Supporting Information

Controlled synthesis of porous Co_3O_4 nanostructures for efficiently electrochemical sensing of glucose

Jiankang Luo[1], Jun Wu[1], Zheng Liu[2], Zenghe Li[1*], Li Deng[1,3*]

[1]College of Life Science and Technology, Beijing University of Chemical Technology, Beijing 100029, P. R. China

[2]Chinese Research Academy of Environmental Sciences, Beijing 100012, P. R. China

[3]Amoy-BUCT Industrial Bio-technovation Institute, Beijing University of Chemical Technology, Amoy, 361022, China

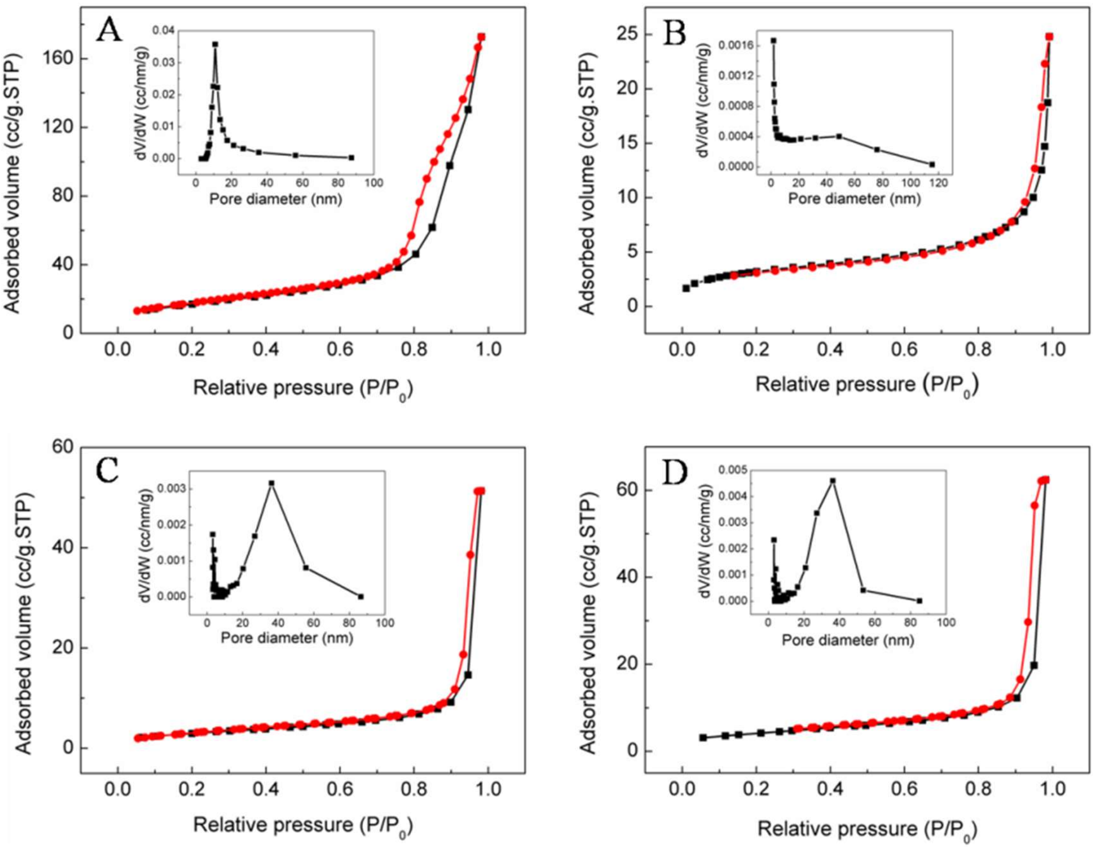

Figure S1 Nitrogen adsorption/desorption isotherms and corresponding BJH pore size distribution (inset) of Co_3O_4 (a) nanourchins, (b) nanowires, (c) nanoflowers, and (d) nanoplates

Table S1. The surface area, pore volume, and average pore size of Co_3O_4 nanomaterials

Co_3O_4	Surface area (m^2 g^{-1})	Pore volume (cm^3 g^{-1})	Average pore size （nm）
nanourchins	77.76	0.271	10.81
nanowires	11.75	0.074	18.56
nanoflowers	9.93	0.079	36.22
nanoplates	13.06	0.074	18.56

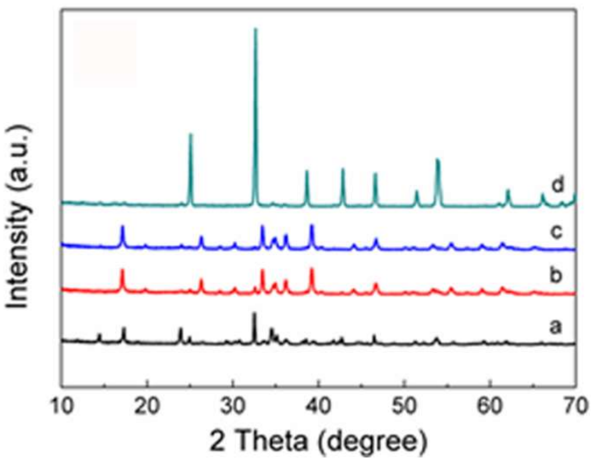

Figure S2 The XRD patterns of obtained Co_3O_4 nanoparticles before annealing treatment: (a) nanourchins, (b) nanowires, (c) nanoflowers, and (d) nanoplates.

