Electronic Supplementary Material (ESI) for RSC Advances.

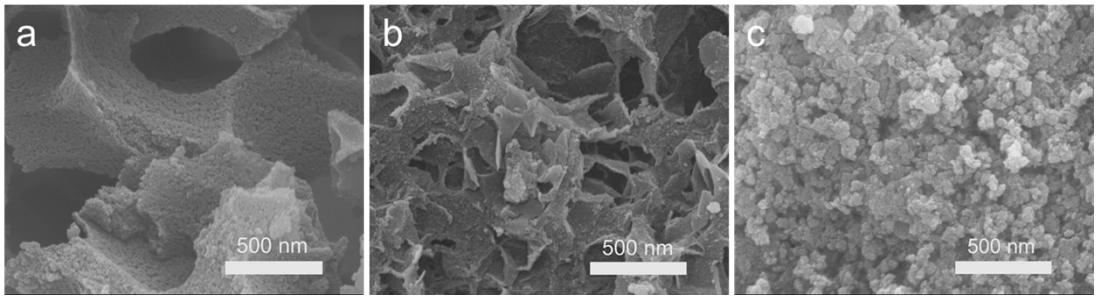

Fig. S1 SEM images of the samples: (a) PCN, (b) SnO_2/PCN, (c) pure SnO_2.

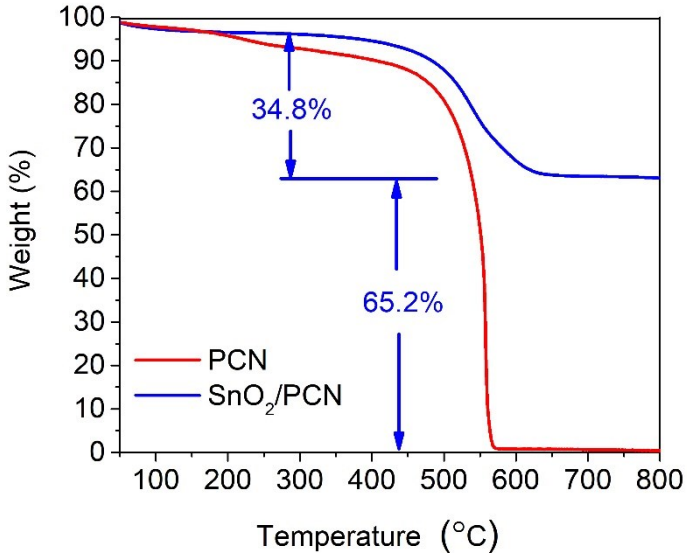

Fig. S2 TG analysis of SnO_2/PCN in air flow.

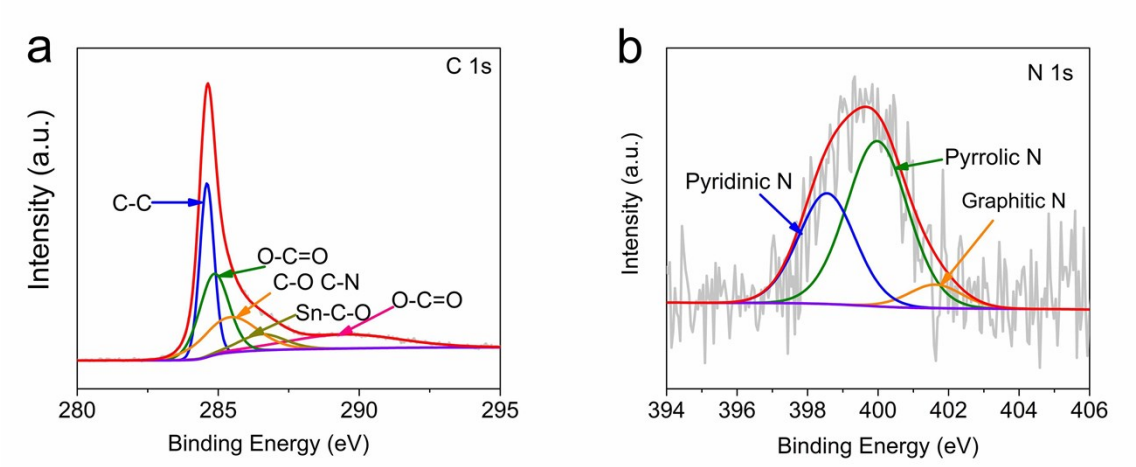

Fig. S3 (a) C 1s and (b) N 1s XPS spectra of SnO_2/PCN.

