

Supplementary Materials

CuS Co-catalyst Modified Hydrogenated SrTiO₃ Nanoparticles as an Efficient Photocatalyst for H₂ Evolution

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Equal contribution

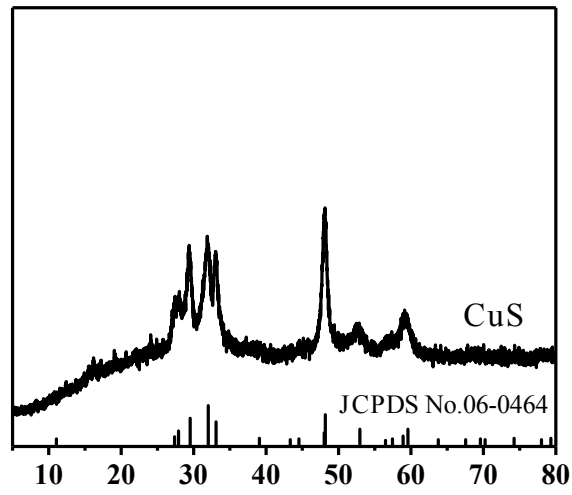


Fig. S1. XRD patterns of pure CuS.

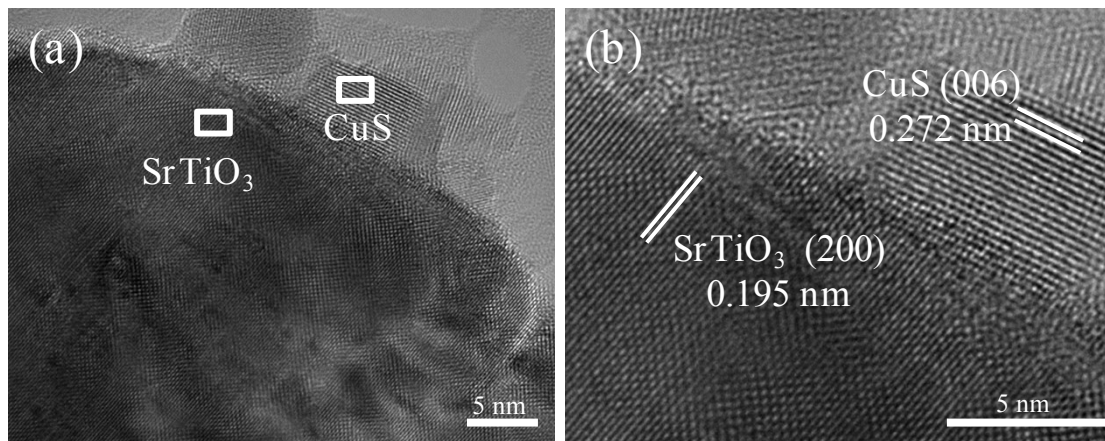


Fig. S2. TEM images of the CuS/STO-350 nanocomposite.

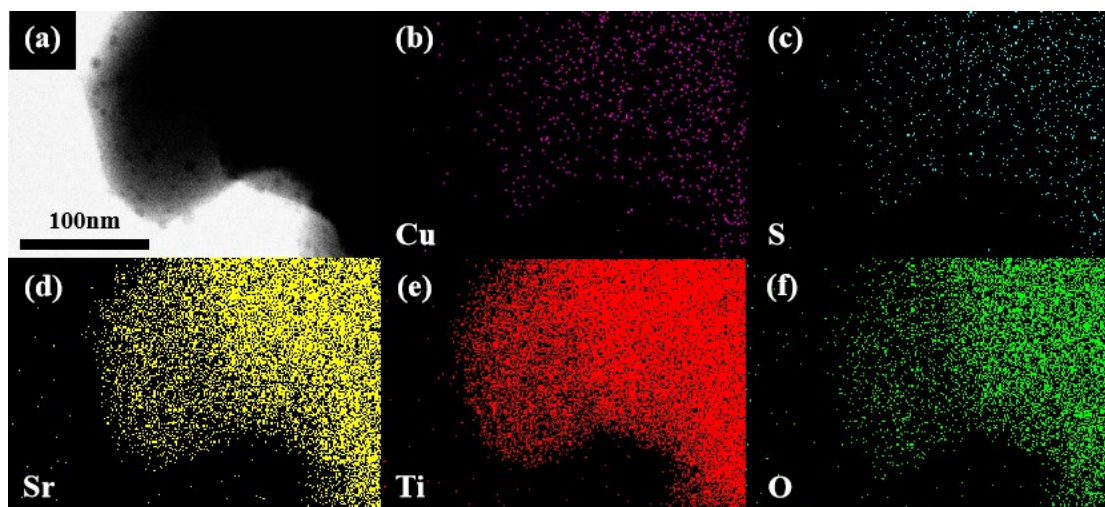


Fig. S3. (a) TEM images of the CuS/STO-350 nanocomposite; Elemental mappings of (b) Cu, (c) S, (d) Sr, (e) Ti and (f) O in CuS/STO-350 nanocomposite.

