Supporting Information

N, S co-doped porous carbon microtubes with high charge/discharge rate for sodium-ion batteries

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Table S1 Specific surface areas, pore volumes and mean pore diameters of SNCT-1 and SNCT-2 and SNCT-3

measured by BET method.

Sample	Specific surface area (m^2g^{-1})	Pore volume (cm^3g^{-1})	Mean pore diameter (nm)
SNCT-1	219.3	0.382	3.408
SNCT-2	504.8	0.59	3.827
SNCT-3	338.4	0.25	3.822
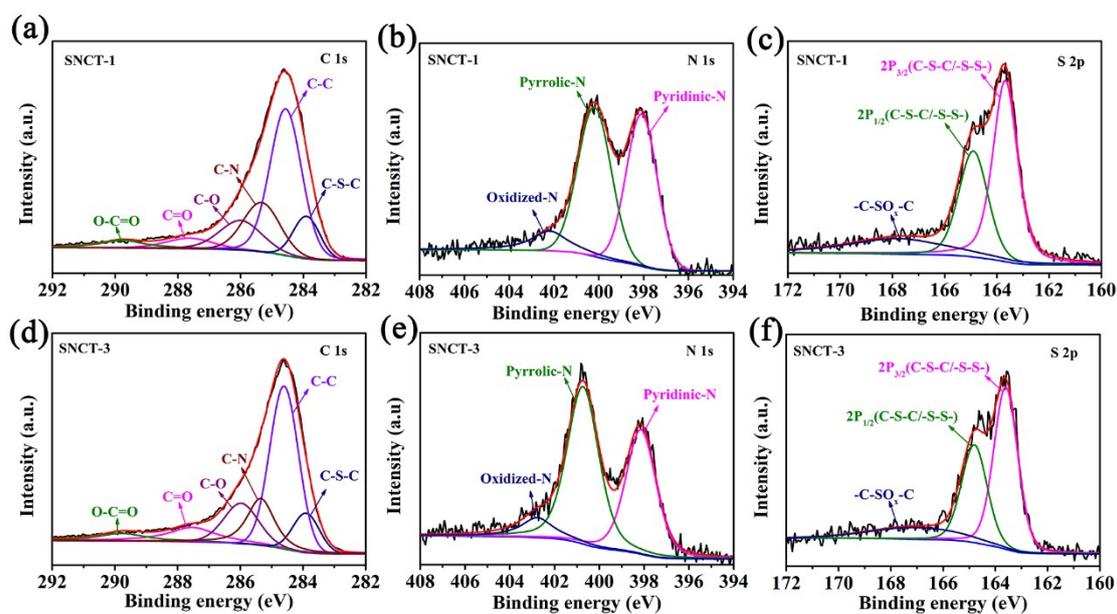
Fig. S1 XPS (a) C 1s, (b) N 1s and (c) S 2p spectra of SNCT-1. XPS (d) C 1s, (e) N 1s and (f) S 2p spectra of SNCT-3.
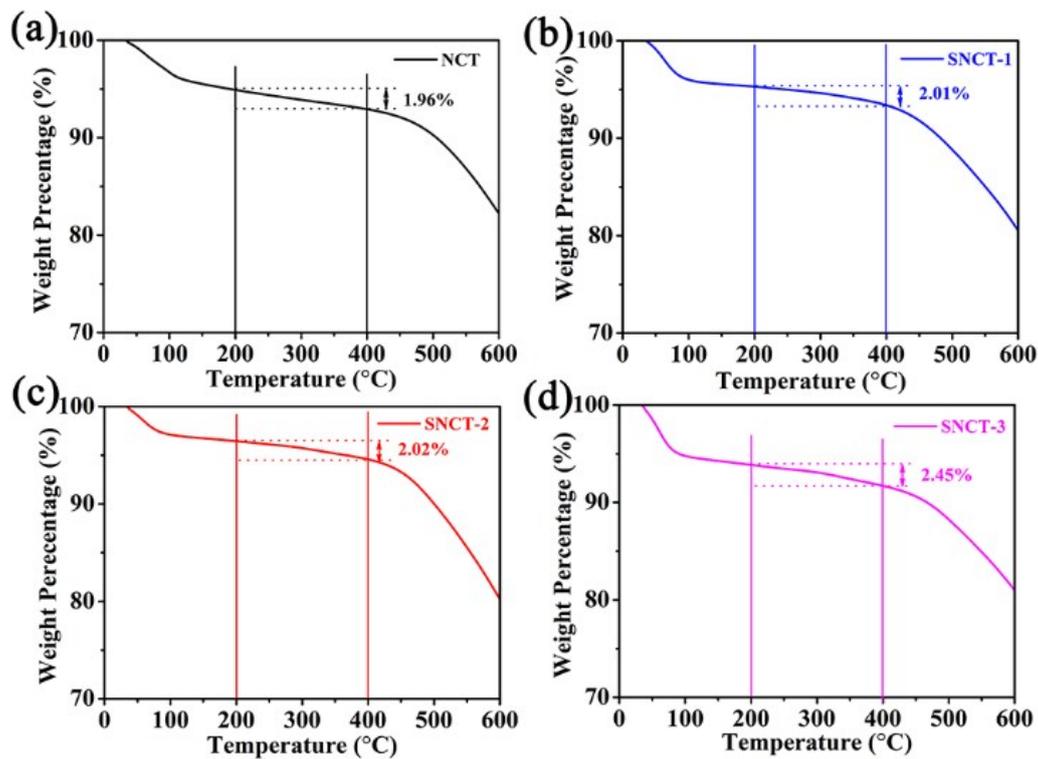
Fig. S2 TGA curves (a) NCT, (b) SNCT-1, (c) SNCT-2 and (d) SNCT-3 under nitrogen atmosphere at a heating rate of

