

Supporting Information

Galvanic Displacement-Derived CuO_x-Pt/Cu for *Operando*- *Activation* and Enhanced HER in Acid

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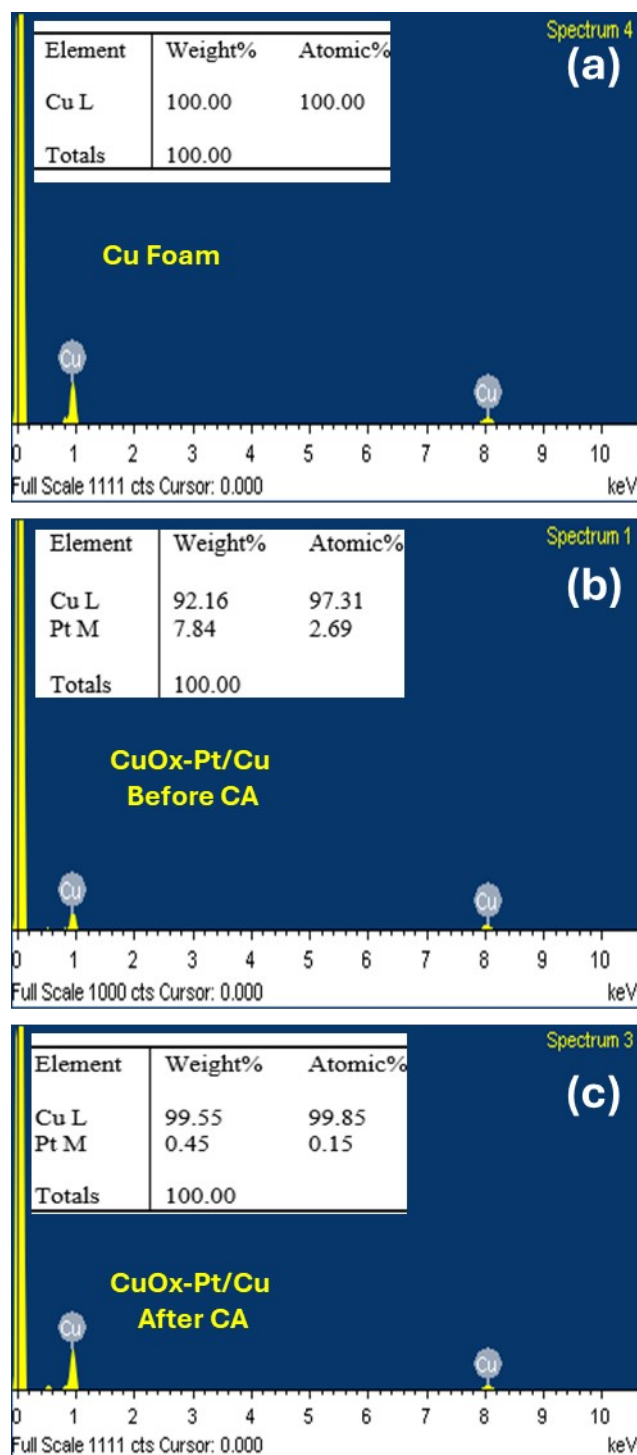


Figure S1: SEM-ED spectra of Cu foam (a) and CuO_x-Pt/Cu before (b) and after (c) CA.

