Electronic Supplementary Information (ESI)

Hierarchically Porous N-doped Carbon Derived from Supramolecular Assembled Polypyrrole as High Performance Supercapacitor Electrode Material

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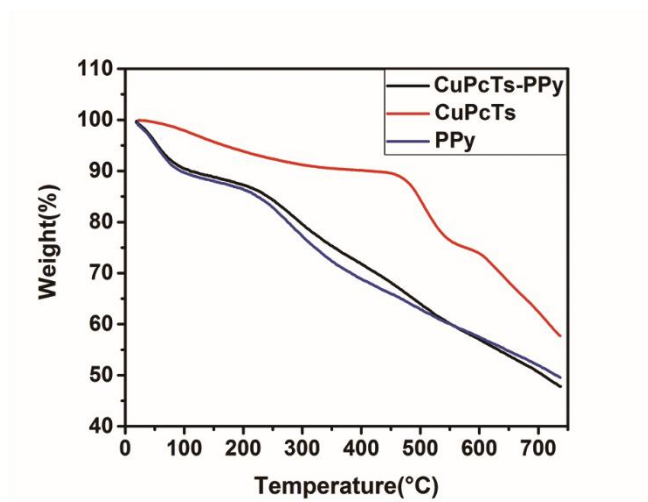
Email: ljpan@nju.edu.cn

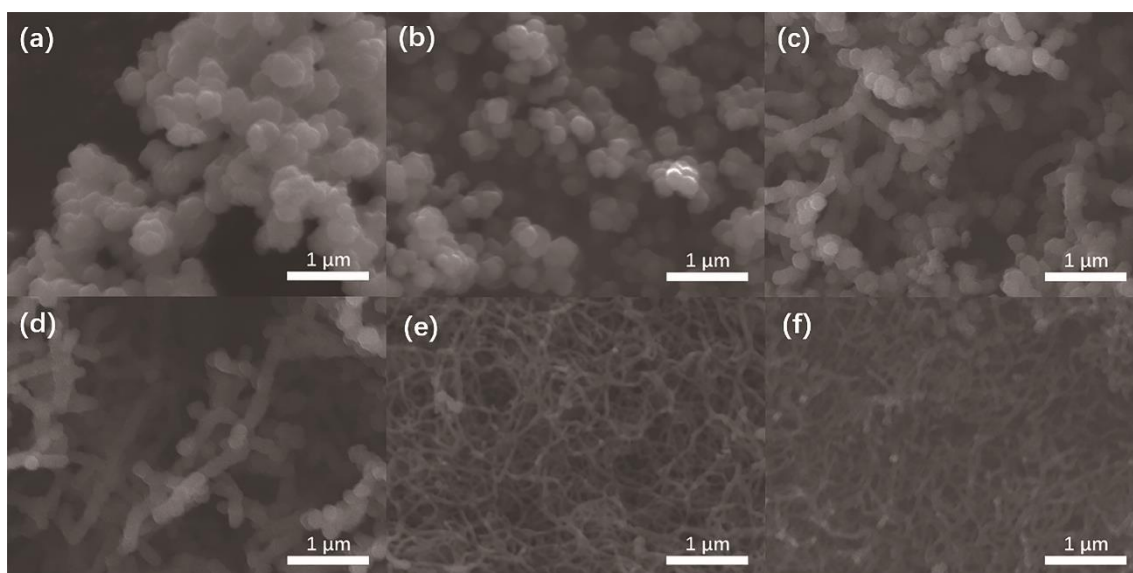**Figure S1.** TGA profiles for CuPcTs-PPy, CuPcTs, and PPy.

