

Supplementary information

Origin of the electrocatalytic activity in carbon nanotube fiber counter-electrodes for solar-energy conversion

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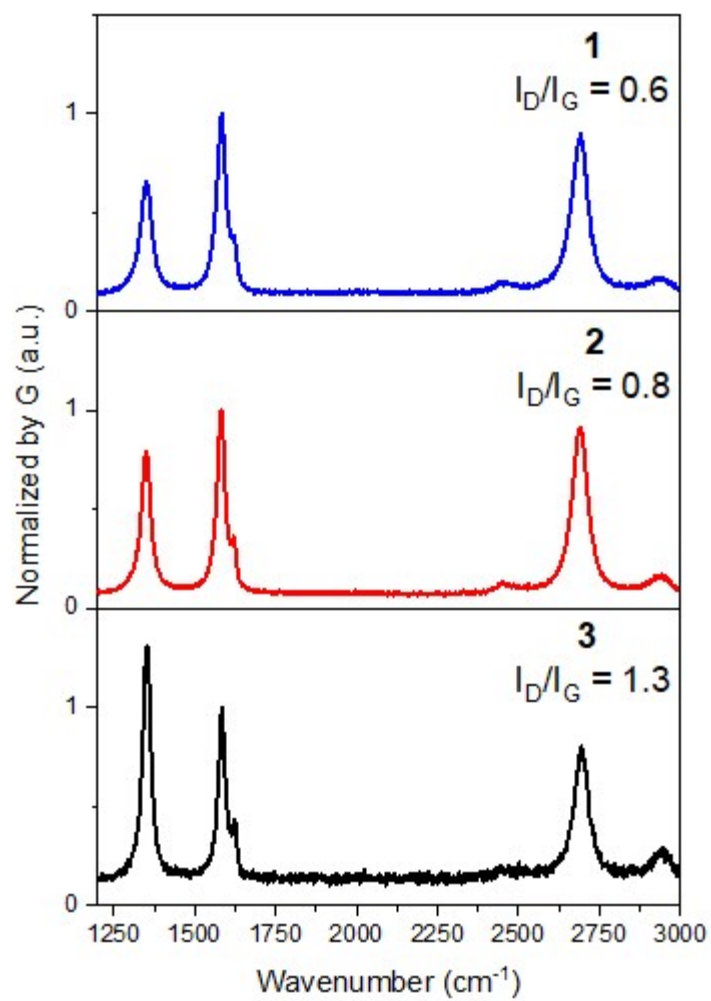


Figure S1. Raman characterization of CNTf electrodes upon ozonolysis treatment.

