

Electronic Supplementary Information

High field electroformation of sodium bismuth titanate and its solid solutions with barium titanate

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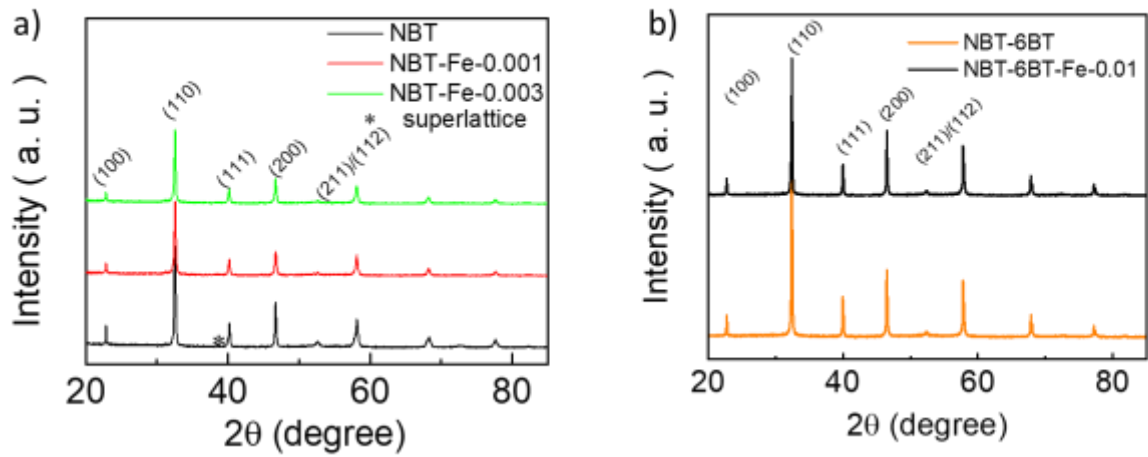


Fig. S1. XRD data from NBT-based materials. a) Fe-doped NBT; *illustrates superlattice reflection^{1,2} b) Fe-doped NBT-BT

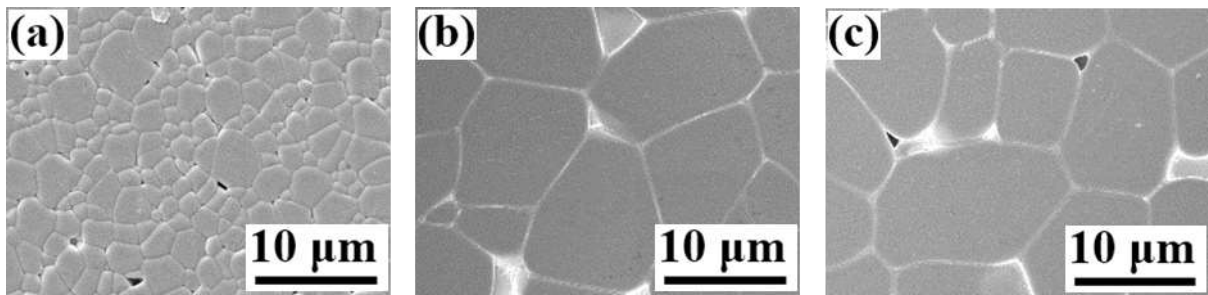


Fig. S2. SEM images of (a) NBT, (b) NBT-Fe-0.001, and (c) NBT-Fe-0.003.

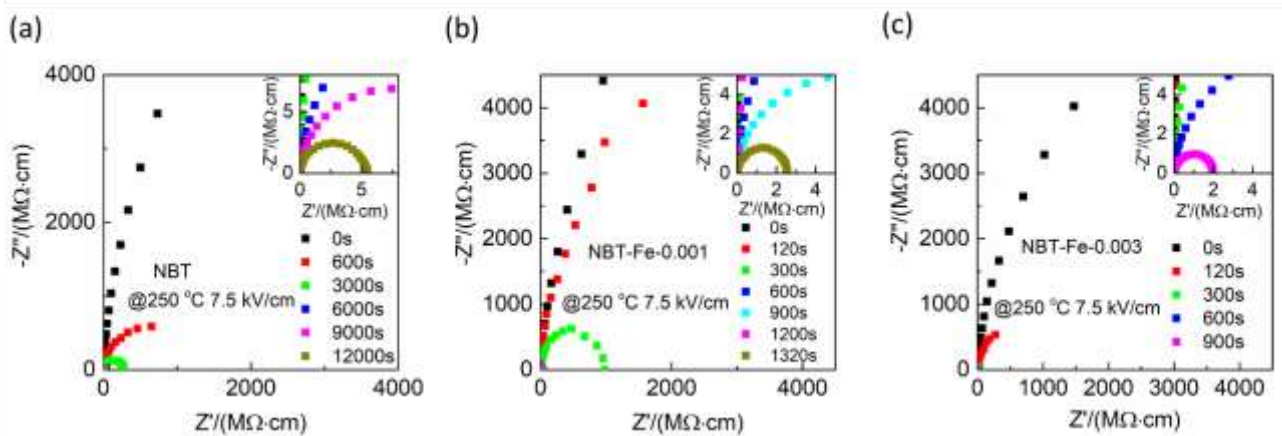


Fig. S3. Impedance spectra during different times of high field (7.5 kV/cm) application of (a) NBT, (b) NBT-Fe-0.001, and (c) NBT-Fe-0.003.

