

Electronic Supplementary Material (ESI) for

**A high-temperature resistant polyimide gate insulator surface-modified
with a YO_x interlayer for high-performance, solution-processed Li-doped
ZnO thin-film transistors**

Jun-Young Yoon,^{ab} Yun Ho Kim,^a Jae-Won Ka,^a Sung Kwon Hong,^b Mi Hye Yi^a and Kwang-
Suk Jang^{*a}

^a *Division of Advanced Materials, Korea Research Institute of Chemical Technology, Daejeon
305-600, Republic of Korea.*

^b *Department of Polymer Science and Engineering, Chungnam National University, Daejeon
305-764, Republic of Korea.*

* Corresponding author: kjang@kriict.re.kr

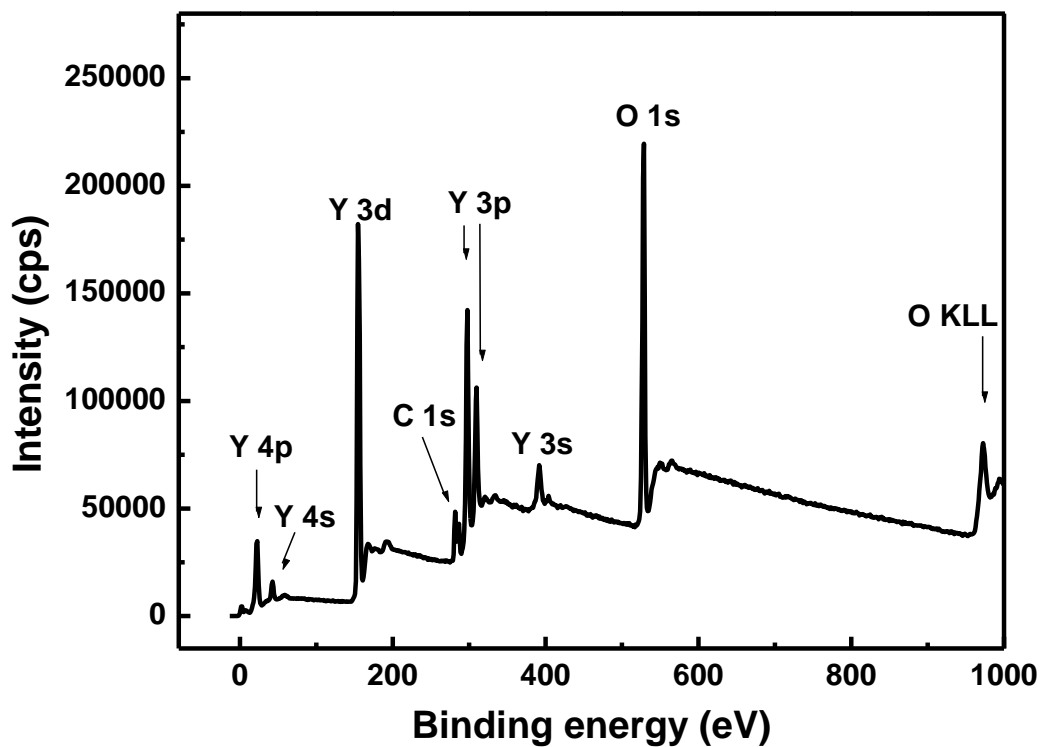


Fig. S1 XPS survey spectrum of the YO_x interlayer on the polyimide film.

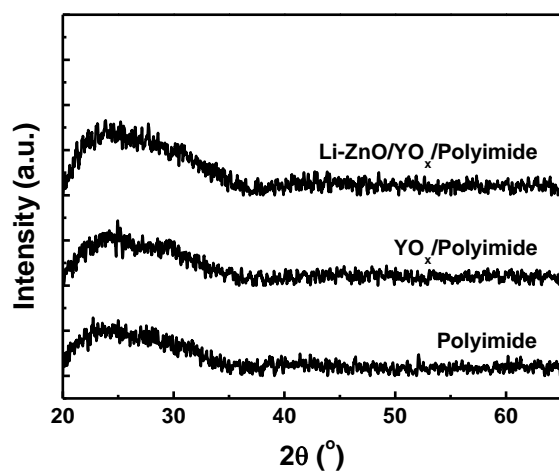


Fig. S2 XRD patterns of the polyimide, YO_x /polyimide and Li-ZnO/ YO_x /polyimide films.

