

Electronic Supplementary Information for

High-Performance p-Type Thin Film Transistors Using Atomic-Layer-Deposited SnO

Films

Soo Hyun Kim,^a In-Hwan Baek,^{a,b} Da Hye Kim,^c Jung Joon Pyeon,^{a,d} Taek-Mo Chung,^c Seung-Hyub Baek,^a Jin-Sang Kim,^a Jeong Hwan Han,^{c} and Seong Keun Kim^{a*}*

^aCenter for Electronic Materials, Korea Institute of Science and Technology, Seoul, 02792, South Korea

^bDepartment of Materials Science and Engineering, Seoul National University, Seoul, 08826, South Korea

^cDivision of Advanced Materials, Korea Research Institute of Chemical Technology, Daejeon, 34114, South Korea

^dKU-KIST Graduate School of Converging Science and Technology, Korea University, Seoul 02841, Korea

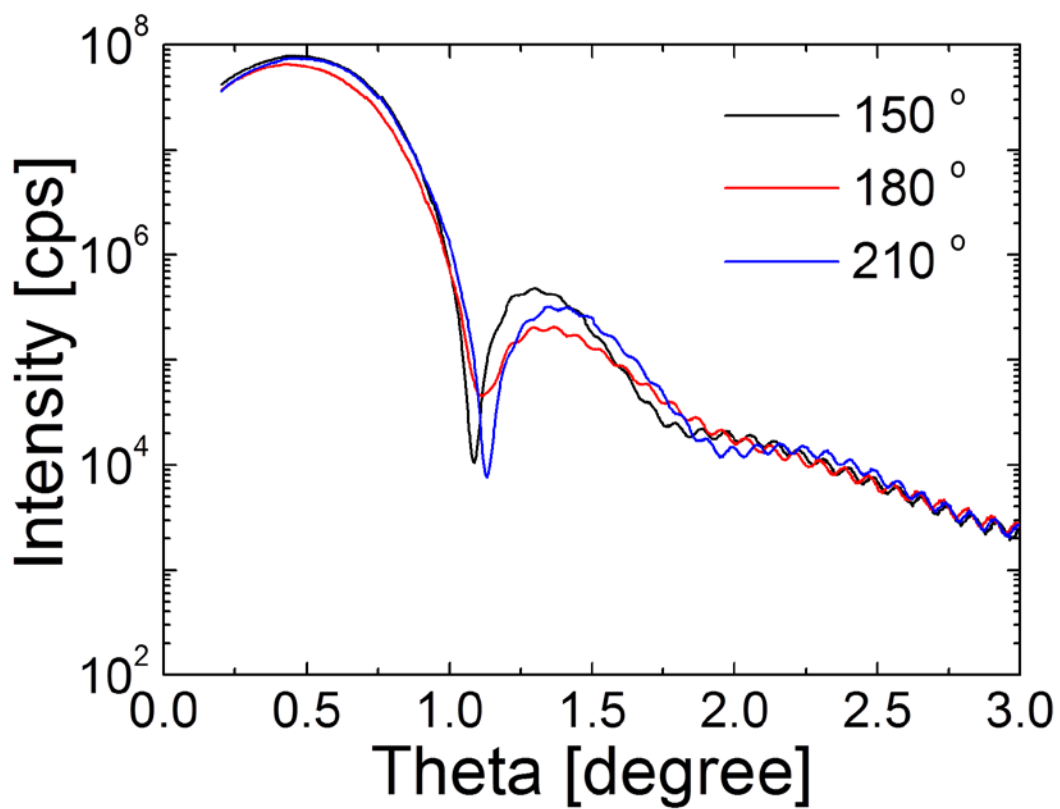


Figure S1. X-ray reflectivity spectra of the SnO films grown at 150, 180, and 210 °C. The densities of the SnO films, which is evaluated from a critical angle in the graph, are approximately 5.5 – 5.6 gcm^{-3} . Negligible difference in the film density is observed in terms of the growth temperature.

