

Ultrasonic-assisted synthesis of rice-straw-based porous carbon with ultra-stable symmetric supercapacitor

Guolang Zhou ^a, Jingzhou Yin ^{a, b, *}, Zechun Sun ^a, Xiaoliang Gao ^a, Fengxia Zhu ^{a, *}, Pusu Zhao ^a, Rongqing Li ^a, Jiaying Xu ^{b, c, *}

^a Jiangsu Key Laboratory for the Chemistry of Low-Dimensional Materials, School of Chemistry and Chemical Engineering, Huaiyin Normal University, Huai'an 223001, P. R. China

^b State Key Laboratory of Coordination Chemistry, School of Chemistry and Chemical Engineering, Nanjing University, Nanjing 210093, P. R. China

^c School of Chemistry and Chemical Engineering, Yancheng Institute of Technology, Yancheng 224051, P. R. China

*Corresponding author: jingzhouyin@hytc.edu.cn, zhufengxia501@163.com, xujiating-1984@163.com

Table S1 specific surface areas and pore volumes of three UPC samples

Sample	S _{BET} (m ² g ⁻¹)	S _{mic} (m ² g ⁻¹)	S _{mes} & S _{macro} (m ² g ⁻¹)	Total pore volume (cm ³ /g)	Micropore (cm ³ /g)	Mesopores (cm ³ /g)	D (nm)
UPC-500	1326.26	1000.46	325.8	0.75	0.71	0.04	2.12
UPC-600	1820.24	1418.7	401.54	1.07	0.97	0.1	2.19
UPC-700	2742.9	1041.4	1701.5	1.44	1.00	0.44	2.11

Note: (S_{BET} BET surface area, S_{mic} Micropore surface area, D_p Average pore diameter)

Table S2 Surface element composition determined by XPS

Sample	C (%)	O (%)	Si (%)	N (%)	S (%)
UPC-500	80.82	16.74	0.78	1.38	0.28
UPC-600	88.19	9.76	1.04	0.65	0.36
UPC-700	83.53	12.2	3.28	0.75	0.24

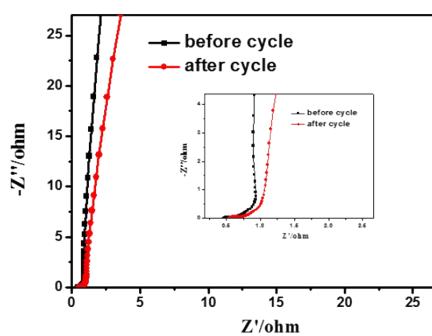


Fig. S1 Nyquist plot of impedance of AC-600 from 0.01Hz-100kHz before and after cycle.