

## Supporting Information

### **Cu-In-Zn-S Nanoporous Spheres for Highly Efficient Visible-Light-Driven Photocatalytic Hydrogen Evolution**

*Xiaosheng Tang,<sup>a</sup> Qiuling Tay,<sup>b</sup> Zhong Chen,<sup>b</sup> Yu Chen,<sup>a</sup> Gregory K.L. Goh,<sup>c</sup>  
Junmin Xue<sup>\*a</sup>*

<sup>a</sup> Department of Materials Science & Engineering, Faculty of Engineering, National University of Singapore (NUS), 7 Engineering Drive 1, Singapore 117574. Fax: +65-6776-3604; Tel: +65-6516-4655; E-mail: [msexuejm@nus.edu.sg](mailto:msexuejm@nus.edu.sg)

<sup>b</sup> School of Materials Science and Engineering, Nanyang Technological University, 50 Nanyang Avenue, Singapore 639798, Singapore

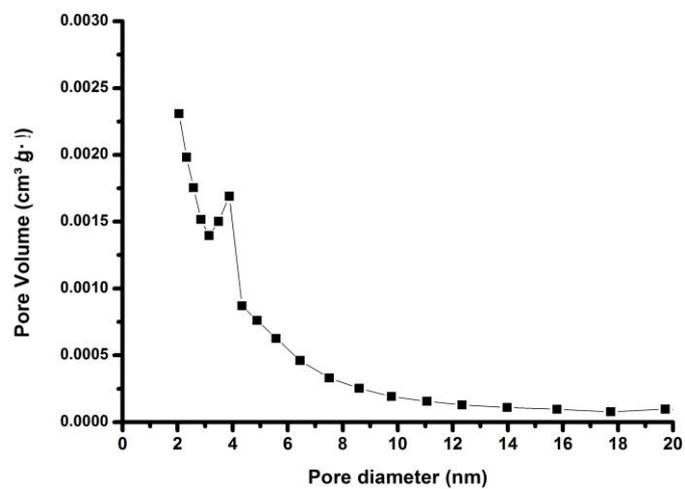
<sup>c</sup> Institute of Materials Research and Engineering, A\*Star, Singapore

\* To whom correspondence should be addressed. Tel.: +65 65164655

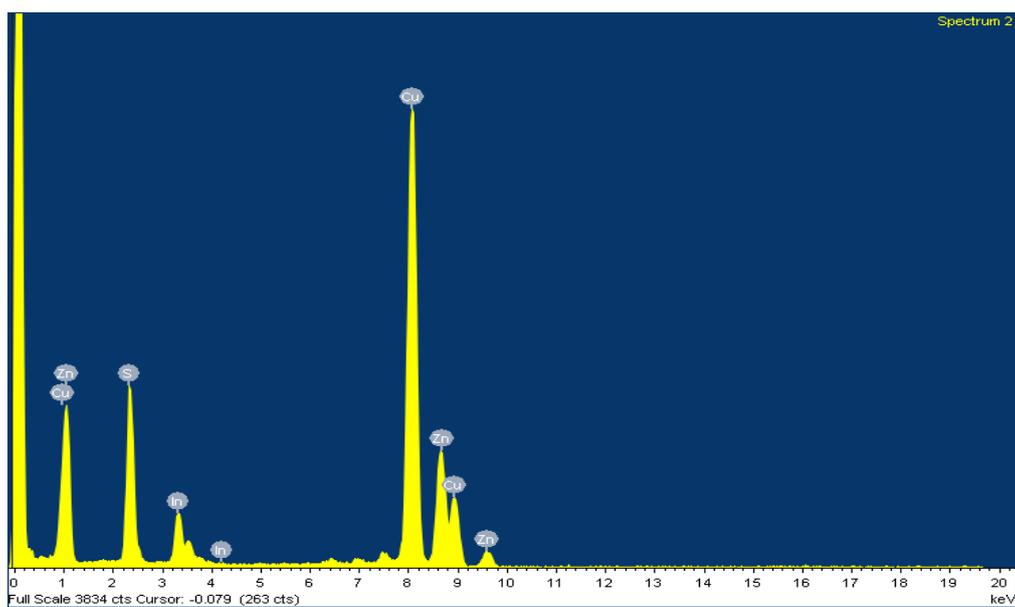
E-mail: [msexuejm@nus.edu.sg](mailto:msexuejm@nus.edu.sg)

