

One-pot Using Supercritical Method Composite SnO<sub>2</sub>/graphene As a High Performance Anode Material For Lithium Battery

LI WENYING, 윤도현, 김재훈<sup>†</sup>

성균관대학교

(jaehoonkim@skku.edu<sup>†</sup>)

Using the supercritical methanol is a simple way to reduce graphene oxide and tin acetate by one pot. This method is without using the reducing agent and avoided the SnO<sub>2</sub> aggregation and the graphene restacking. The FESEM of SnO<sub>2</sub>/graphene indicates the SnO<sub>2</sub>/graphene of SnO<sub>2</sub> particles size ranging from 3nm to 16nm. It also can confirm in the XRD analysis. As a result, it showed a good performance through the battery test: the first cycle exhibited the high reversible capacity that was about 955.3 mA/g and delivered a reversible capacity of 776 mA/g after 70 cycles at a specific current density of 100mA/g. Even as a high current density of 1000mA/g, the reversible capacity remains as high as 520.09 mA/g, higher than the theoretical specific capacity graphite (372 mA/g).