

Supplementary Information

**3D Printed Separator for the Thermal Management of
High-performance Li Metal Anodes**

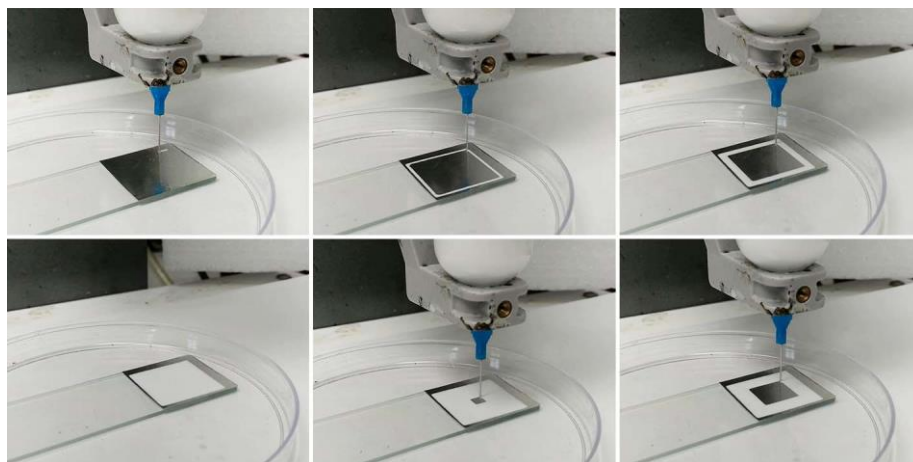


Figure S1. The digital photographs of the 3D printing separators with square shape at different printing stage.

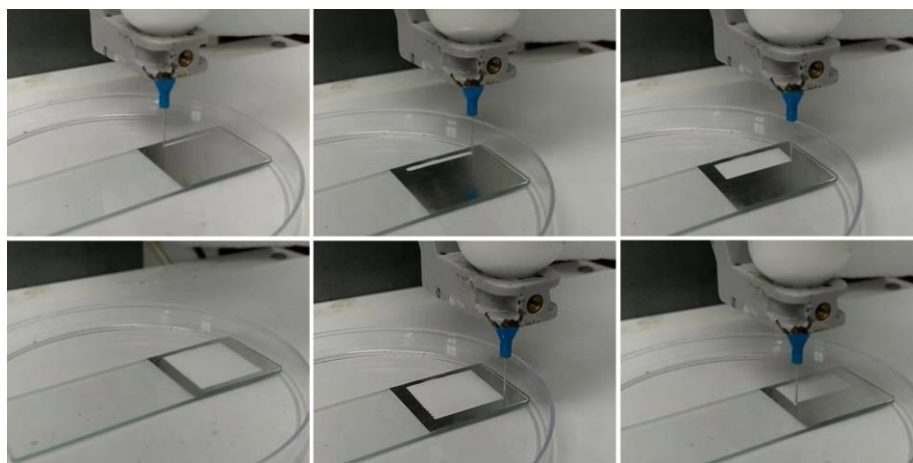


Figure S2. The digital photographs of the 3D printing separators with rectangle shape at different printing stage.

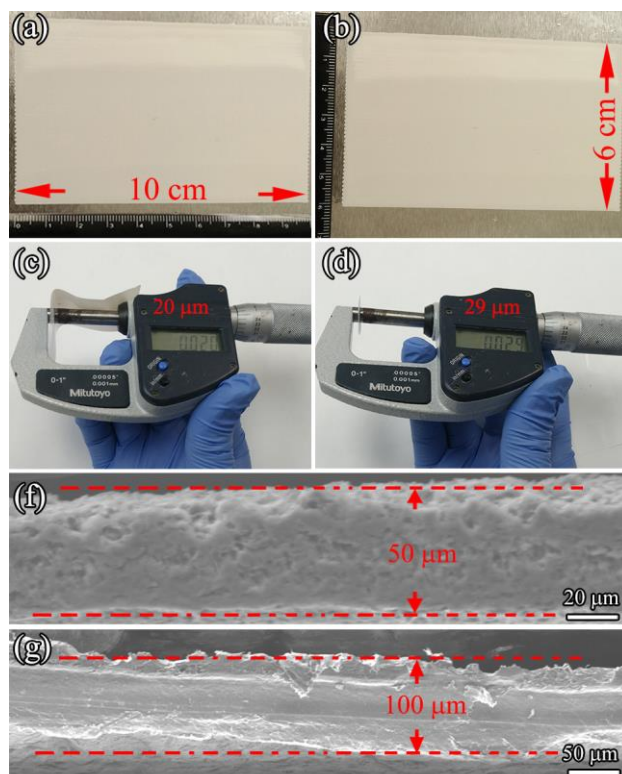


Figure S3. The digital photographs of (a, b) a large 3D printing separator, (c) commercial and (d) BN-separator; (f, g) SEM images cross-sectional of BN-separator with different thickness.

