Supporting Information

Properties of composite electrodes for all-solid-state fluoride-ion secondary batteries processed by high-pressure torsion

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**Supplementary Figure S1.** Illustration of the testing cell for EIS measurement.



**Supplementary Figure S2.** (a) XRD pattern and (b) Arrhenius plot of total ionic conductivity with Nyquist plots (inset) of solid electrolyte PbSnF4

**Supplementary Figure S3.** Lattice constant of Cu in the cathode composite after HPT processing with different rotation numbers.



**Supplementary Figure S4.** Nyquist plots of the cathode composites after HPT processing with different rotation numbers under 25, 50, 75, 100 and 125 ℃.



**S****upplementary Figure S5.** Charge/discharge curves of the cathode composites after HPT processing with different rotation numbers at 0.01 C under 140°C.

**S****upplementary Table S1.** The fitting parameters of the EIS results of the cathode composite after HPT processing with different rotation numbers.

