

Supplementary Materials

Hybrid Cathodes Composed of $K_3V_2(PO_4)_3$ and Carbon Materials with Boosted Charge Transfer for K-Ion Batteries

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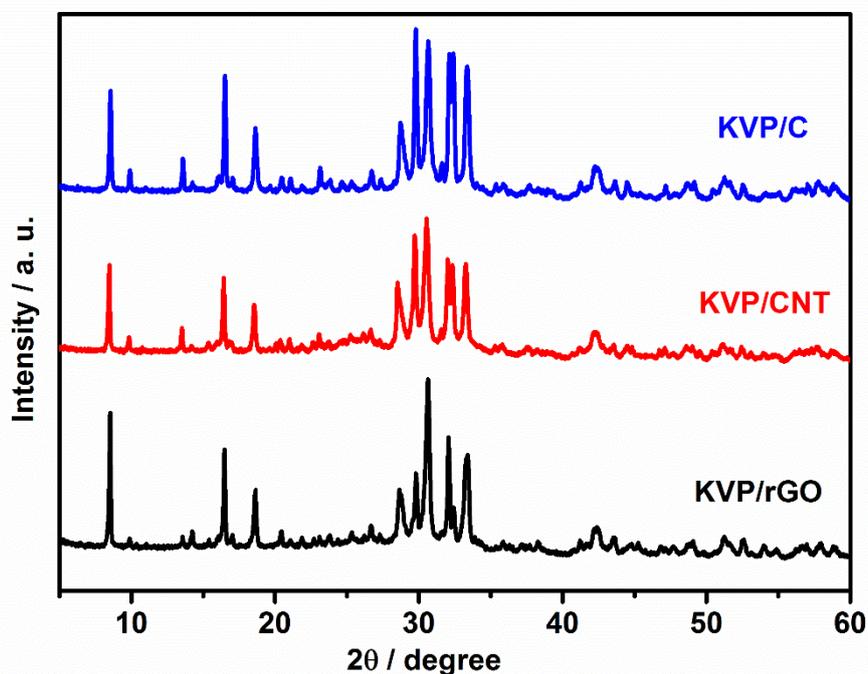


Figure S1. XRD patterns of KVP/rGO, KVP/CNT and KVP/C composites, which synthesized under the same ball-milling conditions and annealing process as those of KVP/C/CNT/rGO composite.

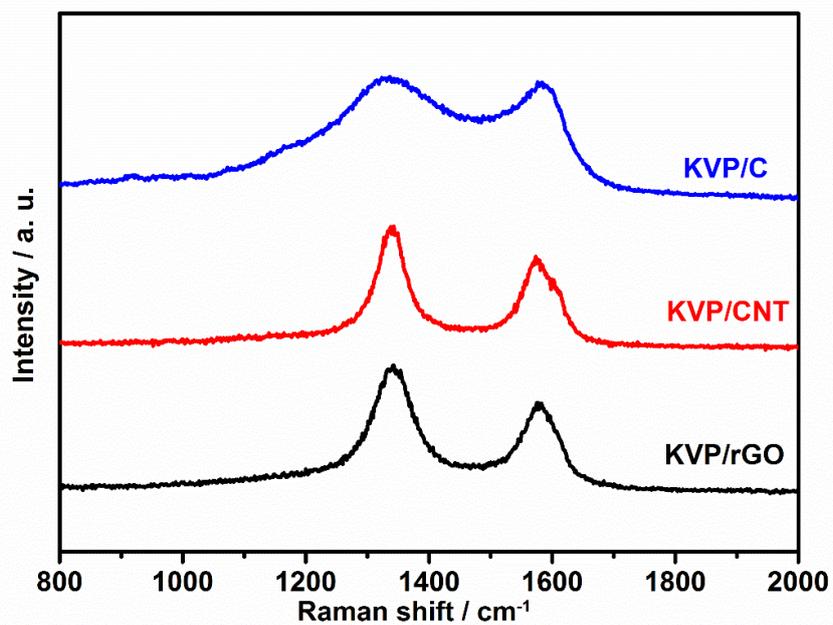


Figure S2. Raman spectra of KVP/rGO, KVP/CNT and KVP/C composites. The peak intensity ratios between D and G bands (I_D/I_G) are calculated to be ~ 1.38 , 1.3, 1.06 for the KVP/rGO, KVP/CNT, KVP/C composites, respectively.

