Electronic Supplementary Material (ESI) for Journal of Materials Chemistry C.

Supplementary Information

Table S1 Electrical resistance between Pt 1 and Pt 2 before and after poling under various illumination intensities.

Illumination intensity	Resistance before poling	Resistance after poling
0 mW/cm^2 (dark)	3.1 $M\Omega$	2.7 $M\Omega$
200 mW/cm^2	2.7 $M\Omega$	2.2 $M\Omega$
400 mW/cm^2	2.5 $M\Omega$	2.0 $M\Omega$
600 mW/cm^2	2.3 $M\Omega$	1.8 $M\Omega$
800 mW/cm^2	2.1 $M\Omega$	1.6 $M\Omega$

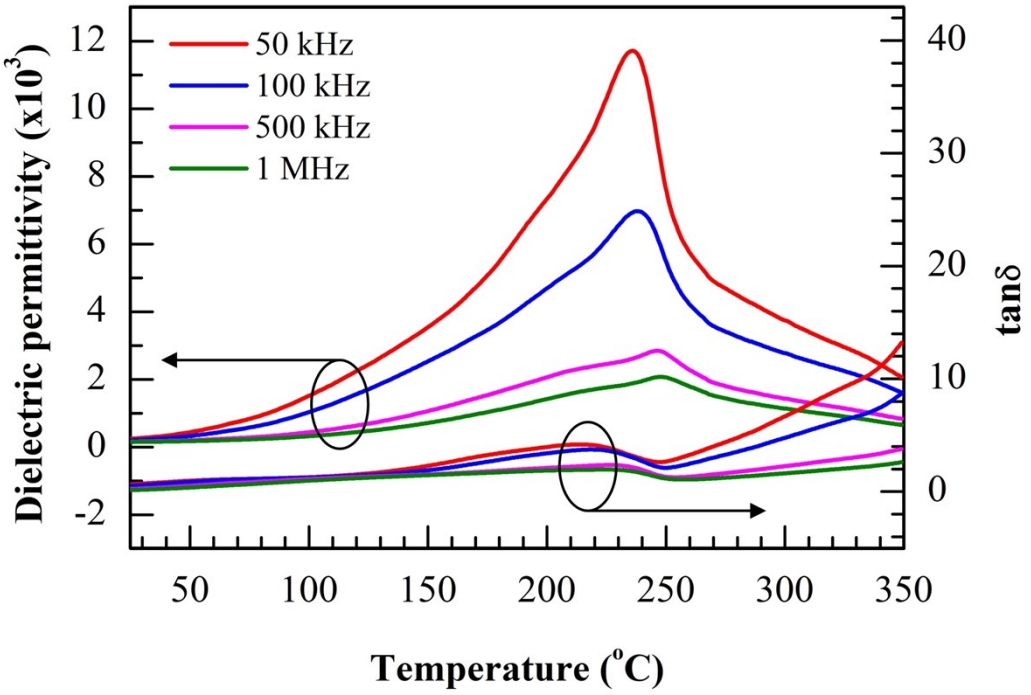

Figure S1 Curves of the dielectric permittivity and dielectric loss ($\tan\delta$) as functions of temperature.

