

Electronic Supplementary Information (ESI)

**GO induced preparation of flake-shaped  $\text{Na}_3\text{V}_2(\text{PO}_4)_3@\text{rGO}$  as  
high-rate and long-life cathodes for sodium-ion batteries**

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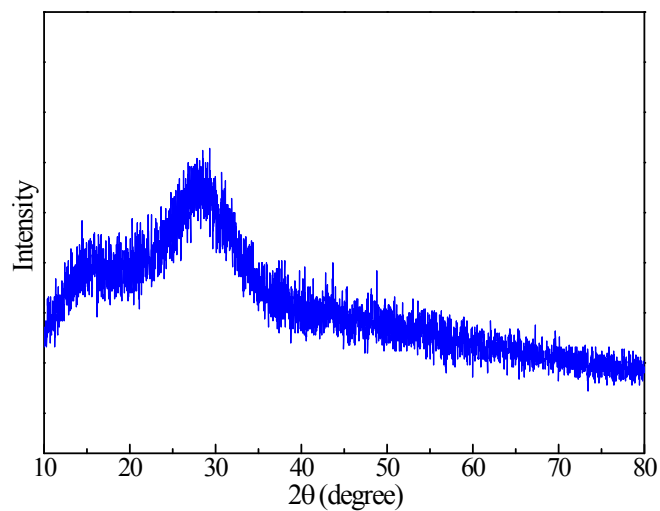


Figure S1 XRD patterns of the as-prepared precursors by a sol-gel route for the NVP@rGO composite.

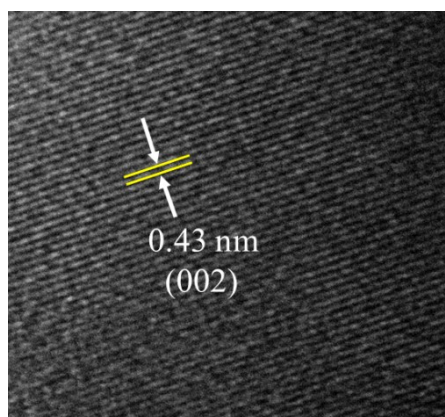


Figure S2 HRTEM images of bare NVP.

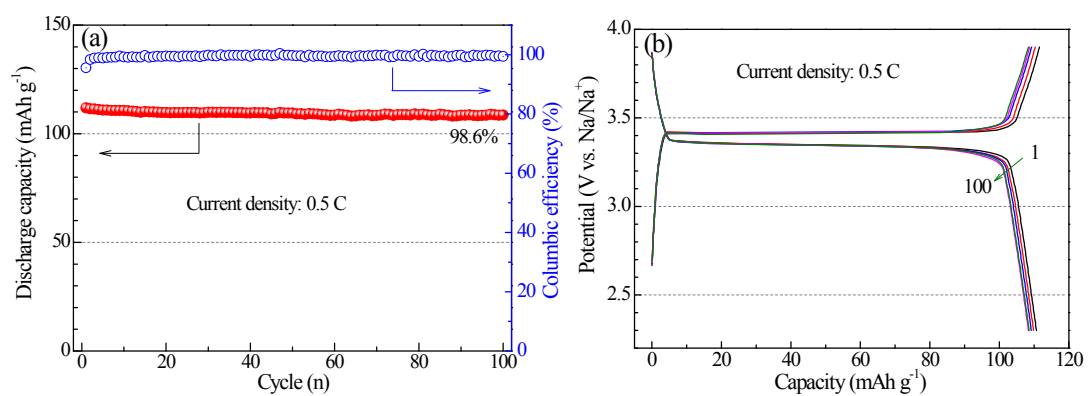


Figure S3 (a) The cyclic performance of the NVP@rGO electrode at 0.5 C and 25 °C and (b) the corresponding charge-discharge curves from the first to the 100th cycle.