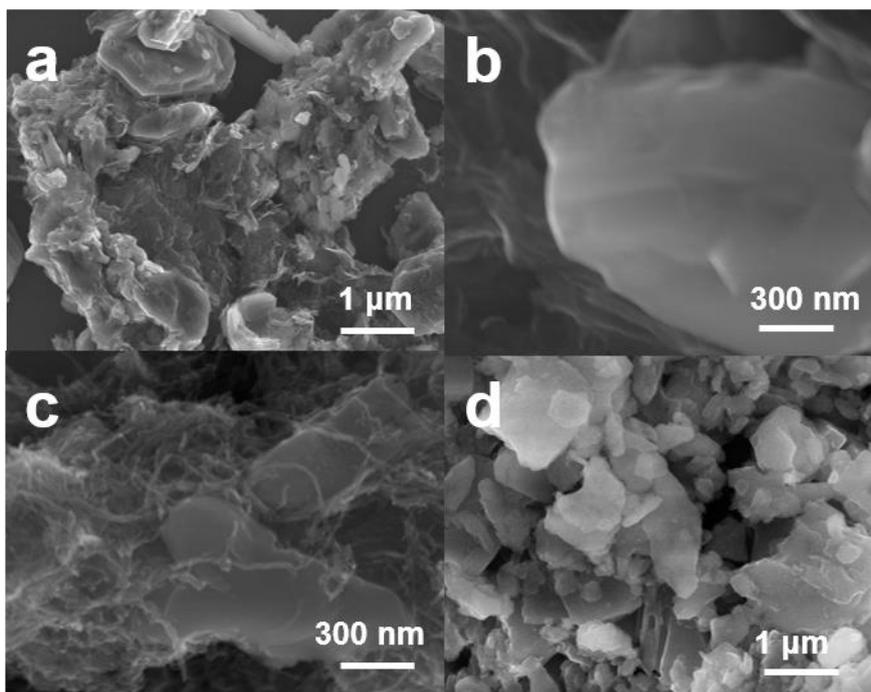


Figure S3. SEM images of KVP/rGO (a,b), KVP/CNT (c) and KVP/C (d), respectively. The SEM images display large KVP particles with the diameter range of 1–3 μm , and the carbon coating layers on the KVP particles surface are rather incomplete.

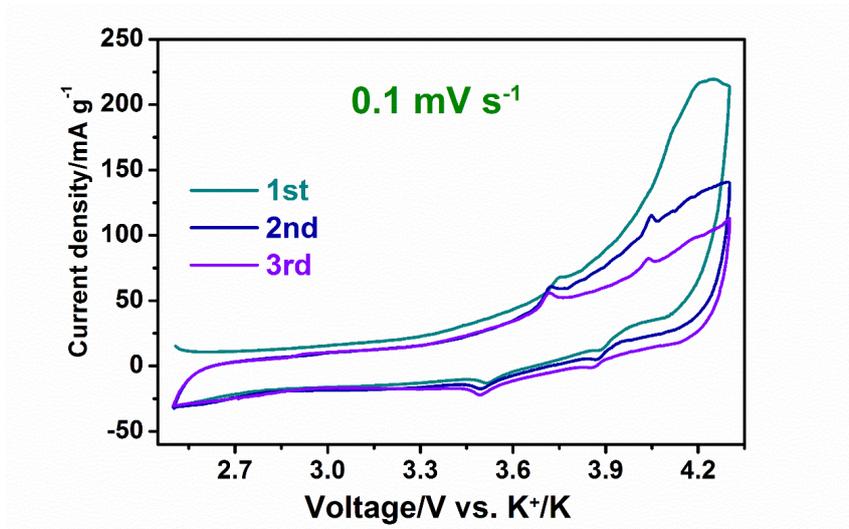


Figure S4. The CV curves of the KVPC/CNT/rGO cathode at a scan rate of 0.1 mV s^{-1} .

