Supporting Information

Controllable synthesis of hierarchical CuS/ZnS hetero-nanowires as high-performance visible-light photocatalyst

Caihong Feng,[a,b] Xianpu Meng,[a] Xiaolu Song,[c] Xueting Feng,[a] Yun Zhao,*[a] and Gao Liu*[b]

[a]School of Chemical Engineering and the Environmental, Beijing Institute of Technology, Beijing 100081, China

[b]Lawrence Berkeley National Laboratory, 1 Cyclotron Road, MS 70R108B, Berkeley, California 94720, United States

[c] Fengcheng Field Operation District，Xinjiang Oilfield Company，PetroChina

* **Corresponding author：** zhaoyun@bit.edu.cn; gliu@lbl.gov

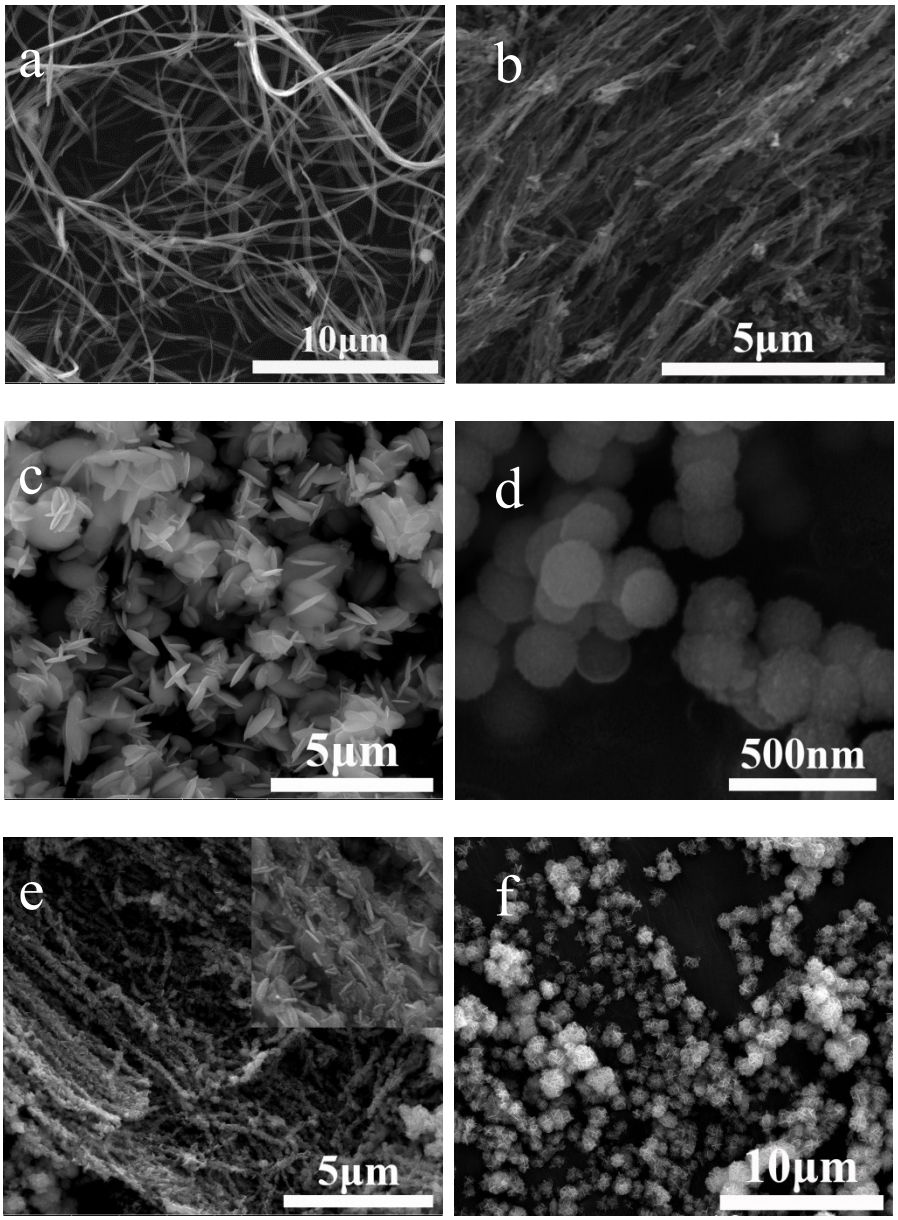

Fig S1. SEM image of the samples (a) precursors, (b) CuS, (c) CuS/ZnS prepared at the condition of adding $Zn(NO_3)_2 \cdot 6H_2O$, $Cu(NO_3)_2 \cdot 3H_2O$ and solvent together, (d) ZnS, (e) $CZ_{0.2}$, (f) $CZ_{0.7}$.

