Enhancing AC stress Stability in Indium Gallium Zinc Oxide Thin-Film Transistors via Controlled Hydrogen Diffusion

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Table S1. Representative electrical performance with deviations of *a*-IGZO TFTs under 3600 s of AC drain stress.

TFTs	**AC stress time (s)**	***Mobility*** **($cm^2/V^{-1}s^{-1}$)**	**V_{th} (V)**
HfO_2/a-IGZO (350 ℃)	0	8.8±0.3	-4±0.1
HfO_2/a-IGZO (350 ℃)	3600	10.6±0.4	-3.3±0.3
Δ	3600	1.8	0.7
HfO_2/a-IGZO (370 ℃)	0	0.7±0.1	1.2±0.2
HfO_2/a-IGZO (370 ℃)	3600	0.6±0.1	1.5±0.1
Δ	3600	-0.1	0.3

Δ: Difference in electrical performance between stress time of 0 and 3600 s

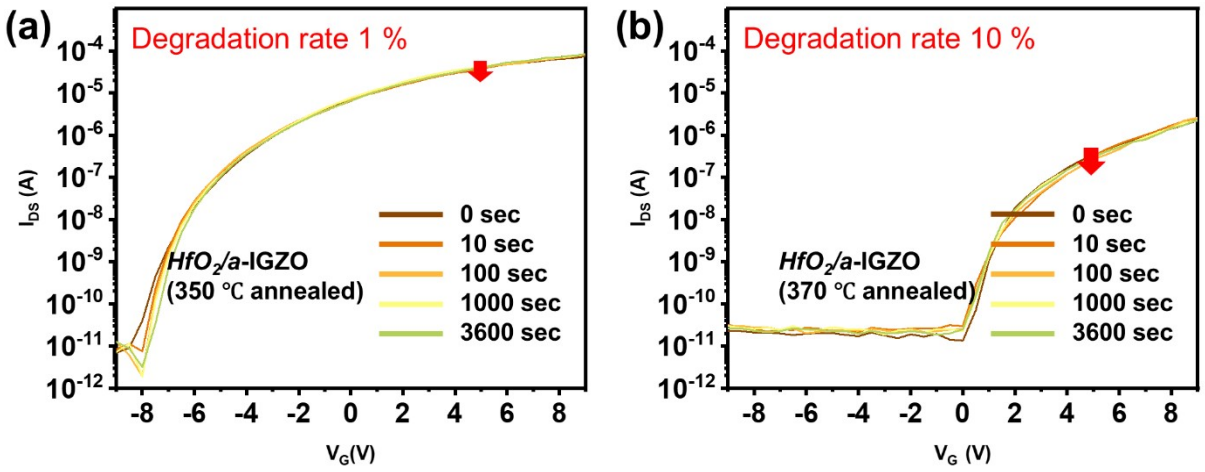

Fig. S1. AC stress results of (a) HfO_2 passivated TFTs annealed at 350 ℃, and (b) HfO_2 passivated TFTs annealed at 370 ℃.

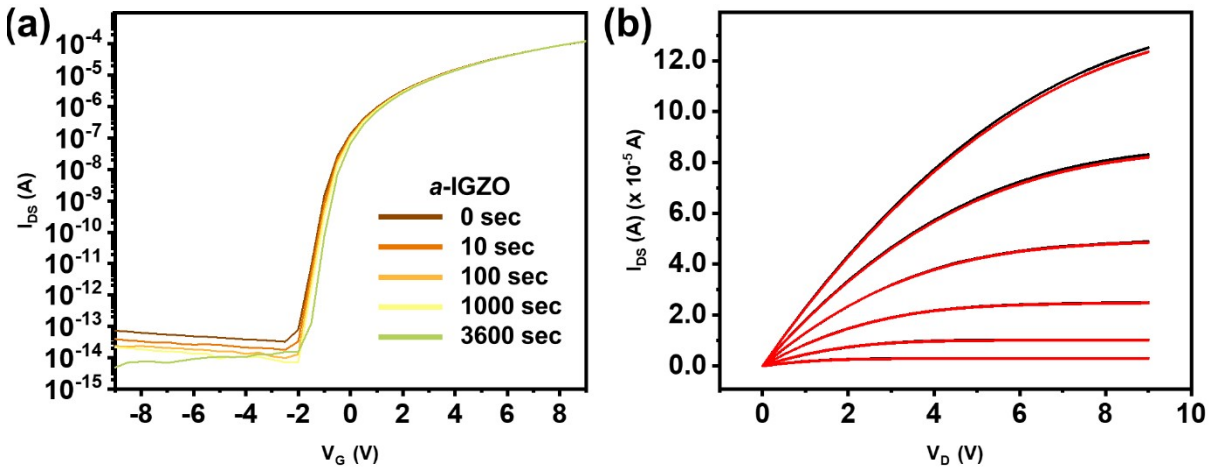

Fig. S2. Positive bias stress (PBS) test results of *a*-IGZO TFTs: (a) transfer, and (b) output characteristics