

Electronic Supplementary Information

Spinel MgAl_2O_4 modification on LiCoO_2 cathode materials with the combined advantages of MgO and Al_2O_3 modifications for high-voltage lithium-ion batteries

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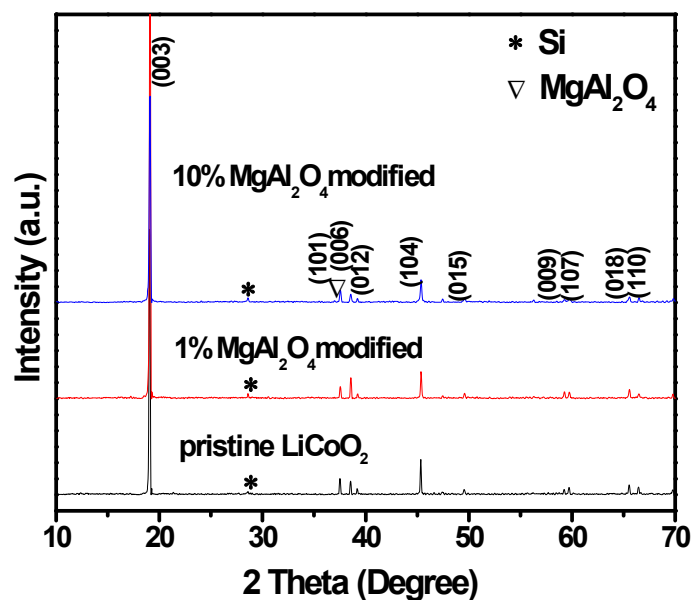


Fig. S1 XRD patterns of the pristine LiCoO_2 and 1%, 10% MgAl_2O_4 -modified LiCoO_2 samples

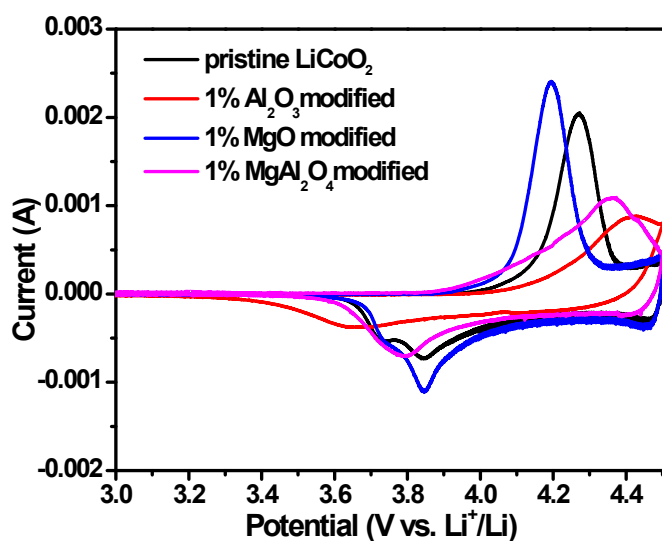


Fig. S2 Initial Cyclic voltammograms (CVs) of the pristine LiCoO_2 and Al_2O_3 , MgO , MgAl_2O_4 -modified LiCoO_2 at 0.1 mV s^{-1} scan rate. CV tests of $\text{Li}||\text{LiCoO}_2$ cells were performed over the potential range of 3.0~4.5 V at a scanning rate of 0.1 mV s^{-1} on a CHI 604D electrochemical workstation (Chenhua Instruments Co. Ltd).

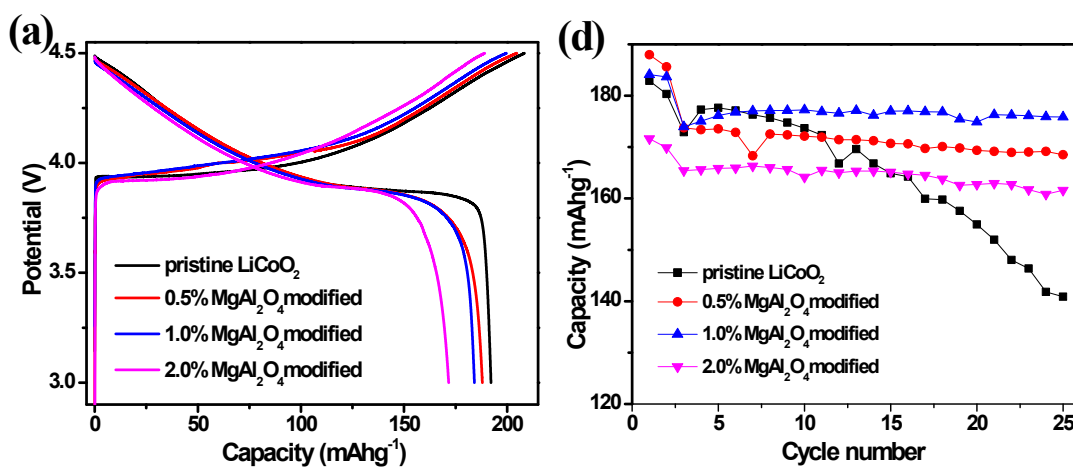


Fig. S3 Charge-discharge curves (a) and cycling performance (b) of the pristine LiCoO_2 and MgAl_2O_4 -modified LiCoO_2 samples with various compositions.