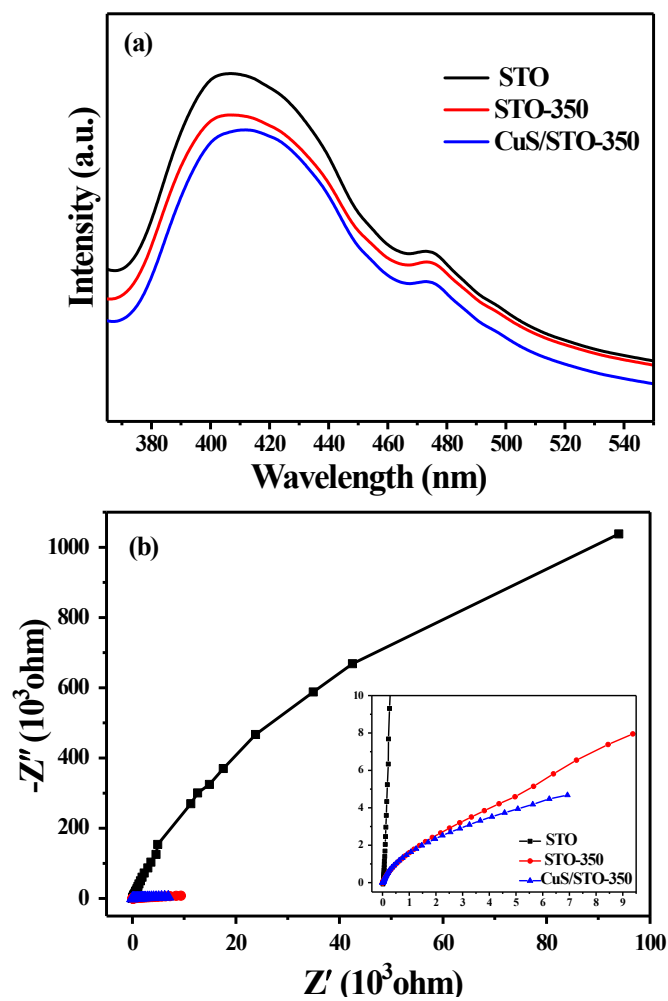


Fig. S4. (a) Photoluminescence spectra (PL); (b) Electrochemical impedance spectroscopy (EIS) of SrTiO₃, STO-350, and CuS/STO-350 nanocomposites.

