

Electronic Supplementary Information (ESI) For

Amorphous MoS₂ decorated on uniform Cd_{0.8}Zn_{0.2}S microspheres with dramatically improved photocatalytic hydrogen evolution performance

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Fig. S1. EDS spectrum of 5wt% MoS₂/Cd_{0.8}Zn_{0.2}S composite.

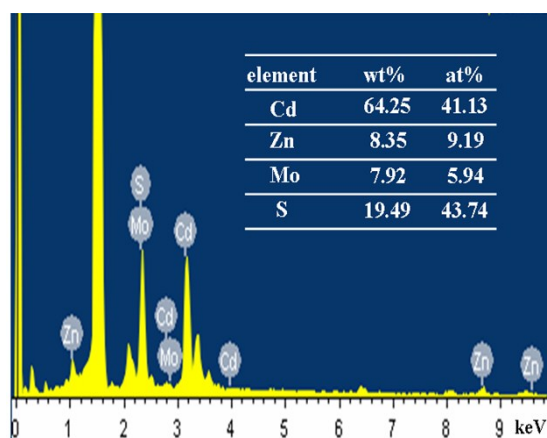


Table 1 The performance of different photocatalysts for photocatalytic H₂ evolution.

Photocatalyst	Sacrificial agent	Light source	Activity	Ref.
Cu _{2-x} S/Mn _{0.5} Cd _{0.5} S/MoS ₂	Na ₂ S/Na ₂ SO ₃	300W Xe ≥420 nm	13.75 mmol/g/h	27
MoS ₂ /Mn _{0.25} Cd _{0.75} S	Na ₂ S/Na ₂ SO ₃	300W Xe ≥400 nm	12.47 mmol/g/h	28
Cd _{0.5} Zn _{0.5} S	Na ₂ S/Na ₂ SO ₃	350W Xe ≥400 nm	7.42 mmol/g/h	29
Cd _{0.2} Zn _{0.8} S	Na ₂ S/Na ₂ SO ₃	300W Xe ≥420 nm	3.43 mmol/g/h	30
Zn _{0.6} Cd _{0.4} S	Na ₂ S/Na ₂ SO ₃	300W Xe ≥420 nm	5.68 mmol/g/h	31
Zn _{0.5} Cd _{0.5} S	Na ₂ S/Na ₂ SO ₃	300W Xe ≥420 nm	19.42 mmol/g/h	33
Zn _{0.9} Cd _{0.1} S	Na ₂ S/Na ₂ SO ₃	300W Xe ≥420 nm	4.4 mmol/g/h	35
Cu _{1.94} S/Zn _{0.23} Cd _{0.77} S	Na ₂ S/Na ₂ SO ₃	300W Xe ≥420 nm	7.73 mmol/g/h	36
Pt/Ni(OH) ₂ /Cd _{0.3} Zn _{0.7} S	Ethanol	30W LED 450 nm	27 mmol/g/h	37
Pt/Zn(OH) ₂ /Cd _{0.3} Zn _{0.7} S	Ethanol	30W LED 450 nm	3.13 mmol/g/h	38

$\text{Cd}_{0.4}\text{Zn}_{0.6}\text{S}/\text{TiO}_2$	$\text{Na}_2\text{S}/\text{Na}_2\text{SO}_3$	30W LED 450 nm	1.8 mmol/g/h	39
$\text{Ni}(\text{OH})_2/\text{Zn}_{0.8}\text{Cd}_{0.2}\text{S}$	$\text{Na}_2\text{S}/\text{Na}_2\text{SO}_3$	300W Xe $\geq 420\text{nm}$	7.16 mmol/g/h	40
$\text{Ni}_2\text{P}/\text{Zn}_{0.5}\text{Cd}_{0.5}\text{S}$	$\text{Na}_2\text{S}/\text{Na}_2\text{SO}_3$	300W Xe ≥ 400 nm	9.12 mmol/g/h	41
$\text{CoP}/\text{Zn}_{0.5}\text{Cd}_{0.5}\text{S}$	Lactic acid	300W Xe ≥ 420 nm	14.68 mmol/g/h	42
$\text{MoS}_2/\text{Cd}_{0.5}\text{Zn}_{0.5}\text{S}$	Lactic acid	300W Xe ≥ 420 nm	12.30 mmol/g/h	54
$\text{MoS}_2/\text{Cd}_{0.7}\text{Zn}_{0.3}\text{S}$	Lactic acid	300W Xe ≥ 420 nm	1.41 mmol/g/h	55
$\text{MoS}_2/\text{Cd}_{0.8}\text{Zn}_{0.2}\text{S}$	Lactic acid	300W Xe ≥ 420 nm	12.39 mmol/g/h	Present work