

Supplementary Information

***In situ* TEM nanoindentation-induced new nanostructure in cadmium zinc telluride**

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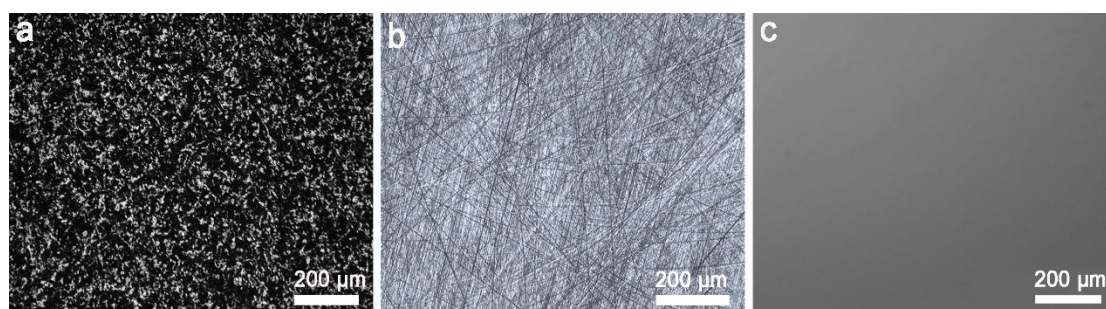


Figure S1 Optical images on the surface of (a) received, (b) lapped, and (c) CMP polished CZT wafers.

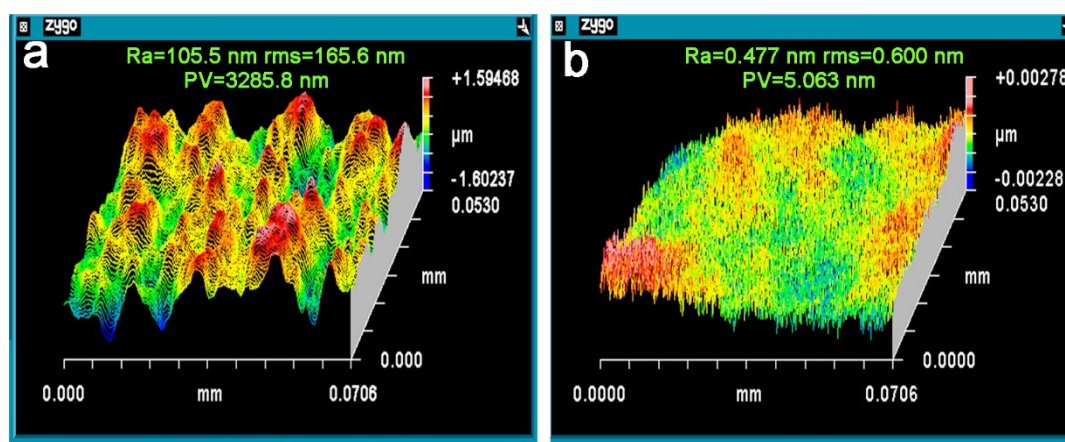


Figure S2 Surface roughness and morphologies on CZT wafers (a) lapped by an abrasive paper with a mesh size of 2000, and (b) polished by CMP.

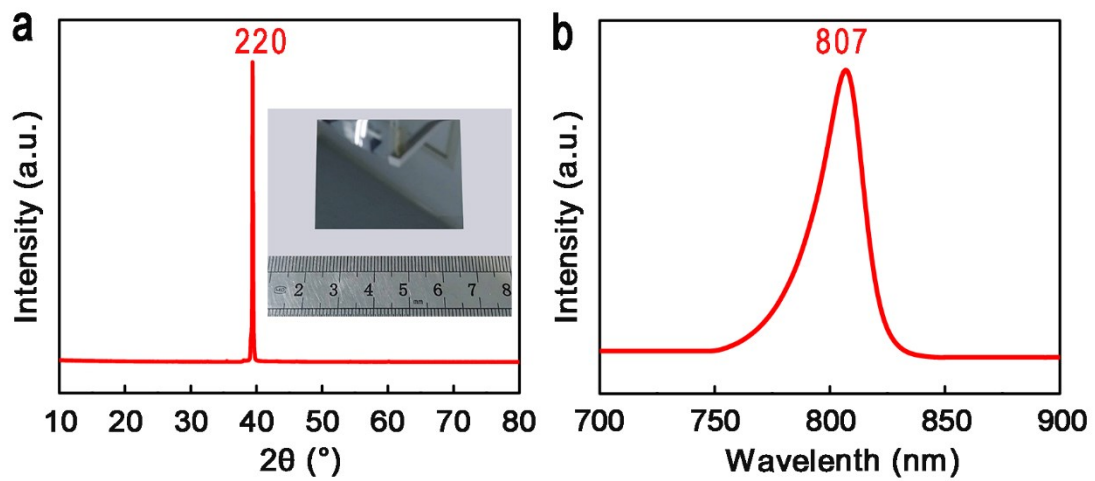


Figure S3 (a) XRD and (b) PL spectra on the polished surface of CZT. Inset in (a) showing the photograph of a CZT wafer after CMP.

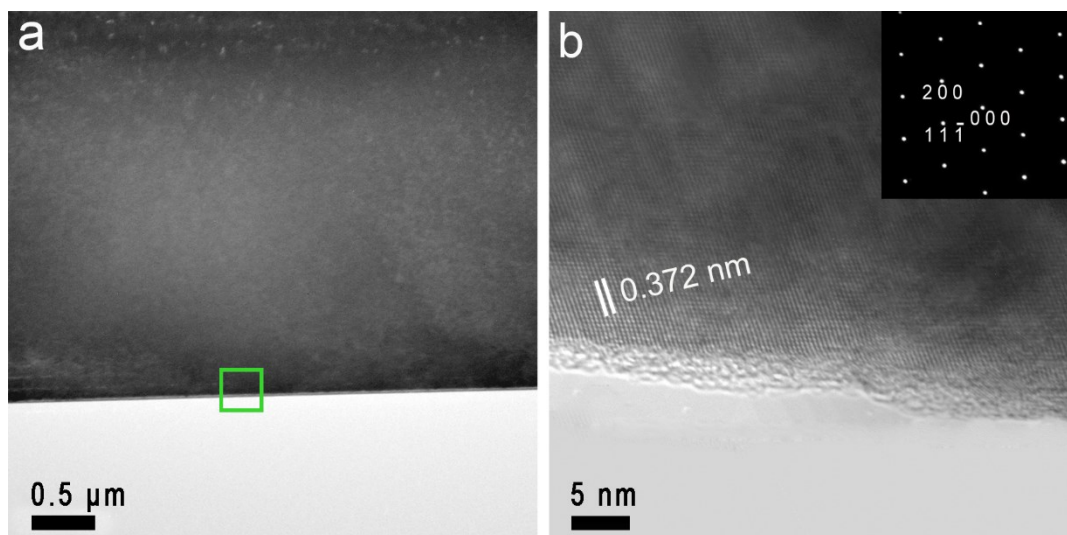


Figure S4 (a) TEM image of a specimen after thinning by electron beam in FIB prior to *in situ* nanoindentation at low magnification, and (b) its magnified area taken from a green square in (a). Inset in (b) showing the corresponding SAED pattern.