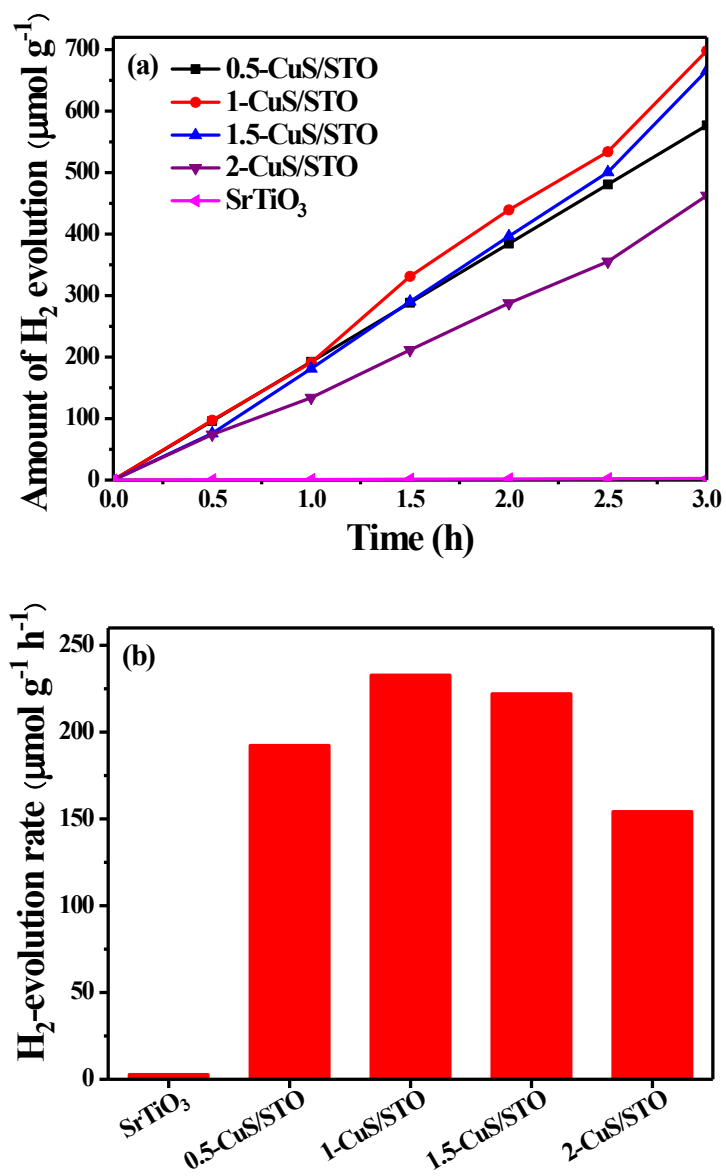


Fig. S5. (a) Time-dependent amounts of photocatalytic H₂ evolution and (b) H₂ evolution rates over SrTiO₃ and CuS/STO nanocomposites.

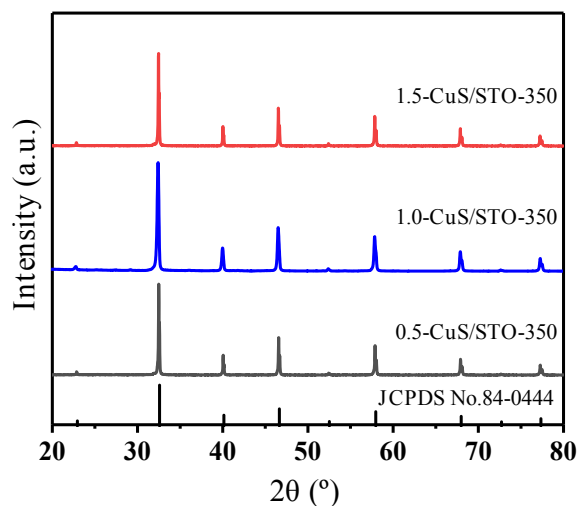


Fig. S6. XRD patterns of 0.5-CuS/STO-350, 1.0-CuS/STO-350 (CuS/STO-350) and 1.5-CuS/STO-350.

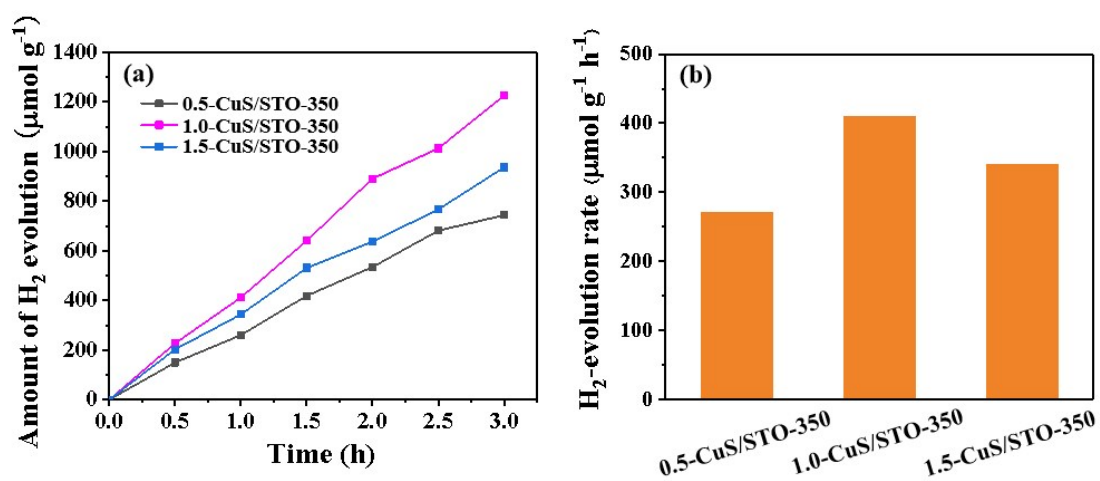


Fig. S7. (a) Time-dependent amounts of photocatalytic H₂ evolution over different photocatalysts; (b) H₂ evolution rates of different photocatalysts.

