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Ultrafine Fe nanoparticles embedded in N-doped carbon nanotubes derived from highly dispersed g-C_3N_4 nanofibers for oxygen reduction reaction

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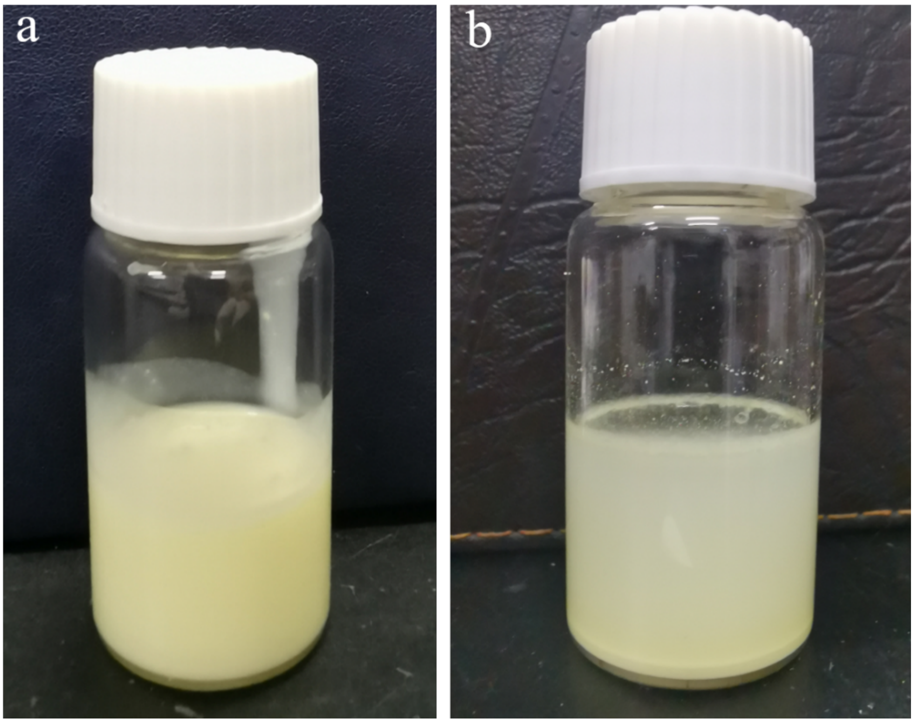

Fig. S1. The photographs of dispersion of h-CN (a) and bulk CN (b) in water.

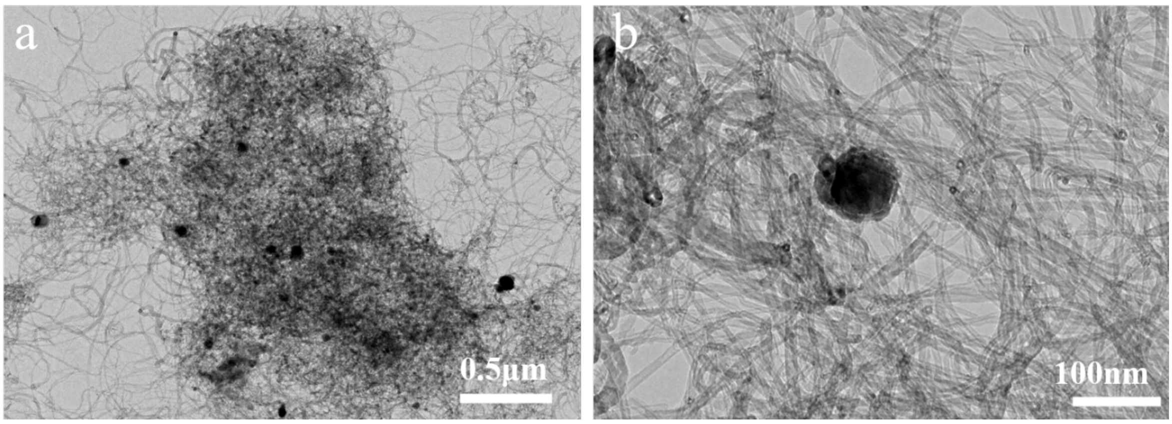

Fig. S2. TEM images of Fe@h-CN/CNT.

