Support information

Hierarchical micro/nanostructured C doped Co/Co_3O_4 hollow spheres derived from $PS@Co(OH)_2$ for oxygen evolution reaction

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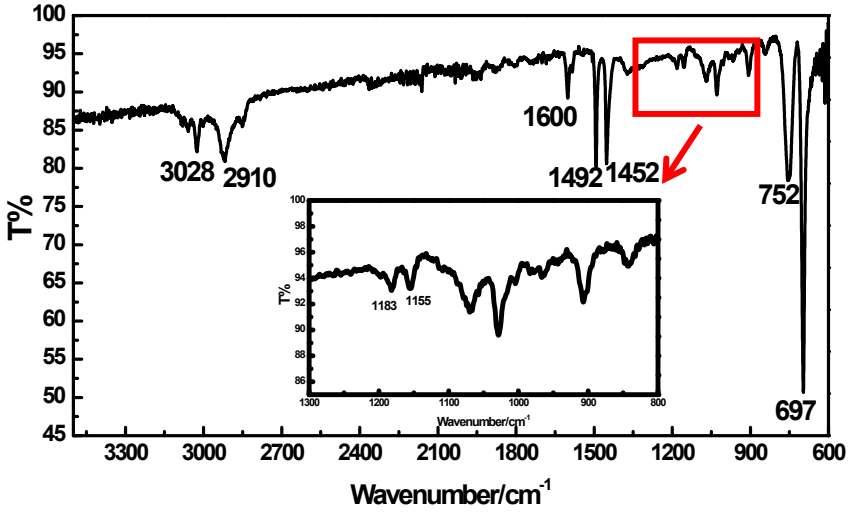

Fig. S1 Fourier transform infrared Spectrum (FTIR) of polystyrene microspheres.

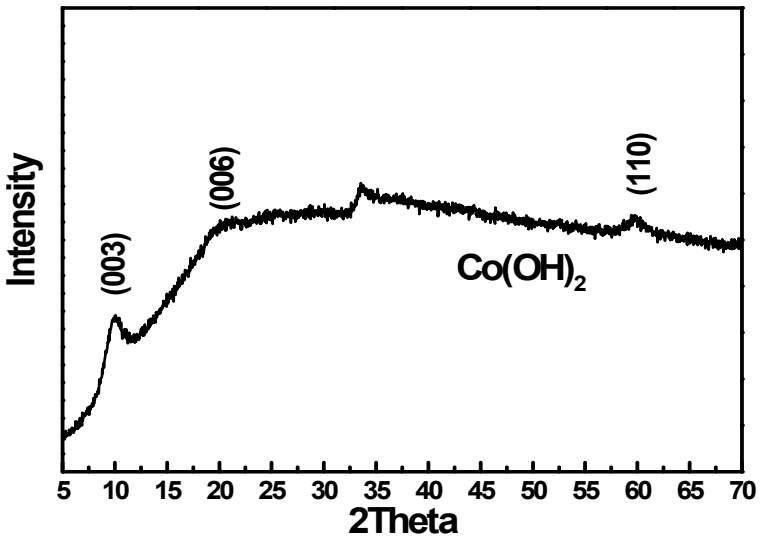

Fig. S2 The X-ray diffraction pattern of $PS@Co(OH)_2$ core-shell nanoparticles.