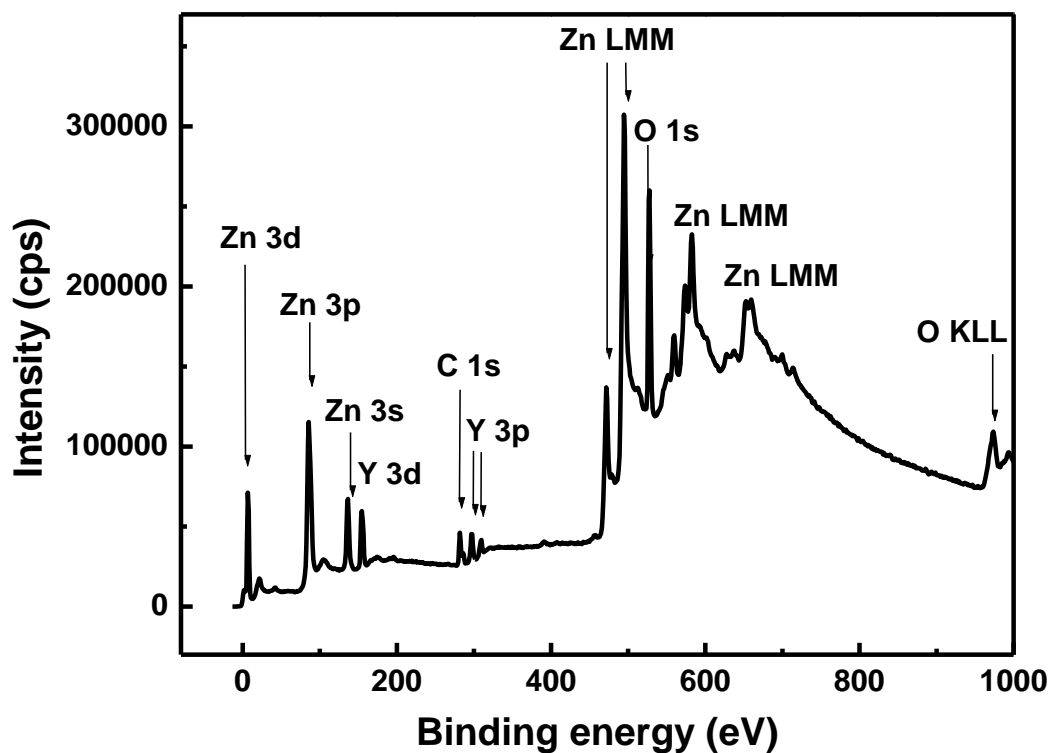


Fig. S3 XPS survey spectrum of the Li-ZnO layer on the YO_x /polyimide film.

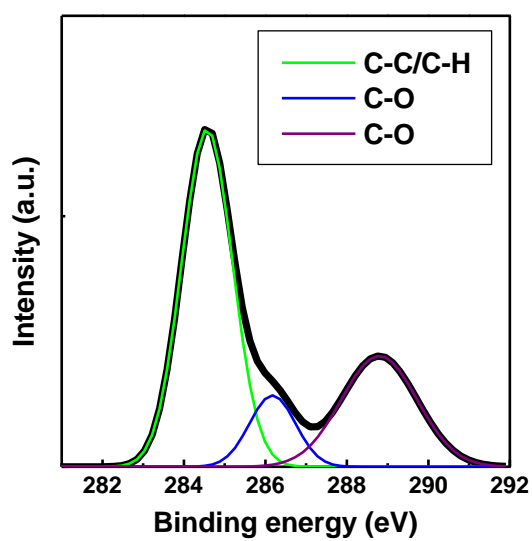


Fig. S4 C 1s XPS spectrum of the Li-ZnO layer on the YO_x /polyimide film.

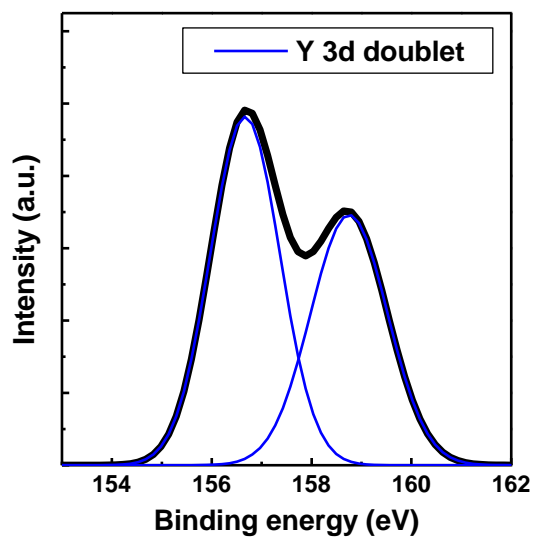


Fig. S5 Y 3d XPS spectrum of the Li-ZnO layer on the YO_x /polyimide film.

