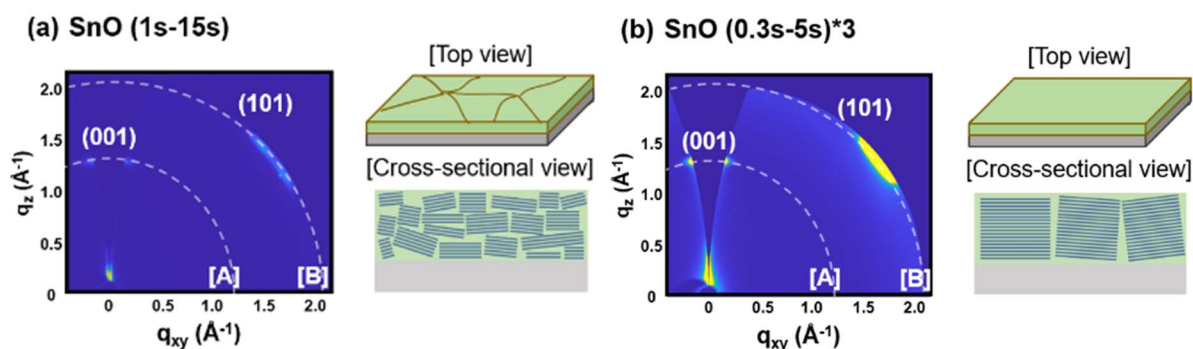
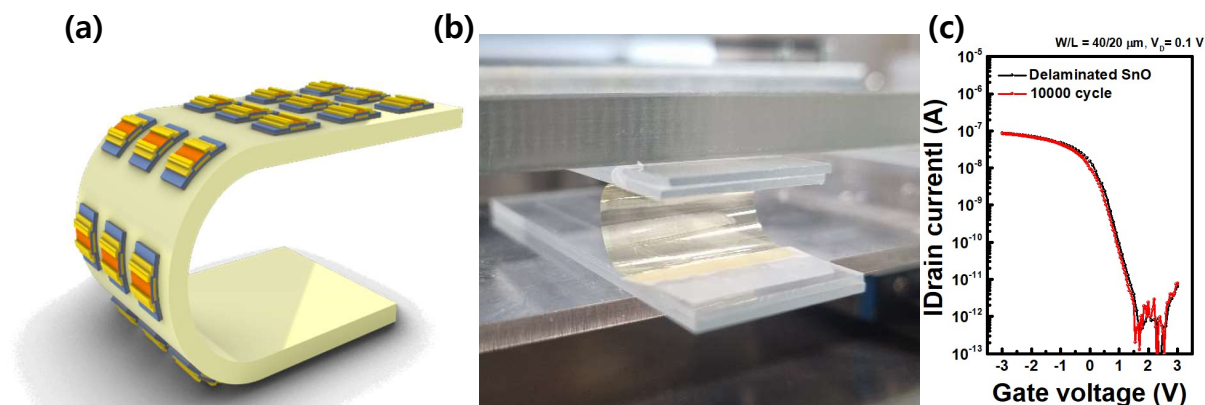


## Supplemental Document

The grazing-incidence wide-angle X-ray scattering (GIWAX) methods were conducted to analyze the crystallinity and orientation of SnO films using monochromatic X-ray with 1.2398 Å (~10 keV) in wavelength at the 3C beamline of Pohang Light Source II (PLS-II, Pohang, Republic of Korea). The TFTs were fabricated using 7nm-thick SnO films deposited by ALD using N,N'-tert-Butyl-1, 1-dimethylethyldiamine stannylene (II) and H<sub>2</sub>O as precursor and reactant.



**Figure 1.** GIWAXS images and schematic SnO film structure (top and cross-sectional view) of 7nm using (a) non-fold and (b) threefold process.



**Figure 2.** (a) Schematic structure and (b) manufactured device of bending test with a curvature radius of 5cm for SnO-TFT manufactured on PI substrate. (c) I·V curve after 10,000 cycle bending test.

## References

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