Electronic Supplementary Information

Enhancing advanced Na storage of $Na_3V_2(PO_4)_3$ in symmetric sodium full cell via dual strategy design

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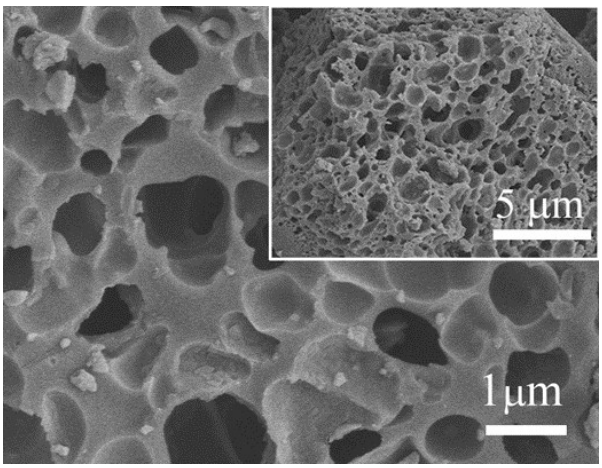

Figure S1. SEM image of HP-NVP@C (macrostructure in inset).

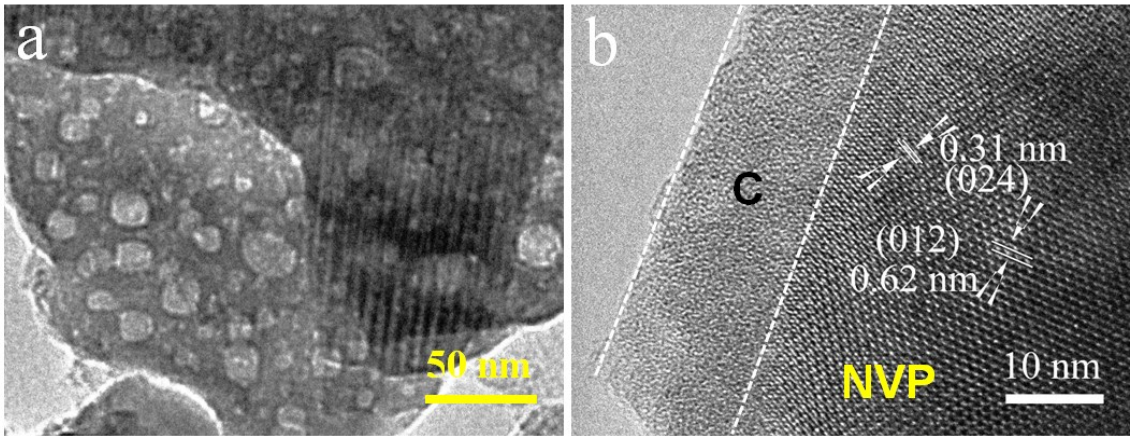

Figure S2. TEM and HRTEM images of HP-NVP@C.

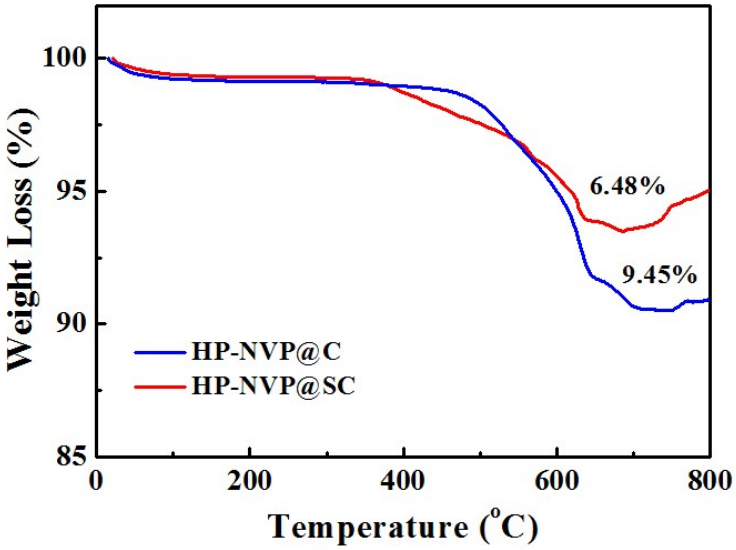

Figure S3. Thermogravimetry curves of HP-NVP@SC and the HP-NVP@C.

