Supporting Information

Interconnected honeycomb-like porous carbon derived from plane tree fluff for high performance supercapacitors

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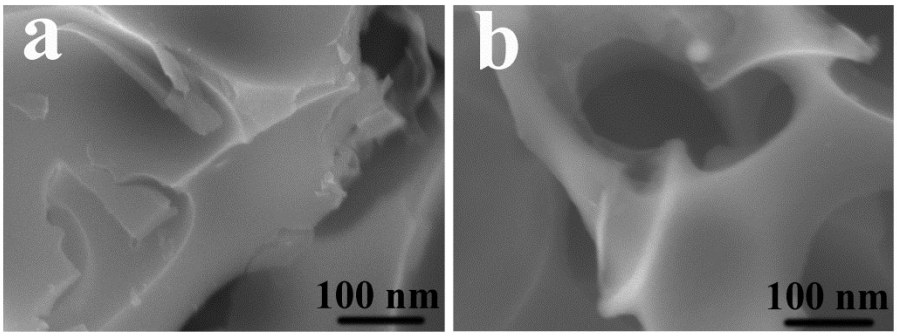

Figure S1 SEM images of (a) HAC-800 and (b) IHPC-800.

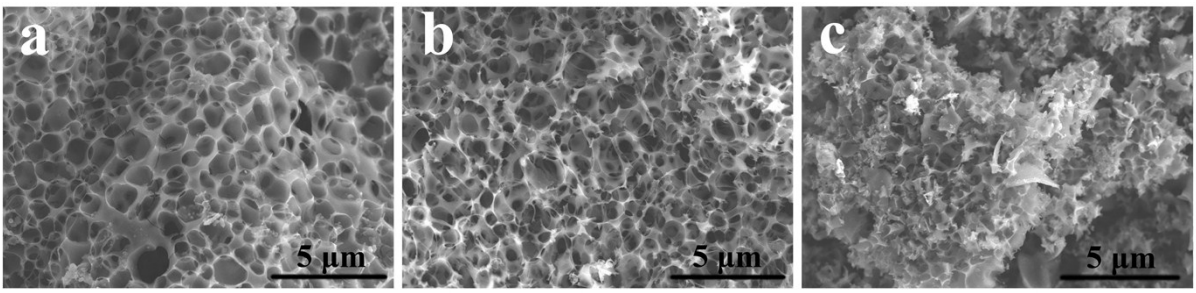

Figure S2 SEM images of (a) IHPC-700, (b) IHPC-800, and (c) IHPC-900.

