Electronic Supplementary Material (ESI) for Journal of Materials Chemistry C.
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Supporting Information

Solution-Processed Silicon Oxide Gate Dielectric Prepared at Low Temperature via Ultraviolet Irradiation for Indium Zinc Oxide Transistors

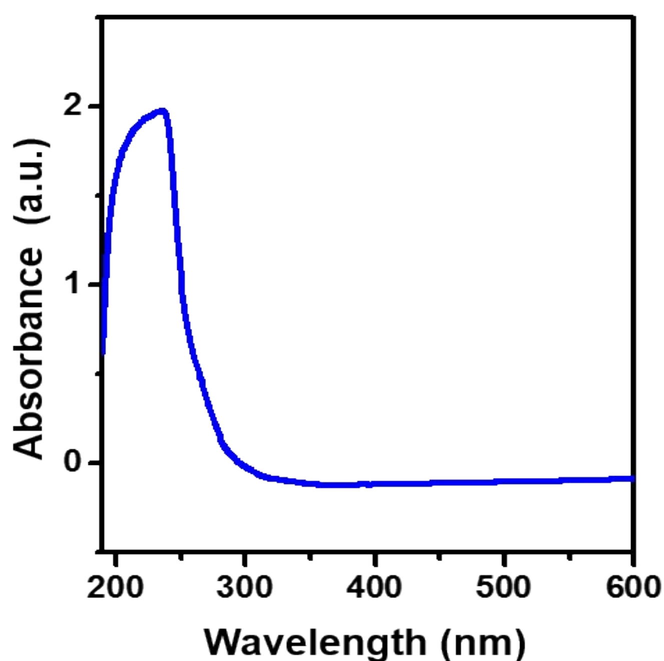

Figure S1. Light absorption characteristics of the perhydropolysilazane (PHPS) solution ink with VTES coupling agent.

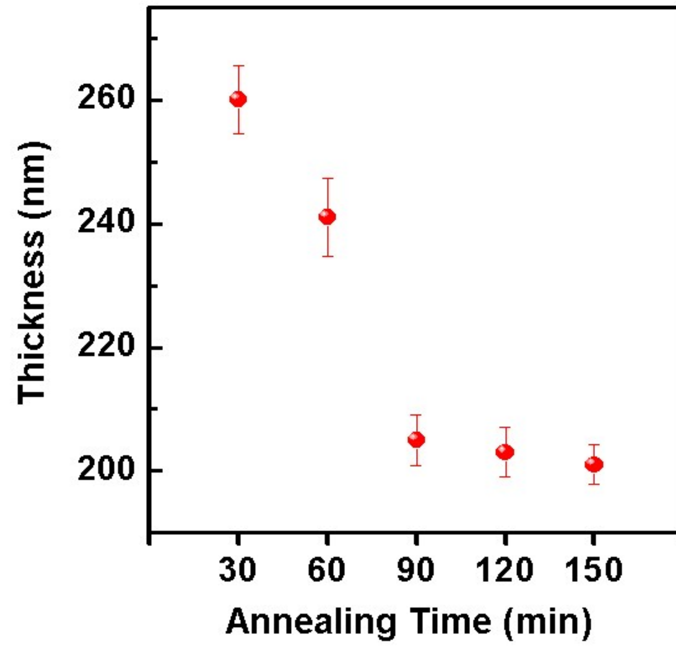

Figure S2. Variation in DUV-annealed SiO_2 film thickness as a function of photon irradiation time.

