

Electronic Supplementary Information (ESI)

A visualized means for verifying the charge transfer manner in the WO₃-based type-II heterostructures

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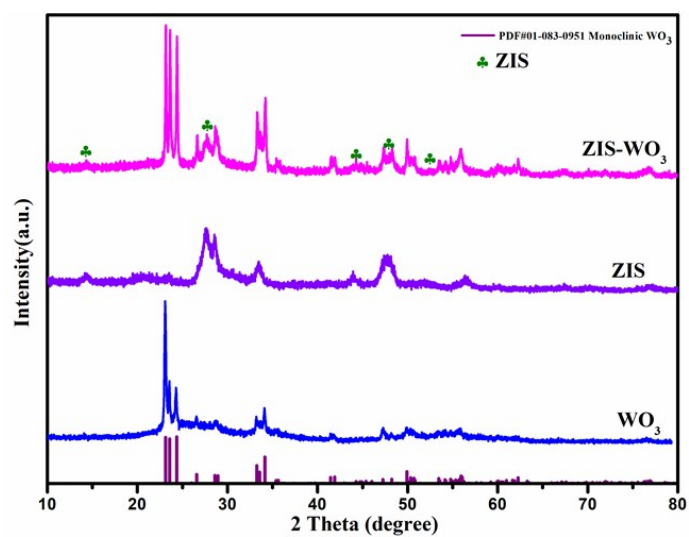


Fig. S1. XRD patterns of ZIS, WO_3 and ZIS-WO_3 .

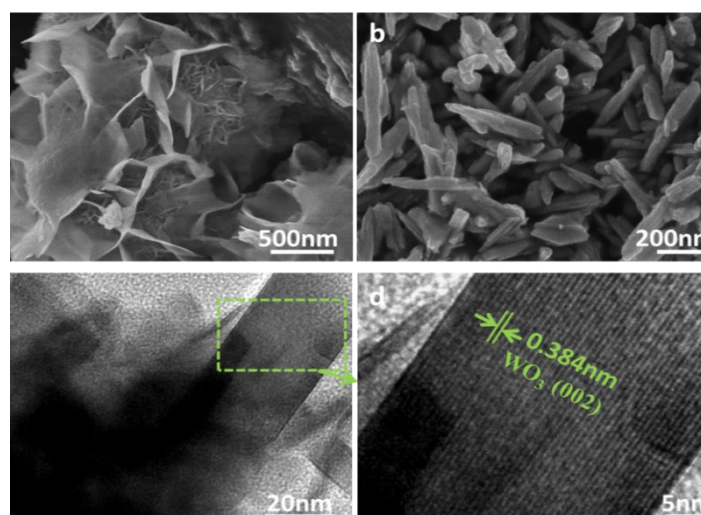


Fig. S2. SEM patterns of the samples (a) ZIS, (b) WO_3 and TEM patterns of (c,d) ZIS-WO_3 .

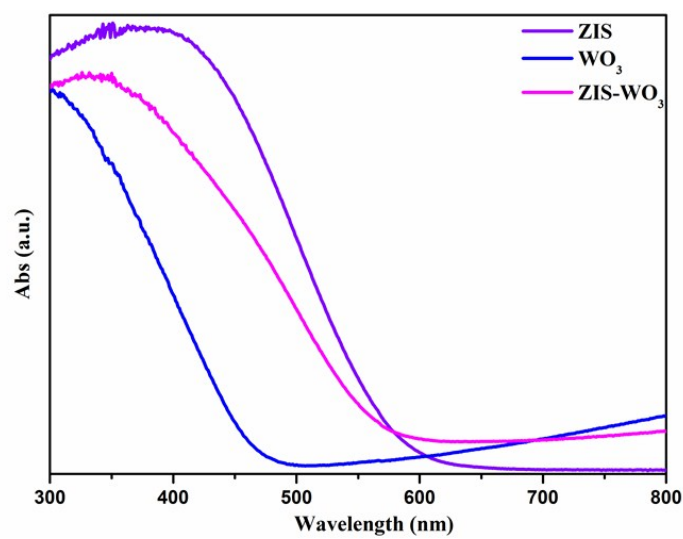


Fig. S3. UV-vis diffuse reflectance spectra of ZIS, WO_3 and ZIS-WO_3 .

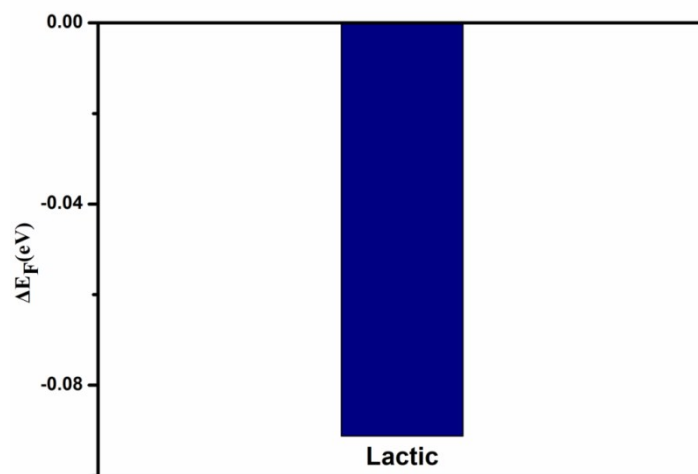


Fig. S4. Fermi level difference (ΔE_F) between ZIS and WO_3 measured by OCP technique in 0.5M Na_2SO_4 solution with dipping in lactic for 30 min.

