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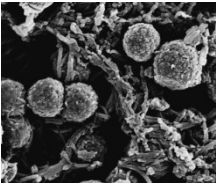
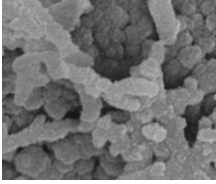
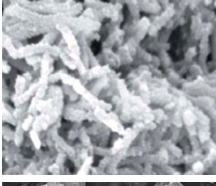
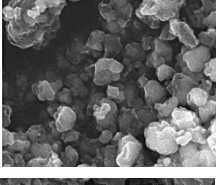
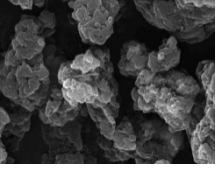
**Network structure of SnO₂ hollow spheres/PANI
nanocomposites for electrochemical performance**

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Table S1. Summary of electrochemical measurements reported in recent papers for SnO₂/PANI nanocomposite supercapacitor electrodes.

morphology	Content of SnO ₂ in composite	Current collector	Electrolyte	The potential window	Current density	Maximum Specific	Ref (year)
	53.75%	Graphite sheet	1M H ₂ SO ₄	0-1 V	1 A g ⁻¹	477 F g ⁻¹	This work (2017)
	-	NRA electrode	H ₂ SO ₄ -PVA	-0.2-0.6V	0.5 A g ⁻¹	367.5 F g ⁻¹	Ref.23 (2017)
	81.3%	Graphite sheet	1M H ₂ SO ₄	0-1 V	0.1 A g ⁻¹	335.5 F g ⁻¹	Ref.24 (2014)
	-	Stainless steel net	1M H ₂ SO ₄	-0.5-0.5 V	0.5 A g ⁻¹	501 F g ⁻¹	Ref.25 (2014)
	-	Carbon paper	0.5 M H ₂ SO ₄	0-0.8 V	1 A g ⁻¹	295.5 F g ⁻¹	Ref.26 (2014)

23. Y. Xie and F. Zhu, *Journal of Solid State Electrochemistry*, 2017, **21**, 1675-1685.
24. L. Wang, L. Chen, B. Yan, C. Wang, F. Zhu, X. Jiang, Y. Chao and G. Yang, *Journal of Materials Chemistry A*, 2014, **2**, 8334-8341.
25. Z. Luo, Y. Zhu, E. Liu, T. Hu, Z. Li, T. Liu and L. Song, *Materials Research Bulletin*, 2014, **60**, 105-110.
26. X. Shen, L. Ma, M. Gan, Z. Li, J. Yan, S. Xie, H. Yin and J. Zhang, *Synthetic Metals*, 2014, **196**, 20-26.

Table S2. Maximum specific capacitance of SnO₂/PANI nanocomposite fabricated through different preparation process.

Hydrothermal reaction time		10h SnO ₂			12h SnO ₂		
Oxidizer And reaction time		APS 4h	KH(IO ₃) ₂ 4h	KH(IO ₃) ₂ 12h	APS 4h	KH(IO ₃) ₂ 4h	KH(IO ₃) ₂ 12h
m: SnO ₂	30mg	231.3 F g ⁻¹	-	121.7F g ⁻¹	310.0F g ⁻¹	-	137.2F g ⁻¹
	50mg	261.2F g ⁻¹	167.7F g ⁻¹	96.1F g ⁻¹	477.0F g ⁻¹	35.0F g ⁻¹	75.9F g ⁻¹
	100mg	211.5F g ⁻¹	52.9 F g ⁻¹	42.6F g ⁻¹	135.2F g ⁻¹	18.9F g ⁻¹	45.5F g ⁻¹
	150mg	101.9F g ⁻¹	64.1 F g ⁻¹	32.1F g ⁻¹	121.9F g ⁻¹	15.3F g ⁻¹	29.6F g ⁻¹

