Cite this: DOI: 10.1039/c0xx00000x

www.rsc.org/xxxxxx

**FULL PAPER** 

## Effects of Amorphous and Crystalline MoO<sub>3</sub> Coatings on the Li-Ion Insertion Behavior of TiO<sub>2</sub> Nanotube Anode for Lithium Ion Battery

Dongsheng Guan, Jianyang Li, Xianfeng Gao and Chris Yuan

s Received (in XXX, XXX) Xth XXXXXXXX 20XX, Accepted Xth XXXXXXXX 20XX DOI: 10.1039/b000000x



**Figure S2.** Top-view SEM images of (a)  $TiO_2$  nanotubes coated with amorphous  $MoO_3$  via 16 deposition cycles, (b) Fractured nanotubes of CMO-TN after strong sonication exposing  $\alpha$ -MoO<sub>3</sub> nanoparticles on their inner and outer walls.

5

10

15



Figure S3. Specific charge capacities of B-TN, 400MO, AMO-TN and CMO-TN over 10 cycles measured at a current of 800 µA cm<sup>-2</sup>.



Figure S4. Areal charge capacities of B-TN, 400MO, AMO-TN and CMO-TN in a current range from 200 to 1000 µA cm<sup>-2</sup>.



55

Figure S5. (a) Charge–discharge profiles at the 1<sup>st</sup> and 2<sup>nd</sup> cycle and their according differential capacity curves of 400MO measured at a current of 800  $\mu$ A cm<sup>-2</sup>.