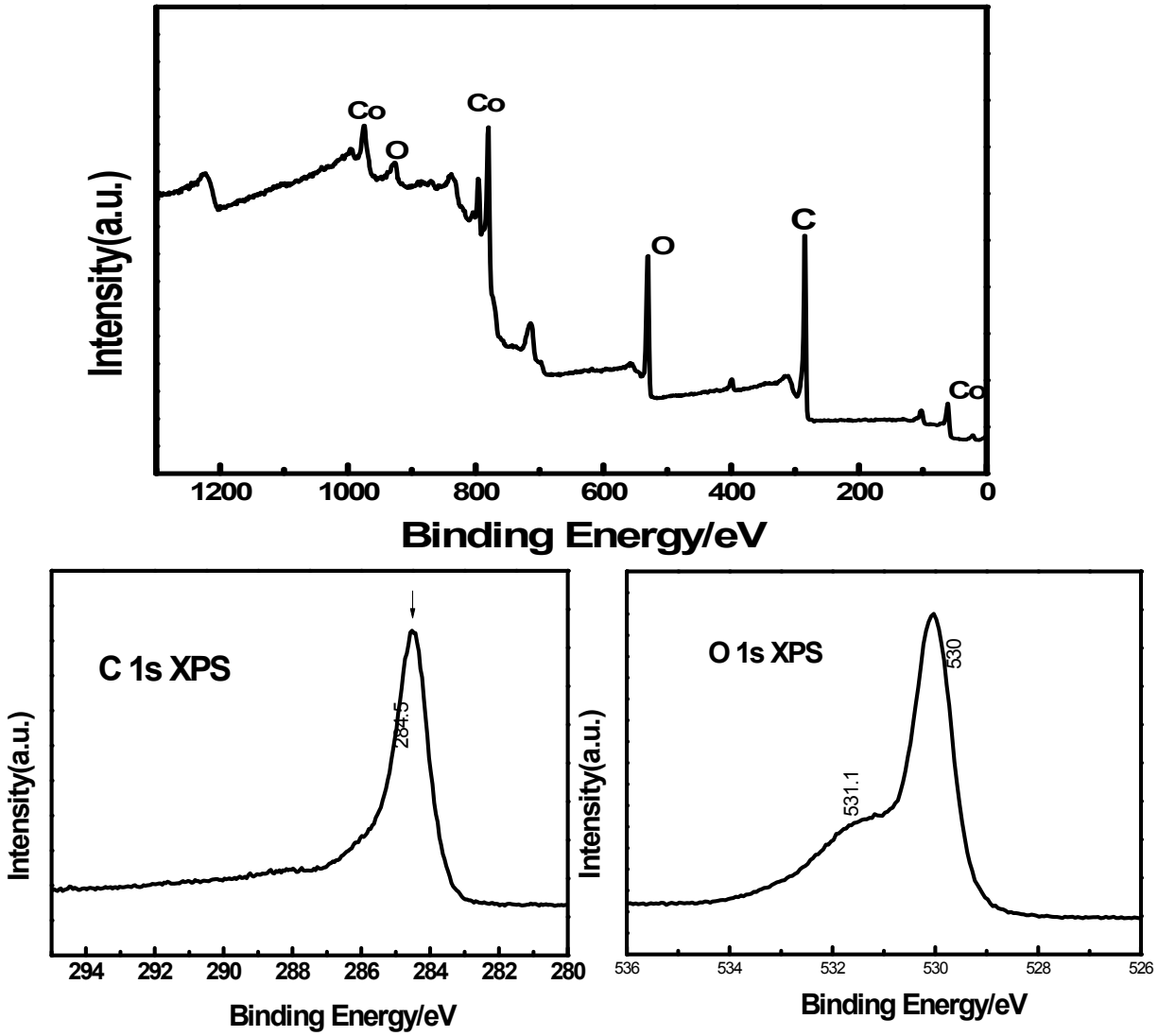

Fig. S3ThesurveyX-ray photoelectron spectroscopy (XPS) spectraofCo/Co_3O_4 hollow nanospheres,and the high-resolution XPS spectra of C 1s and O1s.

