

Supporting Information

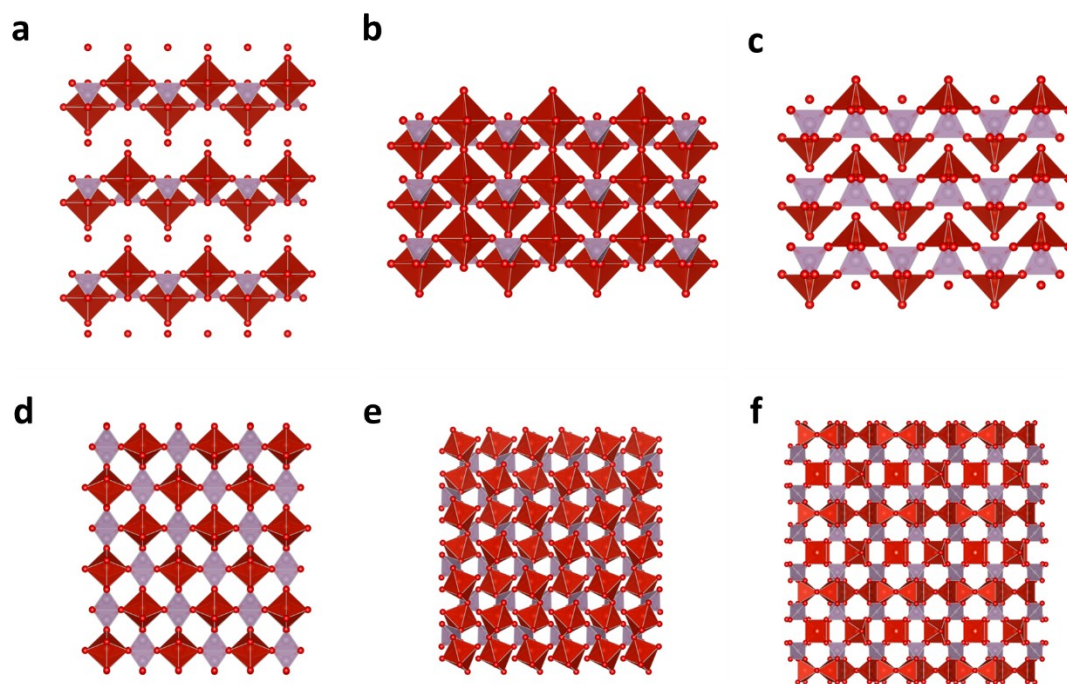


Fig. S1 The structural models of (a) VOPO₄·2H₂O, (b) αI, (c) αII, (d) β, (e) ε and (f) δ-VOPO₄.

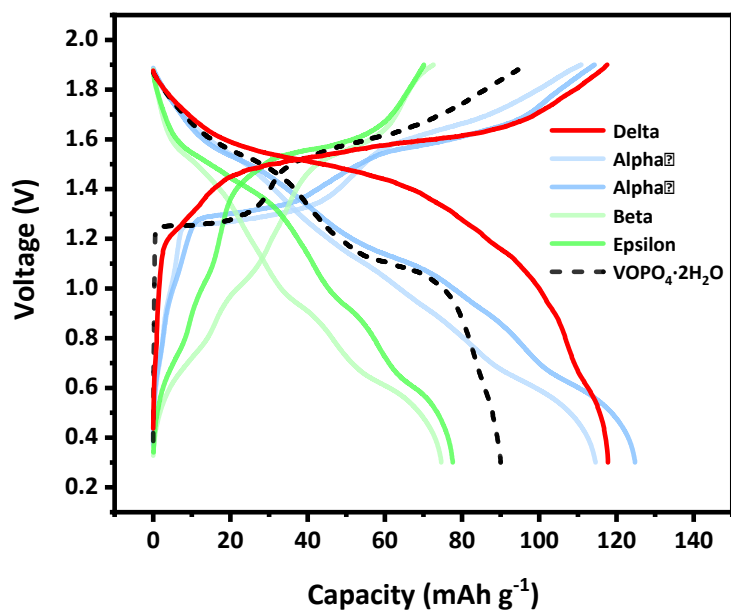


Fig. S2 The GCD curves of VOPO₄·2H₂O, α I, α II, β , ϵ and δ -VOPO₄.

