Supporting Information

The Photovoltaic Effect in [001] Orientated ZnO Thin Film and Physical Mechanism

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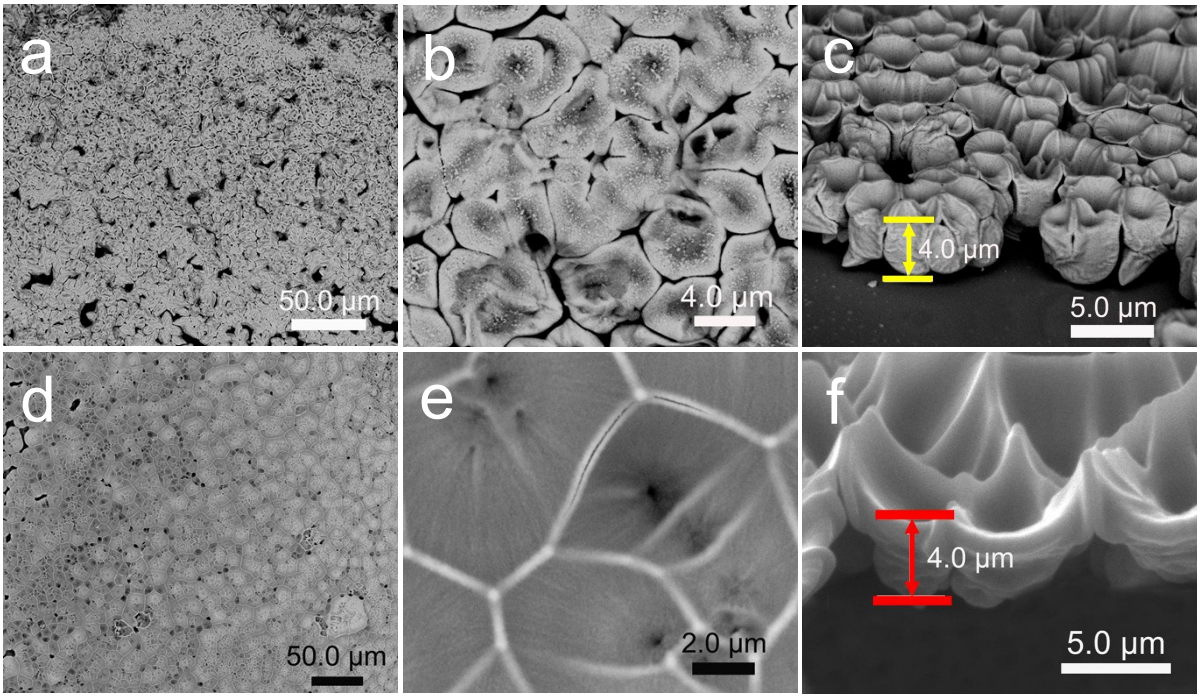

Fig. S1. SEM images of ZnO thin films synthesized by heating $Zn(NO_3)_2$ solutions at (a-c) 350 and (d-f) 550 ºC for 10 min on the FTO glass substrates.

