Supplementary Information

Sintering and enhanced ferroelectric properties of textured $Bi_5Ti_3FeO_{15}$ ceramics with high Curie temperature

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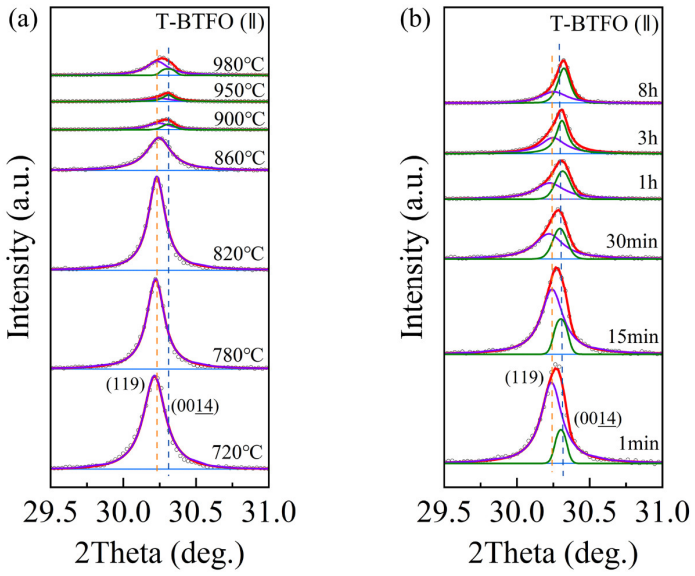


Fig.S1 The fitting results of (119) and (00$\underline{14}$) peaks of T-BTFO (∥) samples sintered at different temperatures and times.

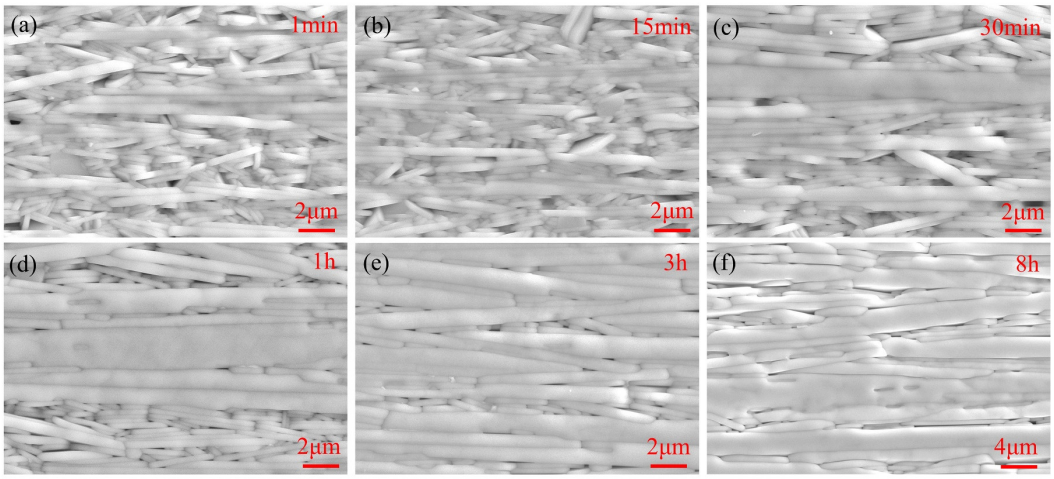


Fig.S2 SEM grain morphologies of T-BTFO (⊥) samples sintered at 950 ℃ for different times.

