Supporting Information

Heteroatom-doped porous carbons derived from Moxa floss of different storage years for supercapacitors

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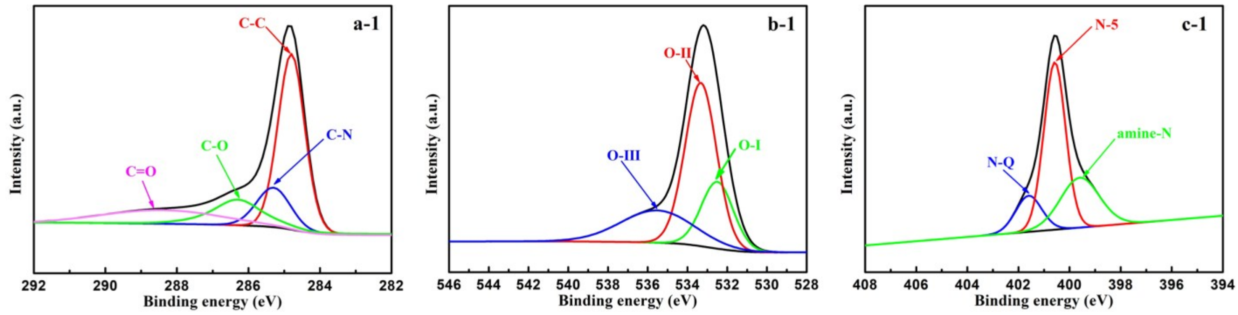
Table S1 The SSA and pore structure parameters of MC.

Products	BET SSA (m^2 g^{-1})	Pore volume (V_{total}, cm^3 g^{-1})	Average pore width (nm)
MC-1	1788.6	0.8170	1.8271
MC-2	1616.0	0.7834	1.9391
MC-3	1472.5	0.6476	1.7591
MC-4	1628.0	0.7058	1.7342
MC-5	1420.6	0.6578	1.8520
MC-6	1323.0	0.5761	1.7418

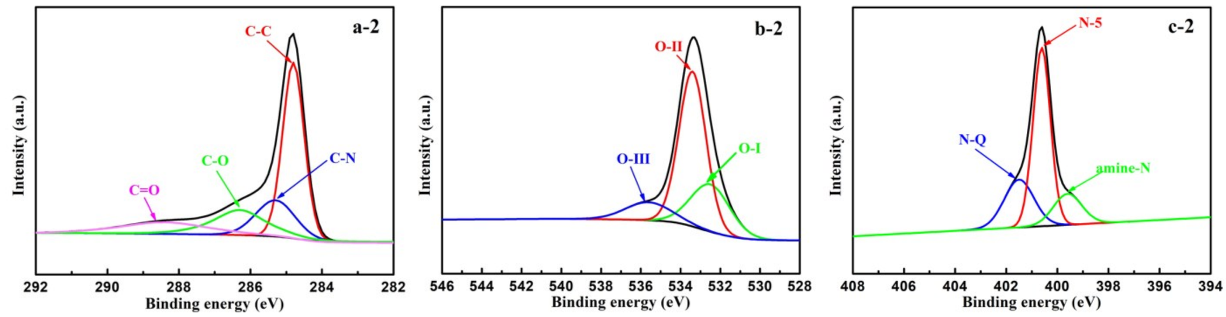
Table S2 Elemental analysis results of MC.

Products	C (wt.%)	N (wt.%)	O (wt.%)
MC-1	91.72	1.58	6.70
MC-2	91.45	2.32	6.23
MC-3	90.62	1.62	7.76
MC-4	88.58	1.74	9.68
MC-5	86.25	1.75	12.00
MC-6	75.02	1.08	23.90