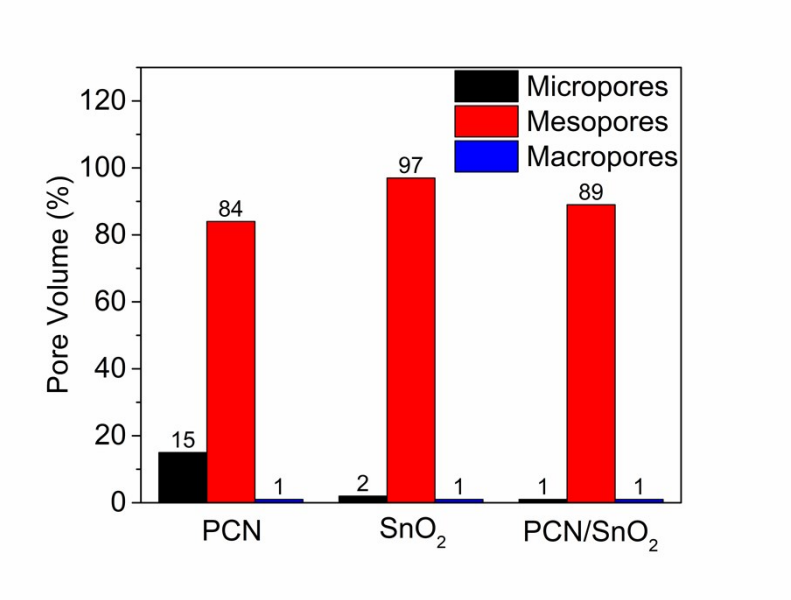

Fig. S4 The proportion of micropores, mesopores and macropores for all samples.

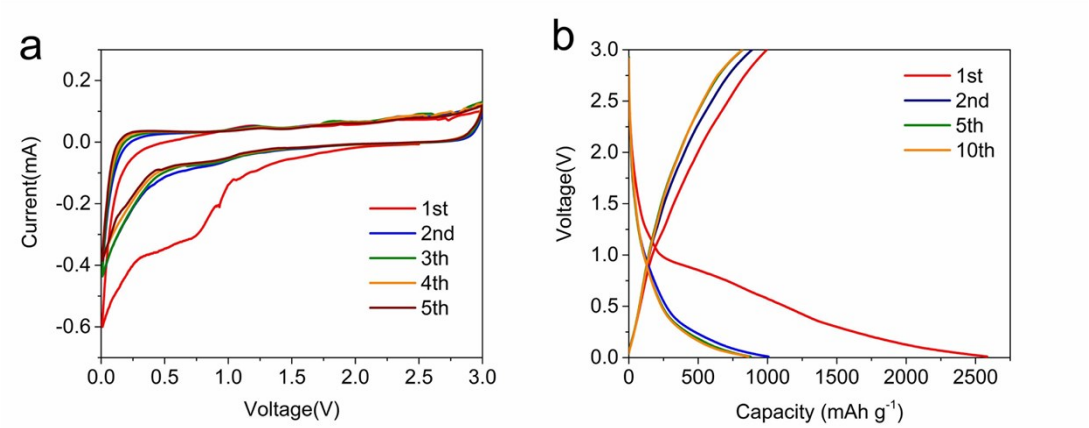

Fig. S5 (a) CV curves of PCN at a scan rate of 0.1 mV s^{-1}; (b) Galvanostatic charge/ discharge curves of PCN at 0.1 A g^{-1}.