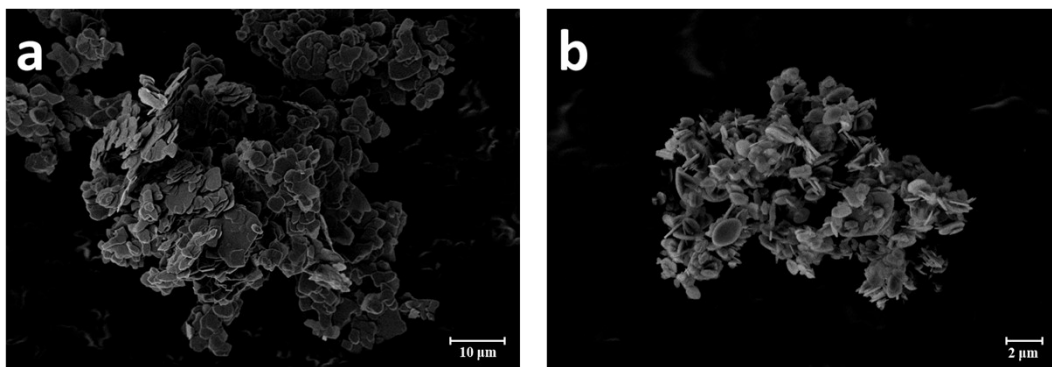


Fig. S3 The SEM images of $\text{VOPO}_4 \cdot 2\text{H}_2\text{O}$ and $\text{VOHPO}_4 \cdot 0.5\text{H}_2\text{O}$.

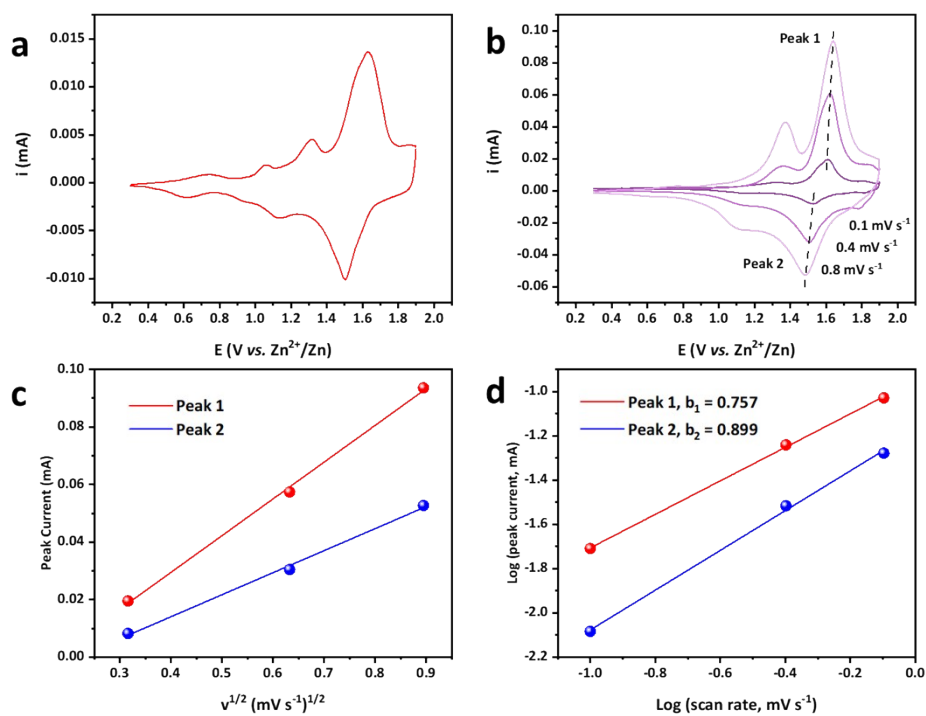


Fig. S4 CV curves of δ -VOPO₄ at the scan rate of 0.1 mV s⁻¹; (b) CV curves of δ -VOPO₄ at different scan rate; (c) Calculated slope parameters for the dependence of the current density of peaks currents and the square root of the scan rates; (d) Calculated slope parameters for the dependence of the current density of log (peak current) and the log (scan rate).

