SUPPORTING INFORMATION

Tailoring the fusion effect of phase engineered 1T/2H-MoS_2 towards photocatalytic hydrogen evolution

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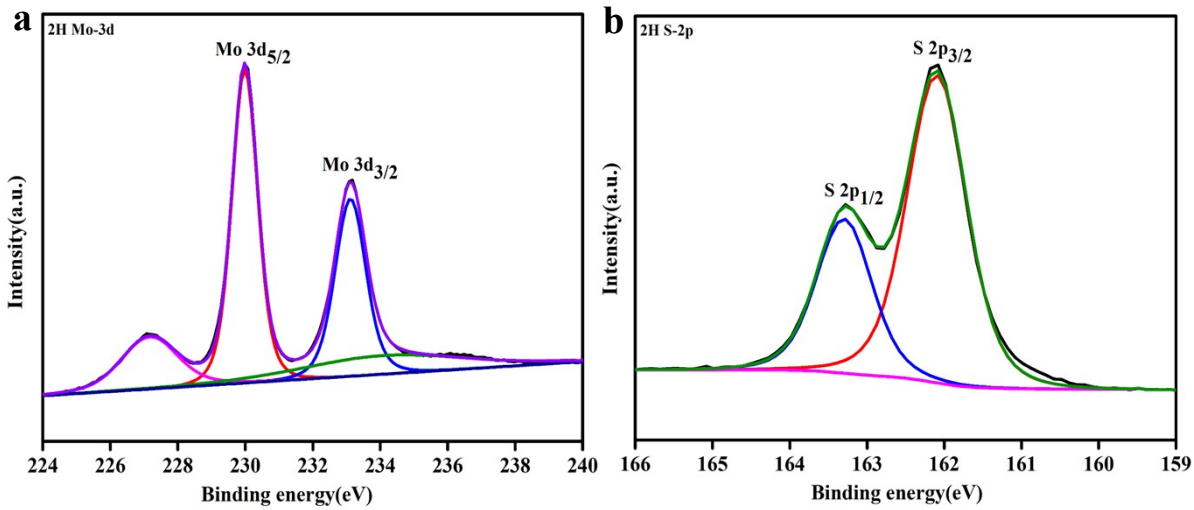

Figure S1. XPS plot for 2H-MoS_2 (a) Mo 3d (b) S 2p.

