Electronic Supplementary Material (ESI) for Materials Advances.

Supporting information

High performance photodetectors based on In_2S_3, $In_2S_{1.5}Se_{1.5}$ and In_2Se_3 nanostructures

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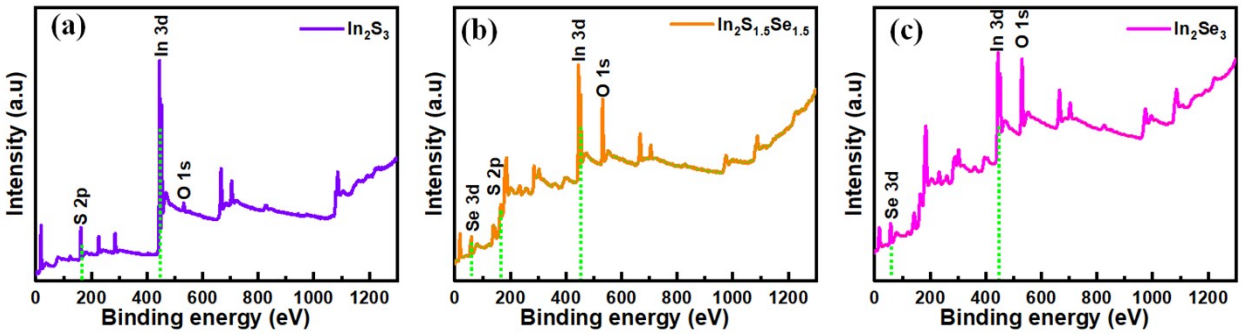

Figure S1. XPS survey spectrum of (a) In_2S_3, (b) $In_2S_{1.5}Se_{1.5}$, and (c) In_2Se_3

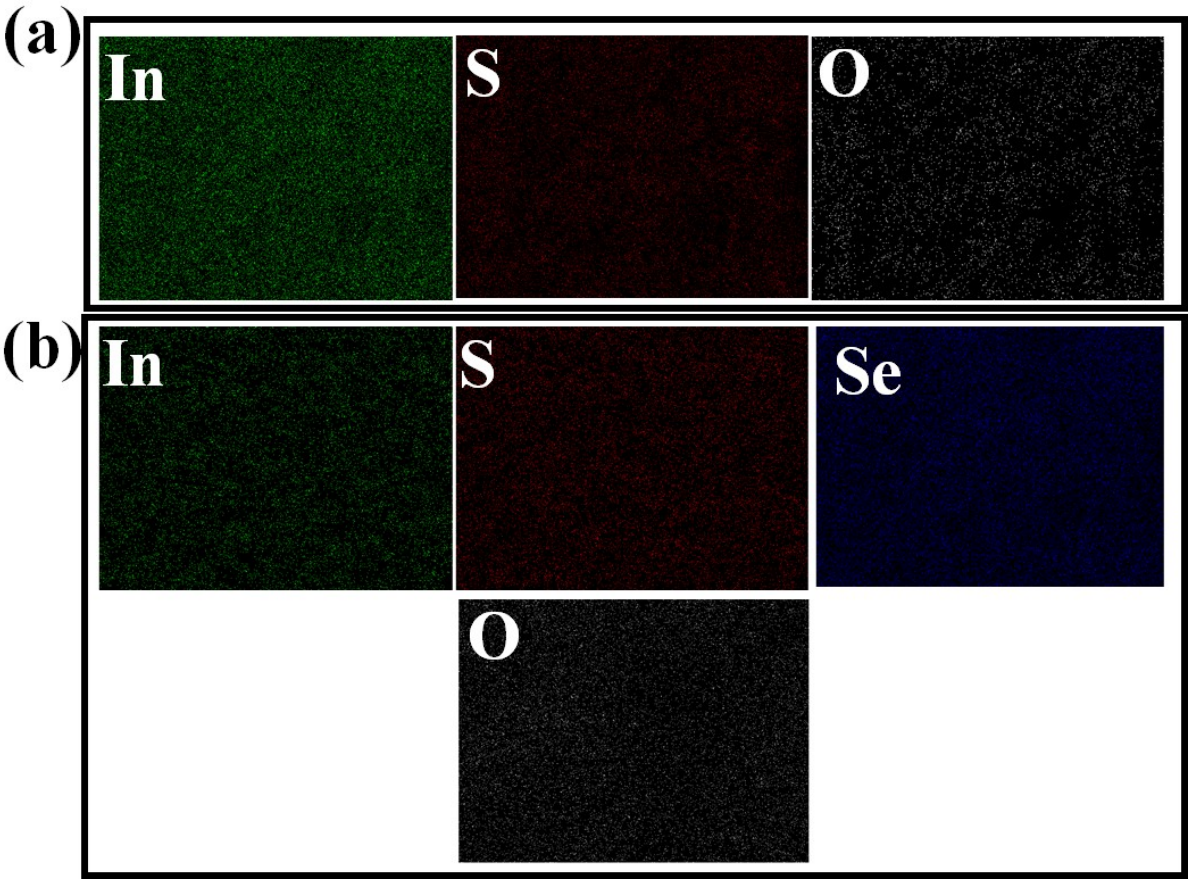

Figure S2. EDS mapping of (a) In_2S_3, and (b) $In_2S_{1.5}Se_{1.5}$ nanostructures

