Electrochemical performance of $LiFePO_4$/C prepared by milling technique

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The olivine-type cathode for lithium ion battery provides the thermally stable in fully charge/discharge state, environmental friendliness and inexpensiveness. LiFePO4 prepared by a milling technique has some problems in improving electrochemical performance because of its low electrical conductivity as well as the weakness of morphological manipulation. The LiFePO4/C with core-shell was synthesized to dissolve such limitations. The particle size of LiFePO4 was controlled as ~20 nm because the polymerized furfuryl alcohol suppressed the increase of the particles size of LiFePO4 by forming core-shell structure. On the other hand, the particle size of LiFePO4 increases from 100 nm to 1 μm. The electrochemical performance LiFePO4/C was much better than LiFePO4.