

Supporting Information

Facile Construction of Metal–Organic Framework/Topological Insulator

Heterostructure for Photothermal Catalytic CO₂ Reduction

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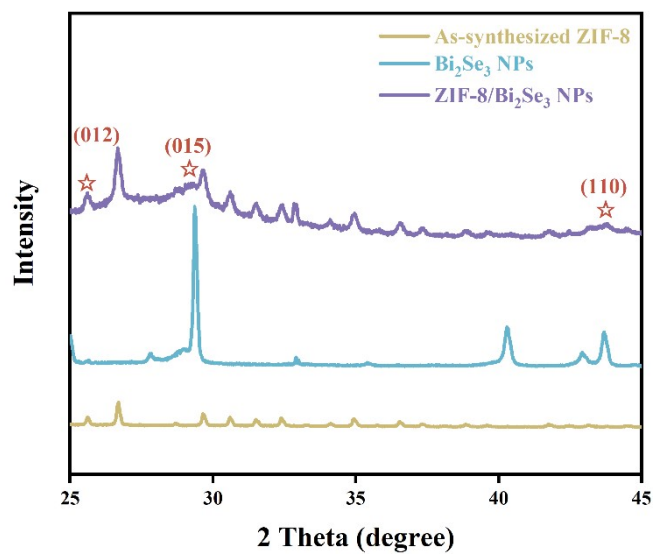


Figure S1. PXRD patterns of ZIF-8, Bi₂Se₃ NPs and ZIF-8/Bi₂Se₃ NPs.

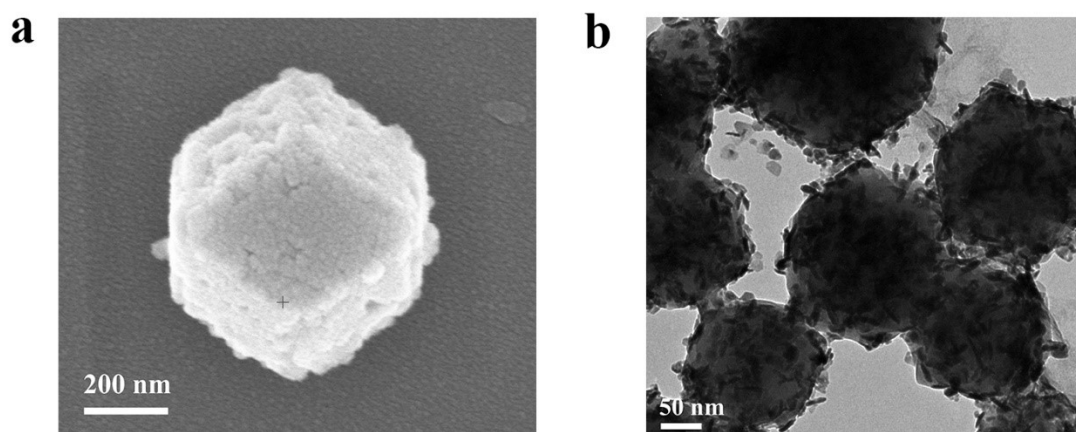


Figure S2. (a) FE-SEM and (b) TEM images of ZIF-8/Bi₂Se₃ NPs.

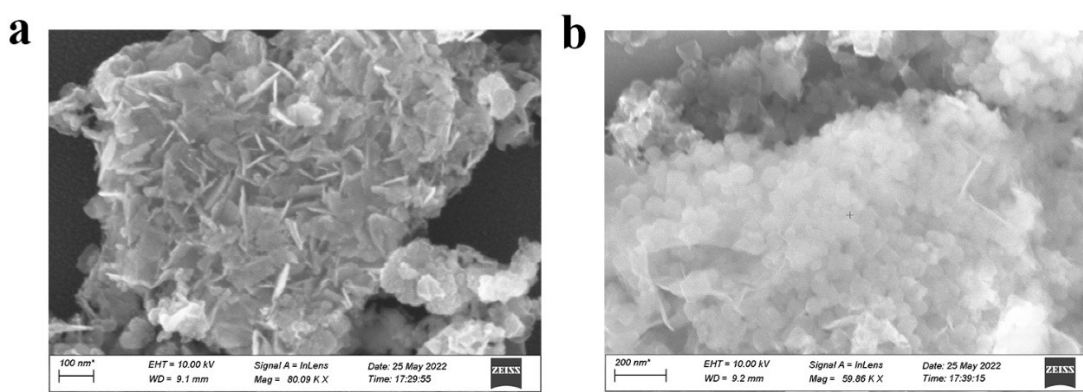


Figure S3. FE-SEM images of (a) Bi₂Se₃ NSs and (b) ZIF-8/Bi₂Se₃ NSs.

