

Supporting information for

**Spinodal decomposition in lead-free piezoelectric BaTiO₃-
CaTiO₃-BaZrO₃ crystals**

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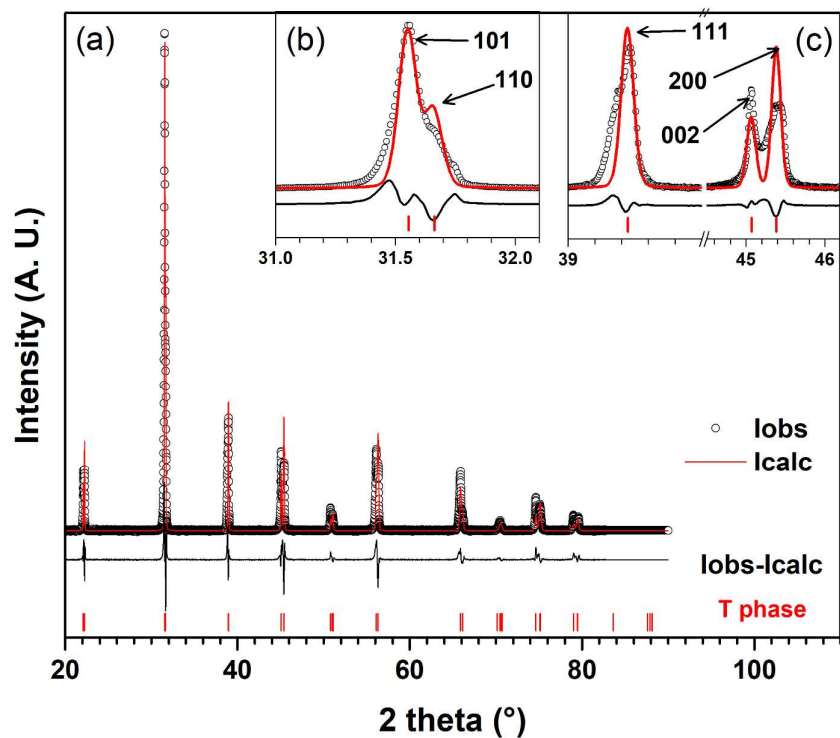


Figure S1. Results of the Rietveld refinement for annealed BCTZ6 crushed single crystal using the global composition $(\text{Ba}_{0.905}\text{Ca}_{0.0095})(\text{Ti}_{0.943}\text{Zr}_{0.057})\text{O}_3$ determined by EPMA, (a) 20-90° pattern refinement fit using tetragonal P4mm structure (space group #99), (b) and (c) details for selected peaks (the Miller indices are for tetragonal phase): GOF = 4.79, $R_p = 16.04\%$, $WR_p = 23.94\%$)

