

Cs₂SnI₆ Encapsulated Multi-Dye Sensitized All Solid-State Solar Cells

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S-1. Characteristics of Sn doped TiO_2

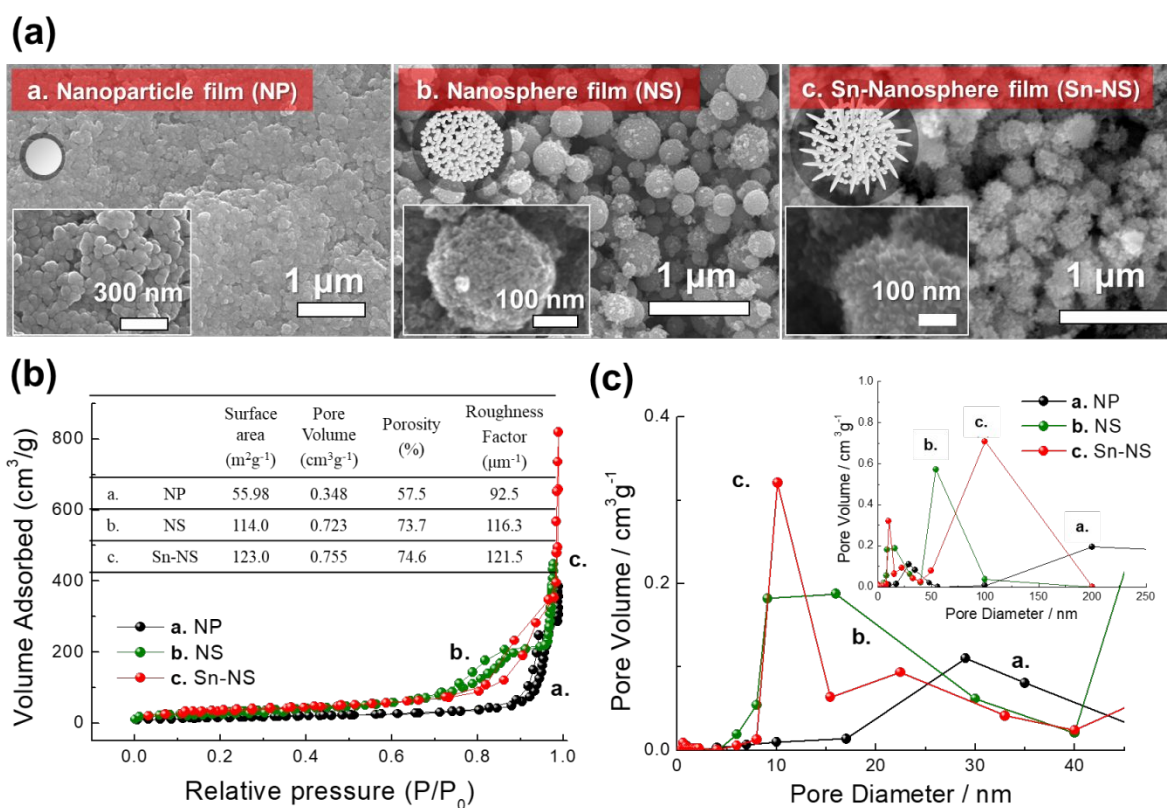


Figure S1. Morphology and physical properties of the different typed TiO_2 film (a. nanoparticle (NP) b. nanosphere (NS), c. Sn doped nanosphere (Sn-NS) film): (a) SEM image with corresponding images of TiO_2 shape, (b) N_2 adsorption-desorption isotherms (inserted in the table of Specific surface area, pore volume, porosity, and roughness factor) and (c) the corresponding pore size distributions calculated by the BJH method from the adsorption branch