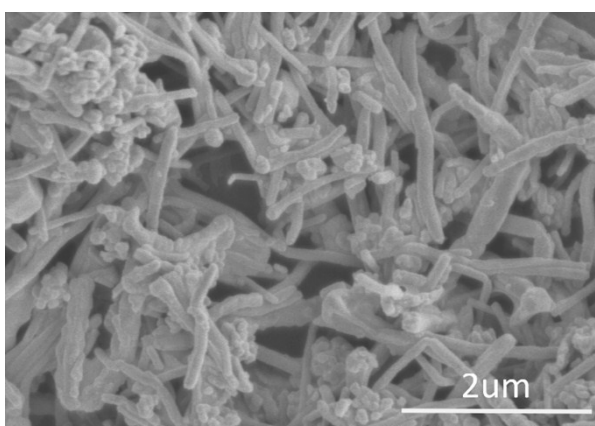
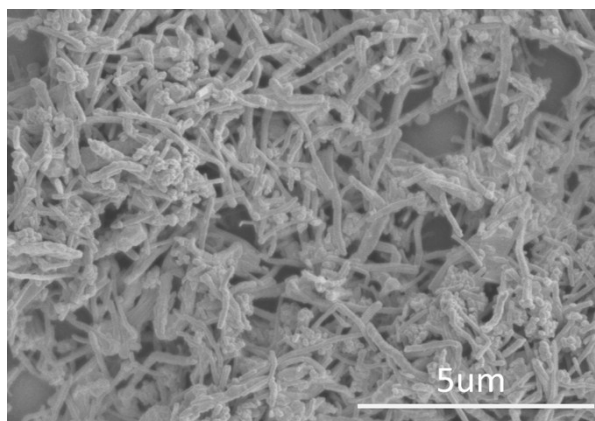


Figure. S1 SEM images of pure PANI.

To provide more straightforward specific capacitance evaluation of the hollow spheres, we synthesized SnO₂ solid spheres in same size by reducing the hydrothermal treatment time from 12h to 6h.

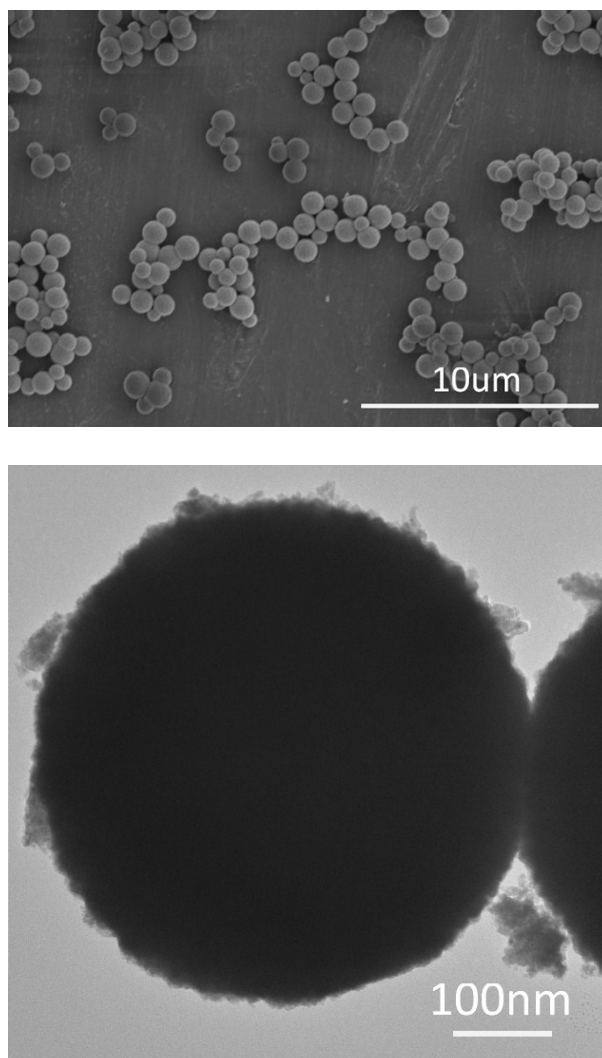


Figure. S2 SEM and TEM images of SnO₂ solid spheres.