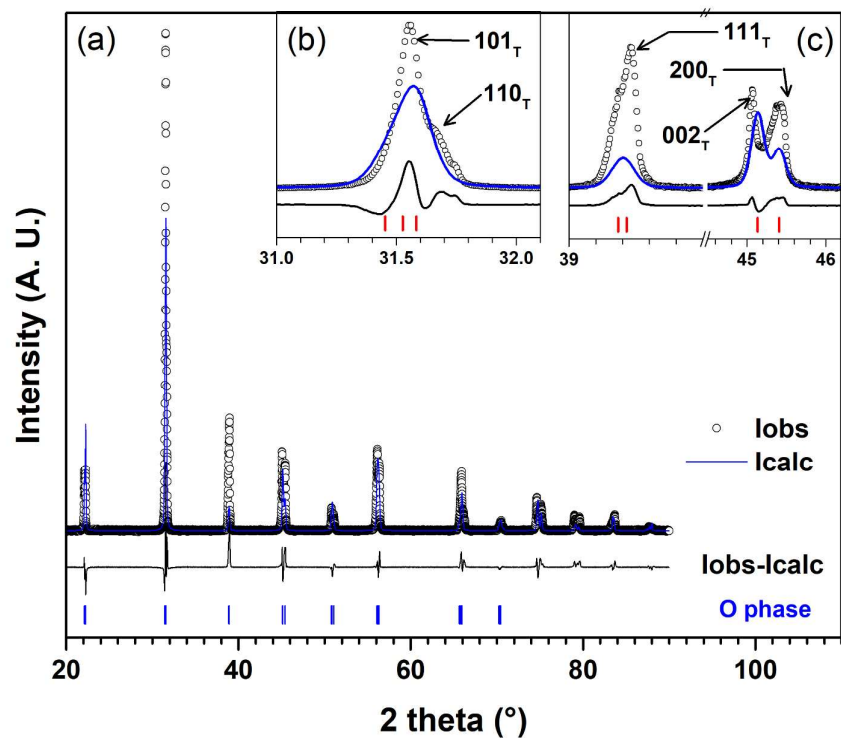


Figure S2. Results of the Rietveld refinement for annealed BCTZ6 crushed single crystal using the global composition $(\text{Ba}_{0.905}\text{Ca}_{0.0095})(\text{Ti}_{0.943}\text{Zr}_{0.057})\text{O}_3$ determined by EPMA, (a) 20-90° pattern refinement fit using orthorhombic Amm2 structure (space group #38), (b) and (c) details for selected peaks (the Miller indices are for tetragonal phase): GOF = 4.69, $R_p = 16.35\%$, $WR_p = 24.69\%$)

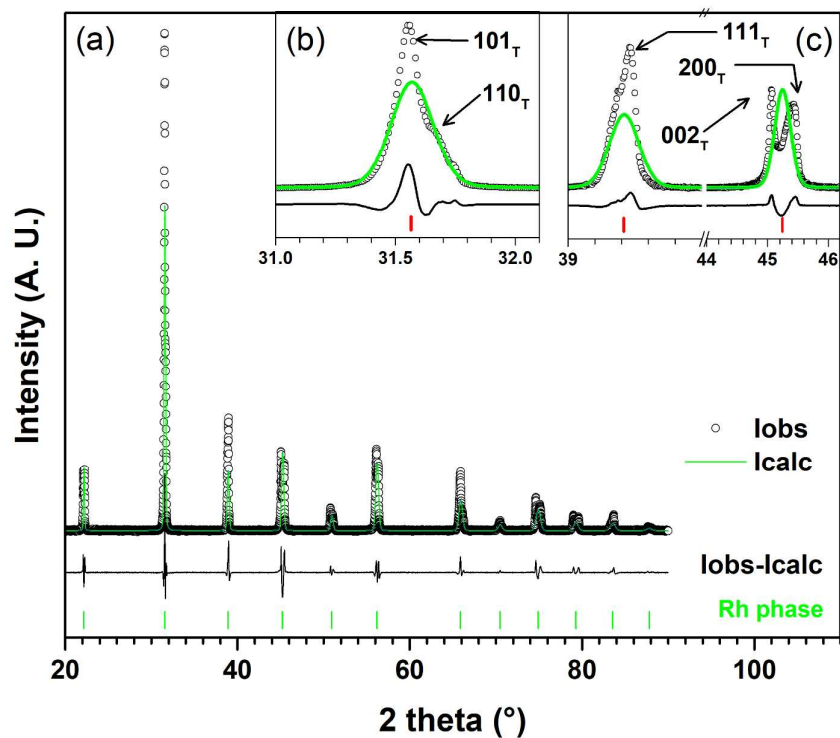


Figure S3. Results of the Rietveld refinement for annealed BCTZ6 crushed single crystal using the global composition $(\text{Ba}_{0.905}\text{Ca}_{0.0095})(\text{Ti}_{0.943}\text{Zr}_{0.057})\text{O}_3$ determined by EPMA, (a) 20-90° pattern refinement fit using rhombohedral R3m structure (space group #160), (b) and (c) details for selected peaks (the Miller indices are for tetragonal phase): GOF = 3.84, $R_p = 13.43\%$, $WR_p = 20.19\%$)