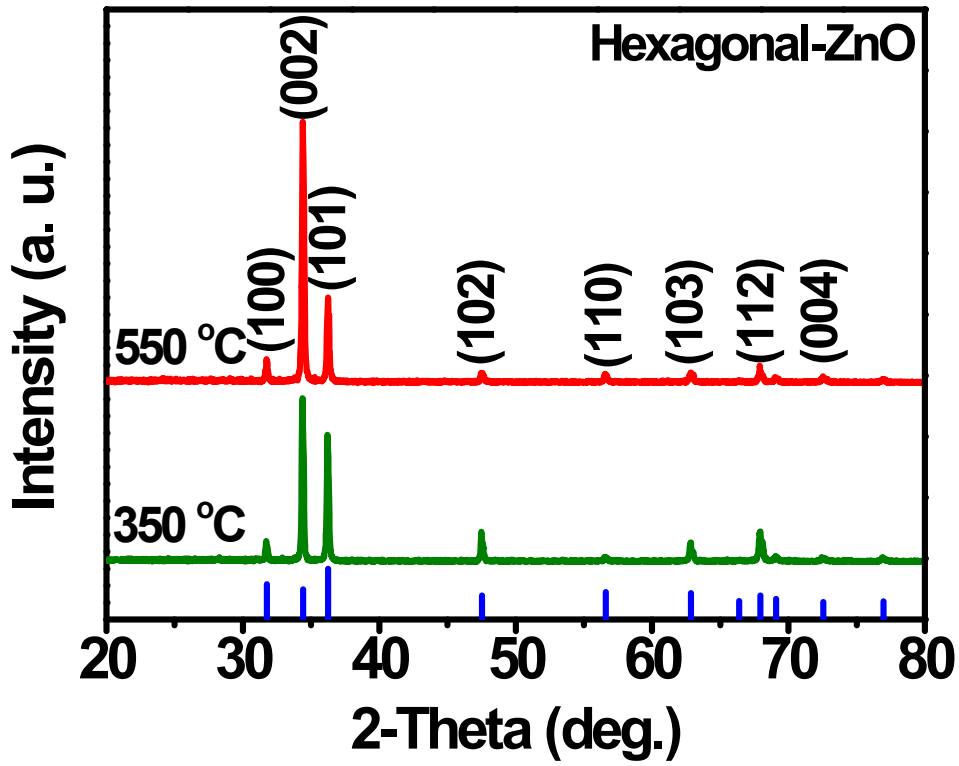

Fig. S2. XRD patterns of ZnO thin films synthesized by heating $Zn(NO_3)_2$ solutions at 350 and 550 ºC for 10 min on the FTO glass substrates.

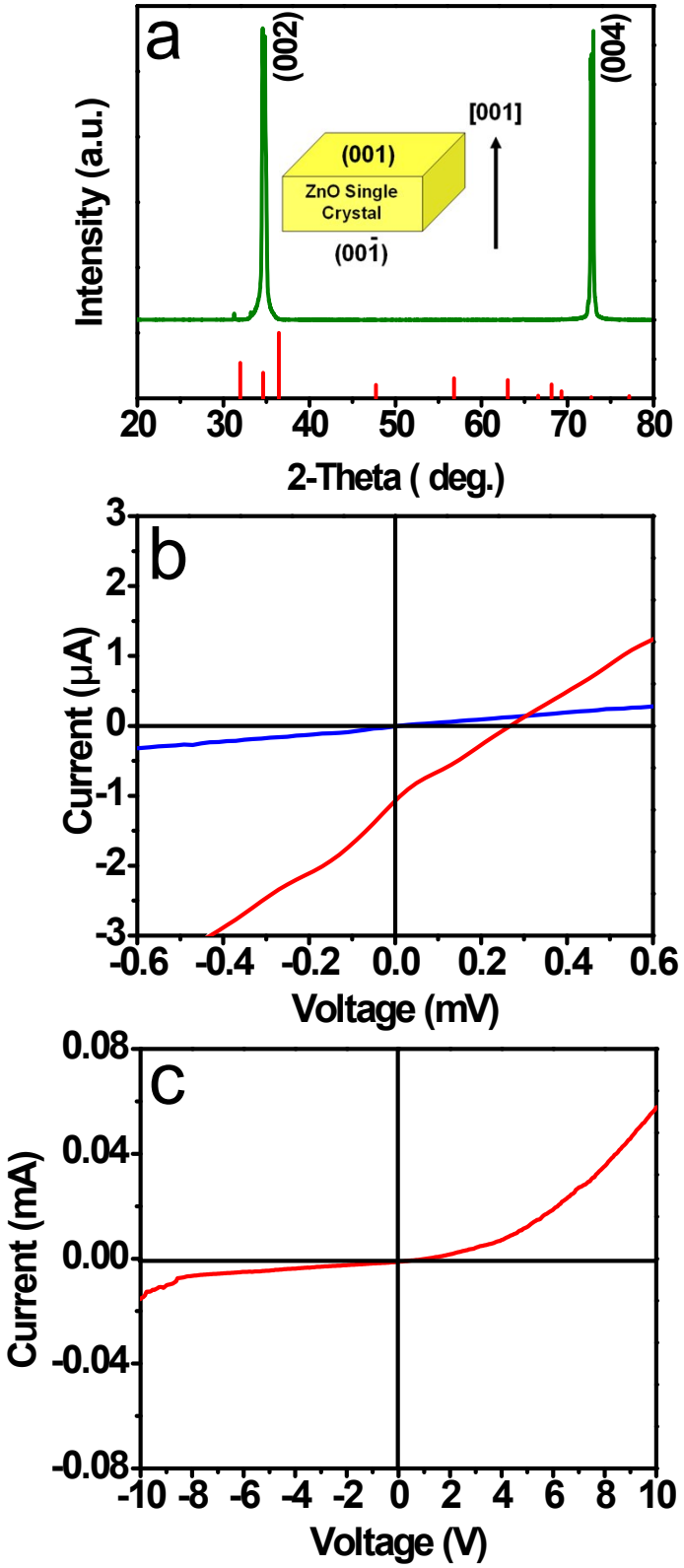

Fig. S3. (a) XRD patterns of the ZnO wafer (the inset in (a) is schematic illustration of the crystal orientation). b) Photovoltaic property of the ZnO wafer under the UV lamp illumination. (c) Dark I-V curves of this the ZnO wafer along [001] direction.