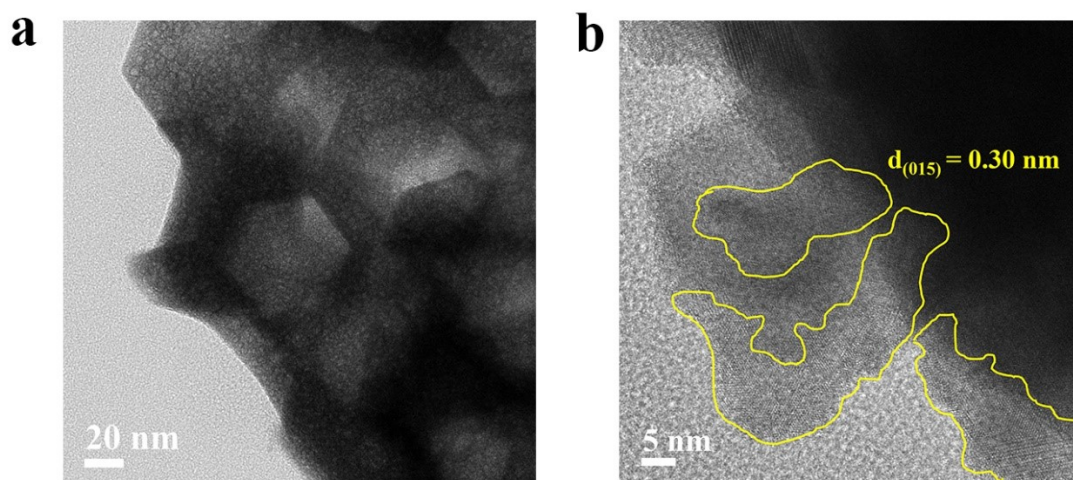


Figure S4. (a) and (b) HRTEM images of ZIF-8/Bi₂Se₃ NSs.

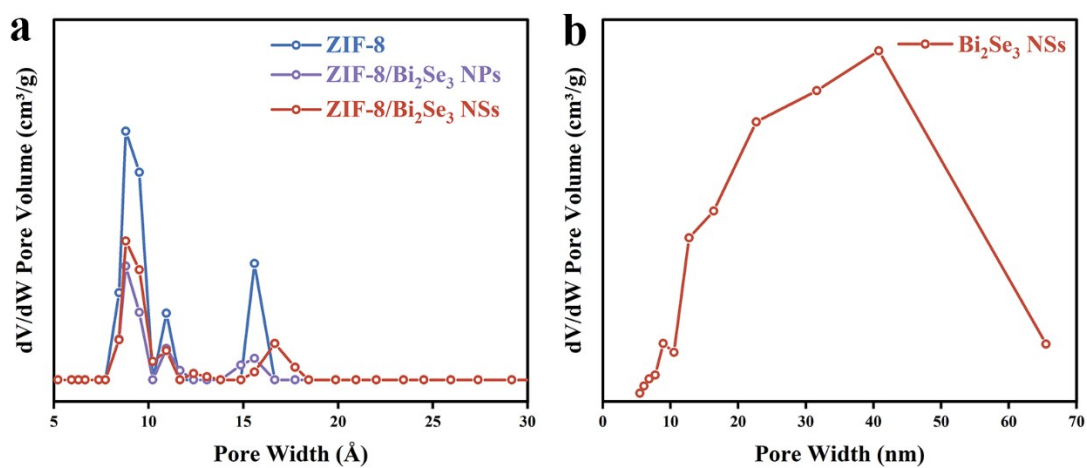


Figure S5. Pore size distribution of (a) ZIF-8, ZIF-8/Bi₂Se₃ NPs and ZIF-8/Bi₂Se₃

NSs and (b) Bi₂Se₃ NSs.

