

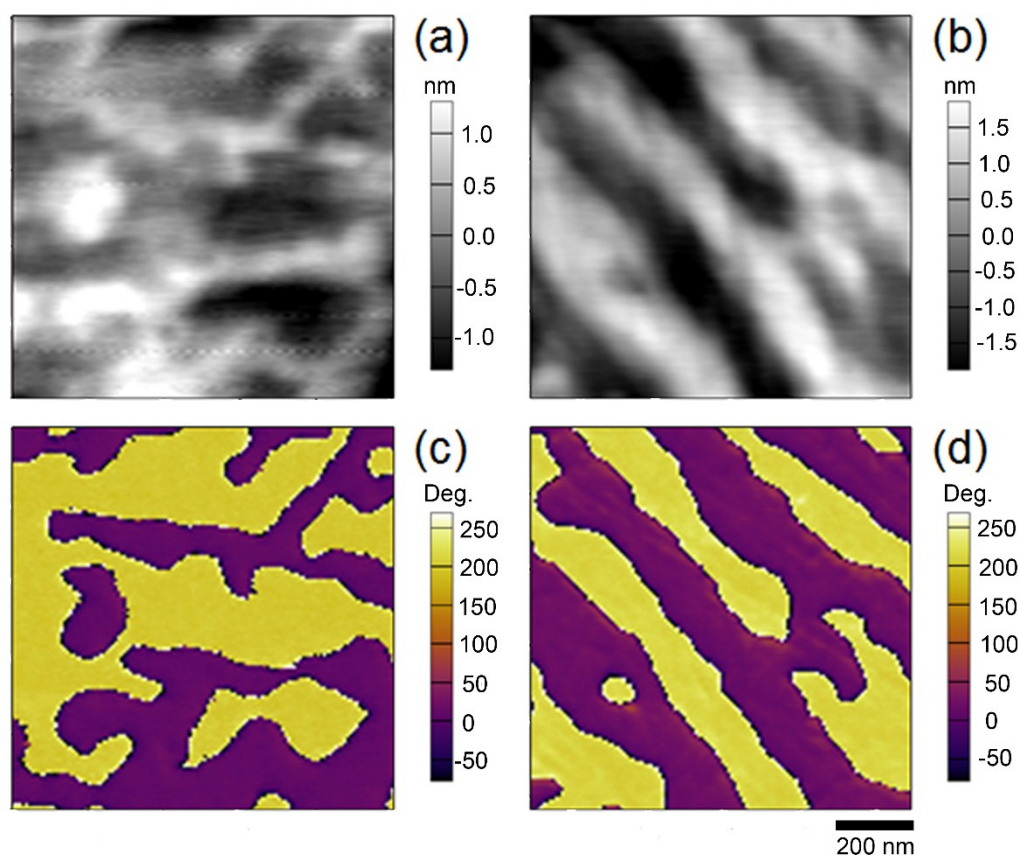
## Electronic supplementary information (ESI)

### Investigation of piezoelectric property and nanodomain structures for PIN-PZ-PMN-PT single crystals as a function of crystallographic orientation and temperature

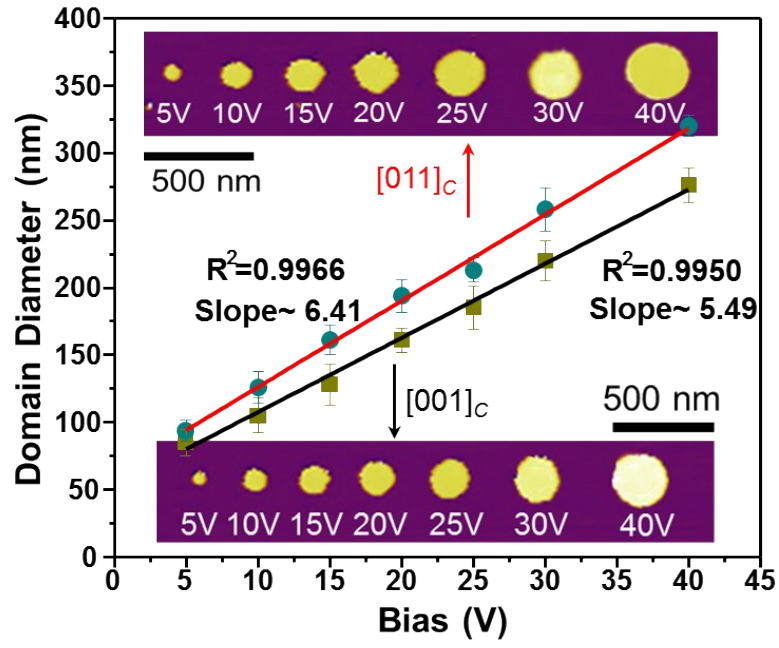
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**Fig. S1** Surface topography and corresponding PFM phase images of (a, c) [001]<sub>C</sub> and (b, d) [011]<sub>C</sub> PIN-PZ-PMN-PT single crystals.



**Fig. S2** Domain diameter of  $[001]_c$  and  $[011]_c$  PIN-PZ-PMN-PT single crystal as a function of DC bias voltage for 1s durations, using an EFM probe with 100 nN loading force. Insets show the corresponding PFM phase images.