

Supporting Information

Hierarchical porous carbon foam embedded with readily accessible atomic iron sites for efficient electrochemical nitrite sensing

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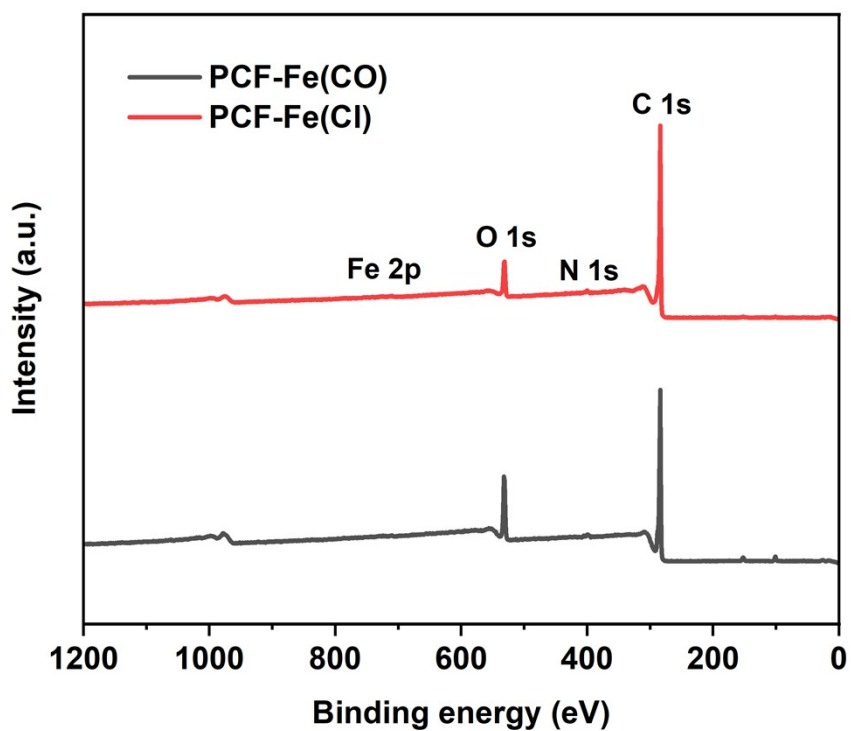


Figure S1. XPS spectra of PCF-Fe(Cl) and PCF-Fe(CO).

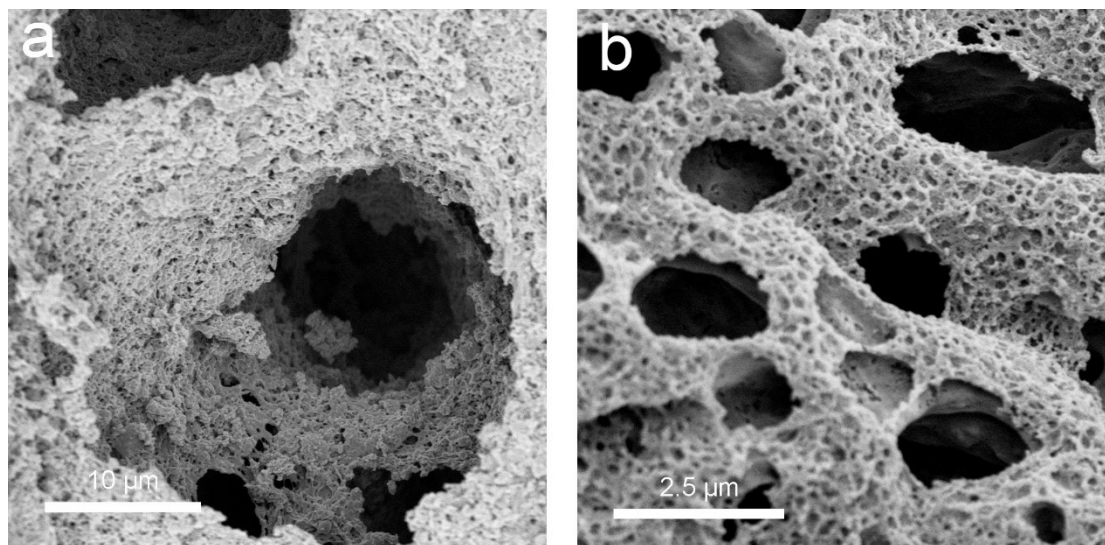


Figure S2. (a, b) SEM image of PCF-Fe(CO).

