In₄SnS₈ Ultrathin Nanosheets: A Ternary Sulfide with Fast

Adsorption-Visible-Light Photocatalysis Two Functions

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Figure S1. EDS spectrum of In_4SnS_8 nanosheets. The Si content in the EDS spectrum was from the substrate of silicon wafer.



Figure S2 XRD patterns of $Sn(DDTC)_4$, $In(DDTC)_3$ and products synthesized in different solvents.



Figure S3 TEM image of In_4SnS_8 synthesized in the mixture of ODE and OM.



Figure S4 (a) TEM, (b) HRTEM images and (c) XRD patterns of In_4SnS_8 after recycling.



Figure S5 Photodegradation rates of OG on In_4SnS_8 nanosheets irradiated by Xe lamp with UV cut off filter (visible light) and without UV cut off filter (UV light and visible light), respectively.



Figure S6 Fluorescence intensity changes with time of the In_4SnS_8 nanosheets in a basic solution of terephthalic acid mixture under light irradiation.