## Supporting information

## For

## Porous NiCo<sub>2</sub>O<sub>4</sub> nanotubes as noble metal-free effective bifunctional catalysts for rechargeable Li–O<sub>2</sub> batteries

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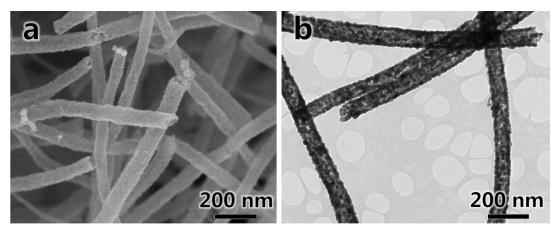


Fig. S1. FESEM (a) and TEM (b) images of porous  $NiCo_2O_4$  nanotubes

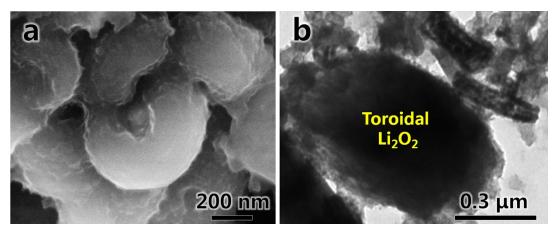


Fig. S2. FESEM (a) and TEM (b) images of the discharged NCO/CB electrodes

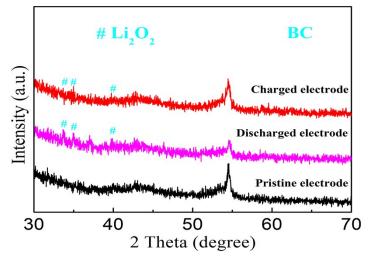


Fig. S3. XRD pattern of the CB electrode at different discharge/charge states.