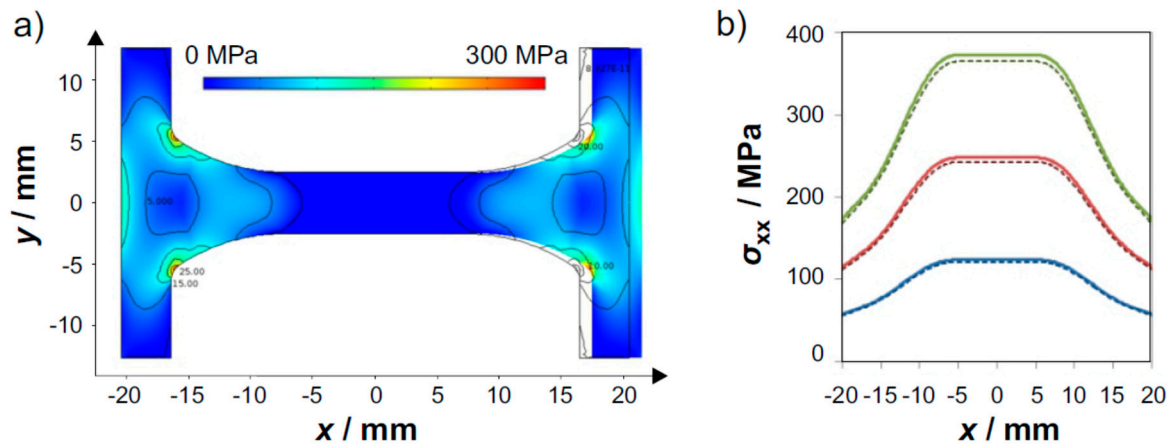


# Supplementary Materials: Mechanical Properties of ZTO, ITO, and a-Si:H Multilayer Films for Flexible Thin Film Solar Cells

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**Figure S1.** (a) Distribution of the y-component of the simulated von Mises stress in a 800 nm a-Si:H film on a 25  $\mu\text{m}$  PET substrate. The sample was strained along  $x$  with a total elongation of  $\Delta L = 1000 \mu\text{m}$ . The sample shape is comparable to the dogbone shape used in tensile experiments; (b) Comparison of the x-component of the von Mises film stress for  $y = 0$  and different elongations as indicated in the graph. Solid lines represent the case that the Poisson number of the film and the PET substrate are equal  $\nu_f = \nu_s = 0.33$ . Dashed lines correspond to the case that  $\nu_f = 0.22$  and  $\nu_s = 0.33$ . It can be seen that within a center region of  $\approx 14\text{mm}$  the stress in the film is homogeneous.