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Electronic Supplementary Information

Metal-organic framework assisted synthesis of nitrogen-doped hollow carbon materials for enhanced supercapacitor performance

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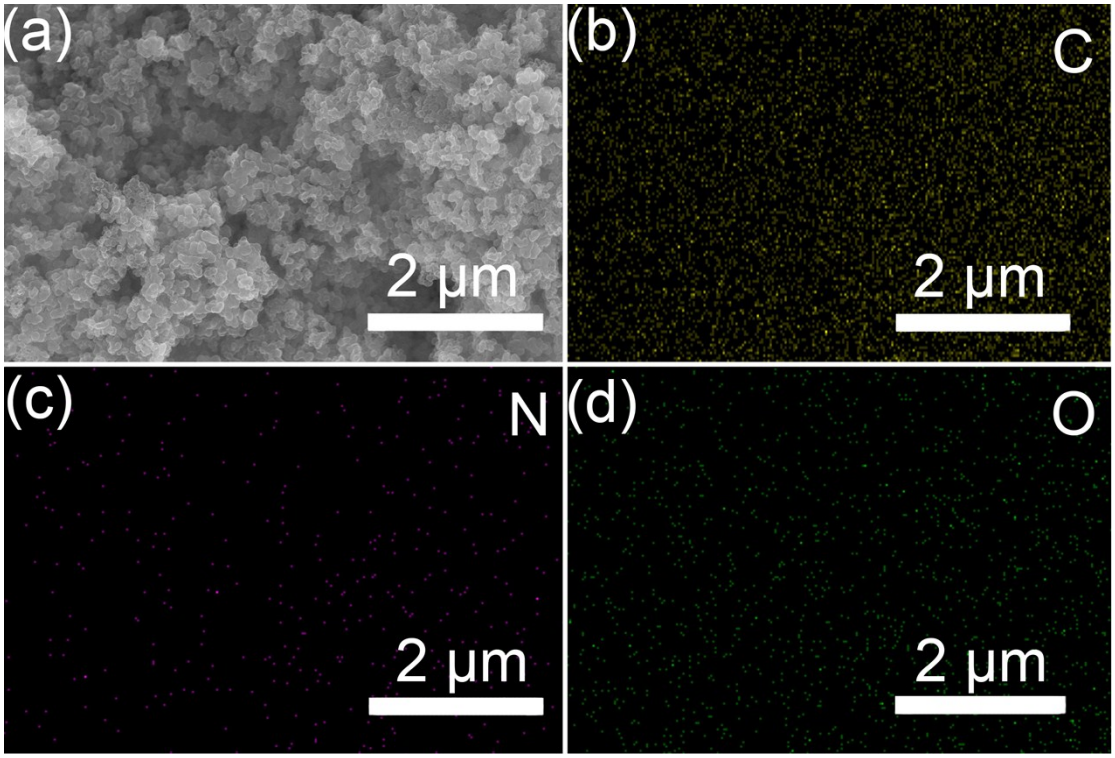

Fig. S1 (a) SEM image of ZIF-8@PDA-C and the corresponding EDS element mapping of (b) C; (c) N and (d) O.

