Supporting Information for:

Structural Evolution of CrN Nanocube Electrocatalysts during Nitrogen Reduction Reaction

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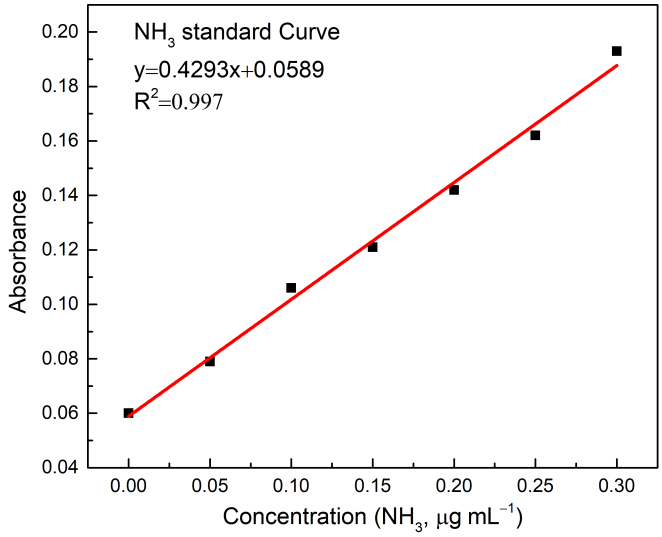

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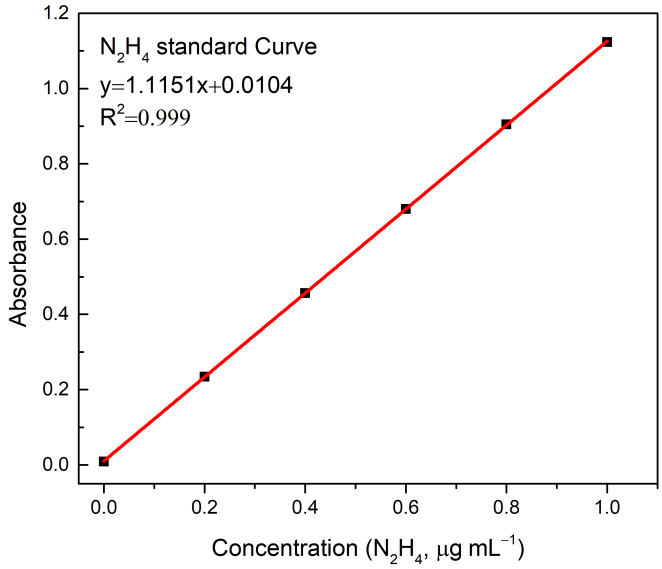

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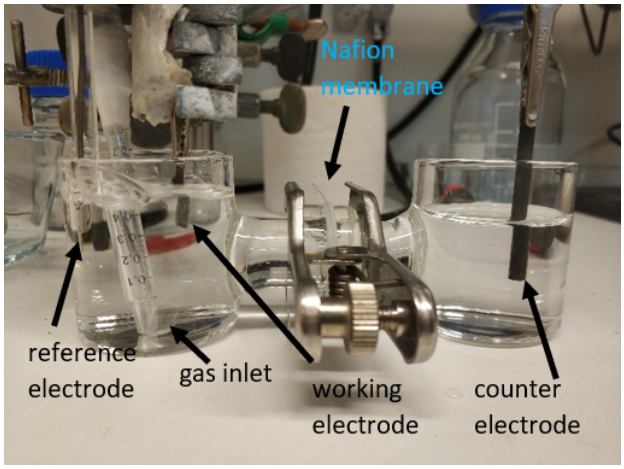

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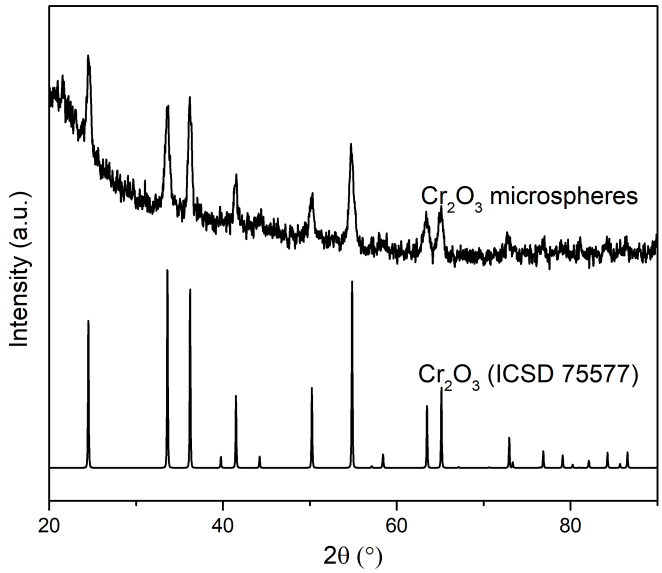

