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Supporting Information

Designing lead-free bismuth ferrite-based ceramics learning from relaxor ferroelectric behavior for simultaneous high energy density and efficiency under low electric field

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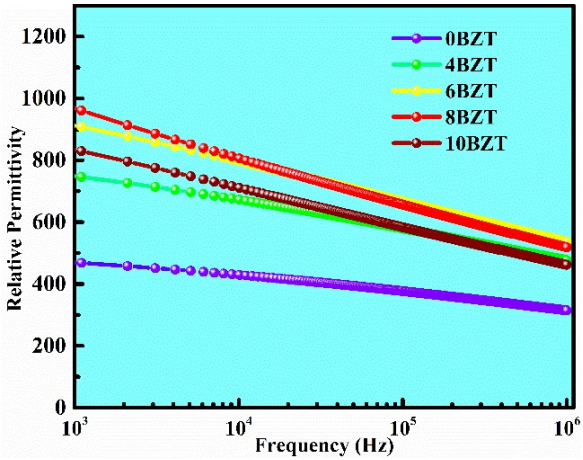

Figure S1. Frequency-dependent dielectric properties for the BZT-modified BFO-based bulk ceramics

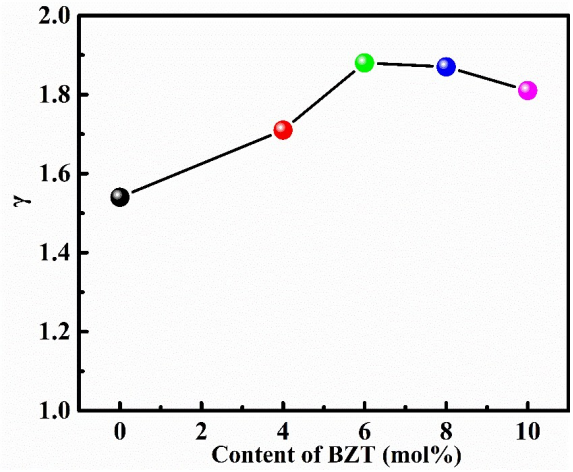

Figure S2. The diffuseness γ as a function of the BZT content

Herein the diffuseness γ is calculated from the ε-T pattern (1MHz). Based on the following equation: $1/\varepsilon - 1/\varepsilon_{max} = (T-T_c)^{\gamma}/C$ ($T>T_c$), where γ ($1\leq\gamma\leq2$) and C are constant. The degree of relaxor behavior can be evaluated by the parameter γ, when γ = 1 represents a normal ferroelectric material, and γ = 2 represents a complete relaxor ferroelectric material.[1]

References:

(1) Shvartsman, V. V.; Lupascu, D. C.; Green, D. J., Lead-Free Relaxor Ferroelectrics. *Journal of the American Ceramic Society* **2012,** *95* (1), 1-26.