Dimensional Heterostructure of 1D CdS/ 2D ZnIn$_2$S$_4$
Composited with 2D Graphene: Designed Synthesis and Superior Photocatalytic Performance

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Figure S1 The (a) SEM image of pure ZnIn$_2$S$_4$ nanosheets.

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**Figure S2** EDX spectrum of CdS (green) nanowires and CdS/ZnIn$_2$S$_4$ (red) helical DHS.

**Figure S3** UV-vis absorption spectra of CdS nanowires, CdS/ZnIn$_2$S$_4$ helical DHS and CdS/ZnIn$_2$S$_4$/RGO composites.
Figure S4 Degradability of 4 cycling runs for photocatalytic degradation of MG in the presence of (a) CdS nanowires and (b) CdS/ZnIn$_2$S$_4$ helical DHS photocatalysts.

Figure S5 (a) Typical plot of $(\alpha hv)^2$ versus photon energy $(hv)$ for the CdS nanowires, ZnIn$_2$S$_4$ nanosheets, CdS/ZnIn$_2$S$_4$ helical DHS and CdS/ZnIn$_2$S$_4$/RGO composites, (b) XPS valence band spectra for CdS nanowires and ZnIn$_2$S$_4$ nanosheets.