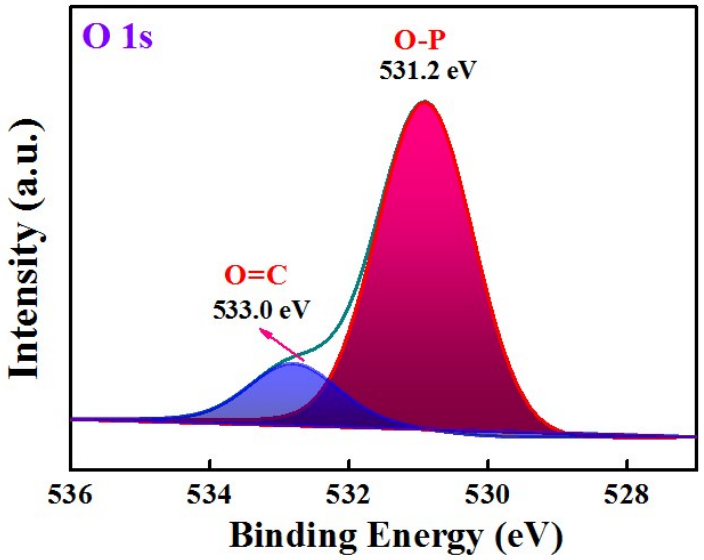

Figure S4. The O 1s spectrum of HP-NVP@SC.

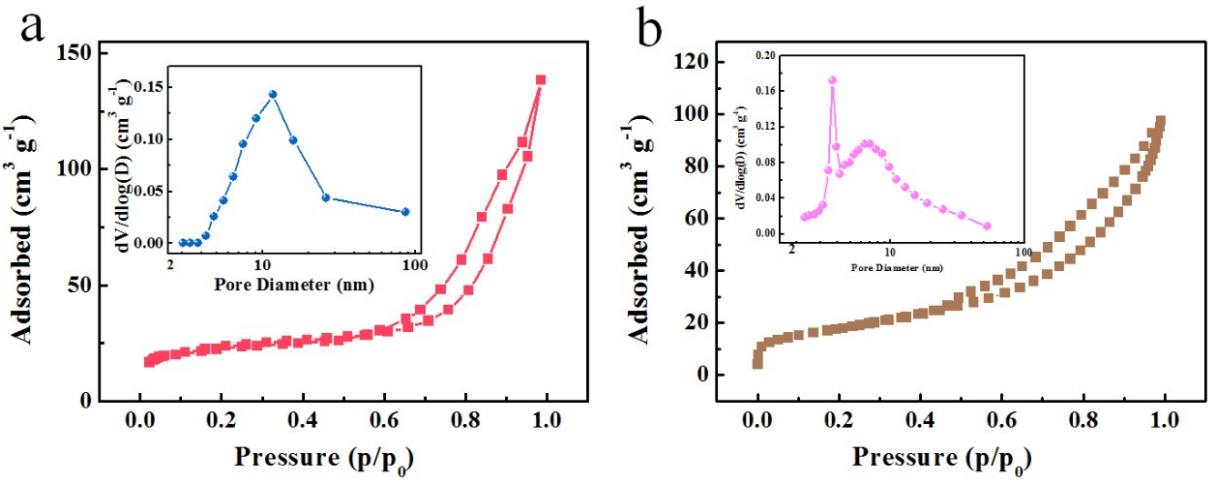

Figure S5. Nitrogen adsorption-desorption isotherms of (a) HP-NVP@SC and (b) HP-NVP@C (corresponding pore size distribution in inset).