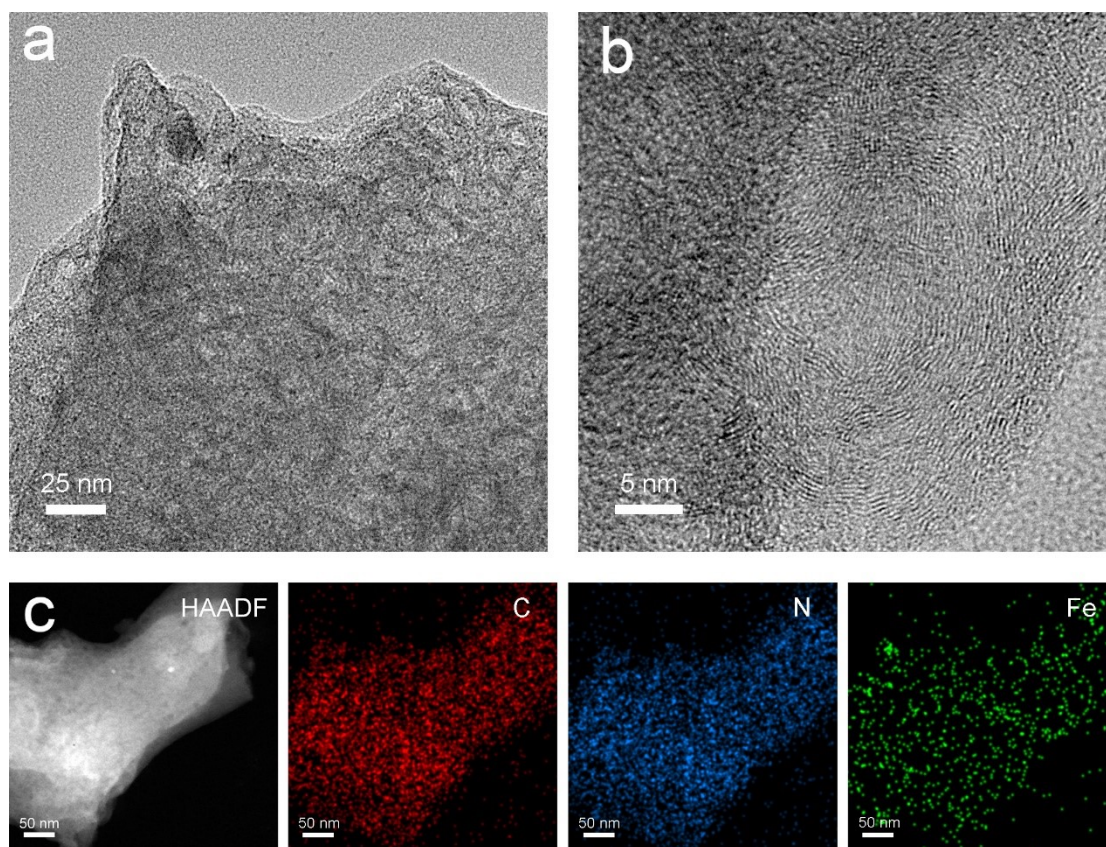


Figure S3. (a, b) TEM images of PCF-Fe(CO), (c) HAADF-STEM image and EDX mapping of PCF-Fe(CO).