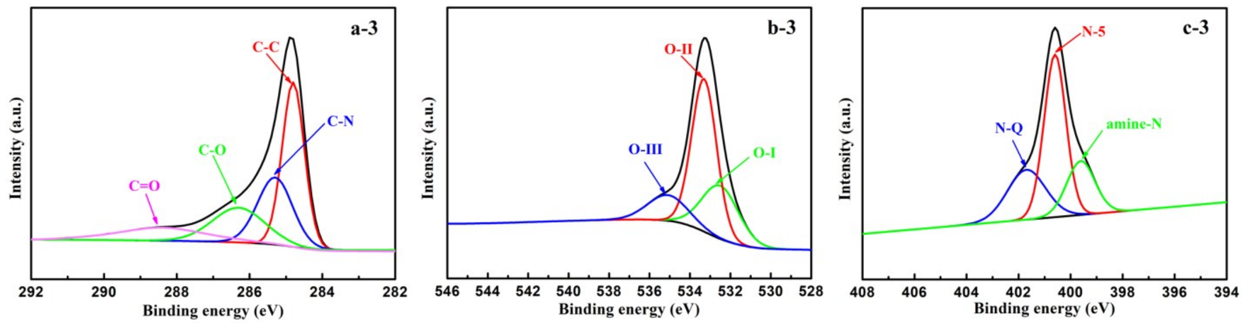
MC-2:



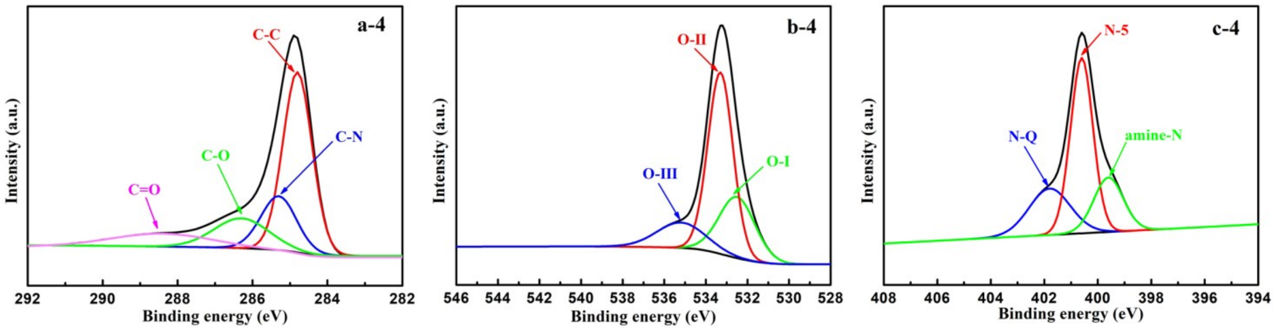
MC-3:



MC-4:



MC-5:



MC-6:

