

Supporting Information

Multilayer carbon materials prepared from zanthoxylum schinifolium husk for High-Performance Supercapacitor

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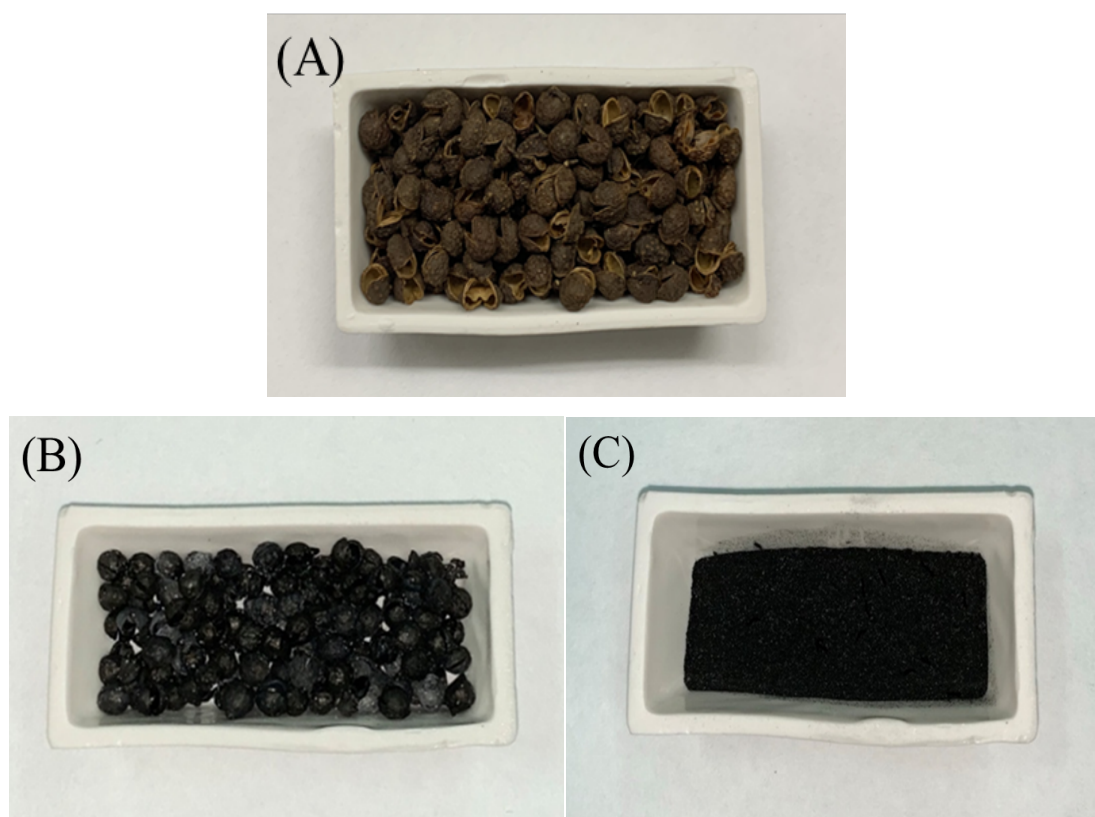


Fig. S1. The picture of zanthoxylum schinifolium husk: (A) Washed and dried . (B) Carbonized. (C) Activated.

