Supplementary Information

DLTS Investigations on CIGS Solar Cells from an Inline Co-evaporation System with RbF Post-deposition Treatment
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Information on carrier density calculations

Figure S1: a) Mott-Schottky plot calculated from CV measurements at 290K for all samples of this investigation. To extract the carrier density, a linear fit was performed at the linear part around 0V. The evaluated values can be compared with the carrier density values in graph b) where the carrier density is plotted over the space-charge-region width. The values extracted from Mott-Schottky plot are indicated by horizontal gray lines, which correspond very well with the minima of the carrier density curves.
Composition gradient and accessed region by DLTS pulse

Figure S2: Gallium to Gallium + Indium ratio (GGI) as a function of the sample depth, extracted from GDEOS measurements. The profiles show measurement on comparable samples of Series I (same processes). No significant difference is observed for samples with and without PDT. Additionally the accessible region between reverse bias of UR=-2V and pulse voltage UP=0V is shown in blue bars.

Pulse width scan

Figure S3: Representative pulse width variation for the PDT sample of Series II. The measurement was conducted at 290K. For pulse widths larger than 30ms a saturation of the DLTS signal can be observed. Therefore 50ms was selected as a standard pulse width for our DLTS temperature scans.
Verification of evaluation results from Arrhenius plots

Figure S4: The graph shows a representative DLTS measurement of the sample without PDT from Series II in black. The red curve shows the modelling of results from a DLTFS evaluation. This was a common procedure to verify the extracted results from the different evaluations.