SUPPORTING INFORMATION

Solar-driven Pt modified hollow structured CdS photocatalyst for efficient hydrogen evolution

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Synthesis of bulk CdS photocatalyst

Briefly, 124 mg of $Cd(NO_3)_2 \cdot 4H_2O$ (0.4 mmol) was added to 36 mL water solution of PVP (100 mg) under vigorous stirring. Then 304 mg of thiourea (4 mmol) was dissolved in the solution. The resulting mixture was transferred to a 50-mL Teflon-lined stainless steel autoclave and maintained at 160 ^oC for 24 h. The final products were rinsed several times with distilled water and ethanol, and dried at 60 ^oC in a vacuum for 6 h.

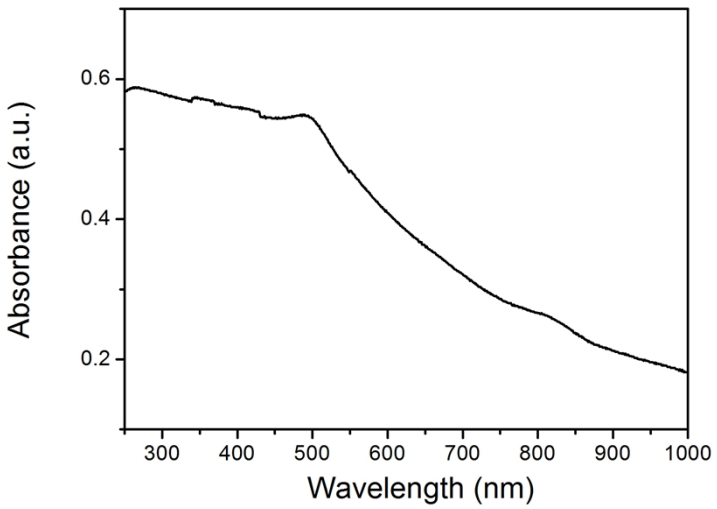

Figure S1. UV-*vis* absorption spectrum of CdS hollow particles.

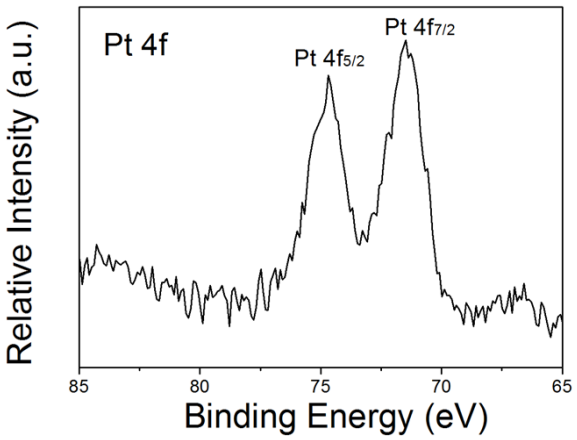

Figure S2. XPS spectrum of Pt 4f photoelectrons of as prepared CdS-Pt(5%) hollow particles.

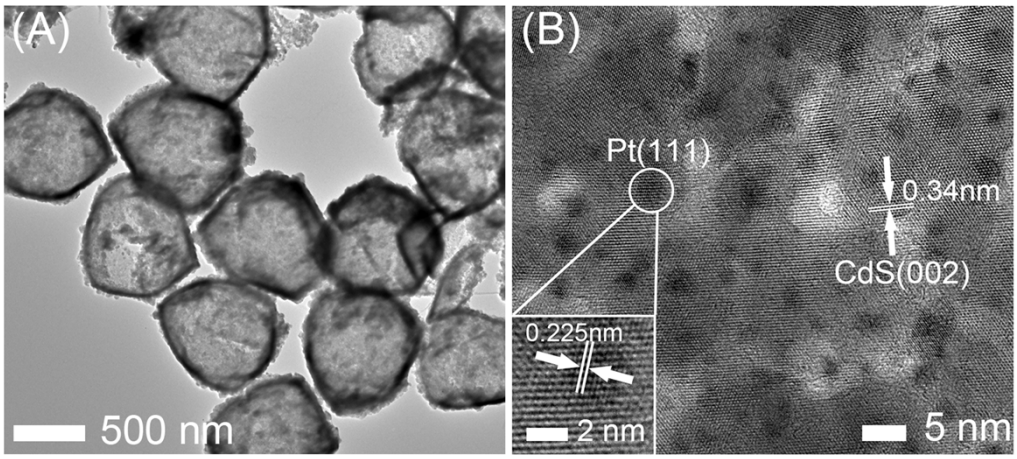

Figure S3. TEM and HRTEM images for CdS-Pt(5%) particles.

Figure S4. Long-term test of the evolution of H_2 on the optimized CdS-Pt(5%) photocatalyst for 12 h under simulated sunlight illumination.

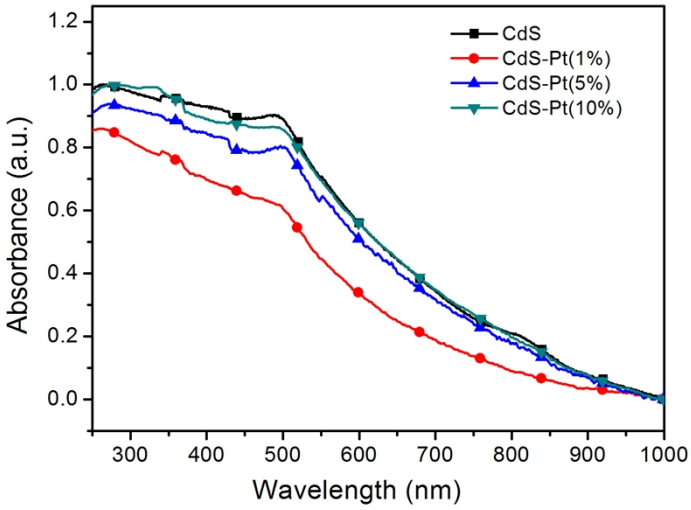

Figure S5. UV-vis spectra of the used CdS-Pt samples after the reactions (normalized).

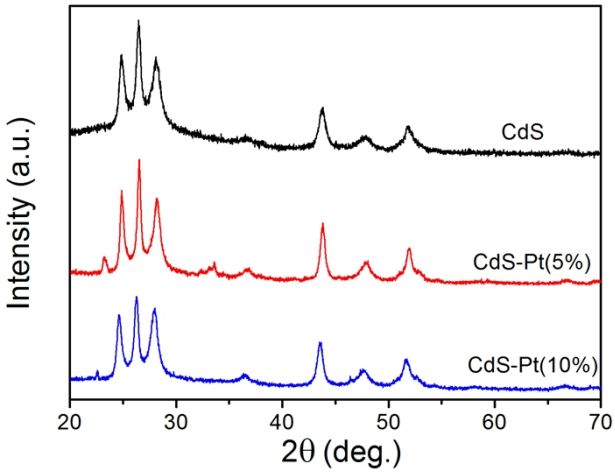

Figure S6. Typical XRD patterns of the used photocatalysts after the hydrogen production reactions.