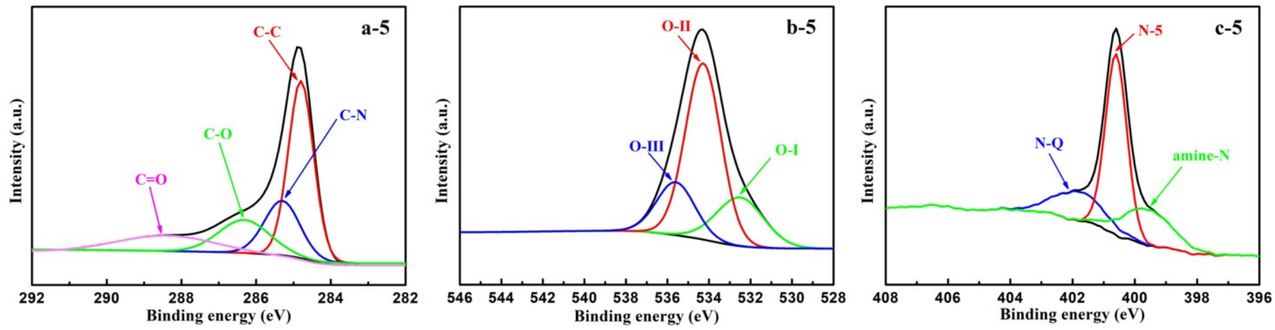
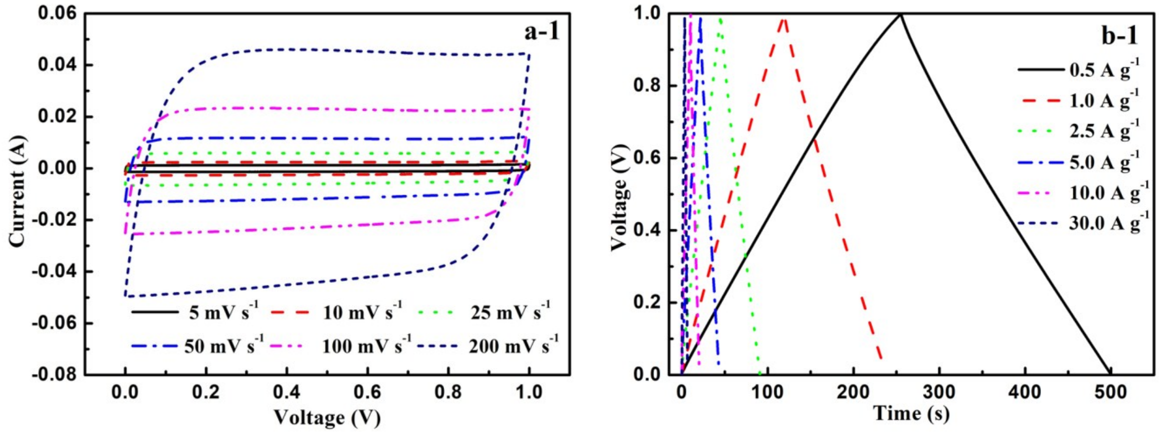
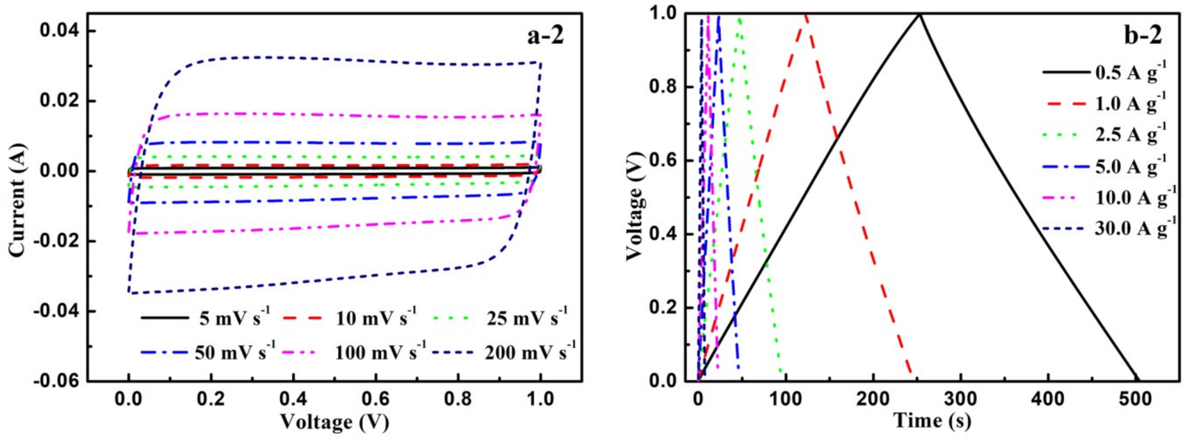


Figure S1 The high-resolution XPS spectra of MC2-6: (a-1~5) C1s, (b-1~5) O1s, (c-1~5) N1s.

