

Preparation of MnO/C Nanocomposite for
LiMn₂O₄ - MnO/C Li-Ion Battery

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Graphitic carbon has been used as commercial anodes for lithium ion batteries. However, it has to be replaced with advanced materials to offer higher energy and power densities of lithium ion batteries. Transition metal oxide nanostructures (MnxOy, FexOy etc.) have great potential for lithium ion battery anodes due to their high theoretical capacities, densities and low cost. Among them, manganese oxides are highly attractive as anodes in LIBs due to high theoretical conversion capacity and low voltage for lithium storage. Nevertheless, manganese oxides generally suffer from poor cycling performance and low electrical conductivity. In this study, manganese oxide/mesoporous carbon foams (CF) composite was prepared by simple impregnation of manganese precursor solution onto CF followed by thermal annealing in Ar flow. The electrochemical performances of MnO/CF were evaluated as anodes in both half and full cell configurations. Further characteristics of LiMn₂O₄-MnO/C cell will be presented.