Cu-doped Sb_2Se_3 thin film solar cells based on hybrid Pulsed Electron Deposition/Radio Frequency Magnetron Sputtering growth techniques

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Supplementary Materials

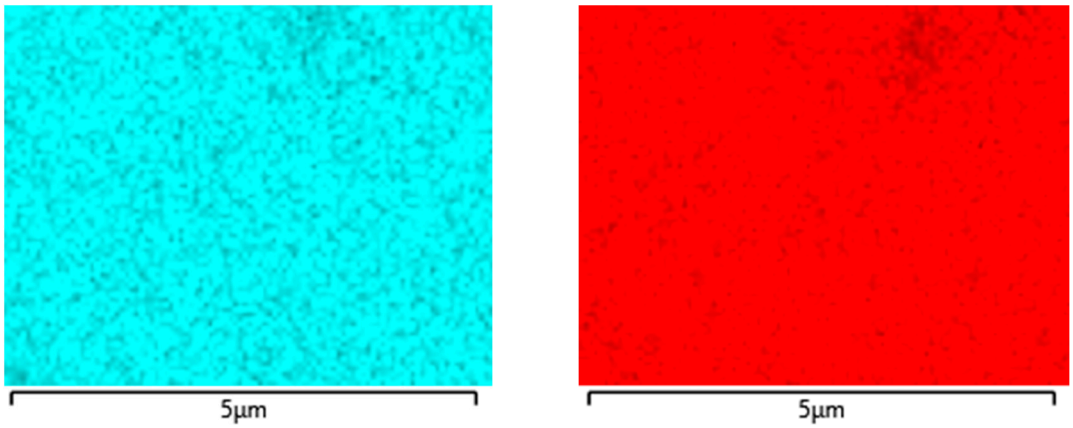

Figure S1: EDX mapping of composition for the stoichiometric (40/60 at. ratio) Sb_2Se_3 films acquired by scanning electron microscope (FE-SEMFIB, Zeiss Auriga Compact) equipped with an energy dispersive x-ray spectrometer (EDX, Oxford).

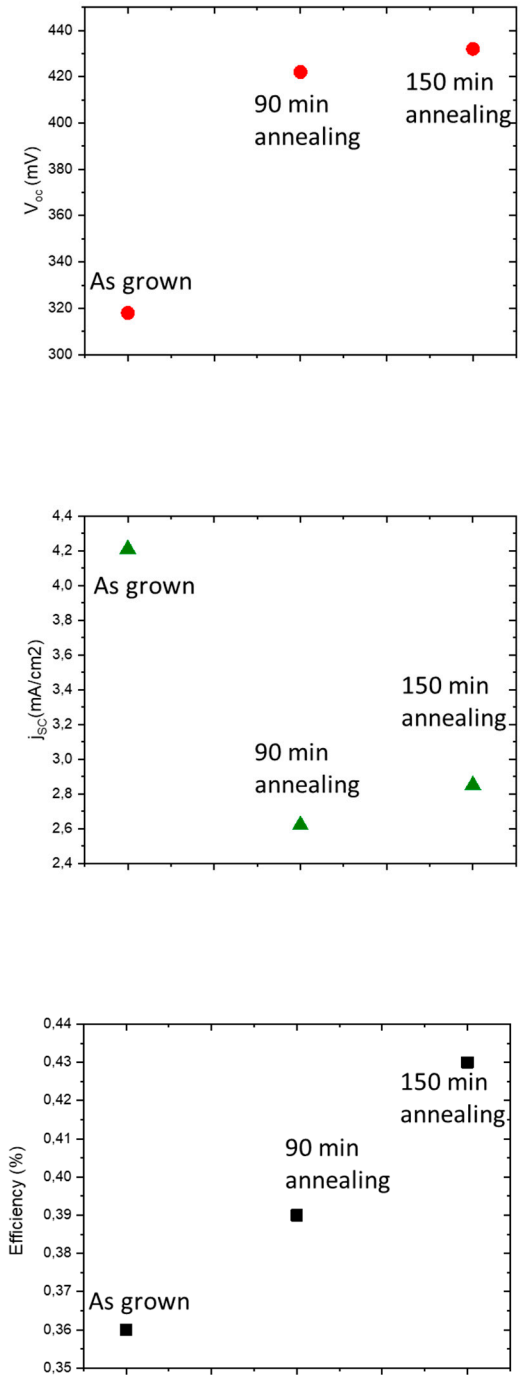

Figure S2: From top: V_{oc}, J_{sc} and efficiency variation after annealing treatments compared with as-grown PED-grown 5%Cu:Sb_2Se_3 solar cells with AZO/UZO/CdS/Cu:Sb_2Se_3/FTO/Glass structure.