Supporting Information

Effects of Superparamagnetic Iron Nanoparticles on Electrocatalysts for the Reduction of Oxygen

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Figures

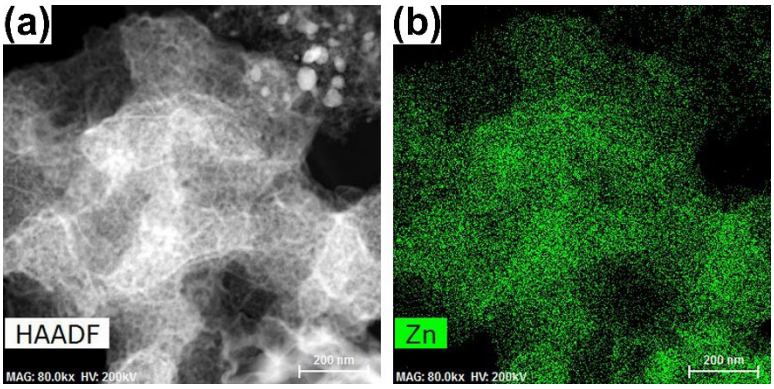

Figure S1. (a) Representative HAADF-STEM image (b) EDS map of the $FeNC_{750}$ samples showing the existence of remaining zinc after pyrolysis.

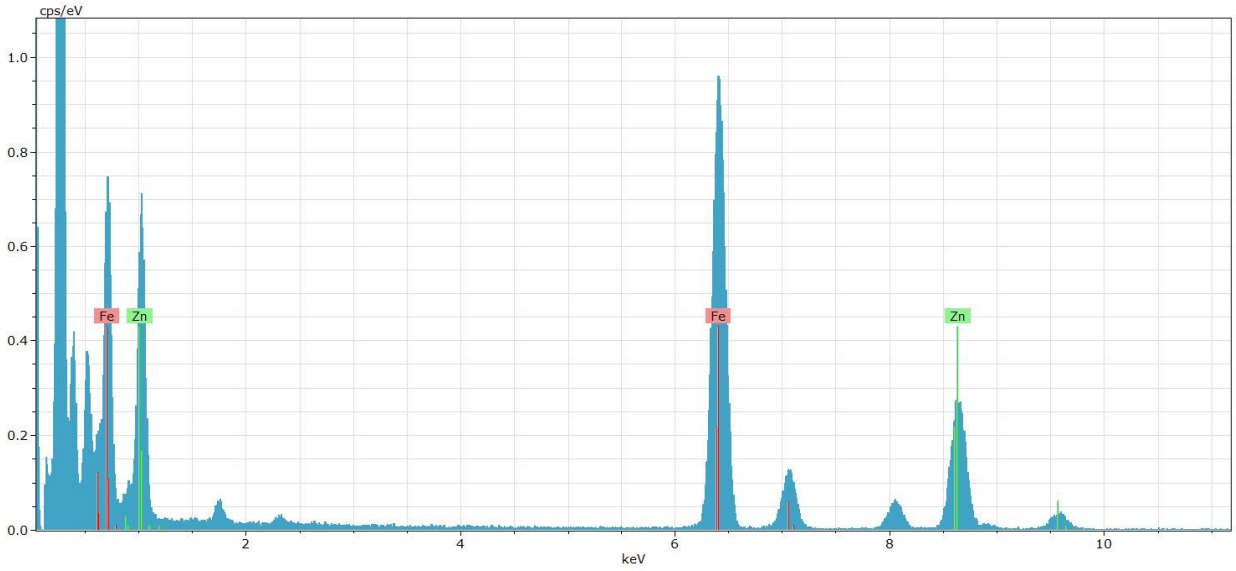

Figure S2. EDS spectrum showing the presence of Zn and Fe.

