

Abstract Submitted  
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**Comparative study of polymer and liquid electrolytes in quantum dot sensitized solar cells**<sup>1</sup> UMA POUDYAL, WENYONG WANG, University of Wyoming — We present the study of CdS/CdSe quantum dot sensitized solar cells (QDSSCs) in which Zn<sub>2</sub>SnO<sub>4</sub> nanowires on the conductive glass are used as photoanode. The CdS/CdSe quantum dots (QDs) are deposited in the Zn<sub>2</sub>SnO<sub>4</sub> photoanode by the Successive Ionic Layer Adsorption and Reaction (SILAR) method. CdS is first deposited on the nanowires after which it is further coated with 5 cycles of CdSe QDs. Finally, ZnS is coated on the QDs as a passivation layer. The QD sensitized photoanode are then used to assemble a solar device with the polymer and liquid electrolytes. The Incident Photon to Current Efficiency (IPCE) spectra are obtained for the CdS/CdSe coated nanowires. Further, a stability test of these devices is performed, using the polymer and liquid electrolytes, which provides insight to determine the better working electrolyte in the CdS/CdSe QDSSCs.

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