Supporting Information

Enhanced Photoinduced-Stability and Photocatalytic Activity of CdS by Dual Amorphous Cocatalysts: Synergistic Effect of Ti(IV)-hole cocatalyst and Ni(II)-electron cocatalyst

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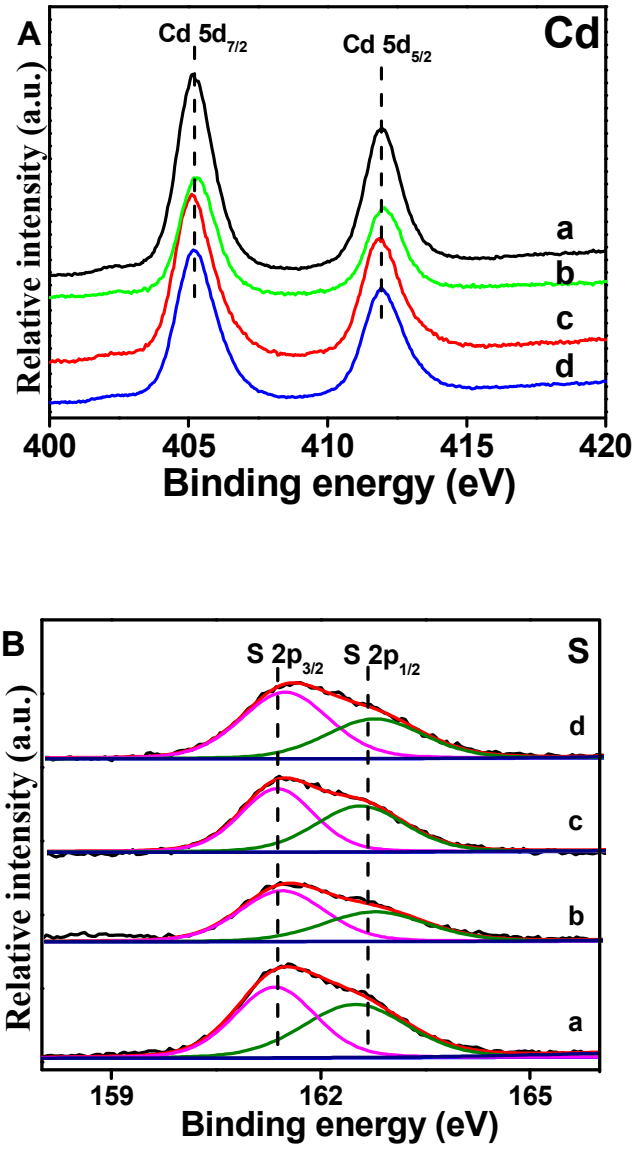

Figure S1. XPS results of (A) Cd 3d and (B) S 2p for various samples: (a) CdS, (b) Ti(IV)/CdS, (c) Ni(II)/CdS, (d) Ti(IV)-Ni(II)/CdS.

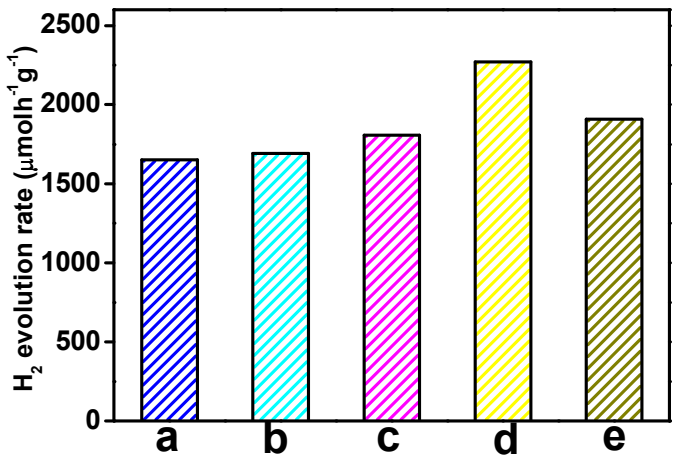

Figure S2. Comparison of the photocatalytic activity for various Ti(IV)/CdS samples: (a) CdS, (b) Ti(IV)/CdS(0.1wt%), (c) Ti(IV)/CdS(0.5wt%), (d) Ti(IV)/CdS(1wt%), (e) Ti(IV)/CdS(5wt%).