10 ˚C min^{-1}.

Table S2 Elemental contents (wt.%) in SNCT determined by EA measurement.

Sample	Elemental content (wt.%)			
	C	N	S	H
SNCT-1	67.31	14.97	3.08	2.26
SNCT-2	65.78	12.39	4.69	1.54
SNCT-3	72.05	10.20	4.80	1.55
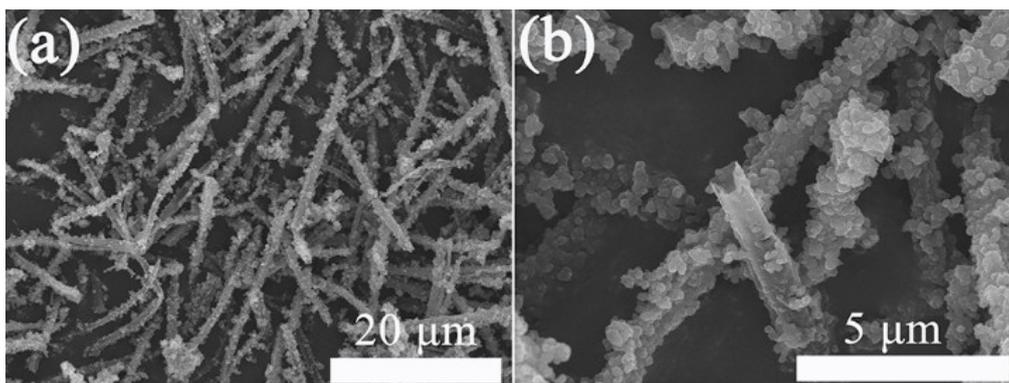
Fig. S3 FESEM images of (a, b) PPy precursor at different magnifications.
