

Synthesis, characterization and performance of Mn_3O_4 for Lithium ion battery application

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One-pot synthesis of manganese (II,III) oxide (Mn_3O_4) nanocrystals was achieved by a facile solvothermal method using manganese(II) acetate tetrahydrate in the solvent N,N-dimethylformamide. The morphological properties of the product were characterized by X-ray powder diffraction (XRD), transmission electron microscopy (TEM) and selected-area electron diffraction (SAED), Fourier transform infrared (FTIR) spectra, N_2 adsorption-desorption isotherm, and thermogravimetric analysis (TGA). On the other hand, galvanostatic charge-discharge (GCD) will be used to assess the electrochemical properties of Mn_3O_4 for use as electrode material for lithium ion battery. This work was supported by the National Research Foundation of Korea (NRF) grant funded by the Ministry of Science, ICT & Future Planning (No. 2012R1A2A1A01009683) and the Ministry of Education (No. 2009-0093816).