

# Supporting information

Multilayer Transparent Top Electrode for Solution Processed Perovskite/

Cu(In,Ga)(Se,S)<sub>2</sub> Four Terminal Tandem Solar Cells

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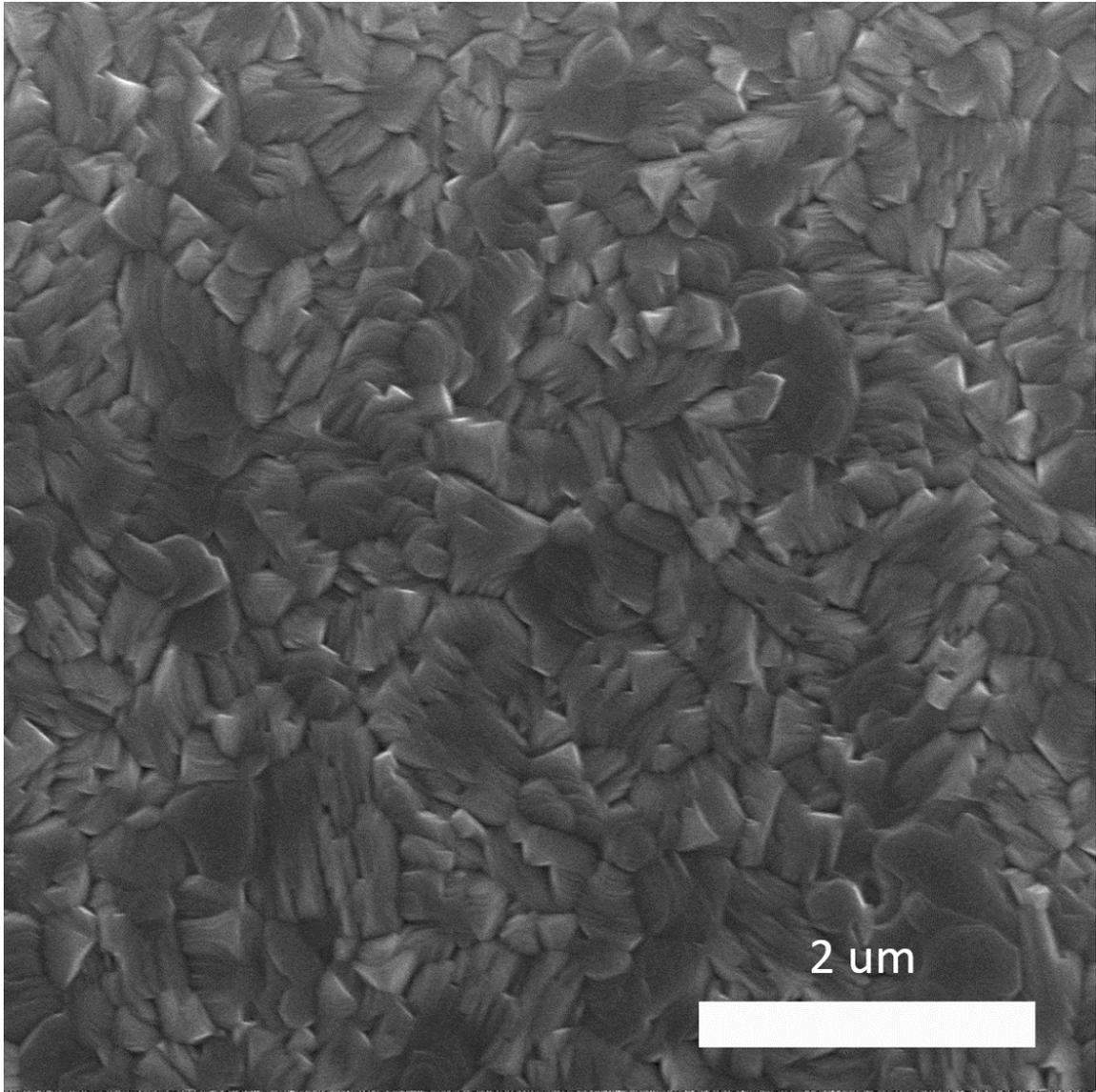


Figure S.1 The top view SEM image of the PVSK film on top of TiO<sub>2</sub>. The film thickness is ~300 nm.

