

Supporting Information

Dy³⁺ doped (K,Na)NbO₃-based multifunctional ceramics for achieving enhanced temperature-stable piezoelectricity and non-contact optical temperature sensing performance

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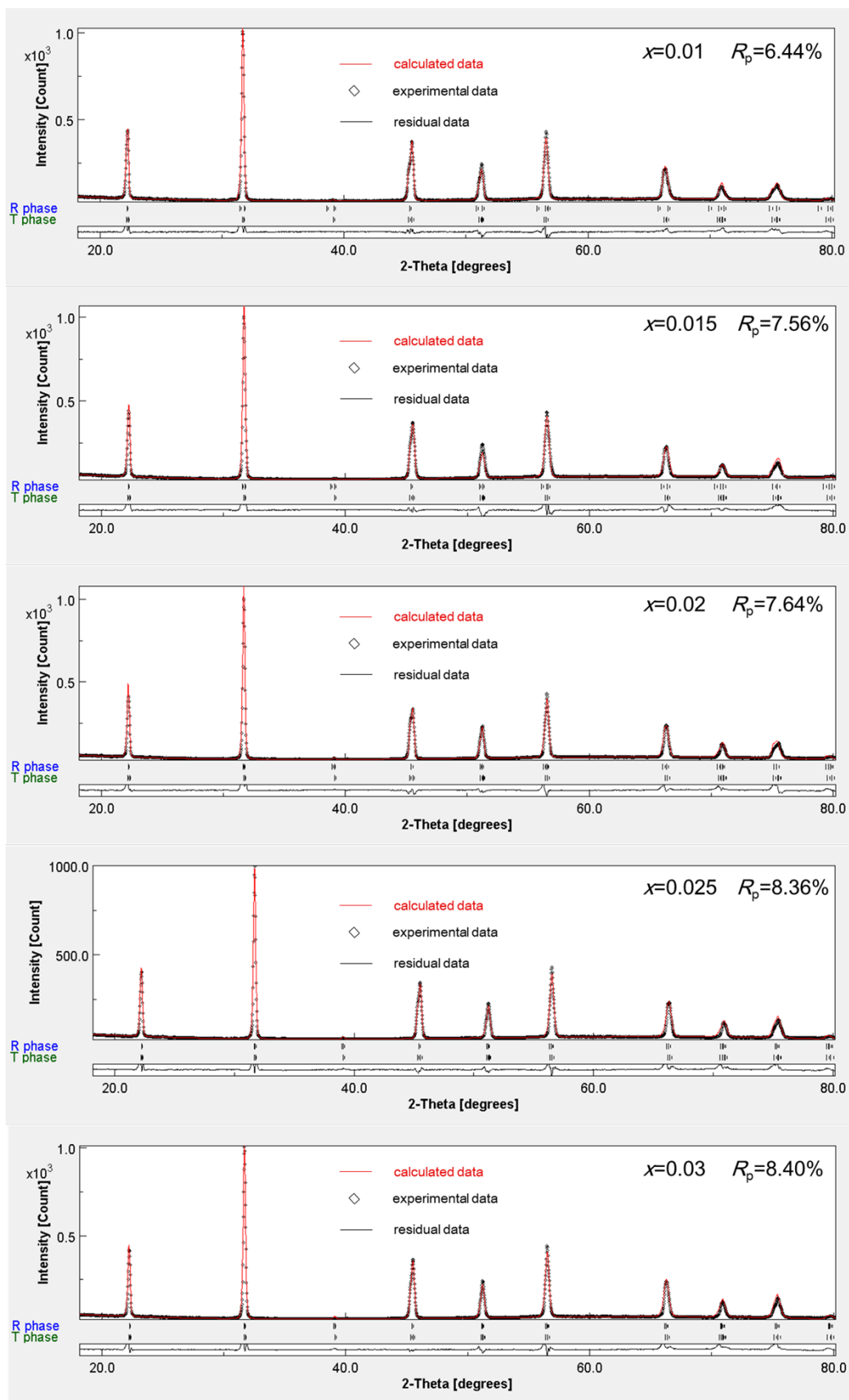


Figure S1. Rietveld refinements of the XRD patterns for LKNNS-BZ- x DyNZ ceramics.

Table R1 The results of the Rietveld refinement of XRD patterns for LKNNS-BZ- x DyNZ ceramics

Composition	Symmetry	Proportion (%)	Space group	a(Å)	b(Å)	c(Å)	α (°)	R_p (%)
$x=0.01$	R	10.9	R3m	3.9941	3.9941	3.9941	89.35	6.44
	T	89.1	P4mm	3.9781	3.9781	4.0008	90	
$x=0.015$	R	17.5	R3m	3.9922	3.9922	3.9922	89.63	7.56
	T	82.5	P4mm	3.9787	3.9787	4.0006	90	
$x=0.02$	R	45.9	R3m	3.9916	3.9916	3.9916	89.79	7.64
	T	55.1	P4mm	3.9789	3.9789	4.0004	90	
$x=0.025$	R	50.9	R3m	3.9910	3.9910	3.9910	89.87	8.36
	T	49.1	P4mm	3.9803	3.9803	4.0003	90	
$x=0.03$	R	53.3	R3m	3.9892	3.9892	3.9892	89.93	8.40
	T	46.7	P4mm	3.9811	3.9811	3.9982	90	

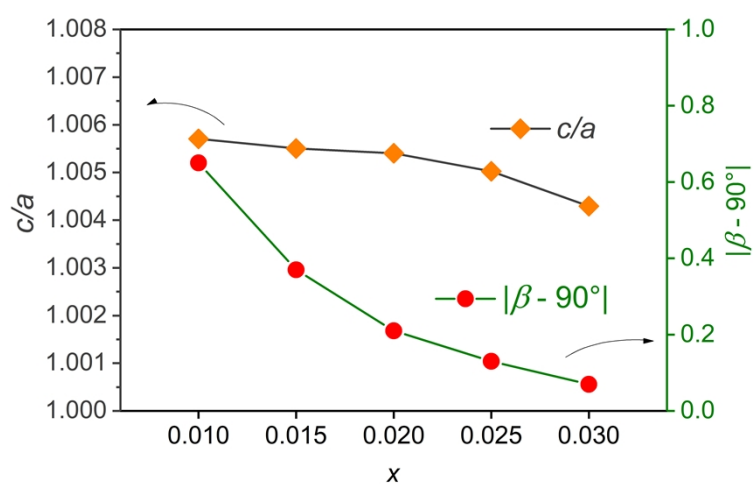


Figure S2. the c/a and $|\beta - 90^\circ|$ as a function of x .