Supplementary Information for:

Highly enhanced visible light photodetection properties of ZnO phototransistor via solution processed thin Al_2O_3 additional layer

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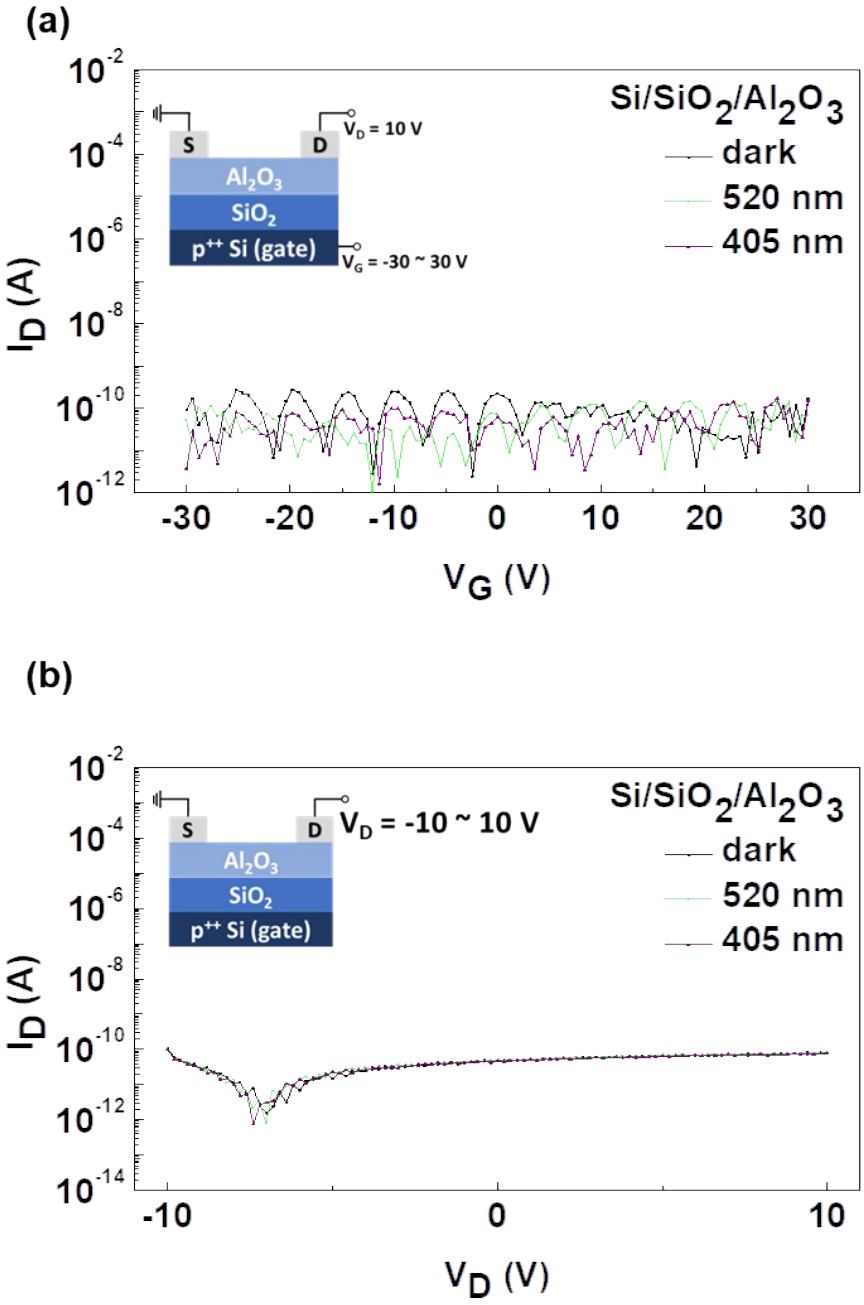

Figure S1. a) $I_D - V_G$ characteristic of $Si/SiO_2/Al_2O_3$ structured thin film transistor under 520 and 405 nm wavelength light exposure and without illumination at $V_D = 10$ V. b) $I_D - V_D$ characteristic of $Si/SiO_2/Al_2O_3$ structured thin film transistor under 520 and 405 nm wavelength light exposure and without illumination. V_D was swept from – 10 to 10 V.

