

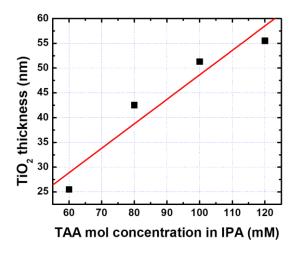


## Supplementary Materials: Superstrate Structured FTO/TiO<sub>2</sub>/In<sub>2</sub>S<sub>3</sub>/Cu<sub>2</sub>ZnSnS<sub>4</sub> Solar Cells Fabricated by a Spray Method with Aqueous Solutions

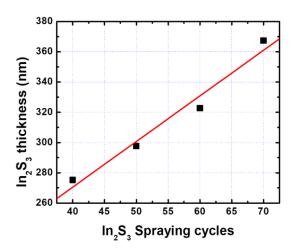
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**Figure S1:** TiO<sub>2</sub> thickness vs. concentration of TAA solution. Thickness is extracted from the SEM measured results on FTO (temperature 450 °C, pressure 10 psi, spray 40 cycles).



**Figure S2:** In<sub>2</sub>S<sub>3</sub> thickness vs. the number of spraying cycles. Thickness is extracted from the scanning electron microscopy (SEM) measured results on FTO (temperature 350 °C, solution InCl4 (12 mM) + thiourea (80 mM), pressure 6 psi).



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