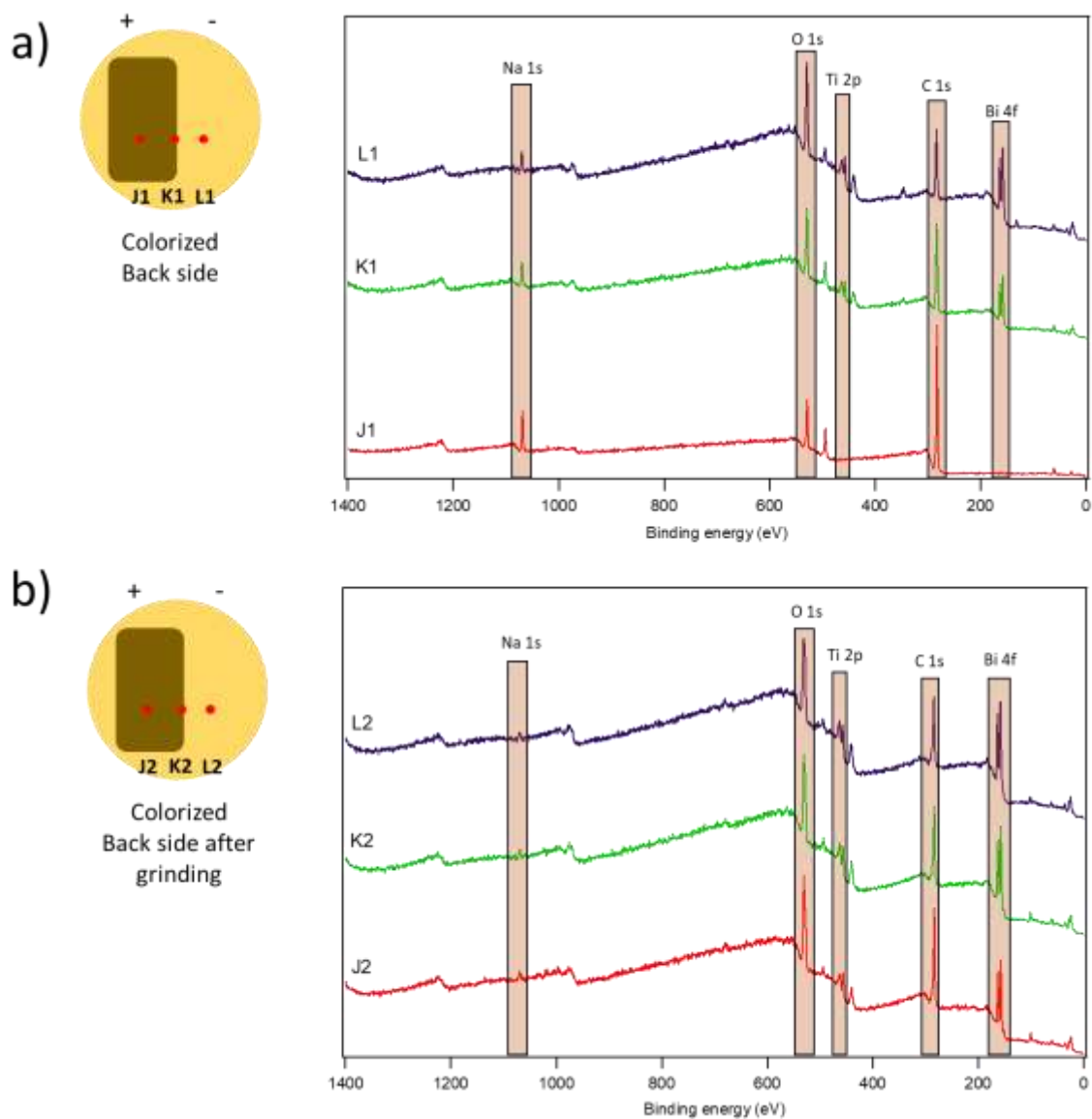


Fig. S4. Results from XPS measurements in different regions between the surface electrodes but measured from the backside of the sample. Colorization, which extends through the material, is schematically depicted on the left side. a) Positions L1, K1, J1 correspond to the respectively labeled spectra of the pristine back side. b) L2, K2, J2 correspond to the respectively labeled spectra of the back side after grinding of the surface.

1. T. Li, X. Lou, X. Ke, S. Cheng, S. Mi, X. Wang, J. Shi, X. Liu, G. Dong, H. Fan, Y. Wang and X. Tan, *Acta Materialia*, 2017, **128**, 337-344.
2. P. Ren, Y. Wang, A. I. Waidha, O. Clemens and L. K. V, *Journal of Materials Chemistry C*, 2020, **8**, 8613-8621.