

Electronic Supplementary Information

SnSe@SnO₂ core-shell nanocomposite for synchronous photothermal-photocatalytic production of clean water

Zhuo Li,^a Lei Sun,^a Yang Liu,^a Lin Zhu,^a Dengfeng Yu,^b Yuanlin Wang,^a Ye Sun,^{*b} and Miao Yu^{*a}

^a State Key Laboratory of Urban Water Resource and Environment, School of Chemistry and Chemical Engineering, Harbin Institute of Technology, Harbin 150001, China

^b Condensed Matter Science and Technology Institute and Department of Physics, School of Science, Harbin Institute of Technology, Harbin 150080, China

*Corresponding authors

Email address: miaoyu_che@hit.edu.cn (Y. Miao), sunye@hit.edu.cn (Y. Sun).

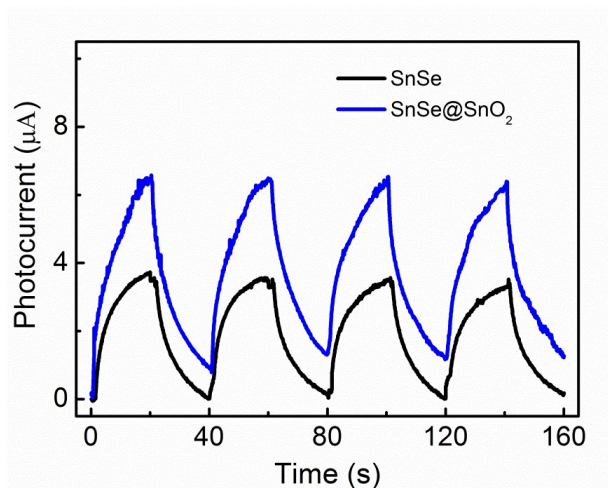


Fig. S1 Transient photocurrent response of the SnSe@SnO₂ and SnSe samples.

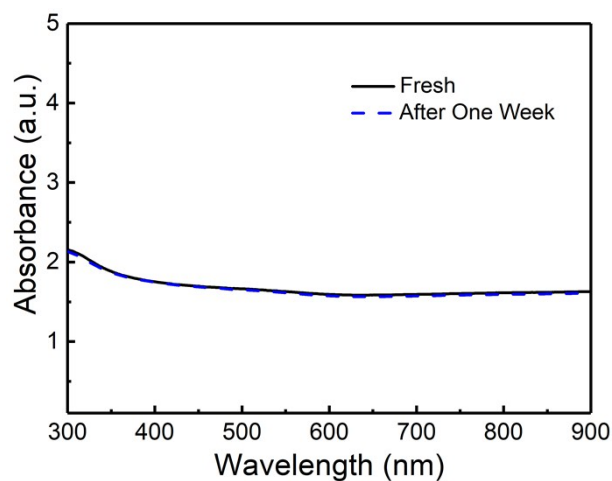


Fig. S2 UV-vis-NIR absorption spectra of the fresh SnSe@SnO₂ NPs dispersion and the dispersion exposed to air at room temperature for one week.

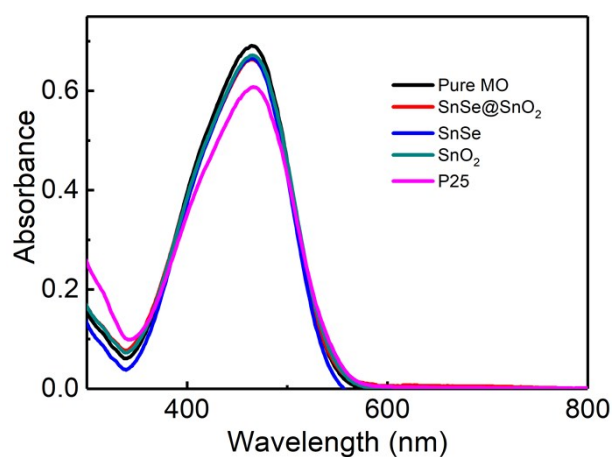


Fig. S3. UV-vis-NIR absorption spectra of pure MO solution, and MO solution in the presence of SnSe@SnO₂, SnSe, SnO₂ and P25, measured in the dark.

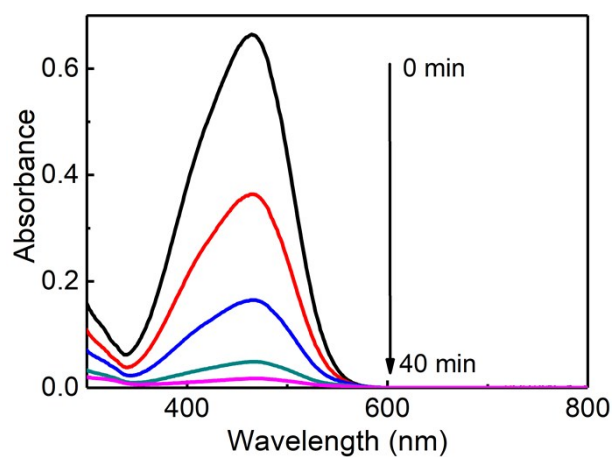


Fig. S4 UV-vis-NIR absorption spectra of MO solution in the photocatalytic process of SnSe@SnO₂ under solar light irradiation.

