

Electronic supplementary information

Pottery Glaze-Derived Sintering Aid for the Synthesis of NASICON Electrolyte with High Ionic Conductivity and Relative Density

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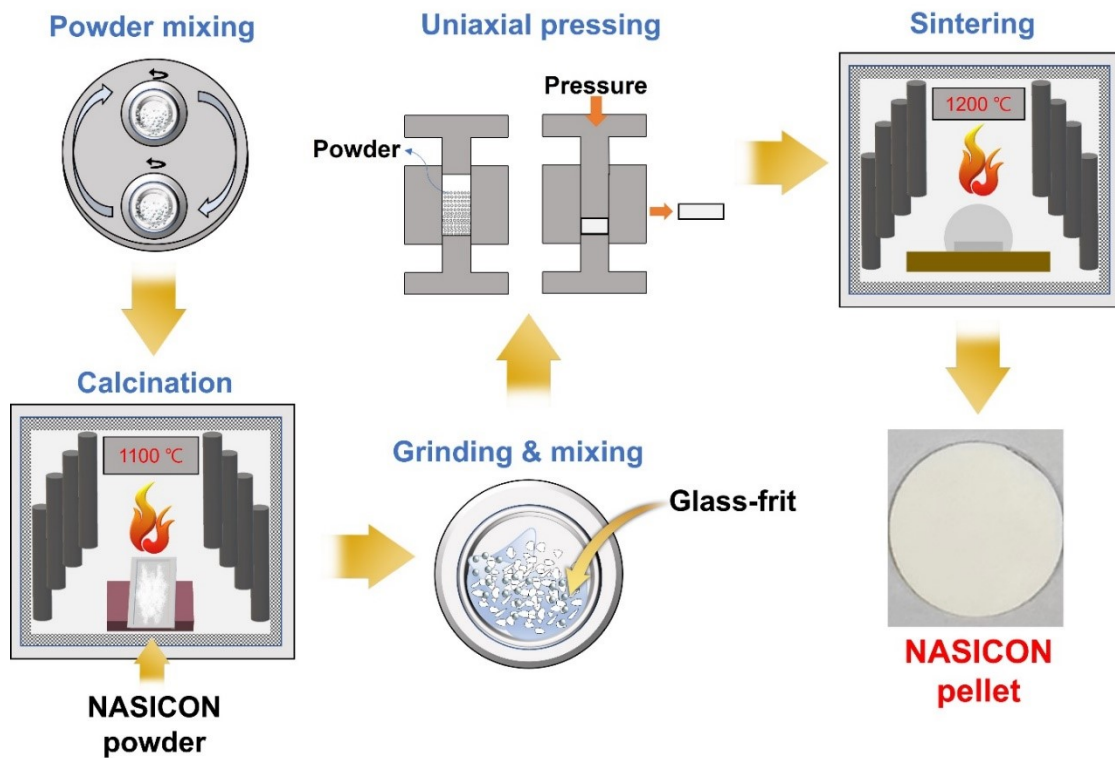
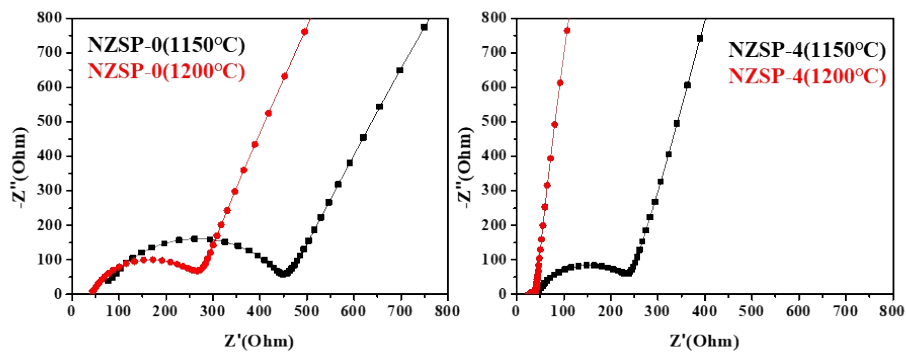


Fig. S1. Schematic of the synthesis process for vA-NASICON pellets with glass frit additive.



	Conductivity at RT[S cm ⁻¹]	Density[g/cm ³]	Relative density(%)
Frit 0wt%(1150°C)	2.4 x 10 ⁻⁴ S/cm	2.18g/cm ³	66.7
Frit 4wt%(1150°C)	5.5 x 10 ⁻⁴ S/cm	3.10g/cm ³	94.8
Frit 0wt%(1200°C)	4.0 x 10 ⁻⁴ S/cm	2.61g/cm ³	79.8
Frit 4wt%(1200°C)	2.3 x 10 ⁻³ S/cm	3.22g/cm ³	98.4

Fig. S2. Comparison of Nyquist plots, ionic conductivities, densities, and relative densities of NZSP-0 and NZSP-4 at 1150 °C and 1200 °C.

