

## Electronic Supplementary Information (ESI)

### Colloidal synthesis of SnS nanocrystals with dimension-dependent photoelectrochemical properties

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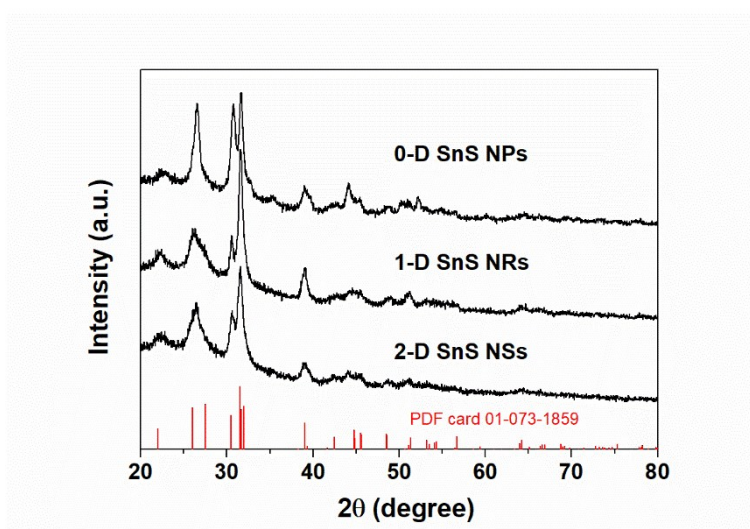
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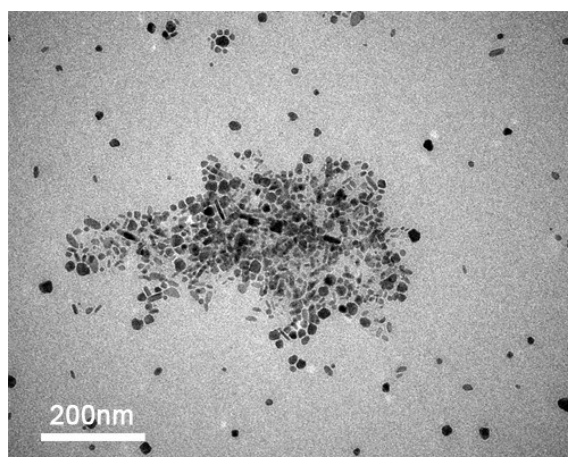
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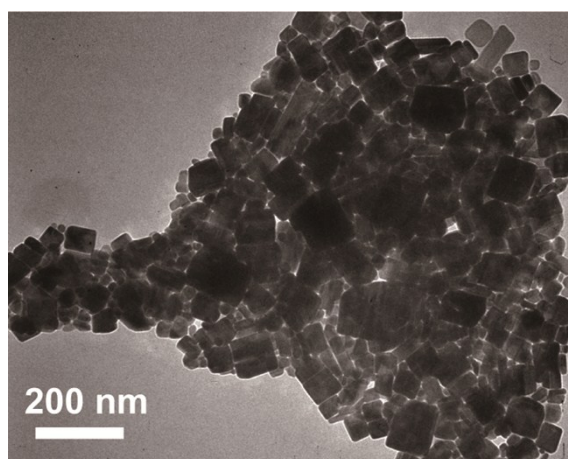
E-mail: limin.liu@buaa.edu.cn.



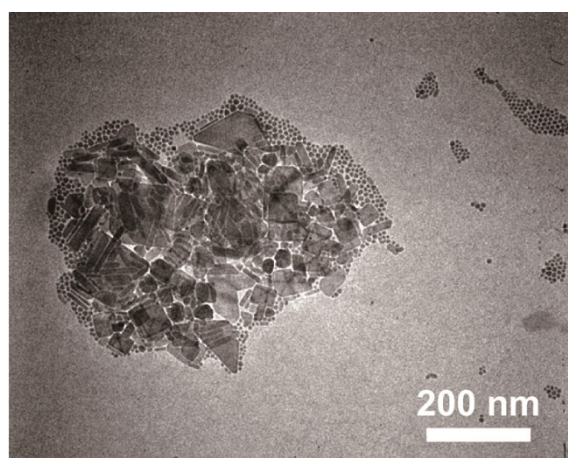
**Figure S1.** XRD patterns of the as-obtained 0-D SnS NPs, 1-D SnS NRs and 2-D SnS NSs.



