

Flexible Copper Sulfide Composite Membrane with Tunable Plasmonic Resonance Absorption for Near-infrared Light-driven Seawater Desalination

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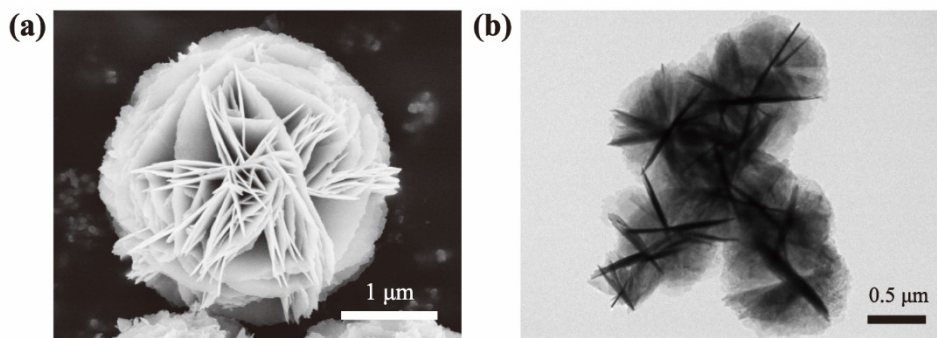


Figure S1. (a) FESEM and (b) TEM images of the flower-like CuS superstructure with 0.5 g of PVP.

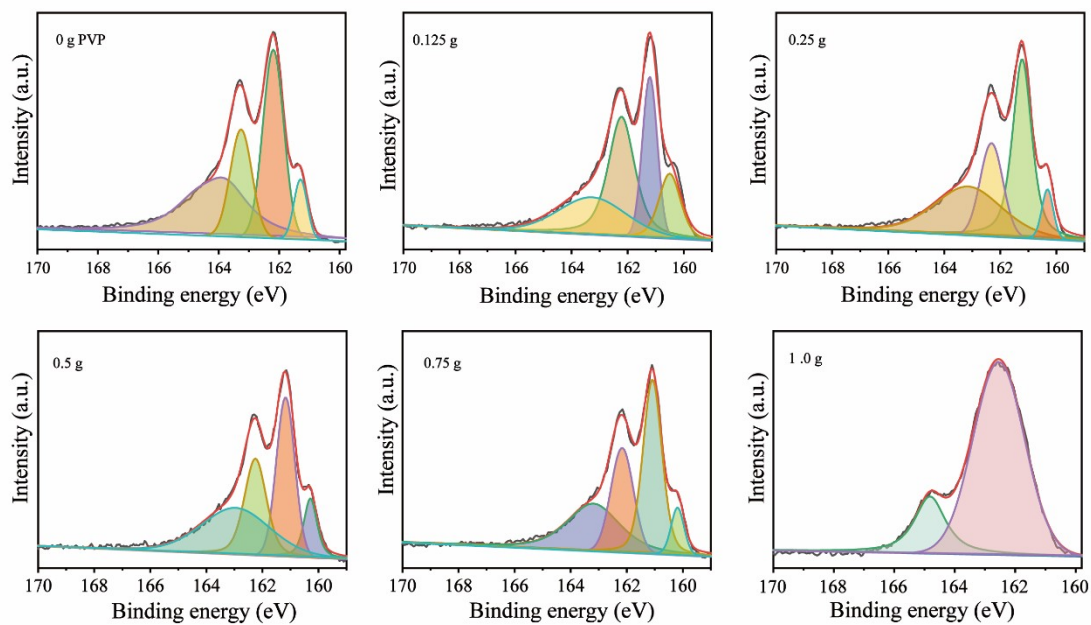


Figure S2. The XPS spectra of S 2p of the obtained flower-like CuS nanostructures, these without and with different amounts of PVP.