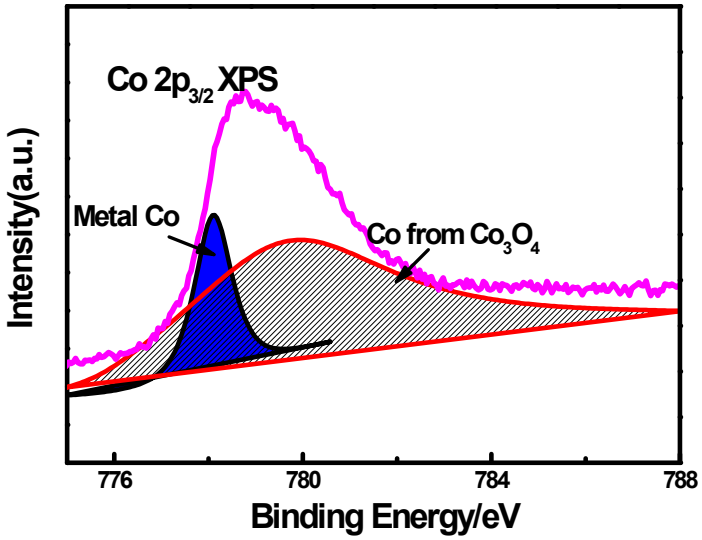

Fig. S4 is the high-resolutionspectrum of Co $2p_{3/2}$ peak

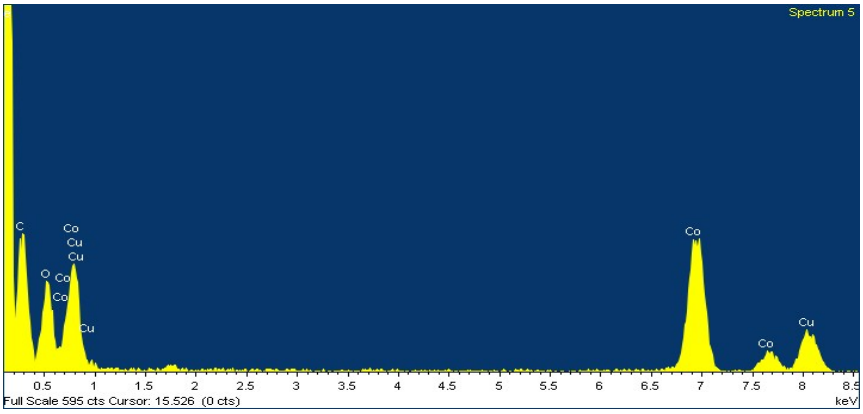

Fig. S5The EDS spectrum of C doped Co/Co_3O_4 hollow nanoparticle.

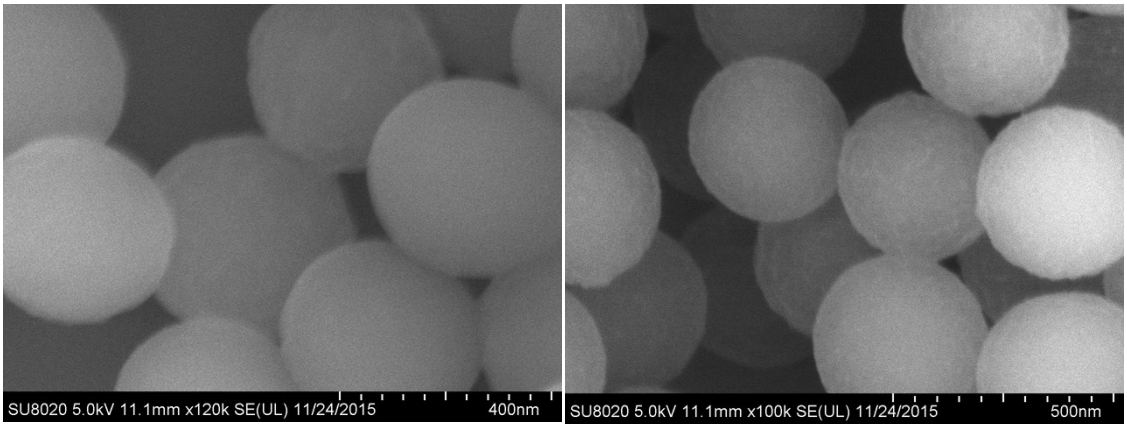

Fig. S6Coating of Co LDH on the surface of PS microspheres at different temperature, (a) the synthesis temperature at room temperature (25 ^oC); (b) the synthesis temperature at 40 ^oC

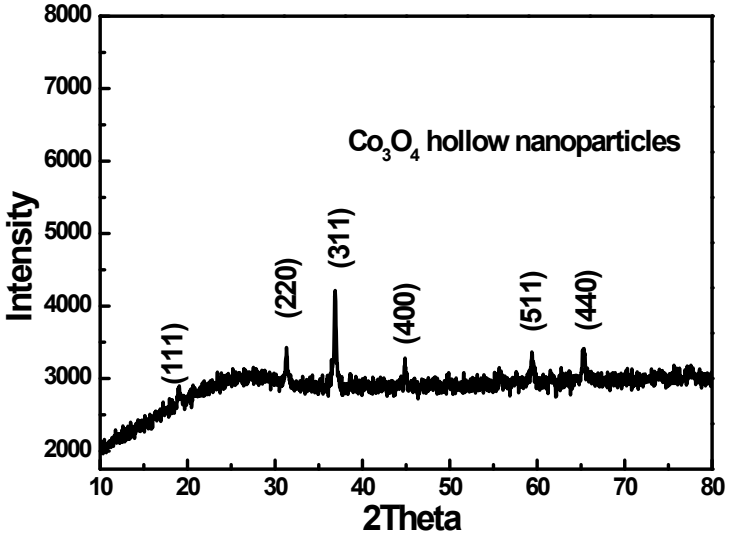

Fig.S7XRD pattern of Co_3O_4 hollow micro/nanostructured spheres.

