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Supporting Information for

Decoding the relationships between electrocaloric strength and phase structure in perovskite ferroelectrics towarding high performance

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Fig. S1 Temperature-dependent ferroelectric hysteresis (*P-E*) loops for BT-*x*CZ-BS ceramics with (a) x=0.04, (b) x=0.07, (c) x=0.10, and (d) x=0.15 measured at 1 Hz from 30 °C to 90-120 °C.



Fig. S2 Temperature-dependent polarization evolution (extracted from the maximum polarization in *P*-*E* loops) under different electric field from 0 to 40 kV/cm for BT-*x*CZ-BS ceramics with (a) x=0.04, (b) x=0.07, (c) x=0.10, and (d) x=0.15. The polarization at 0 kV/cm was obtained from the remnant polarization in each *P*-*E* loops under 25 kV/cm.



Fig. S3 the DSC heat flow measurement results at various temperature and electric field for BT-xCZ-BS ceramics with (a) x=0.10, (b) x=0.07.