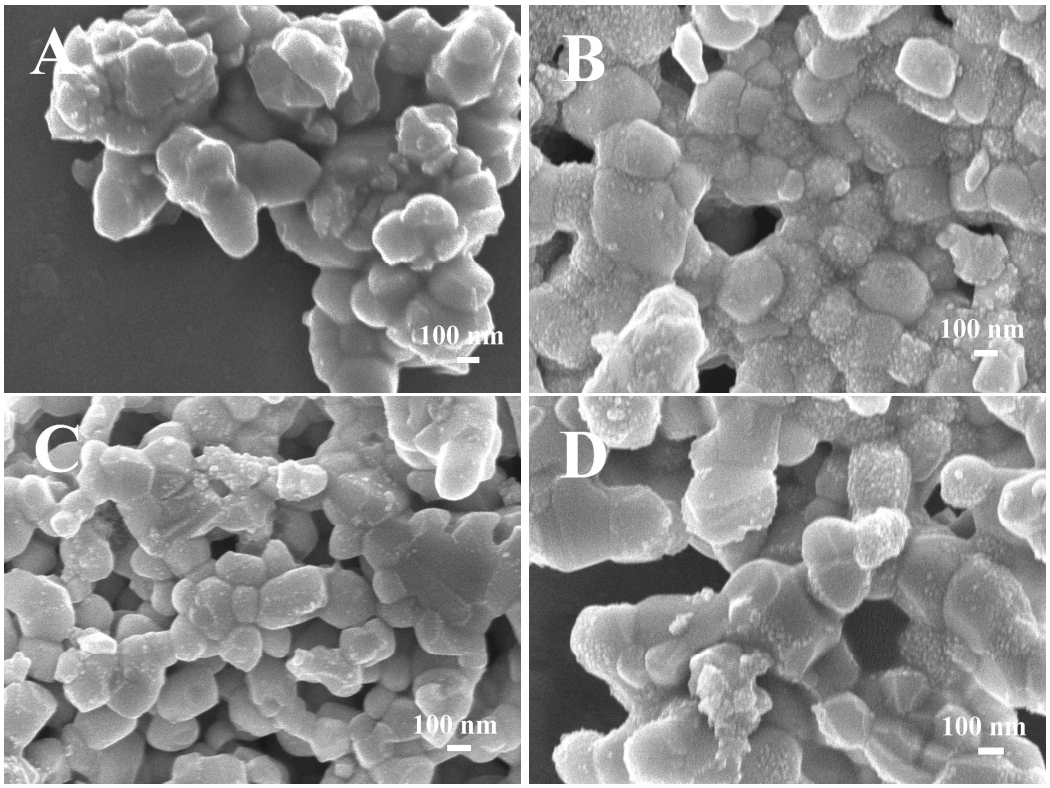

Figure S3. FESEM images of various samples after repeated photocatalytic reactions: (A) CdS(after), (B) Ti(IV)/CdS(after), (C) Ni(II)/CdS(after), (D) Ti(IV)-Ni(II)/CdS(after).

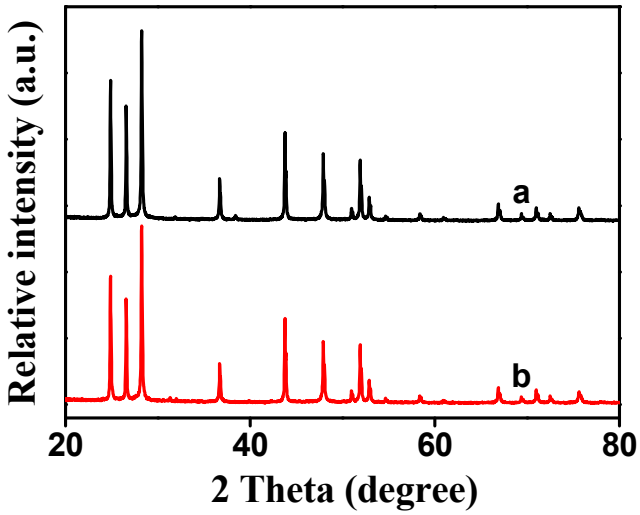

Figure S4. XRD patterns of the typical CdS samples before (a) and after (b) repeated photocatalytic reactions.

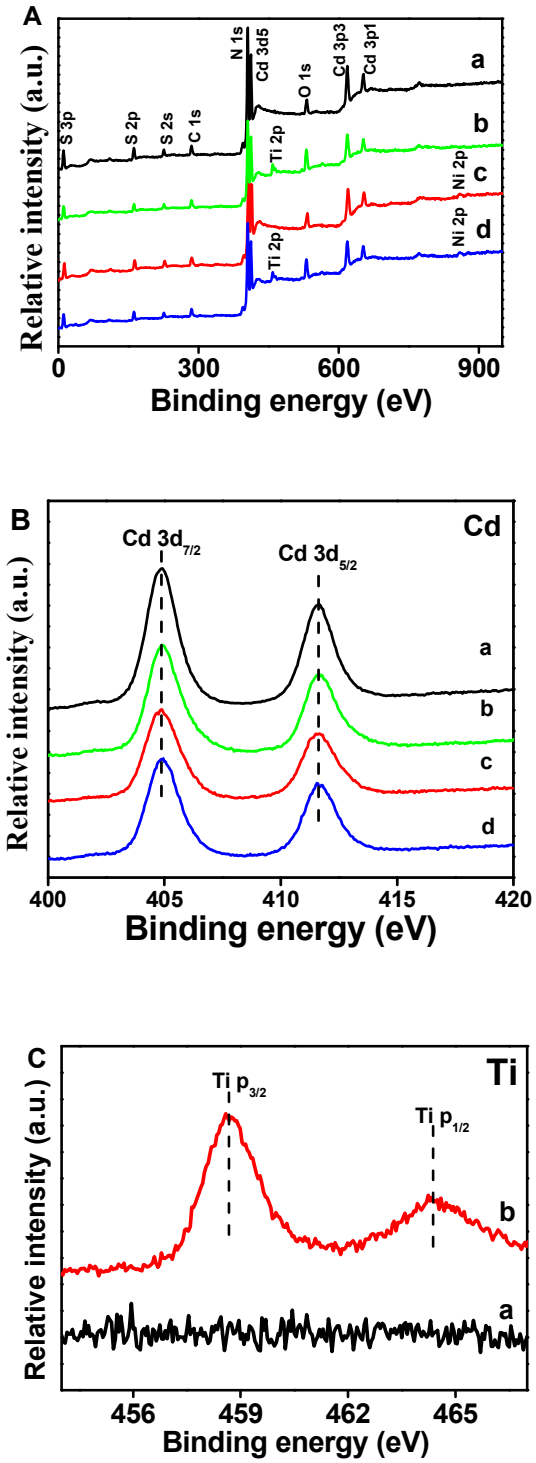

Figure S5. (A) XPS survey spectra and the high-resolution XPS spectra of (B) Cd 3d, (C) Ti 2p for various sample: (a) CdS(after), (b) Ti(IV)/CdS(after), (c) Ni(II)/CdS(after) and (d) Ti(IV)-Ni(II)/CdS(after)