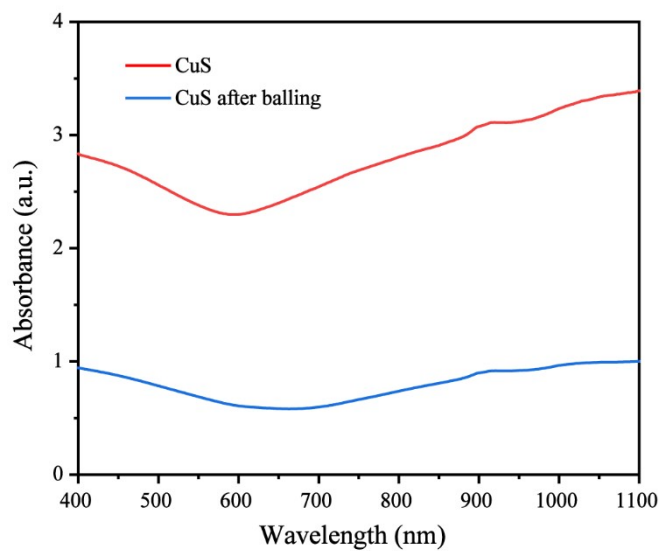


Figure S3. The NIR absorption of flower-like CuS nanostructures before and after the ball milling.

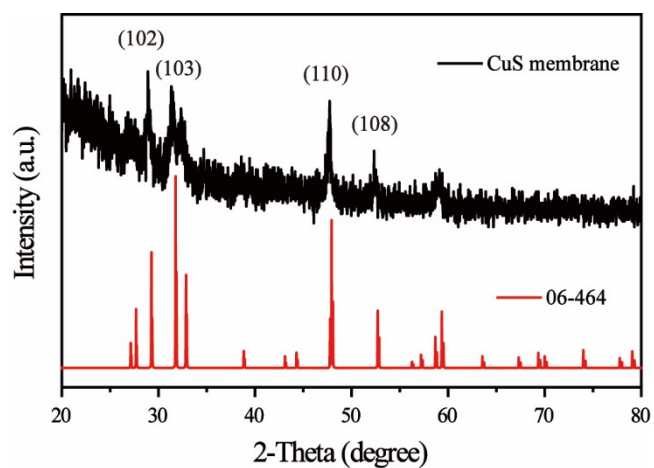


Figure S4. The XRD spectra of the obtained CuS/Matrimid composite membrane.

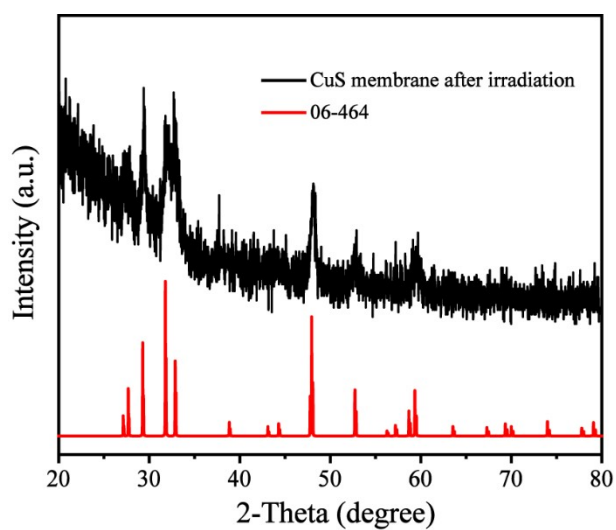


Figure S5. The XRD spectra of the CuS/Matrimid composite membrane after irradiation.

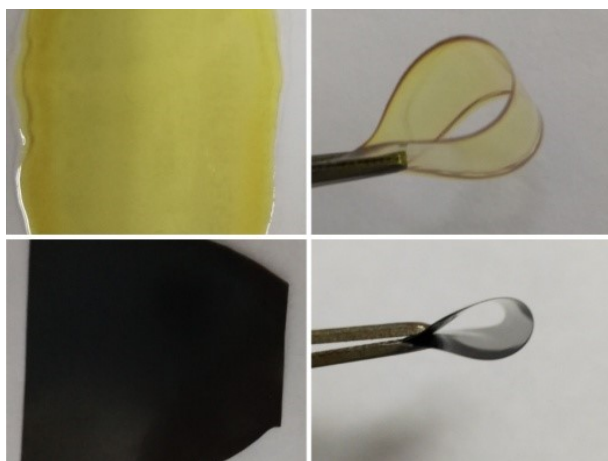


Figure S6. Photographs of Matrimid (upper) and the obtained CuS/Matrimid composite membrane.

