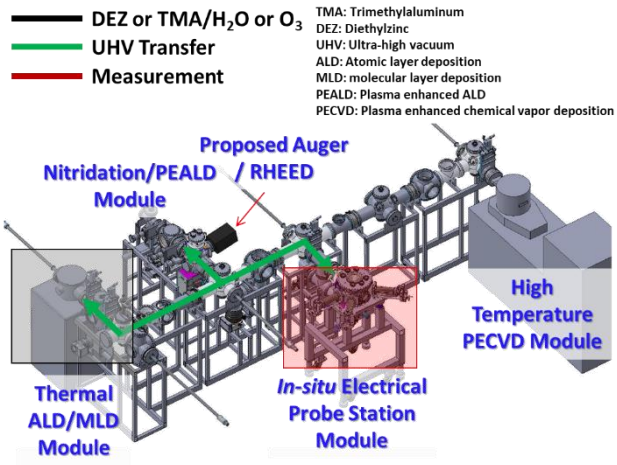

Figure 1. Schematic of the UHV cluster tool for *in-situ* electrical characterization. Green arrow indicates sample transfers done *via.* trolley under UHV. ALD is processed in thermal ALD module (black box) and electrical properties are characterized at *in-situ* probe station module (red box).

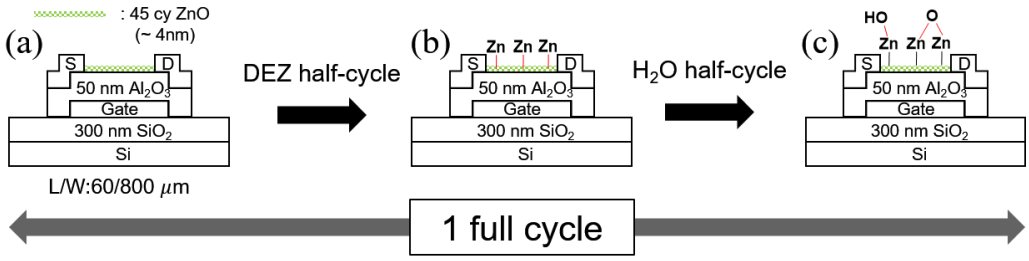

Figure 2. Cross section view of inverted-coplanar structured TFT and schematic of the sequence flow. (a) Initial, (b) after DEZ half-cycle, and (c) after H_2O half-cycle. One full cycle consists of DEZ half-cycle and subsequent H_2O half-cycle.

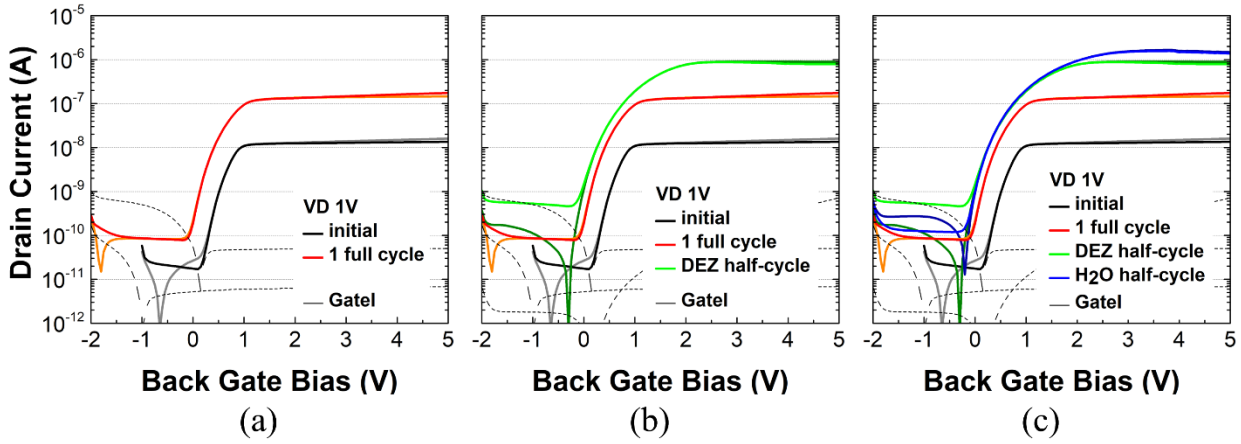

Figure 3. Half-cycle study of I_{DS}-V_{GS} transfer curves of inverted-coplanar structured ZnO TFT. Transfer curve of (a) 45 ZnO ALD cycles (initial, black) and 46 ZnO ALD cycles (1 full cycle, red), (b) after DEZ half-cycle (green), and (c) after H_2O half-cycle (blue).