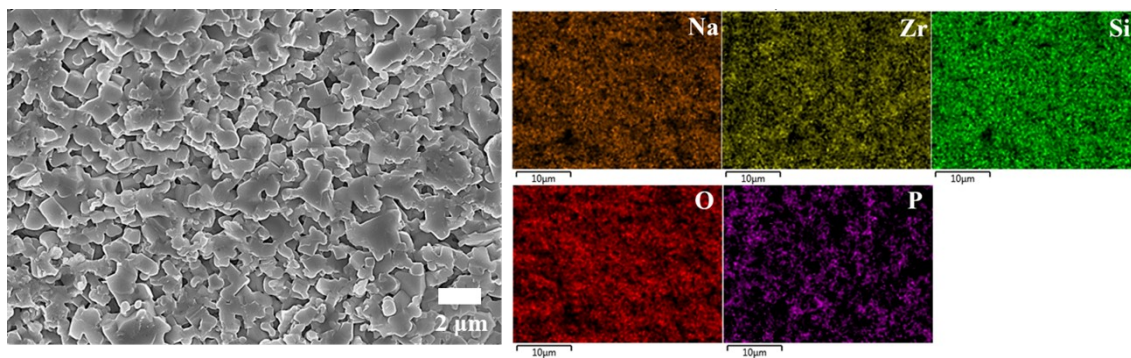


Fig. S3. Cross-section FE-SEM image and EDS mappings of NZSP-0.

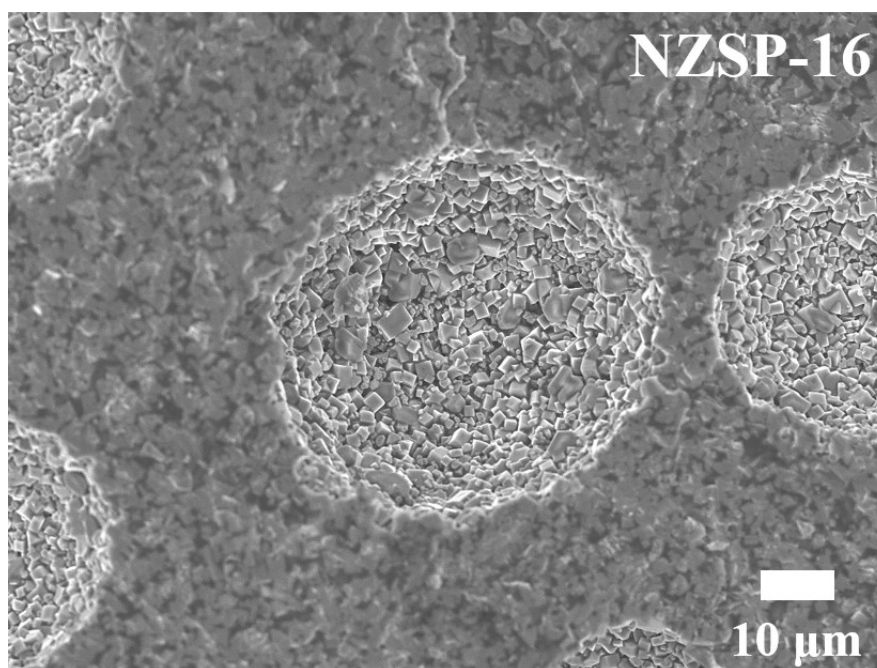


Fig. S4. Cross-section FE-SEM image of NZSP-16.

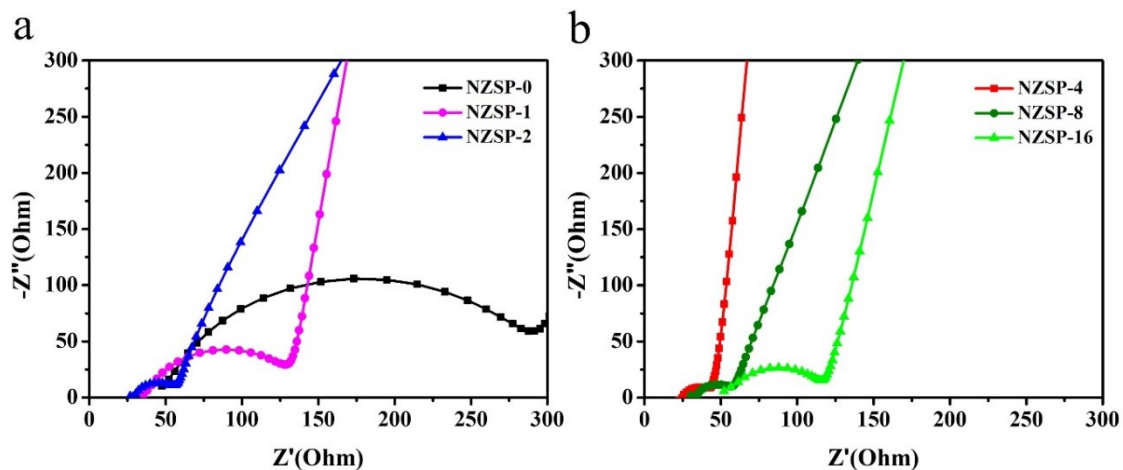


Fig. S5. Nyquist plots of (a) NZSP-0, NZSP-1, and NZSP-2, and (b) NZSP-4, NZSP-8, and NZSP-16.

