Supporting Information

A Facile Biosynthesis of $CoFe_2O_4$ /Carbon Nanocomposites as Efficient Bi-functional Electrocatalysts for Oxygen Reduction and Oxygen Evolution Reaction

Shanshan Liu[a,b], Weiyong Bian[b], Zhenrong Yang[b], Jinghua Tian[b], Chao Jin[b], Ming Shen[c], Zhufa Zhou[a,*], and Ruizhi Yang[b,*]

[a] *College of Chemistry, Chemical Engineering and Materials Science, Suzhou Jiangsu 215006, China.*
[b] *College of Physics, Optoelectronics and Energy & Collaborative Innovation Center of Suzhou Nano Science and Technology, Suzhou Jiangsu 215006, China.*
[c] *Huasheng Chemical Corporation, Zhangjiagang, Jiangsu 215635, China*

E-mail: yangrz@suda.edu.cn; zfzhou@suda.edu.cn

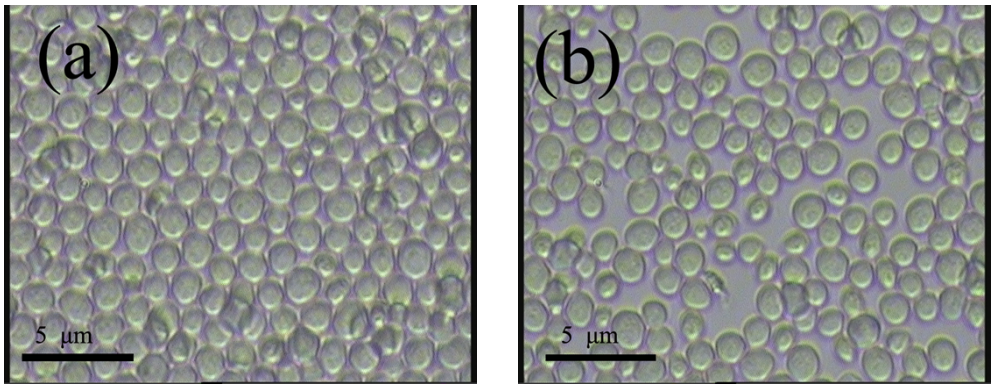

Figure S1. Optical microscope images of (a) cultivated yeast cells and (b) yeast cells after being added to Co^{2+} and Fe^{3+}.

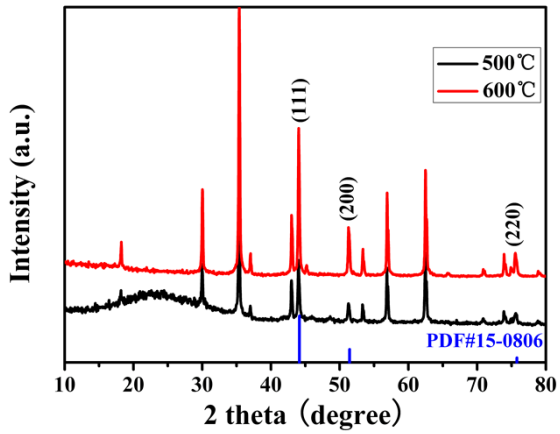

Figure S2. XRD patterns of CFO/BC pyrolyzed at 500° C and 600° C.

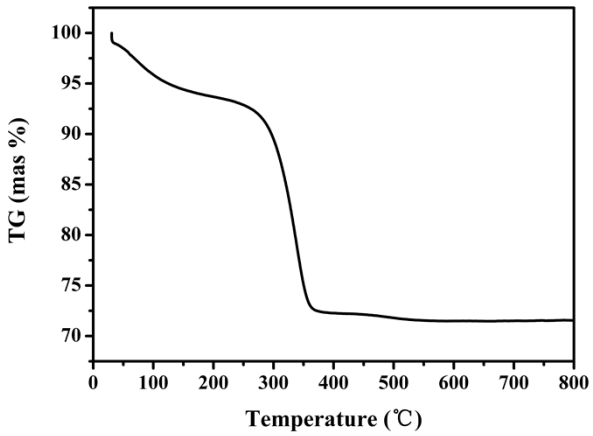

Figure S3. TGA curve of CFO/BC in air atmosphere.

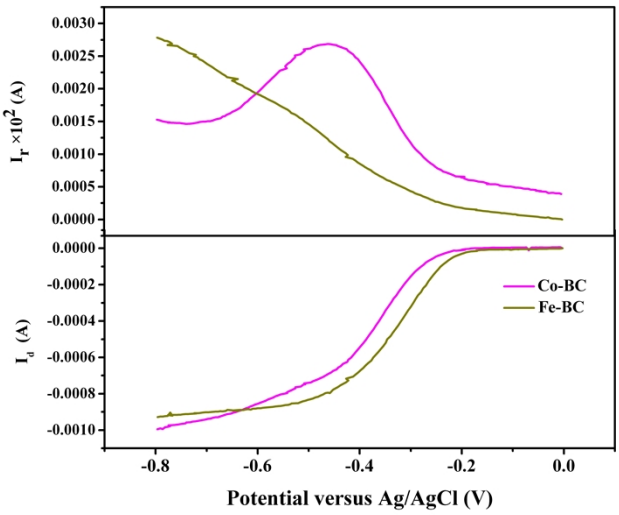

Figure S4. Linear sweeping voltammograms (LSVs) on rotating ring-disk electrode for Co/BC (only $Co(NO_3)_2$ was added into the yeast emulsion and the other experiment conditions were the same) and Fe/BC (only $Fe(NO_3)_3$ was added into the yeast emulsion and the other experiment conditions were the same) in O_2-saturated 0.1 M KOH at a rotating speed of 1600 rpm. The disk potential was scanned at 10 mV s^{-1} and the ring potential was fixed at 0.5 V (vs. Ag/AgCl).

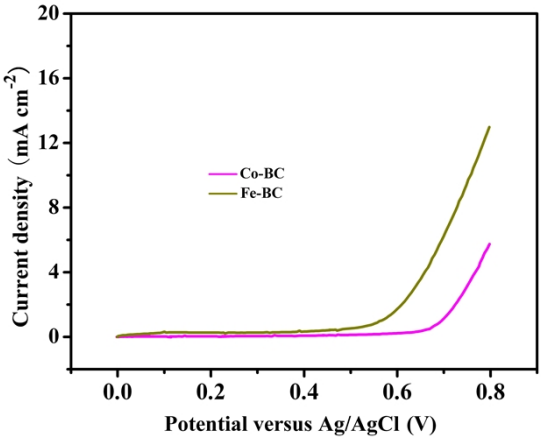

Figure S5. LSVs for the Co/BC and Fe/BC in N_2-saturated 0.1 M KOH with a sweeping rate of 10 mV s^{-1} and a rotating speed of 1600 rpm