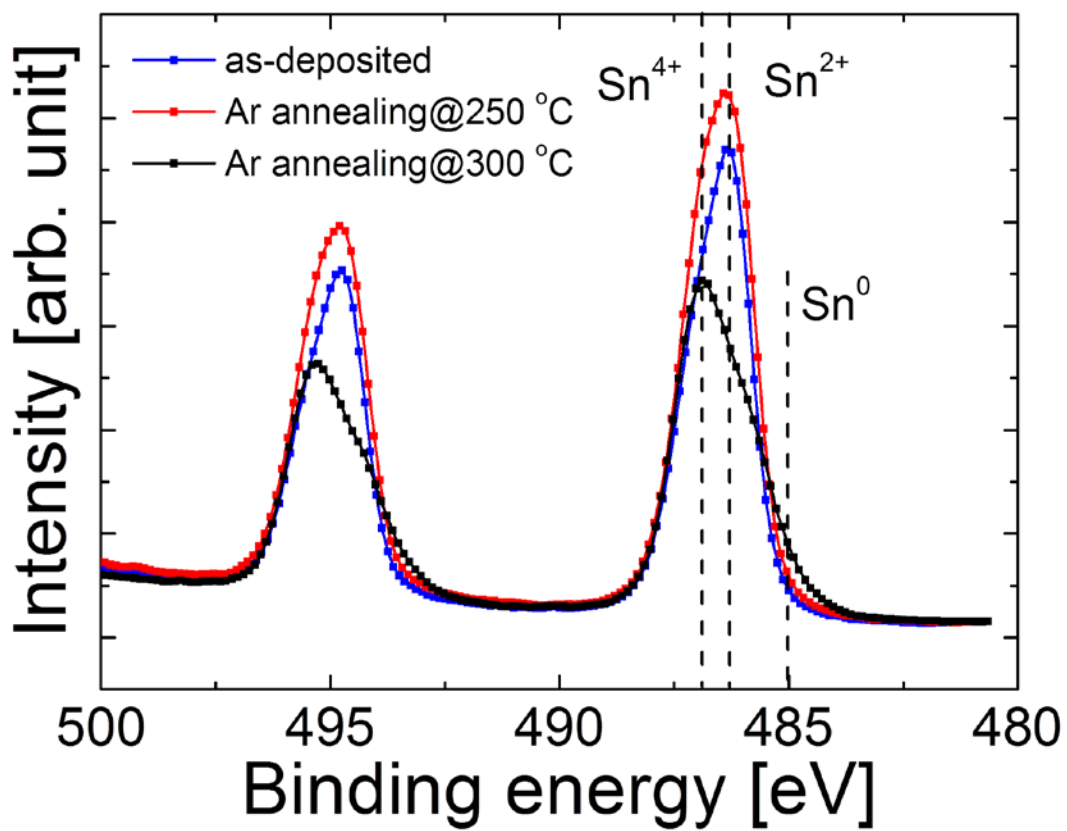


Figure S2. X-ray photoelectron Sn 3d spectra of the as-grown SnO film and the post-annealed SnO films at 250 and 300 °C under Ar atmosphere.

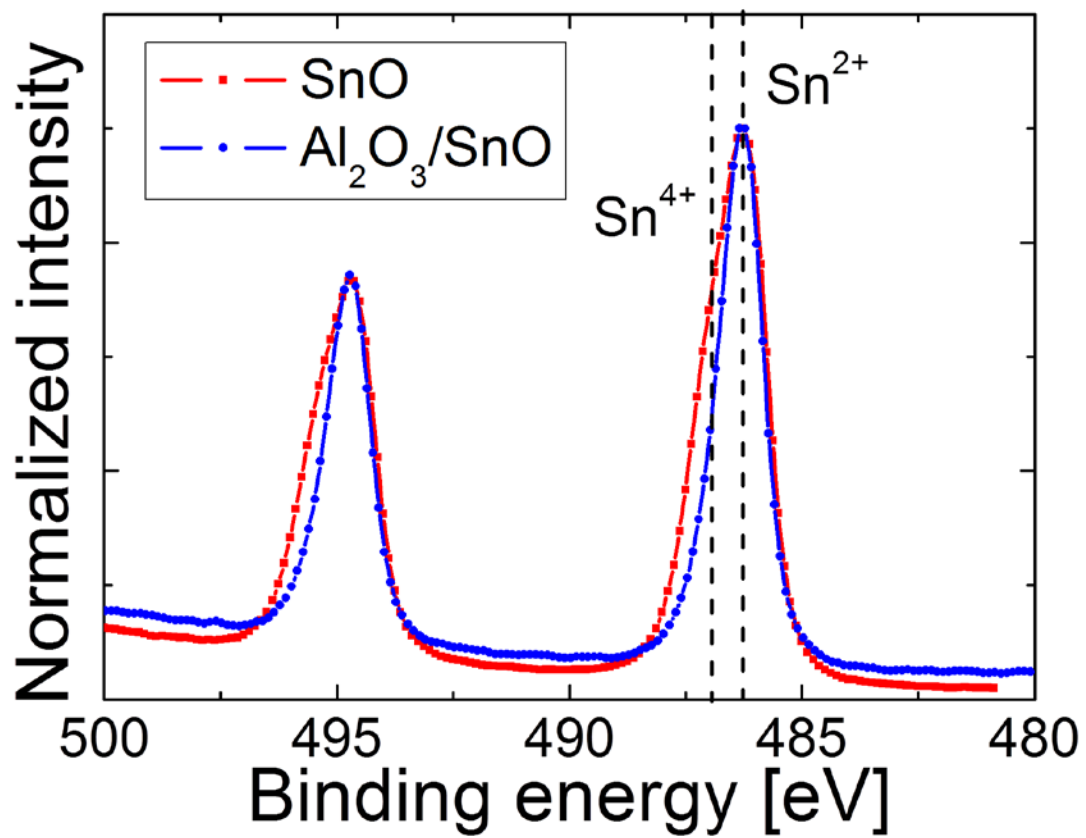


Figure S3. X-ray photoelectron Sn 3d spectra of the un-passivated SnO film and the 1.5 nm-thick Al₂O₃ coated SnO film.