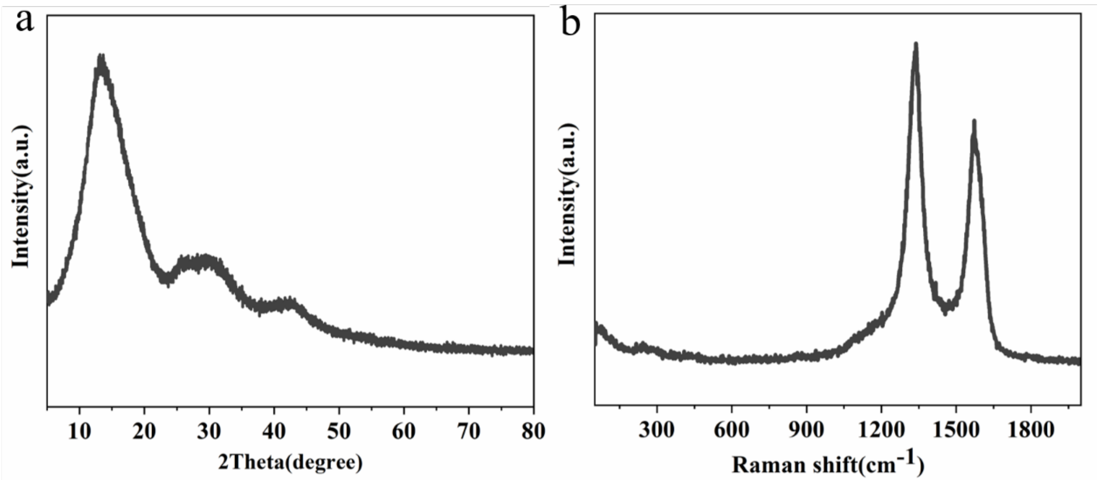

Fig. S3. XRD pattern (a) and Raman spectra (b) of Fe@h-CN/CNT.

Table S1. The amount of C, N and Fe in Fe@h-CN/CNT.

element	C	N	Fe	O
atomic %	92.63	5.28	0.76	1.33

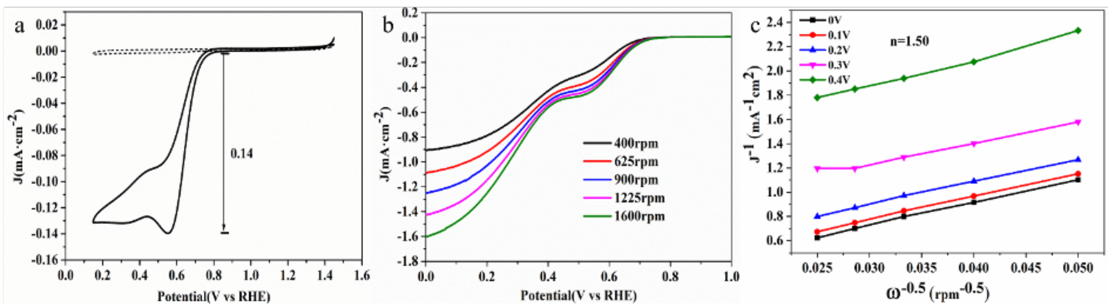

Fig. S4. CV curves (a), LSV curves (b) at different rotation rates, and K-L plots (c) of h-CN.

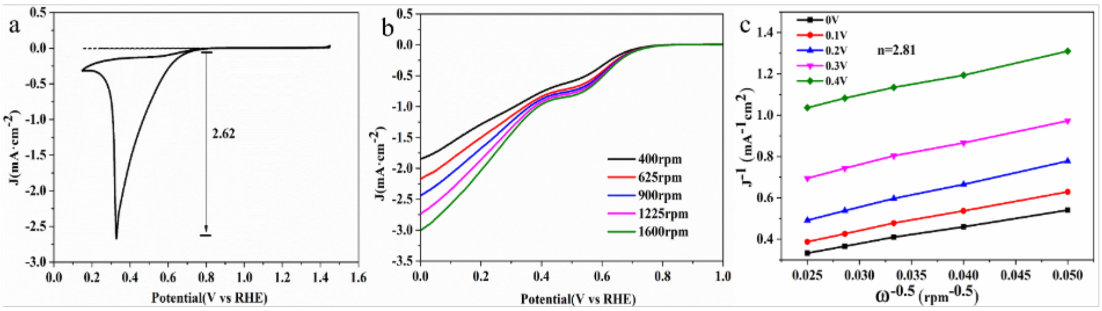

Fig. S5. CV curves (a), LSV curves (b) at different rotation rates, and K-L plots (c) of Fe@h-CN.

