Electronic Supplementary Information (ESI) for:

Shape-Controlled Porous Nanocarbons for High Performance Supercapacitors

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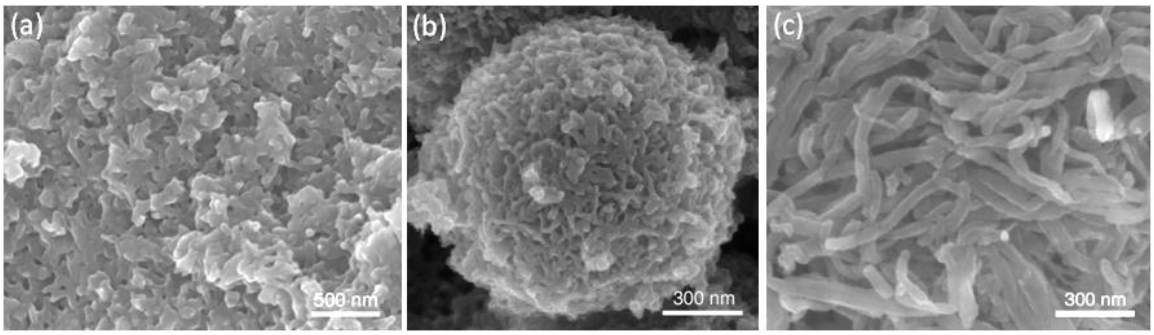

Figure S1. SEM images of the unactivated (a) carbon nanoparticles, (b) carbon nanosheets assembled nanospheres, and (c) carbon nanotubes.

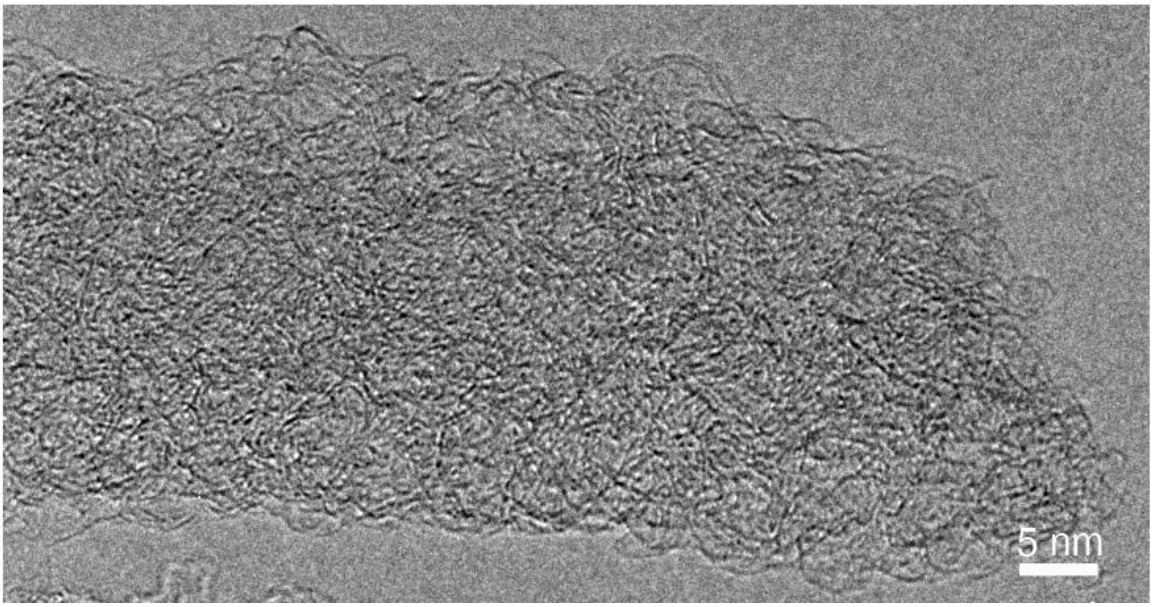

Figure S2. TEM image of a typical activated carbon nanotube.