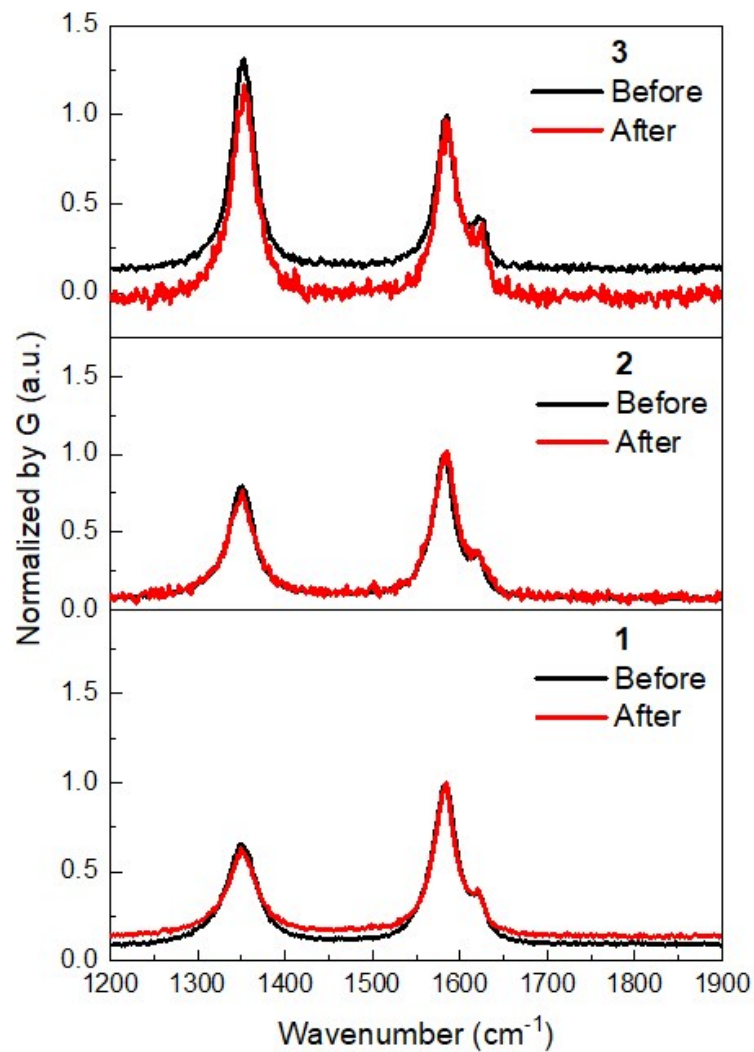


Figure S2. Raman spectra of the CNTf-electrodes before and after subjecting them to LSV assays in symmetric cells.

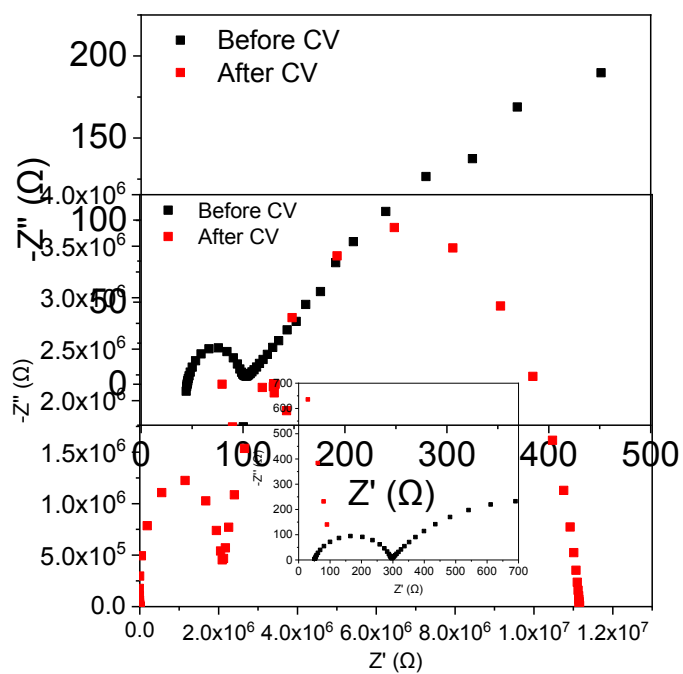


Figure S3. Nyquist plots of Pt (top) and **1** (bottom) symmetric cells before (black) and after (red) CV. Inset: zoom of the Nyquist plot of **1**-symmetric cell.