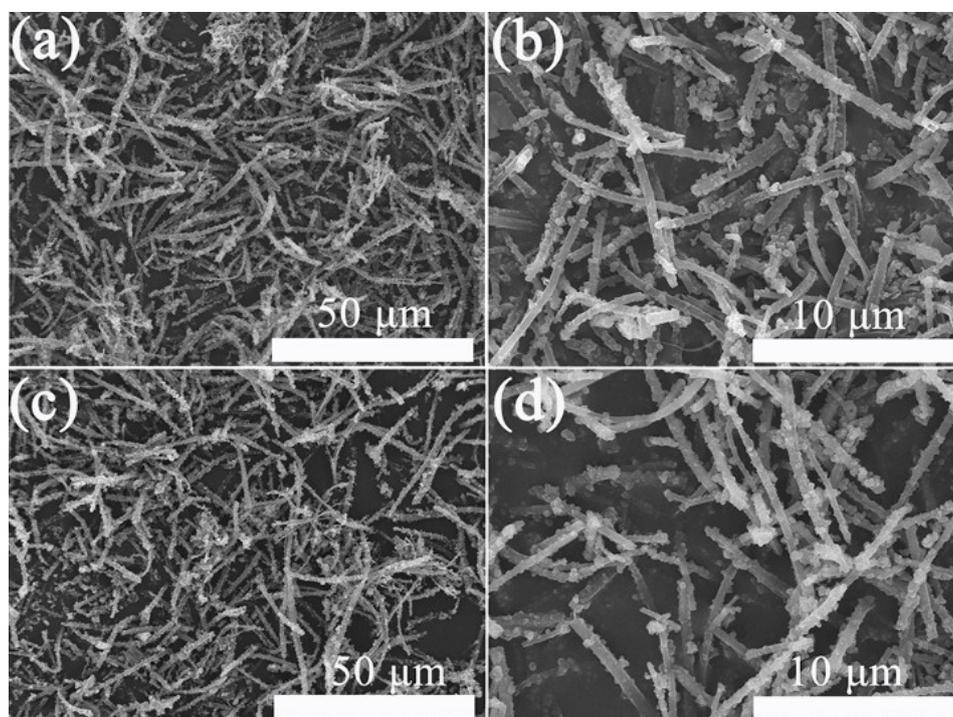
Fig.S4 FESEM images of (a, b) SNCT-1 and (c, d) SNCT-3 at different magnifications.
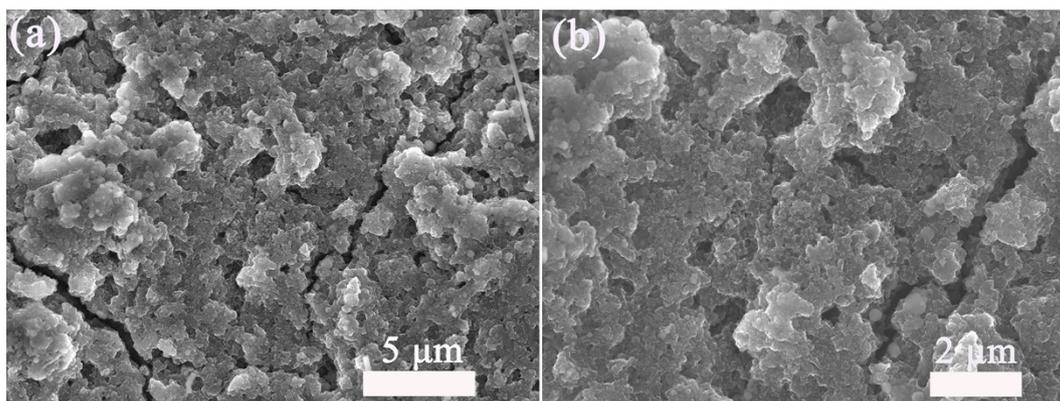
Fig. S5 FESEM images of (a, b) SNCT-2 electrode after the first cycle at different magnifications.

Fig. S6 Photo of white LED bulb lighted up by $Na_3V_2(PO_4)_3$//SNCT-2 full cell SIB.