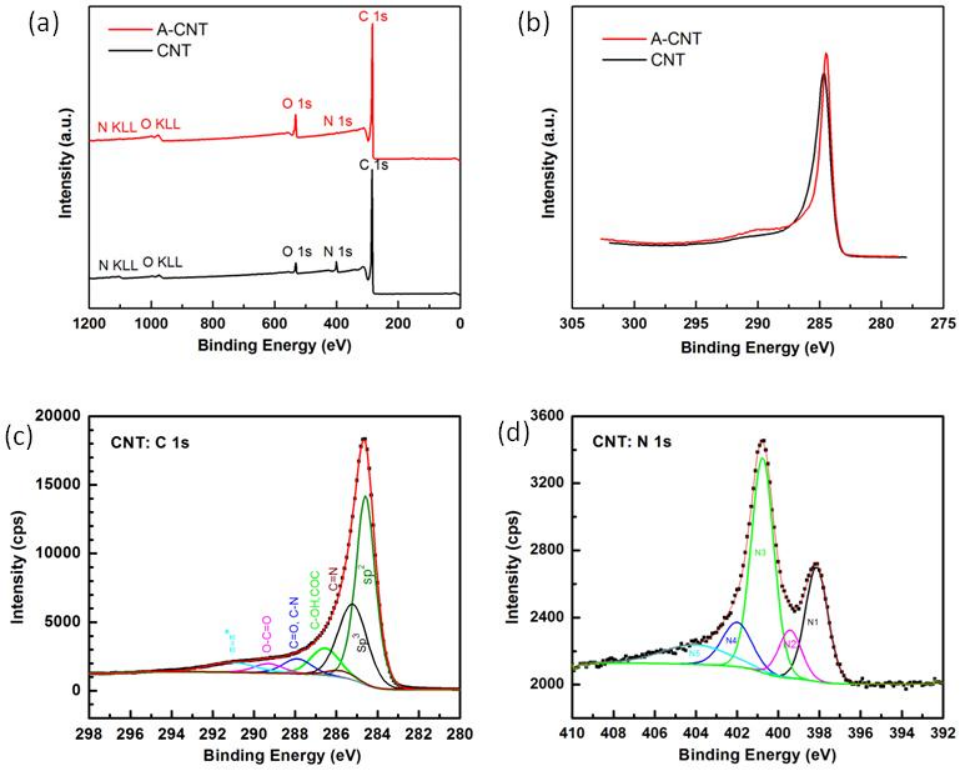

Figure S3. (a) XPS survey spectra of CNT and A-CNT; (b) C 1s peaks of CNT and A-CNT; High resolution XPS of the deconvoluted (c) C 1s and (d) N 1s peaks for CNT.

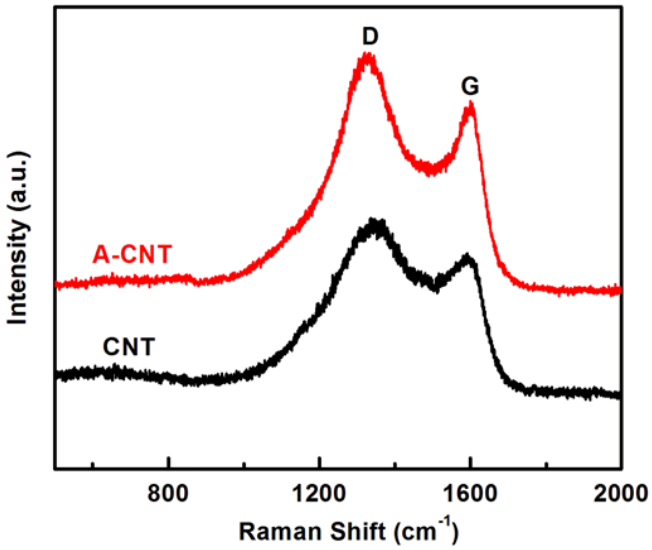

Figure S4. The Raman spectroscopy of CNT and A-CNT.