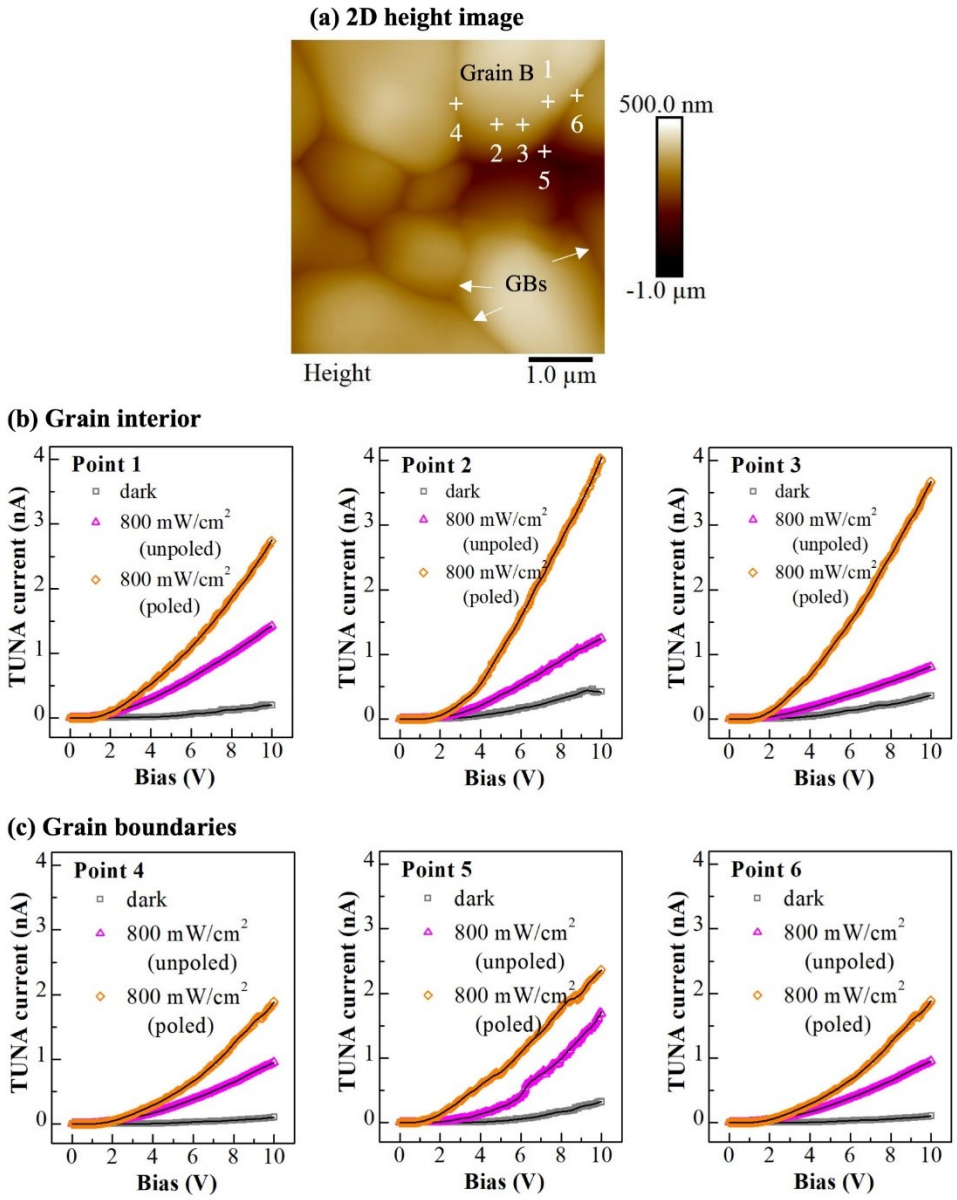

Figure S2 Curves of the photocurrent vs. bias voltage acquired at various points in the grain interior and GBs of grain B at dark and 800-mW/cm^2 illumination before and after *E*-field poling.

