

## Supporting information

### Visible-light-driven floriated $\text{ZnIn}_2\text{S}_4/\text{AgIn}_5\text{S}_8$ heteromicrospheres catalyst for dye degradation

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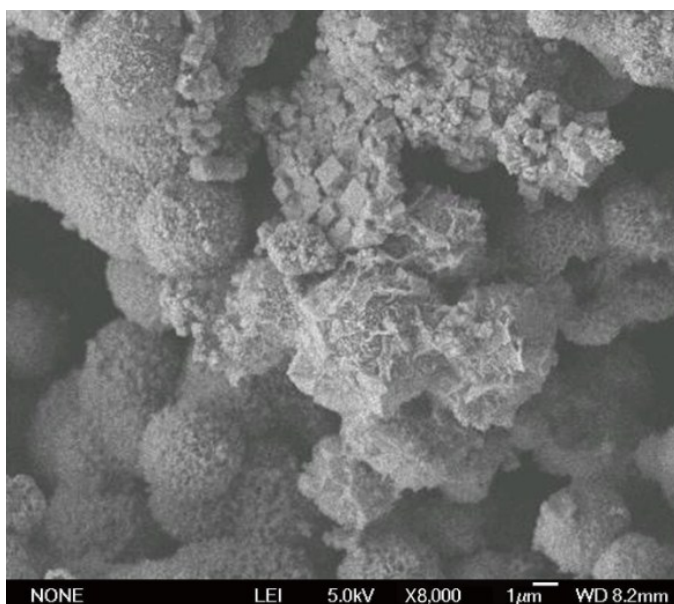


Figure S1. SEM image of ZIS MSs with some broken spheres, from which it clarified that the inside of the MSs is solid ZIS cubic crystals.

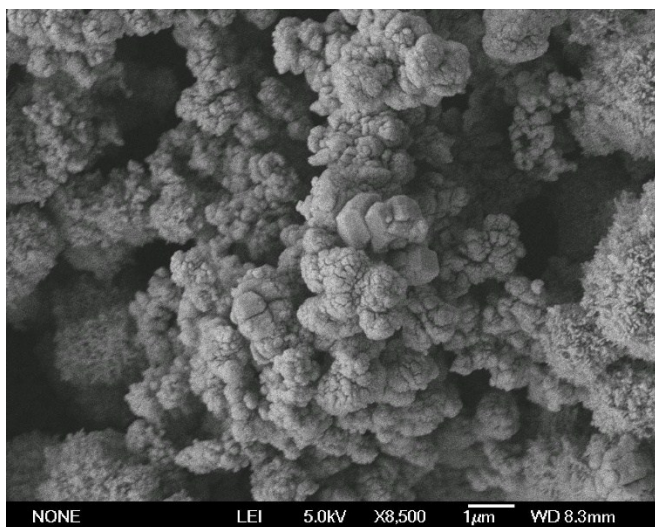


Figure S2. SEM image of AIS catalyst by one-pot hydrothermal protocol.

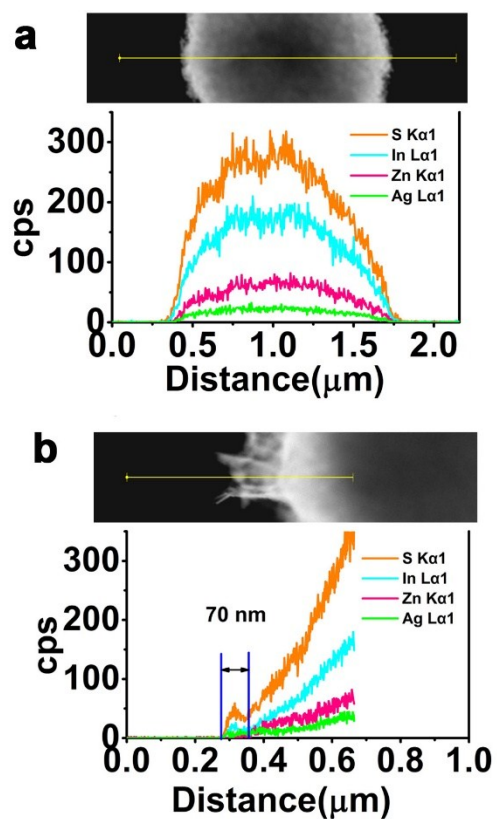


Figure S3. STEM-EDS scan of H1.

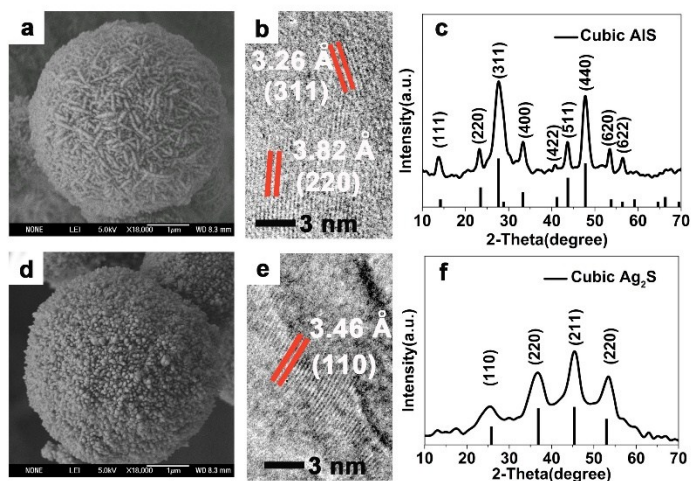


Figure S4. SEM images (a,d), HRTEM images (b,e) and XRD patterns(c,f) of AIS MSs and  $\text{Ag}_2\text{S}$  MSs, respectively. AIS MSs were prepared from ZIS MSs (1 mmol), with the continuous addition (1 mL/min, 30 mL) of a mixture of 1.15 mmol of  $\text{AgNO}_3$ , 0.01 mM of

$\text{In}(\text{OAc})_3$  and 5 mL of methanol under moderate stirring at 120 °C, and kept for 10 h. For the preparation of  $\text{Ag}_2\text{S}$ , the amount of  $\text{AgNO}_3$  and methanol were adjusted to 6 mmol and 8 mL, respectively. The mixture were kept at 150 °C for 30 h.

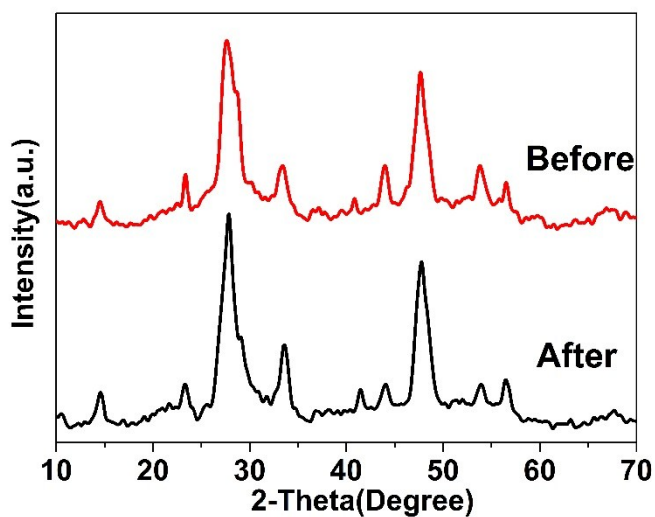


Figure S5. XRD patterns of ZIS/AIS HMSs (sample H1) measured before and after 10-cycles of photodegradation.