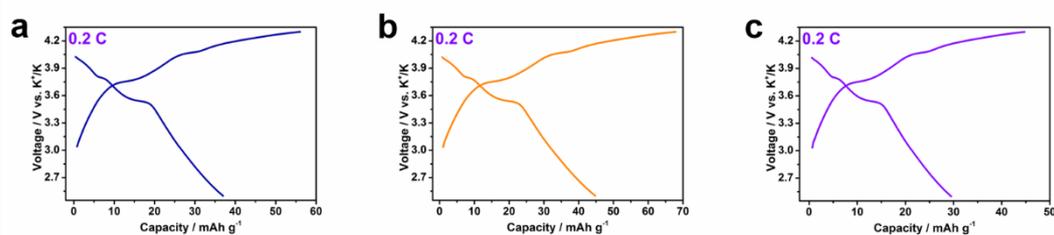


Figure S5. The initial galvanostatic charge/discharge voltage profiles of KVP/rGO (a), KVP/CNT (b) and KVP/C (c) at 0.2C.

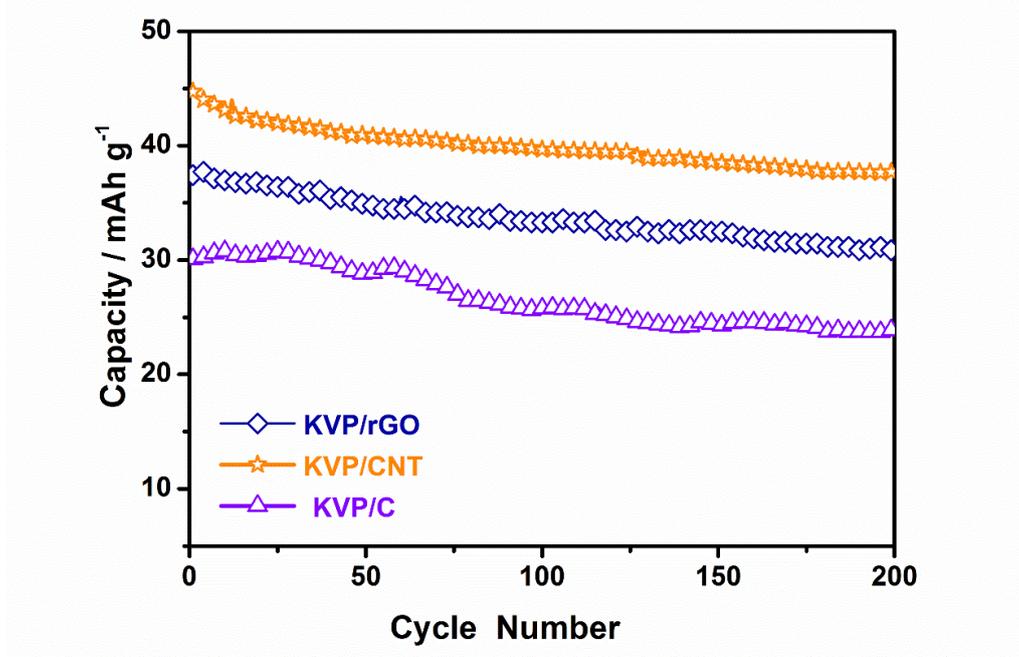


Figure S6. Cycling performance of KVP/rGO, KVP/CNT and KVP/C composites at 0.2C.