

Electronic Supplementary Information for Ordered Mesoporous ZnGa₂O₄ for Photocatalytic Hydrogen Evolution

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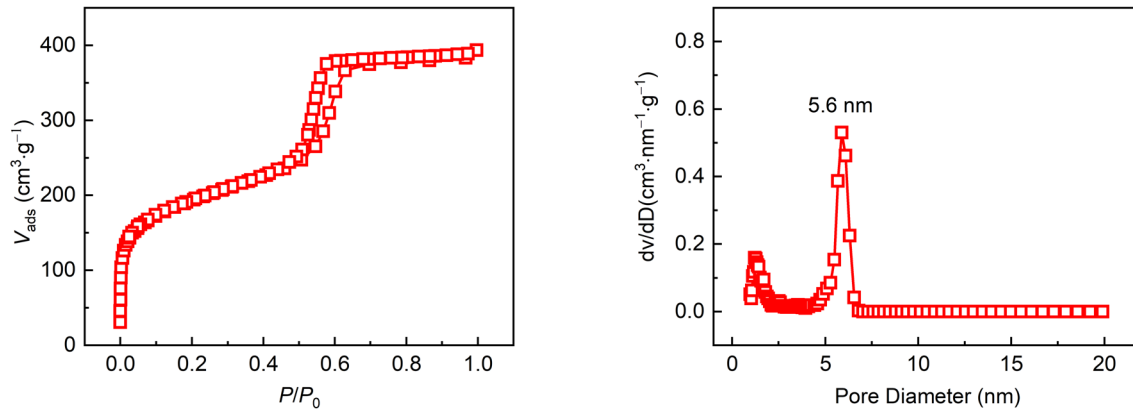


Fig. S1 N_2 physisorption isotherms and pore size distribution of ordered mesoporous silica (KIT-6) with pore size of 5.6 nm.

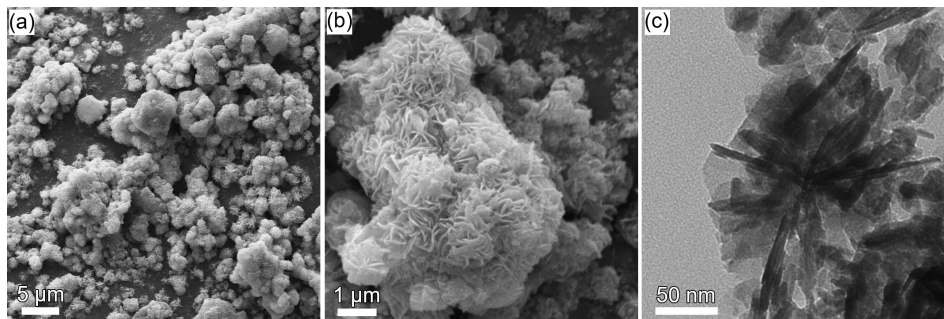


Fig. S2 Typical (a, b) SEM and (c) TEM images of ZnGa_2O_4 nanoflower.

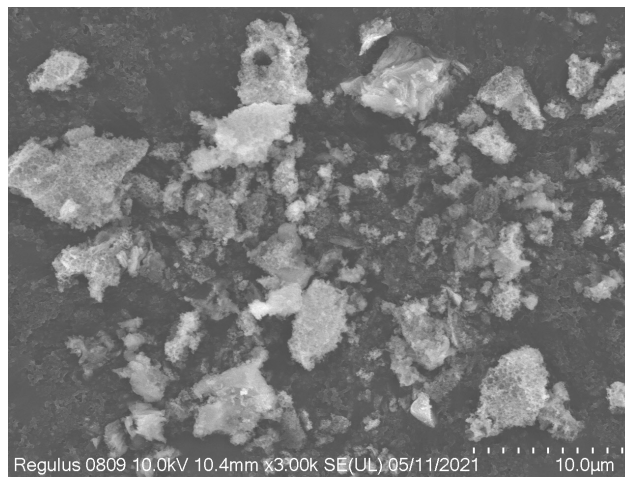


Fig. S3 Typical SEM image of ordered mesoporous ZnGa_2O_4 , showing its irregular morphology.

