

Supplementary Information

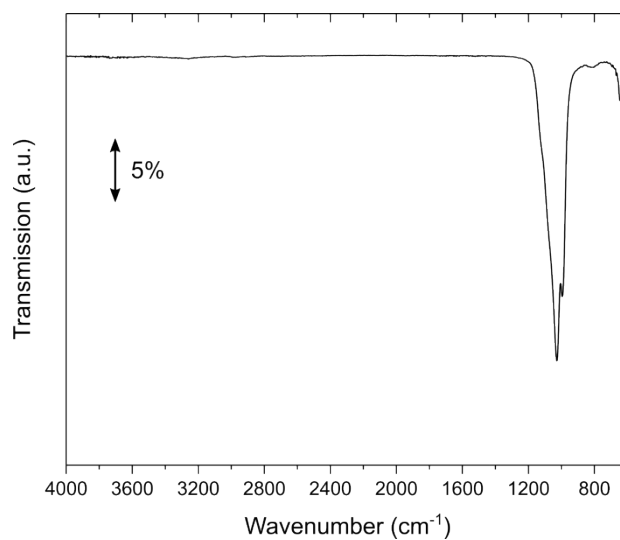


Figure S1: FTIR spectrum of the synthesized LiVPO_4F material, showing the $(\text{PO}_4)^{3-}$ stretching bands in the $1100\text{-}900\text{ cm}^{-1}$ region. No OH^- nor $\text{V}^{4+}=\text{O}$ moieties could be detected.

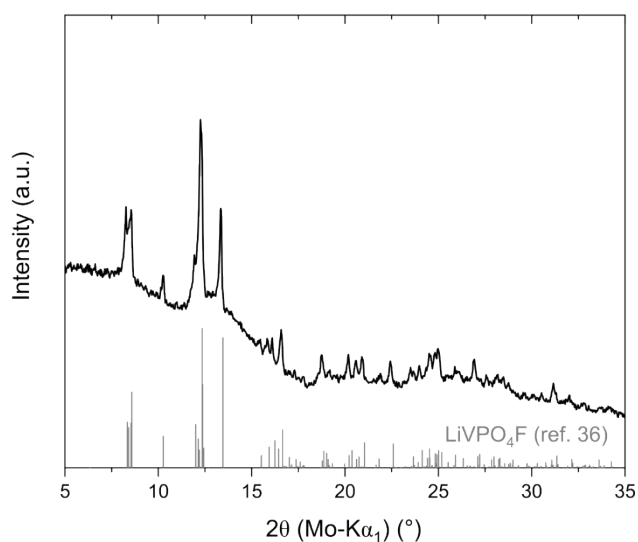


Figure S2: X-ray diffractogram of the obtained LiVPO_4F powder after a short microwave-assisted solvothermal treatment of the precursor solution at 240°C for 40 min.