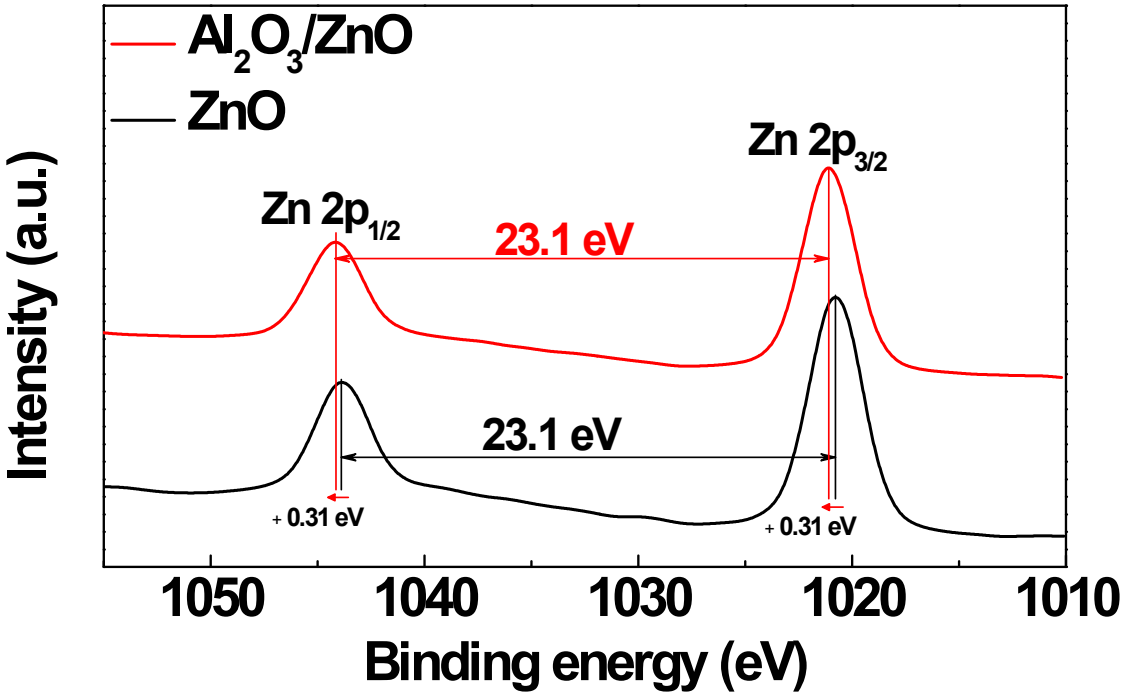

Figure S2. XPS spectra of Zn 2p for Al_2O_3/ZnO and ZnO films.

