Supporting Information

Title: All-Weather Li/$LiV_2(PO_4)_3$ Primary Battery with Improved Shelf-life: Based on the In-situ Modification of Cathode/Electrolyte Interface

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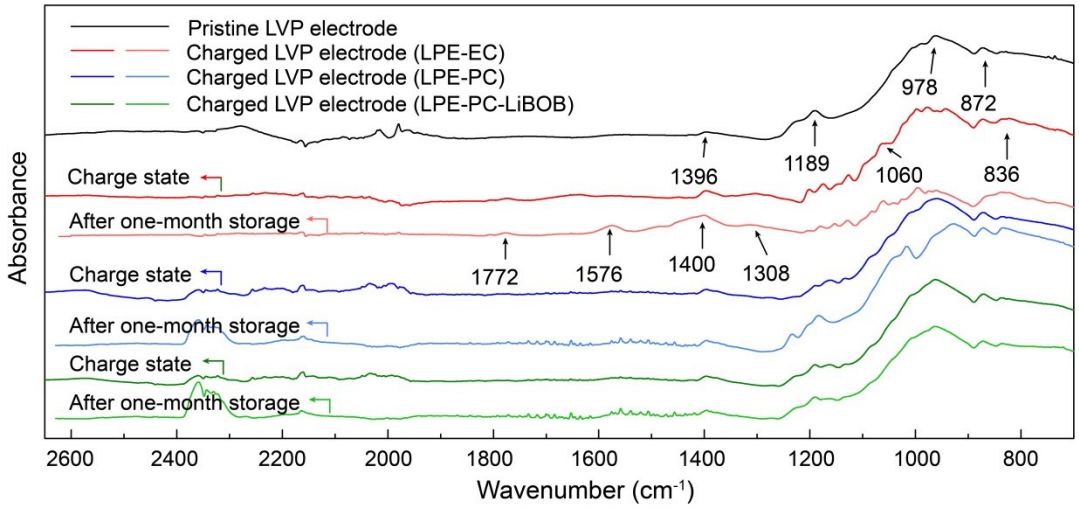
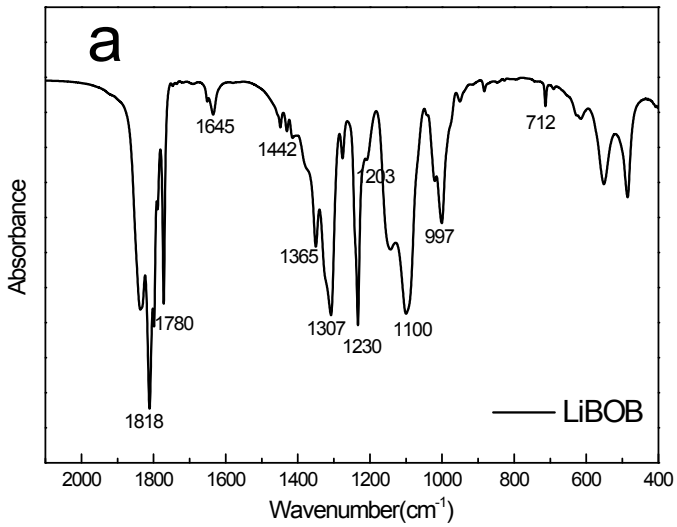


Figure S1. FT-IR spectra of $LiV_2(PO_4)_3$ cathodes in Li/$LiV_2(PO_4)_3$ primary batteries with LPE-EC, LPE-PC and LPE-PC-LiBOB electrolytes before and after one-month storage.



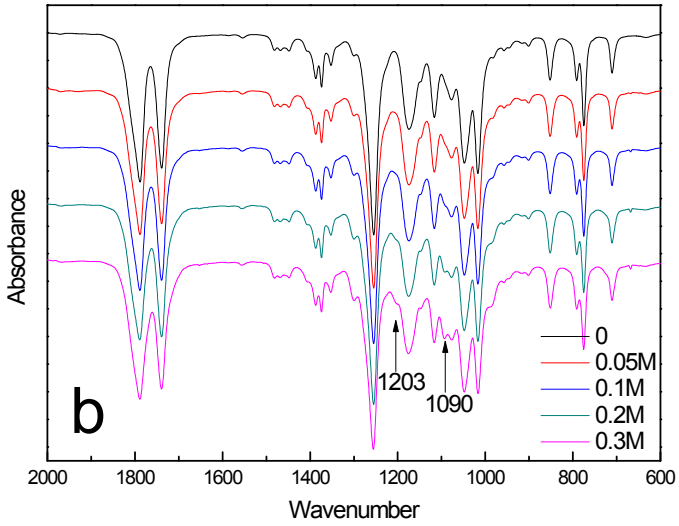


Figure S2. FT-IR spectrum of (a) LiBOB and (b) different concentrations LiBOB in PC/DEC

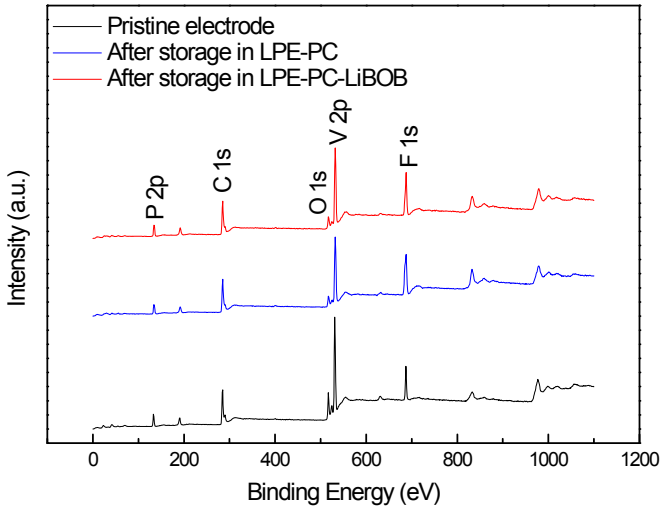


Figure S3. XPS spectrums of $Li_3V_2(PO_4)_3$ cathodes in Li/ $LiV_2(PO_4)_3$ primary batteries with LPE-PC and LPE-PC-LiBOB electrolytes compared with pristine cathode