**S-Table 1.** BET specific surface area analysis of the spheres with different Cu amounts.

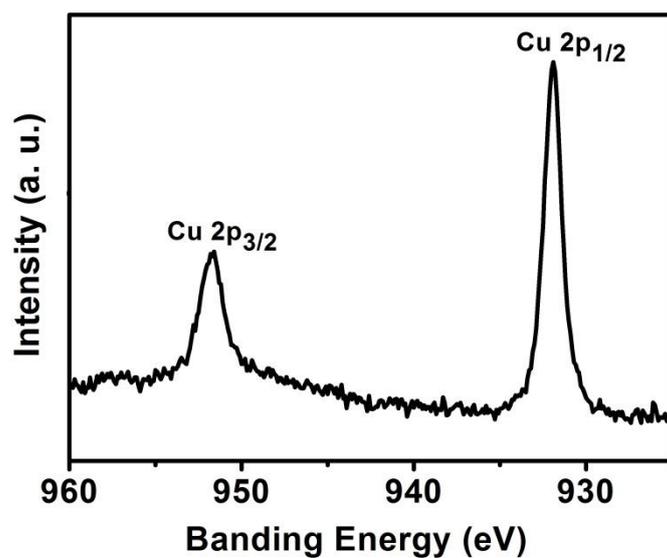
Sample No.	Sample Name	BET Surface ( m <sup>2</sup> g <sup>-1</sup> )
a	Cu <sub>0.01</sub> In <sub>0.25</sub> ZnS <sub>1.38</sub>	96.66
b	Cu <sub>0.02</sub> In <sub>0.25</sub> ZnS <sub>1.385</sub>	99.81
c	Cu <sub>0.04</sub> In <sub>0.25</sub> ZnS <sub>1.395</sub>	100.12
d	Cu <sub>0.08</sub> In <sub>0.25</sub> ZnS <sub>1.415</sub>	101.18



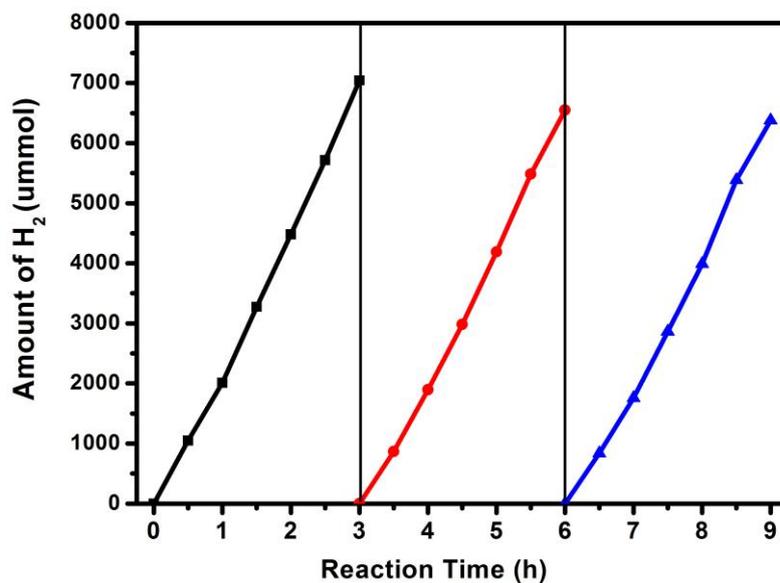
S-Figure 1: Pore diameter distribution of  $\text{Cu}_{0.04}\text{In}_{0.25}\text{ZnS}_{1.395}$  nanoporous spheres.



S-Figure 2 EDS spectrum of the obtained CIZS spheres.



**S-Figure 3.** The XPS spectrum of Cu 2p of the CI-ZS spheres.



**S-Figure 4:** Amounts of H<sub>2</sub> evolution via reaction time of Cu<sub>0.04</sub>In<sub>0.25</sub>ZnS<sub>1.395</sub> nanoporous spheres.