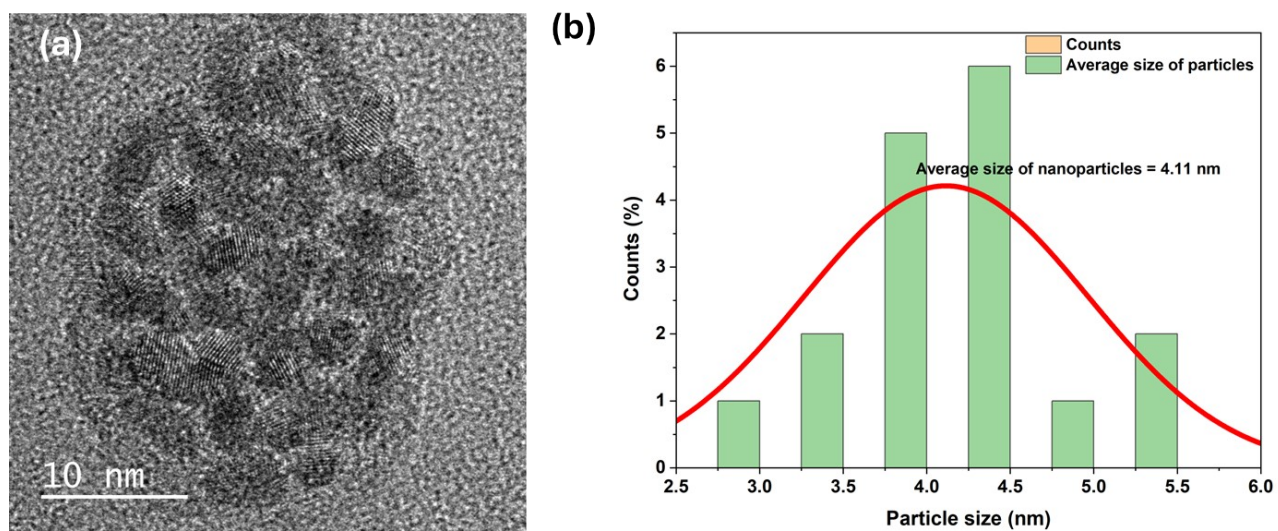


Figure S2: TEM image of the surface constituent of $\text{CuO}_x\text{-Pt/Cu}$ before CA (a) with its particle size distribution histogram (b) as measured using ImageJ.

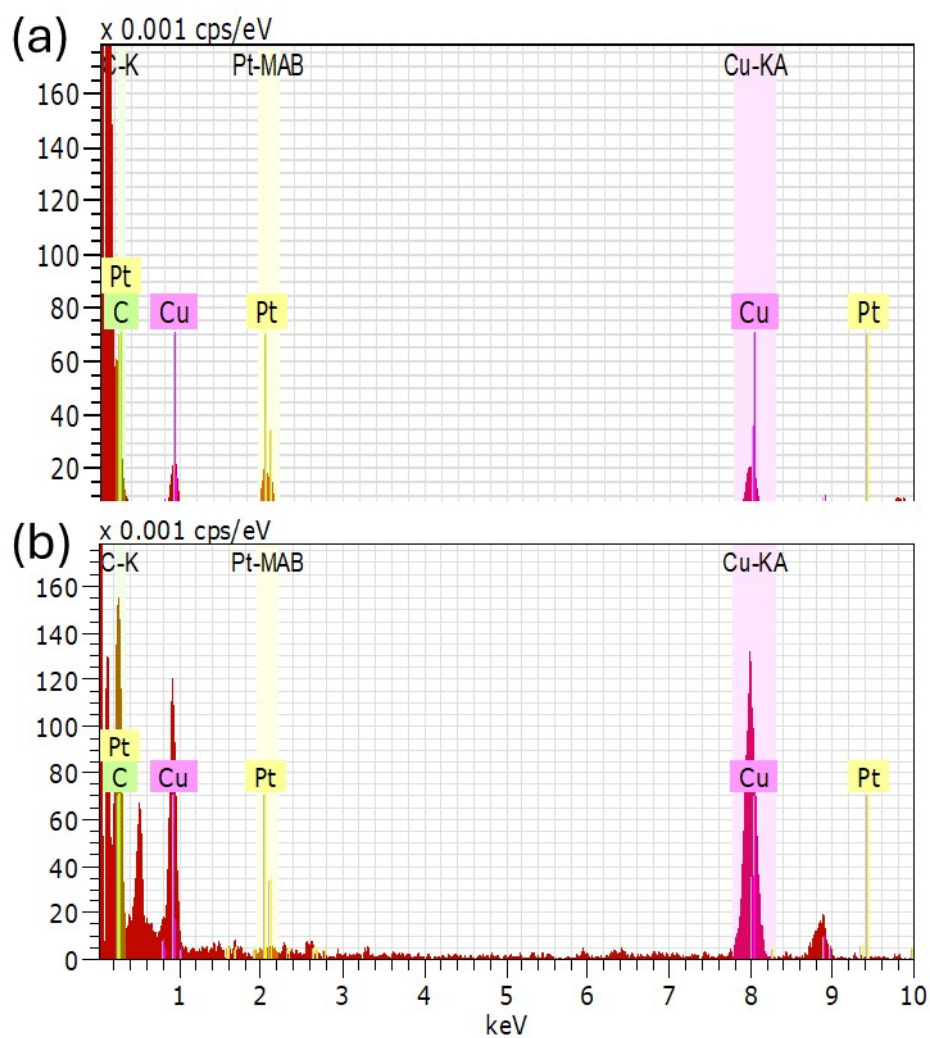


Figure S3: STEM-mode EDS spectra of the surface constituents of $\text{CuO}_x\text{-Pt/Cu}$ before CA (a) and after CA (b).

