

Supplementary Materials: Monitoring electrical biasing of ferroelectric Pb(Zr_{0.2}Ti_{0.8})O₃ thin-film in-situ by DPC-STEM imaging

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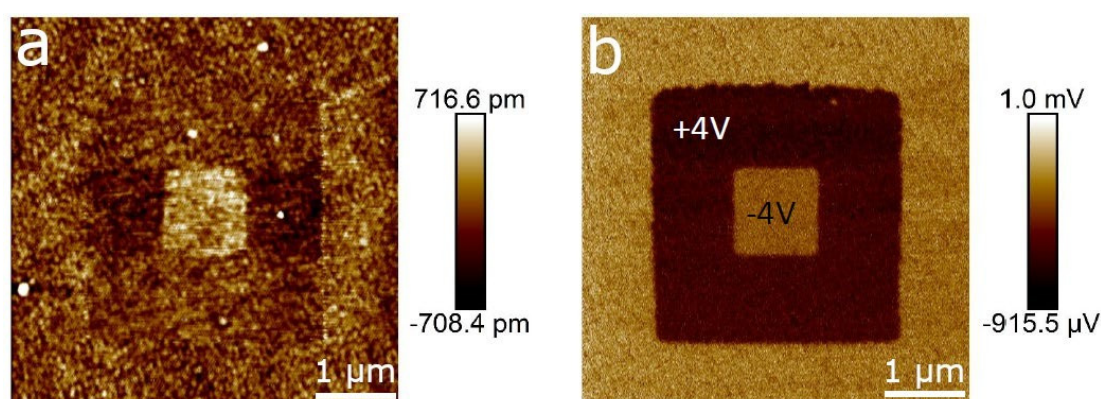


Figure S1. (a) Topography measurement performed simultaneously with the Piezoresponse force microscopy (PFM) measurement, showing a root-mean-square roughness of 0.26 nm. (b) Out-of-plane PFM measurement of the thin film. ± 4 V was reversibly applied to the scanning tip to locally switch the out-of-plane oriented polarization of the film.

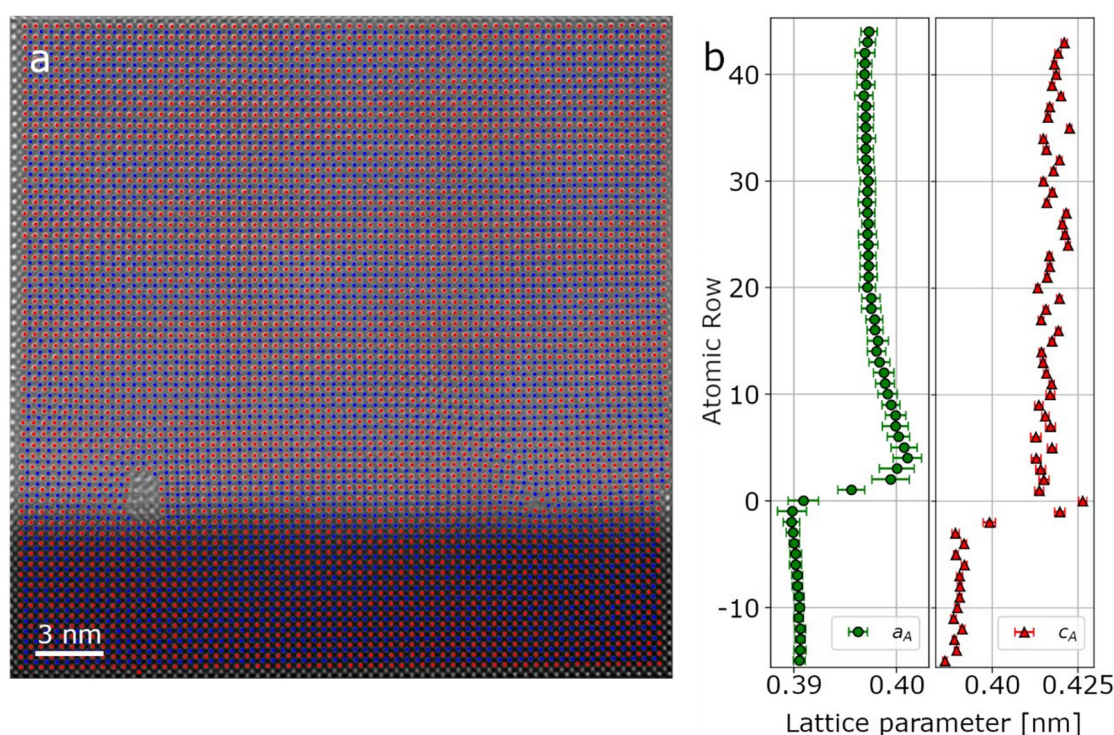


Figure S2. (a) Result of atom column fitting using atomap. (b) In-plane (a_A) and out-of-plane (c_A) lattice parameters extracted from the A-cation positions. The 0th row is chosen at the PZT/STO interface.