Electronic Supplementary Information

Glycerine-based synthesis of highly efficient Fe_2O_3 electrocatalyst for N_2 fixation

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Table S1 Comparison of NRR performance for the different catalysts at room temperature and ambient pressure.

Catalyst	Electrolyte	Potential (V vs. RHE)	NH_3 formation rate	FE (%)	Ref.
Rh	0.1 M KOH	-0.2	35.58 μg mg_{cat}^{-1} h^{-1}	0.52	1
Fe_3O_4/Ti	0.1 M Na_2SO_4	-0.4	5.6×10^{-11} mol s^{-1} cm^{-2}	2.6	2
MoS_2/CC	0.1 M Na_2SO_4	-0.5	8.08×10^{-11} mol s^{-1} cm^{-2}	1.17	3
MoO_3	0.1 M HCl	-0.4	29.43 μg mg_{cat}^{-1} h^{-1}	1.9	4
$Ti_3C_2T_x$	0.5 M Li_2SO_4	-0.2	0.26 μg mg_{cat}^{-1} h^{-1}	5.78	5
Fe_2O_3	0.1 M Na_2SO_4	-0.8	15.9 μg mg_{cat}^{-1} h^{-1}	0.94	6
Fe_2O_3	**0.1 M Na_2SO_4**	**-0.5**	**22 μg mg_{cat}^{-1} h^{-1}**	**3.5**	**Our work**

CC = Carbon cloth

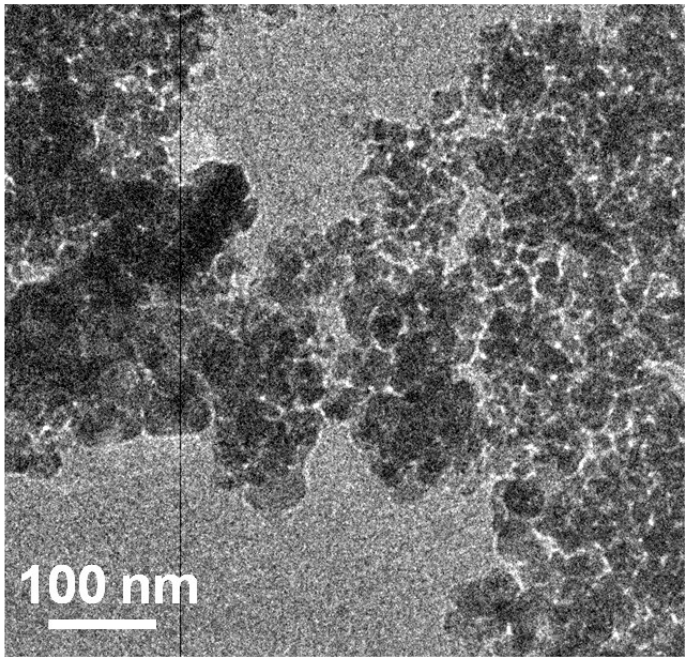

Fig. S1 TEM image of the synthesized Fe_2O_3 after long-term test.

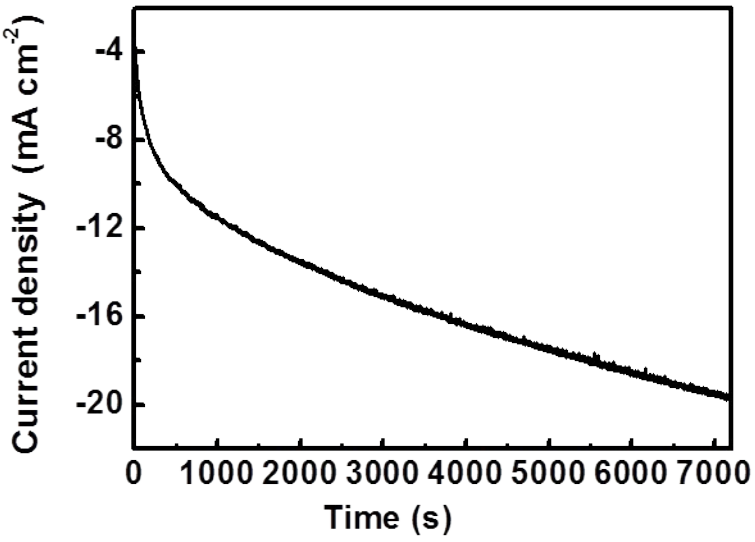

Fig. S2 The time-dependent current density curve for Fe_2O_3 at -0.5 V in 0.1 M KOH.

References

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