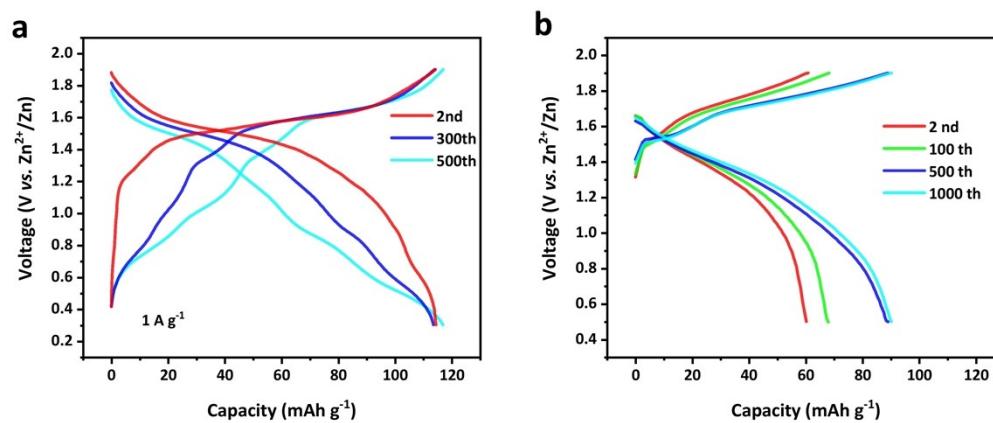


Fig. S5 The typical charge-discharge curves of δ -VOPO₄ at (a) 1 A g⁻¹ and (b) 10 A g⁻¹.

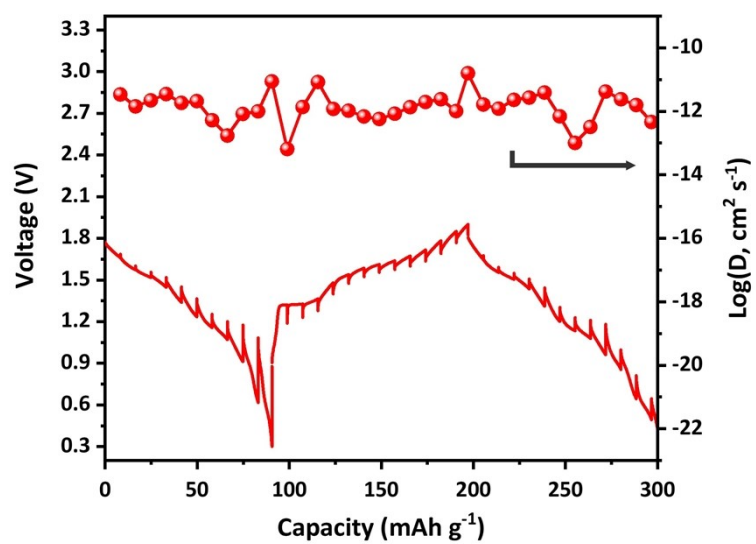


Fig. S6 The GITT profiles of δ -VOPO₄ and the calculated Zn²⁺ ion diffusion coefficients.

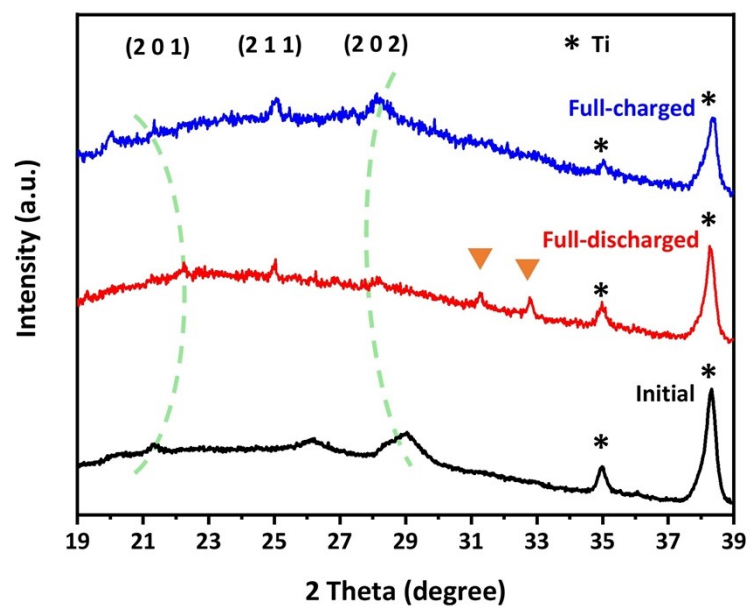


Fig. S7 *Ex-situ* XRD patterns of δ -VOPO₄ after the first discharge and charge.