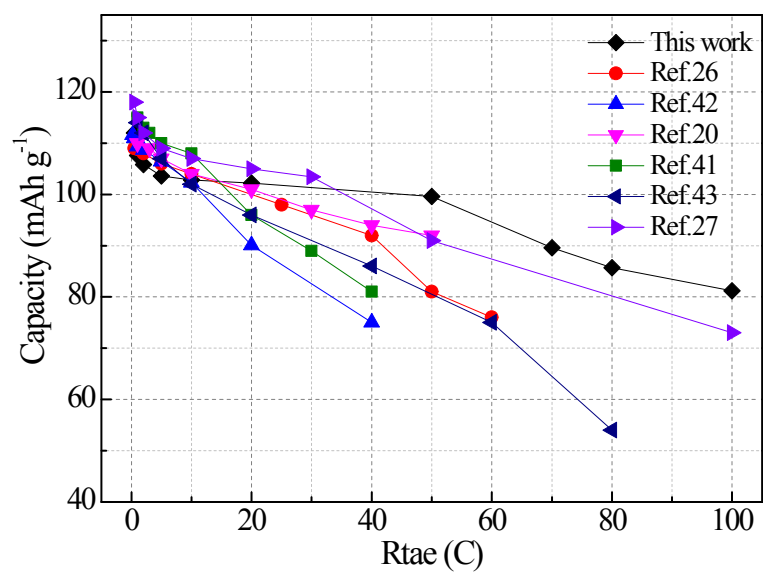


Figure S4 Comparison of rate performance of NVP@rGO in this work with those of recently reported NVP composites.

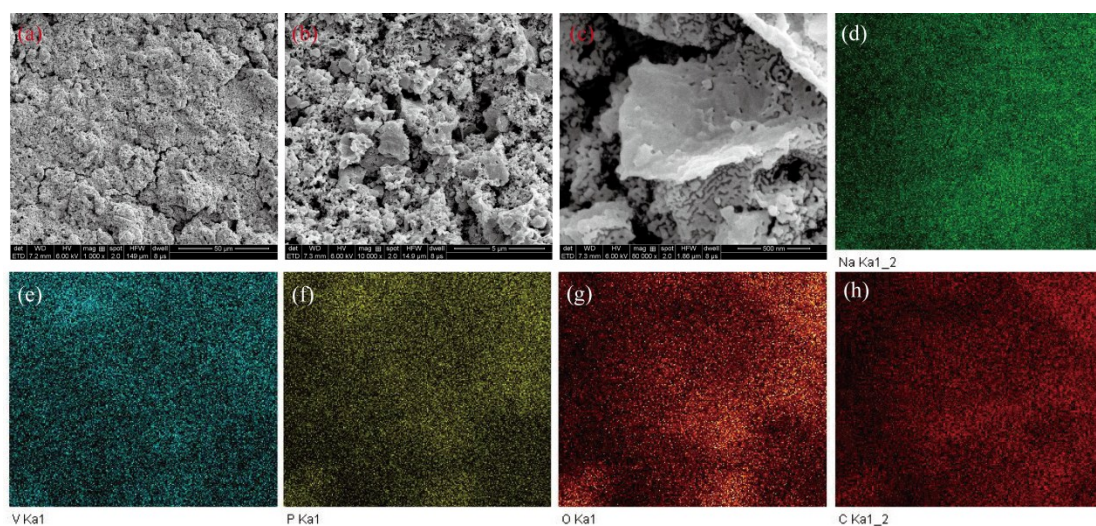


Figure S5 (a-c) SEM images of the cycled NVP@rGO electrode at 30 °C (at 25 °C) after 10000 cycles and (d-h) the corresponding EDS elemental mapping of Figure S5(c).

