

Supporting Information

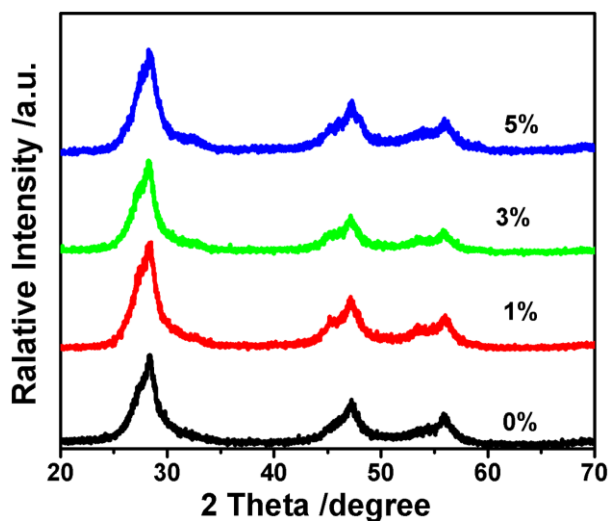


Fig S1. XRD of CuS/Zn_{0.8}Cd_{0.2}S with different weight percentages from 0 % - 5 %.

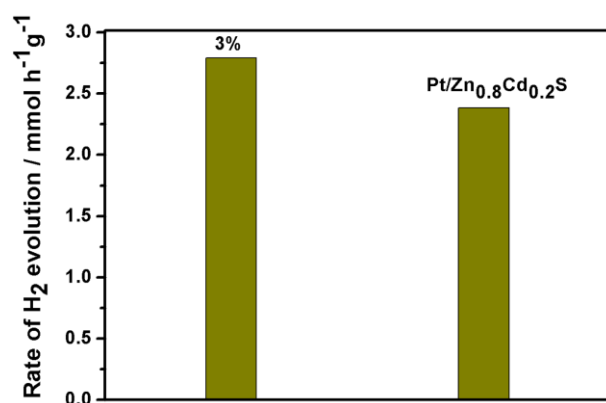


Fig S2. The rate of H₂ evolution on CuS (3wt %)/Zn_{0.8}Cd_{0.2}S, Pt (1wt %)/Zn_{0.8}Cd_{0.2}S.

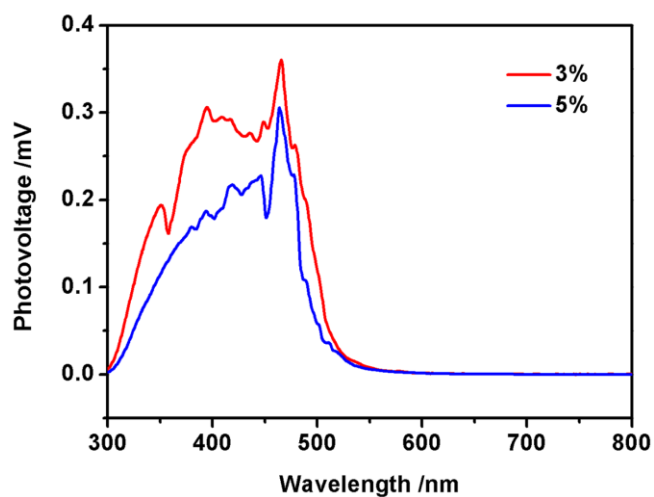


Fig S3. The SPS of CuS (3 wt %) /Zn_{0.8}Cd_{0.2}S, CuS and CuS (5 wt %) /Zn_{0.8}Cd_{0.2}S.

Table S1. BET surface area of CuS (0 wt %) /Zn_{0.8}Cd_{0.2}S, CuS and CuS (1 wt %) /Zn_{0.8} Cd_{0.2}S, CuS (3 wt %) /Zn_{0.8}Cd_{0.2}S and CuS (5 wt %) /Zn_{0.8} Cd_{0.2}S.

	0%	1%	3%	5%
BET surface area (m ² /g)	62.6	58.8	60.3	59.9

Table S2. The molar fraction of Zn, Cd, S and Cu, in (3 wt %) /Zn_{0.8}Cd_{0.2}S, CuS and CuS (0 wt %) /Zn_{0.8} Cd_{0.2}S.

	Zn At%	Cd At%	S At%	Cu At%
CuS(0wt%) /Zn _{0.8} Cd _{0.2} S	0.31	0.12	0.56	0
CuS(3wt%) /Zn _{0.8} Cd _{0.2} S	0.34	0.10	0.52	0.03