Electronic Supplementary Material (ESI) for RSC Advances


**Supplementary information**

# Electrospray deposition of $Co_3O_4$ nanoparticle and graphene composite for binder-free lithium ion battery electrodes

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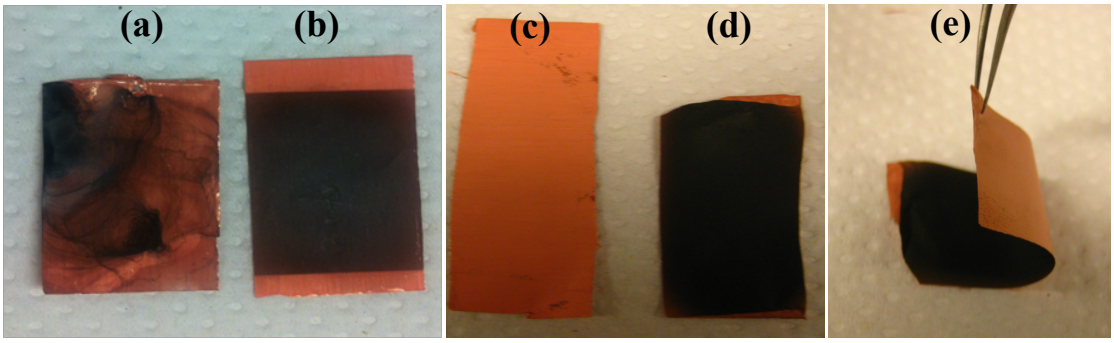


**Figure S1**. The optical image showing the uniform coating of the GO-$Co_3O_4$ film (b) on Cu foils by direct electrospray deposition as compared to dip coating process (a); the bare Cu foil(c) and flexible G-Co3O4 film (c and e)

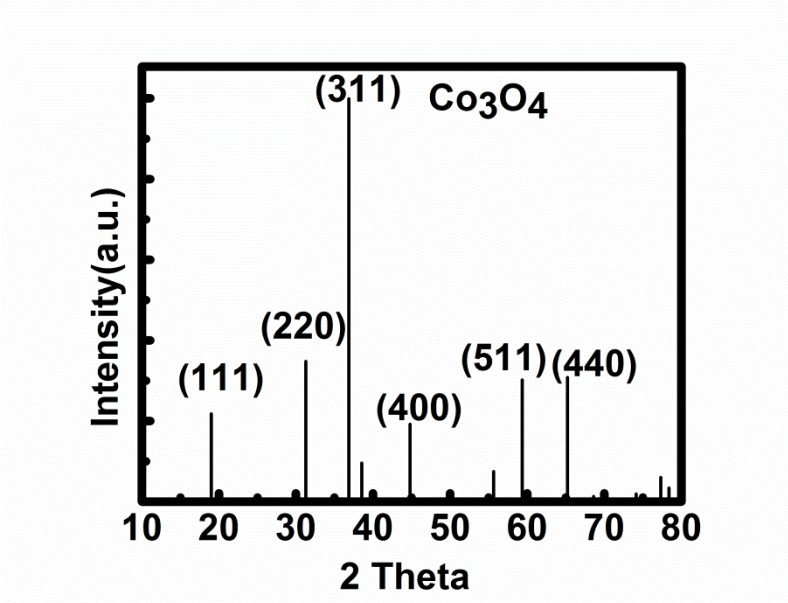


**Figure S2.** The standard XRD pattern of $Co_3O_4$ (JCPDS No. 42-1467)

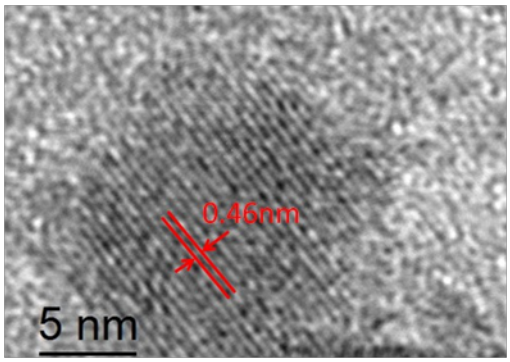


**Figure S3.** TEM lattice image of a $Co_3O_4$ nanoparticle with an interplanar spacing (0.46 nm), corresponding to (111) planes of the cubic phase of $Co_3O_4$.

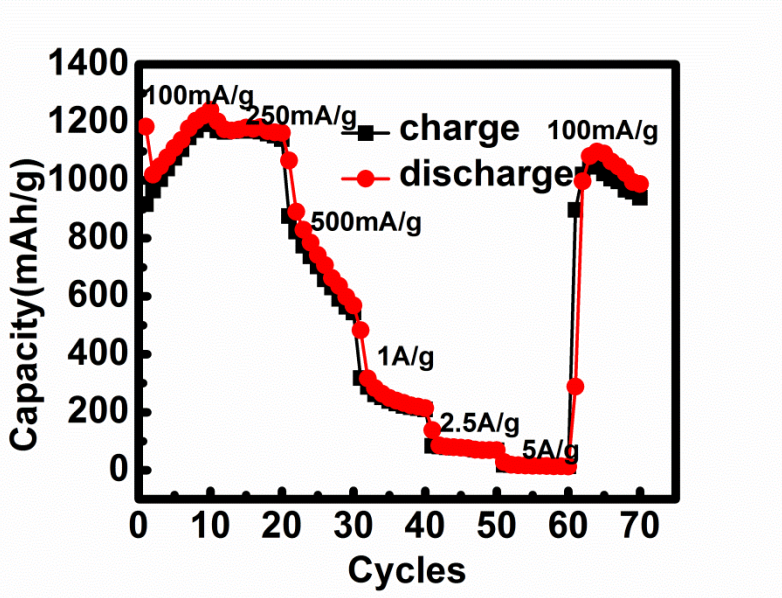


**Figure S4.** Cycling performance of $Co_3O_4$ with binder electrode (as a control experiment) at different scan rates from 100 $mAg^{-1}$ to 5 $Ag^{-1}$.