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Supporting Information

Magnetic N-Enriched Fe_3C/Graphitic Carbon instead of Pt as an Electrocatalyst for the Oxygen Reduction Reaction

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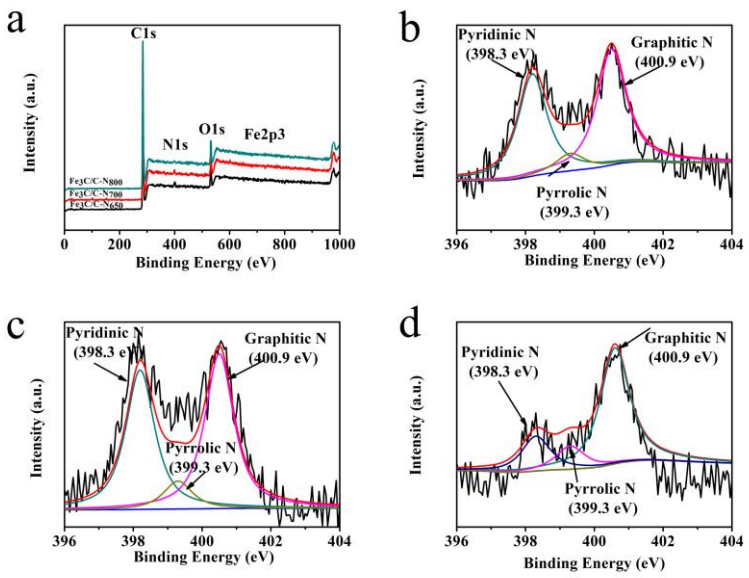

Figure S1 (a) Low-resolution XPS spectra of $Fe_3C/C\text{-}N_{650}$, $Fe_3C/C\text{-}N_{700}$ and $Fe_3C/C\text{-}N_{800}$ NPs. (b), (c) and (d) High-resolution XPS spectra of the N 1s electrons of $Fe_3C/C\text{-}N_{650}$, $Fe_3C/C\text{-}N_{700}$ and $Fe_3C/C\text{-}N_{800}$ NPs.

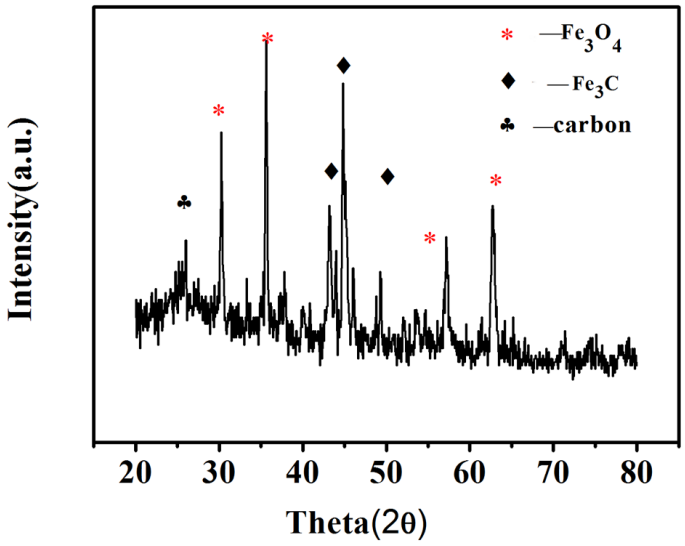

Figure S2 XRD pattern of the $Fe_3C/C\text{-}N_{580}$.

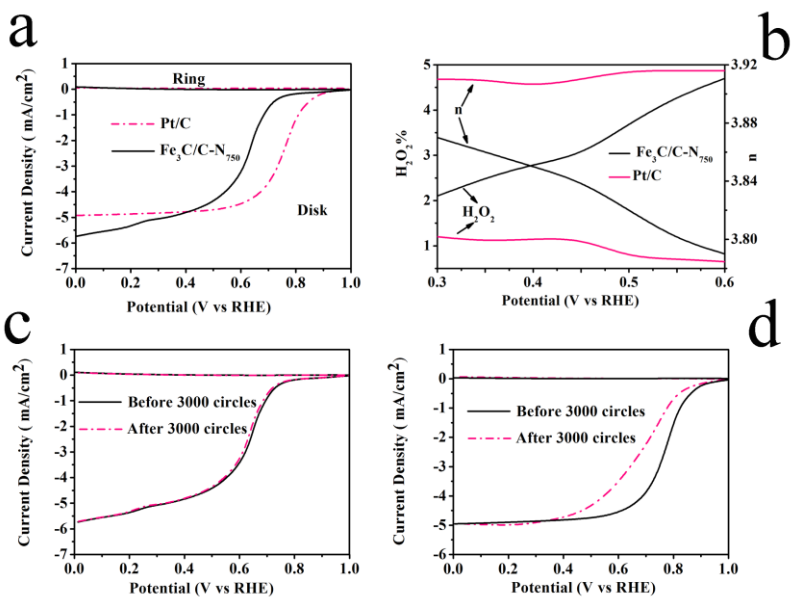

Figure S3 (a) RRDE voltammograms, (b) plots of H_2O_2 yield and number of electron transfer of $Fe_3C/C\text{-}N_{750}$ and Pt/C at the rotation rate of 1600 rpm. LSV curves of (c) $Fe_3C/C\text{-}N_{750}$ and (d) Pt/C for ORR before and after 3000 cycles. All of these experiments were carried out in O_2-saturated 0.10 M $HClO_4$ solution.

Table. S1 Summary of Fe and N concentrations of the as-synthesized $Fe_3C/C\text{-}N_x$ NPs

	$Fe_3C/C\text{-}N_{650}$	$Fe_3C/C\text{-}N_{700}$	Fe3C/C-N750	$Fe_3C/C\text{-}N_{800}$
Pyridinic N (at. %)	2.22	2.05	1.38	0.76
Pyrrolic N (at. %)	0.78	0.70	0.22	0.21
graphitic N (at. %)	2.6	2.25	2.9	2.03
Total N (at. %)	5.6	5	4.5	3
Fe (at. %)	0.57	0.51	0.46	0.44

Table. S2. Magnetic parameters of the as-synthesized $Fe_3C/C\text{-}N_x$ NPs

Sample	M_s (emu/g)	M_r (emu/g)	H_c (Oe)	Squareness (M_r/M_s)

$Fe_3C/C\text{-}N_{650}$	42.3	2.19	175	0.05
$Fe_3C/C\text{-}N_{700}$	51.6	1.21	109	0.02
$Fe_3C/C\text{-}N_{750}$	63.8	2.10	97.1	0.03
$Fe_3C/C\text{-}N_{800}$	77.2	2.54	78.9	0.03