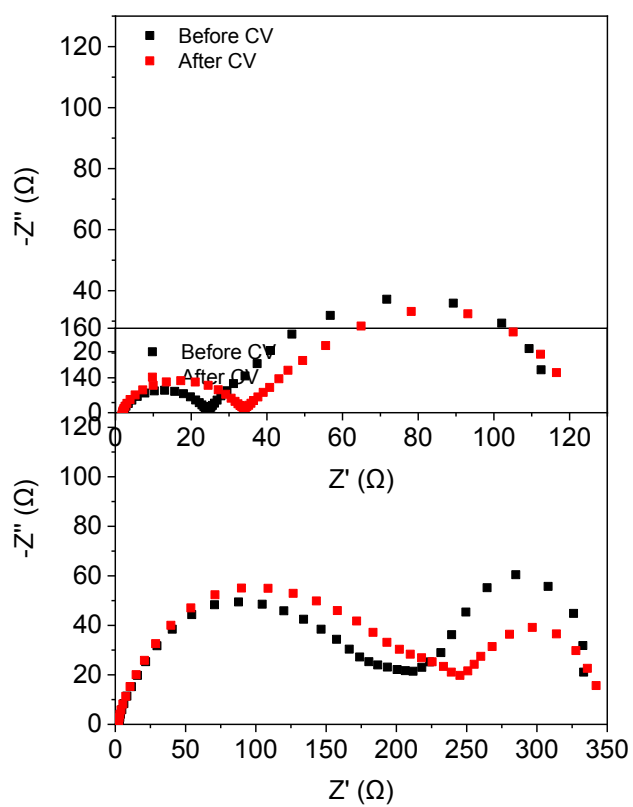


Figure S4. Nyquist plots of **3** (top) and **4** (bottom) symmetric cells before (black) and after (red) CV.

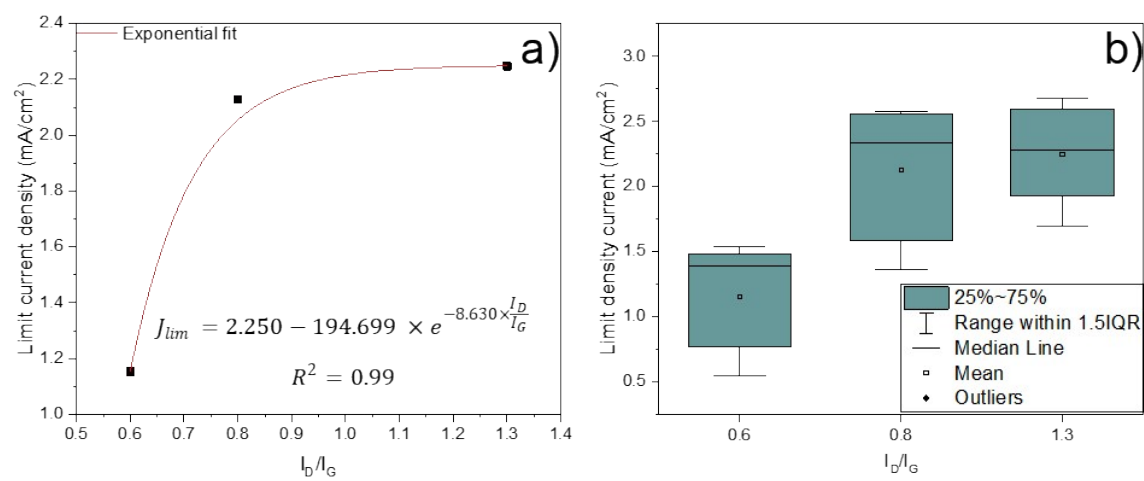


Figure S5. Exponential fit of the mean limit density current with I_D/I_G (a) and used statistics values (b).