Table S2. Performances of typical electrochemical sensing materials for glucose detection

Electrode	Sensitivity (μA mM^{-1} cm^{-2})	Linear range (μM)	Detection limit (μM)	Reference
PtPb/MCV	0.11	1500-12000	120	1
CuO nanospheres	400	50- 2550	1.0	2
CuO nanorods	371.43	4-8000	4.0	3
Co_3O_4 nanofibers	36.25	20-2040	0.97	4
Au nanowire	309.0	1000-10000	50	5
PtRu/MWCNTs	28.26	1000-15000	25	6
Ni-BDD	1040	10-10000	2.7	7
Ni foil	670	20-10000	1.8	7
Co_3O_4 nanourchin	565	20-250	1.5	This work
Co_3O_4 nanowires	99	20-300	1.0	
Co_3O_4 nanoflowers	217	20-250	0.8	
Co_3O_4 nanoflates	104	20-250	0.9	

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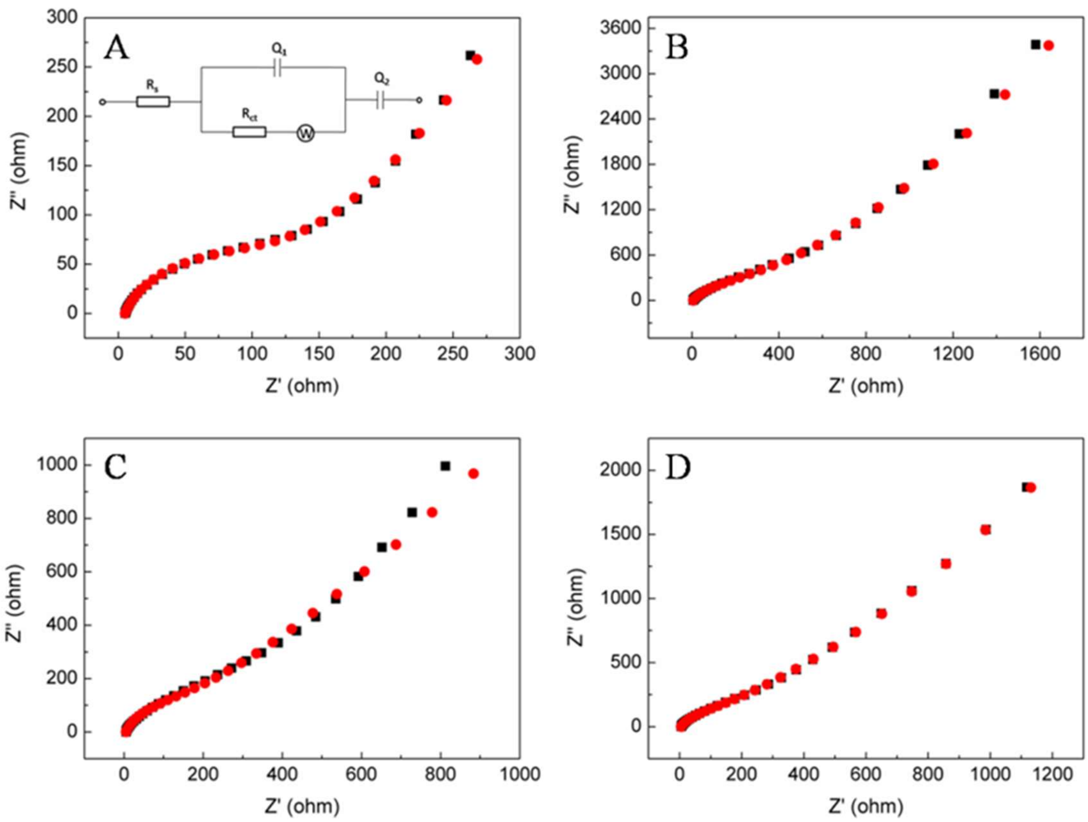

Figure S3 Impedance nyquist plots of (a) nanourchins, (b) nanowires, (c) nanoflowers and (d) nanoplates Co_3O_4 at open circuit potential in 0.1 M NaOH solution.

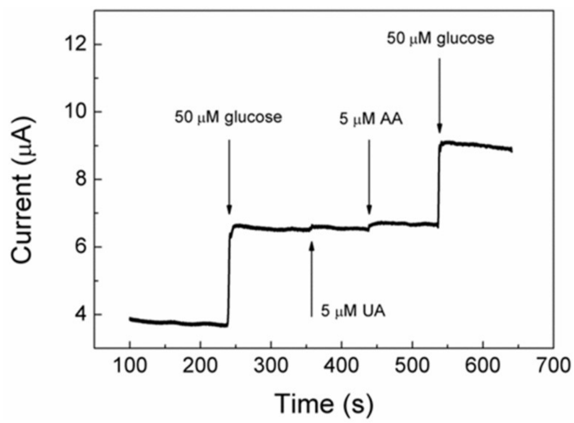

Figure S4 The amperometric response to the addition of glucose with interfering species.