

Electronic Supporting Information

CdS-Decorated Triptycene-Based Polymer: Durable Photocatalysts for Hydrogen Production Under Visible-Light Irradiation

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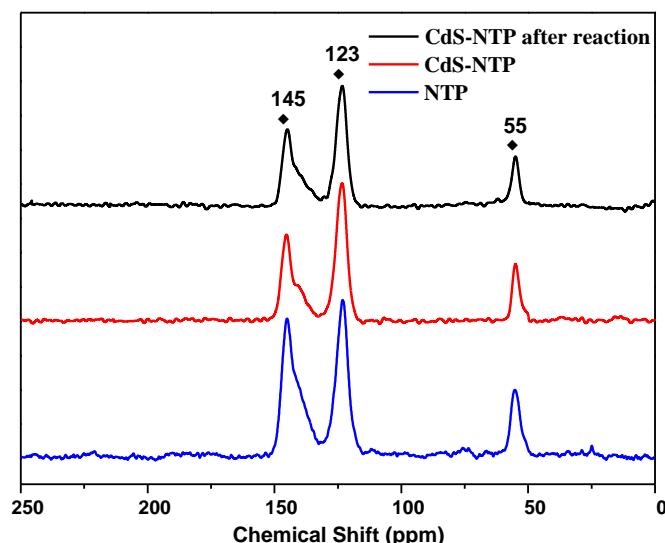


Figure S1. ^{13}C CP/MAS NMR spectra of NTP, CdS-NTP, and CdS-NTP after catalytic reaction.

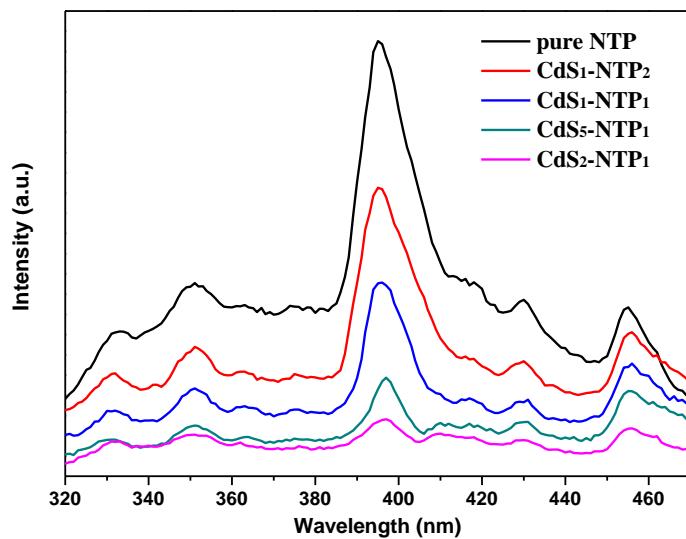


Figure S2. Room-temperature PL spectra of NTP and NTP embedded with different weight ratios of CdS (excitation wavelength = 280 nm).

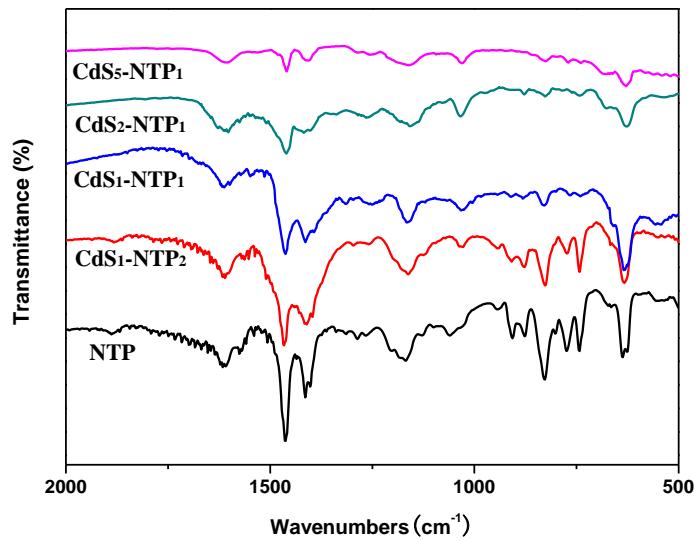


Figure S3. FT-IR spectra of NTP and CdS-NTP composites.

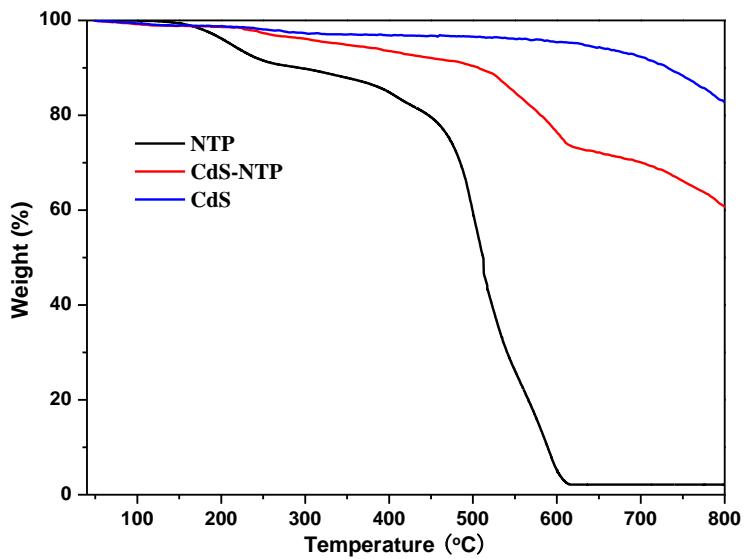


Figure S4. TGA analysis of pure NTP, CdS-NTP and pure CdS samples under nitrogen atmosphere.

