
Crystal structure of $Rb_{0.17}IrO_2$ (right), and the SEM image of $Rb_{0.17}IrO_2$, showing the growth of thin needles (left).



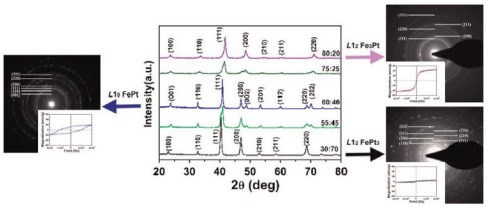
Structure evolution of $Ce_{0.5}Er_{0.5}O_{1.75}$ in air and in H_2.



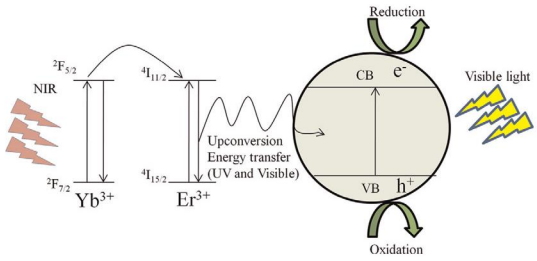
Segregation coefficients of $(Lu_{1-x}Y_x)_2SiO_5$:Ce with different x.



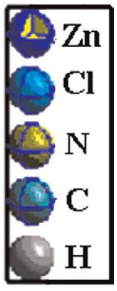
Raman spectrum for Sm_3NbO_7 ceramics showing their 27 phonon modes adjusted through Lorentzian lines. According to synchrotron X-ray diffraction and Raman scattering, this material belongs to the space group *Cmcm*.

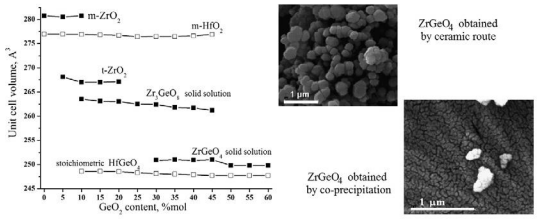


Fe_3Pt, FePt and $FePt_3$ nanoparticles was obtained by sol–gel method. The effect of iron and platinum content on structural and magnetic properties of the FePt nanoparticles was investigated.

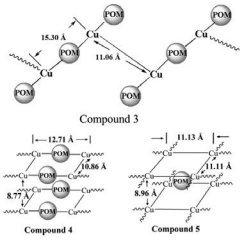


Schematic illustration of the upconversion photocatalysis.

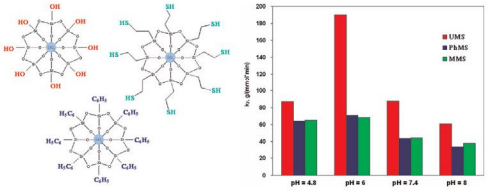




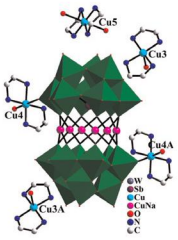
The phase composition and morphology of zirconium and hafnium germanates synthesized by ceramic and co-precipitation routes were studied. It was stated that there is the strong dependence of the phase composition and morphology of products on the preparation route.



Five new compounds based on $[SiMo_{12}O_{40}]^{4-}$ have been successfully generated. $[SiMo_{12}O_{40}]^{4-}$ anions play different roles in the structures of the five compounds.



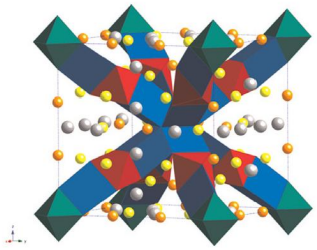
The kinetic study showed that the k_2 value, the rate constant of pseudo-second order kinetic model, is the highest for molsidomine adsorption on UMS and strongly depends on pH because it is determined by availability and accessibility of the reaction sites of the adsorbents molsidomine binding.



An organic–inorganic hybrid $\{Cu_2Na_4\}$ sandwiched tungstoantimonate $[Cu(en)_2(H_2O)]_4[Cu(en)_2(H_2O)_2][Cu_2Na_4(\alpha\text{-}SbW_9O_{33})_2]\cdot 6H_2O$ was synthesized and magnetic properties was investigated.

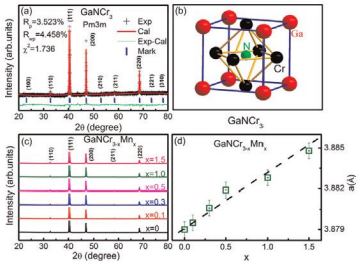
Continued

Structural chemistry and magnetic properties of $Nd_{18}Li_8Fe_4M'O_{39}$ (M'=Al, Ga) and $La_{18}Li_8Fe_{4.5}In_{0.5}O_{39}$
Nirawat Thammajak, Peter D. Battle, Catherine Brown, Katherine Higgon and Rhian Stansfield
page 120



At low temperatures $Nd_{18}Li_8Fe_4M'O_{39}$ (M'=Al, Ga) behave as spin glasses whereas small ferrimagnetic domains form in $La_{18}Li_8Fe_{4.5}In_{0.5}O_{39}$.

Synthesis and characterization of antiperovskite nitrides $GaNCr_{3-x}Mn_x$
Shuai Lin, Peng Tong, Bosen Wang, Yanan Huang, Dingfu Shao, Wenjian Lu and Yu Ping Sun
page 127



The Rietveld refinement and structural properties of $GaNCr_{3-x}Mn_x$.

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