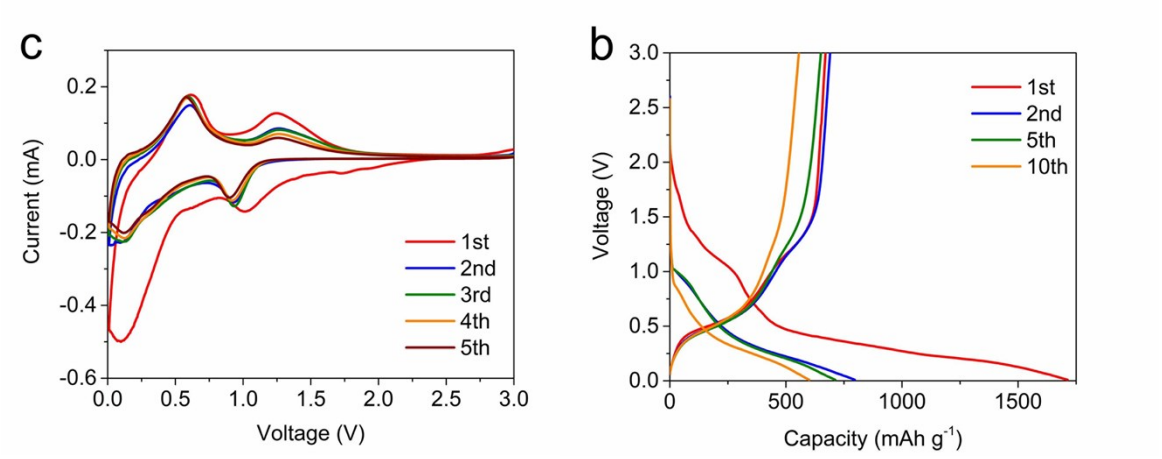

Fig. S6 (a) CV curves of SnO_2 at a scan rate of 0.1 mV s^{-1}; (b) Galvanostatic charge/ discharge curves of SnO_2 at 0.1 A g^{-1}.