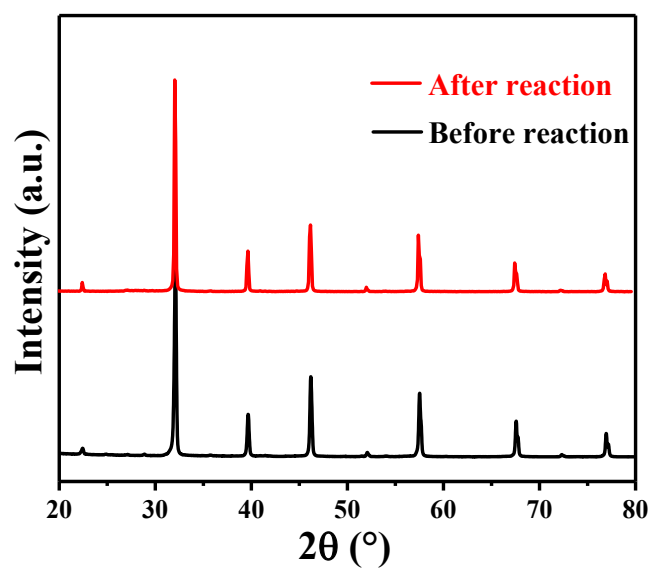


Fig. S8. XRD patterns of CuS/STO-350 nanocomposite before and after the photocatalytic reaction.

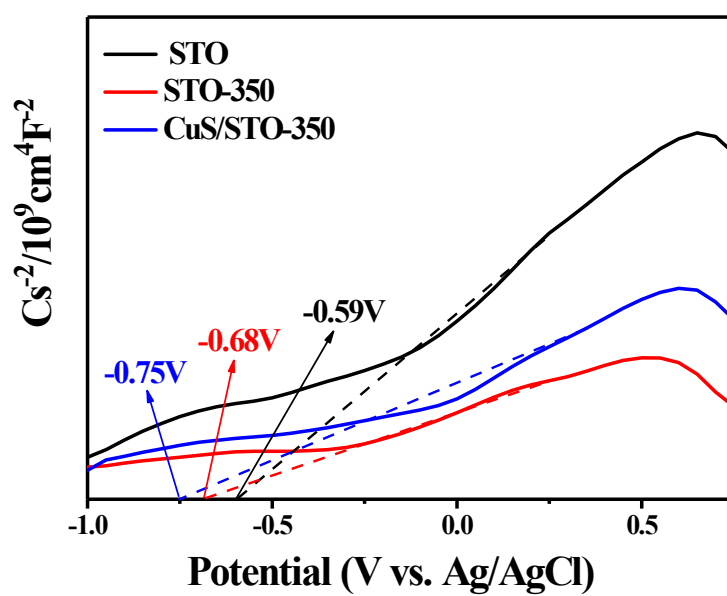


Fig. S9. Mott-Schottky plots of SrTiO₃, STO-350 and CuS/STO-350 nanocomposites.

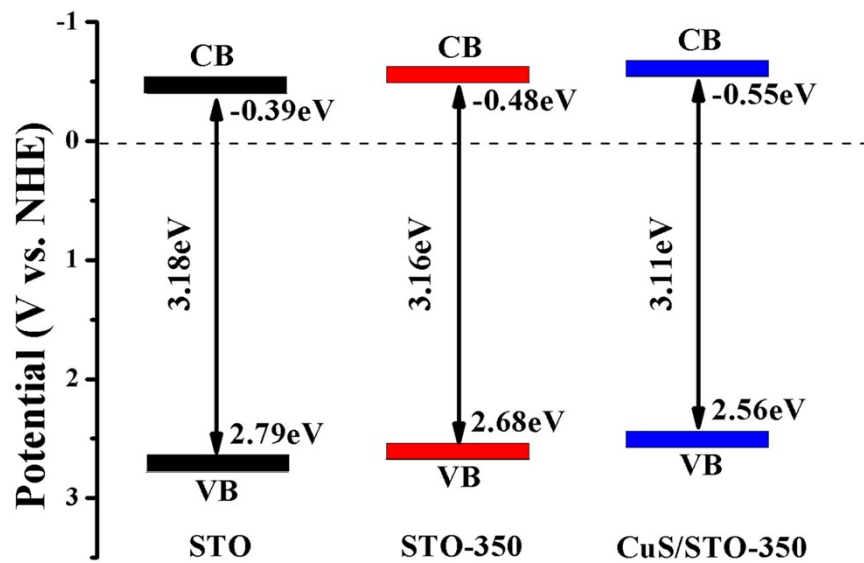


Fig. S10. Estimated band-gap diagram of pure SrTiO₃, STO-350 and CuS/STO-350 nanocomposites.