Electronic Supplementary Information (ESI)

Carbon Nanocage Supported Synthesis of V_2O_5 Nanorods and V_2O_5/TiO_2 Nanocomposites for Li-ion Batteries

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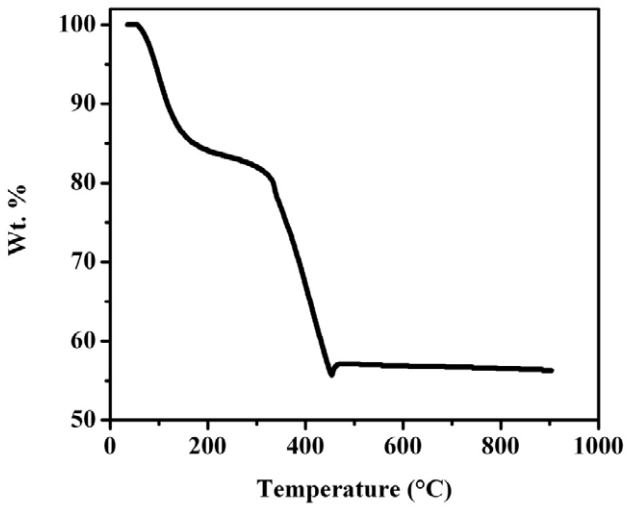

Figure S1. TGA data from a CNC/VTIPO complex collected after 24 h of ambient exposure. The complete removal of the CNC template is indicated by the plateau at T > 450°C.

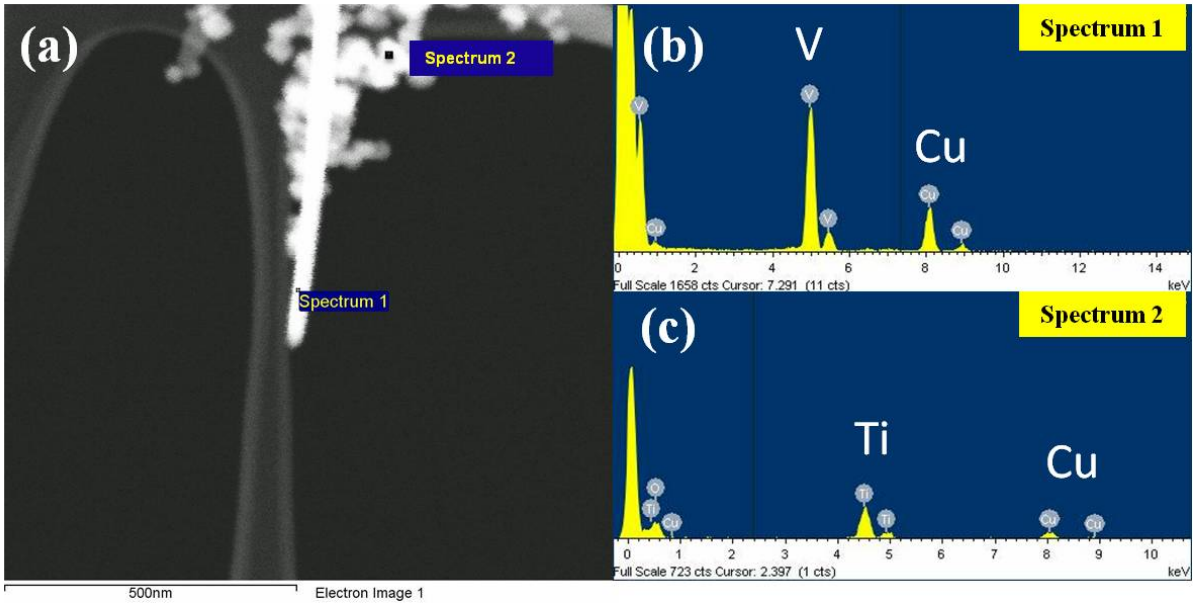

Figure S2. (a) dark-field STEM image showing a V_2O_5 nanowire atop of TiO_2 nanoparticles and indicating the collection sites for EDX data in (b) spectrum 1, showing V and O signals and (c) spectrum 2, showing Ti and O signals. The Cu signals common to both spectra arise from the Cu TEM grid.