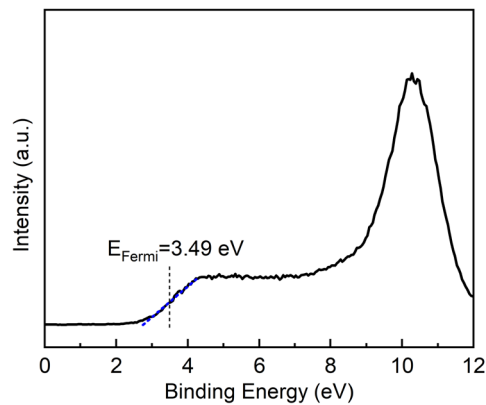


Fig. S4 Valence band XPS spectra of ordered mesoporous ZnGa_2O_4 .

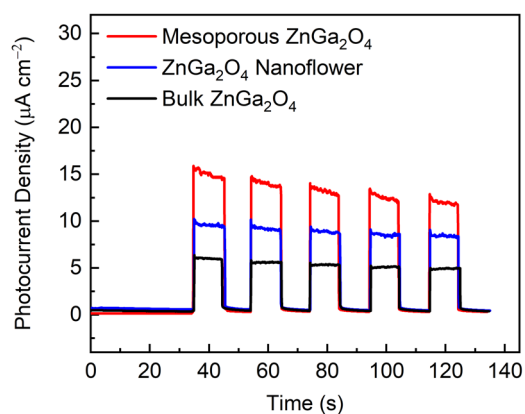


Fig. S5 Photocurrent response of ordered mesoporous ZnGa_2O_4 , ZnGa_2O_4 nanoflower and bulk ZnGa_2O_4 by using 0.5 M Na_2SO_4 solution as electrolyte, Ag/AgCl as reference electrode and Pt as counter electrode.

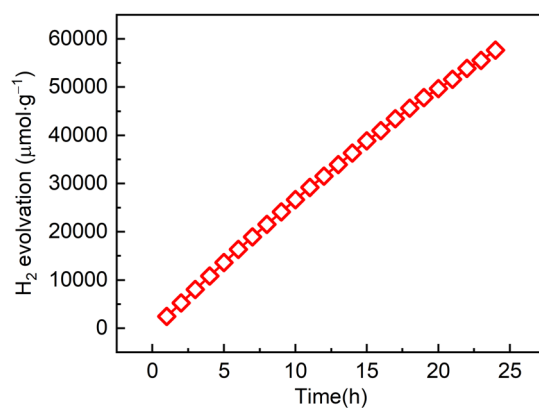


Fig. S6 Stability test of ordered mesoporous ZnGa_2O_4 during photocatalytic water splitting H_2 evolution for 24 h.

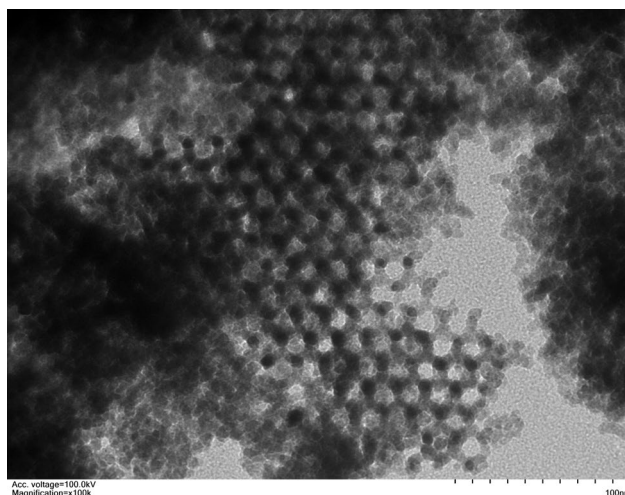


Fig. S7 TEM image of ordered mesoporous ZnGa_2O_4 after photocatalytic water splitting H_2 evolution