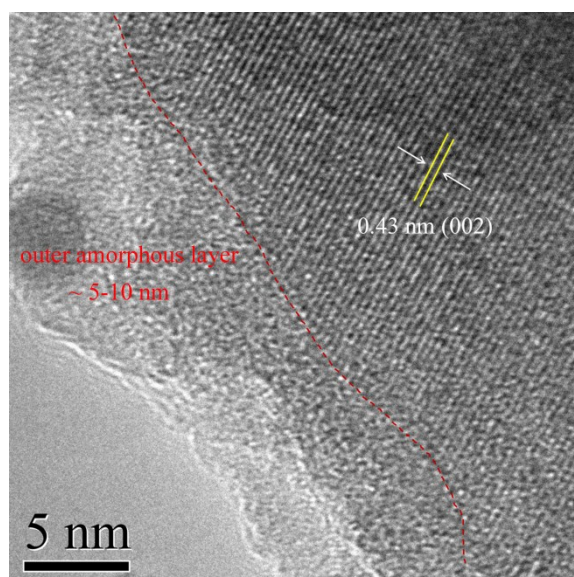


Figure S6 The HRTEM image of the cycled NVP@rGO electrode at 30 C after 10000 cycles at 25°C

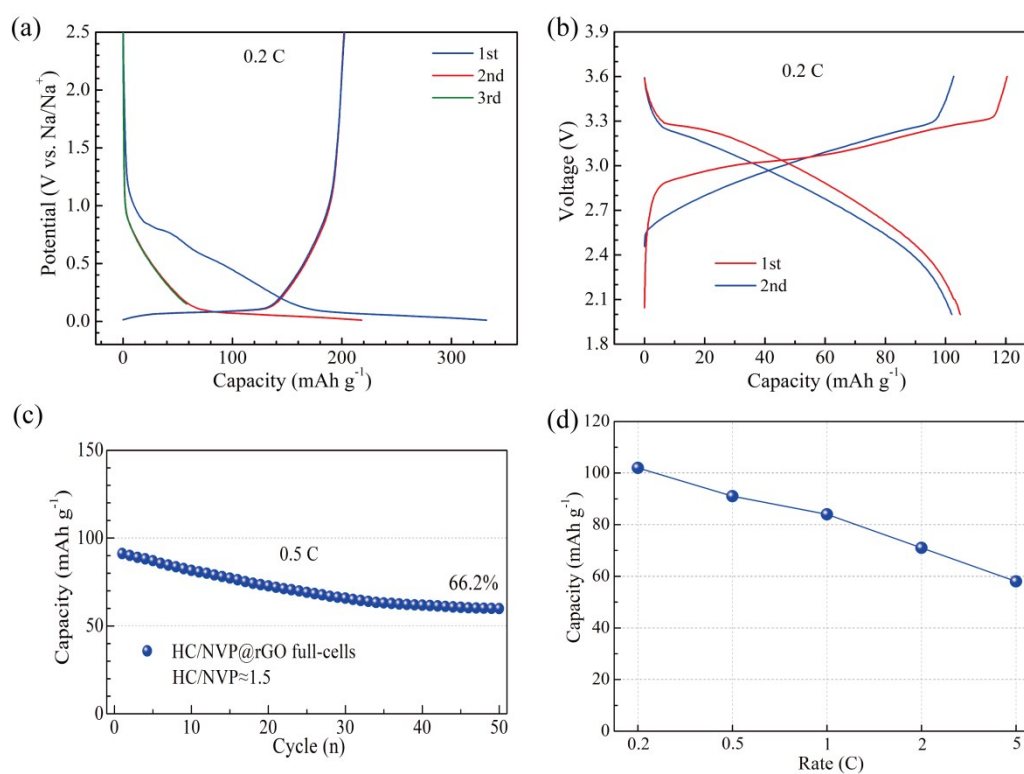


Figure S7 (a) The initial two discharge/charge curves of hard carbon at 0.2 C (60 mA g<sup>-1</sup>) within the range of 0.01-2.5 V vs. Na/Na<sup>+</sup>. The performance of sodium-ion full cells in the voltage range of 2-3.6 V; (b) the galvanostatic charge/discharge profiles of the initial two cycle at 0.2 C (1 C=118 mA h g<sup>-1</sup>); (c) the cycling performance at 0.5 C; (d) the rate capability from 0.2 C to 5 C.