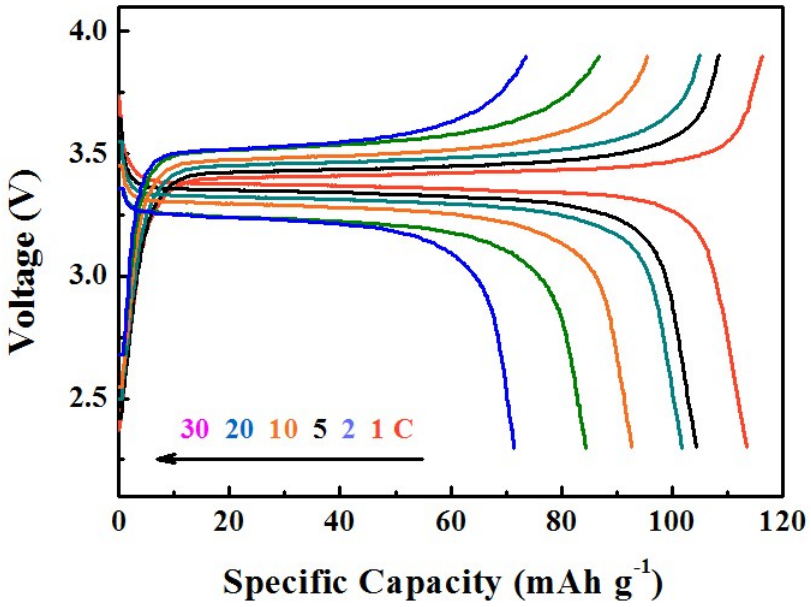

Figure S6. Galvanostatic charge-discharge curves of HP-NVP@C at different current densities (1-30 C).

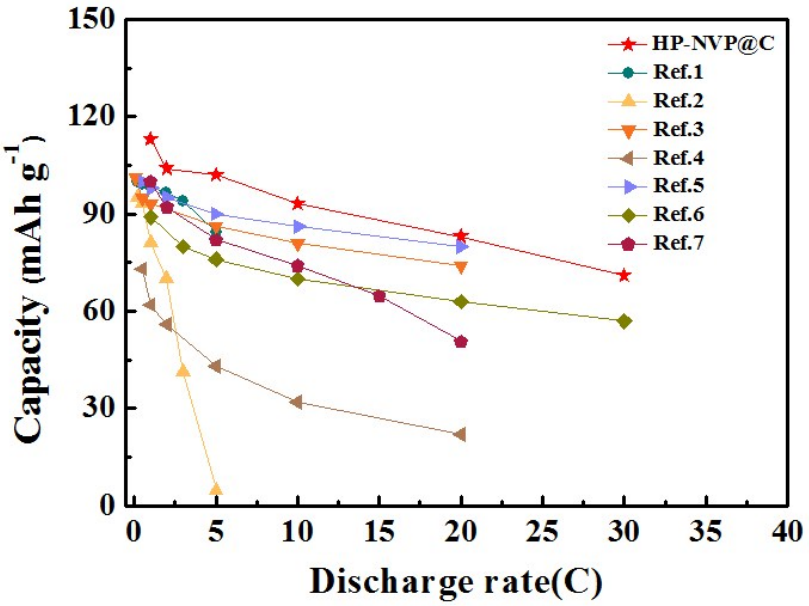

Figure S7. Rate property of the HP-NVP@C in comparison with references.[1-7]

