Efficiency enhance in inverted planar perovskite solar cells by synergetic effect of sulfated graphene oxide (sGO) and PEDOT:PSS as hole transporting layer

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Fig. S1 TGA and DTG curves of GO and sGO powders.

Fig. S2 UV-vis spectra of CH$_3$NH$_3$PbI$_3$ perovskite on different composite HTLs.

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**Fig. S3** UV-vis spectra of CH$_3$NH$_3$PbI$_3$ perovskite on different HTLs.

**Fig. S4** Water contact angels of ITO-coated glass without (a) and with (b) 15 min of UV-zone treatments