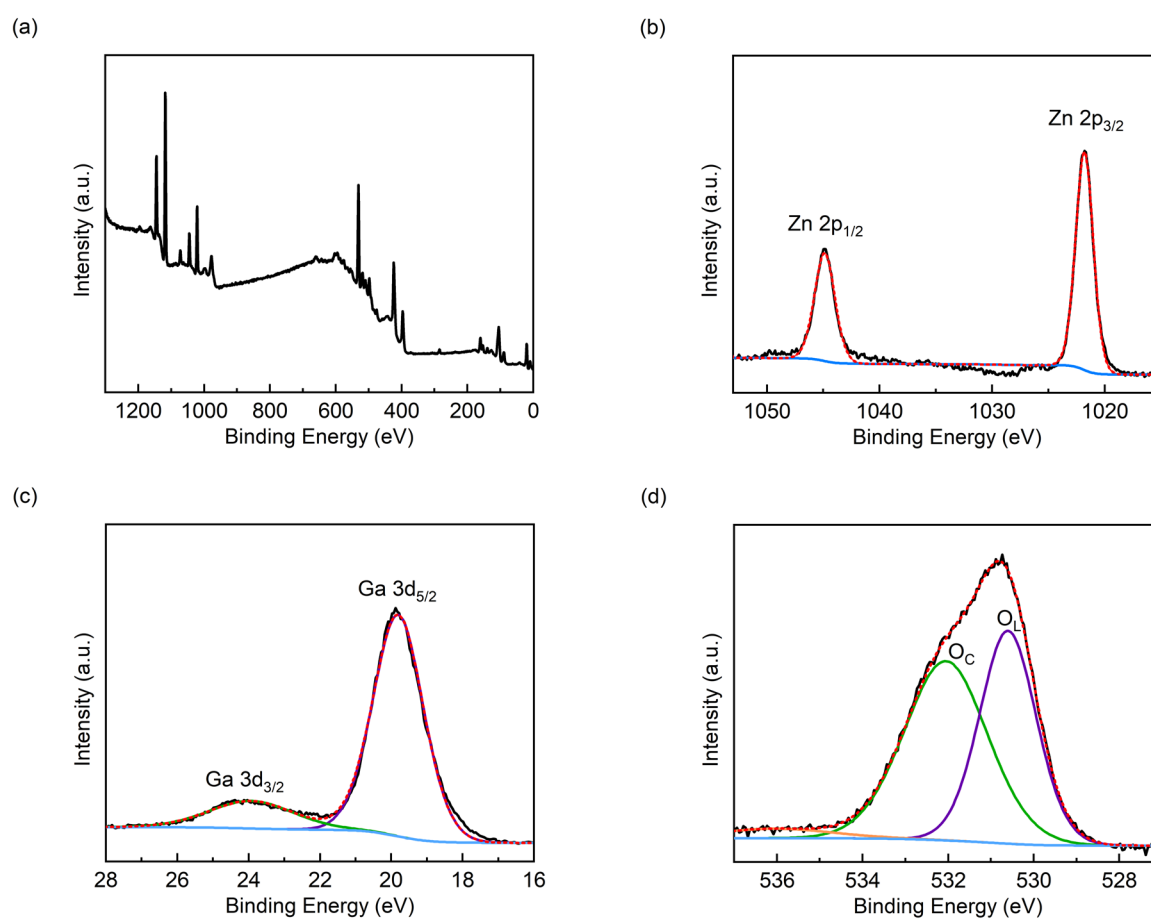


Fig. S8 XPS spectra of ordered mesoporous ZnGa_2O_4 before photocatalytic water splitting H_2 evolution