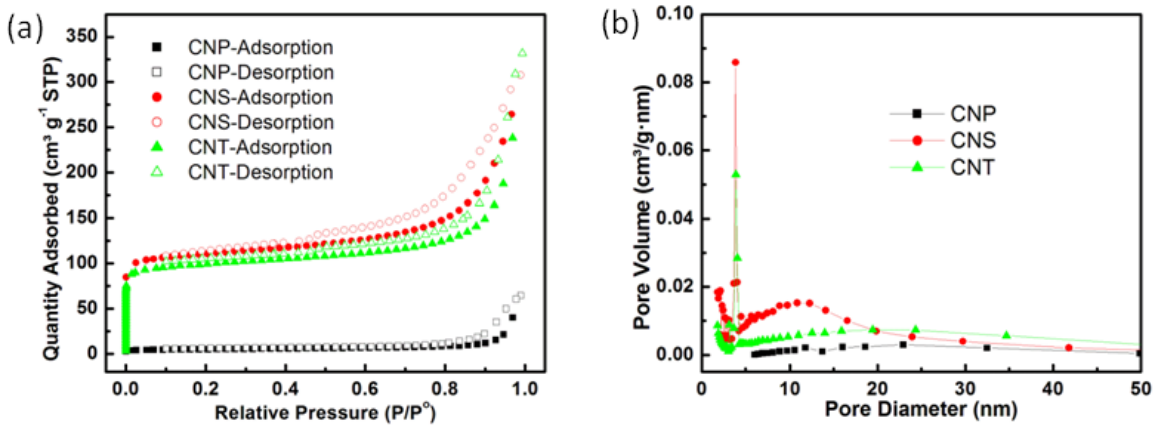

Figure S5. (a) Nitrogen adsorption and desorption isotherm and (b) pore size distribution curves of the three different nanocarbons without activation: CNP, CNS, and CNT.

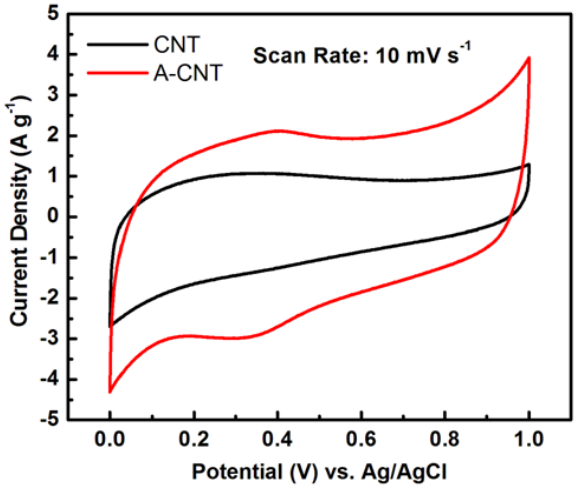

Figure S6. Comparison of the CV curves at the scan rate of 10 mV s^{-1} between CNT and ACNT in the three-electrode tests in aqueous electrolyte.

