

High electrochemical performance of spinel  $\text{MnCO}_2\text{O}_4$  as an anode material for Li-ion batteries

THORAT GAURAV, Harsharaj Sayaji Jadhav, 서정길†  
명지대학교  
(jgseo@mju.ac.kr†)

Alternative active anode materials for graphite and its electrode designs for lithium ion batteries (LIBs) are under extensive investigation to meet increasing energy storage demands. Manganese cobaltate ( $\text{MnCO}_2\text{O}_4$ ) is considered as the most promising candidate as an anode material in LIBs due to its high reversible capacity and structural stability. Nanosized spinel  $\text{MnCO}_2\text{O}_4$  with micro- and mesoporous structure was synthesized by hydrothermal method followed by thermal treatment. The LIBs assembled with  $\text{MnCO}_2\text{O}_4$  anodes exhibit high specific capacity, excellent rate performance as well as long cycle life. These results indicate that  $\text{MnCO}_2\text{O}_4$  is superior material for Li storage and has the potential to be applied in energy storage applications. This Research supported by Basic Science Research Program through the National Research Foundation of Korea (NRF) funded by the Ministry of Education (No 2009-0093816).