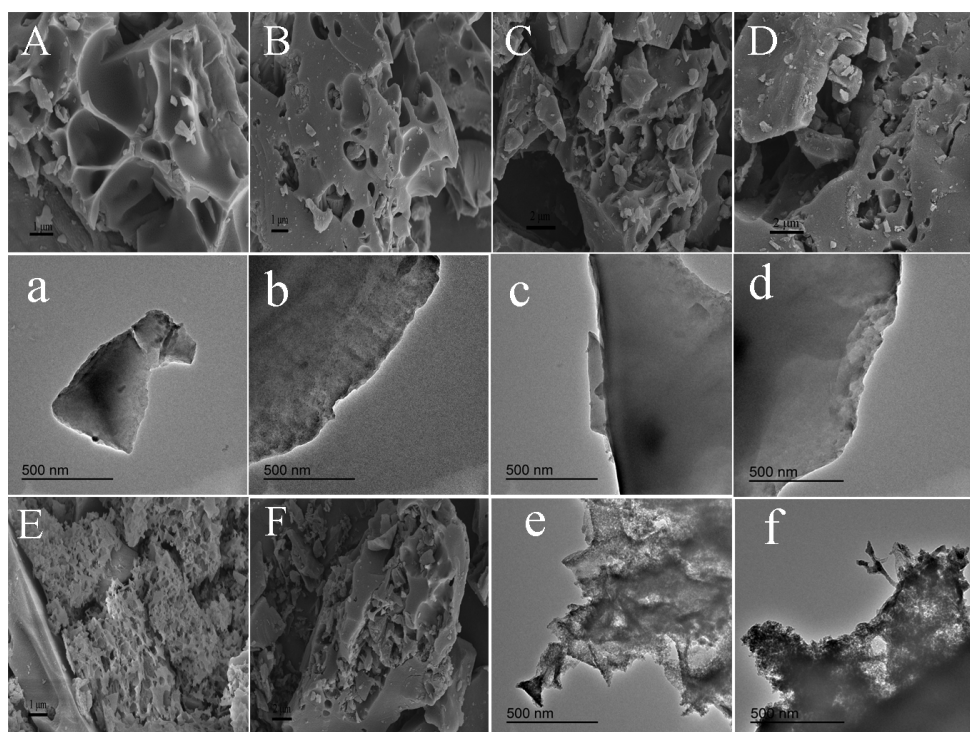


Fig. S2. (A, B) SEM images and (a, b) TEM images of NC; (C, D) SEM images and (c, d) TEM images of NC-2; (E, F) SEM images and (e, f) TEM images of NC-4