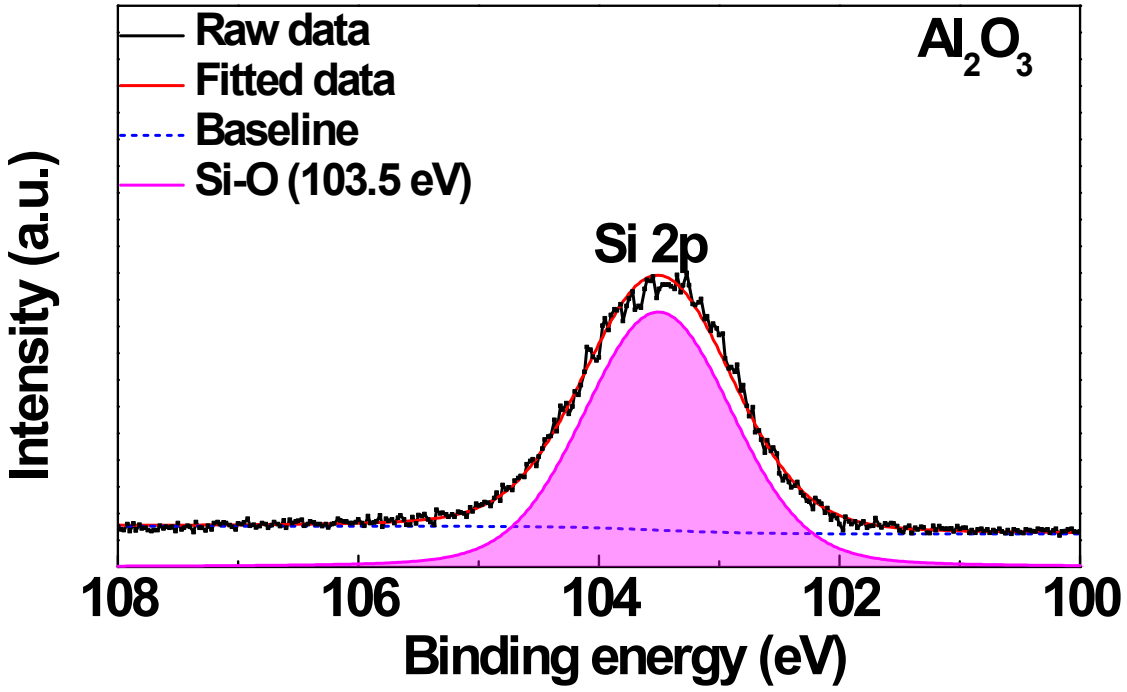

Figure S3. XPS spectra of Si 2p for $Si/SiO_2/Al_2O_3$ film.

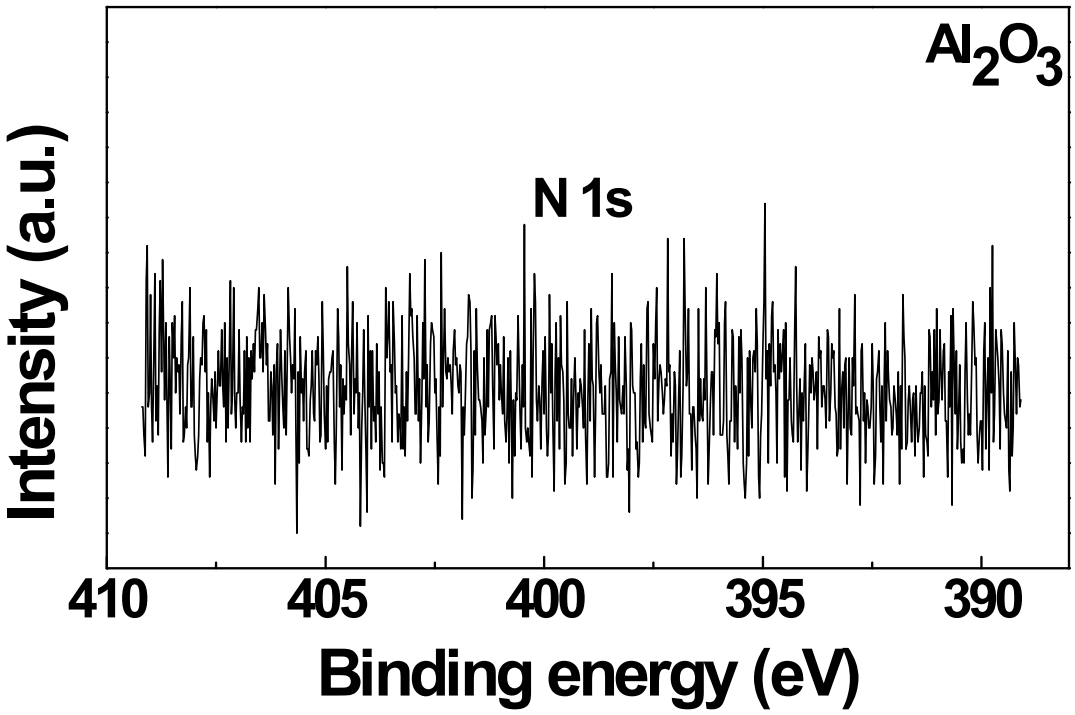

Figure S4. XPS spectra of N 1s for Al_2O_3 film.