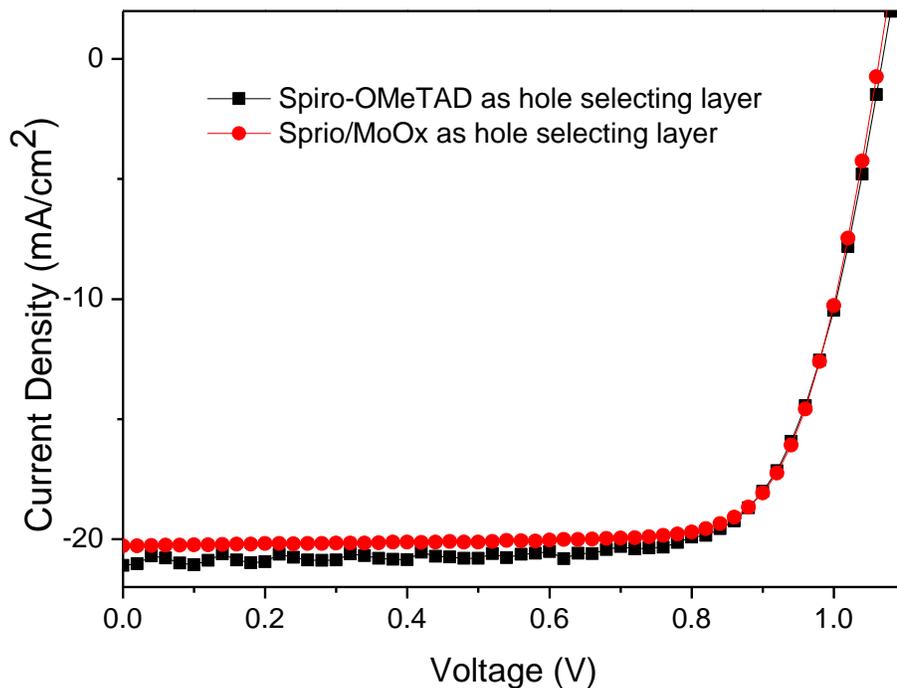


Figure S.2 The IV curves of the regular PVSK solar cell (non-transparent electrode) with Spiro-OMeTAD as hole transporting layer; and with the Spiro-OMeTAD/MoOx as the hole transporting layer.

Hole transporting layer	Voc V	Jsc mA/cm <sup>2</sup>	FF %	PCE %
Spiro-OMeTAD	1.07	21.1	73.4	16.5
Spiro-OMeTAD/MoOx	1.06	20.3	76.4	16.4

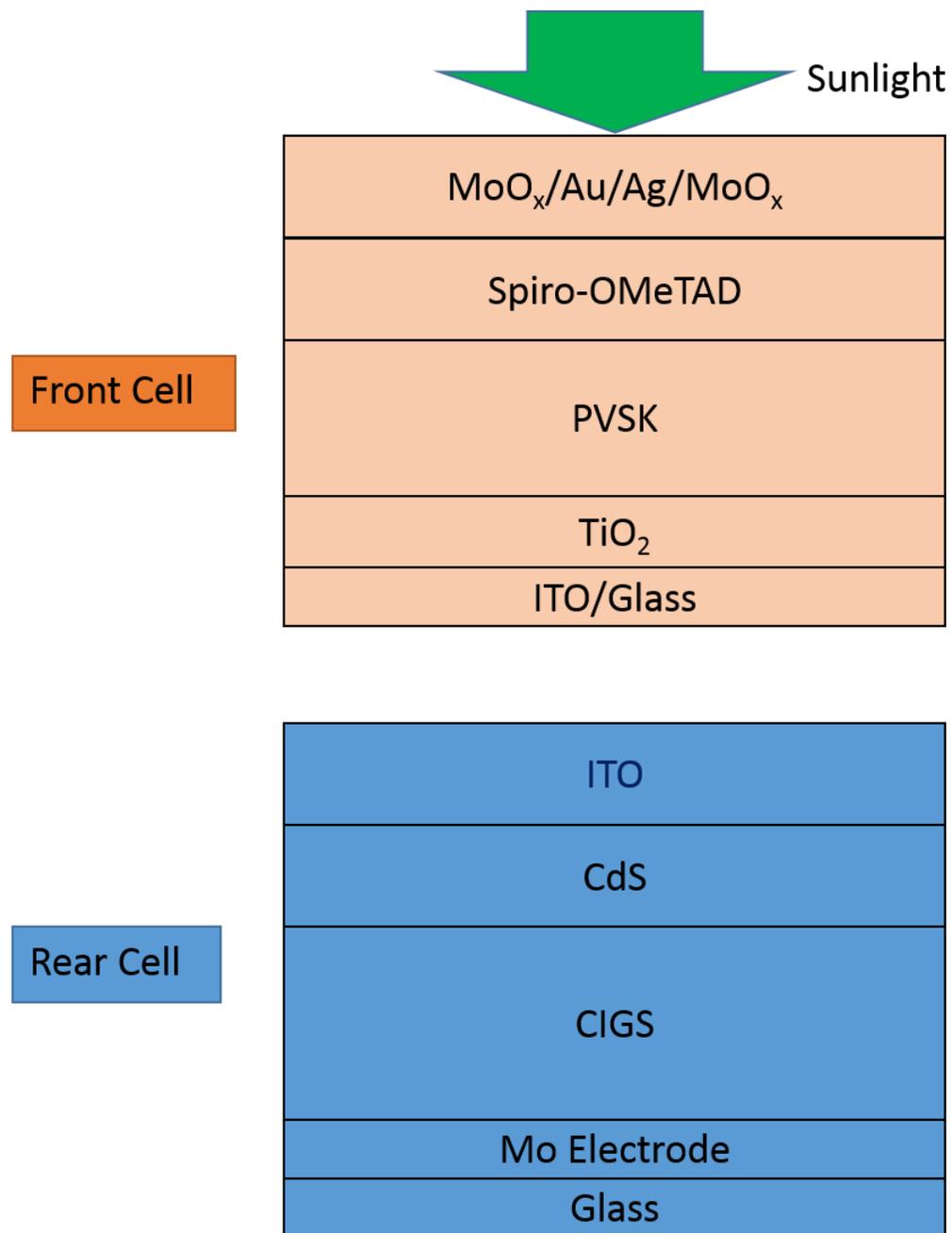


Figure S.3 Device stacking schematic for the four-terminal tandem device. The PVSK solar cell serves as the top cell while the solution processed CIGS cell is the bottom cell.