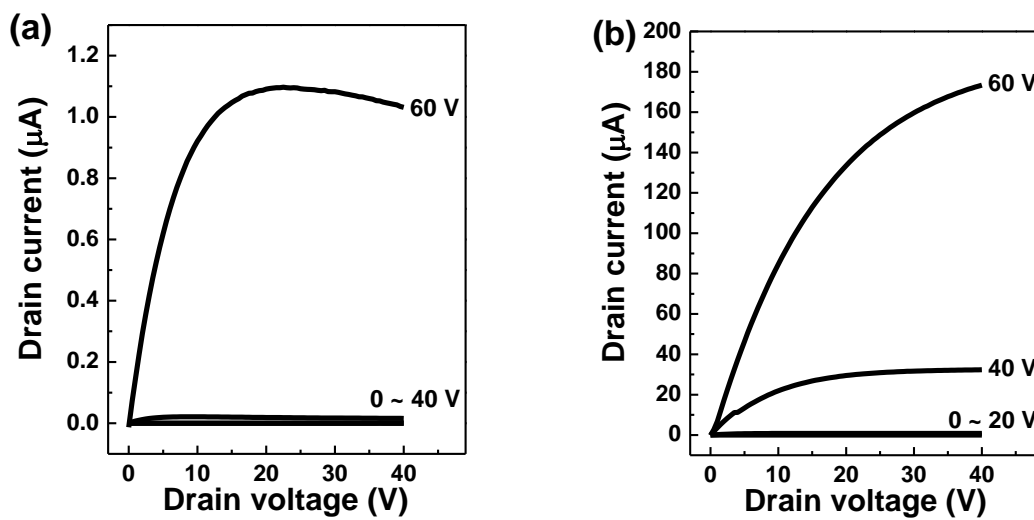


Fig. S6 Output characteristics of the Li-ZnO TFTs with the (a) polyimide and (b) YO_x /polyimide gate insulators.

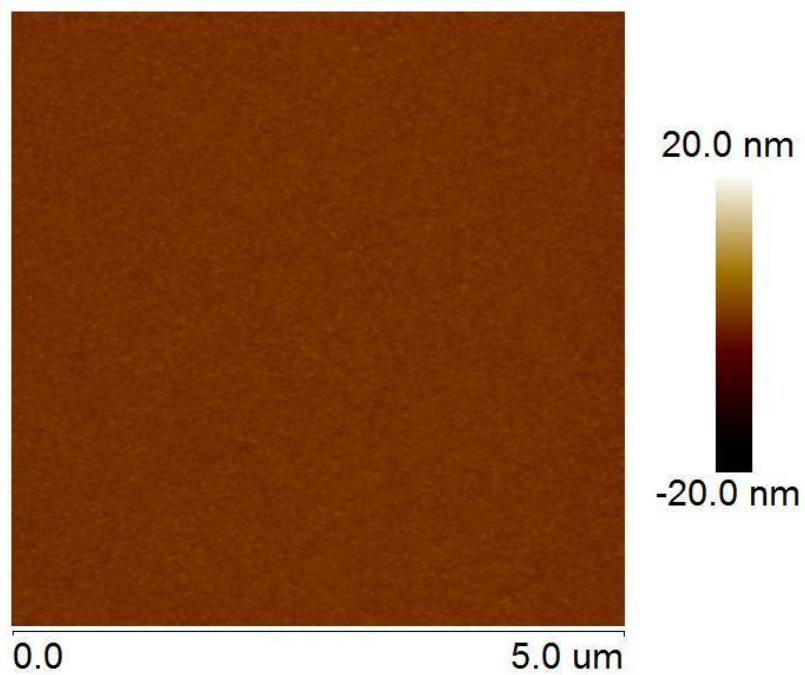


Fig. S7 AFM image (5 μm × 5 μm) of the Li-ZnO layer on the SiO₂ gate insulator.