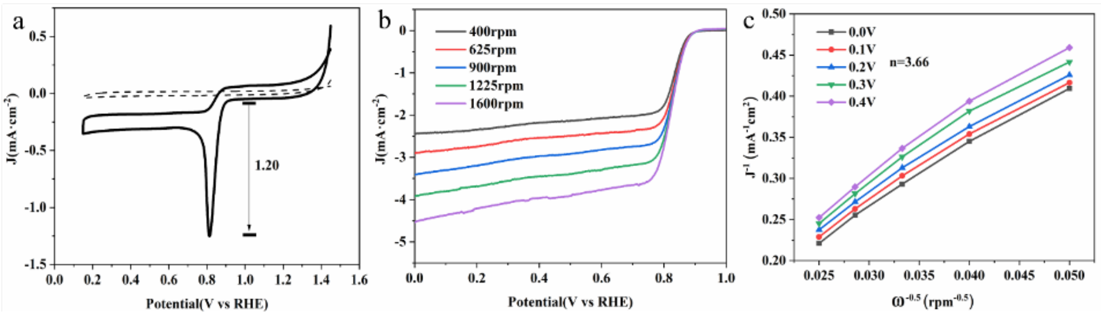

Fig. S6. CV curves (a), LSV curves (b) at different rotation rates, and K-L plots (c) of h-CN/CNT.

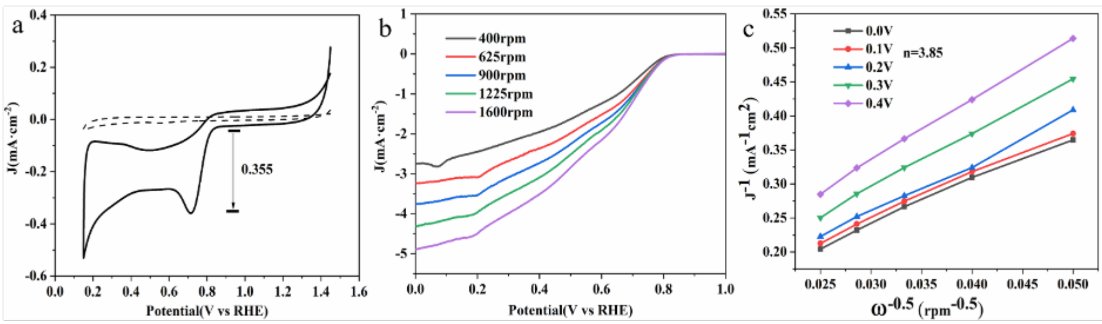

Fig. S7. CV curves (a), LSV curves (b) at different rotation rates, and K-L plots (c) of Fe-CNT.

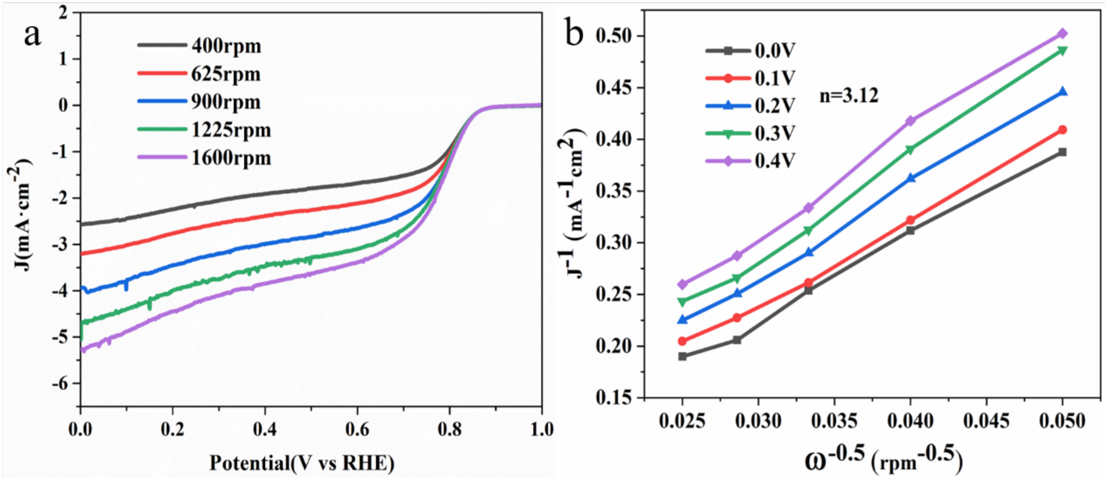

Fig. S8. LSV curves (a) at different rotation rates, and K-L plots (b) of Fe@CN/CNT.