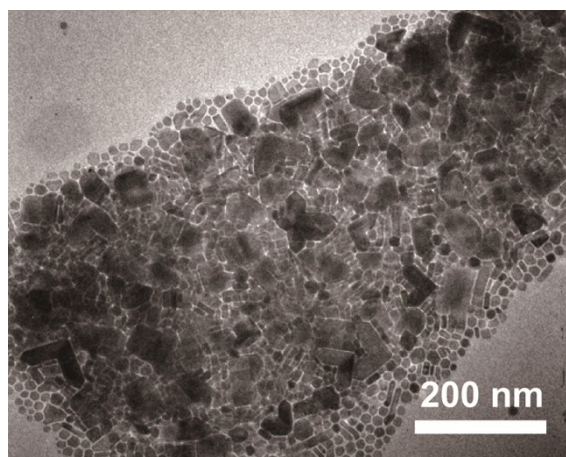
**Figure S2.** TEM image of inhomogeneous SnS NPs synthesized in the absence of DDT.



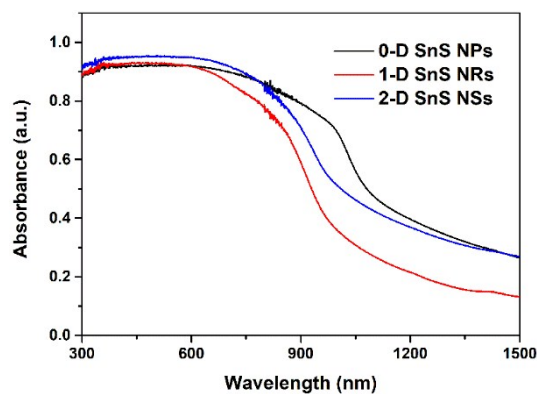
**Figure S3.** TEM image of inhomogeneous SnS NPs synthesized at 180 °C following the injection sequence of OAM-TAA and DDT.



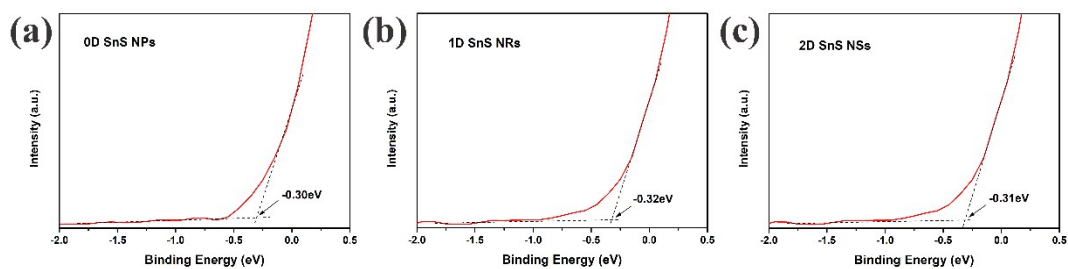
**Figure S4.** TEM image of inhomogeneous SnS nanocrystals obtained in the injection sequence of DDT and OAM-TAA at 80°C and growth temperature was set to 150 °C.



**Figure S5.** TEM image of inhomogeneous SnS nanocrystals obtained in the injection sequence of DDT and OAM-TAA at 80°C and growth temperature was set to 180°C.



**Figure S6.** UV-vis absorption spectra of dimensional SnS NCs.



**Figure S7.** Valence-band (VB) XPS spectrum of SnS 0D NPs (a), 1D NRs (b) and 2D NSs (c) .