

Supporting Information

Microwave-antenna induced *in situ* synthesizing Cu nanowires threaded ZIF-8 with enhanced catalytic activity in H₂ production

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Table S1 Structural parameters of CuNWs/ZIF-8 and ZIF-8.

Sample	Zn ratio (wt%)	ZIF-8 ratio (wt%)	S _{BET} (m ² /g)	V _p (cm ³ /g)
CZ1	0.020	19.2	1044	0.052
CZ2	0.0015	12.9	288	0.070
CZ3	0.0013	11.1	149	0.072
CZ4	0.0012	10.0	89	0.075
ZIF-8	0.032	/	1280	0.058

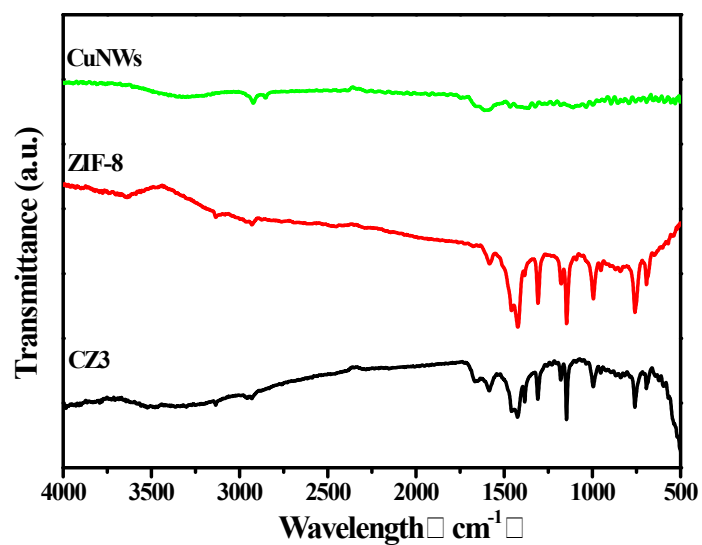


Fig. S1 FTIR spectra of CuNWs, ZIF-8 and CuNWs/ZIF-8 (CZ3).

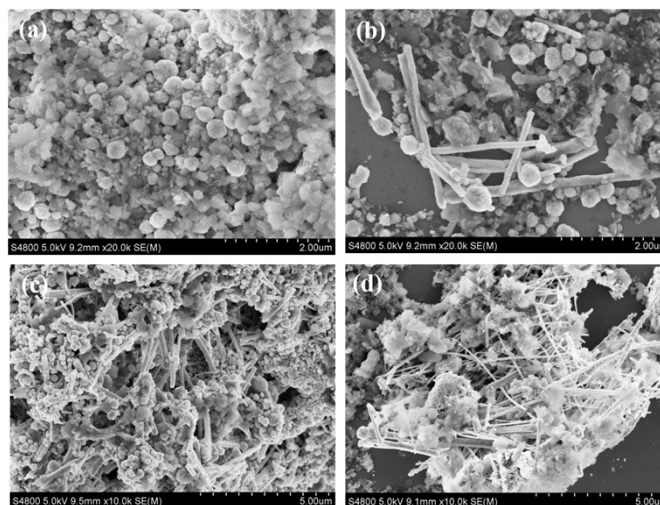


Fig. S2 FESEM images of (a) CZ1-H, CZ2-H, CZ3-H and CZ4-H prepared by hydrothermal treatment.