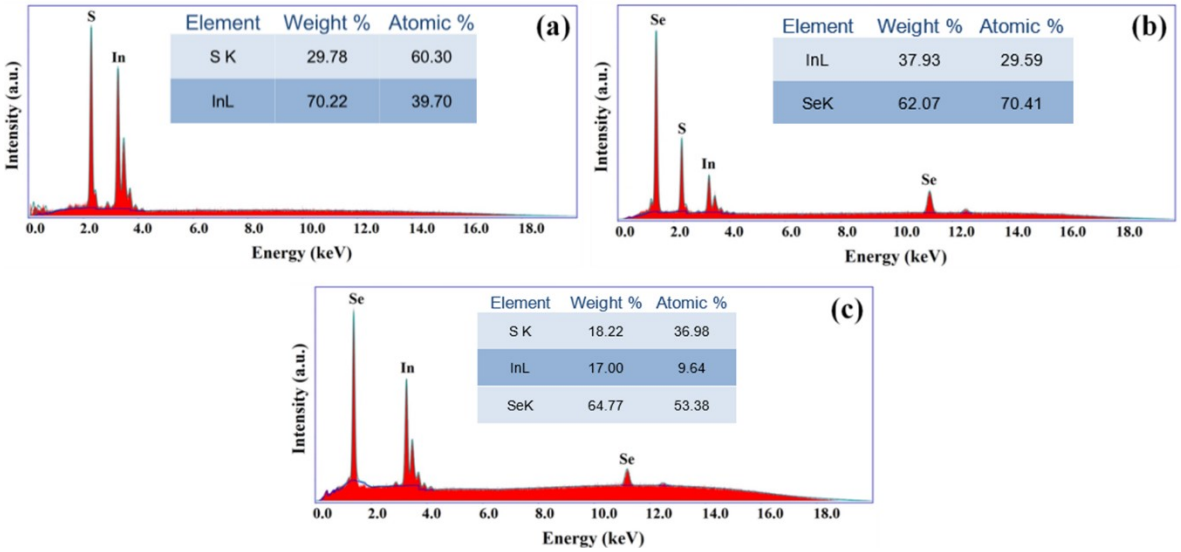

Figure S3. The EDS spectra of (a) In_2S_3, (b) $In_2S_{1.5}Se_{1.5}$, and (c) In_2Se_3 nanostructures.

The morphological stability after photo-response studies is illustrated in **Figure S4**. No morphological changes were observed in the In_2S_3, $In_2S_{1.5}Se_{1.5}$, and In_2Se_3 nanostructures after photo detection application. This clearly indicates that In_2S_3, $In_2S_{1.5}Se_{1.5}$, and In_2Se_3 nanostructures are highly stable.

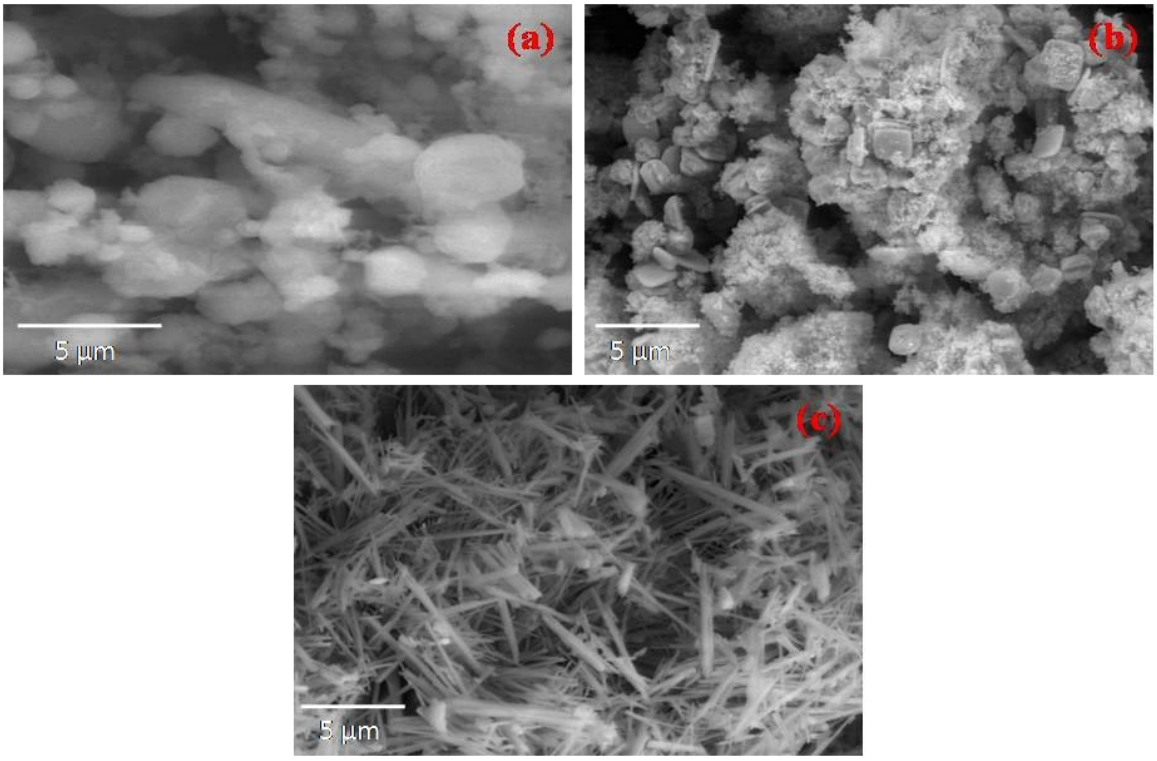

Figure S4. SEM images analysis after photo-response studies (a) In_2S_3 nanostructures (b) $In_2S_{1.5}Se_{1.5}$ nanostructures and (c) In_2Se_3 nanofibers