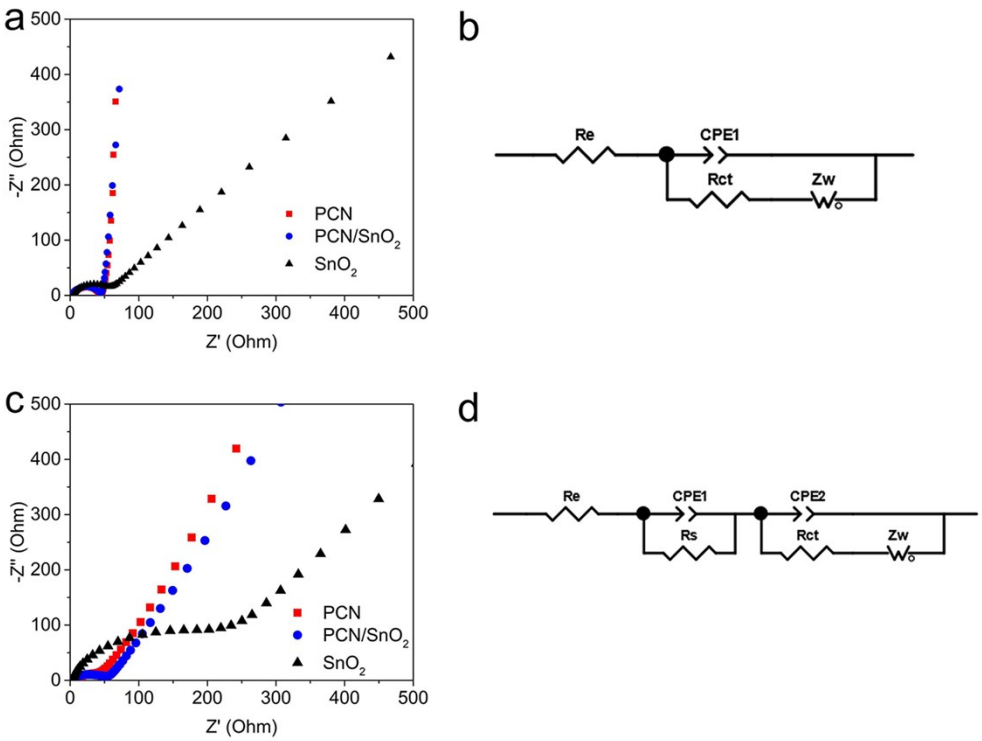

Fig. S7 Nyquist plots of PCN, SnO_2 and SnO_2/PCN electrodes (a) before cycling, (c) after 500 cycles. The equivalent circuits: (b) before cycling, (d) after 500 cycles.

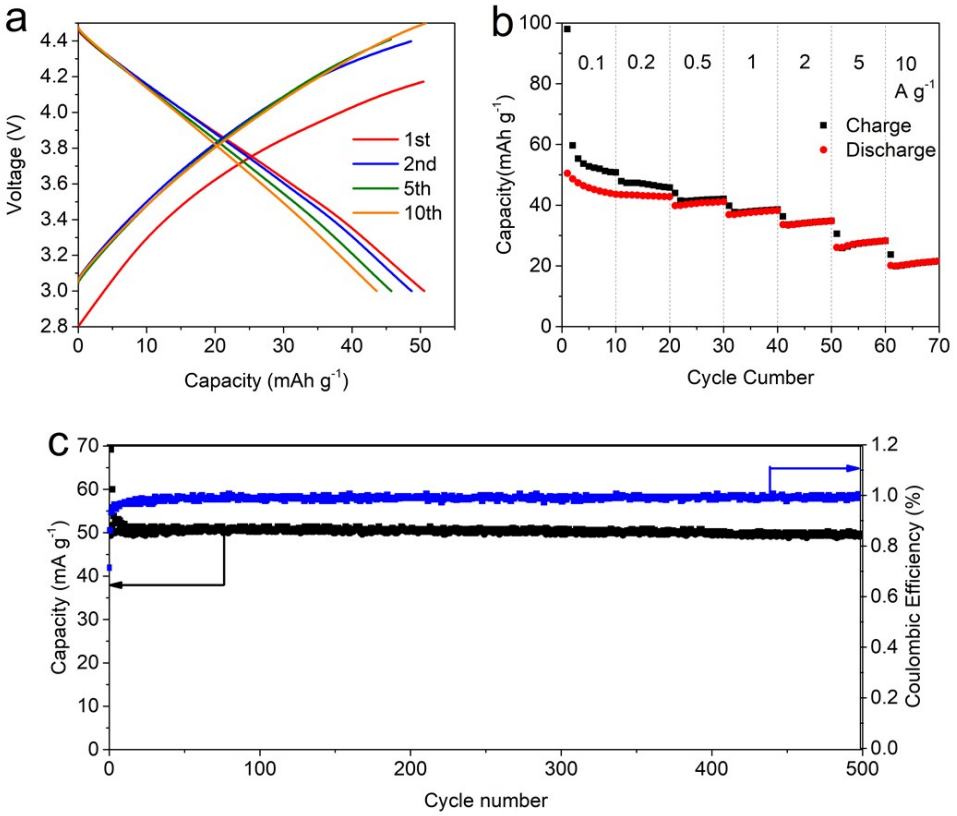

Fig. S8 (a) Galvanostatic charge/discharge curves of PCN at 0.1 A g^{-1}; (b) Rate capabilities of PCN at various current densities; (c) Cycling performance of the PCN cathode at 1 A g^{-1}.