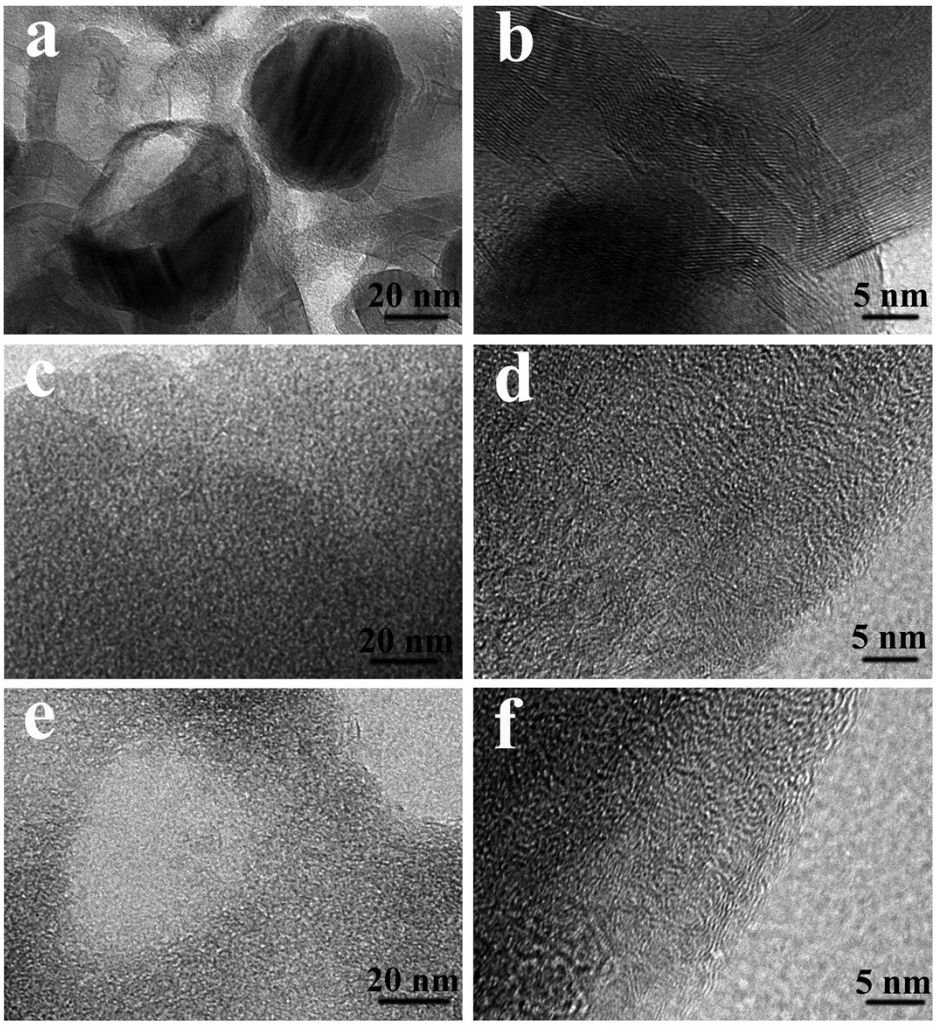

Figure S3 High-resolution TEM images of (a, b) CT-800 without a post-etching process with HCl, (c, d) HAC-800, and (e, f) IHPC-800.

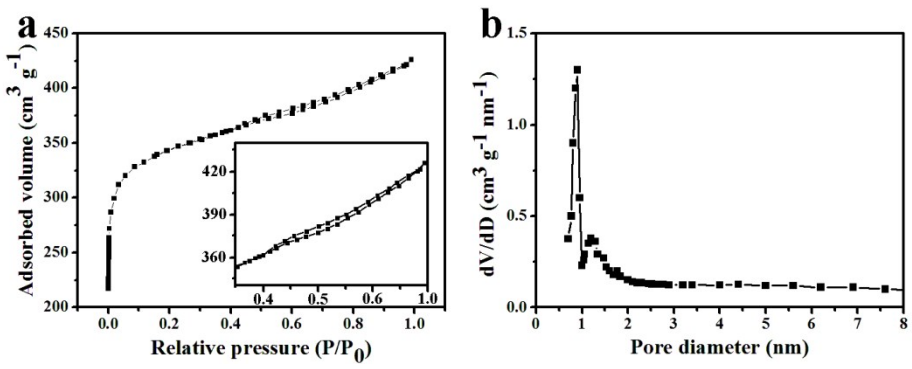

Figure S4 (a) N_2 adsorption and desorption isotherm, with an enlargement of the hysteresis loop as inset, and (b) pore size distribution of IHPC-800.

