Supporting Information

Direct electrophoretic deposition of ultra-strong separator on anode in a surfactant-free colloidal system for lithium ion batteries

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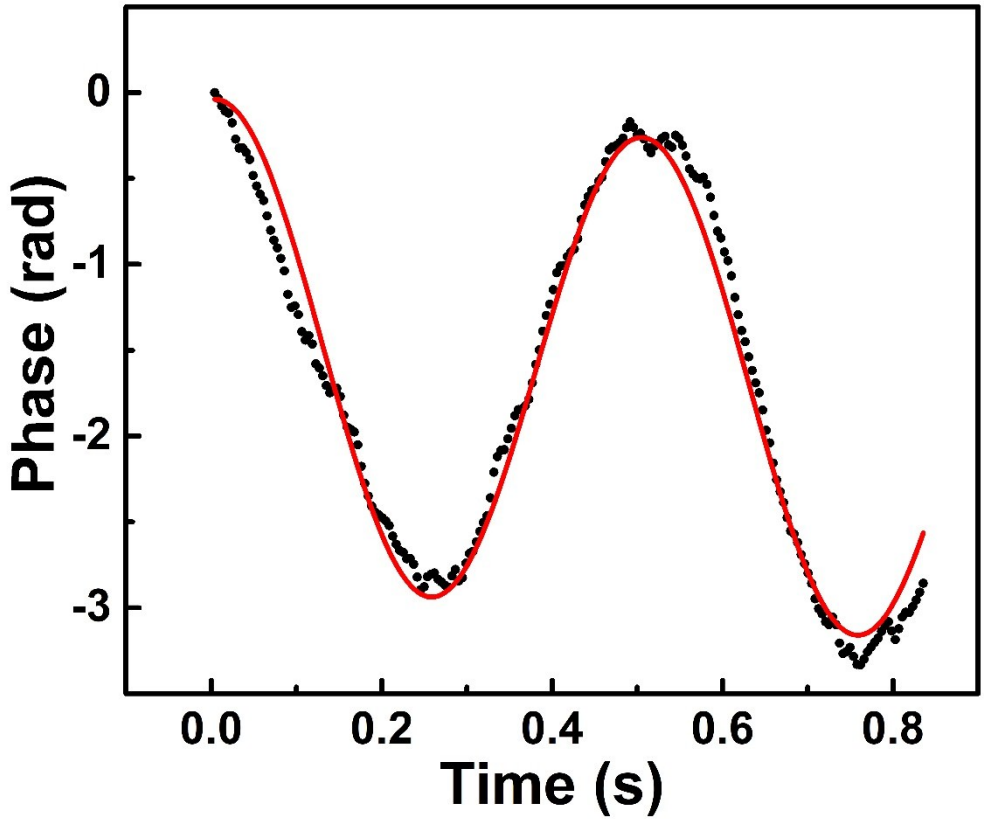

Figure S1. Zeta-potential of the PVdF-HFP/acetone colloidal solution. Acetone diluted PVdF-HFP colloidal samples was analyzed for zeta potential measurement using NanoBrook 90Plus PALS (BrookHaven, USA).

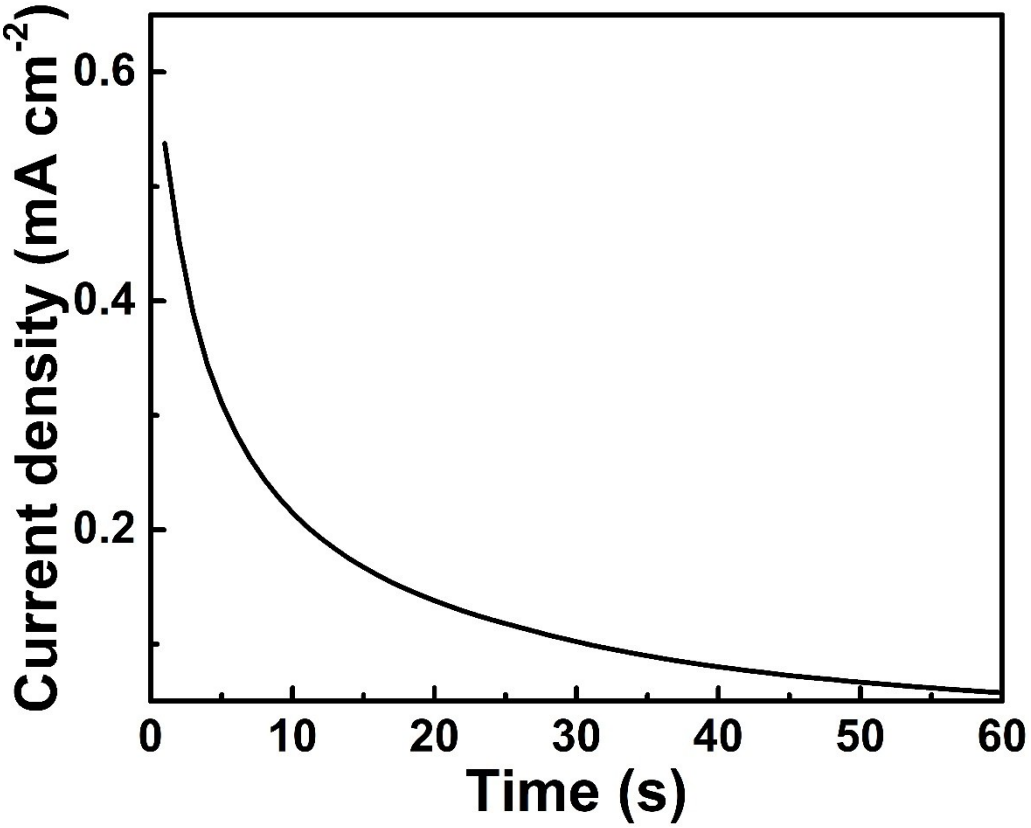

Figure S2. Electrophoretic current profile (current density *vs.* time).