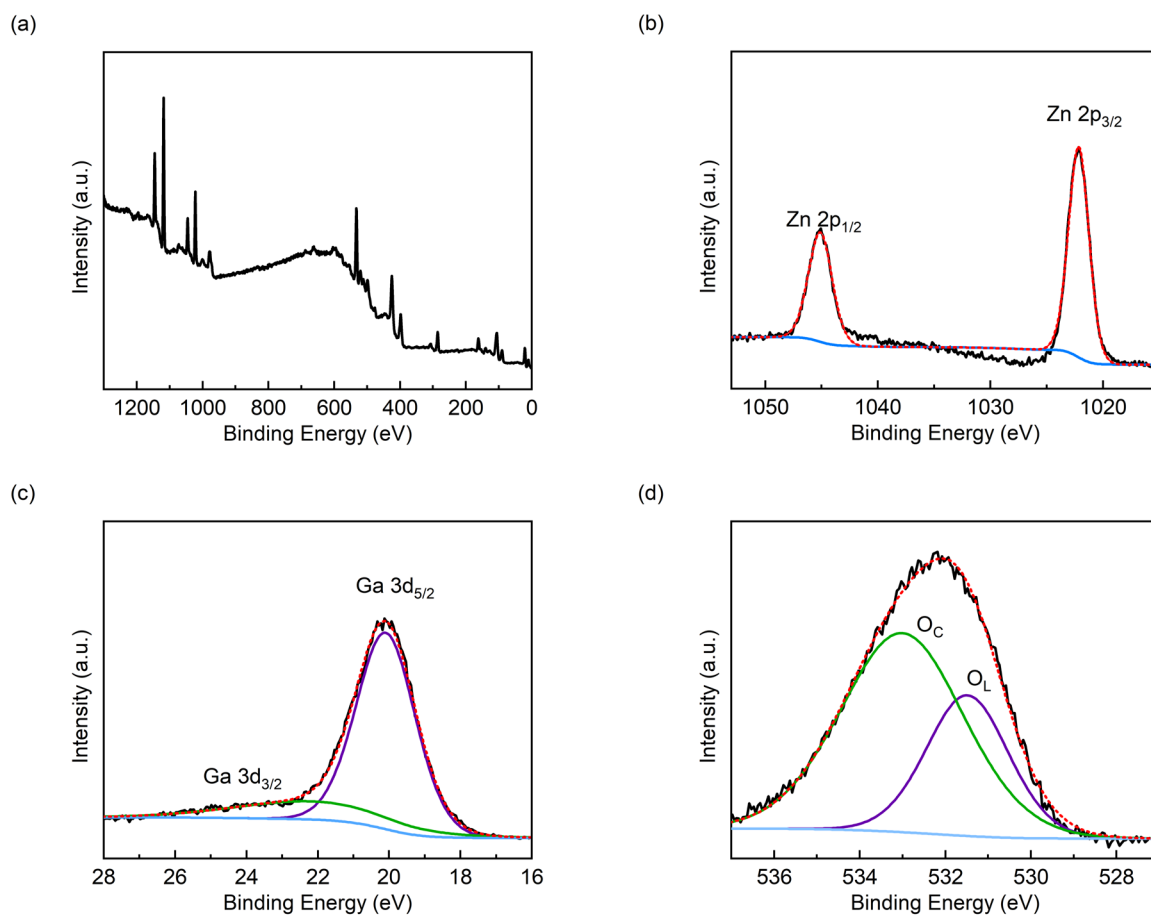


Fig. S9 XPS spectra of ordered mesoporous ZnGa₂O₄ after photocatalytic water splitting H₂ evolution

Tab. S1 Comparison of the ordered mesoporous ZnGa₂O₄ photocatalyst and those reported in the previous literature.

Product	S_{BET} (m ² ·g ⁻¹)	H ₂ evolution rate (mmol·h ⁻¹ ·g ⁻¹)	Literature
Ordered mesoporous ZnGa ₂ O ₄	157	2.72	This work
RuO ₂ -dispersed ZnGa ₂ O ₄	2.3	0.04	47
ZnGa ₂ O ₄ nanosphere	26.67	0.12	65
N-doped ZnGa ₂ O ₄ nanosphere	29.69	0.19	65
B-doped ZnGa ₂ O ₄ nanosphere	29.16	0.29	65
B/N-codoped ZnGa ₂ O ₄ nanosphere	23.94	0.45	65
ZnGa ₂ O ₄ scaffolded nanosheets	96	0.27	55
ZnGa ₂ O ₄ nanocube	9	1.05	55
ZnGa ₂ O ₄ nanosphere/N-rGO heterostructure	-	0.7	64
ZnGa ₂ O ₄ nanoparticle	29	0.14	63
ZnGa ₂ O ₄ irregular particle	1.06	0.85	62