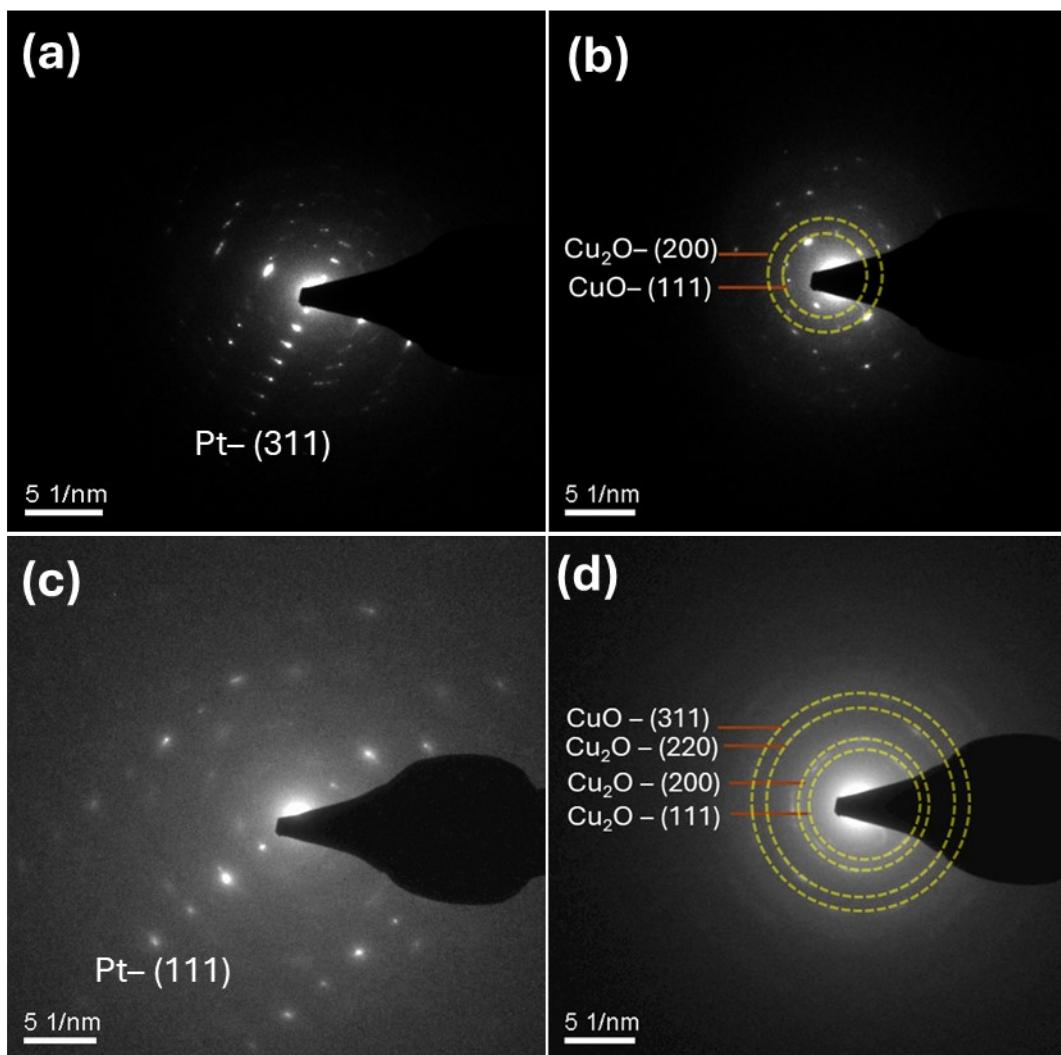


Figure S4: TEM-based SAED patterns of the surface constituents of $\text{CuO}_x\text{-Pt/Cu}$ before CA (a-b) and after CA (c-d), in which (a) and (c) are of the Pt NPs and (b) and (d) are of CuO/Cu₂O nanosheets.