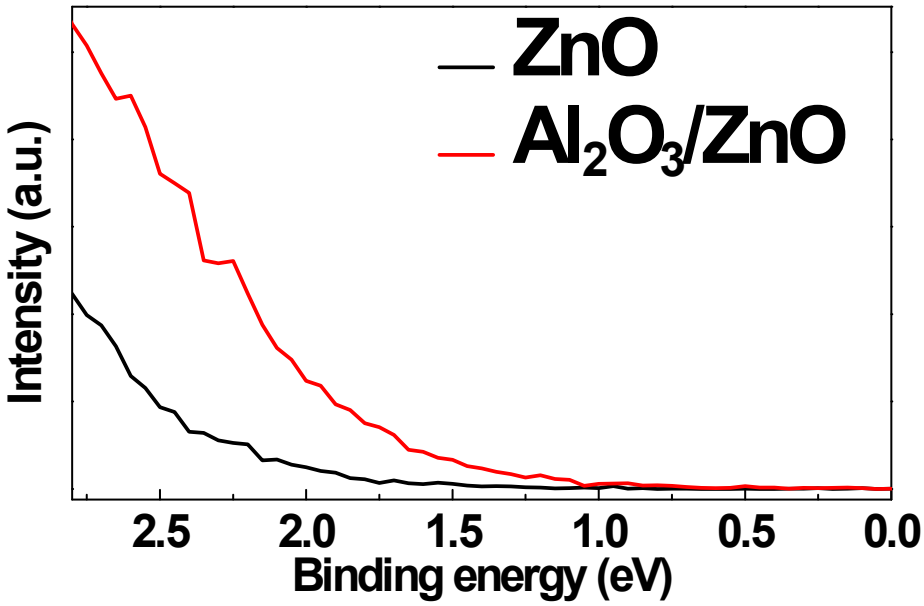

Figure S5. Near valence region spectra of UPS for Al_2O_3/ZnO and ZnO films.

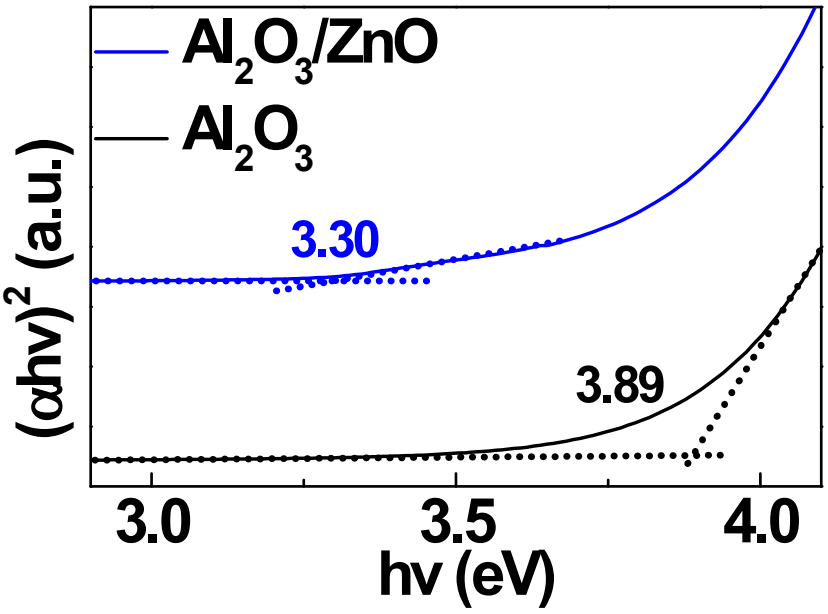

Figure S6. Tauc's plot of Al_2O_3/ZnO and Al_2O_3 films.