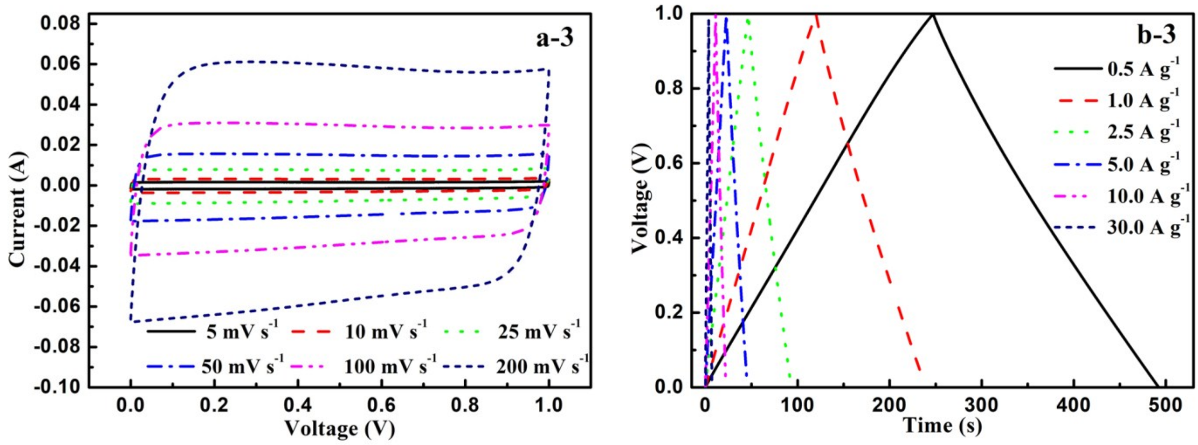
MC-1:



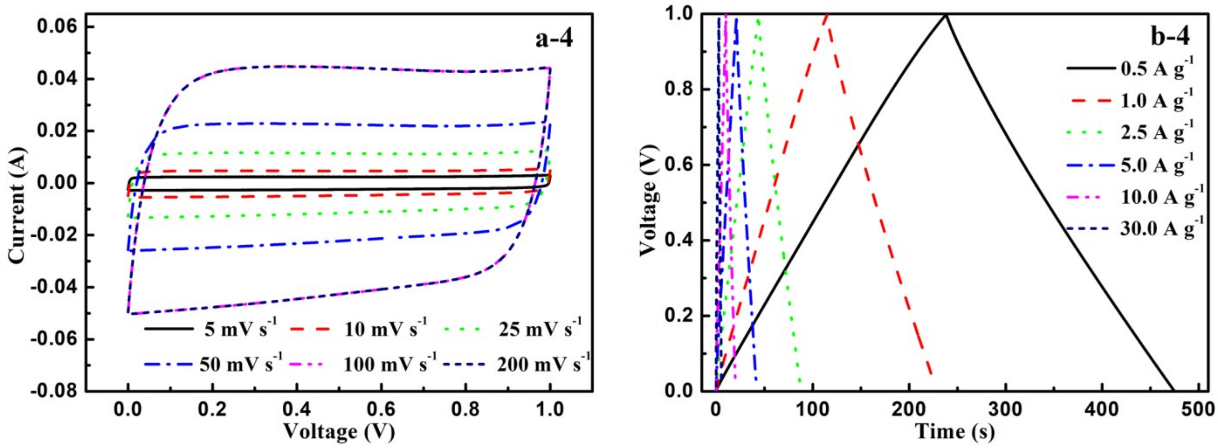
MC-2:



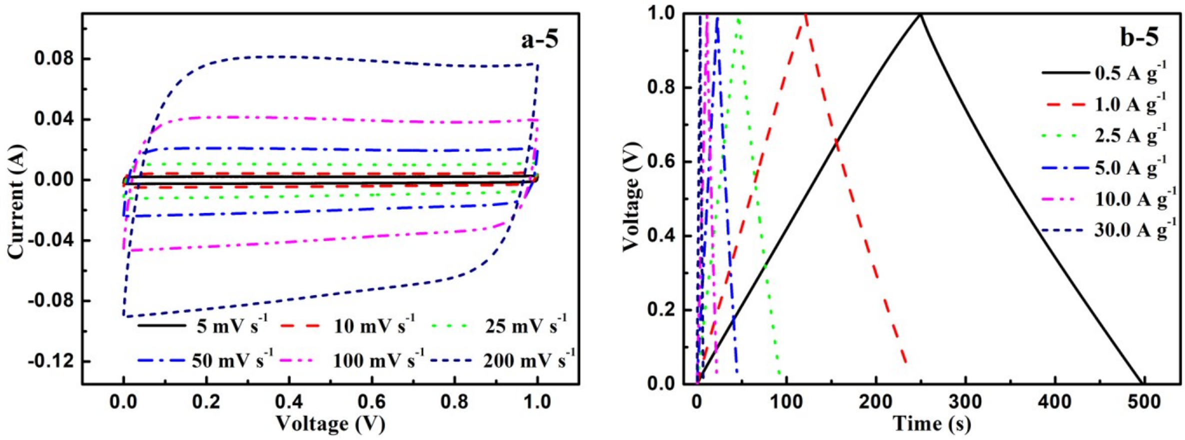
MC-3:



