SUPPLEMENTARY MATERIAL

$(CdTe)_{1-x}Al_x$ films produced by RF co-sputtering employing CdTe and aluminum targets

https://doi.org/10.47566/2026_syv39_1-260601

Glass substrates cleaning process

1. Ultrasonic washing using Extran© during 5 minutes, thoroughly rinsed in distilled water.
2. Ultrasonic washing using xylene during 5 minutes, thoroughly rinsed in distilled water.
3. Ultrasonic washing using ethanol during 5 minutes, thoroughly rinsed in distilled water.
4. Ultrasonic washing using acetone during 5 minutes, thoroughly rinsed in distilled water.
5. Ultrasonic washing using xylene during 5 minutes, thoroughly rinsed in distilled water.
6. Ultrasonic washing using ethanol during 5 minutes, thoroughly rinsed in distilled water.
7. Ultrasonic washing using acetone during 5 minutes,
8. Keep in ethanol, then nitrogen blow-down before film deposit.

Silicon substrates cleaning process

1. Ultrasonic washing using Extran© during 5 minutes, thoroughly rinsed in distilled water.
2. Ultrasonic washing using xylene during 5 minutes, thoroughly rinsed in distilled water.
3. Ultrasonic washing using ethanol during 5 minutes, thoroughly rinsed in distilled water.
4. Ultrasonic washing using acetone during 5 minutes, thoroughly rinsed in distilled water.
5. Immersion in a solution prepared employing 10% de HF in H_2O_2 during 2 minutes.
6. Boiling in piranha solution during 10 minutes.
7. Immersion in a solution prepared employing 10% de HF in H_2O_2 during 5 minutes.
8. Keep in distilled water, then nitrogen blow-down before film deposit.

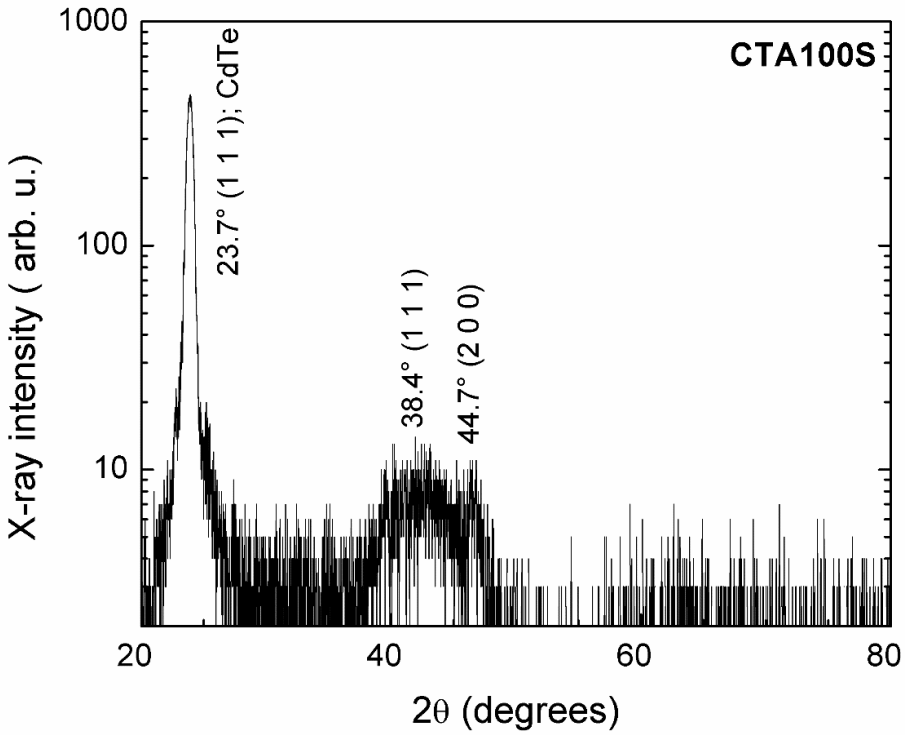

Figure S1. Diffractogram of sample CTA100S grown on silicon. The feature centered around 42° could be associated with the presence of aluminum, as the strongest peaks of Al are located at 38.4° (111) and 44.7° (200) [17]. The logarithmic scale highlights the absence of secondary phases derived from Al incorporation.

