

## Supplementary

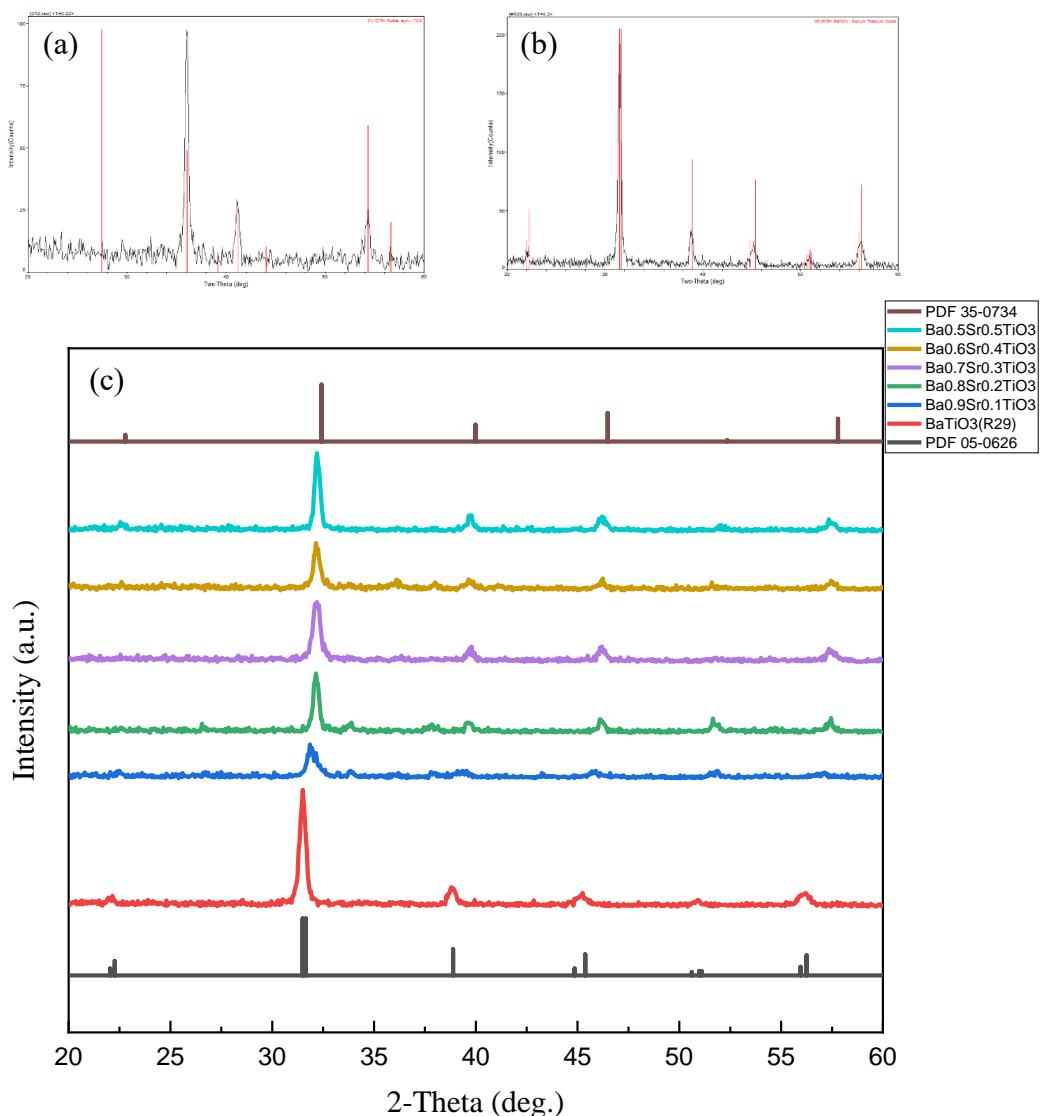


Fig. 1 XRD diagram of (a)  $\text{TiO}_2$  (b)  $\text{BaTiO}_3$  (c)  $(\text{Ba}, \text{Sr})\text{TiO}_3$  nanorod arrays.

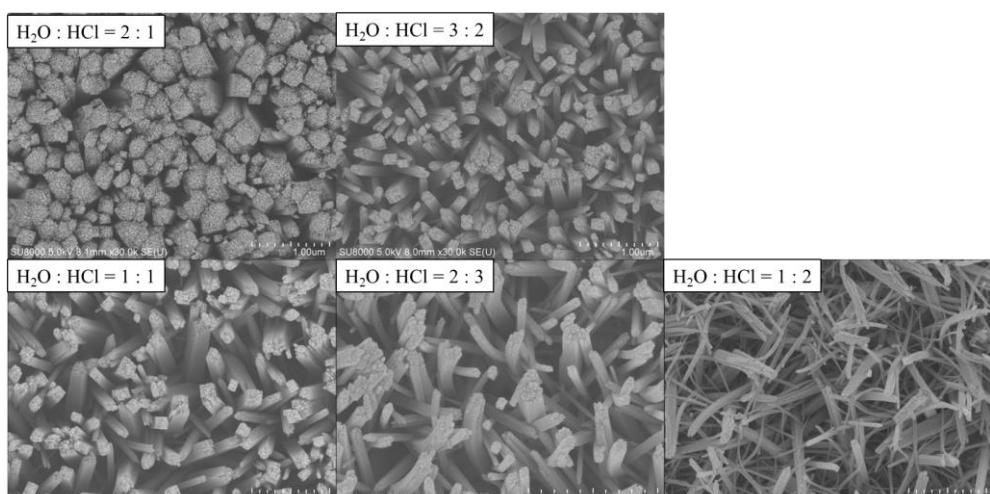


Fig. 2 Top view of SEM graphs of the morphology-tuning of  $\text{TiO}_2$  template.

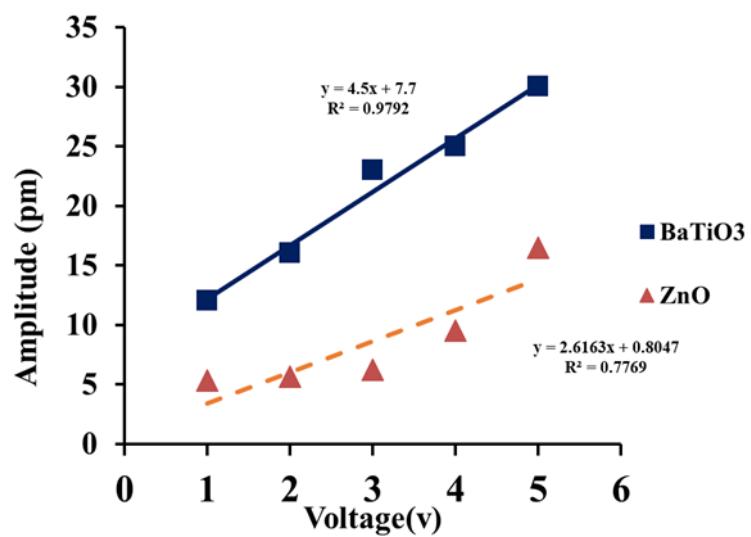


Fig. 3. The piezoresponse of BaTiO<sub>3</sub> nanorod arrays measured under different bias from PFM.