Fig. S2 SEM images of (a) PPy without CuPcTs, and PPy with (b) 0.002 mmol, (c) 0.004 mmol, (d) 0.008 mmol, (e) 0.016 mmol, (f) 0.032 mmol CuPcTs, respectively.
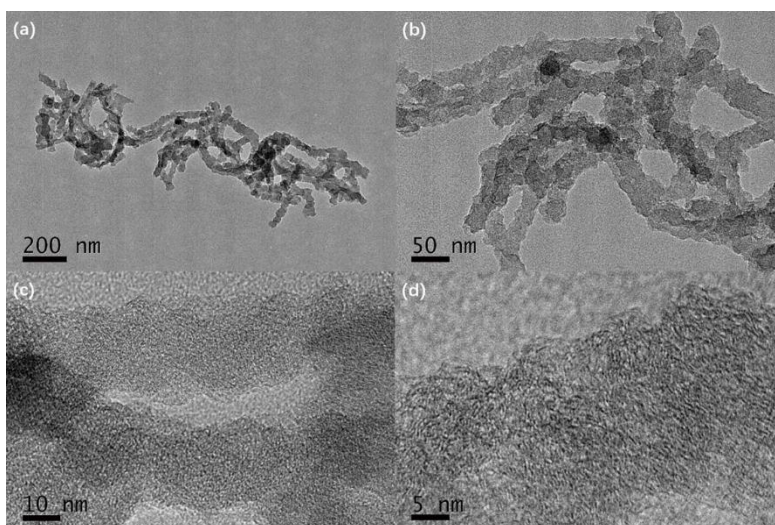
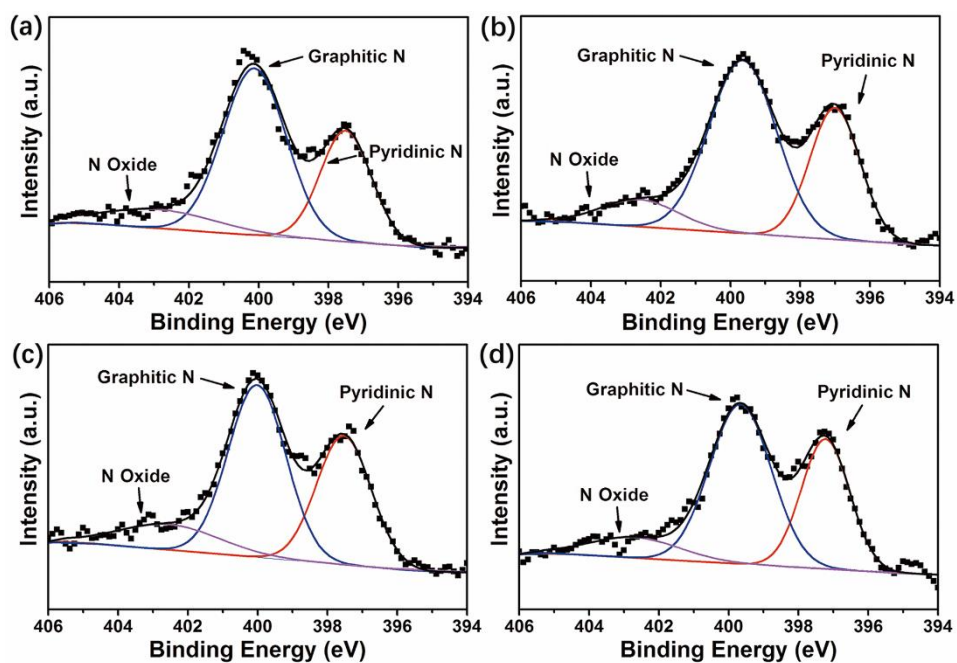**Figure S3.** TEM images of HPNCs with (a) 200 nm, (b) 50 nm, (c) 10 nm, and (d) 5 scale.

Fig. S4 N 1s detail spectra of (a) NC-1, (b) NC-2, (c) NC-3, and (d) NC-4 conducted by XPS analysis.