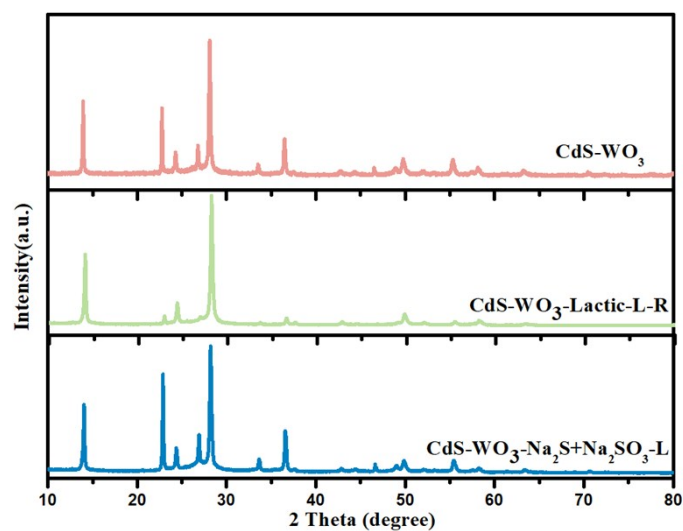


Fig. S5. XRD patterns of CdS-WO_3 , $\text{CdS-WO}_3\text{-Lactic-L}$ and $\text{CdS-WO}_3\text{-Na}_2\text{S+Na}_2\text{SO}_3\text{-L}$.

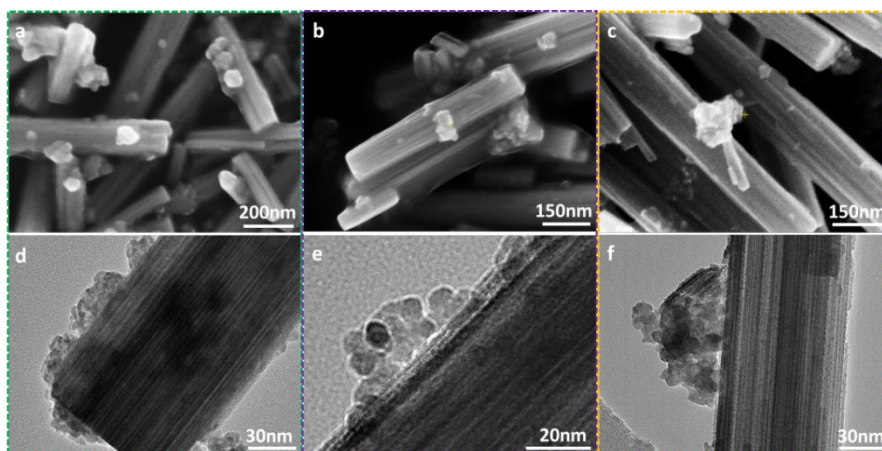


Fig. S6. SEM and TEM patterns of the samples (a) (d) CdS-WO_3 , (b) (e) $\text{CdS-WO}_3\text{-Lactic-L}$ and (c) (f) $\text{CdS-WO}_3\text{-Na}_2\text{S+Na}_2\text{SO}_3\text{-L}$.

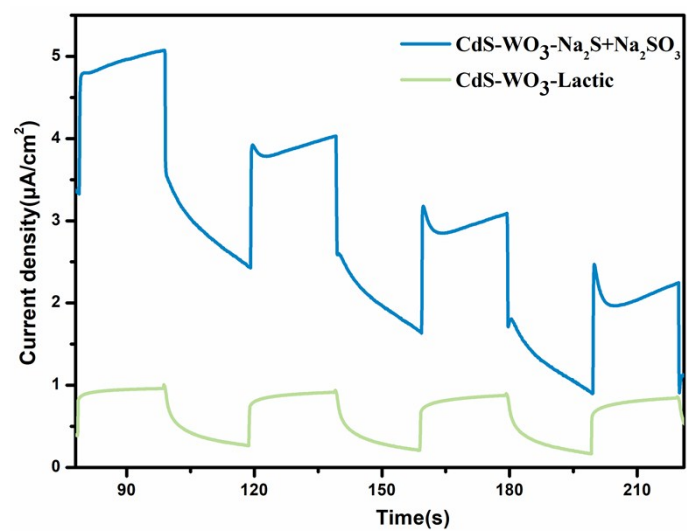


Fig. S7. Transient photocurrent responses of the samples in 0.2M Na₂SO₄ versus of CdS-WO₃-Lactic and CdS-WO₃-Na₂S+Na₂SO₃. Ag/AgCl electrodes at visible light illumination ($\lambda \geq 420$ nm).