

Supplementary Material for Journal of Materials Chemistry A

**A comparative study on nanocrystalline layered and crystalline cubic
 TiP_2O_7 for rechargeable Li/Na/K alkali metal batteries**

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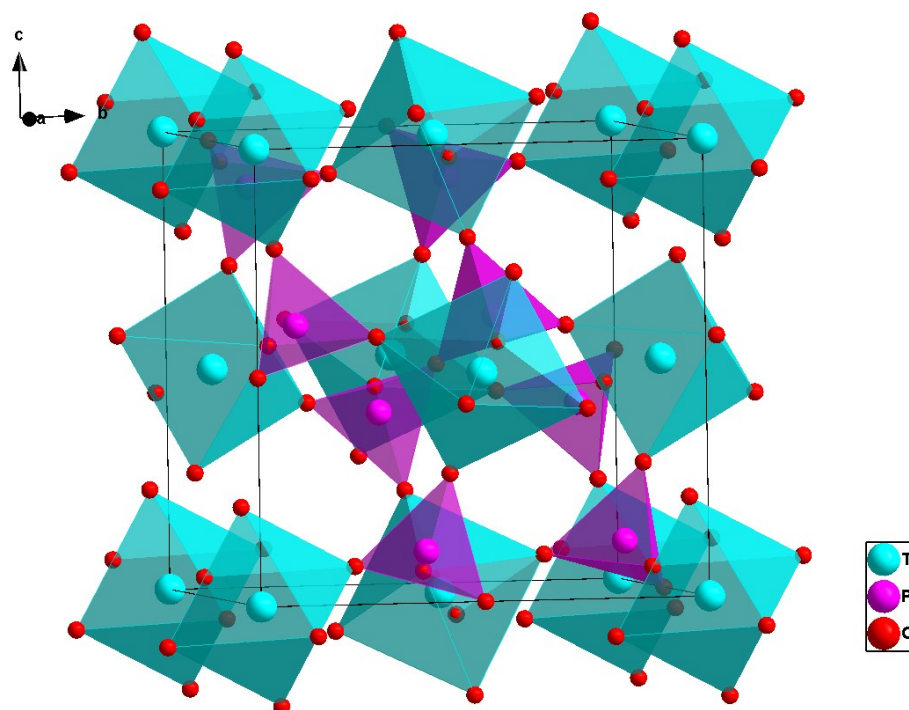


Fig. S1 Schematic illustration of the unit cell of cubic- TiP_2O_7 .

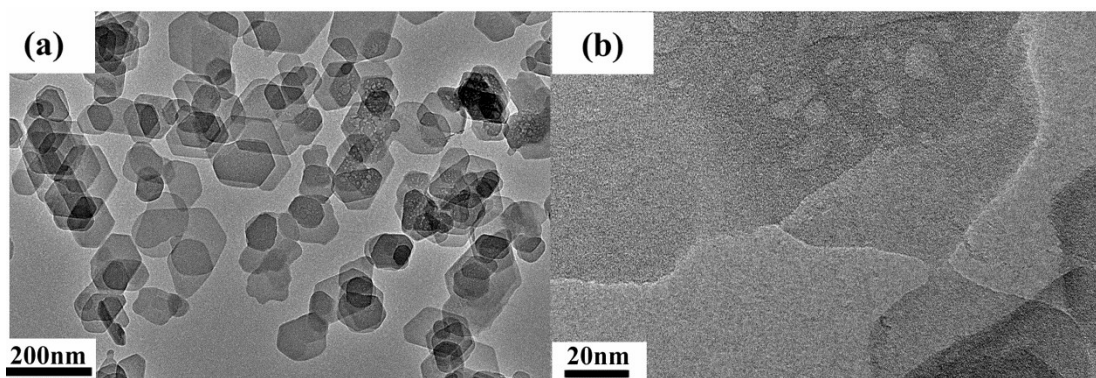


Fig. S2 TEM images of $\text{Ti}(\text{HPO}_4)_2 \cdot \text{H}_2\text{O}$.

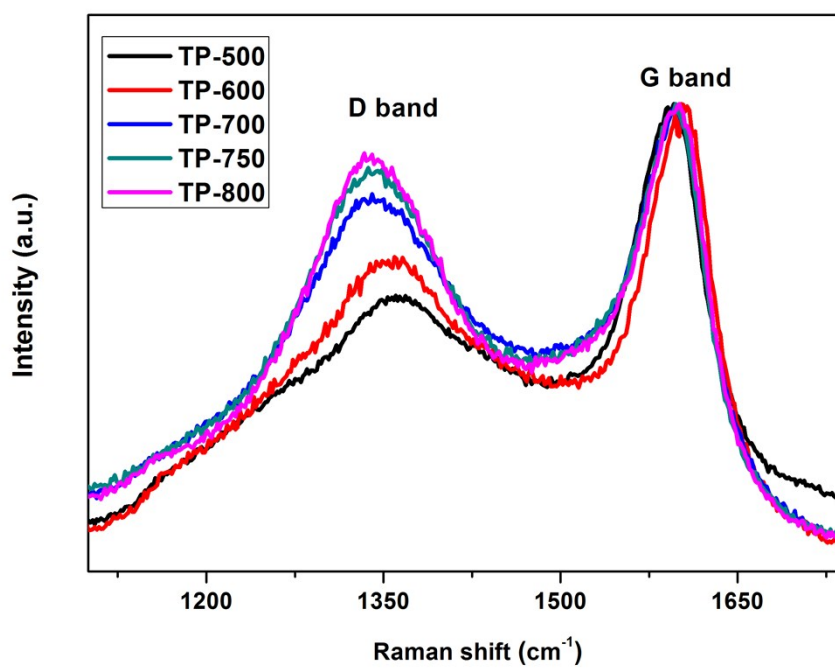


Fig. S3 Raman spectra of TiP_2O_7 treated at different temperatures: TP-500, TP-600, TP-700, TP-750 and TP-800.

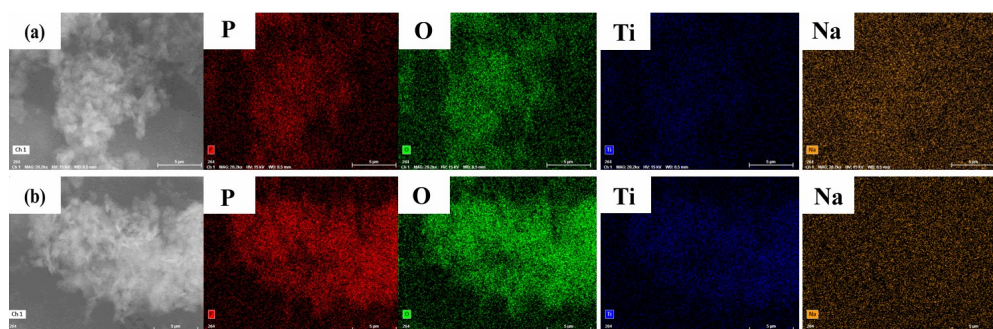


Fig. S4 Ex-situ EDS mapping of TP-600 (a) and TP-800 (b) at the first full discharge state for Na-alkali metal batteries.