Fig. S5 CV curves at various scan rates of (a) HPNC-1, (b) HPNC-2, (c) HPNC-3, and (d) HPNC-4, respectively. GCD curves at various current densities of (e) HPNC-1, (f) HPNC-2, (g) HPNC-3, and (h) HPNC-4, respectively.
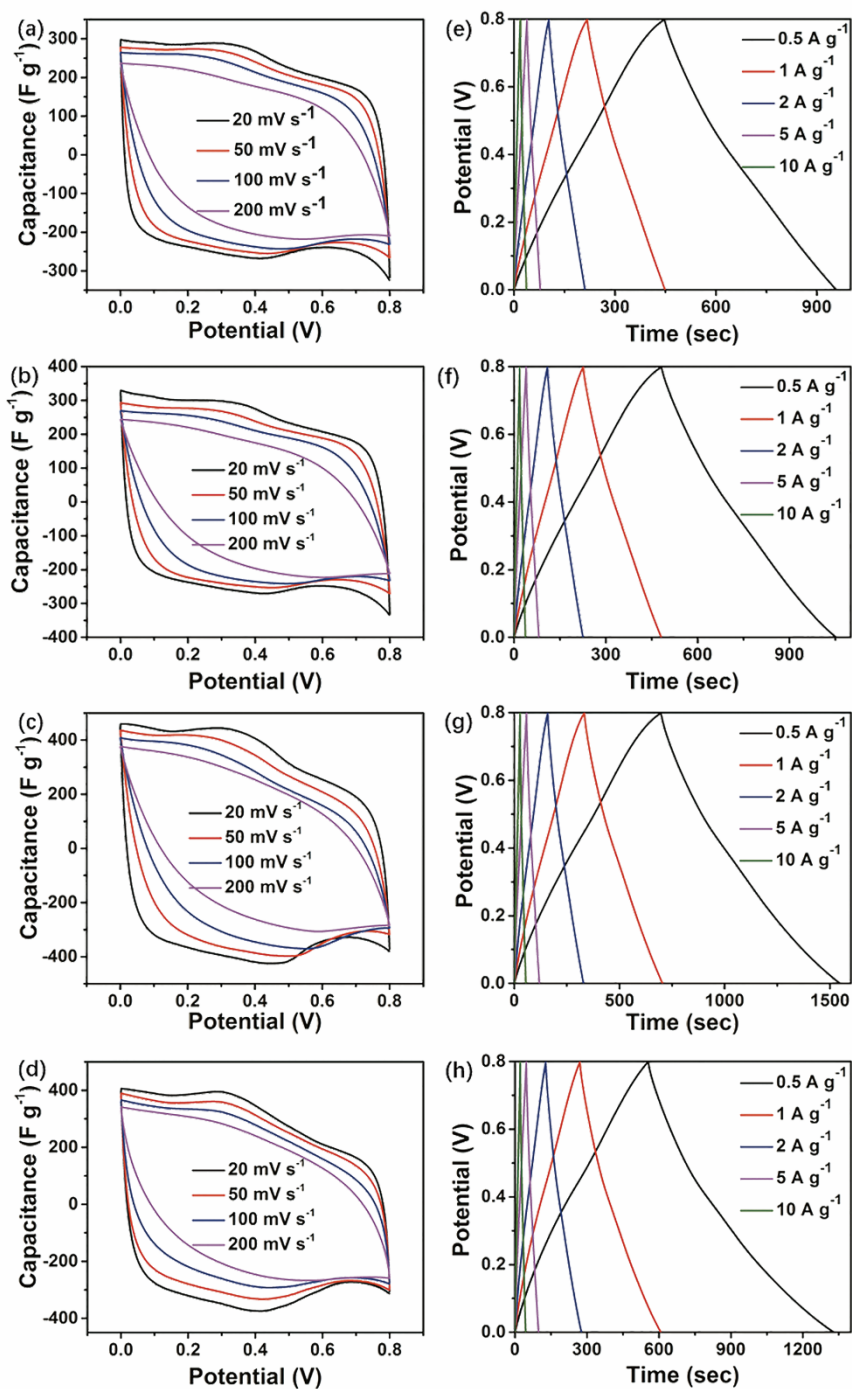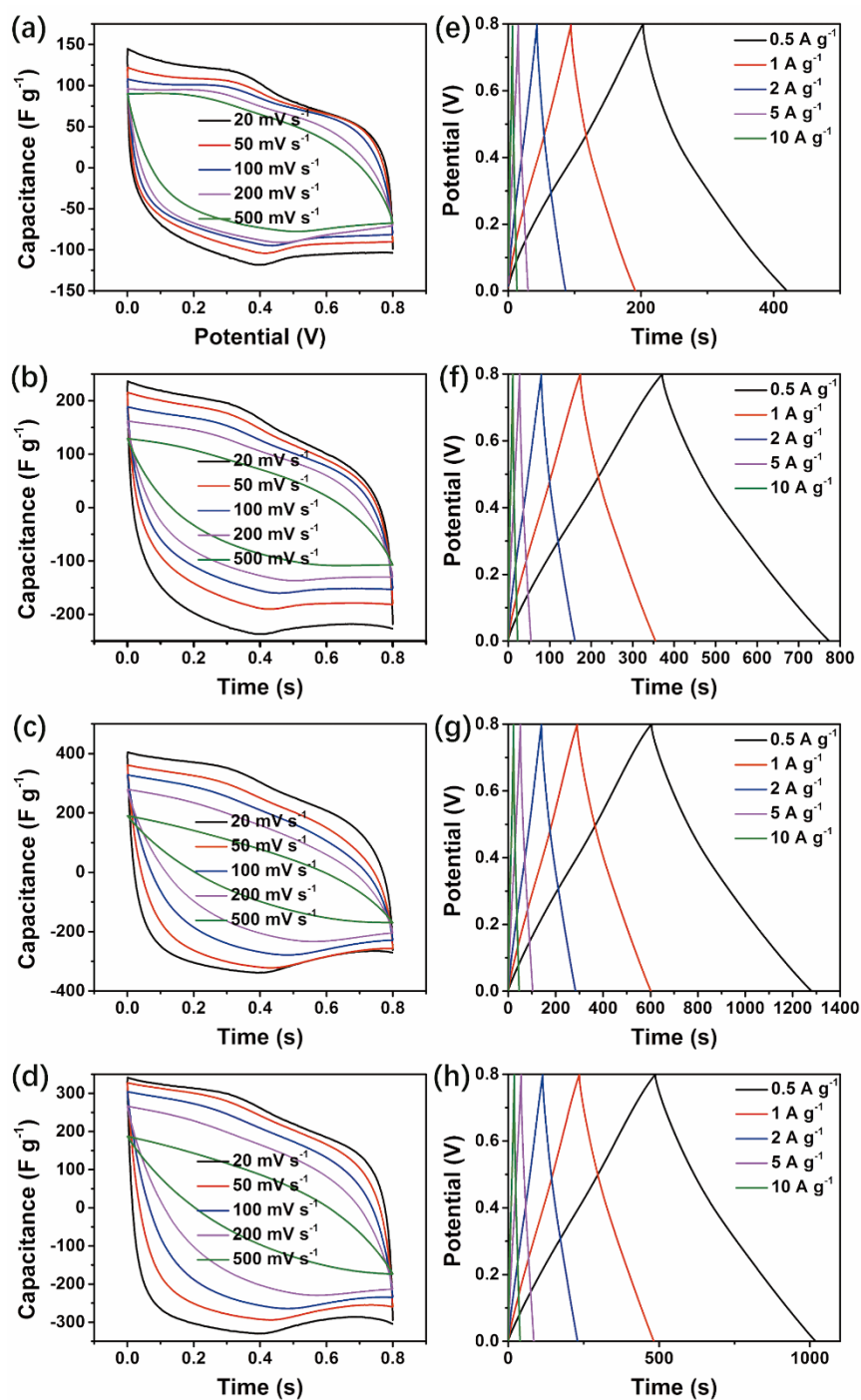
