

Figure S1. EDS spectrum of Cu₂S-MoS₂/rGO composites.

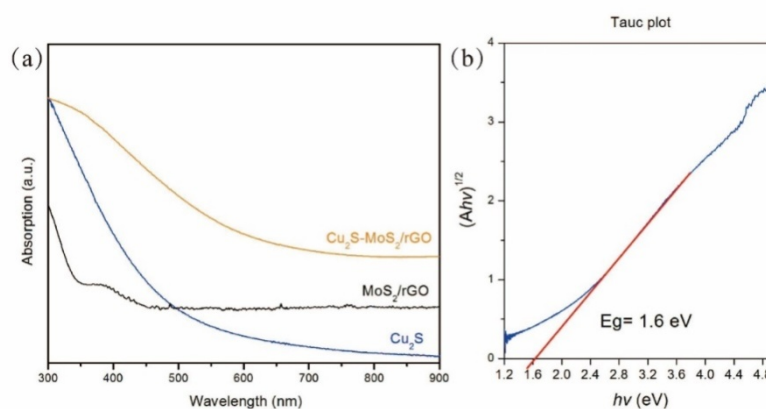


Figure S2. (a) UV-Vis spectra of Cu₂S-MoS₂/rGO, MoS₂/rGO, and Cu₂S; (b) the band gap calculation of Cu₂S by using Tauc plot.

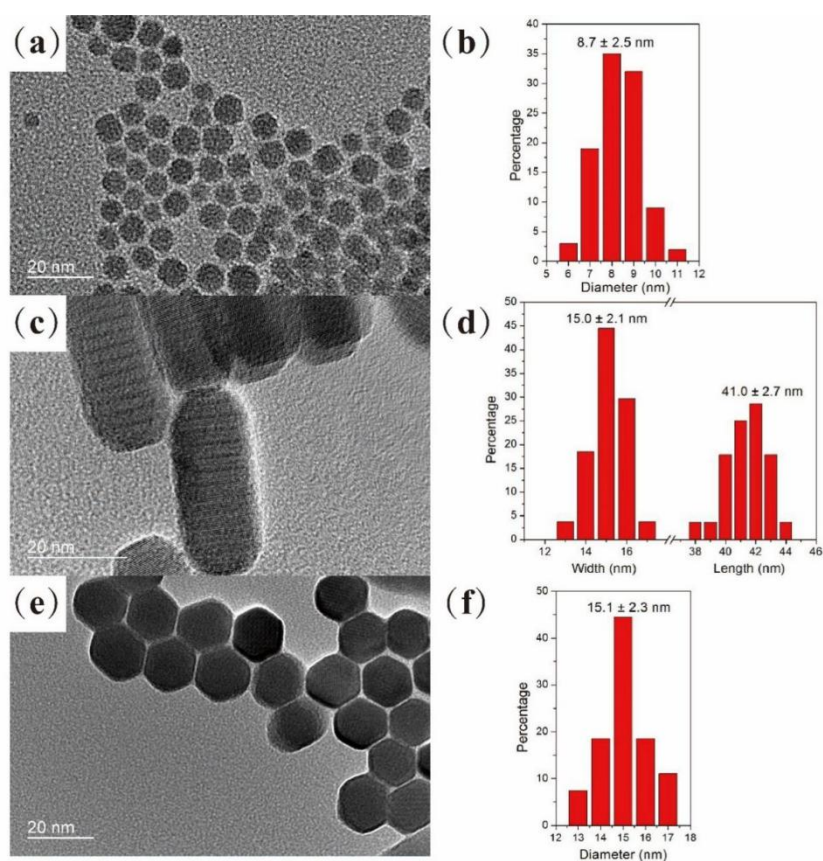


Figure S3. Typical TEM images of (a) Cu₂S nanoparticles, (c) nanorods, (e) nanoplates and their corresponding size distribution histograms (b, d, f).

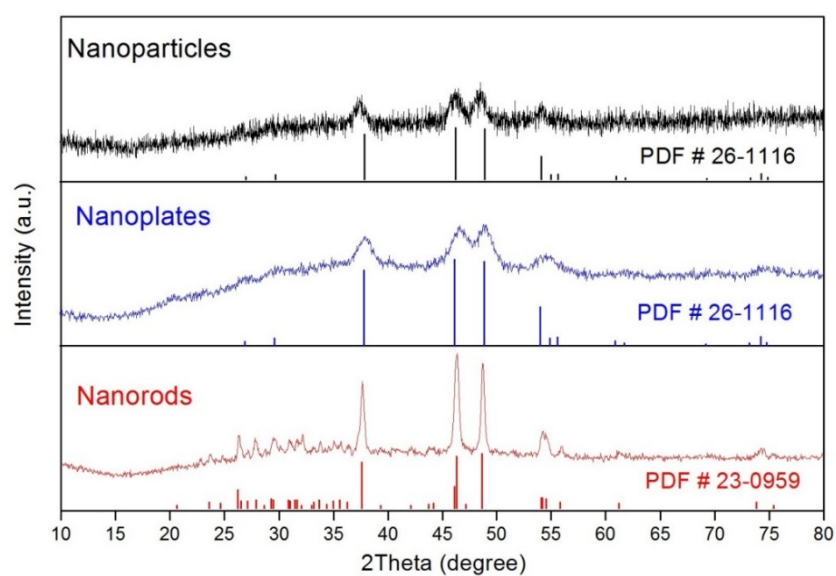


Figure S4. Powder XRD patterns of as-synthesized Cu₂S nanoparticles, nanoplates, and nanorods.

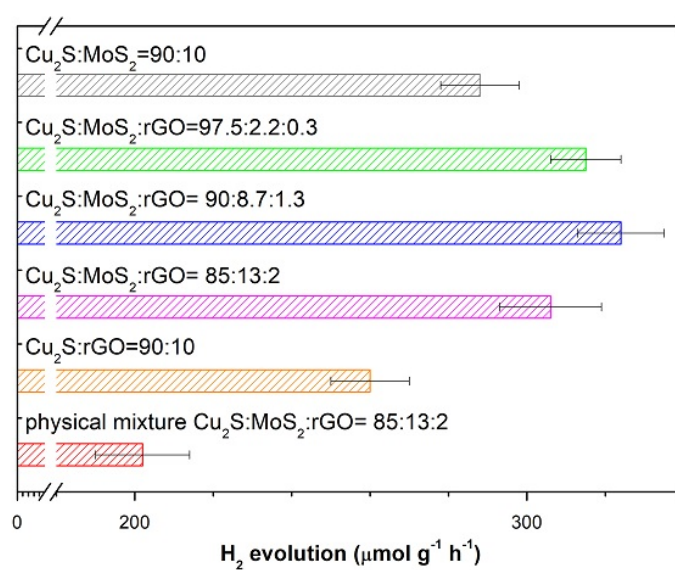


Figure S5. H₂ generation from various Cu₂S-MoS₂/rGO composites with different ratios compared to their physical mixture.