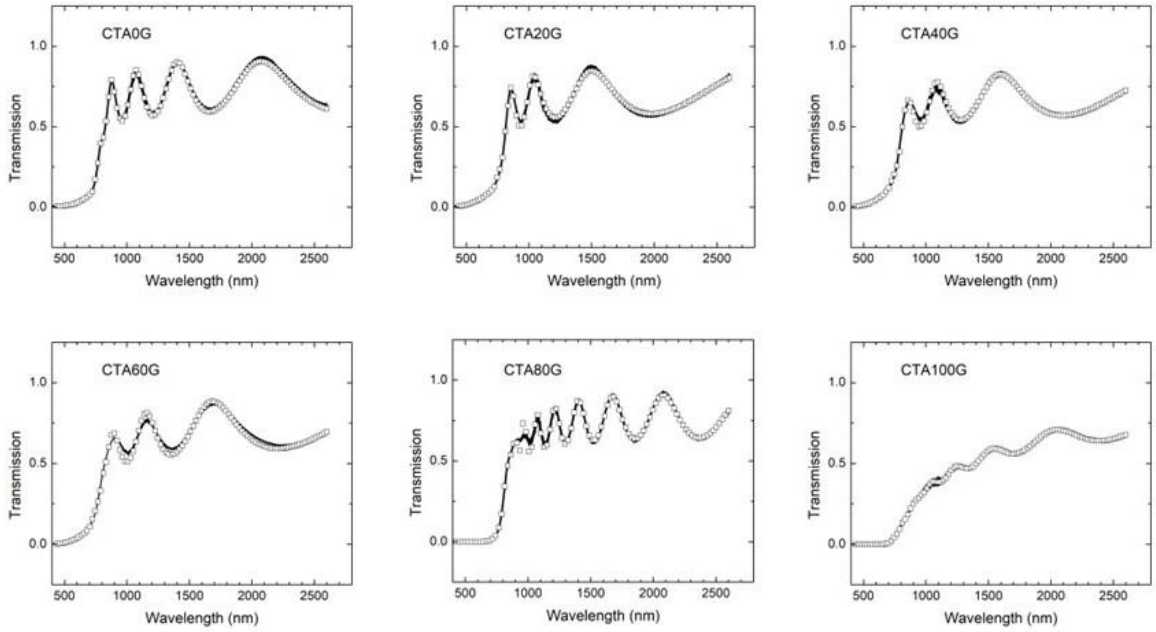

Figure S2. Experimental transmission spectra of CTA samples deposited on glass. In each graph continuos line corresponds to experimental spectrum and open symbols to the fitted one.