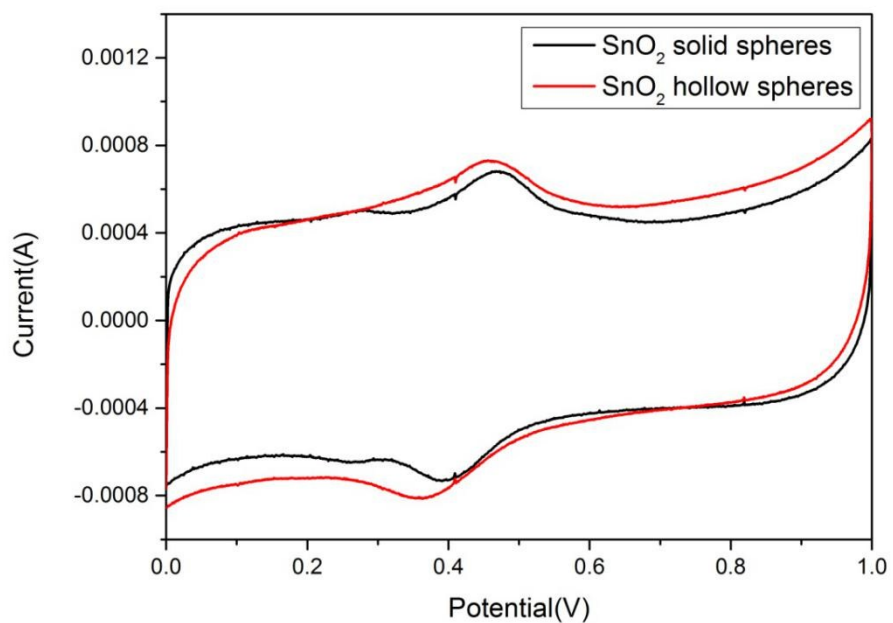
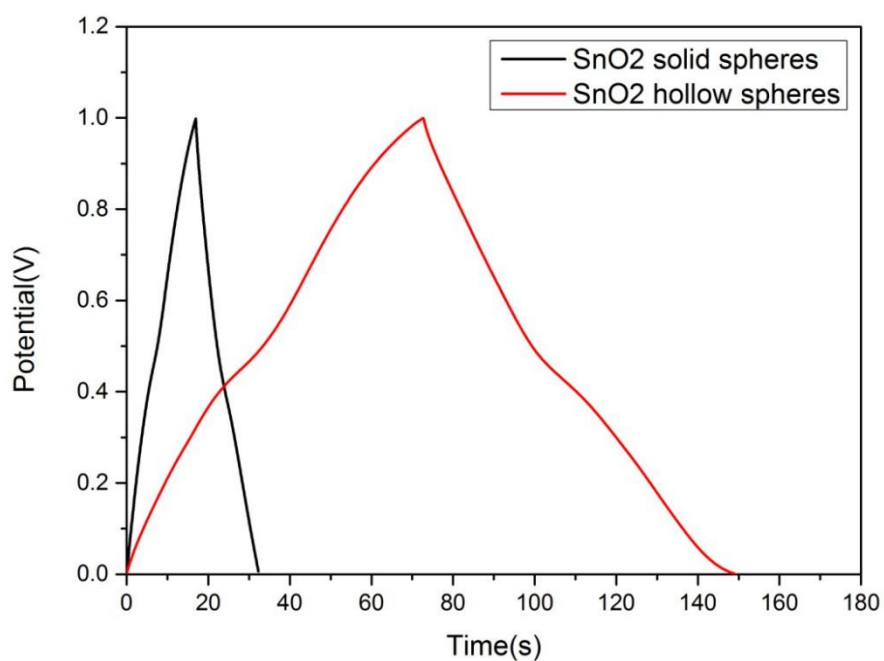


Figure. S3 Representative CV curves of the SnO₂ solid spheres and SnO₂ hollow



spheres electrodes tested in 1M H₂SO₄ electrolyte at a scan rate of 50 mv s⁻¹.

Figure. S4 Charge-discharge curves of the SnO₂ solid spheres and SnO₂ hollow spheres electrodes at a current density of 1 A g⁻¹.

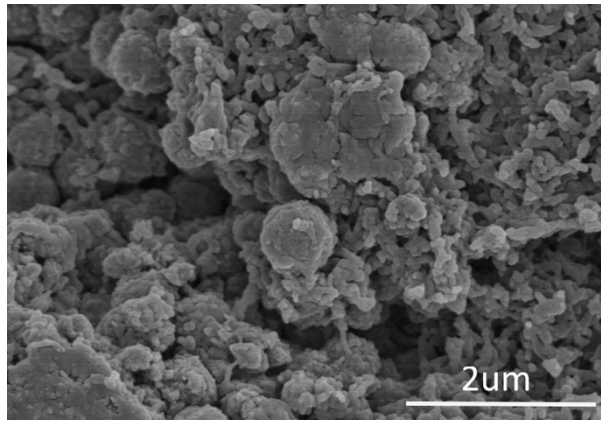


Figure. S5 The SEM image of SnO₂-PANI sample after 3000 cycles.