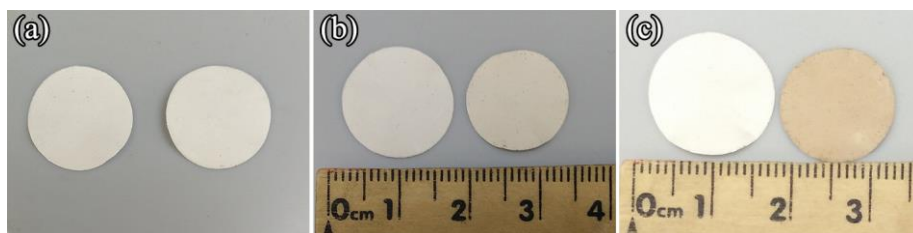


Figure S4. Digital photographs of the original separator, separator after thermal treatment at 160 °C and 220 °C (from left to right).

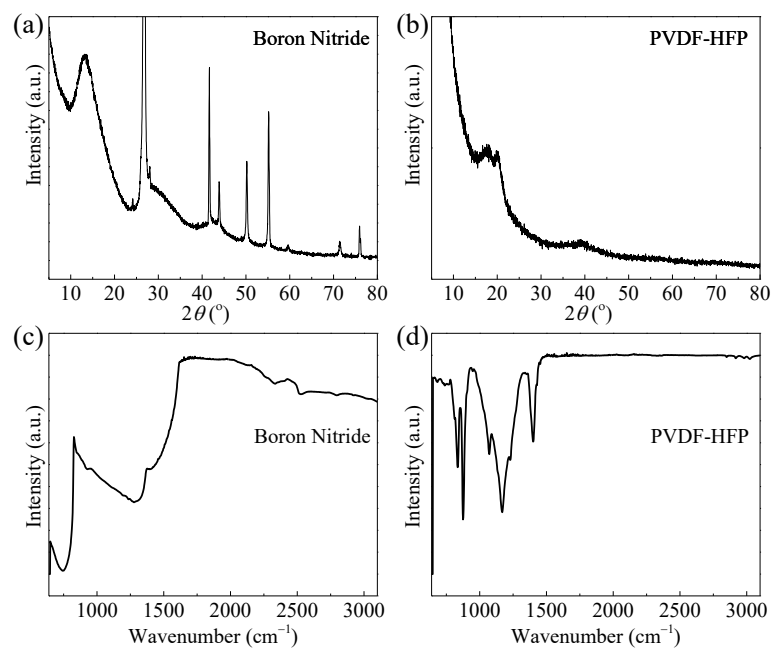


Figure S5. XRD patterns of (a) boron nitride and (b) PVDF-HFP; FTIR spectra of (c) boron nitride and (d) PVDF-HFP.

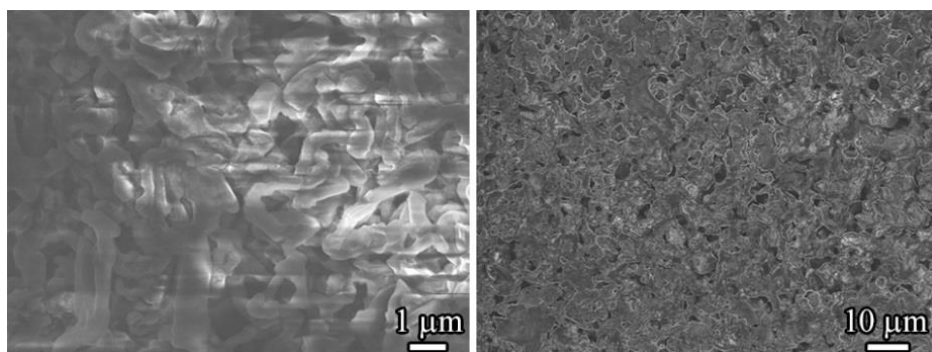


Figure S6. FE-SEM images for lithium deposition on Cu foil with control separator (a) and BN-separator (b) at a current density of 1 mA cm^{-1} after 90 cycles.