Electronic Supplementary Information (ESI) for

Nitrogen- and oxygen-containing activated carbon nanotubes with improved capacitive properties

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This PDF file includes:

1. **Fig. S1 and S3**

2. **Tab. S1 and S2**

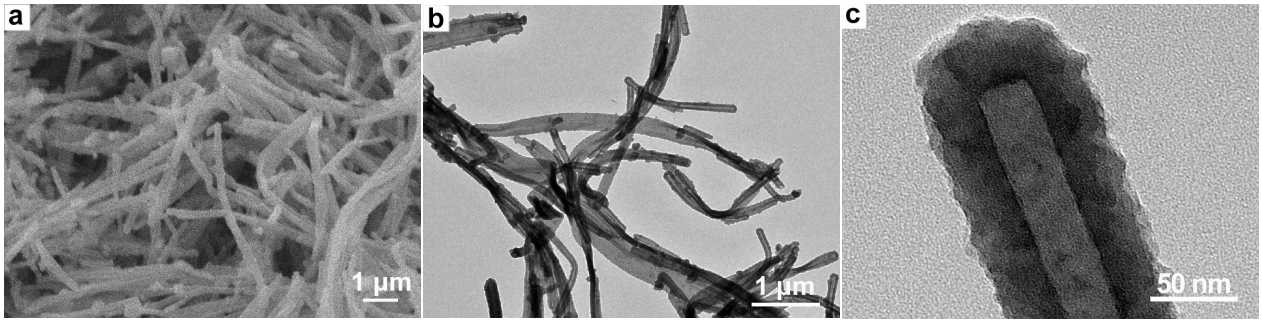

Fig. S1 SEM (a) and TEM (b and c) images of the PPy nanotube precursors.

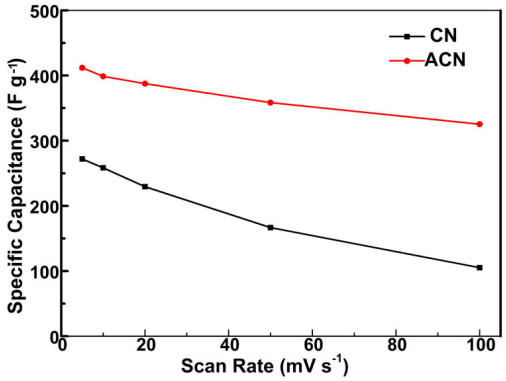

Fig. S2 The specific capacitance change as a function of scan rate.

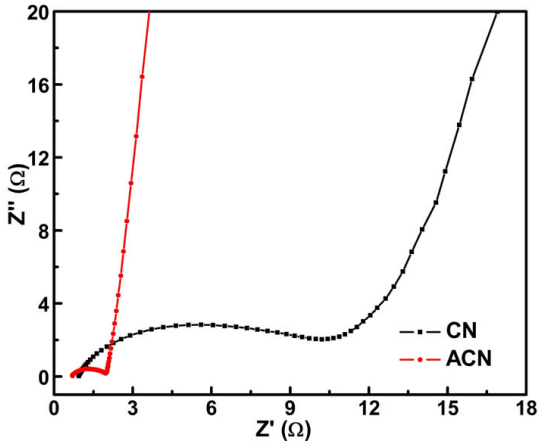

Fig. S3 Nyquist plots of both CN and ACN electrodes.

Tab. S1 Nitrogen contents, N/C ratio, and fitted results of N1s XPS spectra in the CN and ACN samples

Samples	N_{XPS} (wt.%)	N/C (%)	Nitrogen contents from XPS (wt.%)					
			N1	N2	N3	N4	N5	N6
CN	15.8	19.7	6.3	1.2	6.6	1.0	0.4	0.3
ACN	19.8	28.6	12.3	1.0	3.4	2.3	0.8	-

Tab. S2 Oxygen contents, O/C ratio, and fitted results of O1s XPS spectra in the CN and ACN samples

Samples	O_{XPS} (wt.%)	O/C (%)	Oxygen contents from XPS (wt.%)			
			O1	O2	O3	O4
CN	4.0	5.0	1.15	0.82	1.17	0.86
ACN	11.1	16.1	1.04	3.48	3.24	3.34