Supplementary Material



FIG. S1. Silane concentration *SC* profile of a standard (dotted black line) and adapted (red line) deposition process of an intrinsic µc-Si:H absorber layer.



FIG. S2. Current-voltage *J-V* measurement of µc-Si:H solar cells (1300 nm thick absorber layers) deposited with a standard deposition process (dotted black curve) and a µc-Si:H solar cell deposited with a stepwise adapted *SC* profile of the intrinsic absorber layer (red curve). Both solar cells have a Ag back reflecting contact.



FIG. S3. Photovoltaic parameters of µc-Si:H solar cells (efficiency (a), open-circuit voltage (b), fill factor (c), short circuit current density (d)) as a function of the buffer layer thickness for different µc-Si:H absorber layer thicknesses :1300 nm (blue circles), 650 nm (black squares), and 450 nm (red triangles). Dotted circles indicate the optimal buffer layer thickness for the corresponding cell thickness, in terms of *V*OC and efficiency.