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Supplementary Materials: Effect of SnO2 Colloidal Dispersion Solution Concentration on the Quality of Perovskite Layer of Solar Cells

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Table S1. Hall effect measurements of SnO_2 film.

SnO_2 Colloidal Dispersion Solution Concentration	Conductivity (μS/cm)	Mobility ($cm^2 \cdot V^{-1} \cdot S^{-1}$)	Carrier concentration (cm^{-3})
10 wt.%	7.5×10^{-2}	51.6	9.0×10^{12}
6.67 wt.%	3.0×10^{-2}	42.6	4.5×10^{12}
5 wt.%	2.3×10^{-2}	35.5	4.0×10^{12}

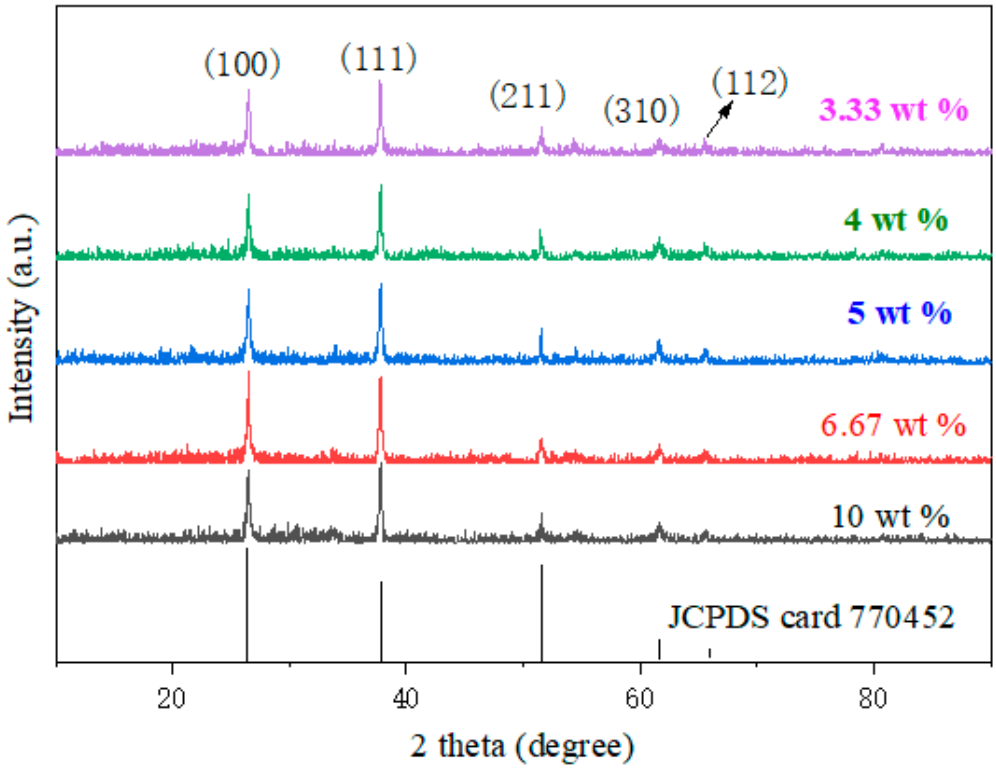

Figure S1. The XRD patterns of the original layers of SnO_2 with different concentrations of SnO_2 colloidal dispersion solution.

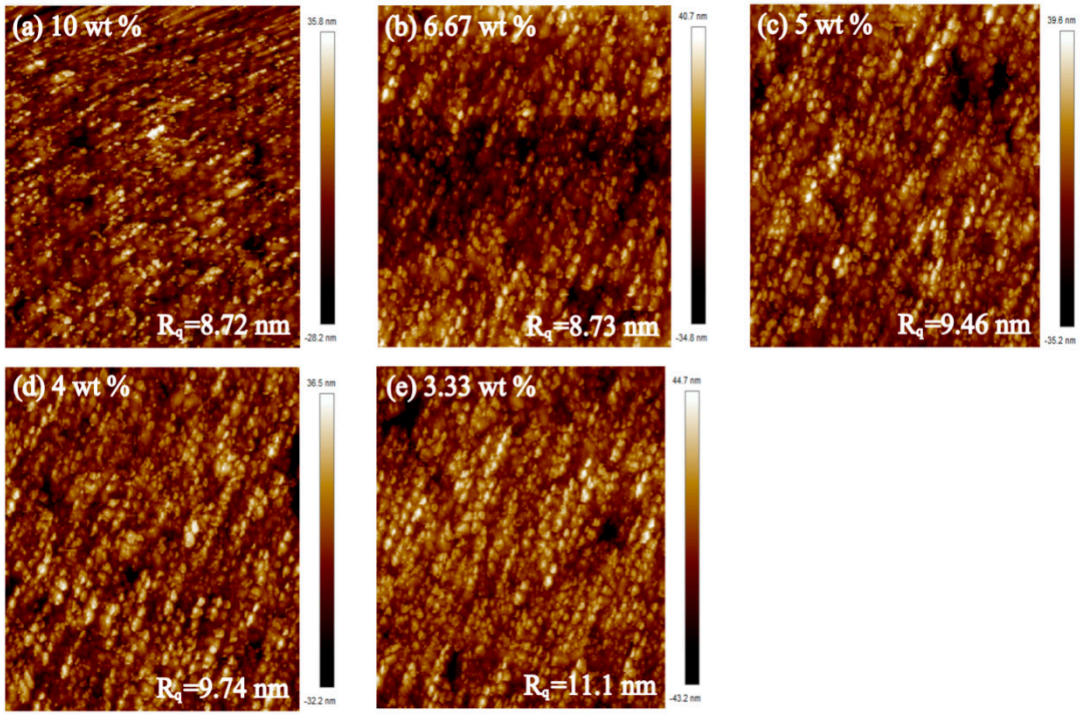

Figure S2. Atomic Force Microscope (AFM) of different concentrations of SnO_2 colloidal dispersion solution. SnO_2 colloid solutions of different concentrations: (**a**) 10 wt.%, (**b**) 6.67 wt.%, (**c**) 5 wt.%, (**d**) 4 wt.%, and (**e**) 3.33 wt.%. The roughness of the films is recorded on the right side of the images.