## Porous and single crystalline Co<sub>3</sub>O<sub>4</sub> nanospheres for pseudocapacitors with enhanced performances

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Fig. S1. HRTEM images (a-h) taken around the edge of a Co<sub>3</sub>O<sub>4</sub> hemisphere.



Fig. S2. FESEM images of materials after reacting for 3 hours.



**Fig. S3**. FESEM images of materials after reacting for 4 hours.



Fig. S4. (a-c) TEM images of 3D dendritic  $Co_3O_4$  nanoparticles after reacting for 6 hours and (d) SAED pattern of a particles as shown in (c).



**Fig. S5**. FESEM images of 3D dendritic Co<sub>3</sub>O<sub>4</sub> nanoparticles after reacting for 6 hours



**Fig. S6**. (a,b) TEM and (c) HRTEM images of  $Co_3O_4$  nanoparticles after reacting for 11 hours. (d) The SAED pattern of the particles as shown in (b).



**Fig. S7**. SEM images of Co<sub>3</sub>O<sub>4</sub> nanoparticles after reacting for 11 hours.



**Fig. S8**. TEM image of a nanojenga on the surface of nanosheets. The inset: SAED pattern of the area.



**Fig. S9**. Charge storage performances of  $Co_3O_4$  nanoparticles produced by reacting for 6 hours. a) CV curves of the electrode in 6.0 M KOH at different scan rates. b) The charge-discharge curves of the capacitors measured at different current densities. c) Average specific capacitance of the devices at various discharge current densities. d) Average specific capacitance versus cycle number of supercapacitors at a galvanostatic charge-discharge current density of 4 A g<sup>-1</sup>, the insets show the galvanostatic charge-discharge curves of the device at a current density of 4 A g<sup>-1</sup>.