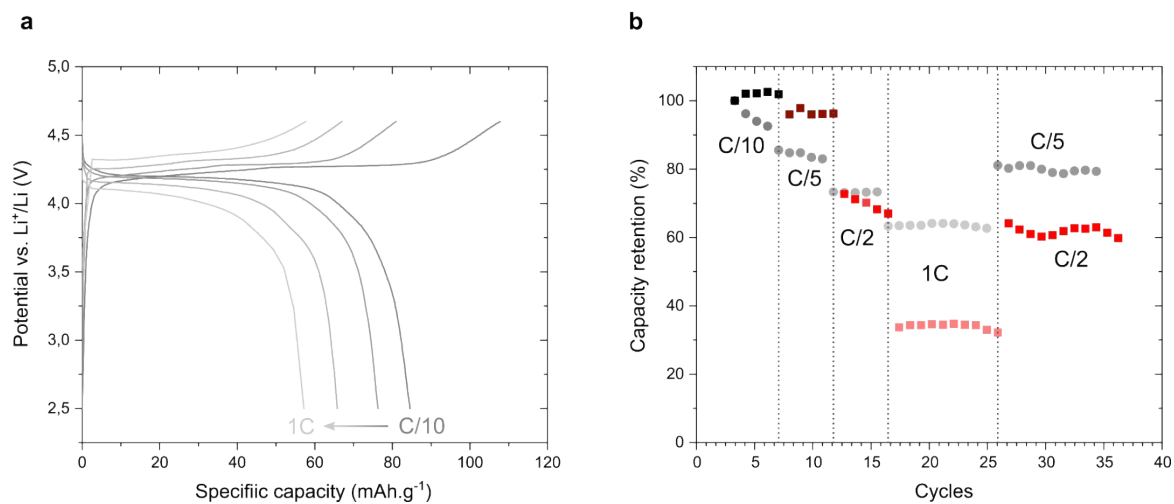


Figure S3: (a) Typical galvanostatic profiles at various C-rates of the pristine sample in the high voltage region. (b) Capacity retention of both pristine (in grey) and ball-milled LiVPO_4F (red) at various C-rates in the high voltage region.

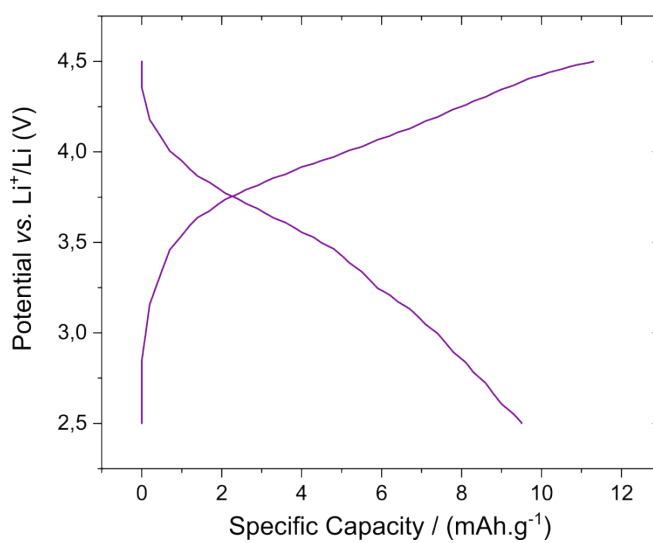


Figure S4: Galvanostatic profile of the tavorite-like obtained NaVPO_4F material, at C/10 rate

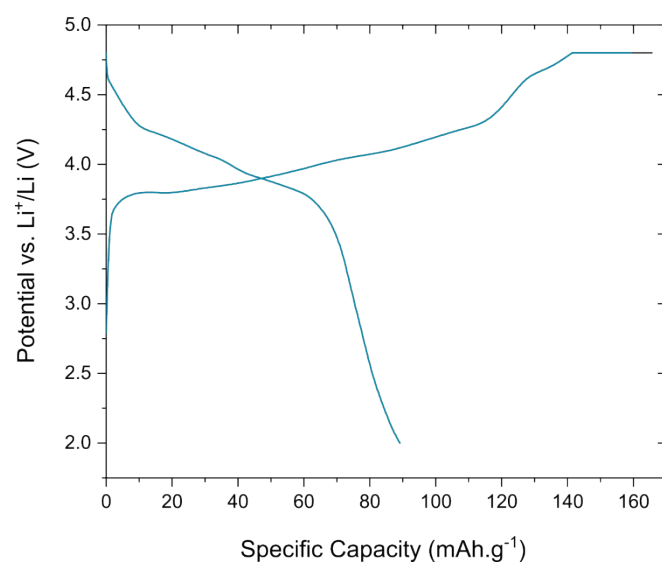


Figure S5: First charge/discharge cycle of the KVPO_4F material in a Li-ion half-cell. The deintercalation of K^+ occurs from 3.8 V vs. Li^+/Li . Li^+ ions are then intercalated in the structure during the discharging step.