MC-4:



MC-5:



MC-6:

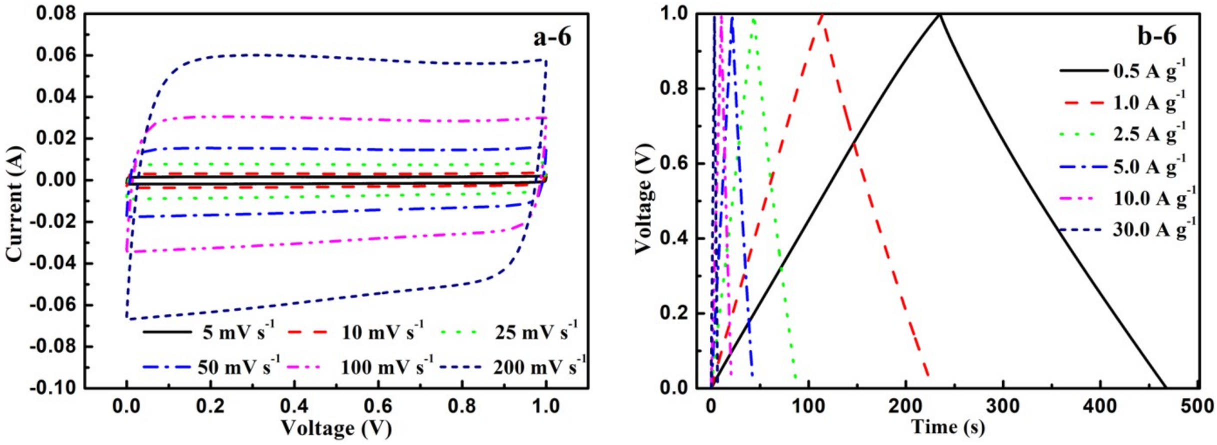


Figure S2 (a-1~6) cyclic voltammetry curves at different scan rates from 5 to 200 mV s^{-1}, (b-1~6) Galvanostatic charge-discharge curves at different current densities from 0.5 to 30.0 A g^{-1} in a two-electrode system with 6 mol L^{-1} KOH aqueous solution electrolyte.

Table S3 comparison of biomass-derived carbons as electrode materials of supercapacitors, all tested in a two-electrode configuration.

Carbon source	SSA (m^2 g^{-1})	Capacitance (F g^{-1})	Electrolyte	Measure condition	Ref.
moxa floss	1616	288.3	6 M KOH	0.25 A g^{-1}	Our work
banana peel	1650	206	6 M KOH	1 A g^{-1}	1
waste tobacco	1104	170	6 M KOH	0.5 A g^{-1}	2
tobacco rods	1761	237	6 M KOH	0.5 A g^{-1}	3
broad bean shells	655	202	6 M KOH	0.5 A g^{-1}	4
coconut shell	1874	268	6 M KOH	1.0 A g^{-1}	5
puffed rice	3326	334	6 M KOH	0.5 A g^{-1}	6
tobacco stem	1749	141	$TEABF_4$/AN	0.2 A g^{-1}	7
cornstalk pith	805	116	6 M KOH	0.25 A g^{-1}	8

References

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