Fig. S6 CV curves at various scan rates of (a) NC-1, (b) NC-2, (c) NC-3, and (d) NC-4, respectively. GCD curves at various current densities of (e) NC-1, (f) NC-2, (g) NC-3, and (h) NC-4, respectively.
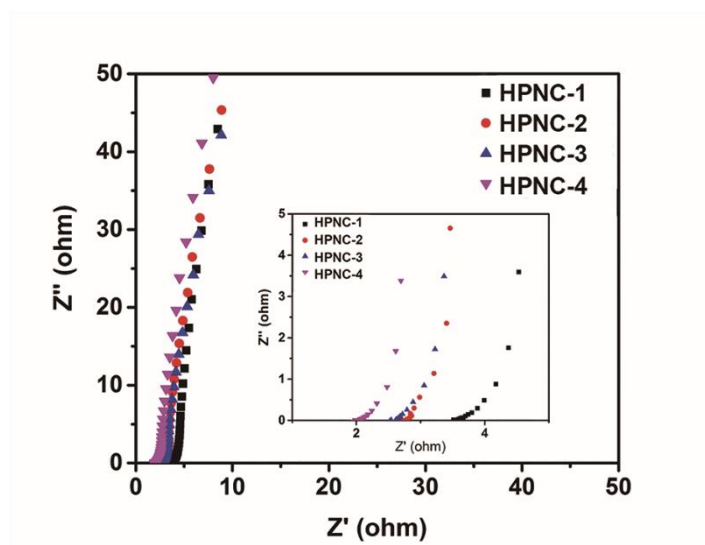
Figure S7. Nyquist plots of the HPNCs (inset, zoom in of the plot).

