Electronic Supplementary Information

Constructing Nitrogen-doped Nanoporous Carbons/Graphene Networks as Promising Electrode Materials for Supercapacitive Energy Storage

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Experimental section

Synthesis of GO: GO was prepared by the improved Hummers' method.[S1-S4] In a typical experiment, a 9:1 mixture of concentrated H_2SO_4/H_3PO_4 (360: 40 mL) was added to a mixture of graphite flakes (3.0 g) and $KMnO_4$ (18.0 g). The reaction was then heated to 50 ^oC and stirred for 12 h. The reaction was cooled to room temperature and poured onto ice (~ 400 mL) with 30% H_2O_2 (3 mL). The mixture was centrifuged, and the remaining solid material was then washed in succession with 200 mL of water for two times, 200 mL of 30% HCl for two times, 200 mL of water for two times, and 200 mL of ethanol for two times. The mixture was centrifuged for each wash. The resulting material was vacuum-dried overnight at room temperature.

Figure S1-S7 and Table S1

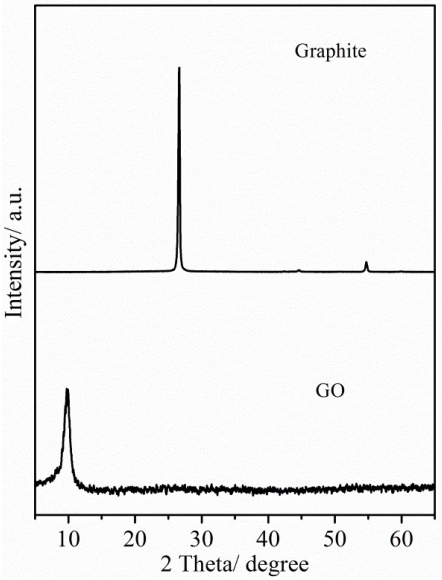

Figure S1. XRD patterns of graphite and GO.

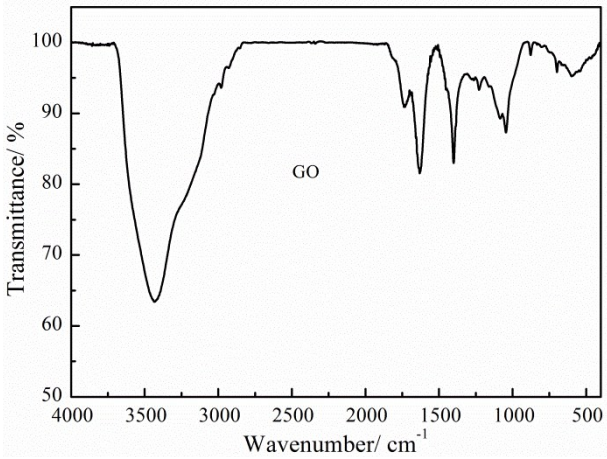

Figure S2. IR spectrum of GO.

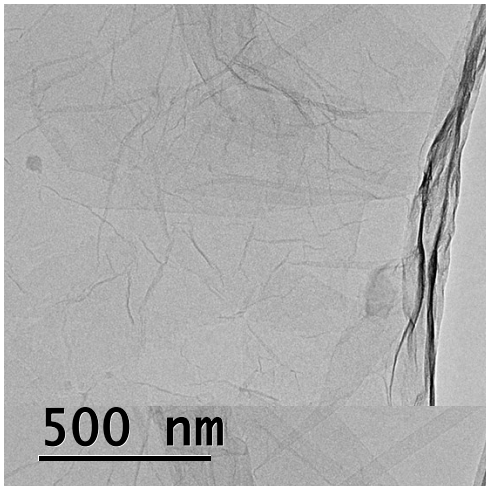

Figure S3. TEM image of GO nanosheet.

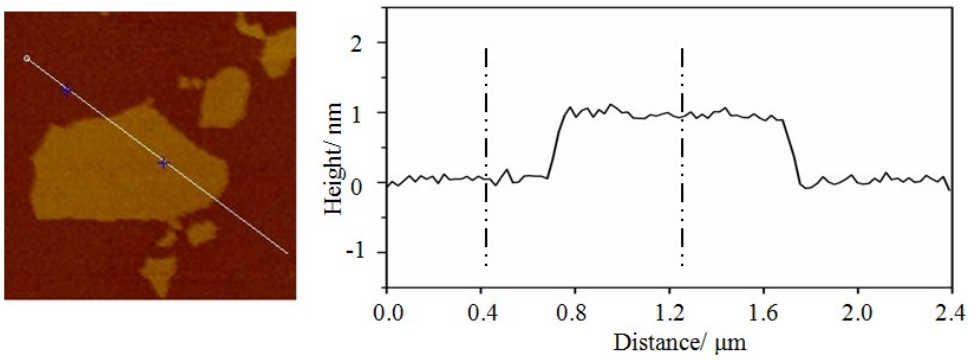

Figure S4. AFM scan of GO sheet, showing a layer height of less than 1 nm.

