

Supporting information

From ZnS nanoparticles, nanobelts, to nanotetrapods: the ethylenediamine
modulated anisotropic growth of ZnS nanostructures

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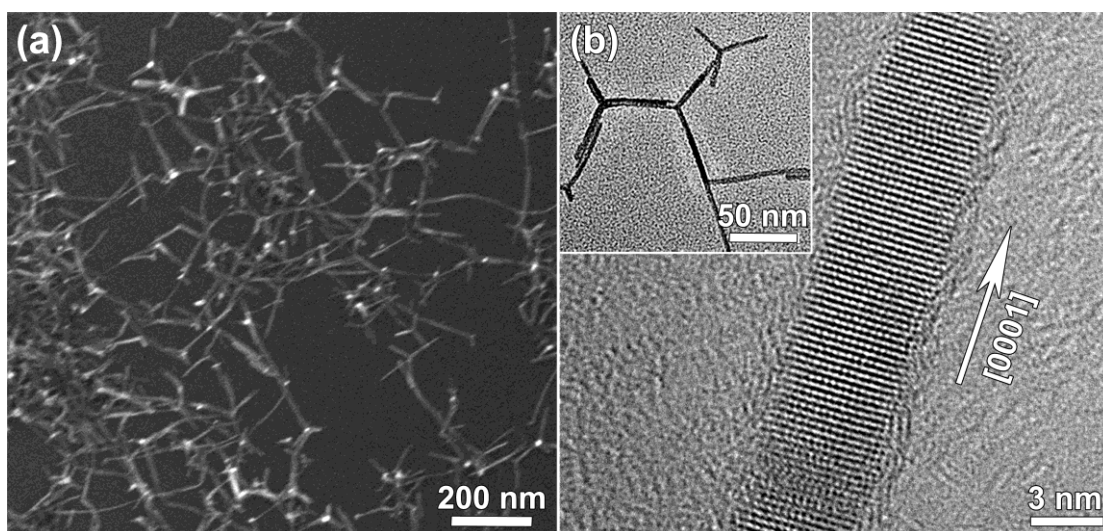
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Supplementary Figures

SI-Figure 1: SEM and TEM images of ZnS tetrapods synthesized in system where the assist agent ethylenediamine (EN) was replaced with propylenediamine (PN). (a) Low magnified SEM image of a pile of ZnS nanotetrapods with arms elongated obviously; (b) HRTEM image of the arm from a tetrapod revealing a WZ dominating structure growing along [0001], the inset is the low magnification bright-field TEM image, it is notable that the large lateral surfaces of arms drive the tetrapods to assemble together with their arms parallel with each other. This trend might be implemented to reassemble tetrapods into large scale tri-/hex- fold symmetric network with all vertical arms perpendicular to the substrate and serves as the collector of photovoltaic device.



SI-Figure 2: SEM and TEM images of ZnS nanobelts obtained when the reaction time reaches 20h. (a) Low magnified SEM image of wire-like ZnS nanostructures with length of $\sim 2 \mu\text{m}$, part of them are highly curved revealing a good mechanical toughness distinct from bulks; (b) HRTEM image of part of ZnS nanowire, the growth along [0001] WZ structure is maintained from the split of original nanobelts after the break-down of EN bridge molecules, the inset is the low magnification TEM image of splits.

