

Supplementary Information

Integration of BaTiO₃/CoFe₂O₄ multiferroic heterostructure on GaN

semiconductor†

Guanjie Li,^{ac} Xiaomin Li,^{*ab} Qiuxiang Zhu,^{*a} Junliang Zhao,^d and Xiangdong Gao,^{ab}

^a State Key Laboratory of High Performance Ceramics and Superfine Microstructure, Shanghai Institute of Ceramics, Chinese Academy of Science, No. 1295 Dingxi Road, Shanghai, 200050, PR China

^b Center of Materials Science and Optoelectronics Engineering, University of Chinese Academy of Science, No. 19A Yuquan Road, Beijing, 100049, PR China

^c University of Chinese Academy of Science, No. 19A Yuquan Road, Beijing, 100049, PR China

^d Nanjing NanoArc New Materials Technology Co., Ltd., No. 37 Jiangjun Avenue, Nanjing, 211106, PR China

*** Corresponding Author:**

Prof. Xiaomin Li: E-mail: lixm@mail.sic.ac.cn; Tel: +86-21-52412554; Fax: +86-21-52413122

Dr. Qiuxiang Zhu: qiuxiang.zhu88@gmail.com

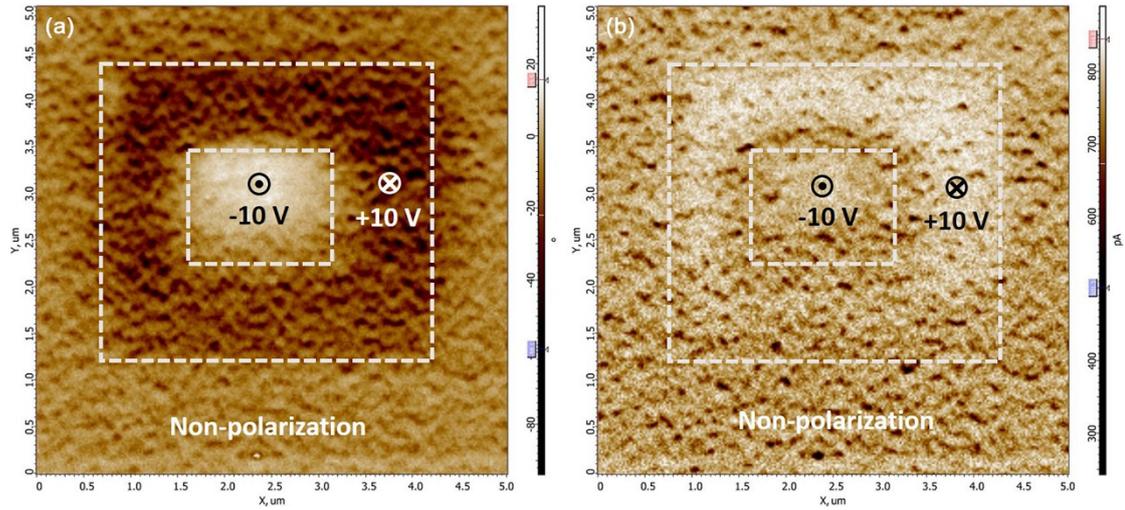


Fig. S1. PFM (a) phase and (b) magnitude images of BTO in BTO/CFO/GaN (n^+) after +10 V and -10 V polarization treatment.

Fig. S1 shows the PFM (a) phase and (b) magnitude images of BTO in BTO/CFO/GaN (n^+) after +10 V and -10 V polarization treatment. Clear phase contrast could be observed after +10 V and -10 V polarization treatment, which directly proves the ferroelectric domain switching property of BTO in BTO/CFO/GaN heterostructure.