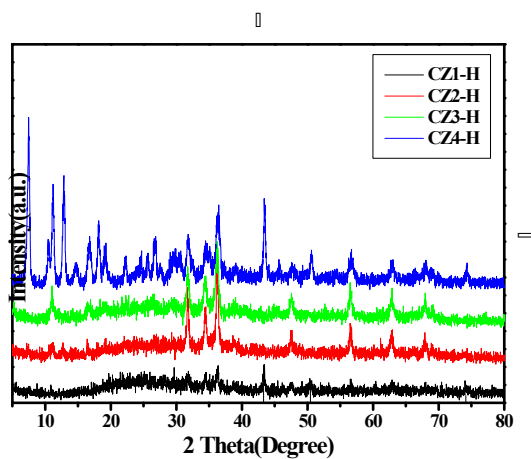


Fig. S3 XRD patterns of CuNWs/ZIF-8 prepared by hydrothermal treatment

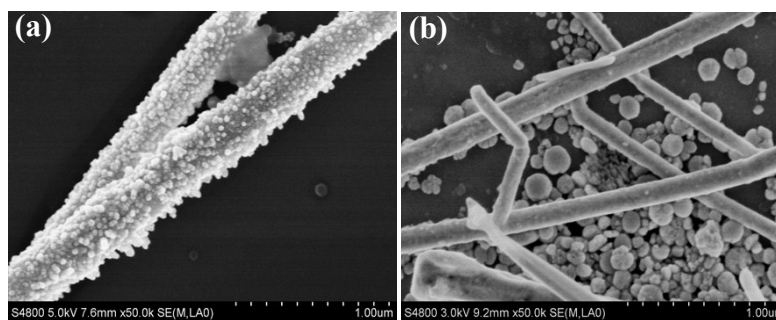


Fig. S4 FESEM of (a) CZ3 and (b) CZ3 synthesized without PVP

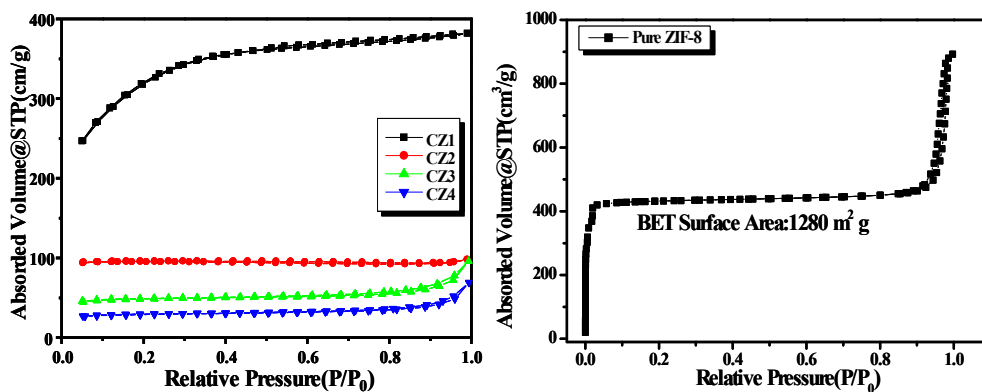


Fig. S5 N₂ adsorption-desorption isotherms of CuNWs/ZIF-8 and ZIF-8.

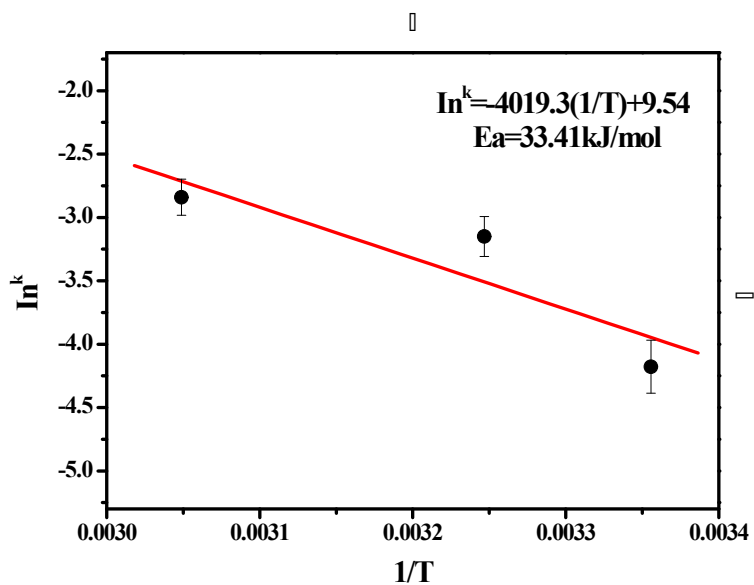


Fig. S6 The Arrhenius plot ($\ln k$ vs. $1/T$).

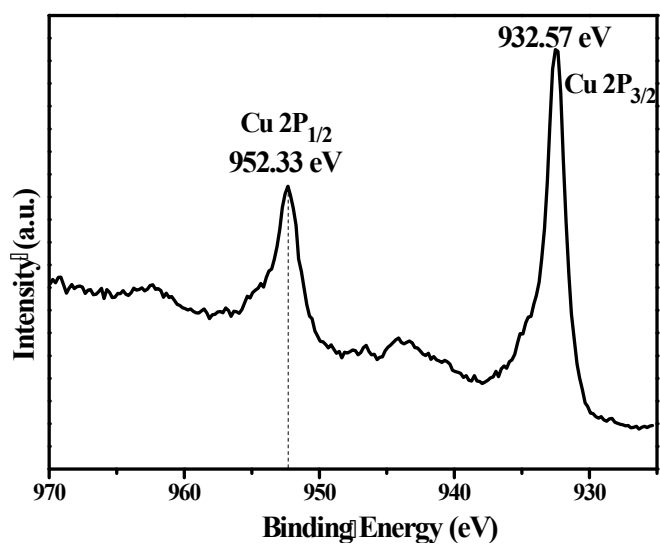


Fig. S7 The Cu 2p XPS spectrum of CZ3 sample.



Fig. S8 FESEM image of CuNWs@ZIF-8 after reused for three times in NH_3BH_3 hydrolysis reaction. Reaction conditions are given in Figure 6.