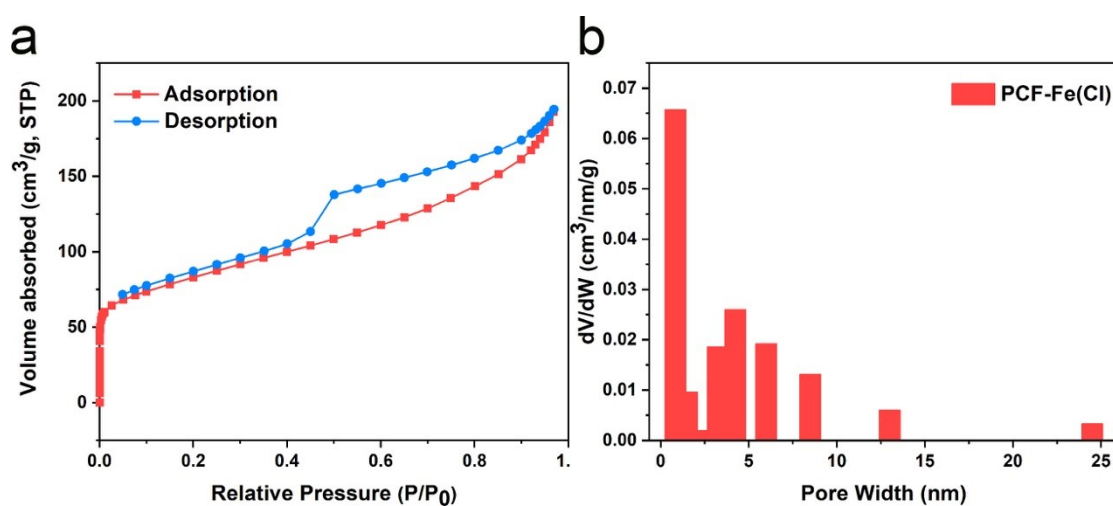


Figure S4. (a) N₂ adsorption-desorption isotherms. (b) DFT pore size distributions of PCF-Fe(Cl).