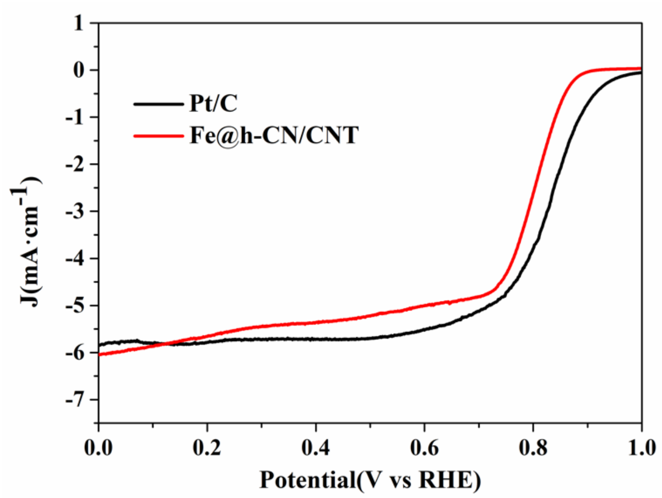

Fig. S9. LSV curves of Fe@h-CN/CNT and 20 % Pt/C in O_2 saturated KOH solution with the rotation speed of 1600 rpm

Table S2. Comparison of ORR performance of Fe@h-CN/CNT with the state-of-the-art catalysts in 0.1 M KOH solution.

Samples	**E_{onset}(V vs RHE)**	**$E_{1/2}$(V vs RHE)**	**j_d(mA·cm^{-2})**	**Ref.**
Co/NHPC	0.89	0.826	-5.4	1
NC@Co-NGC DSNCs	0.92	0.82	-5.25	2
Po-FePhen-C	0.91	0.84	-5.8	3
3D-Fe/N/C	0.97	0.84	-6.68	4
Co@NC@CNTs	0.90	0.82	-5.4	5
Fe_2C@Fe/N-C	0.967	0.81	-5.49	6
S-rGO	0.74	0.6	-2.3	7
Co@Co_3O_4@C-CM	0.85	0.70	-4.6	8
V-NiCo@NG	0.87	0.78	-3.8	9
Cubic-9/C	0.75	0.67	-5.5	10
Fe@h-CN/CNT	0.90	0.80	-6.04	this work

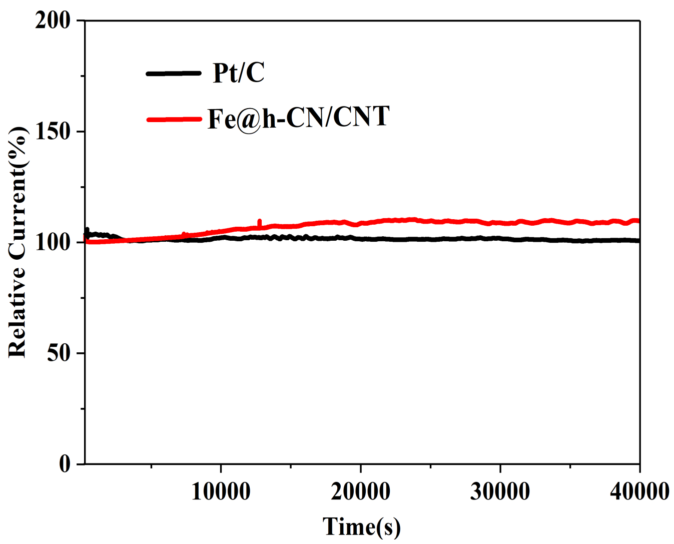

Fig. S10. I-t curves to determine the stability of Fe@h-CN/CNT and 20 % Pt/C.

Table S3. The surface area of Fe@h-CN/CNT and Fe@CN/CNT.

Sample	Surface area（m^2/g）
Fe@h-CN/CNT	193.127
Fe@CN/CNT	101.292

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