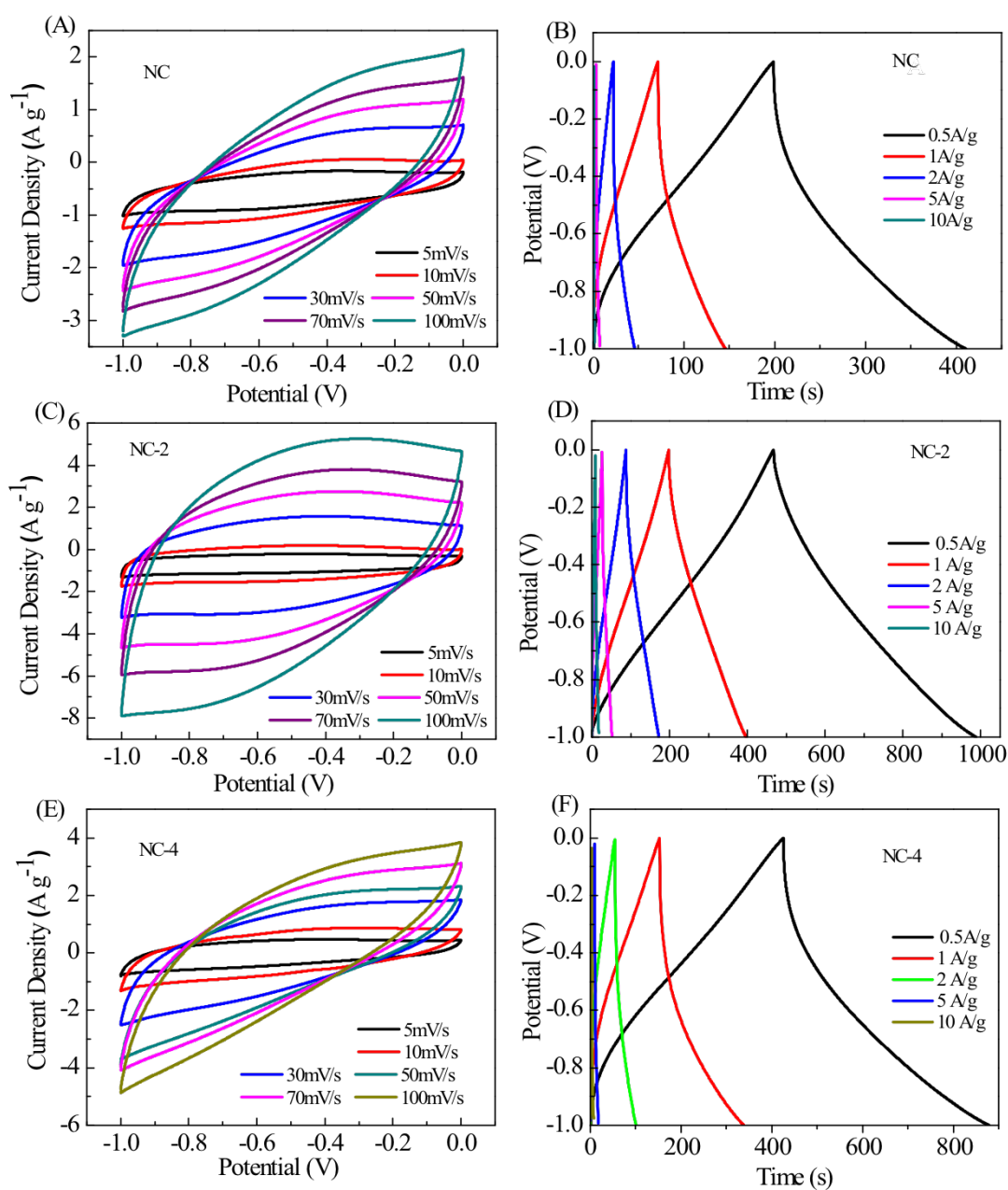


Fig. S3. Electrochemical properties of NC and NC-x (2, 4): (A) CV curves of NC range from 5 to 100 mVs⁻¹, (B) GCD curves of NC range from 0.5 to 10 A g⁻¹, (C) and (E) CV curves of NC-x (x=2,4) range from 5 to 100 mVs⁻¹, (D) and (F) GCD curves of NC-x (x=2,4) range from 0.5 to 10 A g⁻¹.

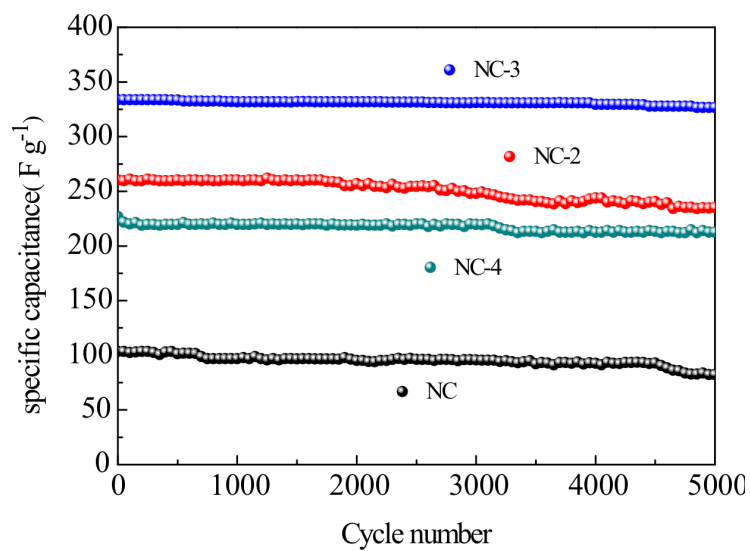


Fig. S4. Cyclic stability of NC and NC-x (2, 3, 4) at a charge-discharge current density of 0.5 A g⁻¹ for 5000 cycles.

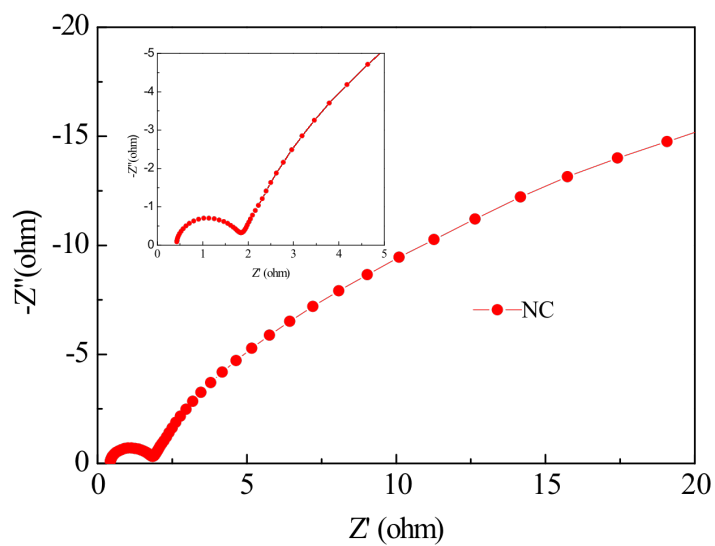


Fig. S5. Nyquist plots of NC

Table 2 The BET surface area, coulombic efficiency, ID/IG, layer spacing, yield of NC and NC-x (2, 3, 4).

Sample	S _{BET} (m ² g ⁻¹)	C (%)	ID/IG	Layer spacing (nm)	Yield (%)
NC	277.4698	79.6	0.6960	3.769	91.6
NC-2	740.7407	90.3	0.8985	3.927	96.7
NC-3	1473.6663	97.9	0.8792	3.935	94.3
NC-4	864.7580	93.7	0.9823	3.944	92.1

^a The S_{BET} was determined by using multi-point BET method.

^b Layer spacing of (002) crystal plane.

^c Yield is before and after carbonization of NC, yield is before and after activation of NC-2, NC-3, and NC-4.