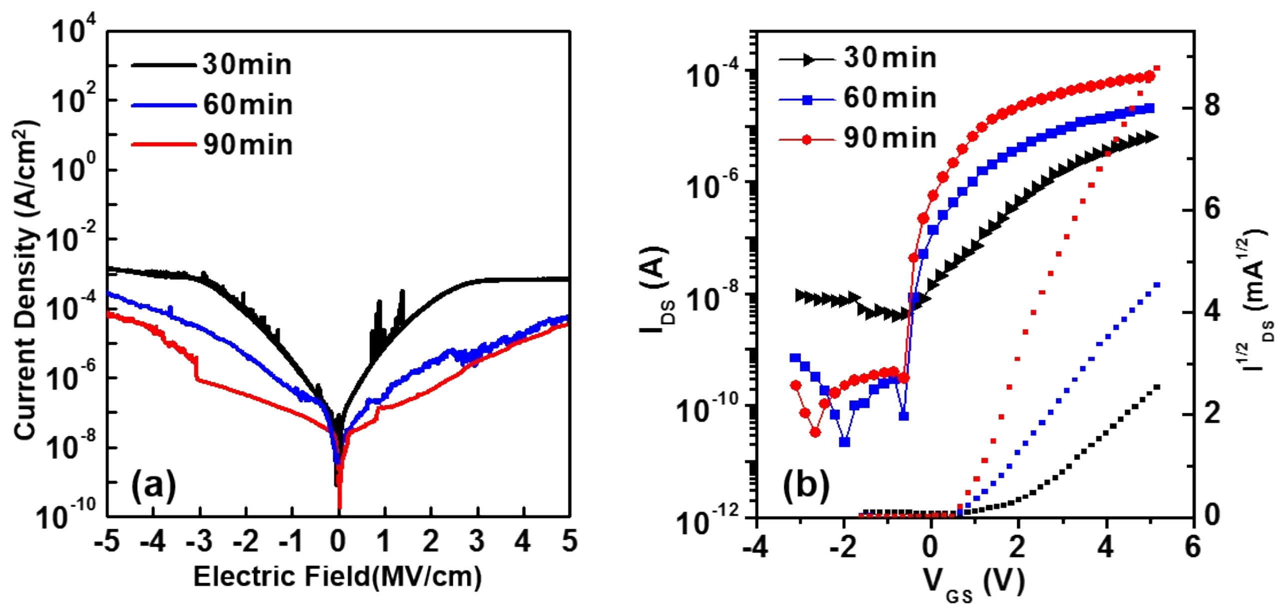

Figure S3. Electrical properties of TFTs with solution-processed, DUV-annealed SiO_2 gate insulators as a function of photon irradiation time: (a) gate leakage current and (b) transfer characteristics.

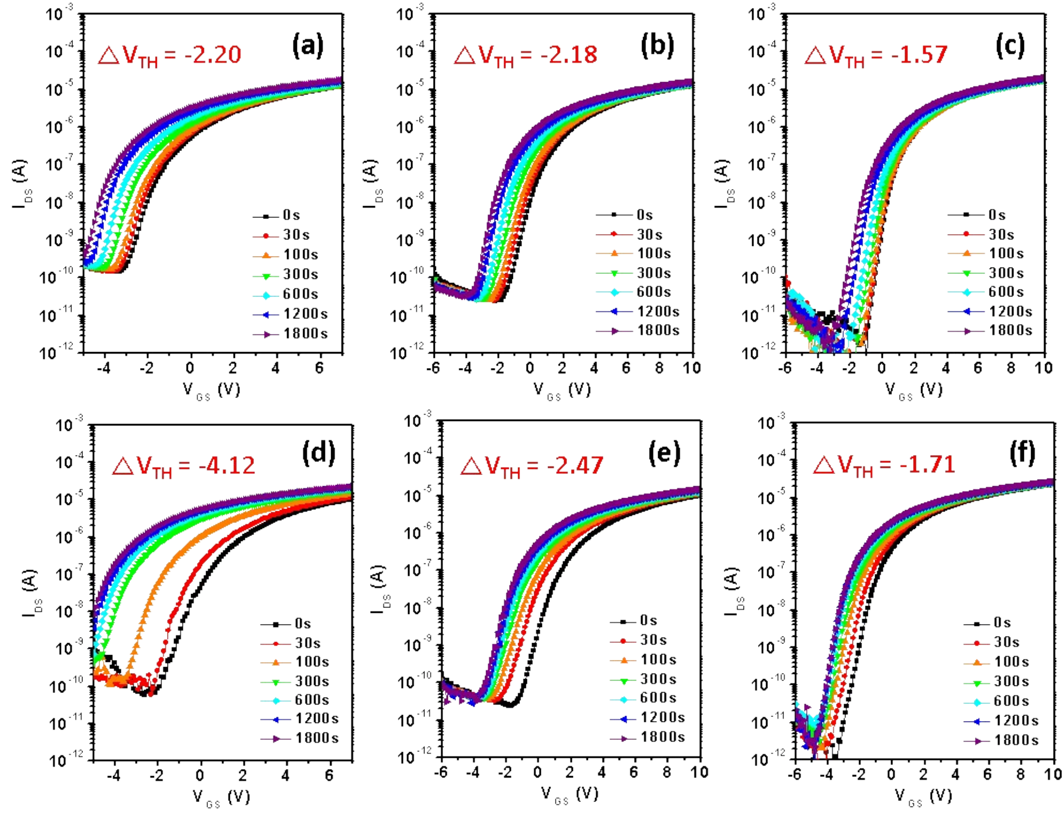

Figure S4. Variations in the transfer characteristics for the IZO TFTs with the SiO_2 gate insulator annealed at (a) 150 °C, (b) 250 °C and (c) DUV condition as a function of NBS time. The devices were stressed under the following conditions: V_{GS} at -5 V at room temperature. The V_{DS} was fixed to 1V and the NBS duration was 1,800 s. Evolution of the transfer characteristics for the IZO TFTs with the SiO_2 gate insulator annealed at (d) 150 °C, (e) 250 °C and (f) DUV condition as a function of NBIS time. The NBS condition for NBIS instability was identical to the NBS except for light irradiation. The green LED was used as a light source whether the light intensity was 75 μW/cm^2.