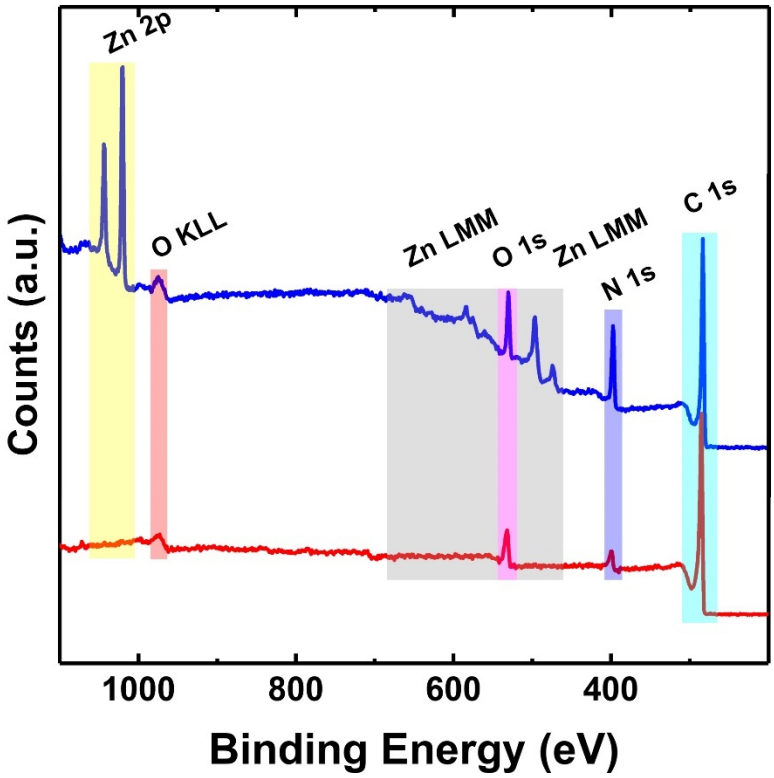

Figure S3. XPS survey scans for $FeNC_{750}$ (top, blue) and $FeNC_{950}$ (bottom, red) samples with regions of relevant elements being highlighted. The signals for zinc were clearly observable for the $FeNC_{750}$ sample, but absence from the $FeNC_{950}$ sample.

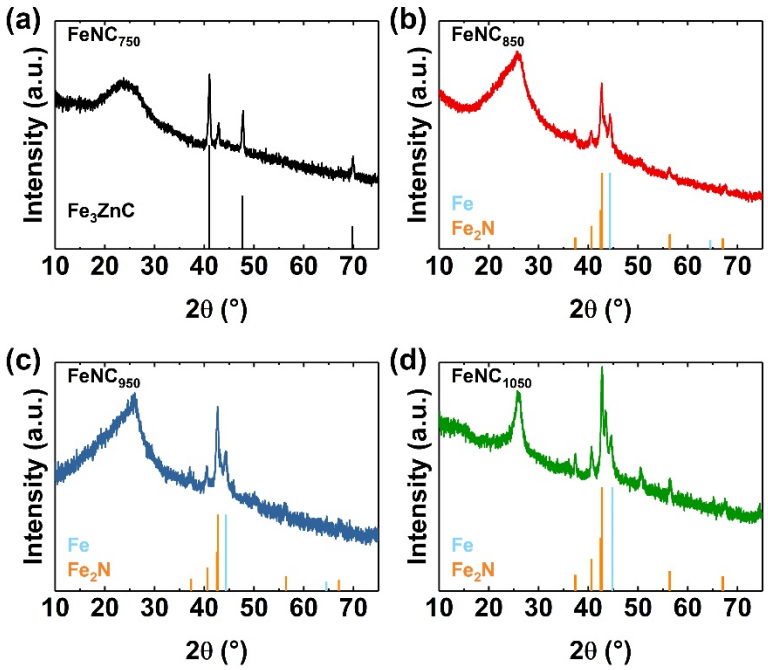

Figure S4. XRD patterns showing the formation of various Fe and N containing species in the as-made catalysts.

Tables

Table S1. Iron and zinc contents in the Fe-N-C electrocatalysts determined by inductively coupled plasma mass spectrometry (ICP-MS)

	Zn (wt. %)	**Fe (wt. %)**
$FeNC_{850}$	4.3	5.6
$FeNC_{950}$	0.18	5.5
$FeNC_{1050}$	0.01	7.2

Table S2. Mössbauer spectroscopy results for the Fe-N-C electrocatalysts

Sample	**Component**		**δ_{iso} (mm s^{-1})**	**ΔE_Q (mm s^{-1})**	**FWHM (mm s^{-1})**	**Assignment**
$FeNC_{850}$	Doublet		0.37	0.97	0.60	FeN_x
	Singlet		-0.07	-	0.26	α-Fe
$FeNC_{950}$	Doublet		0.32	0.89	0.82	FeN_x
	Singlet		-0.1	-	0.35	α-Fe
$FeNC_{1050}$	Doublet		0.22	0.96	0.34	FeN_x
	Singlet		-0.07	-	0.35	α-Fe