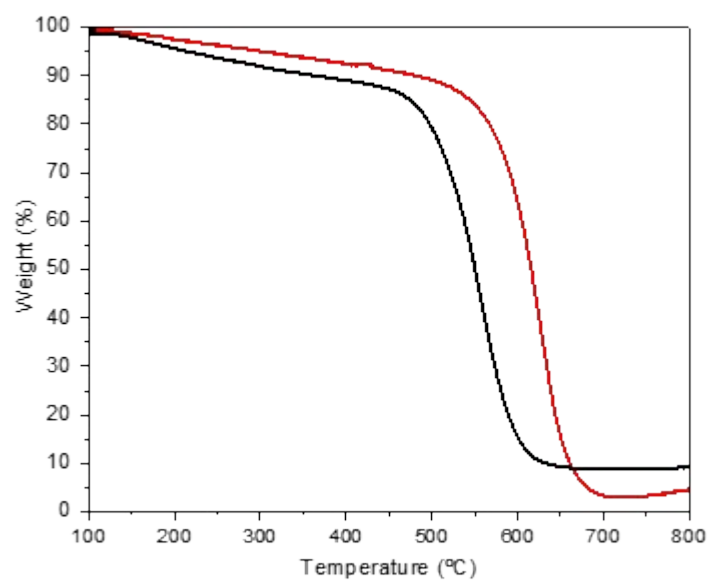


Figure S6. TGA of the CNTf-electrodes before (black; **1**) and after (red; **3-3%**) metal catalyst reduction.

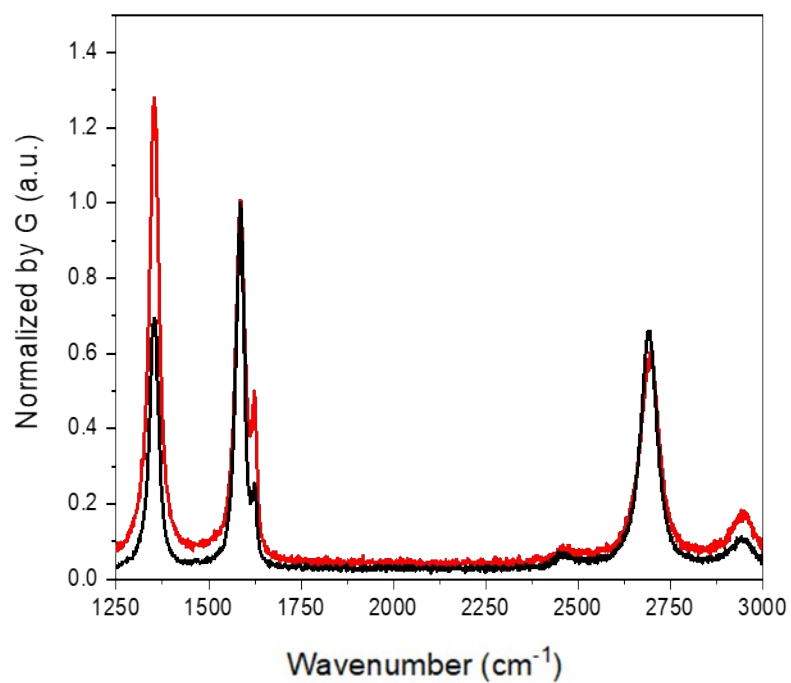


Figure S7. Raman spectra before (black; **1**) and after (red; **3-3%**) reduction of Fe catalyst.