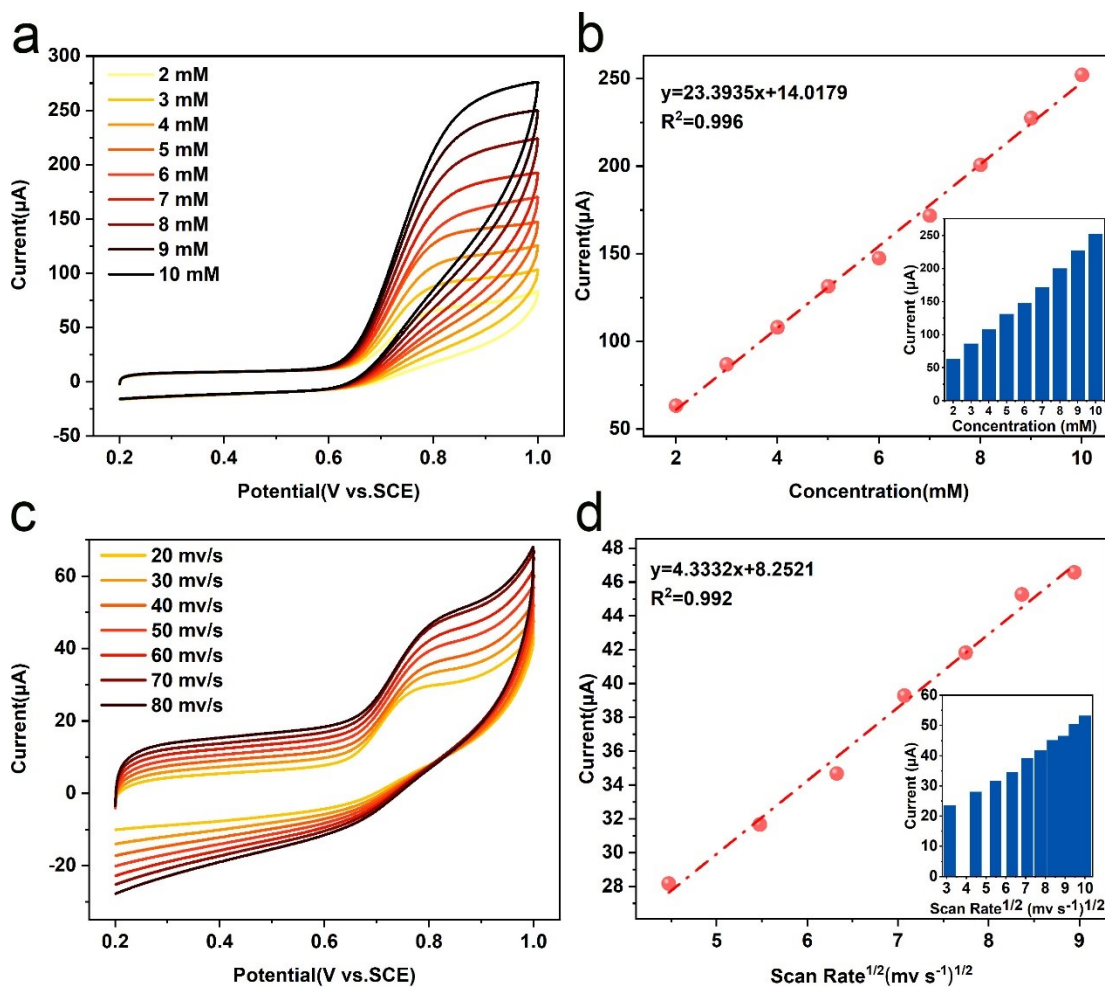


Figure S5. (a) CVs of the PCF-Fe(CO) in a series of different nitrite concentration (2–10 mM) (scan rate: 50 mV/s). (b) Linear relationship of the anodic peak current density and nitrite concentration. (c) CVs of the PCF-Fe(CO) in 0.10 M PBS (pH = 7) containing 2 mM nitrite (scan rate: 20–80 mV/s). (d) The linear relationship of the anodic peak currents and the square root of the scan rates.