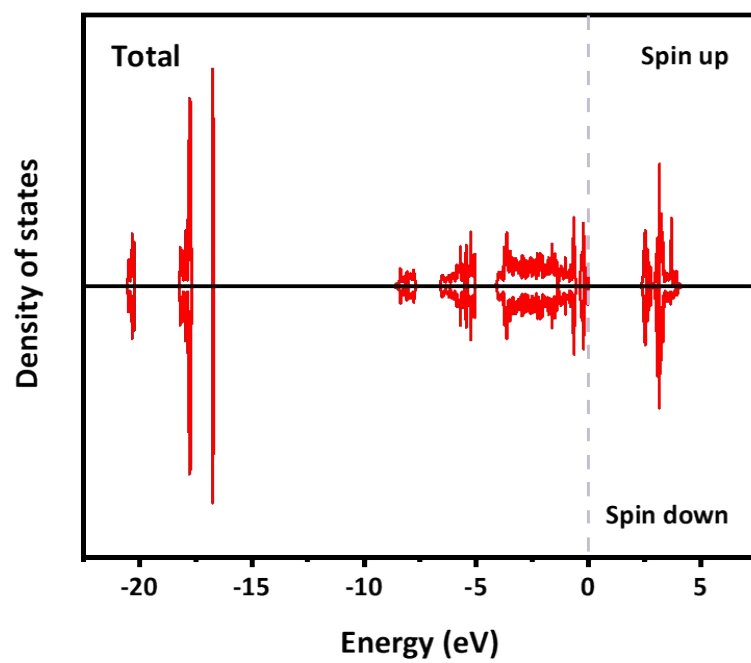


Fig. S8 The total density of states of δ -VOPO₄.

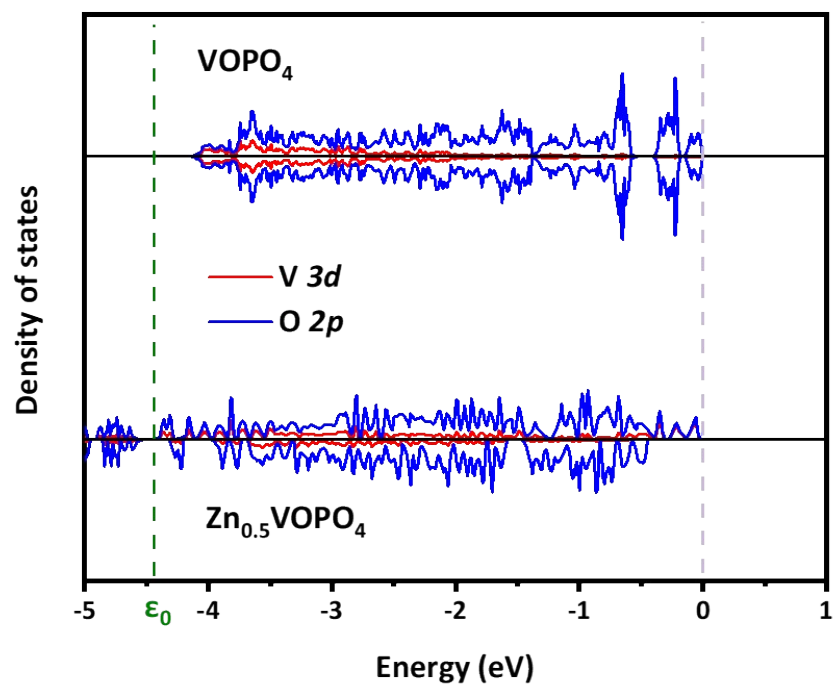


Fig. S9 The density of states of $\delta\text{-VOPO}_4$ from -4.45 eV (ϵ_0) to 0 eV (the Fermi energy level).