

Supporting Information

Fabrication of La^{3+} doped $Ba_{1-x}La_xTiO_3$ ceramics with an improved dielectric and ferroelectric properties using composite-hydroxide-mediated method

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Table S1: Fitted parameters of the impedance plane plots (Fig. 5(a-d)) according to equivalent circuit shown in the inset of Fig. 5(a) for the La^{3+} doped $Ba_{1-x}La_xTiO_3$ ceramics with (a) $x = 0.0$, (b) $x = 0.0025$, (c) $x = 0.005$, and (d) $x = 0.0075$ measured at various temperatures.

(a)

T (K)	R ₁ (Ω)	C ₁ (F)	R ₂ (Ω)	C ₂ (F)	R _T (Ω)
303	4.92E6	1.02E-11	2.46E9	8.53E-9	2.46E9
323	7.63E5	1.02E-11	1.74E9	4.49E-9	1.74E9
343	2.16E5	1.03E-11	1.21E9	4.21E-9	1.21E9
363	1.01E5	1.10E-11	7.06E8	4.04E-9	7.06E8
383	1.78E5	1.27E-11	5.19E8	4.26E-9	5.19E8
403	6.23E5	2.52E-11	2.08E8	2.91E-9	2.09E8
423	4.10E5	2.82E-11	1.43E8	2.43E-9	1.43E8
443	5.98 E5	2.25E-11	9.84E7	1.88E-9	9.90E7
463	3.28E6	2.20E-11	4.99E7	6.68E-10	5.32E7

(b)

T (K)	R ₁ (Ω)	C ₁ (F)	R ₂ (Ω)	C ₂ (F)	R _T (Ω)
303	1.18E6	3.23E-11	3.43E8	5.61E-10	3.44E8
323	6.78E5	3.42E-11	1.76E8	6.25E-10	1.77E8
343	4.44E5	3.42E-11	1.20E8	6.99E-10	1.20E8
363	4.61E5	3.76E-11	6.98E7	7.30E-10	7.03E7
383	4.54E5	4.14E-11	5.15E7	7.72E-10	5.20E7
393	6.36E5	4.54E-11	4.06E7	7.83E-10	4.12E7
403	6.95E5	6.26E-11	3.18E7	1.04E-9	3.25E7
413	7.73E5	7.22E-11	2.64E7	1.08E-9	2.71E7
423	9.86E5	6.91E-11	2.84E7	8.61E-10	2.94E7
443	1.30E6	6.18E-11	3.18E7	5.84E-10	3.31E7
463	1.61E6	5.13E-11	5.29E7	4.37E-10	5.45E7

(c)

T (K)	R₁ (Ω)	C₁ (F)	R₂ (Ω)	C₂ (F)	R_T (Ω)
303	6.29E5	2.61E-11	5.25E7	3.05E-9	5.31E7
323	4.75E5	2.70E-11	3.04E7	2.63E-9	3.09E7
343	4.17E5	2.75E-11	1.94E7	2.89E-9	1.98E7
363	3.93E5	2.95E-11	1.46E7	3.15E-9	1.49E7
383	3.84E5	3.95E-11	8.51E6	3.98E-9	8.89E6
403	6.54E5	5.88E-11	5.89E6	2.86E-9	6.54E6
423	6.28E5	4.52E-11	7.89E6	2.05E-9	8.52E6
443	5.92E5	3.59E-11	1.44E7	1.72E-9	1.46E7
463	1.967E6	3.61E-11	4.30E7	8.77E-10	4.50E7

(d)

T (K)	R₁ (Ω)	C₁ (F)	R₂ (Ω)	C₂ (F)	R_T (Ω)
303	5.46E5	2.68E-11	1.48E8	1.52E-9	1.49E8
323	9.90E5	3.02E-11	6.71E7	1.58E-9	6.81E7
343	7.38E5	3.13E-11	4.23E7	1.77E-9	4.30E7
363	5.35E5	3.55E-11	2.96E7	1.88E-9	3.02E7
383	5.01E5	4.59E-11	2.07E7	2.26E-9	2.12E7
403	6.13E5	4.73E-11	1.79E7	1.89E-9	1.85E7
423	9.81E5	4.16E-11	2.17E7	1.29E-9	2.27E7
443	1.15E6	3.64E-11	3.85E7	9.35E-10	3.96E7
463	1.63E6	3.46E-11	9.26E7	6.28E-10	9.42E7