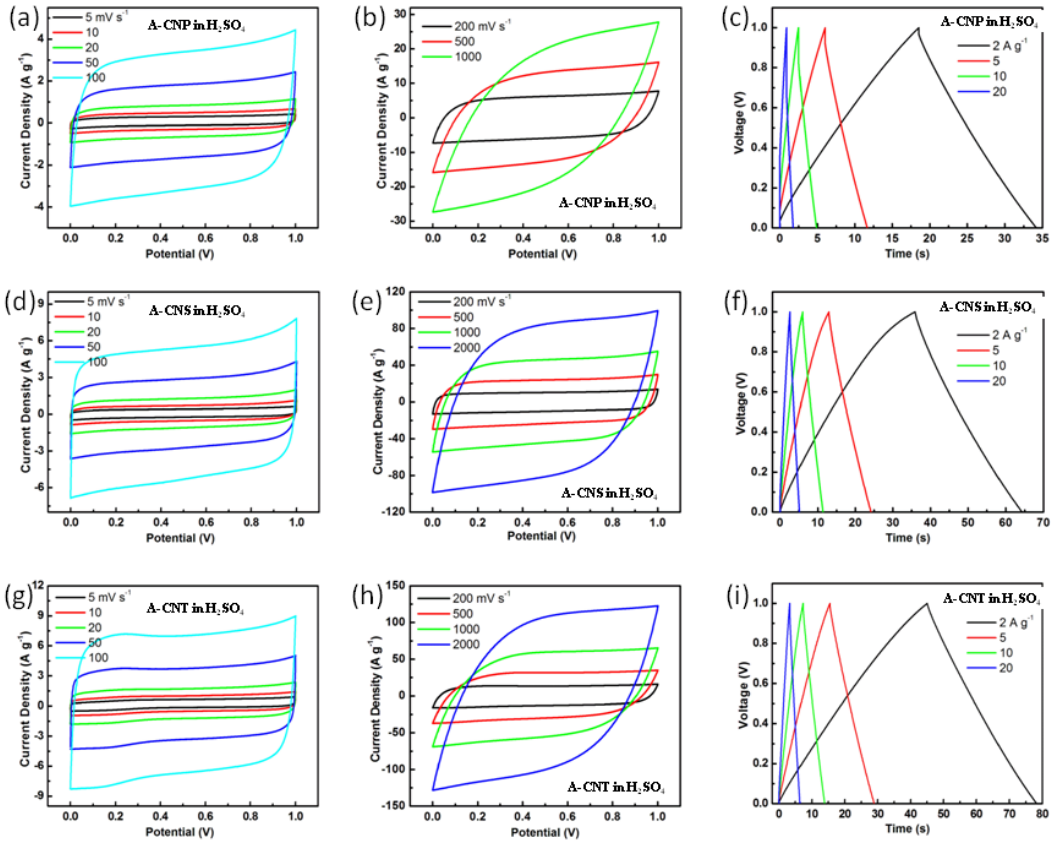

Figure S7. Electrochemical performance of the activated nanocarbons in the two-electrode tests in aqueous electrolyte. CV at different scan rates and CD under different current densities of (a-c) A-CNP, (d-f) A-CNS, and (g-i) A-CNT.

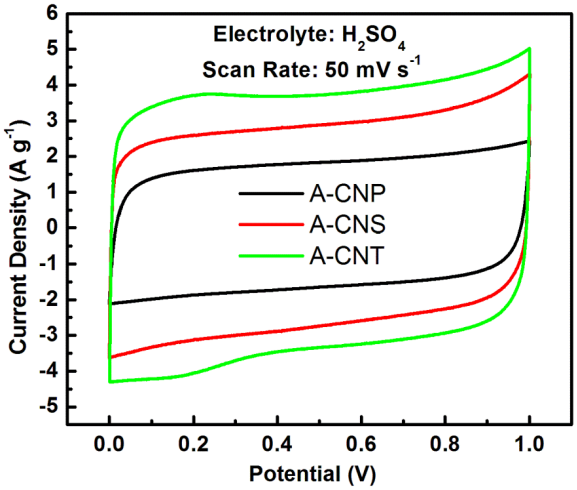

Figure S8. CV curves of A-CNP, A-CNS and A-CNT at the same scan rate of 50 mV s^{-1} in H_2SO_4 aqueous electrolyte.