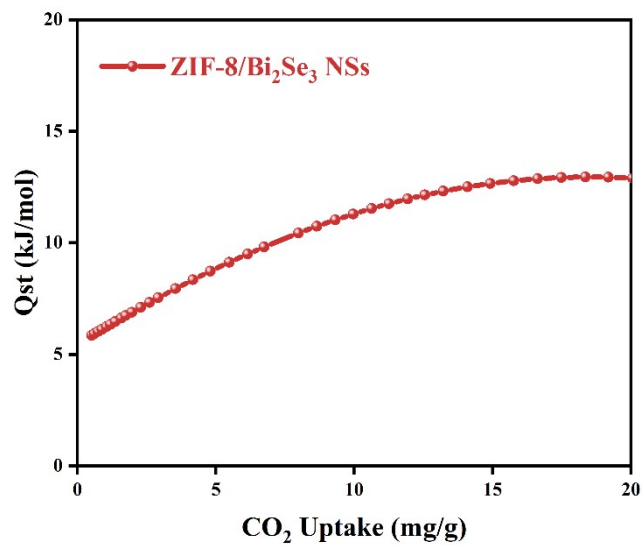


Figure S6. Heat of adsorption (Qst) of CO₂ for ZIF-8/Bi₂Se₃ NSs.

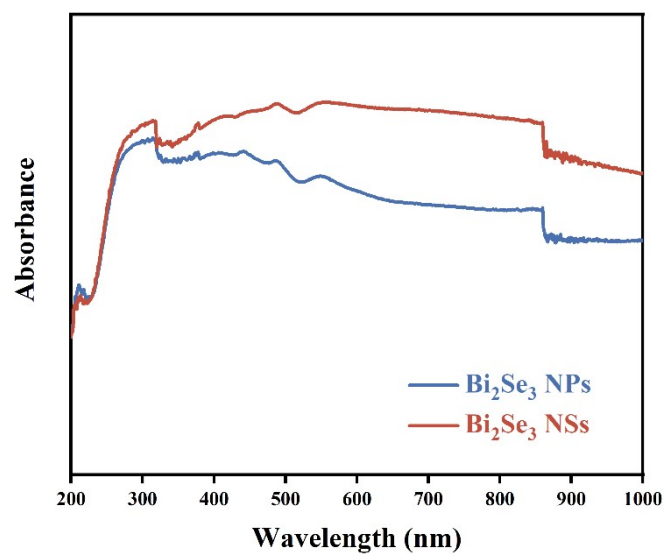


Figure S7. UV-Vis-NIR DRS spectra of Bi₂Se₃ NPs and Bi₂Se₃ NSs.

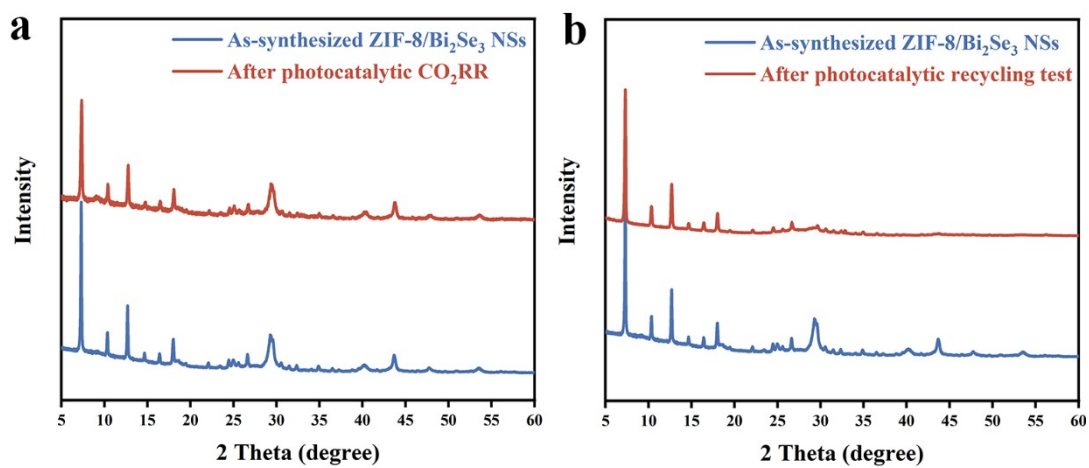


Figure S8. PXRD patterns of as-synthesized ZIF-8/Bi₂Se₃ NSs catalyst before and after (a) photocatalytic CO₂RR and (b) recycling experiment.

