Electronic Supplementary Information

Poling Effects on the Structural, Electrical and Photoluminescence Properties in Sm Doped BCST Piezoelectric Ceramics

Wei Li, **Zhe Wang, a Jigong Hao, a Peng Fu, a Juan Du, a Ruqing Chu b and Zhijun Xu** b

a College of Materials Science and Engineering, Liaocheng University, Liaocheng 252059, China;

b School of Environmental and Materials Engineering, Yantai University, Yantai 264005, China.

Corresponding Authors.

*E-mail: liwei_727@163.com

**E-mail: zhjxu@sohu.com
Results and discussion section

Fig. S1 The temperature dependence of dielectric constant $\varepsilon_r$ and dielectric loss tan$\delta$ of the BCST and BCST-Sm ceramics measured at 100 kHz.
Fig. S2 The FE-SEM images of the (a) BCST, (b) BCST-Sm ceramics and (c - h) the element mappings of the BCST-Sm ceramics.
Fig. S3 Raman spectroscopy of the unpoled and poled BCST-Sm ceramics under different electric fields (5, 10, 20, 40 and 50 kV/cm).