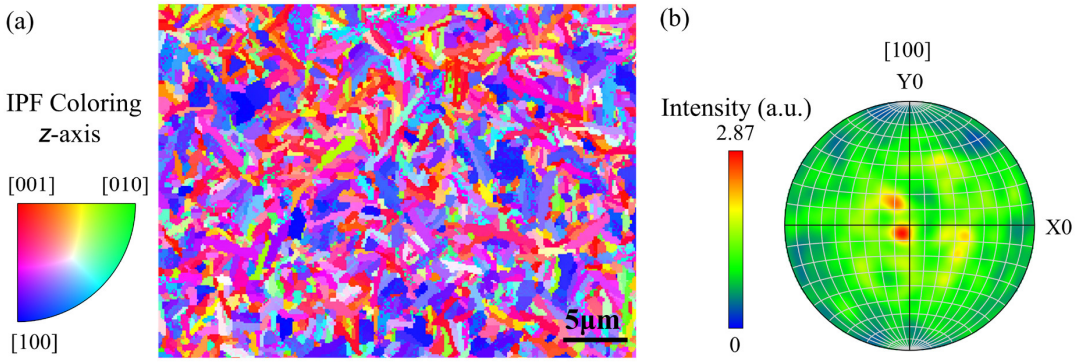


Fig.S3 EBSD inverse pole figure coloring and pole figure of R-BTFO sample.

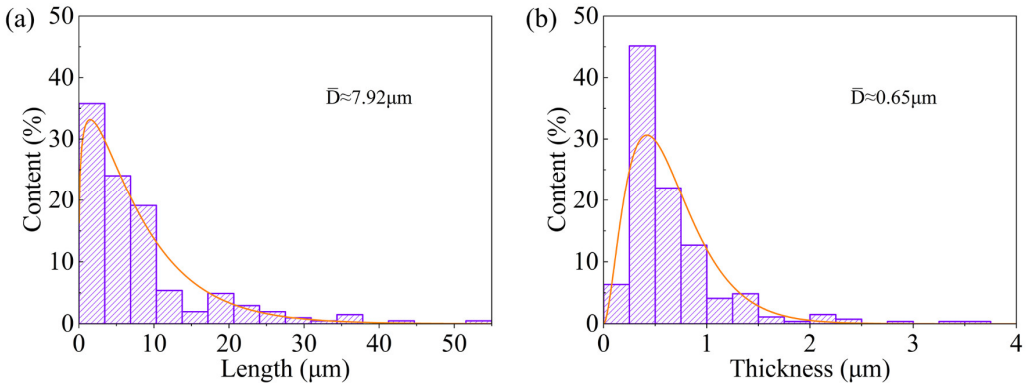


Fig.S4 The grain size distributions of textured BTFO ceramics (the curves present the distribution trend of the grain size).

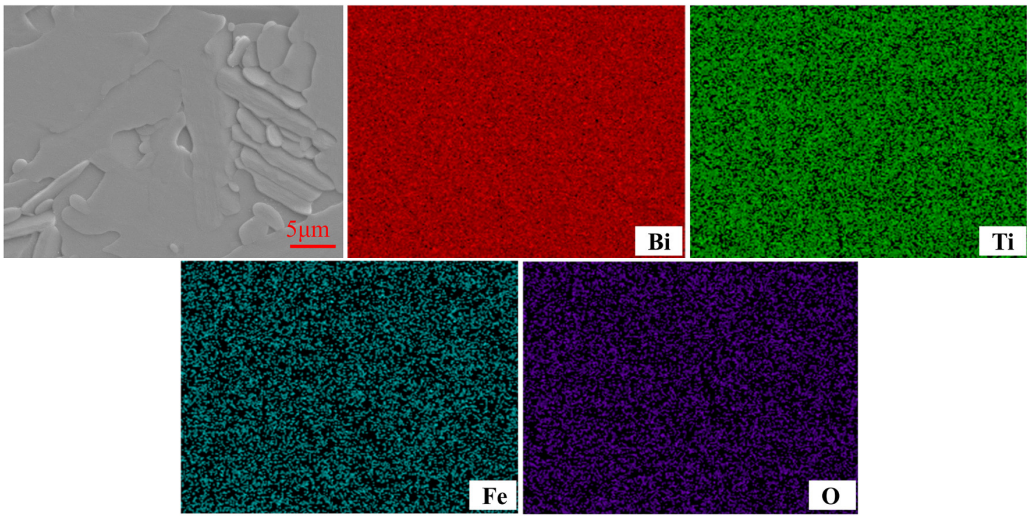
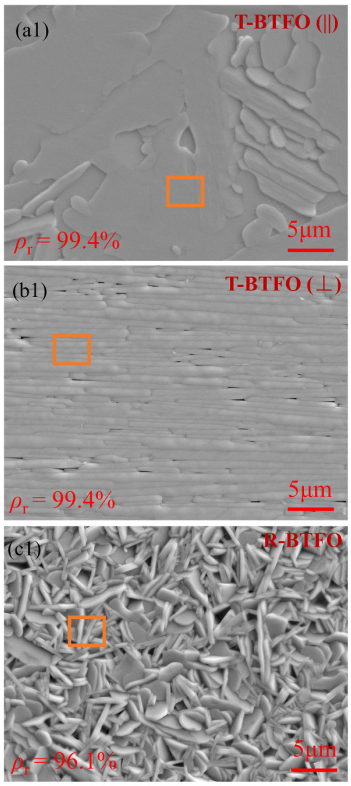