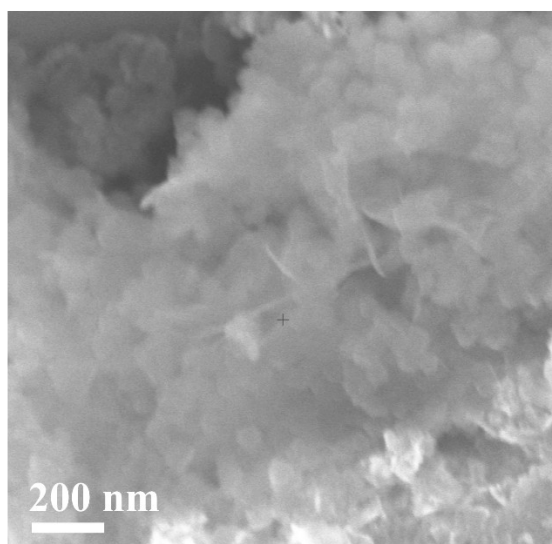


Figure S9. FE-SEM image of ZIF-8/Bi₂Se₃ NSs catalyst after photocatalytic CO₂RR recycling experiment.

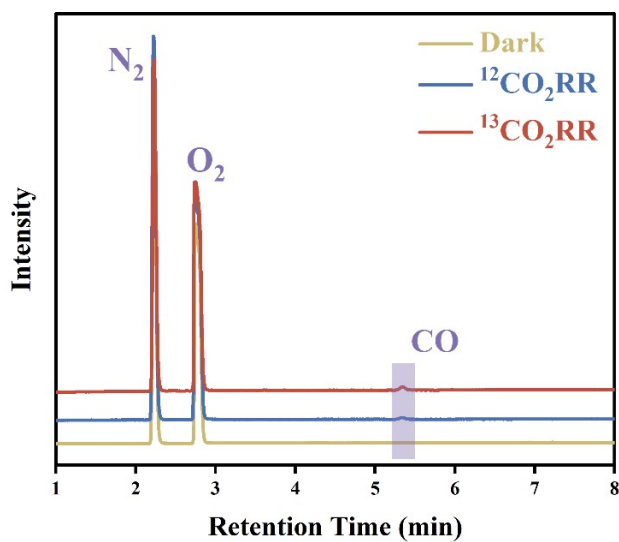


Figure S10. GC spectra of reaction gas in $^{12}\text{CO}_2\text{RR}$ and $^{13}\text{CO}_2\text{RR}$.

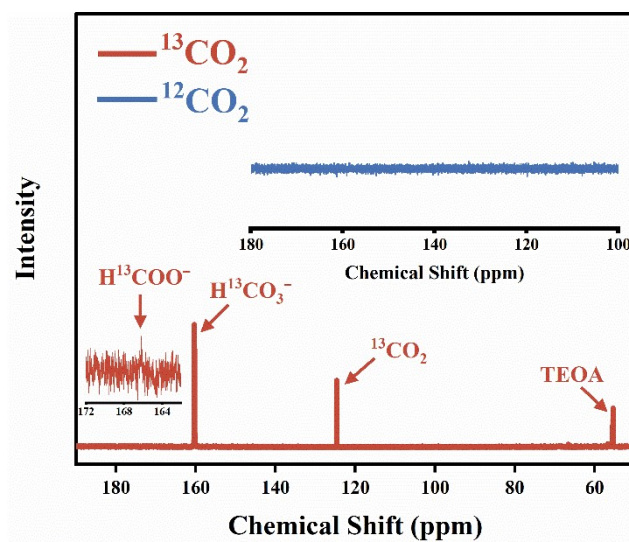


Figure S11. ^{13}C NMR spectra of reaction liquid in $^{12}\text{CO}_2\text{RR}$ and $^{13}\text{CO}_2\text{RR}$.