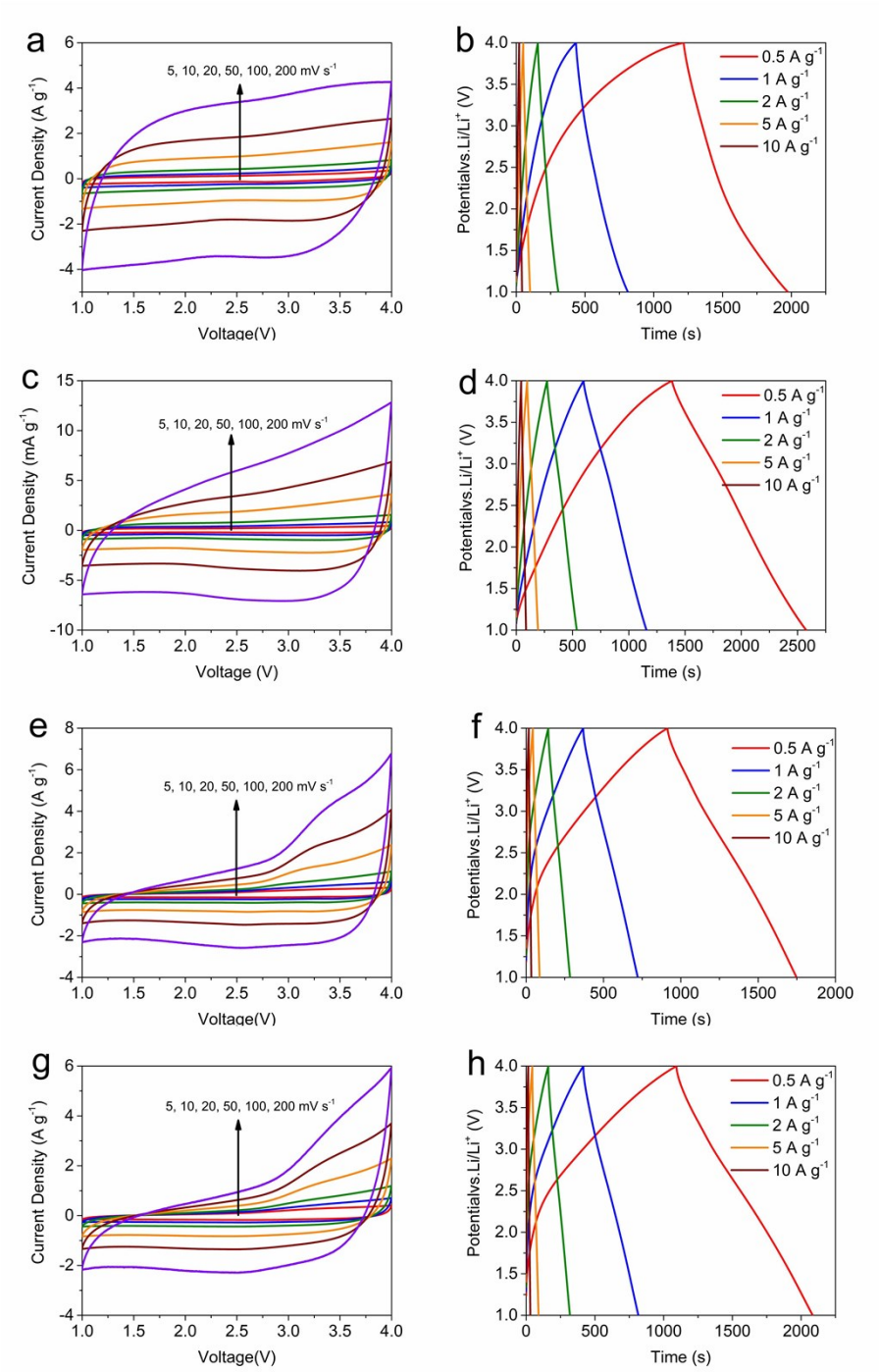

Fig. S9 Electrochemical properties of the SnO_2/PCN//PCN with different mass ratio of anode to cathode: CV curves at various scan rates ranging from 5 to 200 mV $s^{-1}$with mass ratio of (a) 1:1, (c) 1:2, (e) 1:3 and (g) 1:4; GCD profiles at different current densities of 0.5 to 10 A g^{-1} with mass ratio of (b) 1:1, (d)1:2 , (f) 1:3 and (h)1:4.