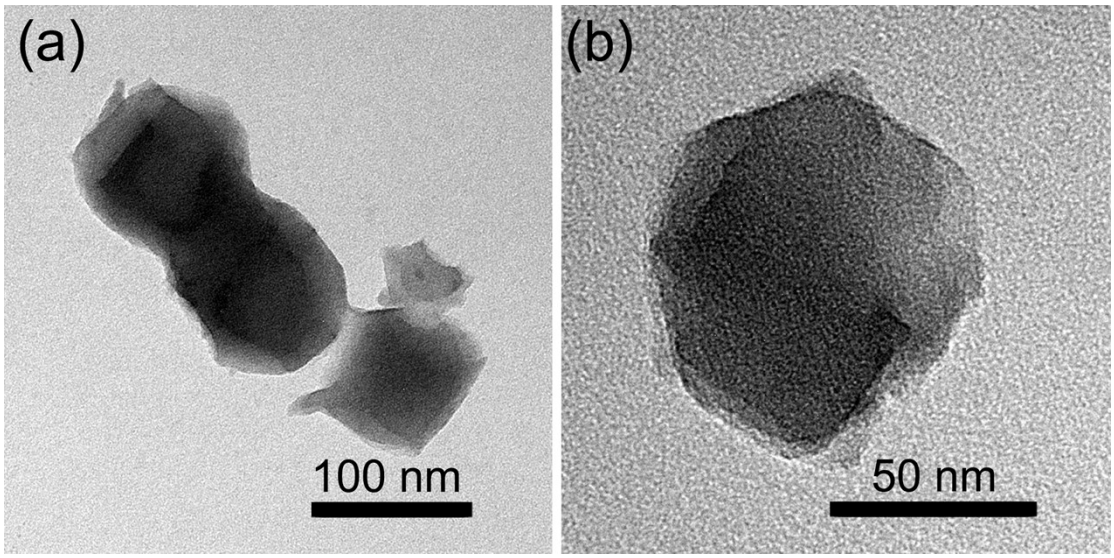

Fig. S2 TEM images of ZIF-8-C.

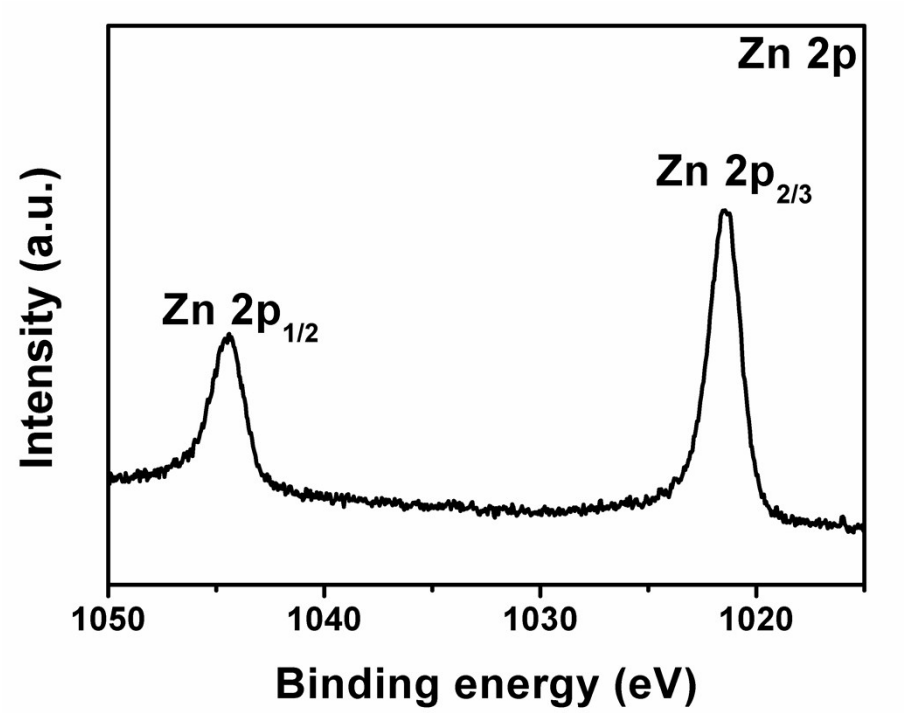

Fig. S3 Zn 2p XPS spectra of ZIF-8@PDA-C.