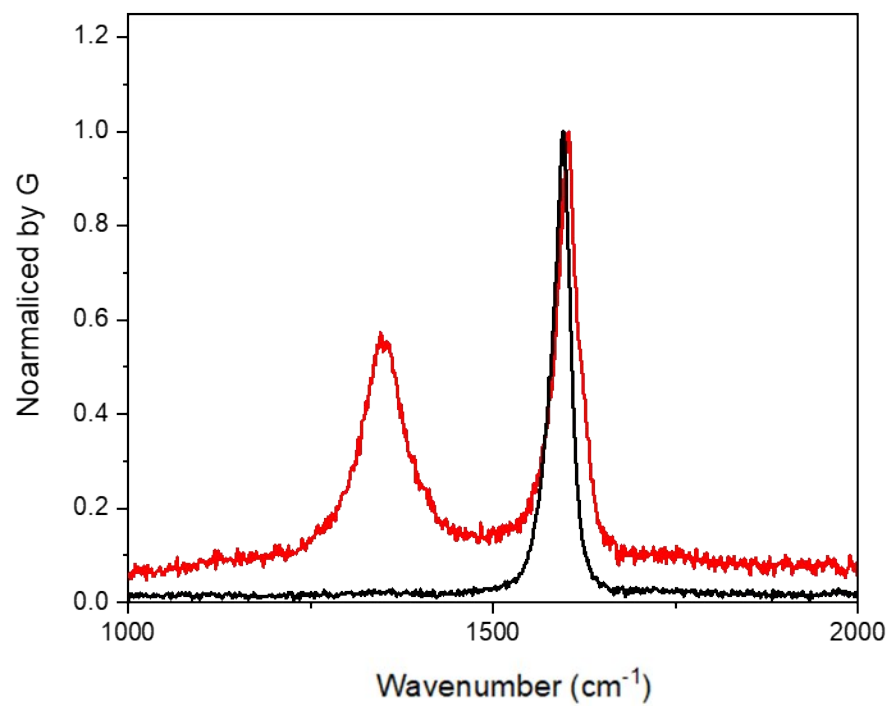


Figure S8. Raman spectra of commercial CNTf-electrodes without metal catalyst before (black) and after (red) ozonolysis functionalization.

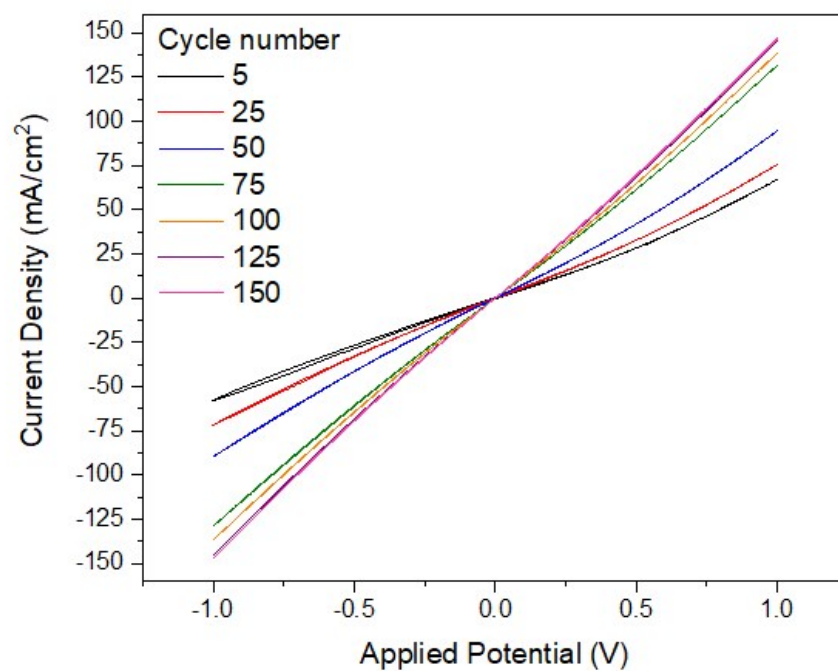


Figure S9. LSV of symmetric cells using a pristine commercial CNTf electrodes without catalyst.