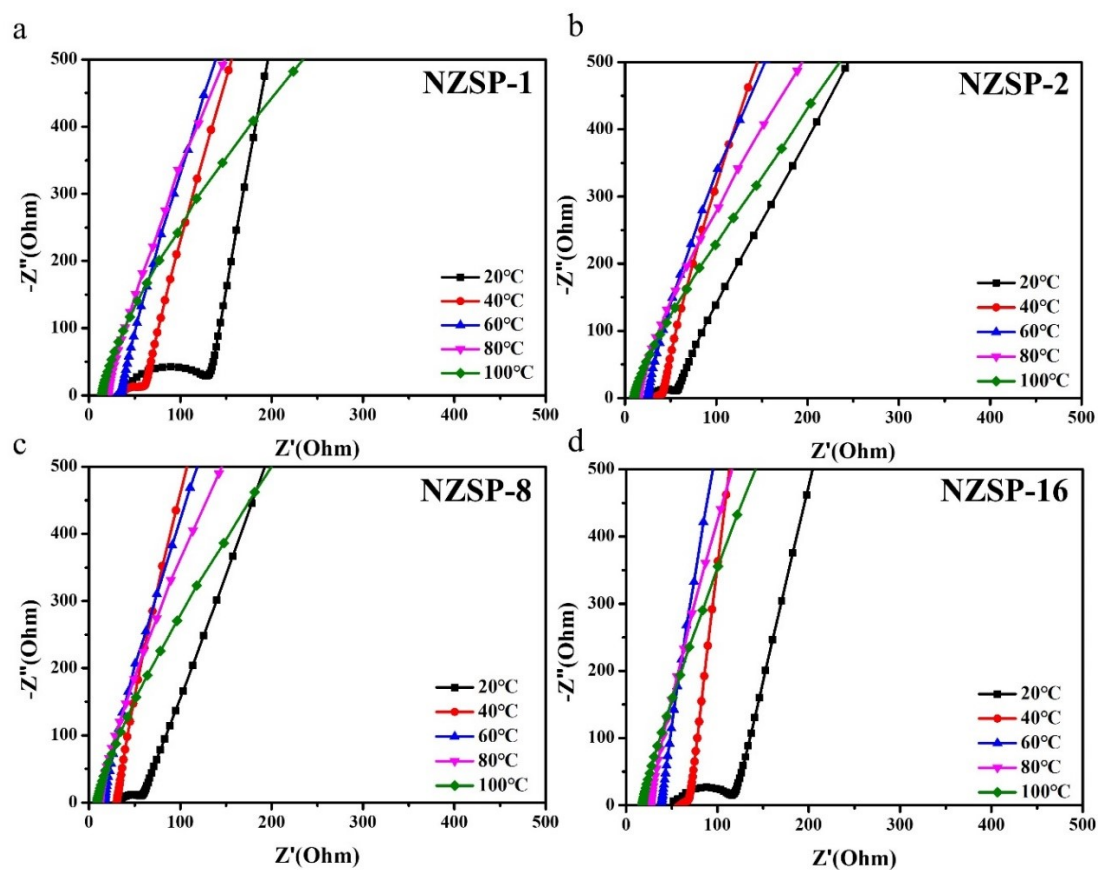


Fig. S6. Nyquist plots of NZSP-x in the temperature range of 20–100 °C.

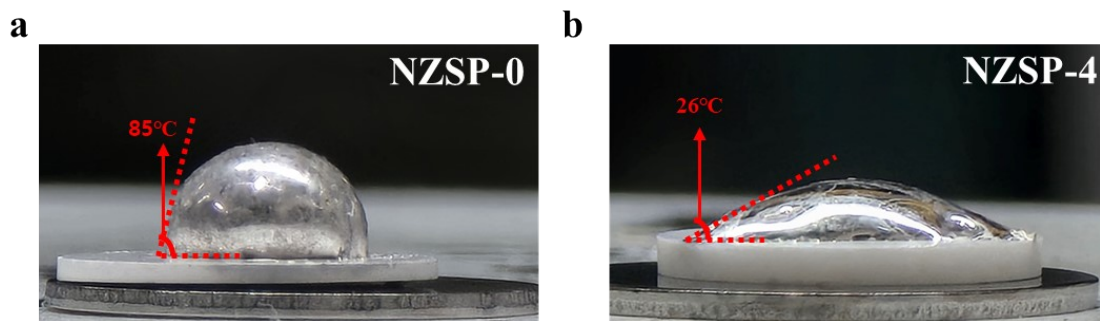


Fig. S7. Wettability tests of (a) NZSP-0 and (b) NZSP-4 with molten sodium metal.