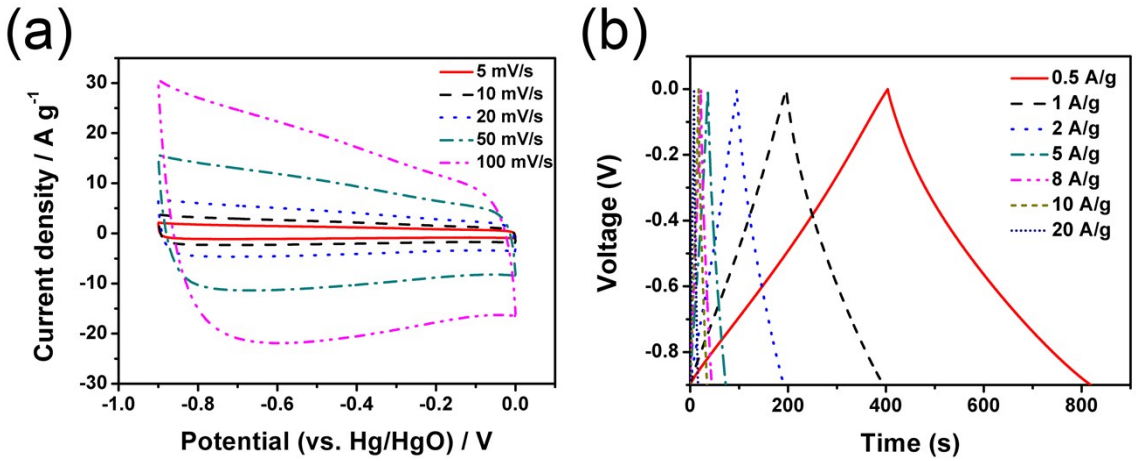

Fig. S4 (a) Cyclic voltammograms of ZIF-8@PDA-C at different scan rates. (b) Galvanostatic charge-discharge curves of ZIF-8@PDA-C at different current densities.

Table S1 Capacitances of the representative nanoporous carbons in aqueous electrolytes

NO.	sample	Electrolyte	Current density (A g^{-1})	Scan rate (mV s^{-1})	Specific capacitance (F g^{-1})	References
1.	ZIF-8@PDA-C	6 M KOH	0.2	-	253	This work
2	Carbon-ZS	6 M KOH	0.1	-	285	[1]
3	NPC	1M H_2SO_4	0.25	-	258	[2]
4	Carbon-L-950	6 M KOH	0.2	-	226.2	[3]
5	NPC	1M H_2SO_4	-	5	252	[4]
6	NPC800	1M H_2SO_4	0.1	-	127	[5]
7	PCM-K	6 M KOH	0.1	-	376.2	[6]
8	PK	6 M KOH	0.1	-	255.2	[6]
9	C800	1M H_2SO_4	0.25	-	200	[7]
10	MC-Al	30 wt% KOH	0.1	-	232.8	[8]
11	CIRMOF-3-950	1M H_2SO_4	-	5	239	[9]

References

1. S. Zhong, C. Zhan and D. Cao, *Carbon*, 2015, **85**, 51-59.
2. B. Liu, H. Shioyama, T. Akita and Q. Xu, *J. Am. Chem. Soc.*, 2008, **130**, 13333-13337.
3. P. Zhang, F. Sun, Z. Shen and D. Cao, *J. Mater. Chem. A*, 2014, **2**, 12873-12880.
4. R. R. Salunkhe, Y. Kamachi, N. L. Torad, S. M. Hwang, Z. Sun, S. X. Dou, J. H. Kim and Y. Yamauchi, *J. Mater. Chem. A*, 2014, **2**, 19848-19854.
5. B. Liu, H. Shioyama, H. Jiang, X. Zhang and Q. Xu, *Carbon*, 2010, **48**, 456-463.
6. Y. H. Lijuan Lv, Dapeng Cao, *Appl. Surf. Sci.*, 2018, **456**, 184-194.
7. H.-L. Jiang, B. Liu, Y.-Q. Lan, K. Kuratani, T. Akita, H. Shioyama, F. Zong and Q. Xu, *J. Am. Chem. Soc.*, 2011, **133**, 11854-11857.
8. X. Yan, X. Li, Z. Yan and S. Komarneni, *Appl. Surf. Sci.*, 2014, **308**, 306-310.
9. J.-W. Jeon, R. Sharma, P. Meduri, B. W. Arey, H. T. Schaef, J. L. Lutkenhaus, J. P. Lemmon, P. K. Thallapally, M. I. Nandasiri, B. P. McGrail and S. K. Nune, *ACS Appl. Mater. Inter.*, 2014, **6**, 7214-7222.