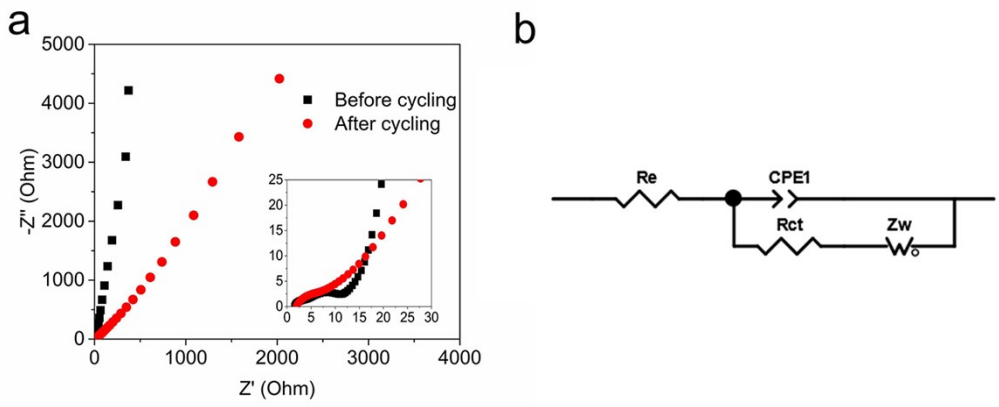

Fig. S10 (a) Electrochemical impedances (EIS) of SnO_2/PCN //PCN before cycling and after 5000 cycles; (b) the equivalent circuits.

Table S1. Comparison with the performance of previously reported Li-ion capacitors.

Hybrid system	Voltage Window	Energy Density/ Power Density	Ref.
SnO_2/PCN//PCN (Li^+)	1-4 V	138 W h kg^{-1} /416 W kg^{-1} 51 W h kg^{-1} /53 kW kg^{-1}	This work
Zr-MOF//AC (Li^+)	1-4 V	122.5 W h kg^{-1}/ 250 W kg^{-1} 34.4 W h kg^{-1}/12.5 kW kg^{-1}	[72]
MnO@HCF//AC (Li^+)	0.5-3.8 V	87.4 W h kg^{-1}/215 W kg^{-1} 50.6 W h kg^{-1}/10.75 W kg^{-1}	[73]
h-V_2O_3@C//AC (Li^+)	1-4 V	≈118 W h kg^{-1}/250 W kg^{-1} 78 W h kg^{-1}/ 20 kW kg^{-1}	[74]
CNF//PANi@CNF (Li^+)	2-4 V	106.5 W h kg^{-1}/769 W kg^{-1} 64.5 W h kg^{-1}/15087.1 W kg^{-1}	[75]
Ni_2P@N-C//AC (Li^+)	1–4 V	126 W h kg^{-1}/500 W kg^{-1} 80 W h kg^{-1}/12.5 kW kg^{-1}	[76]
3DC@LTSO// LDAC (Li^+)	0.5–4 V	115.3 W h kg^{-1}/163.5 W kg^{-1} 60 W h kg^{-1}/65.6 kW kg^{-1}	[77]
Fe_3O_4@C//AC (Li^+)	0-4 V	110.1 W h kg^{-1}/ 250W kg^{-1} 36.8 W h kg^{-1}/2.5 kW kg^{-1}	[78]
T-Nb_2O_5@NC//NCC (Li^+)	1-3.5 V	93.8 W h kg^{-1}/112.5 W kg^{-1} 19.6 W h kg^{-1}/22.5 kW kg^{-1}	[79]
c$NiCo_2O_4$ //VACNFs (Li^+)	1-4.2 V	136.9 W h kg^{-1}/0.2 kW kg^{-1} 26.44 W h kg^{-1}/40 kW kg^{-1}	[80]