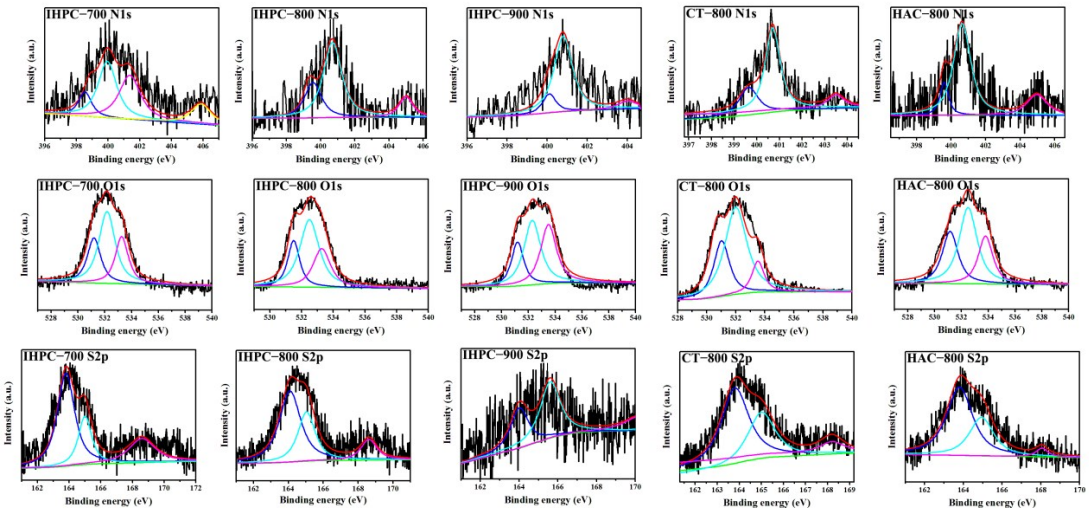

Figure S5 High-resolution XPS scans for N1s, O1s, and S2p of the IHPC materials and control samples.

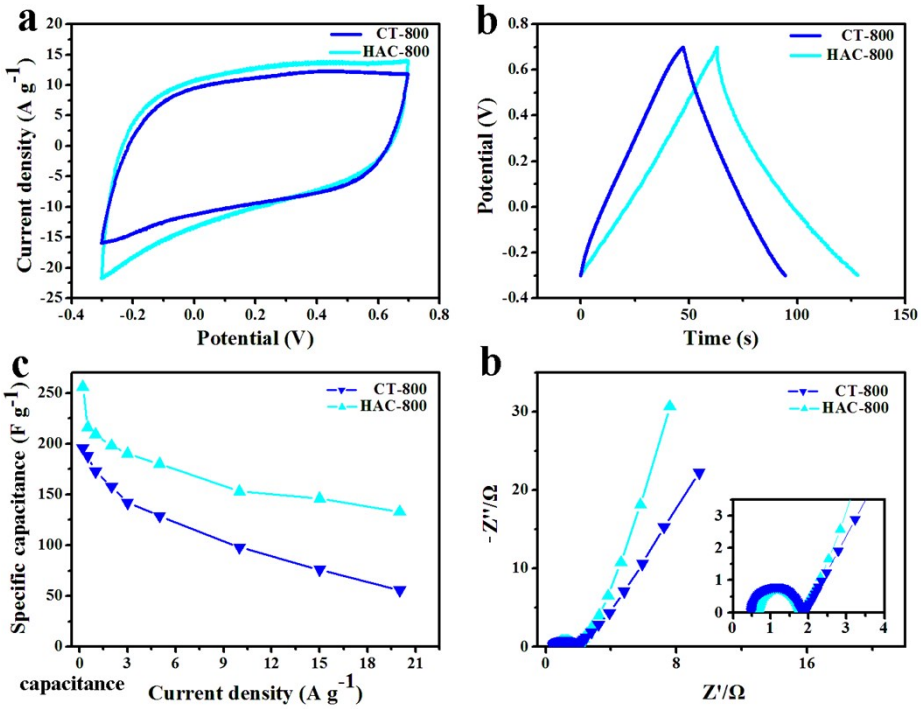

Figure S6 Electrochemical performance of CT-800 and HAC-800 in a three-electrode cell in 2 M H_2SO_4. (a) CV curves at 50 mV s^{-1}. (b) GCD curves at the current density of 3 A g^{-1}. (c) Specific capacitance at different current densities. (d) Nyquist plots, with an enlargement of the high frequency region as inset.

