

Supporting Information

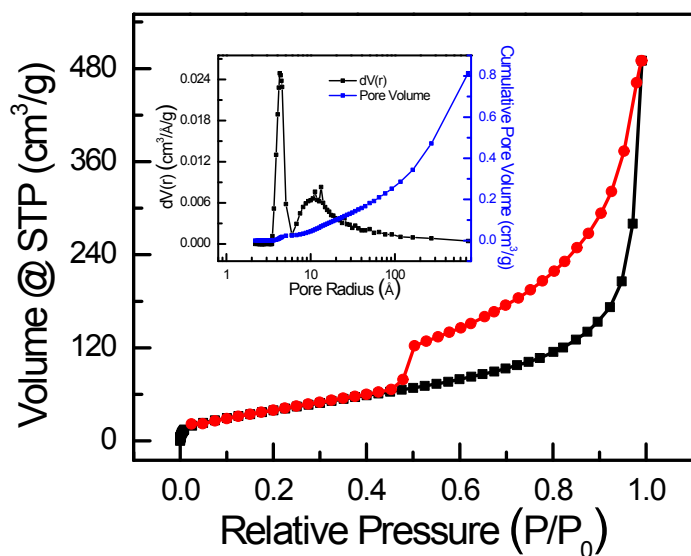
## Synthesis of $\text{In}_2\text{S}_3$ Microspheres using a Template-free and Surfactant-less Hydrothermal Process and Their Visible Light Photocatalysis

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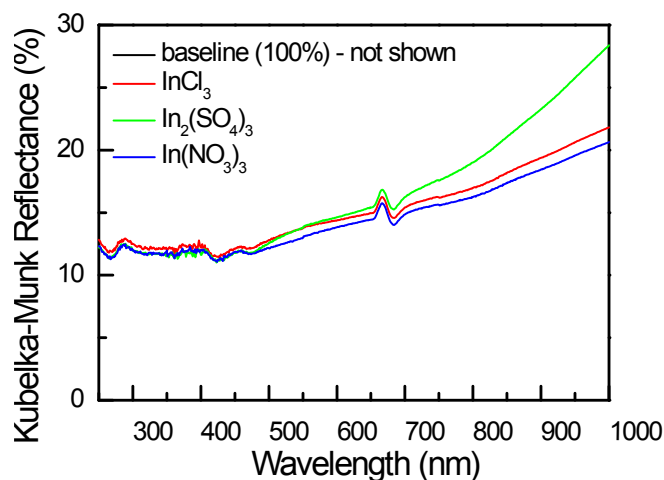
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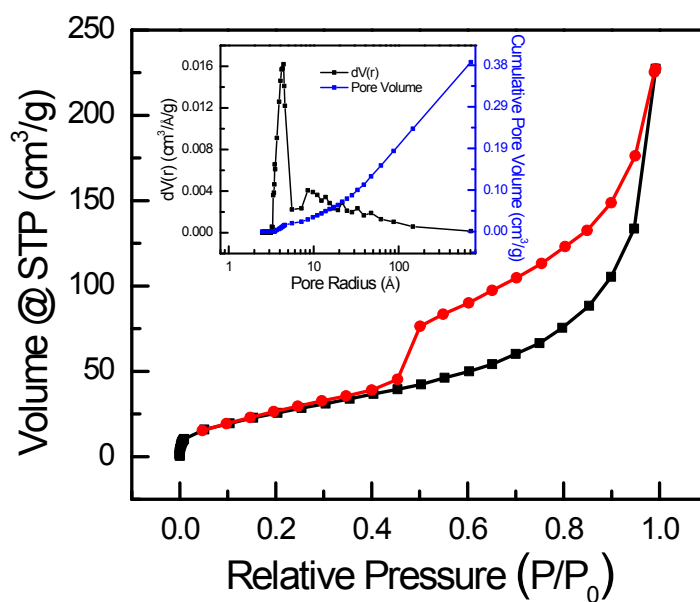
[\\*deb@matssc.iitkgp.ernet.in](mailto:deb@matssc.iitkgp.ernet.in)