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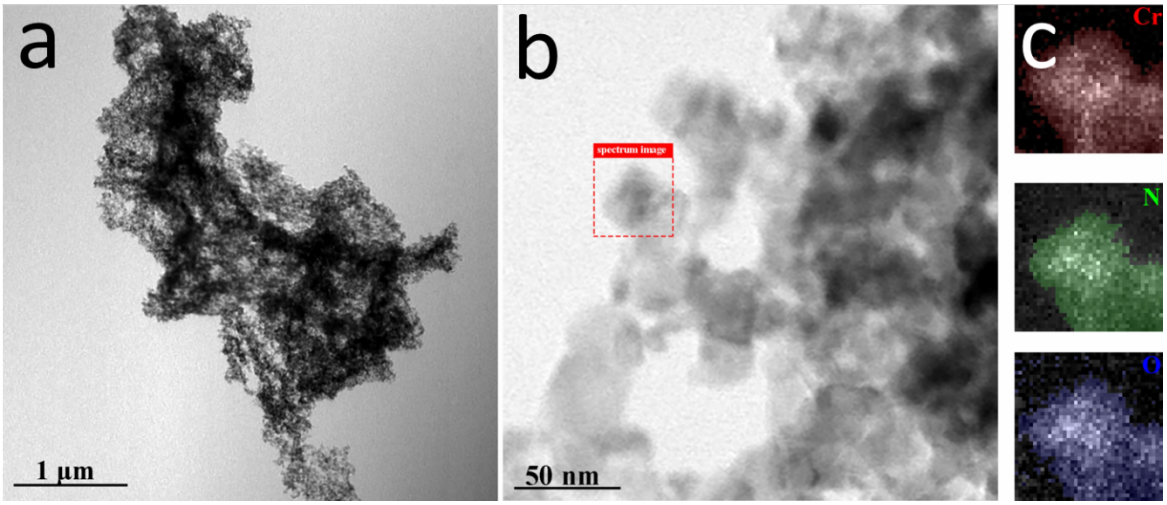

Fig. S5 STEM images (a, b) of as-prepared CrN NCs and STEM EDX mapping (c) for as-prepared CrN NCs.

II. Supplemental Table

Table S1 Summary of the representative reports on electrocatalytic NRR at ambient conditions.

Catalyst	Electrolyte	NH_3 yield	FE(%)	Ref.
CrN nanocubes	**0.1 M HCl**	**31.11 μg h^{-1} $mg_{cat.}^{-1}$**	**16.64**	**This work**
VN	0.1 M HCl	8.40×10^{-11} mol $s^{-1}cm^{-2}$	2.25	[1]
mesoporous boron nitride	0.1 M Na_2SO_4	18.2 μg h^{-1} $mg_{cat.}^{-1}$	5.5	[2]
MoN	0.1 M HCl	3.05×10^{-10} mol $s^{-1}cm^{-2}$	1.15	[3]
defect-rich MoS_2	0.1 M Na_2SO_4	29.28 μg h^{-1} $mg_{cat.}^{-1}$	8.34	[4]
hollow Cr_2O_3 microspheres	0.1 M Na_2SO_4	25.3 μg h^{-1} $mg_{cat.}^{-1}$	6.78	[5]
Cr_2N	-	1.40×10^{-11} mol $s^{-1}cm^{-2}$	0.58	[6]
$Nb_3O_7(OH)$	0.1 M Na_2SO_4	622 μg h^{-1} $mg_{cat.}^{-1}$	39.9	[7]
TiO_xN_y	0.1 M Na_2SO_4	4.1 mg h^{-1} $g_{cat.}^{-1}$	9.1	[8]
np-$PdH_{0.43}$	0.1 M PBS	20.4 μg h^{-1} $mg_{cat.}^{-1}$	43.6	[9]
3D Rh	0.1 M KOH	35.58 μg h^{-1} $mg_{cat.}^{-1}$	0.52	[10]
Mo-doped $W_{18}O_{49}$	0.1 M Na_2SO_4	5.3 μg h^{-1} $mg_{cat.}^{-1}$	12.1	[11]
multi-yolk-shell bismuth@porous carbon	0.1 M HCl	28.63 μg h^{-1} $mg_{cat.}^{-1}$	10.58	[12]
α-Fe_2O_3@mTiO_2-400	0.1 M Na_2SO_4	27.2 μg h^{-1} $mg_{cat.}^{-1}$	13.3	[13]
$Ti_3C_2T_x$ QDs	0.1 M HCl	62.94 μg h^{-1} $mg_{cat.}^{-1}$	13.30	[14]
amorphous FeB_2 porous nanosheets	0.5 M $LiCO_4$	39.8 μg h^{-1} $mg_{cat.}^{-1}$	16.7	[15]
Cu-TiO_2	0.5 M $LiCO_4$	21.31 μg h^{-1} $mg_{cat.}^{-1}$	21.99	[16]
Co-SAs/NC	0.005 M H_2SO_4	16.9 μg h^{-1} $mg_{cat.}^{-1}$	18.8	[17]
CoS_2@NC	0.1 M HCl	17.45 μg h^{-1} $mg_{cat.}^{-1}$	4.6	[18]
MV-MoN@NC	0.1 M HCl	76.9 μg h^{-1} $mg_{cat.}^{-1}$	6.9	[19]

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