Supporting Information

Mesoporous Nanobelts and Nano-necklace of Co₃O₄ Converted from β-Co(OH)₂ Nanobelts via Thermal Decomposition Route For Electrocatalytic Oxidation of H₂O₂

Qiang Wang^{a*}, Yanping Xia^a and Changlong Jiang^b

a. School of materials science and engineering, Changzhou university, Changzhou, Jiangsu, 213164, P.R.China. E-mail: <u>wq@cczu.edu.cn</u>

b. Institute of Intelligent Machines, Chinese Academy of Sciences and Department of Chemistry, University of Science & Technology of China, Hefei, Anhui 230026, P.R.China



Figure S1. XRD patterns of the samples. (a) the precursor nanobelts; (b) the mesoporous Co_3O_4 nanobelts; (c) the Co_3O_4 nano-necklaces.



Figure S2. The TEM images of the as-prepared precursor β -Co(OH)₂ nanobelts. (a) The TEM images of the precursor nanobelts; (b) a TEM image of a single β -Co(OH)₂ nanobelt; (c) the corresponding SAED pattern of the β -Co(OH)₂ nanobelts; (d) an HRTEM image of the as-obtained nanobelts.



Figure S3. The TEM images of the as-prepared Co_3O_4 nano-necklaces. (a) the low magnification TEM images of the nano-necklaces; (b) the high magnification TEM images of the nano-necklaces; (c) a TEM image of a single Co_3O_4 nano-necklace; (d) the corresponding SAED pattern of the Co_3O_4 nano-necklaces.



Figure S4. The TEM and SEM characterizations of the as-prepared Co_3O_4 samples with different heating temperatures. The low magnification (a) and the high magnification (b) TEM images of the Co_3O_4 samples obtained at 500 °C; the SEM (c) and TEM(d) images of the Co_3O_4 samples obtained at 900 °C.





Figure S5. The N_2 adsorption isotherms at 77 K of mesoporous nanobelts (a); the corresponding BJH method adsorption pore size distribution of mesoporous nanobelts (b).