Electronic Supplementary Material (ESI) for RSC Advances.

Supplementary Information

Atomic Layer Deposition of Metal Oxides for Efficient Perovskite Single-junction and Perovskite/Silicon Tandem Solar Cells

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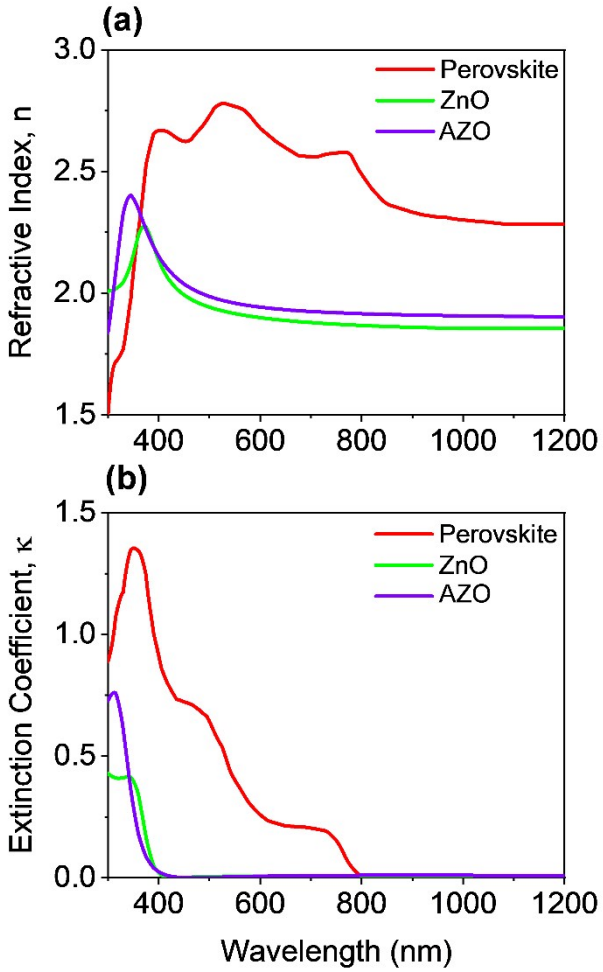

Fig. S1 (a) Refractive index and (b) extinction coefficient of perovskite ($MAPbI_3$), ZnO, and AZO for the realization of perovskite solar cells.

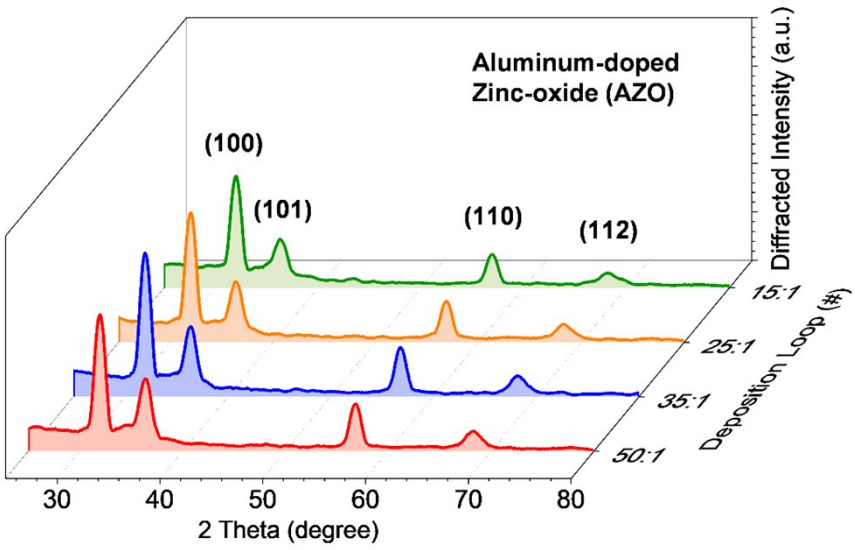

Fig. S2 X-ray diffraction patterns of AZO films with various deposition cycles, grown on Si substrates.

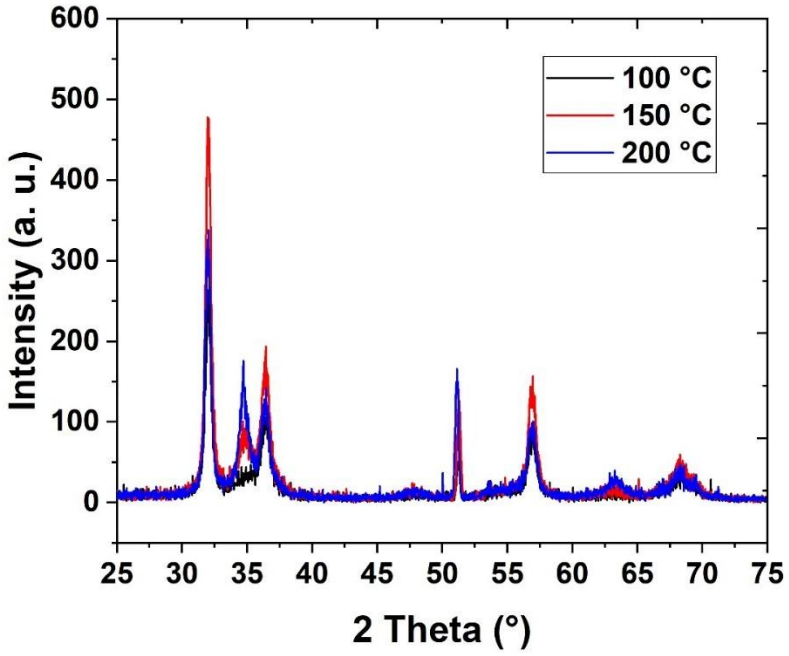

Fig. S3 X-ray diffraction patterns of AZO films with various deposition temperatures, grown on Si substrates. The deposition cycle ratio is 25:1.

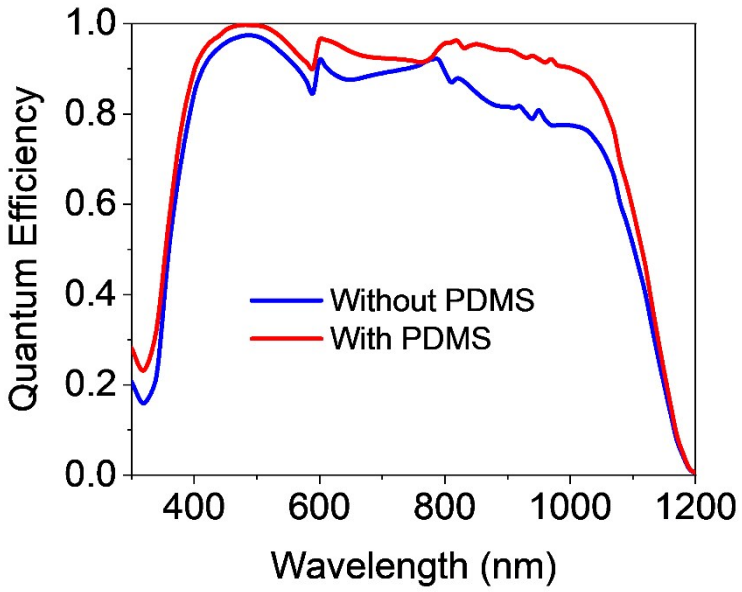

Fig. S4 A comparison of the calculated total quantum efficiency of perovskite/silicon tandem solar cell without and with PDMS optical incoupler.