

Supporting Information for:

**Design and Synthesis of a Novel Nanothorned VO₂ (B) Hollow Microsphere and
Their Application in Lithium-Ion Batteries**

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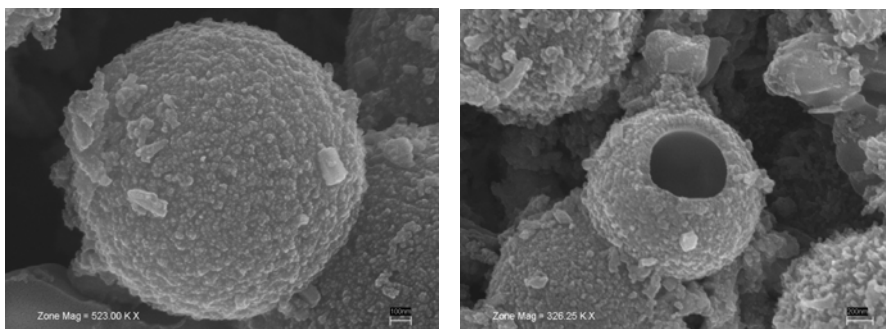


Fig. S1 SEM images of hollow spherical VO₂ (B) precursor annealed at 200°C for 8h in vacuum.

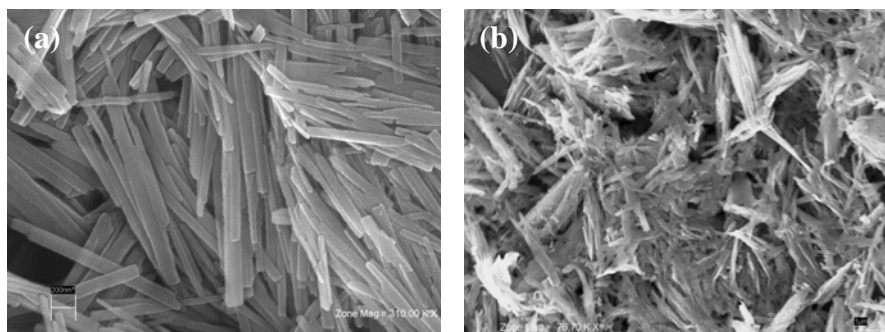


Fig. S2 SEM images of VO₂ (B) nanobelts prepared by absence of (a) glucose, (b) aniline.

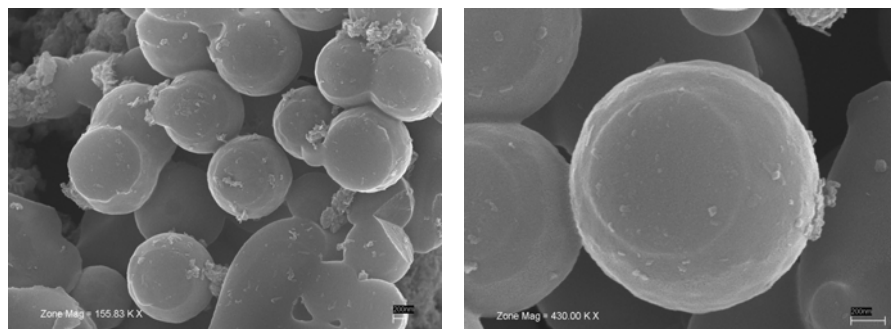


Fig. S3 SEM images of formed carbon micro-spheres during the hydrothermal reaction.

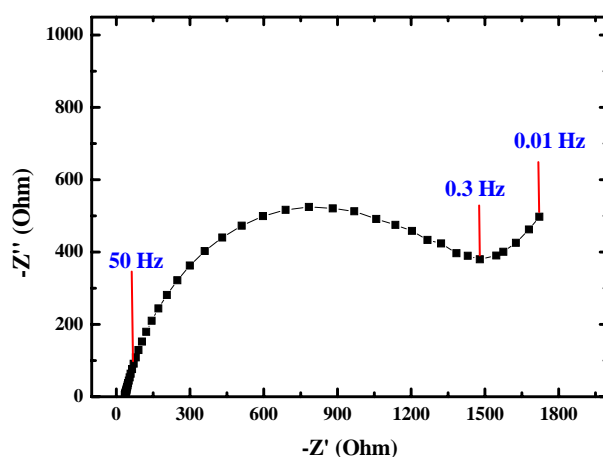


Fig. S4 Impedance plot of hollow spherical VO₂ (B) electrode.

Fig. S4 gives the impedance plot of VO₂ (B) electrode with an applied potential of 3.5V vs. Li/Li⁺. According to the point intersecting with the real axis at high frequencies range, the internal resistances of VO₂ (B) electrode is about 34 Ohm. It can also be found that the impedance plot displays one semicircle in the medium-frequency region which could be attributed to the charge-transfer resistance (R_{ct}) and a line in low-frequency range which could be assigned to Warburg impedance.