Fig.S5 EDS element distribution maps of T-BTFO (||) samples.



(a2) EDS spectra for T-BTFO (∥)

Element	Wt%	At%
Bi	66.33	16.90
Ti	9.24	10.27
Fe	3.56	3.39
O	20.87	69.44
Total	100.00	100

(b2) EDS spectra for T-BTFO (⊥)

Element	Wt%	At%
Bi	65.96	16.58
Ti	9.12	10.00
Fe	3.59	3.38
O	21.34	70.05
Total	100.00	100

(c2) EDS spectra for R-BTFO

Element	Wt%	At%
Bi	66.53	17.06
Ti	9.08	10.16
Fe	3.73	3.58
O	20.66	69.20
Total	100.00	100

Fig.S6 EDS element content of textured and random BTFO ceramics (the EDS data is obtained in a rectangular region and the relative density is given).

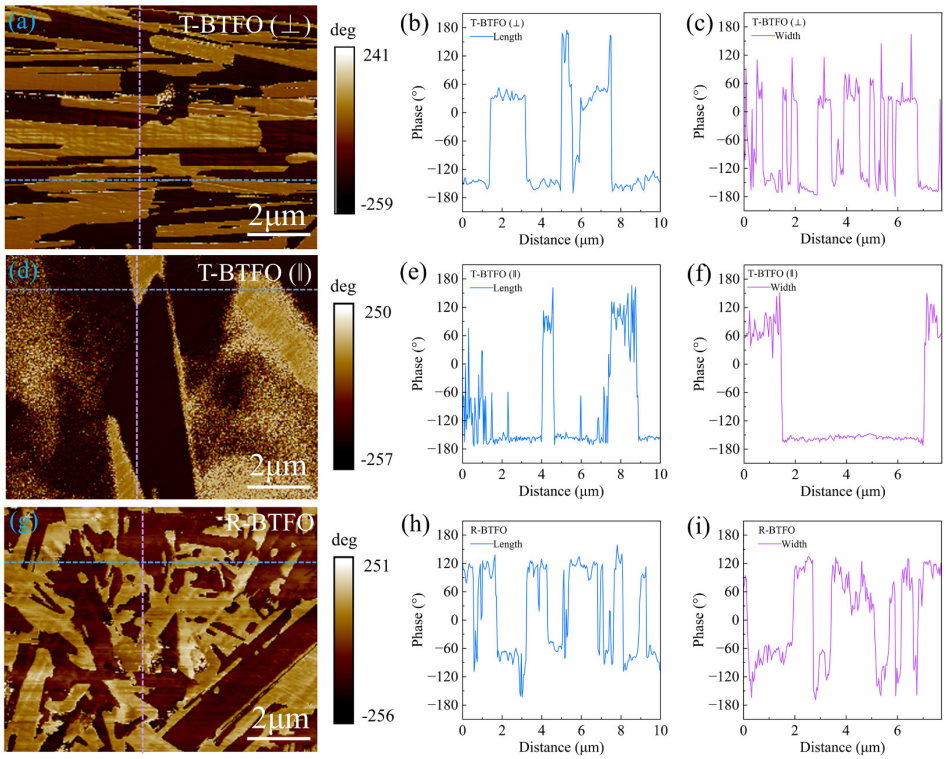


Fig.S7 The PFM phase images of textured and random BTFO ceramics and the corresponding change of phase images in two directions perpendicular to each other.