

Zinc Tin Oxide (Zn_2SnO_4) nanocubes as a photoanode based organic dye-sensitized solar cells

Zinc Stannate (Zn_2SnO_4) has emerged as an alternate photoanode material, as it offers some advantages as compared to Titania (TiO_2), particularly as it has a significantly wider band gap, which limits UV light absorption and thus should allow for better photostability. In this work, we investigated the performance of DSSCs based on Zn_2SnO_4 using a high extinction coefficient organic (D149) and organometallic (N719) dyes. Although the reported efficiencies with this material are not as high as for the best TiO_2 based devices, the device engineering strategies outlined here provide guidelines for future development of DSSCs based on this material.

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