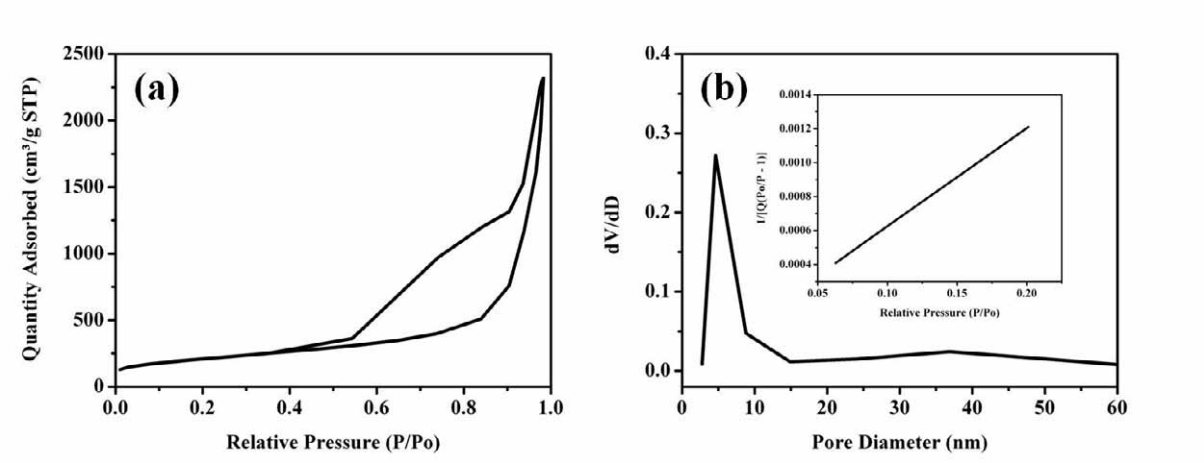

Figure S3. (a) N_2 sorption isotherm of a typical CNC template prior to loading with liquid precursor(s) and (b) pore diameter distribution highlighting bulk of pore size lies in the meso- range (2 – 50 nm); the associated BET plot is shown in inset.

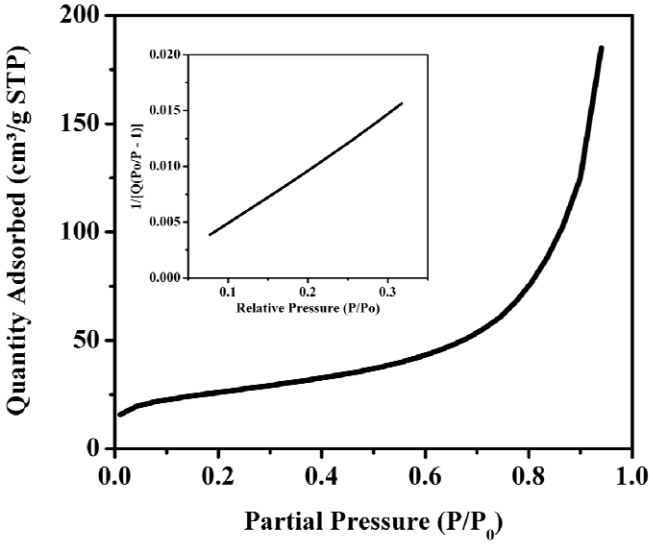

Figure S4. Adsorption isotherm branch of a porous TiO_2 powder sample prepared from the CNC templating process using titanium isopropoxide precursor followed by thermal treatment at 500 °C for 4 h; the associated linear BET plot shown in the inset; surface area 89.2 $m^2 g^{-1}$.