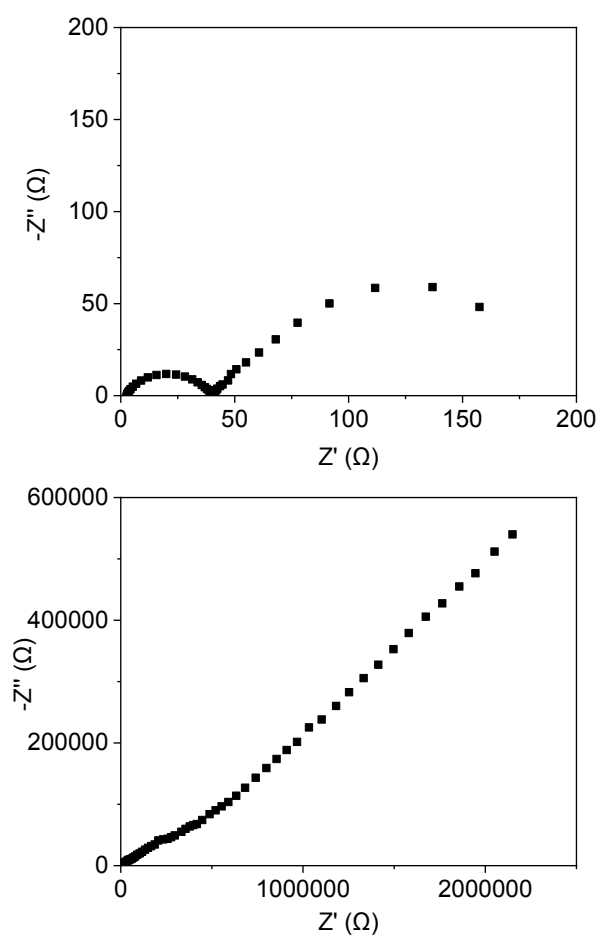


Figure S10. Nyquist plots of functionalized **3-3%** (top) and **3-0%** (bottom) symmetric cells.

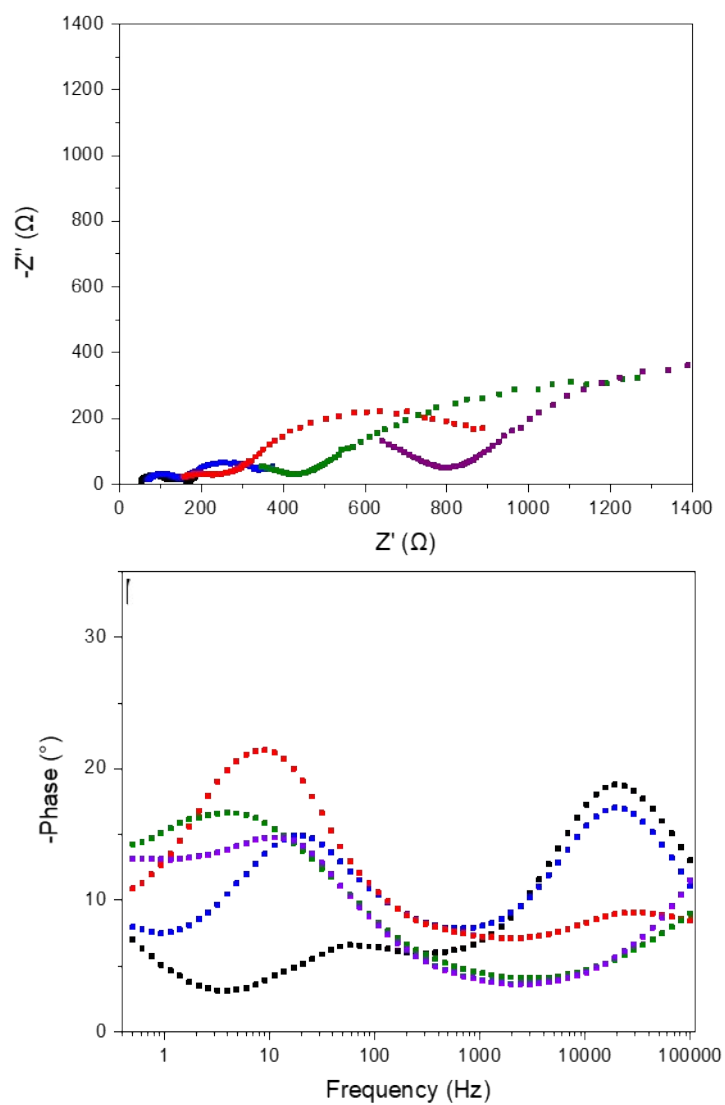


Figure S11. Nyquist (top) and Bode plots (bottom) of the DSSCs using **3**-CEs at different illumination conditions: 1 sun (black), 0.8 sun (blue), 0.6 sun (red), 0.4 sun (0.4), and 0.3 sun (purple).