

Supporting Information

On the mechanism of Carbon Dioxide Reduction on Sn-based Electrodes: Insights into the Role of Oxide Surfaces

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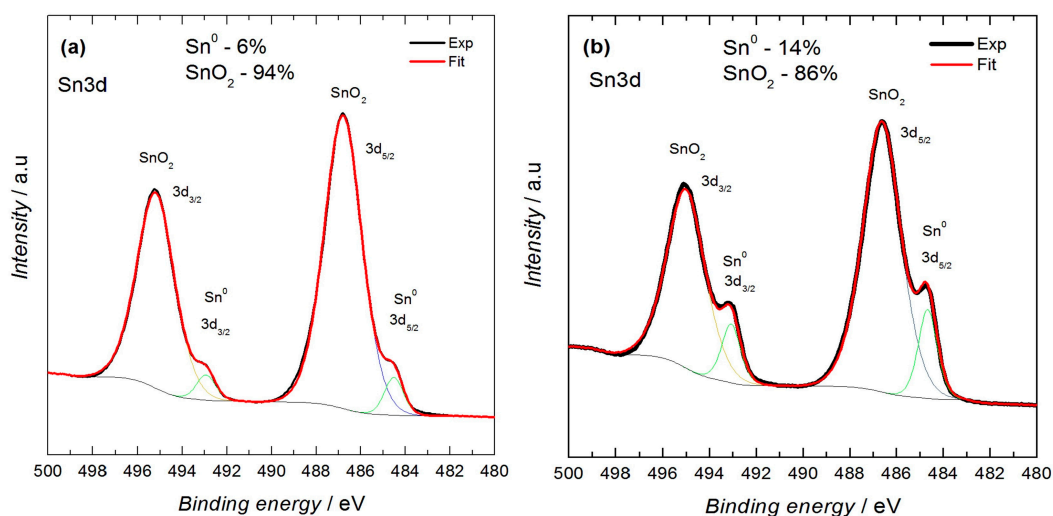


Figure S1- Sn 3d XPS spectra of Sn-1 (a) and Sn-2 (b) electrodes. The black lines represent the experimental data and the red lines represent the fitted data. Binding energies were referenced to the C 1s peak at 284.4 eV for graphitic carbon. The association of the peaks with the tin phase is included as a figure inset. The fitted data suggest the presence of SnO₂ and Sn⁰ phases on the tin foil surface.

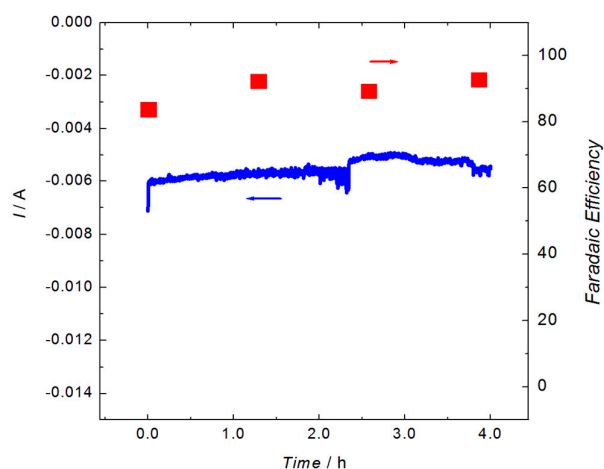


Figure S2: Faradaic current and faradaic current efficiencies for formate production at -1.3 V *vs.* RHE, obtained during the stability test for the Sn-1 electrode. The electrolyte was sampled for each elapsed hour for chromatography analysis.

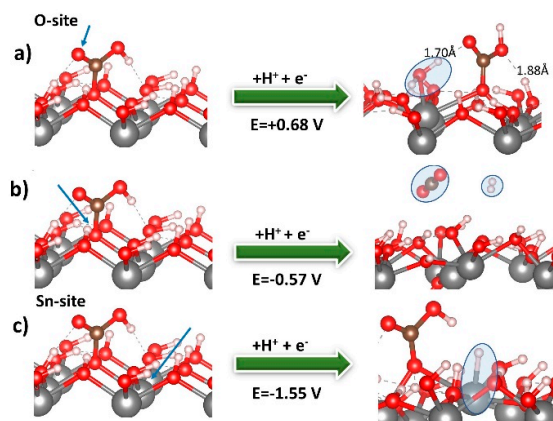


Figure S3- Alternative pathways for the first hydrogenation process on the O-site (a and b) and Sn-site (c), with no formic acid as the resulting product. Values are given *vs.* RHE.