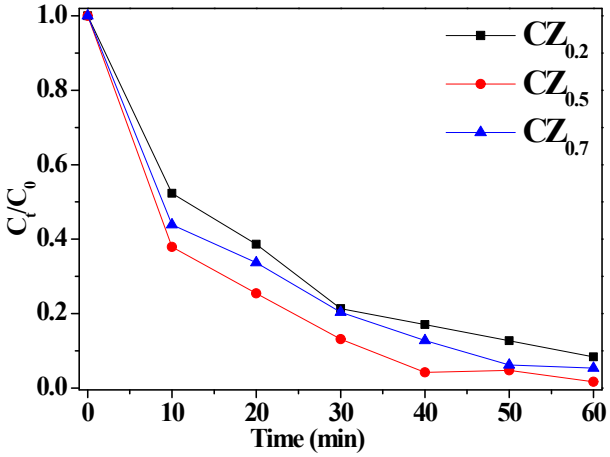

Fig S2. Comparison of photocatalytic efficiency of samples with heterojunctions for the degradation of MB under visible light

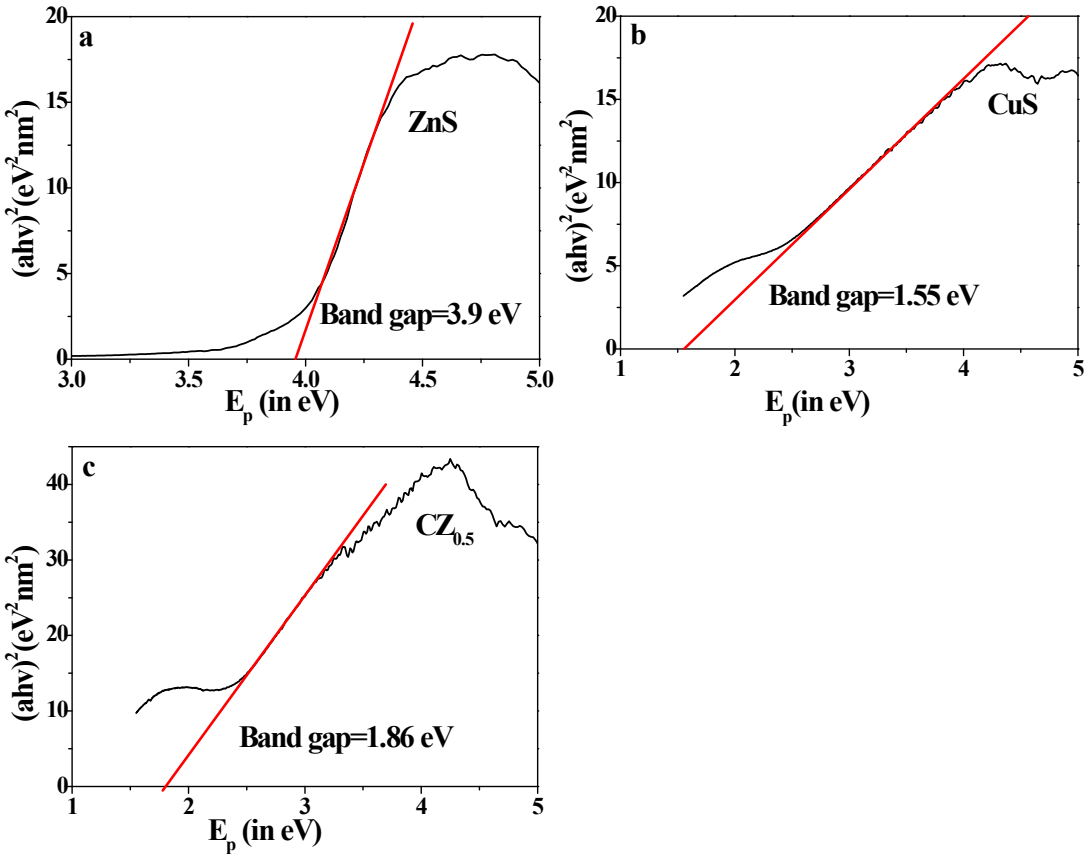

Fig S3. Band gap calculation of (a) ZnS, (b) CuS, (c) $CZ_{0.5}$.