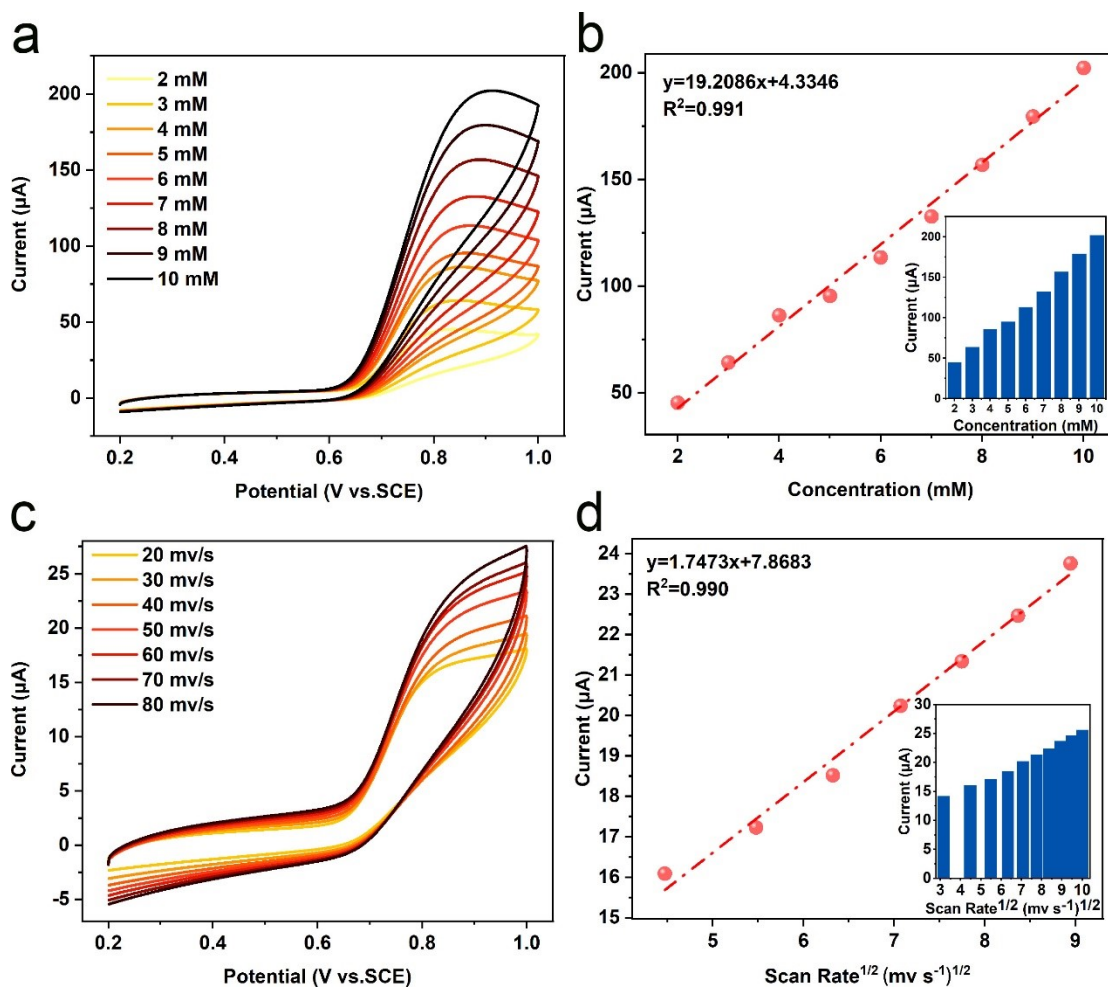


Figure S6. (a) CVs of the PCF in a series of different nitrite concentration (2–10 mM) (scan rate: 50 mV/s). (b) Linear relationship of the anodic peak current density and nitrite concentration. (c) CVs of the PCF in 0.10 M PBS (pH = 7) containing 2 mM nitrite (scan rate: 20-80 mV/s). (d) The linear relationship of the anodic peak currents and the square root of the scan rates.

