Supplementary Material for

Improved electrochemical performance of LiCoPO_4 using eco-friendly aqueous binders

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Figure S1. FT-IR spectrum of synthesized LCP.

Figure S2. (a) PXRD and (b) FT-IR of synthesized LCP and water-exposed LCP.

Figure S3. Charge/discharge curves at cycle 1, cycle 5 and cycle 20 for LCP-PVDF electrode.

Figure S4. SEM images of (a,b) LCP-CMC, (c,d) LCP-ALG, (e,f) LCP-PAA electrodes surface and (g,h) cross-section SEM images of LCP-CMC electrode.

Figure S5. SEM images of (a) LCP-CMC (b) yellow frame of LCP-CMC with an arrow indicating a separator confirmed by EDS analysis, (c) LCP-ALG and (d) LCP-PAA electrodes surfaces after 20 cycles, respectively.

Figure S6. (a) Coulombic efficiency, (b) energy efficiency of LCP electrodes, fabricated with different amounts of CMC, normalised energy density and discharge capacity of (c) LCP-CMC-5 and (d) LCP-CMC-15 electrodes, respectively.

Figure S7. Cross-section SEM image of (a) LCP-CMC and (b) LCP-CMC-S electrodes.