Supporting information

## Iron-nitrogen co-doped hollow carbon sphere with mesoporous structure for enhanced oxygen reduction reaction

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Sample	BET surface area(m^2g^{-1})	Total pore volume(ccg^{-1})
Fe@FeN-CS	25.736	0.1232
Fe@FeN-CS-900	54.382	0.1935
FeN-HCS	103.735	0.5266

Table S1. The BET surface area and total pore volume of Fe@FeN-CS, Fe@FeN-CS-900 and FeN-HCS
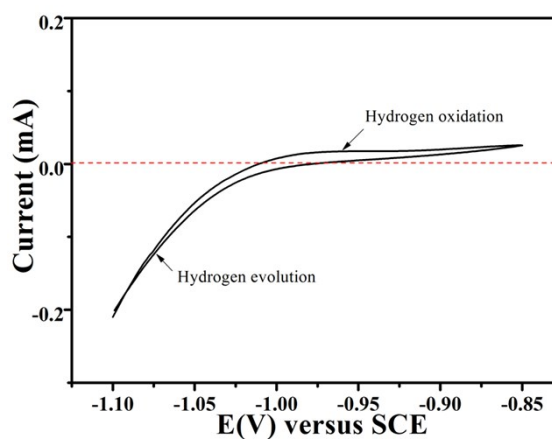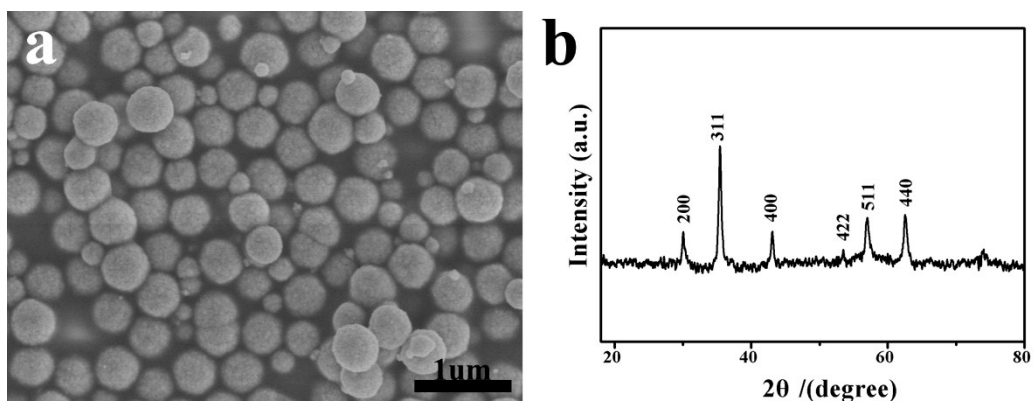

Figure S1. Calibration of SCE to RHE

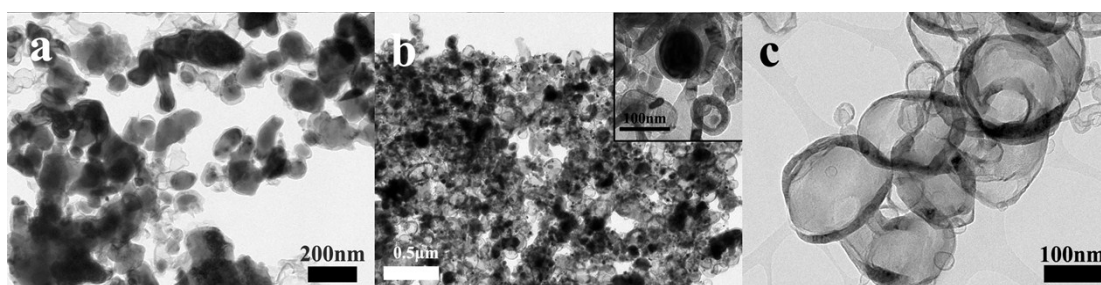**Figure S2.** (a) SEM image and (b) XRD pattern of Fe$_3$O$_4$

Figure S3. TEM images of (a) Fe@FeN-CS, (b) Fe@FeN-CS-900 and (c) FeN-HCS
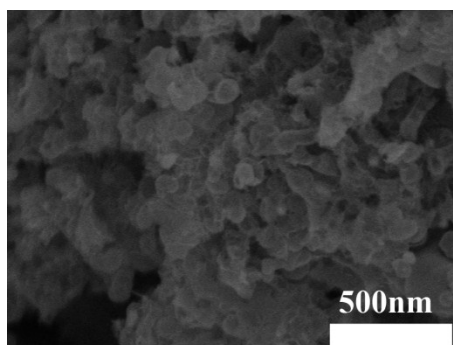