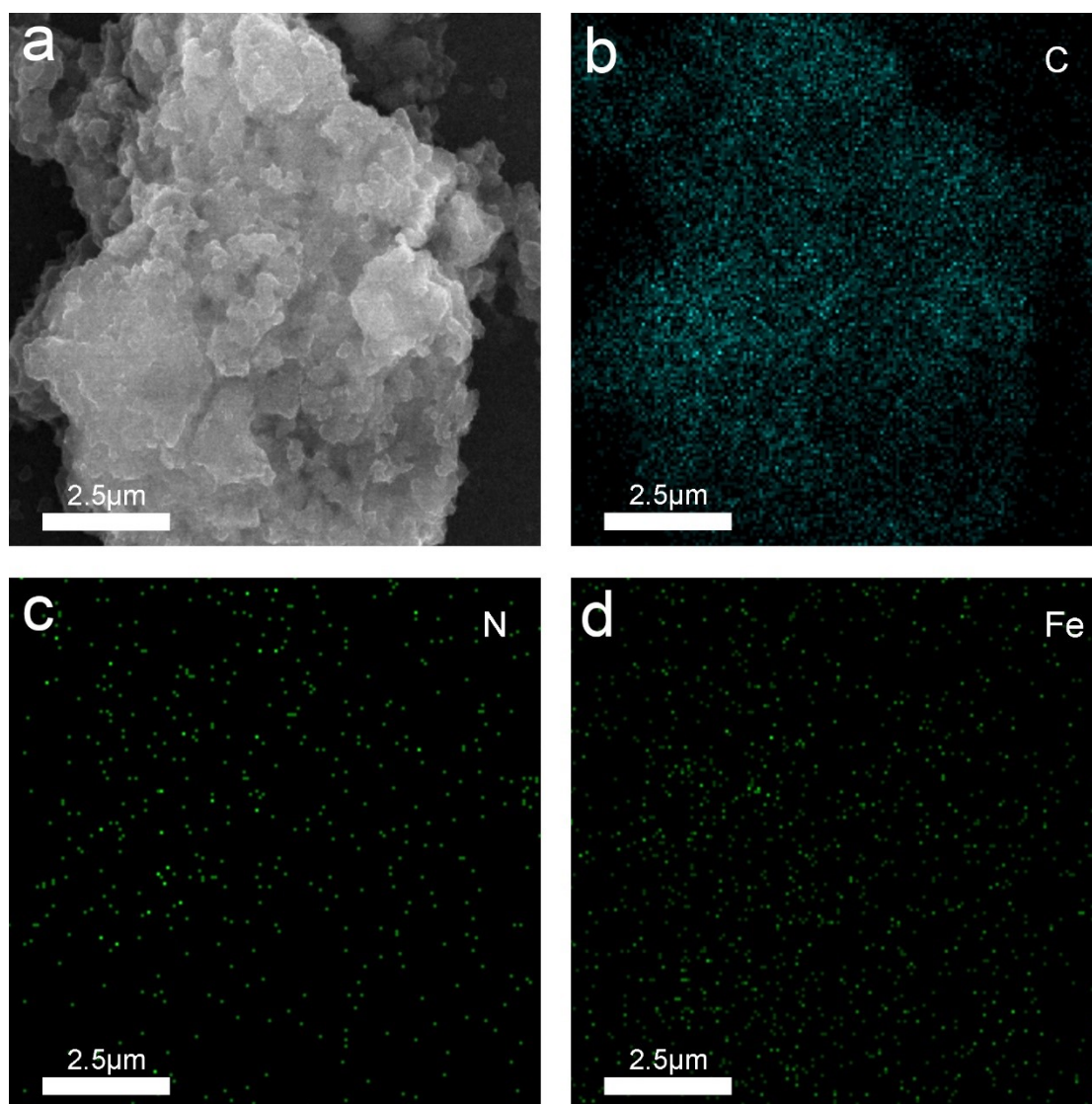


Figure S7. (a-d) SEM images and element mapping of PCF-Fe(Cl)

