

Supporting Information

Direct Imaging of Dopant Distribution in Polycrystalline ZnO Films

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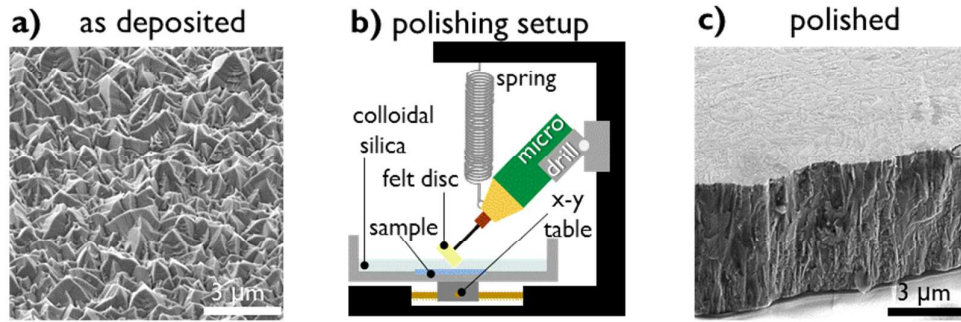


Figure S1. Details of the mechano-chemical polishing. **(a)** As deposited *a*-textured ZnO films, tilted view. **(b)** Drawing of the chemical mechanical polishing setup. **(c)** Polished *a*-textured ZnO films, tilted view.

alignment of electronic bands

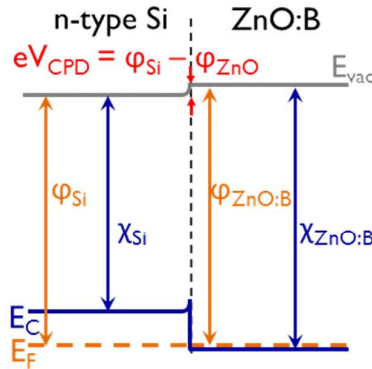


Figure S2. Electronic energy band alignment for the electrically connected system composed by tip (n-type Si) and film (degenerately doped ZnO). The contact potential difference V_{CPD} depends on the difference in workfunction between Si and ZnO that decreases linearly with $E_F - E_C$, which in turn depends on the carrier concentration in ZnO. E_{vac} = vacuum energy, χ = electron affinity, ϕ = workfunction.

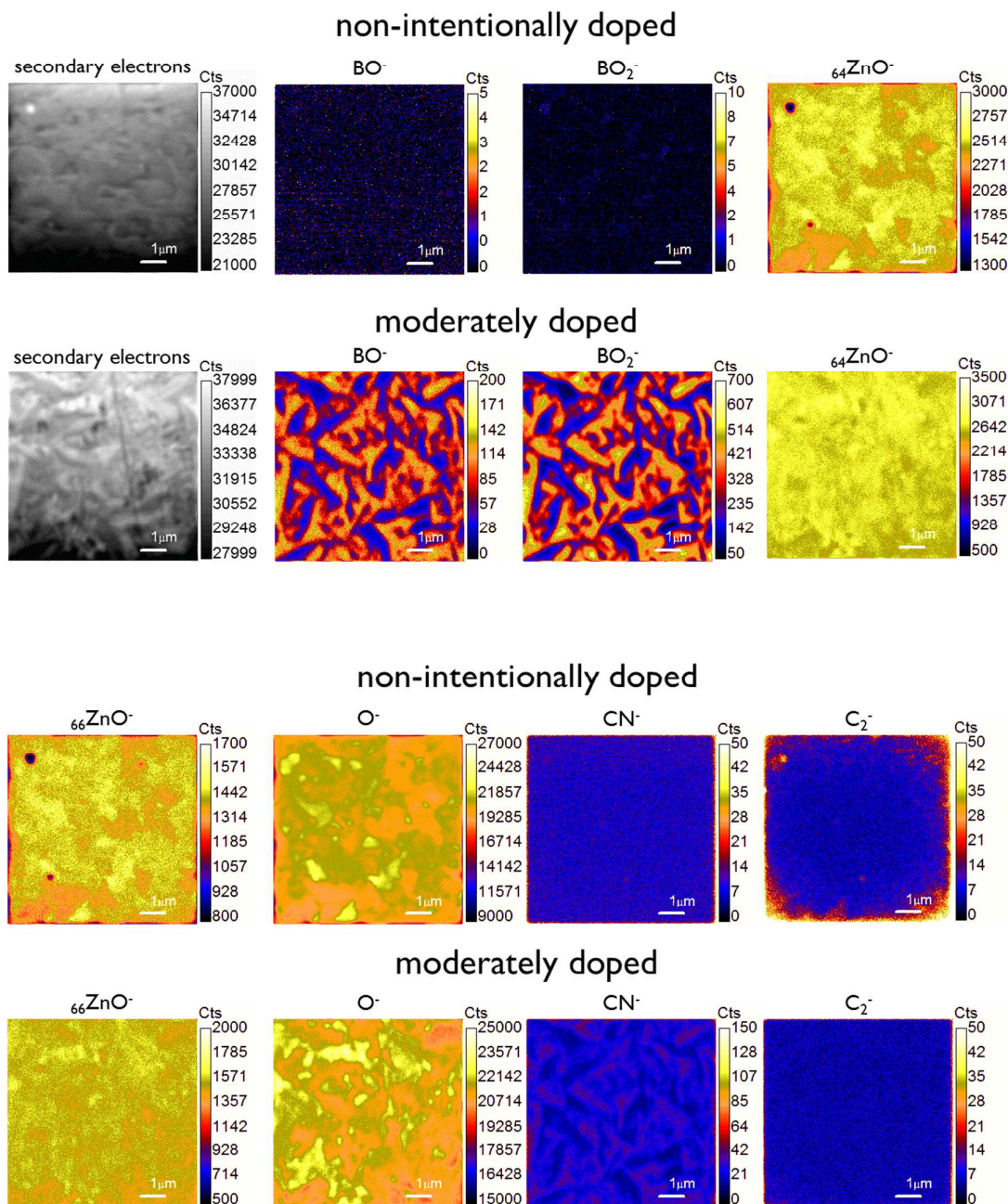


Figure S3. Maps of secondary particles emitted by ZnO films obtained using the NanoSIMS technique. Comparison between non-intentionally and moderately doped samples for all the recorded channels: secondary electrons, BO^- , BO_2^- , $^{64}\text{ZnO}^-$, $^{66}\text{ZnO}^-$, O^- , CN^- , C_2^- .