

Supporting information

Uniformly self-decorated Co₃O₄ nanoparticles onto N, S co-doped carbon layers derived from camphor sulfonic acid and metal organic framework hybrids for oxygen evolution electrocatalyst

Mohd. Khalid,^{1,*} Ana M.B. Honorato,² Edson A. Ticianelli,¹ Hamilton Varela^{1,*}

¹ Institute of Chemistry of São Carlos, University of São Paulo, POBox 780, 13560-970, São Carlos, SP, Brazil.

² Center of Advanced Science and Engineering for Carbon (Case4carbon), Department of Macromolecular Science and Engineering, Case Western Reserve University, 10900 Euclid Avenue, Cleveland, OH 44106, USA.

*Corresponding authors email addresses: mkansarister@gmail.com (MK),
hamiltonvarela@usp.br (HV)

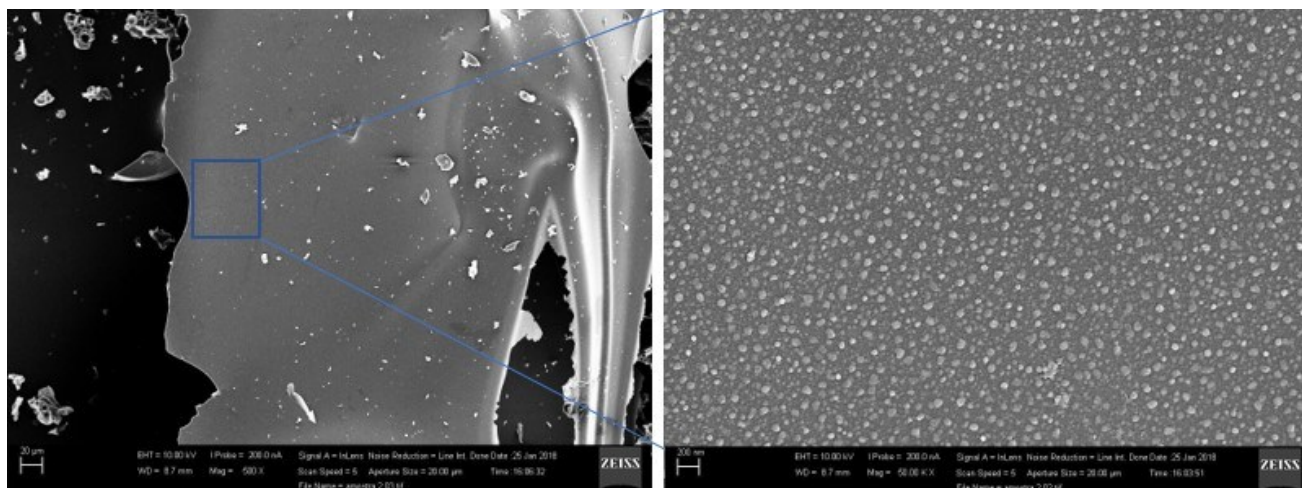


Fig. 1S SEM images of acid treated $\text{Co}_3\text{O}_4/\text{NSC}$.

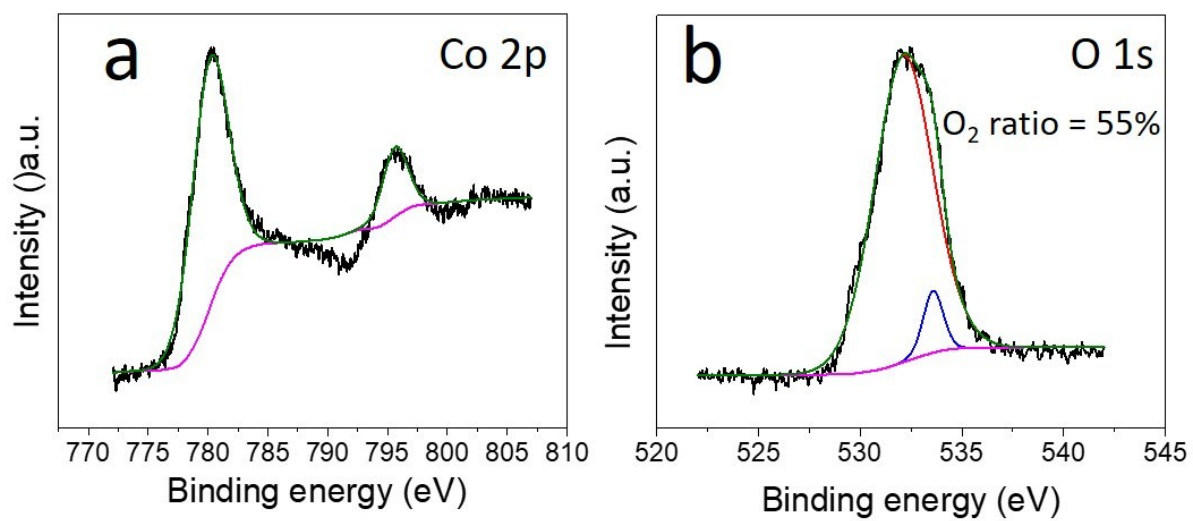


Fig. 2S a) XPS spectra of $\text{Co}2p$ of pyrolyzed ZIF-67 and b) HR-XPS of $\text{O}1s$ of pyrolyzed ZIF-67.