Table S1 Near surface elemental composition of the NCs from XPS.

Samples	Elemental composition (atom %)				
	C	N (pyridinic:graphitic:oxidized)	O	S	Cu
NC-1	88.11	8.77 (2.70:5.03:1.04)	2.54	0.58	0
NC-2	87.81	8.70 (2.82:4.99:0.89)	2.91	0.58	0
NC-3	86.83	8.79 (3.17:4.47:1.15)	3.61	0.77	0
NC-4	86.58	8.86 (3.09:4.85:0.92)	3.04	0.92	0.60

Table S2 Derived carbon materials as electrodes in a two/three electrode system.

Precursors	S_{BET} (m^2 g^{-1})	Electrolyte	Rate	C_s (F g^{-1})	Ref
PPy nanobelts	> 350	1 M H$_2$SO$_4$	0.2 A g^{-1}	467	1
PPy nanotubes	58.9	1 M H$_2$SO$_4$	1 mA cm^{-2}	228	2
PANI on palygorskite template	517.02	1 M H$_2$SO$_4$	1.0 A g^{-1}	389	3
PANI & metal salts	1645	1 M KOH	5 mV s^{-1}	478	4
PTFE	2302	6 M KOH	0.02 A g^{-1}	201	5
Corn straw & soy protein	1233.6-1412.9	6 M KOH	0.05 A g^{-1}	378.9	6
Phytic acid crosslinked PANi	4073	0.5 M H$_2$SO$_4$	0.5 A g^{-1}	225	7
Chicken egg whites	1405	1 M H$_2$SO$_4$	0.5 A g^{-1}	481	8
Willow catkin	1533	6 M KOH	0.5 A g^{-1}	298	9
PPy microsheets	2870	6 M KOH	0.5 A g^{-1}	318.2	10
F127, DCDA, resol composite	494-586	1 M H2SO$_4$	0.2 A g^{-1}	262	11
PPy @ carbon nanofibers	562.51	6 M KOH	1.0 A g^{-1}	202	12
PPy nanospheres	1080	0.5 M H$_2$SO$_4$	100 mV s^{-1}	237.9	13
CuPcTs assembled PPy	2113.2	1 M H$_2$SO$_4$	0.5 A g^{-1}	435.6	This work

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