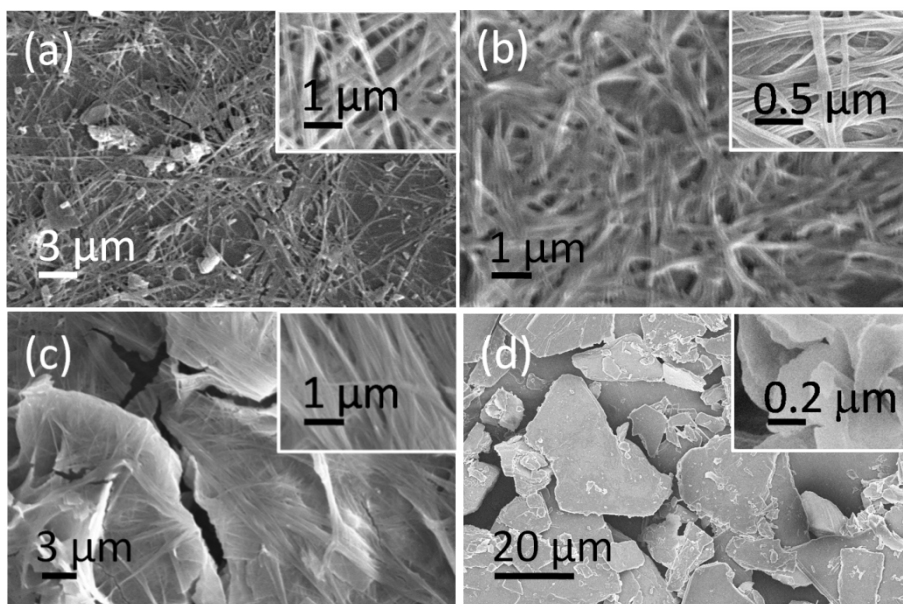
**Figure S1.** Nitrogen adsorption-desorption isotherm for hollow  $\text{In}_2\text{S}_3$  microspheres obtained with indium sulfate precursor (adsorption branch, ■; desorption branch, ●). Inset: BJH pore size distribution obtained from the adsorption branch.



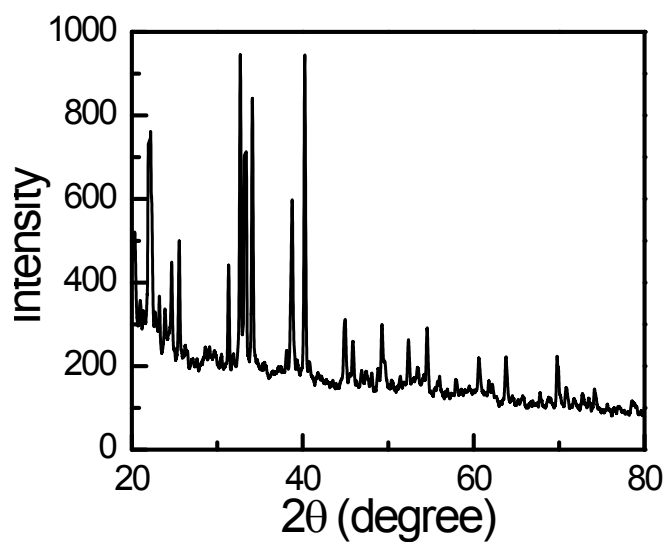
**Figure S2.** UV-Vis absorption spectra (in reflectance mode) of black color  $\text{In}_2\text{S}_3$  powder samples prepared with indium chloride, indium sulfate and indium nitrate precursors. Other parameters were kept constant (L-Cystine as S source, oxalic acid,  $150^\circ\text{C}$ , and 30 h).



**Figure S3.** Nitrogen adsorption-desorption isotherm for agglomerated  $\text{In}_2\text{S}_3$  nanoflakes obtained with indium sulfate precursor without oxalic acid (adsorption branch, ■; desorption branch, ●). Inset: BJH pore size distribution obtained from the adsorption branch.



**Figure S4.** FESEM images of products obtained by stirring (a) indium chloride, (b) indium sulfate, (c) indium nitrate, with L-cystine and oxalic acid at room temperature, (d) indium sulfate and L-cystine, without oxalic acid. Inset shows the respective magnified FESEM image.



**Figure S5.** X-ray diffraction pattern of the product obtained by stirring indium sulfate, L-cystine and oxalic acid at room temperature