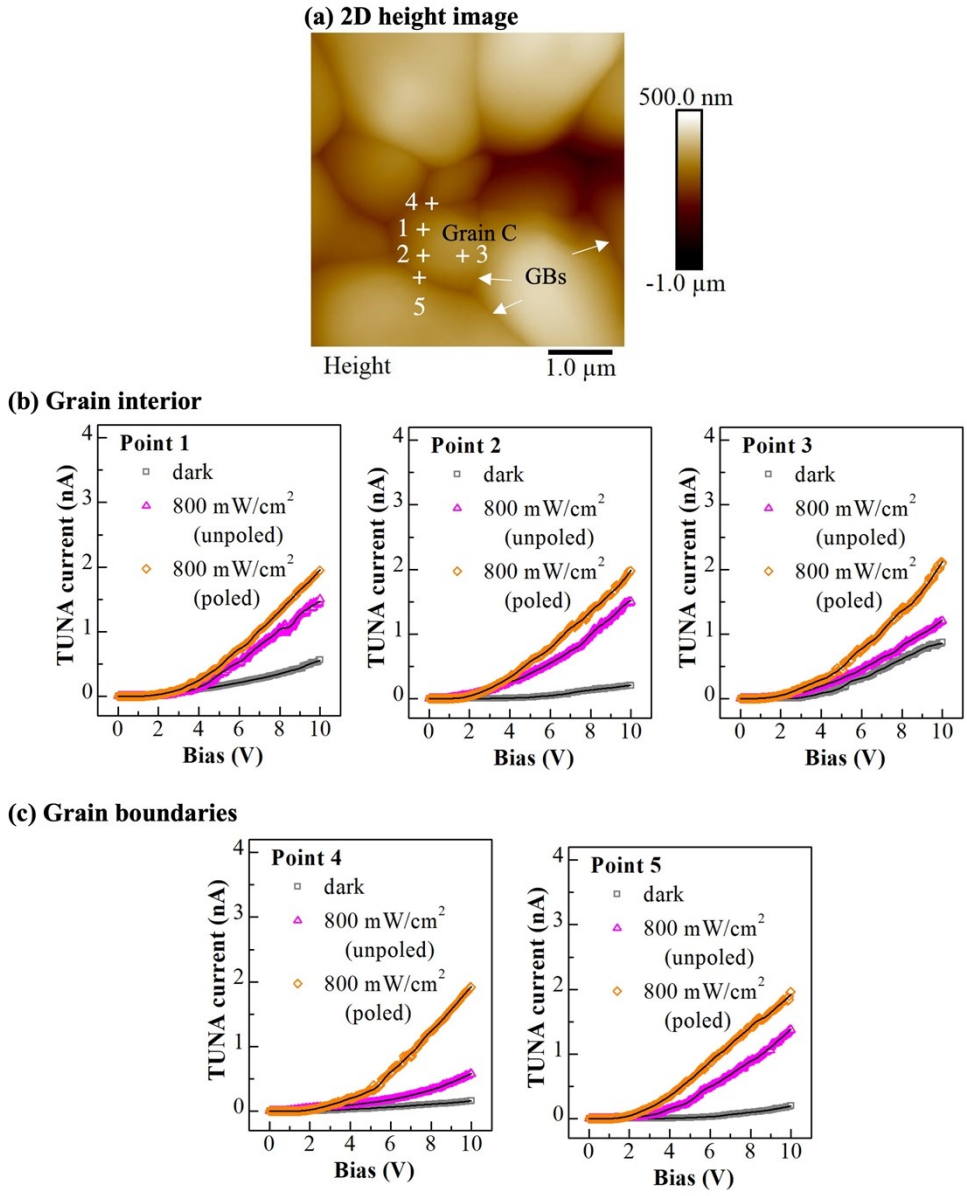

Figure S3 Curves of the photocurrent vs. bias voltage acquired at various points in the grain interior and GBs of grain C at dark and 800-mW/cm^2 illumination before and after *E*-field poling.

