

## Electronic Supplementary Information

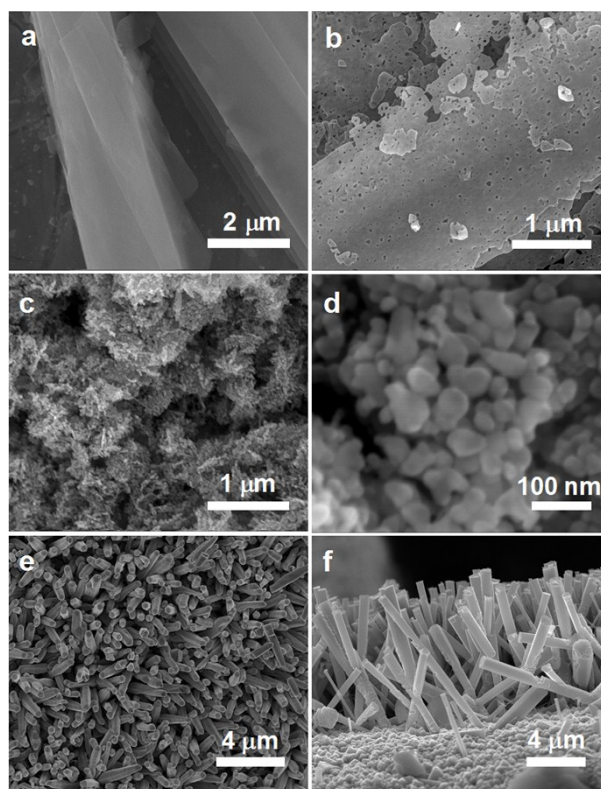
# Nanoparticle-Based Hierarchical Zinc Oxide Chains for Enhanced Efficiency of Dye-Sensitized Solar Cells

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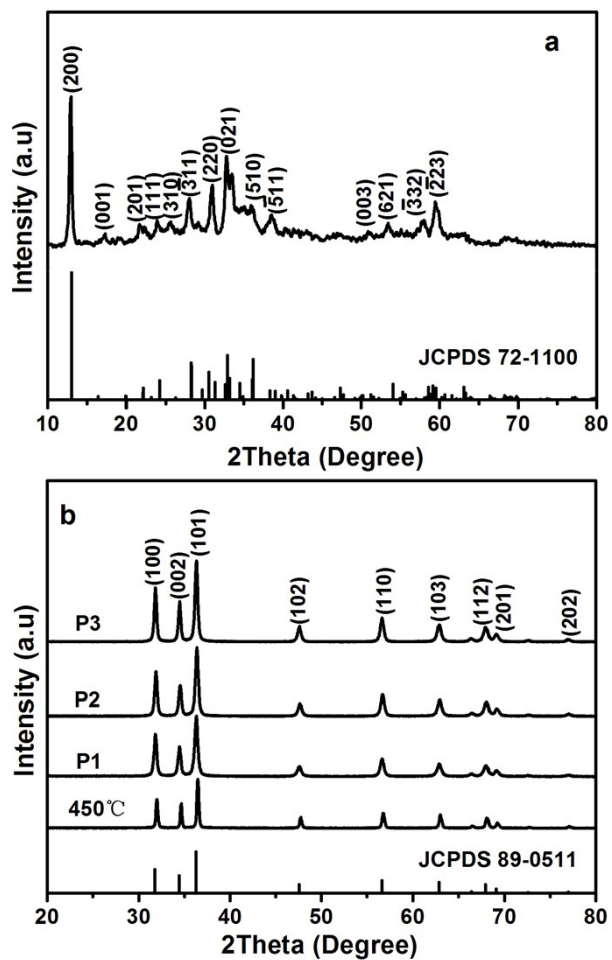
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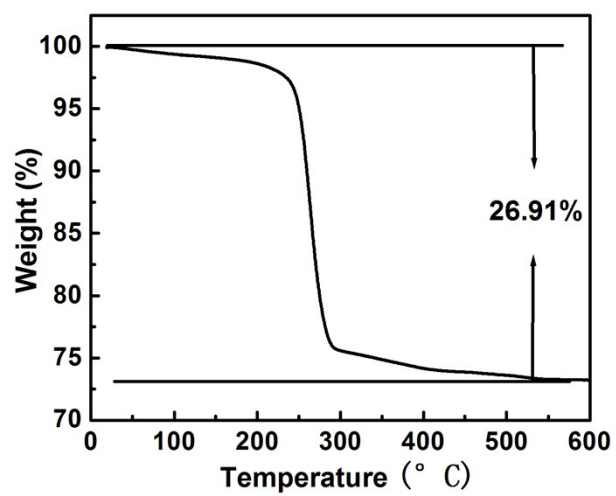
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**Fig. S1.** SEM images of: (a) the precursor  $\text{Zn}_5(\text{OH})_6(\text{CO}_3)_2$ . (b) as-synthesized sample calcined under  $450^\circ\text{C}$ . (c, d) the ZnO nanoparticles. (e) top view and (f)



**Fig. S2.** XRD patterns of (a) the precursor  $Zn_5(OH)_6(CO_3)_2$  and (b) four samples.



**Fig. S3.** TG curves of the precursor  $\text{Zn}_5(\text{OH})_6(\text{CO}_3)_2$ .