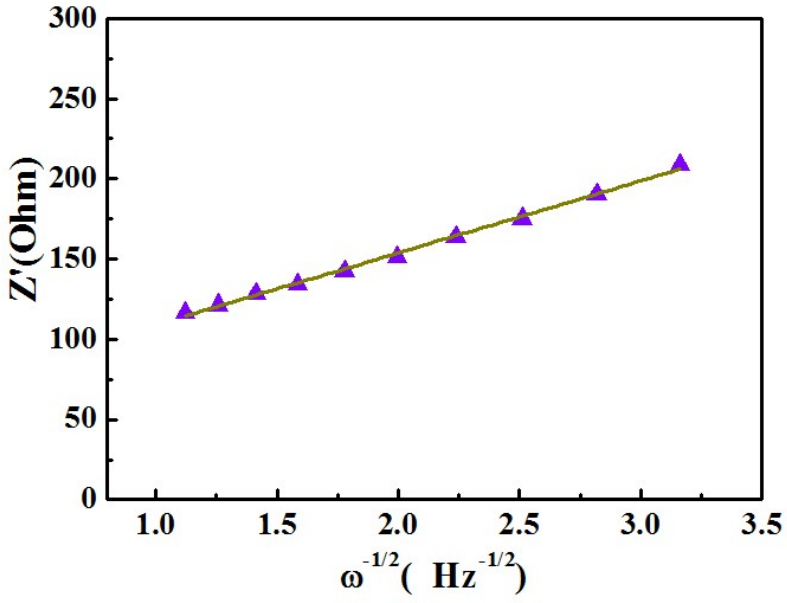

Figure S8. Relationship between *Z*' and the reciprocal square root of the frequency ($\omega^{-1/2}$) in the low frequency region.

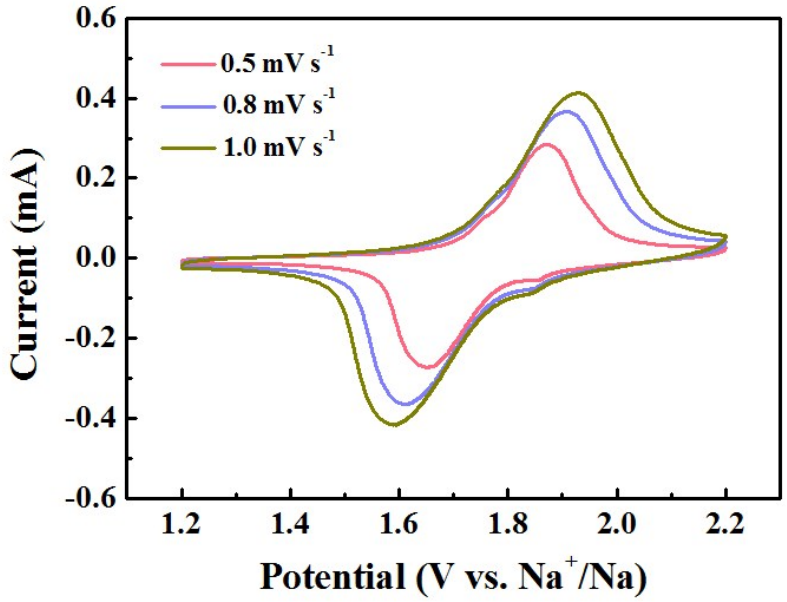

Figure S9. CV curves at different scan rate.

Table S1. Kinetic parameters obtained from equivalent circuit fitting.

Sample	R_s (Ω)	R_{ct} (Ω)
HP-NVP@C	12.48	181.3
HP-NVP@SC	10.08	39.4

Table S2 Rate capacities and cycling performance of some NVP based composites reported in the recent literatures

Materials of electrodes	Current rate (C)	Cycle number	Capacity (mAh g^{-1})	Degradation rate per 100 cycles (%)	Reference
NVP@C@rGO	100	10000	55	0.46	[8]
NVP@C/G	40	1500	71	1.2	[9]
NVP@C+N@CNTs	30	300	74.5	8.6	[10]
NVP@C@CMK-3	10	1000	90	1.5	[11]
NVP nanofiber network	10	1000	102	0.41	[12]
Core-shell NVP@C	5	700	94.9	0.57	[13]
NVP@AC	5	200	86	2.5	[14]
NVP/C nanofibers	2	120	96.8	3.6	[15]
NVP/C hollow spheres	2	300	89.3	3.5	[16]
HP-NVP@SC	**20**	**2500**	**98.0**	**0.36**	**This work**

References

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