Electronic Supplementary Material (ESI) for Journal of Materials Chemistry C.

Table 1

Lattice parameters and theoretic density of $(Sr_xCa_{1-x})(Zr_{0.95}Ti_{0.05})O_3$ ($0 \le x \le 1$) ceramics.

x	Phase	a (Å)	b (Å)	c (Å)	V ($10^{-24}cm^3$)	ρ_{theo} (g/cm^3)
0	Orthorhombic	5.7457	7.9970	5.5789	256.344	4.5897
0.10	Orthorhombic	5.7514	8.0198	5.6035	258.461	4.6743
0.25	Orthorhombic	5.7562	8.0519	5.6393	261.373	4.8034
0.40	Orthorhombic	5.7648	8.0803	5.6693	264.087	4.9334
0.55	Orthorhombic	5.7752	8.1085	5.6978	266.815	5.0605
	Cubic	4.0788			67.868	4.9746
0.70	Orthorhombic	5.7845	8.1338	5.7279	269.502	5.1859
	Cubic	4.0682			67.331	5.1893
0.85	Orthorhombic	5.7932	8.1616	5.7572	272.213	5.3082
	Cubic	4.0942			68.631	5.2648
1.00	Orthorhombic	5.7826	8.1860	5.8021	274.652	5.4336
	Cubic	4.0971			68.773	5.4248

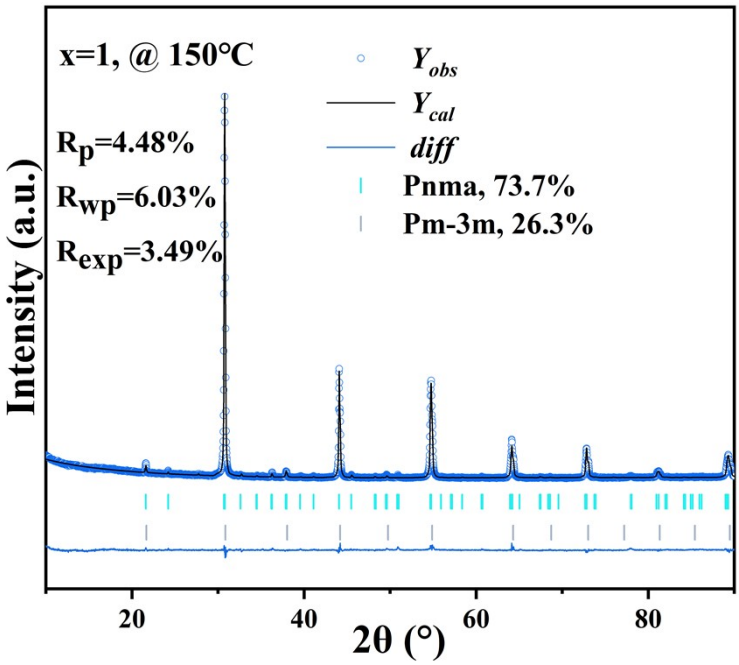

Fig. S1. Representative Rietveld refinement results with experimental (blue circles) and calculated (black line) X-ray powder diffraction profiles for the $Sr(Zr_{0.95}Ti_{0.05})O_3$ (x = 1) ceramics at 150℃. The short vertical lines below the patterns mark the positions of Bragg reflections. The bottom continuous line is the differences between the observed and the calculated intensity. "R" values (R_p, R_{wp}, and R_{exp}) relate to the goodness of fit.

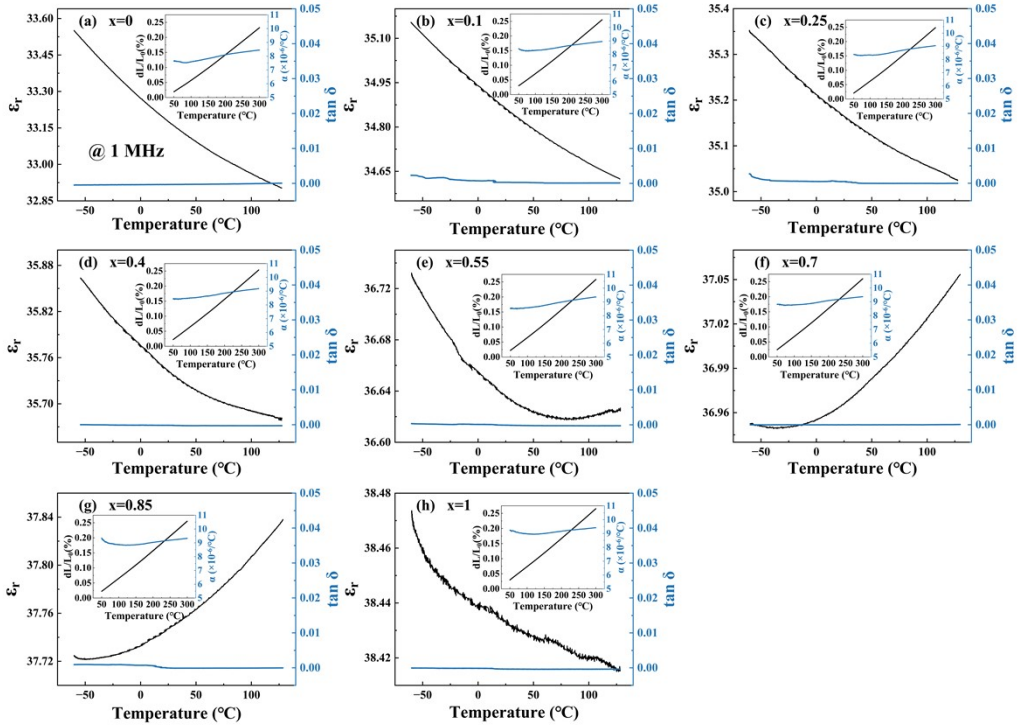

Fig. S2. Temperature dependence of dielectric properties (1MHz) of $(Sr_xCa_{1-x})(Zr_{0.95}Ti_{0.05})O_3$ ($0 \leq x \leq 1$) ceramics. The insets are thermal expansion coefficient.