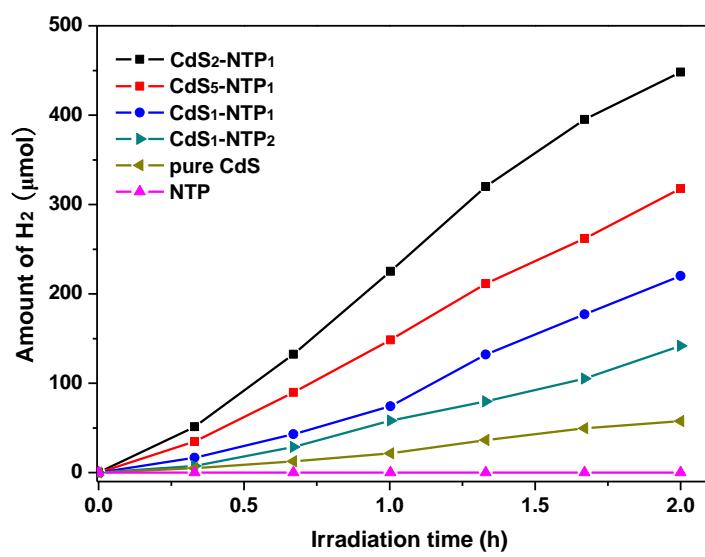


Figure S5. H₂ evolution from photocatalysts under visible light.

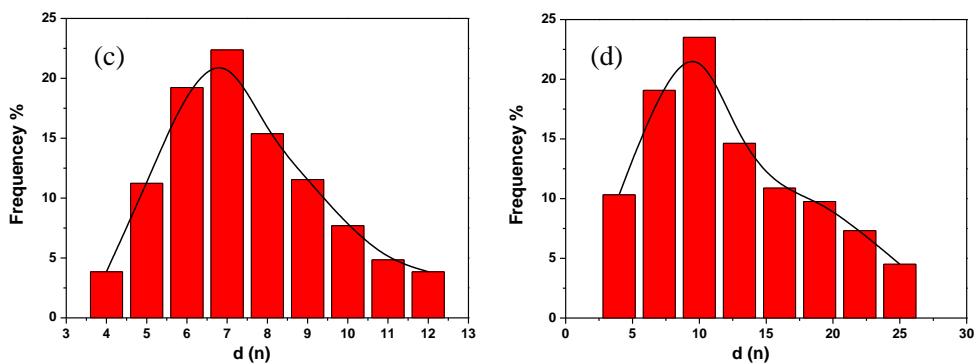
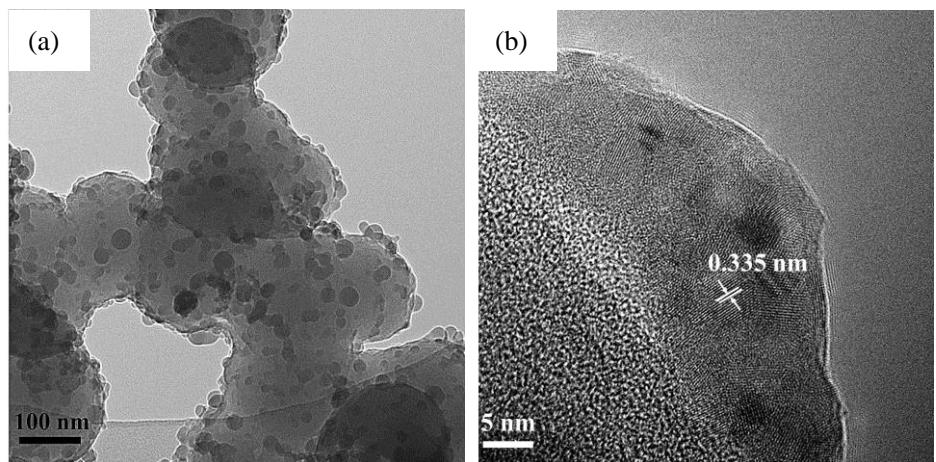


Figure S6. TEM (a), HRTEM (b) images of CdS₅-NTP₁ sample and CdS particles size distribution in CdS₂-NTP₁ (c) and CdS₅-NTP₁ (d).

Table S1. Summary of textural properties and hydrogen production activity of samples (20 mg catalyst)

Sample	S _{BET} (m ² g ⁻¹)	S _{Langmuir} (m ² g ⁻¹)	Total pore volume (cm ³ g ⁻¹)	Cd (wt% ICP)	CdS (wt%)	Activity (μmol h ⁻¹)
NTP	1502	2031	1.16	0	0	0
CdS ₁ -NTP ₂	1012	1324	0.75	23	29	58.1
CdS ₁ -NTP ₁	896	1121	0.58	34	43	74.4
CdS ₂ -NTP ₁	421	689	0.29	49	62	225.1
CdS ₅ -NTP ₁	209	414	0.12	60	77	148.5
Pure CdS	94	183	0.07	77	100	21.5