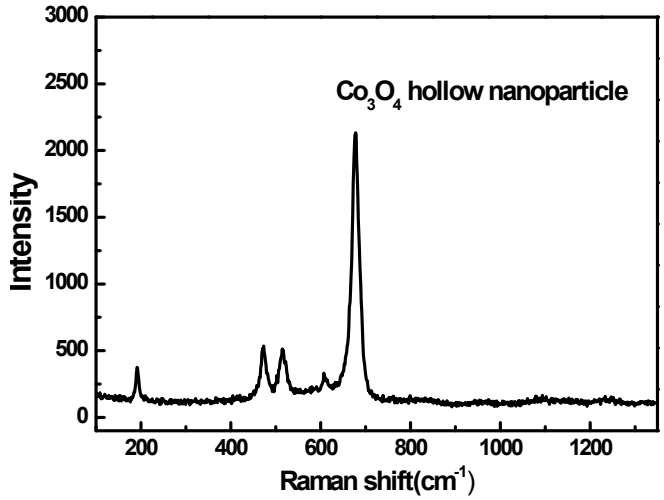

Fig.S8Raman spectrum ofmicro/nanostructuredCo_3O_4 hollow spheres.

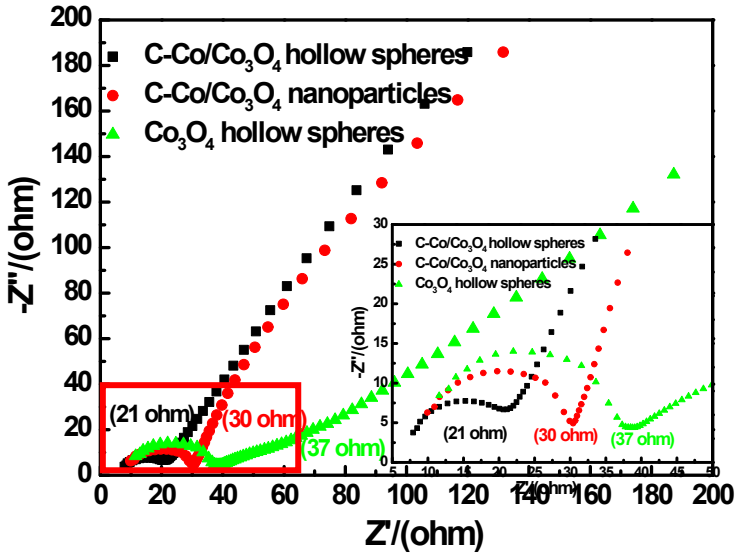

Fig. S9 The impedance curves of hierarchical micro/nanostructured C doped Co/Co_3O_4 hollow spheres, micro/nanostructuredCo_3O_4 hollow and C-Co/Co_3O_4 nanoparticles.

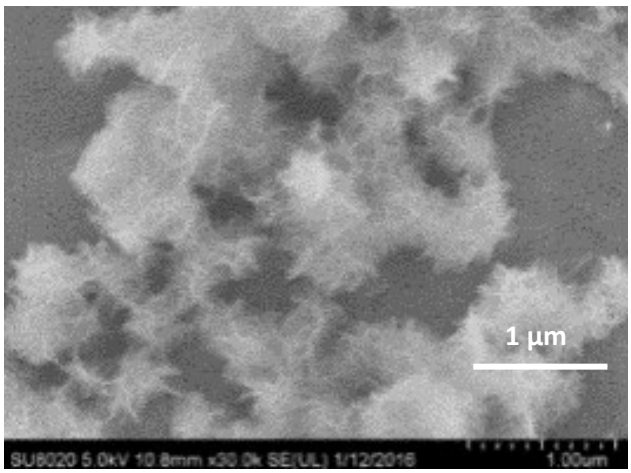

Fig. S10 The SEM image of C-Co/Co_3O_4 nanoparticles.

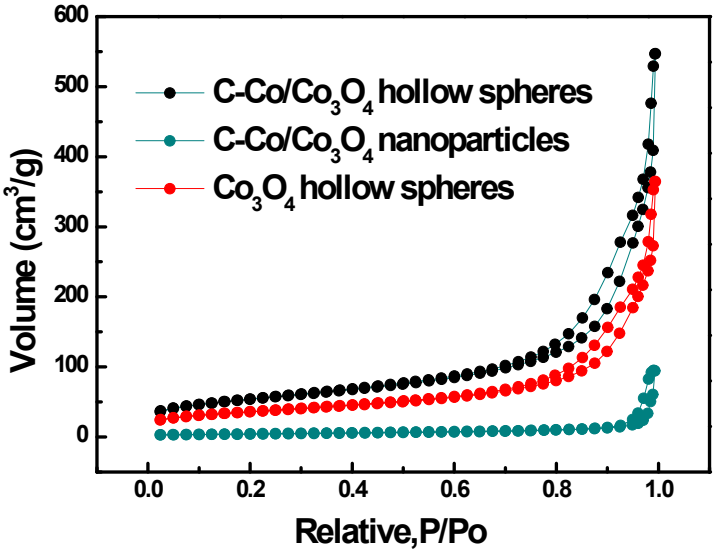

Fig. S11 N_2 sorption-desorption isotherm of different samples.