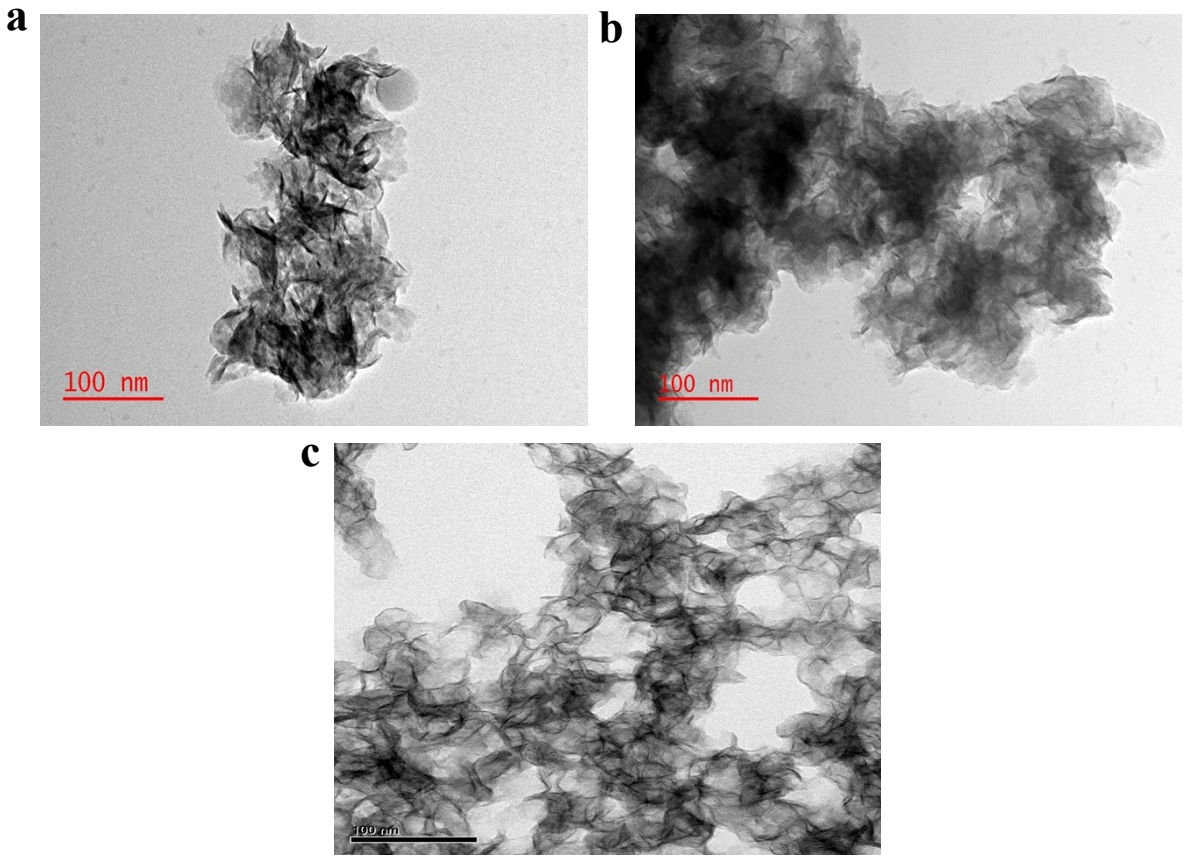

Figure S2. HRTEM images of prepared (a) 15-1T/2H-MoS_2 (b) 45-1T/2H-MoS_2 (c) 2H-MoS_2

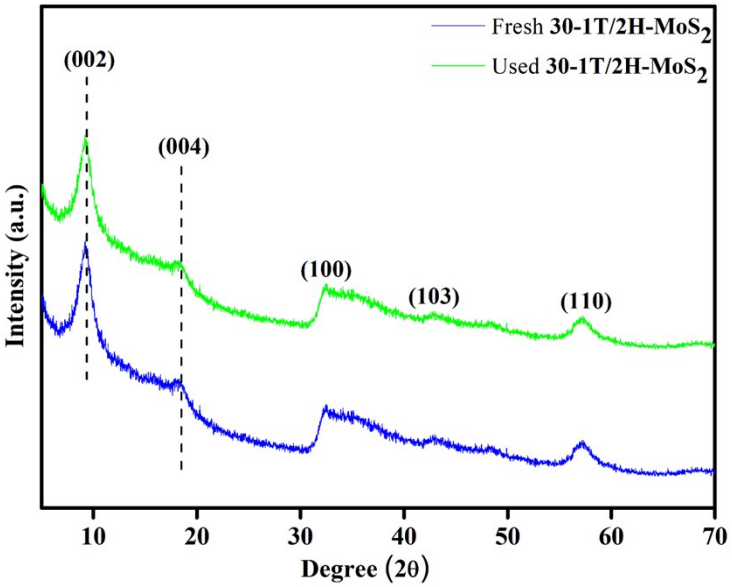

Figure S3. XRD plot comparing fresh and used 30-1T/2H-MoS_2.

Table S1 (Comparision of present work with other benchmark photocatalysts for H_2 evolution)

Sl. No.	Photocatalyst	Synthetic procedure	Irradiation Light source	H_2 production Rate (µmol/h)	Reference
1	CeO_2	Solvothermal	3 W UV-LED	3.7	1
2	g-C_3N_4	Thermal polycondensation	300 W Xe lamp	1.8	2
3	MnO_2	Solvothermal	300 W Xe lamp	0.95	3
4	CoAl LDH	Solvothermal	300 W Xe lamp	1.64	4
5	TiO_2	One step Hydrothermal	300 W Xe lamp	0.3	5
6	ZnO	Chemical deposition	300 W Xe lamp	0.9	6
7	CdS	Solvothermal	300 W Xe lamp	66.9	6
8	ZnS	Hydrothermal	250 W QTH lamp	29.4	7
9	2H-MoS_2	Hydrothermal	150 W Xe lamp	8.5	Current work
10	1T/2H-MoS_2	Hydrothermal	150 W Xe lamp	142.7	Current work

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