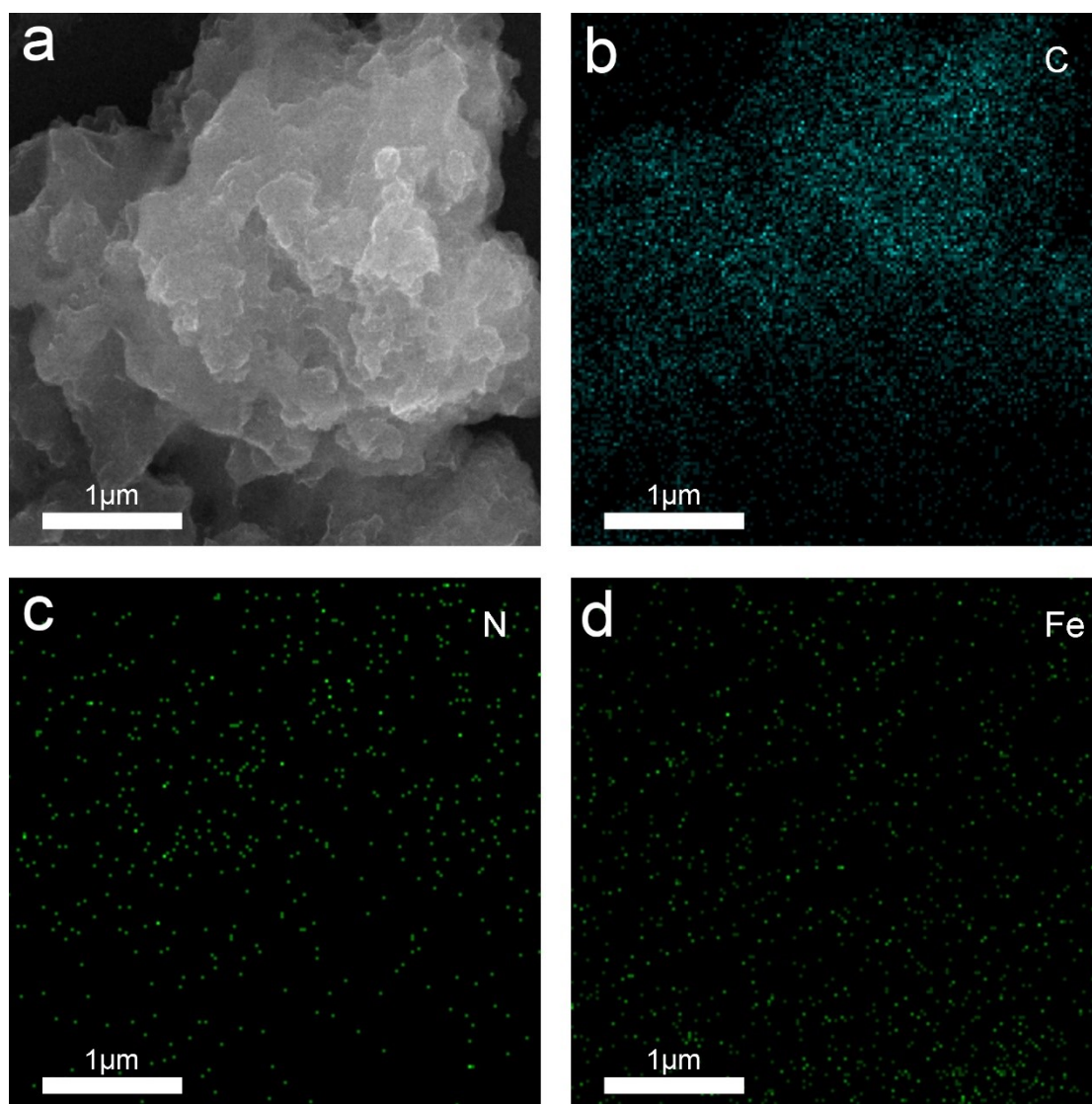


Figure S8. (a-d) SEM images and element mapping of PCF-Fe(Cl) (After Reaction)

Table S1. Comparison of Fe loading (wt%) (ICP)

Sample	Fe loading(wt%)
PCF-Fe(Cl)	4.25%
PCF-Fe(CO)	3.92%

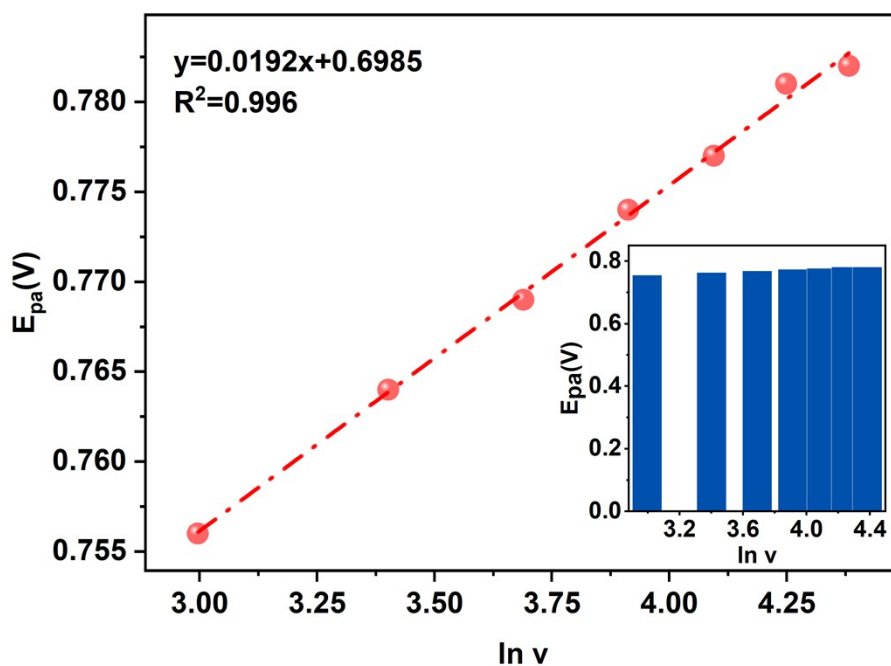


Figure S9. The linear relationship between the anodic peak potential (E_{pa}) and napierian logarithm of the scan rate ($\ln v$).