S-2. EIS impedance model

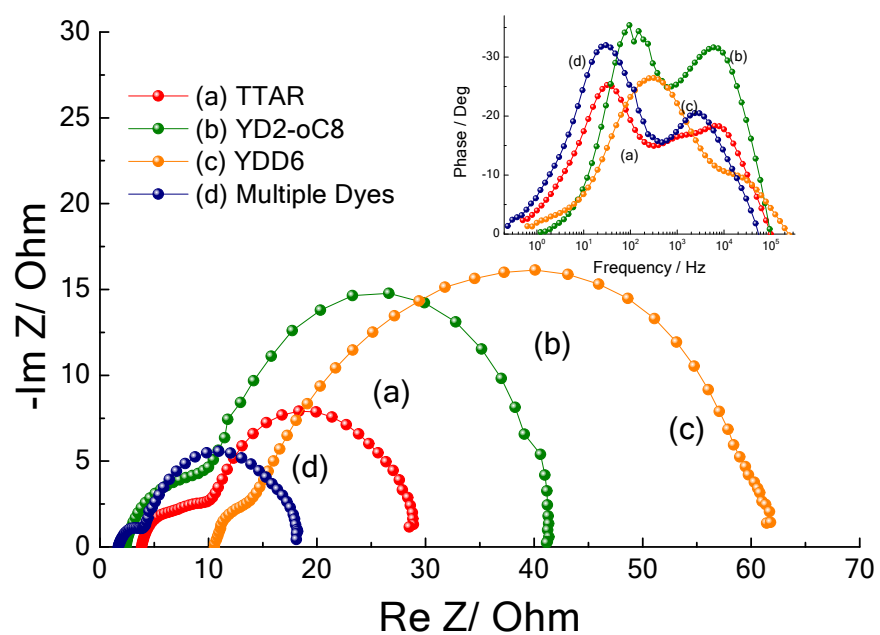


Figure S2. EIS analysis and Bode phase plots (inserted) with the best-fit model for the individual-dye for Sn-TiO₂/ the individual-dye (a) TTAR (b) YD2-oC8 (c) YDD6 dye and (d) multi(TTAR/ YD2-oC8/Cs₂SnI₆)-sensitized DSSCs at liquid electrolyte

S-3. Characteristics of Cs_2SnI_6 deposition

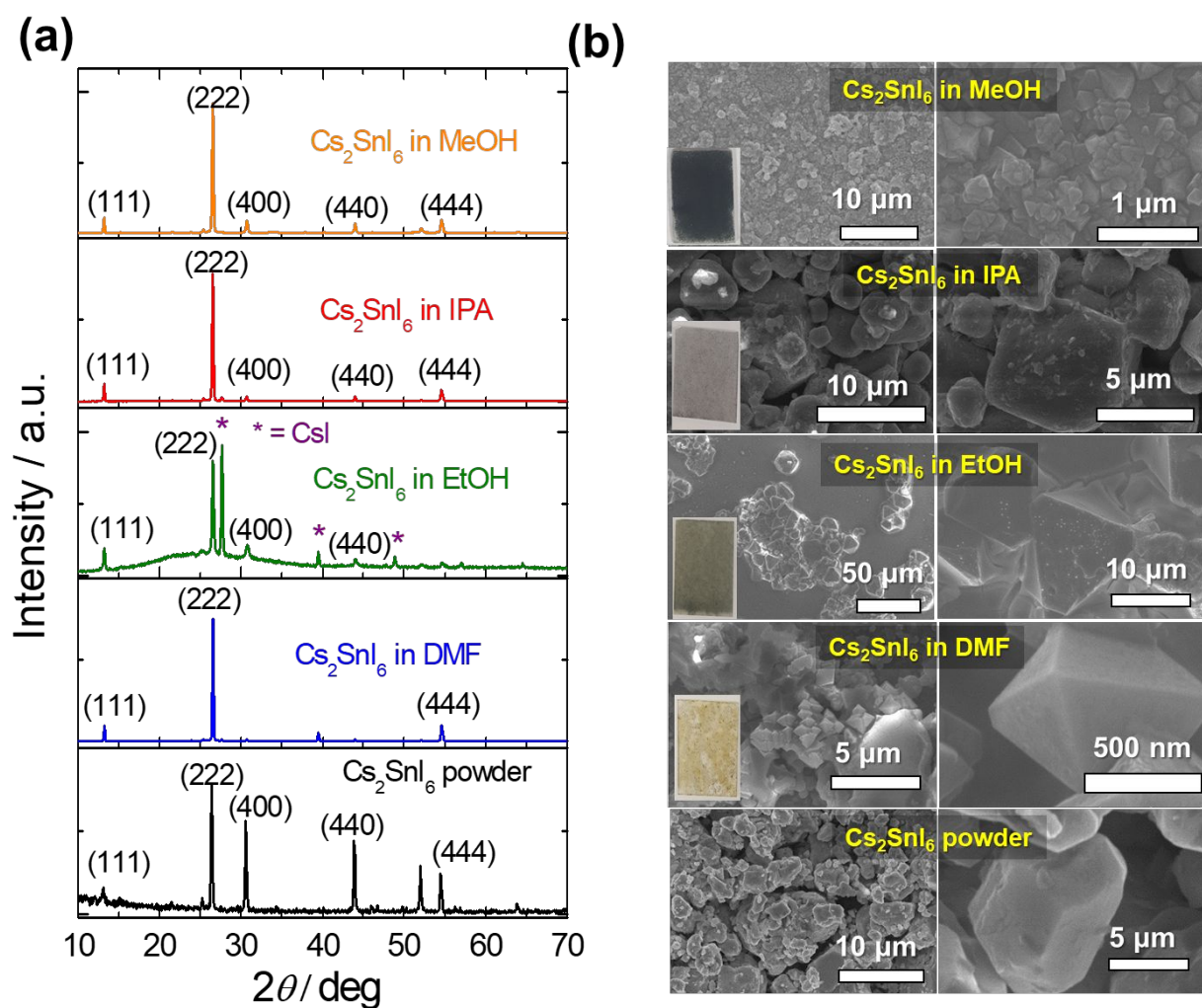


Figure S3. (a) XRD and (b) SEM images of E-sprayed Cs_2SnI_6 films on FTO glass after dissolving Cs_2SnI_6 in different solvents (inserted in the real film image)