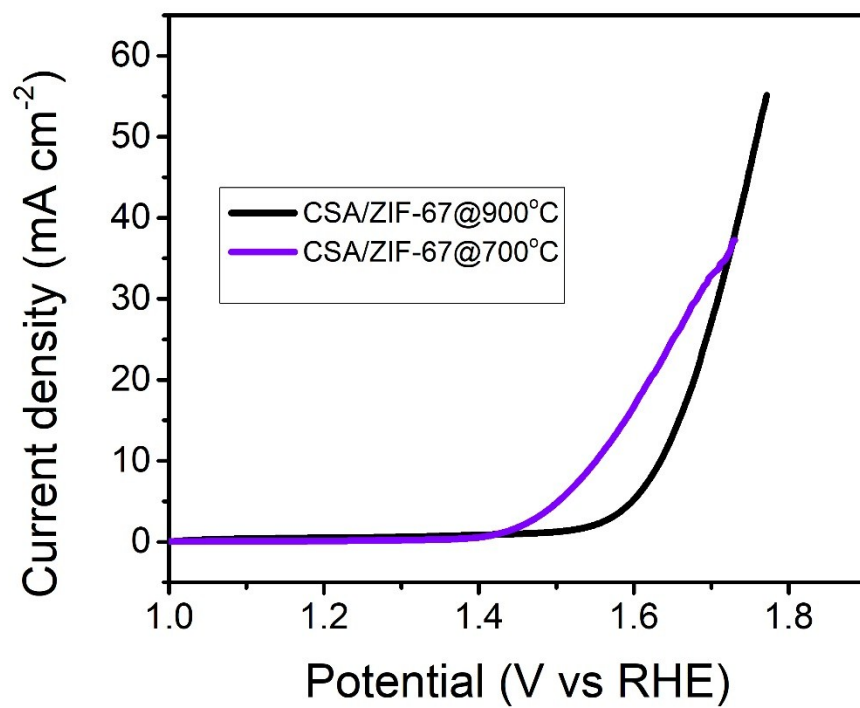


Fig. 3S LSV curves of CSA/ZIF-67 at different pyrolytic temperature.

Additional supporting figures

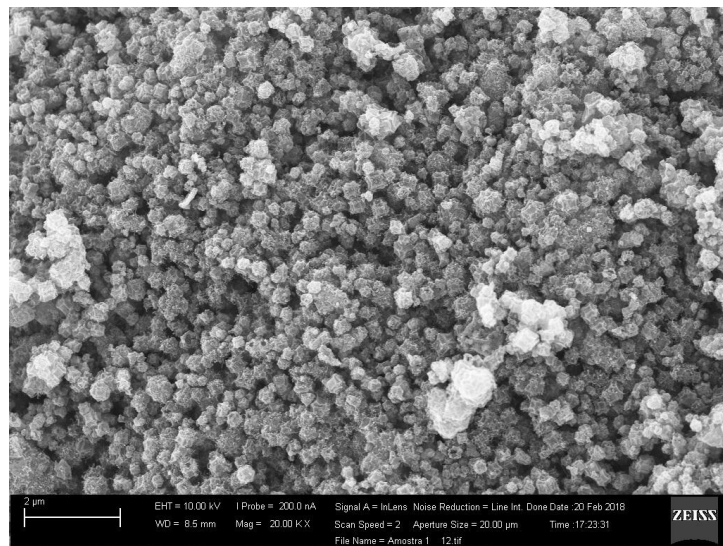


Fig. 4S SEM image of pyrolyzed ZIF-67.

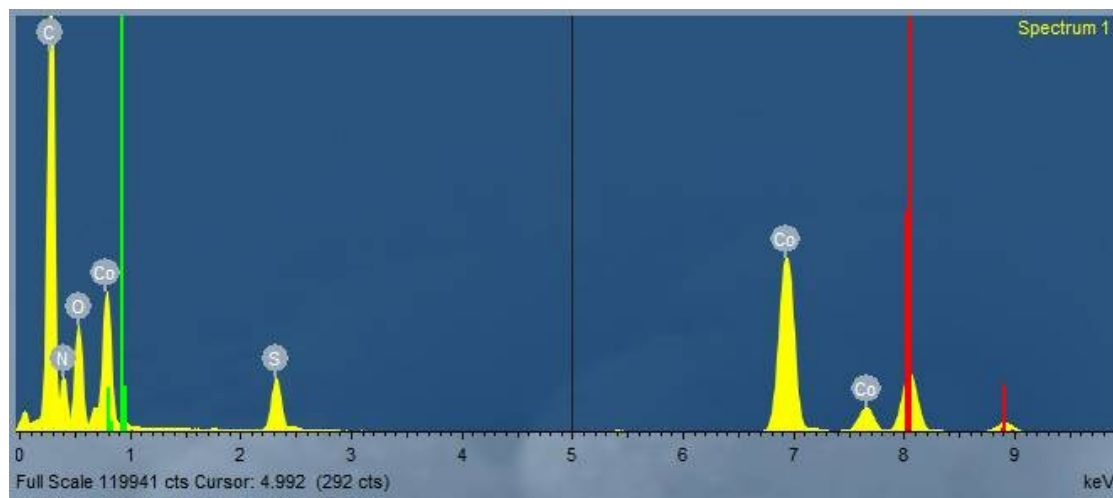


Fig. 5S Energy-dispersive X-ray spectroscopy of $\text{Co}_3\text{O}_4/\text{NSC}$. The data reveals that the material contains C, N, O, S, and Co as the main components.