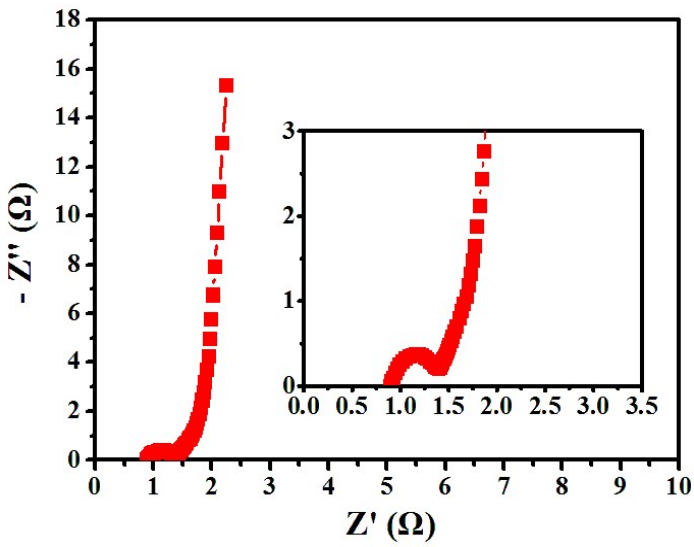

Figure S7 Nyquist plot of IHPC-800 based symmetrical SCs in 2 M H_2SO_4, with an enlargement of the high frequency region as inset.

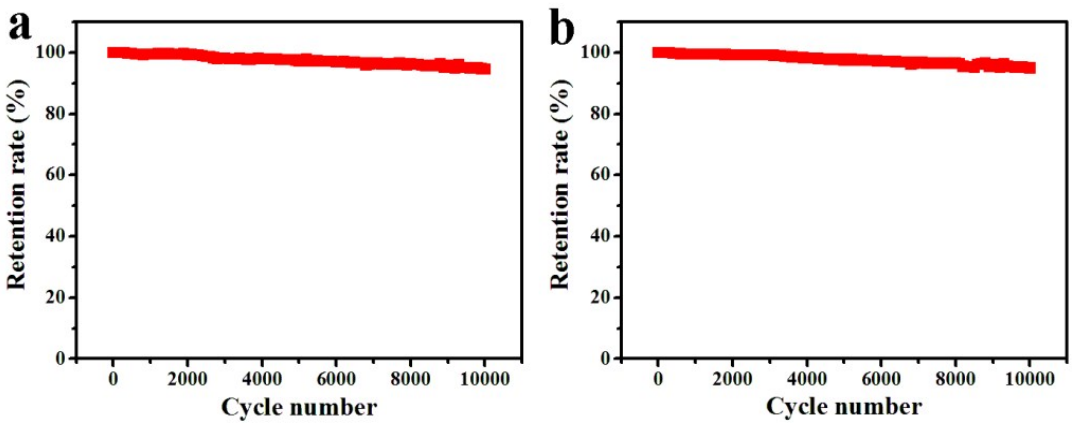

Figure S8 Cycling stability of HIPC-800 based symmetrical SCs (a) in 2 M H_2SO_4 (5 A g^{-1}) and (b) in 1 M $LiPF_6$ in EC/DEC (2 A g^{-1}).

Table S1 Comparison of the electrochemical performance of the as-prepared samples with other bio-derived carbon materials from recent references.

Precursor	C_g (F g^{-1})	Current density (A g^{-1})	Current density (A g^{-1})/cycle number/ C_g retention (%)	References
Willow catkin	285	1	5/10000/98	[S1]
Human hair	340	1	2/20000/98	[S2]
Seed shell	329	1	----------	[S3]
Banana peel	206	1	10/1000/98.3	[S4]
Banana fibers	74	0.5	0.5/500/89	[S5]
Pomelo peel	342	0.2	10/1000/98	[S6]
IHPC-700	410; 325	0.2; 1	10/10000/96.10	This work
IHPC-800	493; 370	0.2; 1	10/10000/96.01	This work
IHPC-900	395; 306	0.2; 1	10/10000/97.30	This work
CT-800	196; 173	0.2; 1	10 /10000/97.02	This work
HAC-800	256; 209	0.2; 1	10/10000/95.20	This work

Table S2 Equivalent series resistance (R_s) and charge transfer resistance (R_{ct}) of as-prepared samples in three-electrode cell.

Samples	R_s (Ω)	R_{ct} (Ω)
IHPC-700	0.56	0.61
IHPC-800	0.43	0.42
IHPC-900	0.45	0.76
CT-800	0.49	1.30
HAC-800	0.68	1.11

References

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