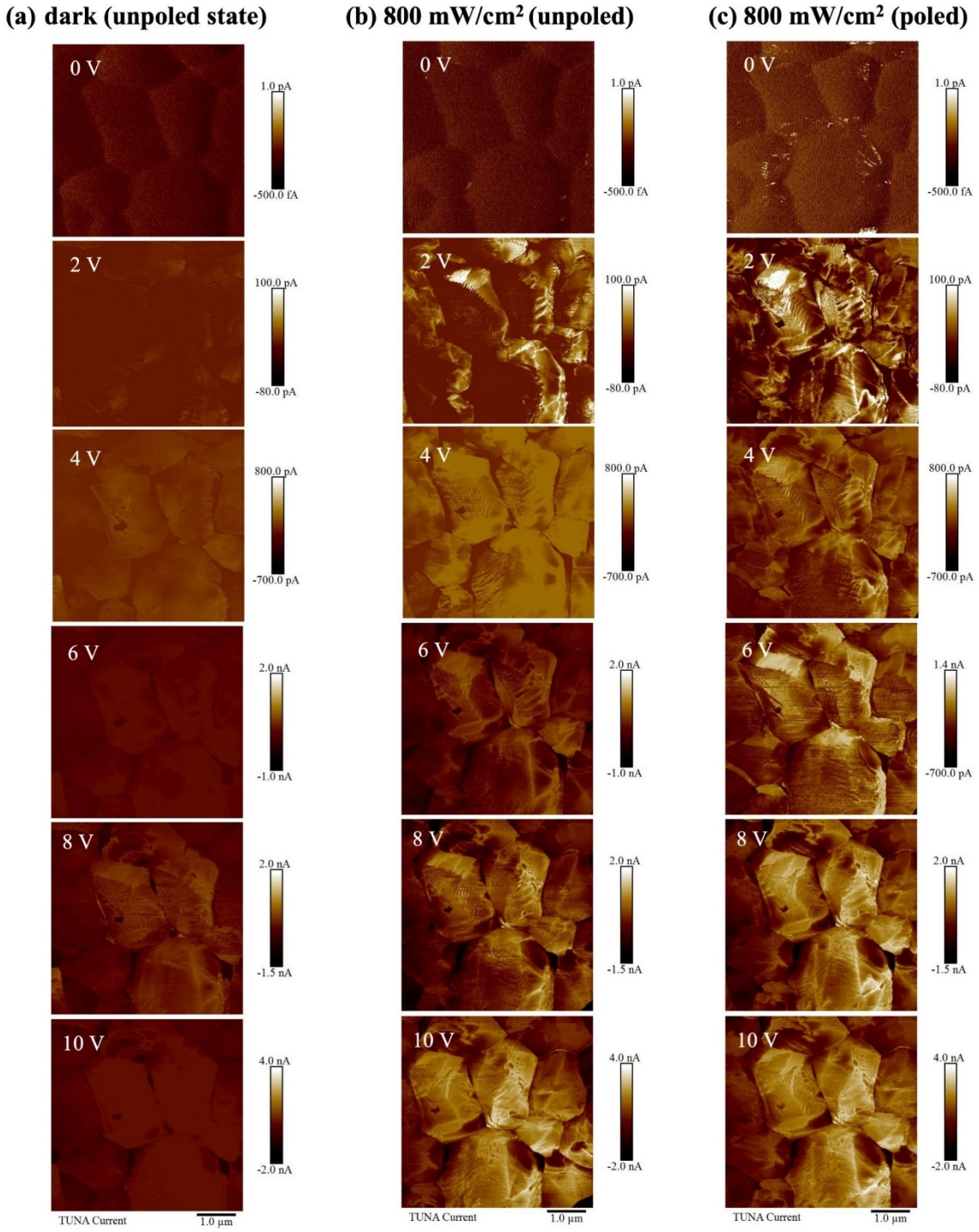

Figure S4 Mapping of photocurrent-voltage characteristics before poling at (a) dark and (b) 800-mW/cm^2 illumination and after poling (c) 800-mW/cm^2 illumination.

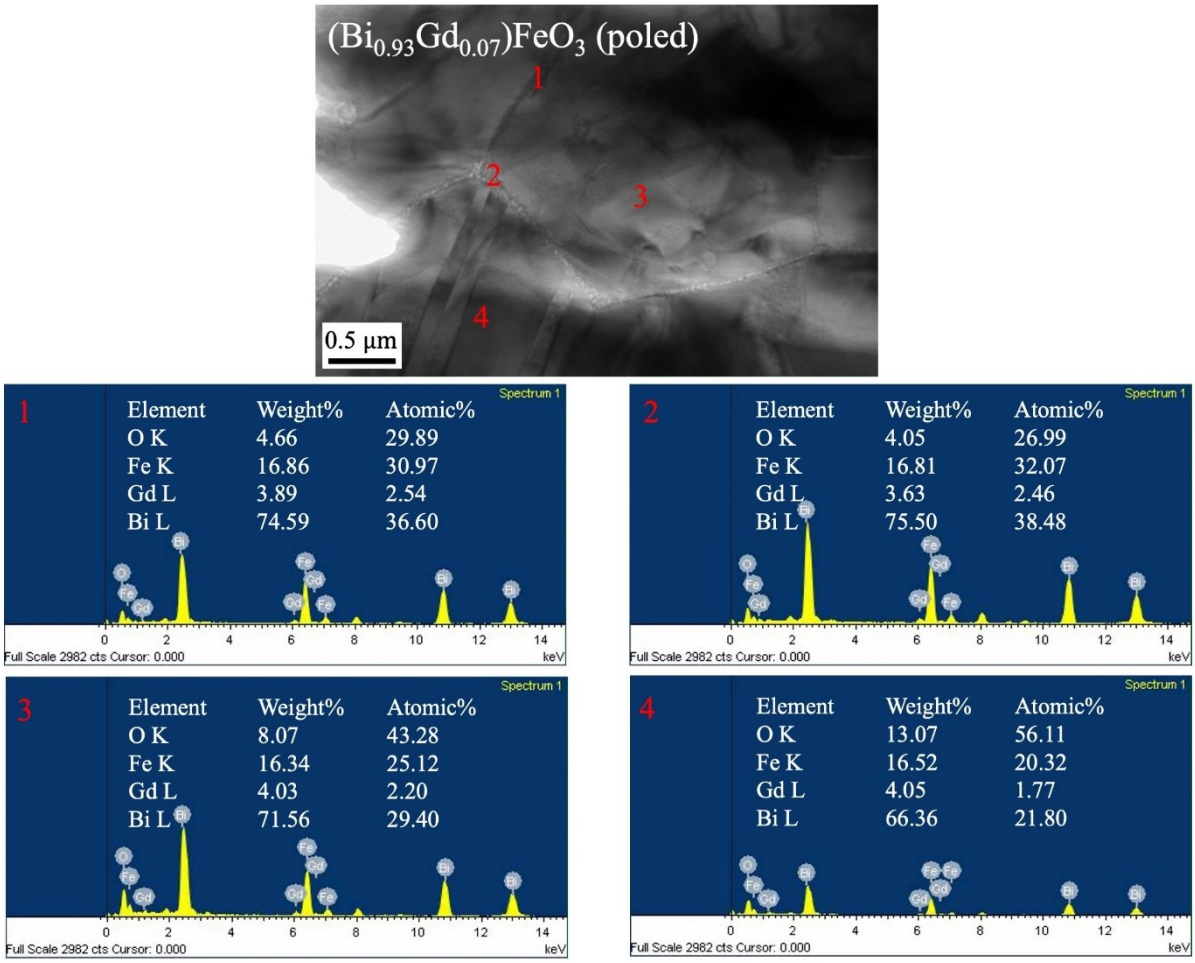

Figure S5 TEM bright-field image of poled $(Bi_{0.93}Gd_{0.07})FeO_3$ ceramic and the corresponding EDS spectra acquired from various points on the grain matrix.