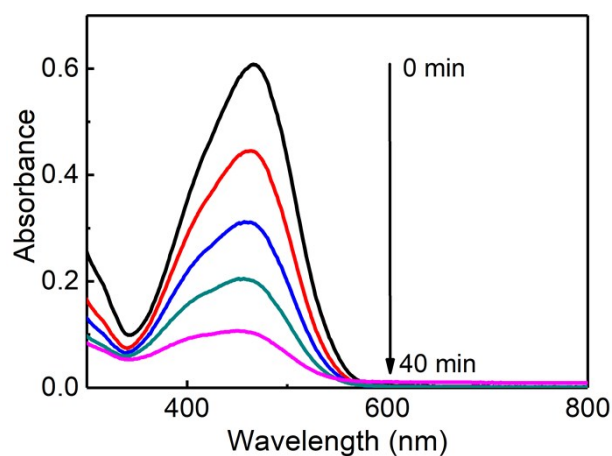


Fig. S5 UV-vis-NIR absorption spectra of MO solution in the photocatalytic process of P25 under solar light irradiation.

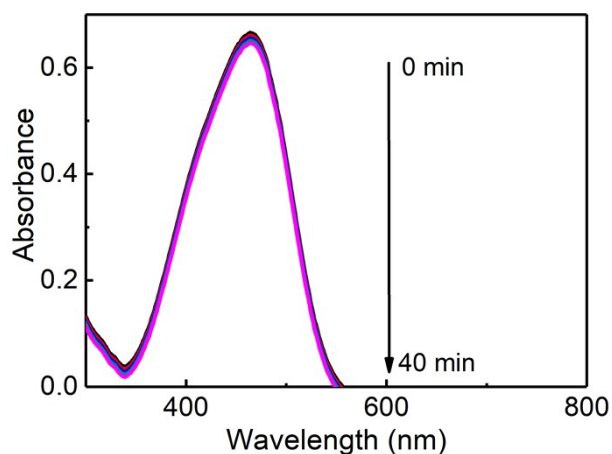


Fig. S6 UV-vis-NIR absorption spectra of MO solution in the photocatalytic process of SnSe under solar light irradiation.

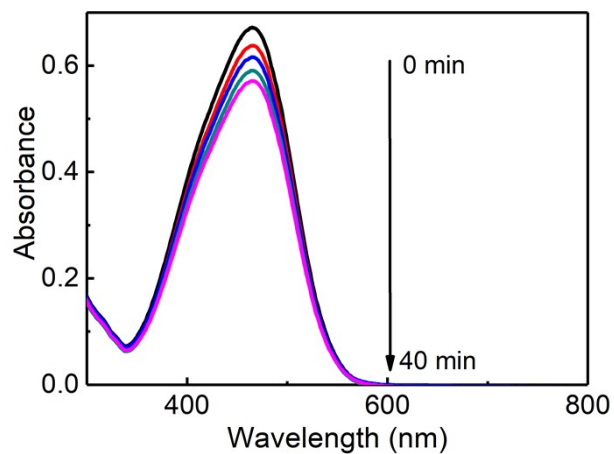


Fig. S7 UV-vis-NIR absorption spectra of MO solution in the photocatalytic process of SnO₂ under solar light irradiation.

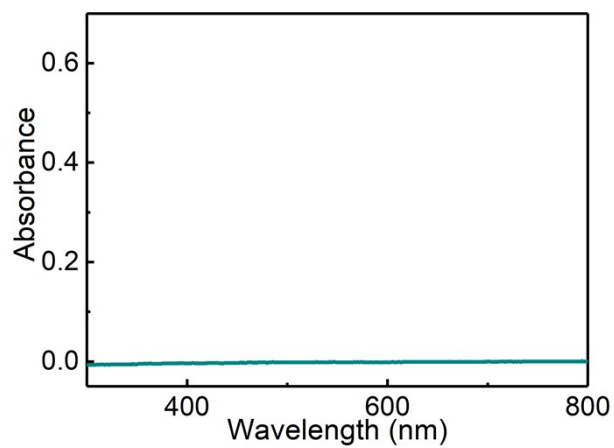


Fig. S8 UV-vis-NIR absorption spectrum of the photothermal evaporated water.