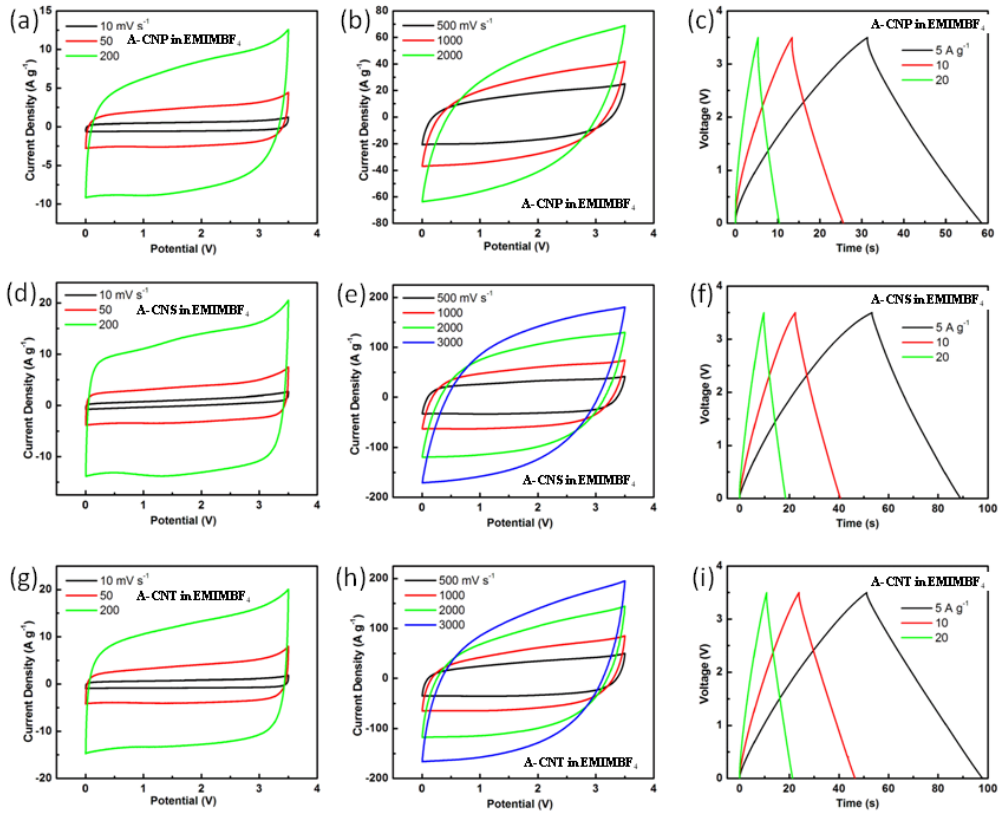

Figure S9. Electrochemical performance of the activated nanocarbons in the two-electrode tests in ionic liquid electrolyte. CV at different scan rates and CD under different current densities of (a-c) A-CNP, (d-f) A-CNS, and (g-i) A-CNT.

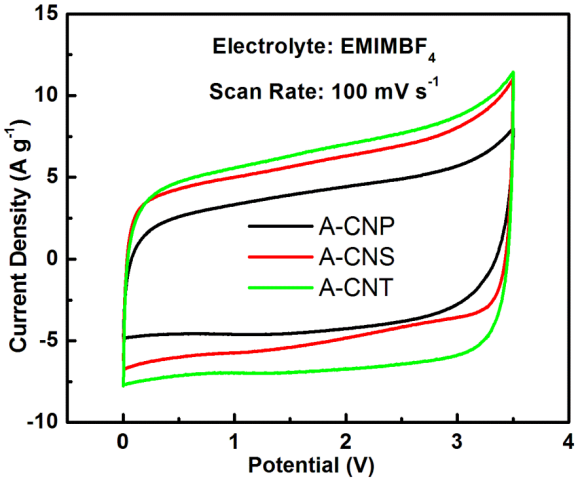

Figure S10. CV curves of A-CNP, A-CNS and A-CNT at the same scan rate of 100 mV s^{-1} in ionic liquid $EMIMBF_4$ electrolyte.

Table S1. The percentage of the carbon containing functional groups in the total C 1s for CNT and A-CNT.

	% of the total C 1s						
Functional groups	C=C	C-C	C=N	C-O-C/C-OH	C=O and C-N	O=C-OH	π–π*
Binding energy (eV)	284.5	285.2	285.8	286.6	288	289.3	290.8
CNT	46.6	27.0	2.3	9.7	5.3	3.3	5.8
A-CNT	54.8	15.1	0.9	10.6	6.4	3.9	8.3

Table S2. The percentage of the nitrogen containing functional groups in the total N 1s for CNT and A-CNT.

	% of the total N 1s				
Functional groups	N1	N2	N3	N4	N5
Binding energy (eV)	398.1-398.6	399.4	400.4-400.8	402	404-406
CNT	23.2	9.8	43.7	11.7	11.6

A-CNT	5.3	17.7	44.3	19.9	12.8

Table S3. Physisorption parameters of the nanocarbons.

Materials	Unactivated nanocarbons			Activated nanocarbons		
	CNP	CNS	CNT	A-CNP	A-CNS	A-CNT
BET ($m^2 g^{-1}$)	17.9	345.8	379.9	1332.4	1957	2005.9
Micropore area				955	687.3	1104.3
Mesopore area				377.4	1269.7	901.6
Pore volume ($cm^3 g^{-1}$)	0.1	0.476	0.513	0.77	1.5	1.6