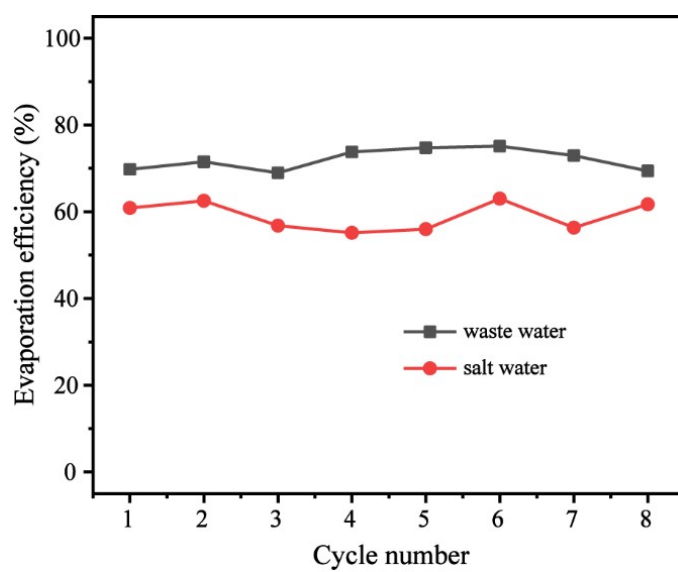


Figure S7. Evaporation cycle of CuS/Matrimid composite membrane in waste water and salt water.

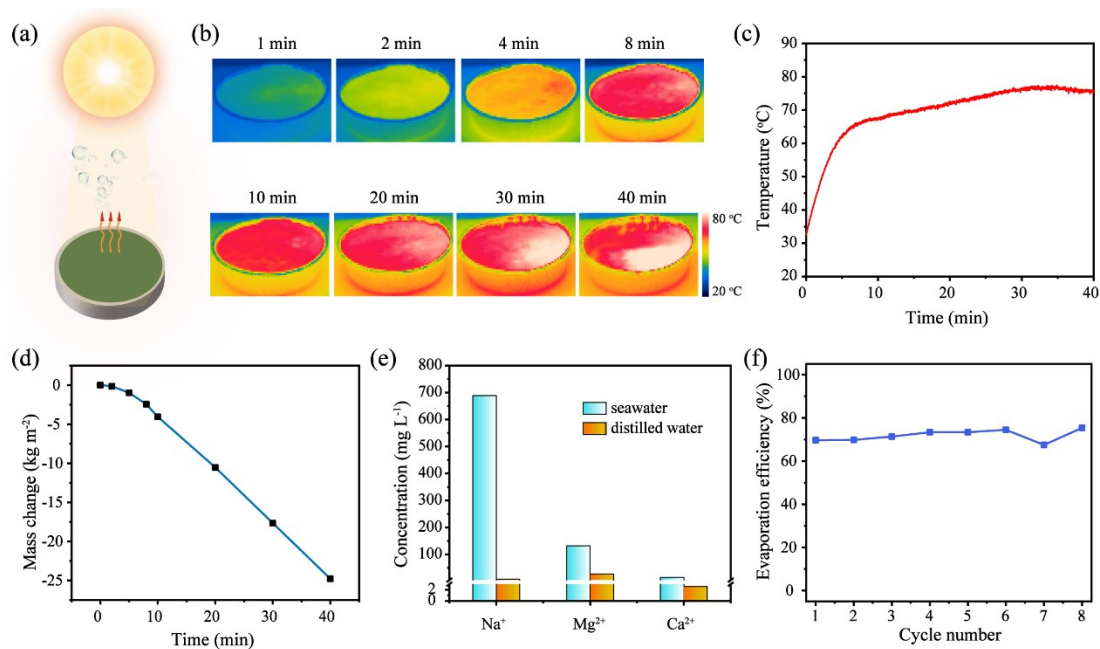


Figure S8. (a) Schematic diagram of seawater desalination under solar irradiation. (b) Photothermal images of sea water evaporation in an aluminum cup upon solar irradiation. (c) The corresponding heating curve of (b). (d) Temporal changes in the weight of tracked seawater under solar irradiation. (e) The changed ions' concentration change of seawater after its desalination under solar irradiation. (f) The evaporation recyclability of CuS/Matrimid composite membrane in seawater.