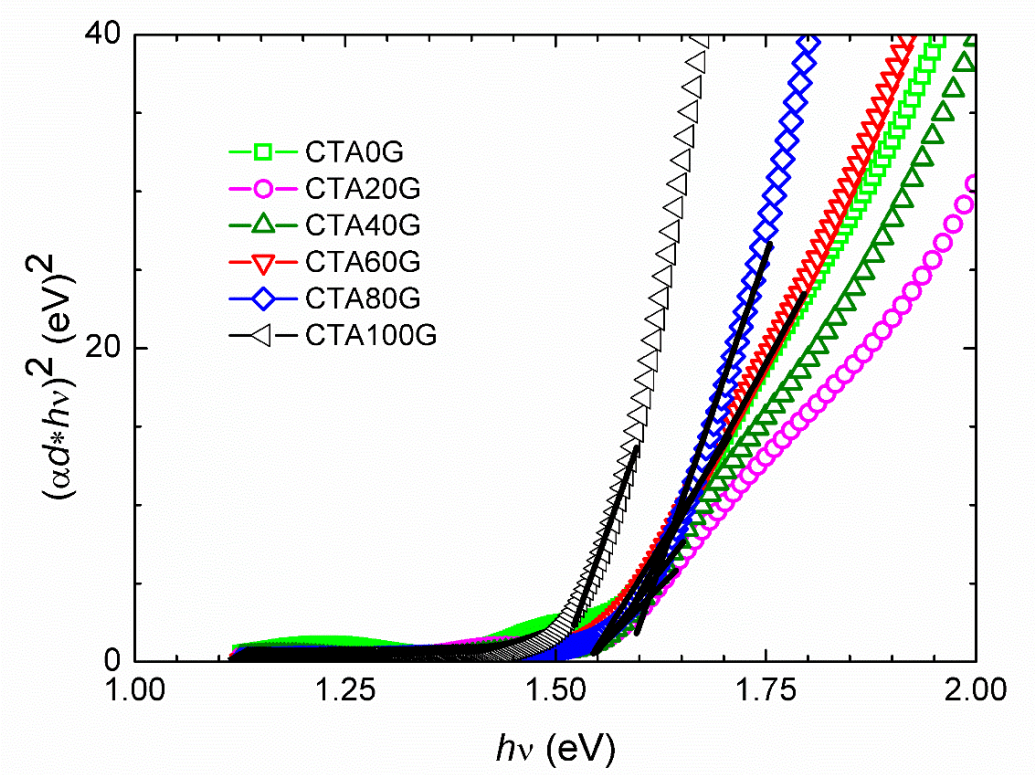

Figure S3. Fitting of the transmission spectra to the model of direct transitions between parabolic bands. Continuous lines show fitting for each sample.

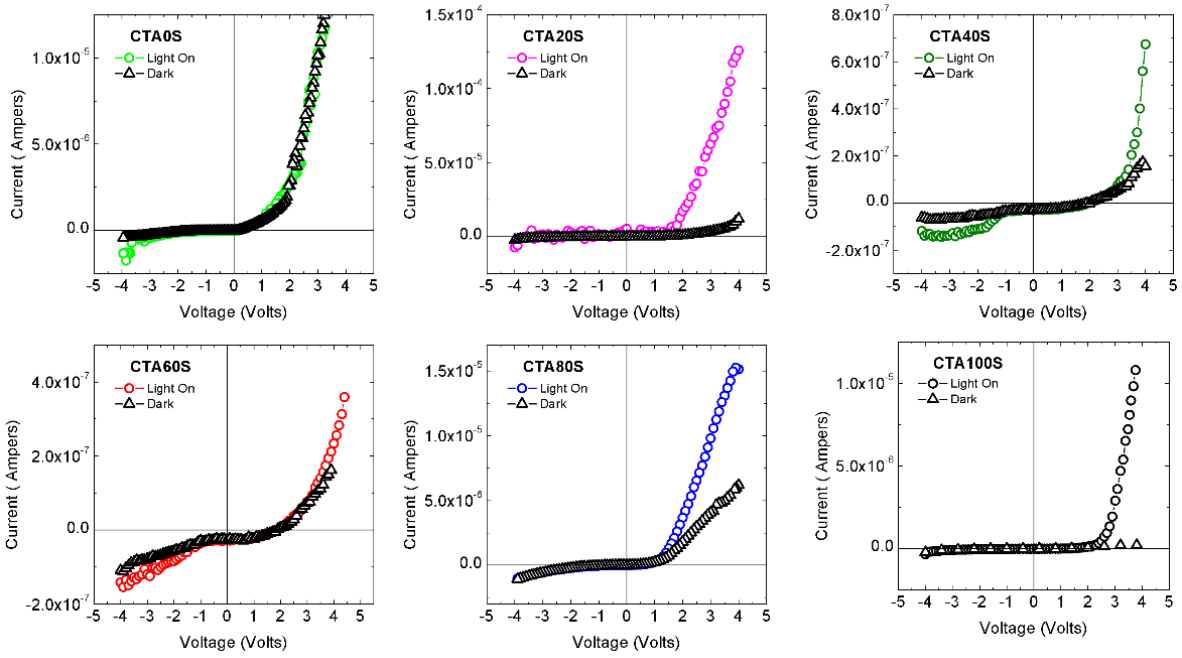

Figure S4. IvsV curves obtained under light-on and dark conditions, for samples deposited on silicon substrates. Observed characteristics are similar a those of a metal/p/p+/metal structure.