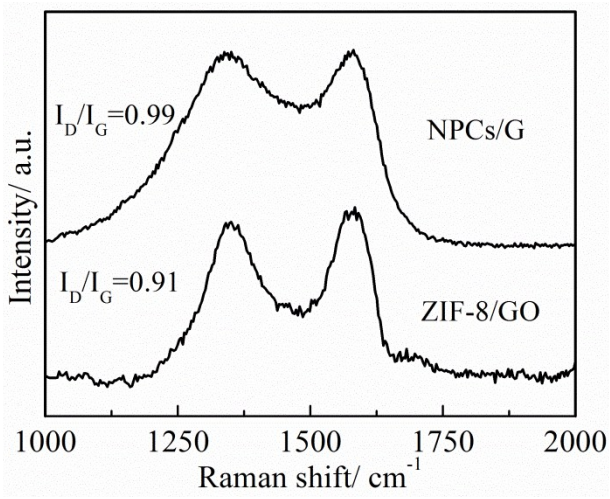

Figure S5. Raman spectra of ZIF-8/GO (before calcination) and NPCs/G (after calcination).

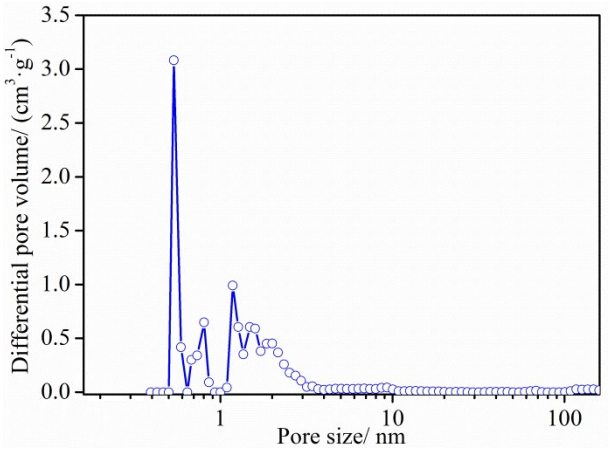

Figure S6. Pore size distribution of the NPCs.

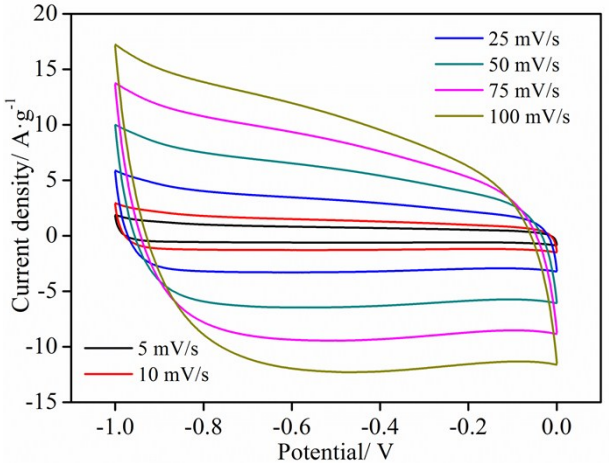

Figure S7. CV curves of NCPs at different scan rates in 1M KOH aqueous solution at room temperature.

Table S1. Specific capacitance at different scan rates for NCPs/G in 1M KOH aqueous solution at room temperature.

scan rate ($mV \cdot s^{-1}$)	Specific capacitance ($F \cdot g^{-1}$)
5	200
10	188
25	174
50	158
75	146
100	136

[S1] D. C. Marcano, D. V. Kosynkin, J. M. Berlin, A. Sinitskii, Z. Z. Sun, A. Slesarev, L. B. Alemany, W. Lu and J. M. Tour, *ACS Nano*, 2010, **4**, 4806.

[S2] Y. H. Zhang, N. Zhang, Z. R. Tang and Y. J. Xu, *Phys. Chem. Chem. Phys.*, 2012, **14**, 9167.

[S3] W. S. Hummers and R. E. Offeman, *J. Am. Chem. Soc.*, 1958, **80**, 1339.

[S4] M. Q.Yang, N. Zhang and Y. J. Xu, *ACS Appl. Mater. Interfaces*, 2013, **5**, 1156.