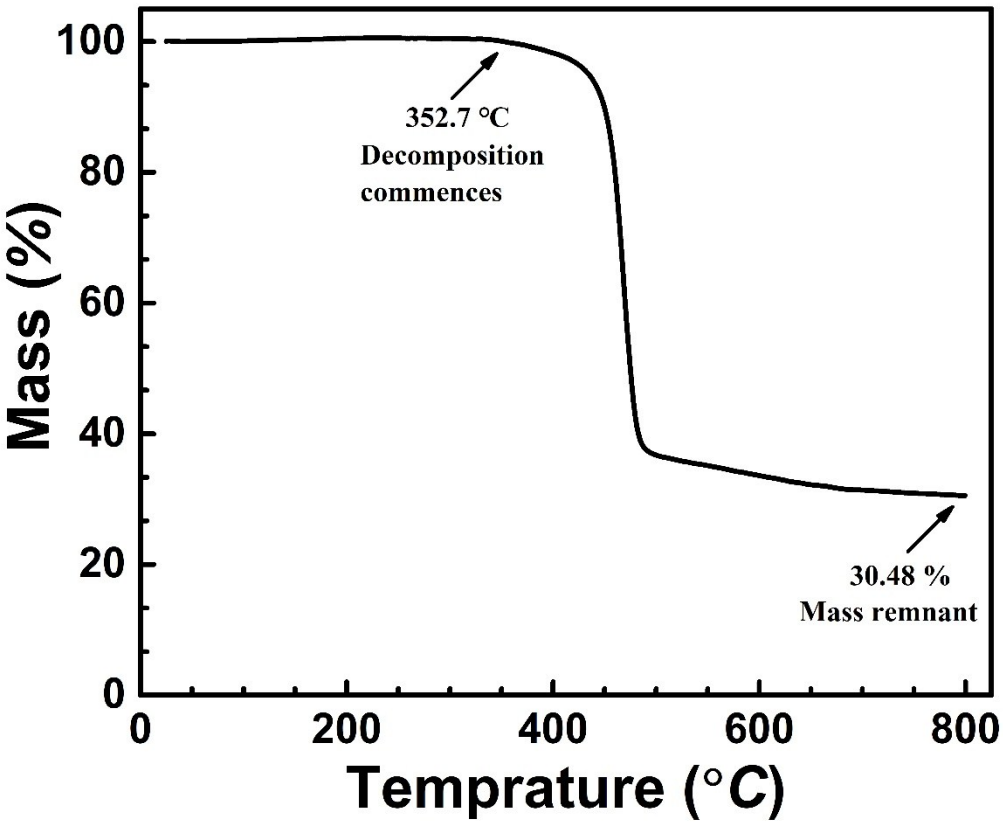

Figure S3. Thermogravimetric analysis (TGA) of the EPD separator. TG was performed using a simultaneous thermal analyzer STA-449F3 (Netzsch, Germany), with samples heated up to 800 °C at 10 °C min^{-1} in N_2 atmosphere.

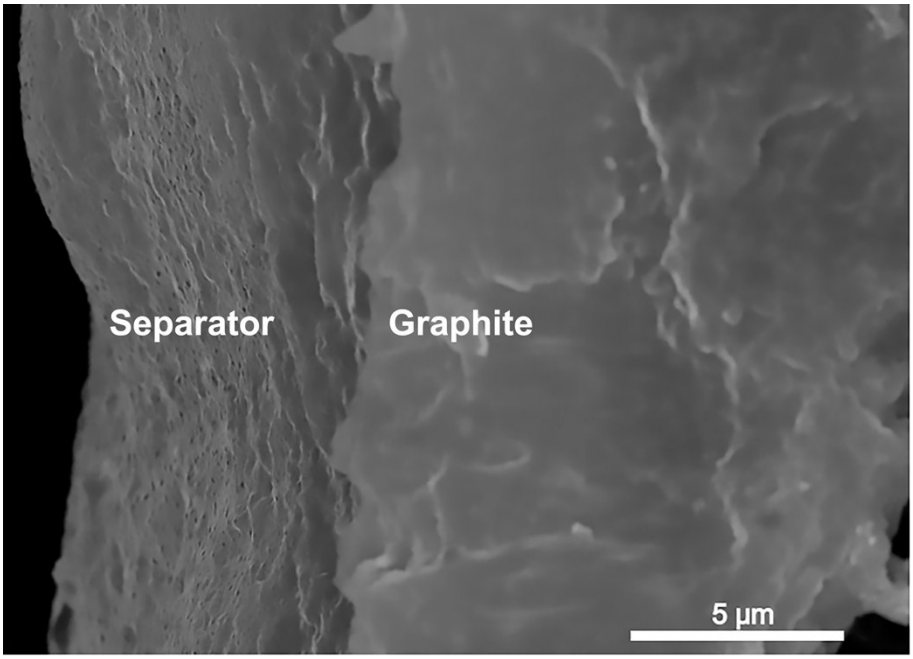

Figure S4. Cross-sectional SEM images of the separator-anode structure.