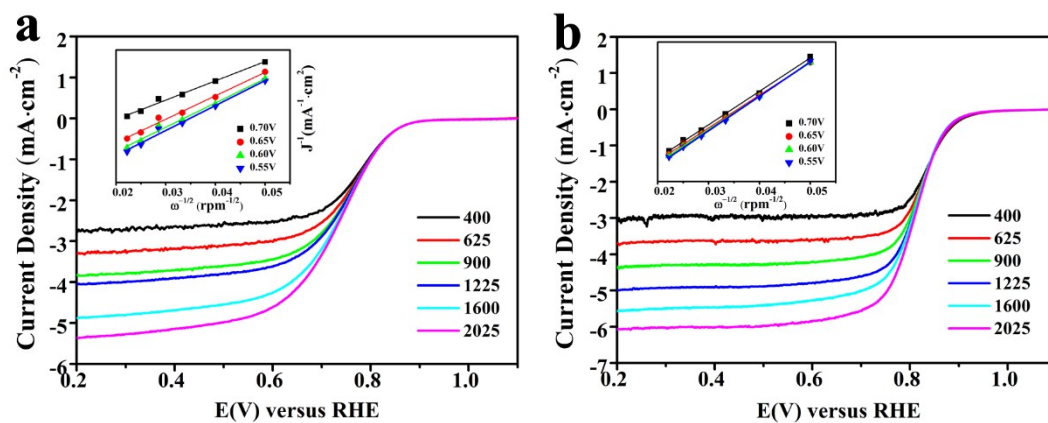**Figure S4.** SEM image of Fe/C prepared from citric acid

Figure S5. LSV with different rotation speeds for (a) Fe@FeN-CS and (b) Pt/C catalysts and the Koutecky–Levich plots at the different potential (insert)
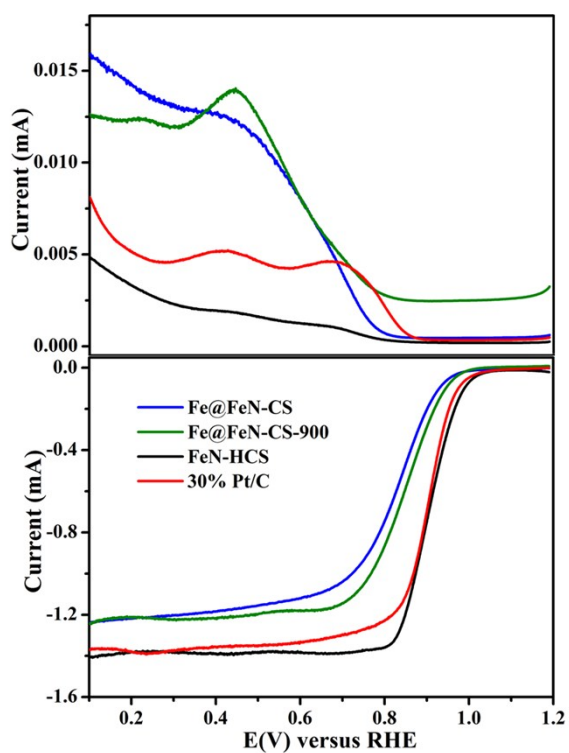

Figure S6. RRDE Polarization plots measured in O$_2$-saturated 0.1 M KOH at with rotation at 1600 rpm, ring current (top) and disk current (bottom)
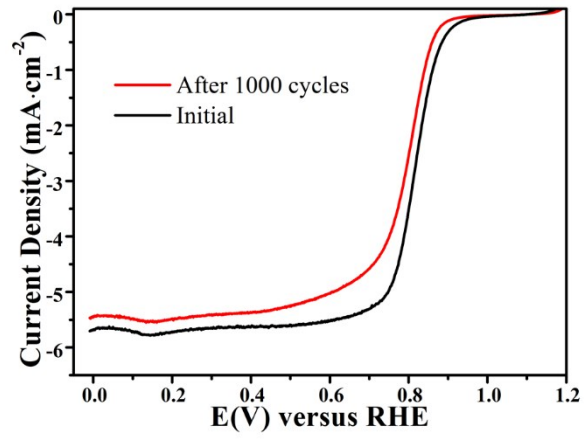
Figure S7. ORR polarization plots of Pt/C catalyst before and after accelerated degradation tests (ADT)