catalysts

MDPI

Supporting information

Visible light-Responsive CeO_2/MoS_2 composite for photocatalytic hydrogen production

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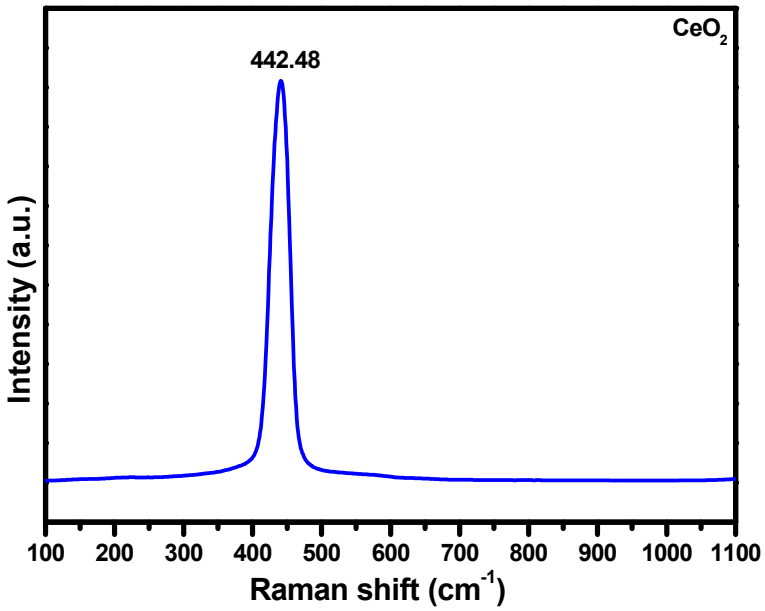

Figure S1. Raman spectrum of CeO_2.

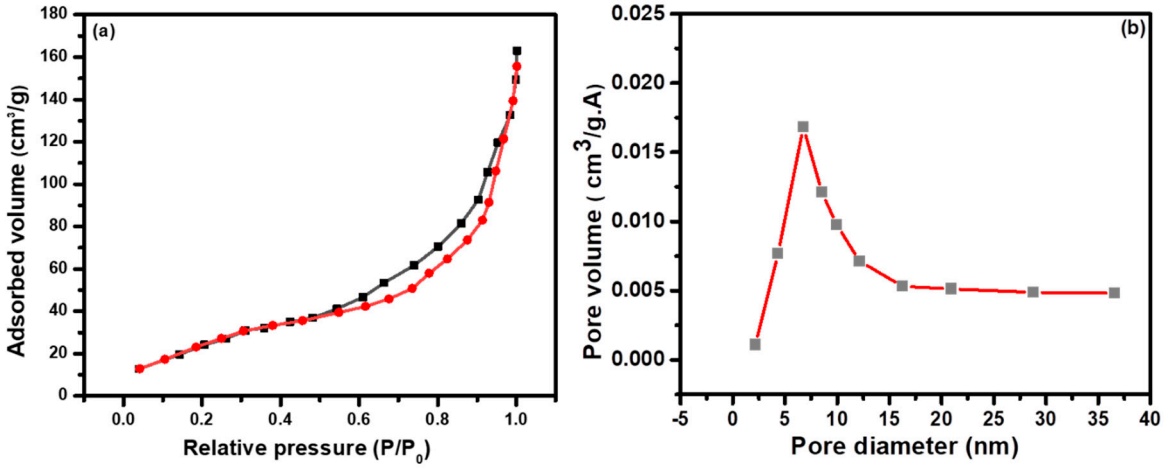

Figure S2. (a) BET surface area and (b) pore size distribution curves of CeO_2/MoS_2 composite.

Table T1. Bandgap values of prepared photocatalyst materials with CB and VB potentials.

Sr.no.	Photocatalyst materials	Bandgap values (eV)	Conduction band potential (eV)	Valence band position (eV)
1	CeO_2	2.93	-0.41	2.52
2	MoS_2	1.60	0.02	1.62
3	CeO_2/MoS_2 composite	2.34	-0.23	2.11

Table T2. A comparison table showing photocatalytic hydrogen production activity using MoS_2-based photo-catalysts.

Sr. no.	Photocatalysts	Methods	Hydrogen production rate (μmol/h)	References
1	CeO_2@MoS_2/g-C3N_4	ultrasonic chemical method	65.4	1
2	MoS_2@SnO_2	Hydrothermal	109.3	2
3	g-C_3N_4/Ag/MoS_2	Photo-deposition	10.40	3
4	g-C_3N_4/MOF/MoS_2	Hydrothermal	52.40	4
5	CeO_2/MoS_2	Hydrothermal	112.5	This work

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