

Electronic supplementary information

Nitrogen-Enriched Carbon from Bamboo Fungus with Superior Oxygen Reduction Reaction Activity

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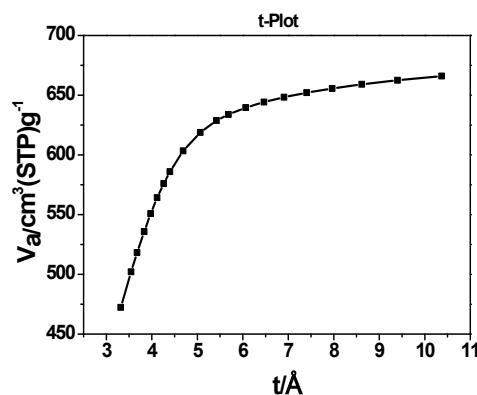


Figure S1. $V_a - t$ plot for HAZ-800.

Table S1 Onset potential and half-wave potential by LSV at room temperature and 10 mV s⁻¹ in 0.1 M KOH of samples.

Samples	Onset potential (V)	Half-wave potential (V vs Hg/HgO)	Ref.
Pt-m-N-C	-0.05 (vs Hg/HgO) ^{a)}	-0.15	[S1]
SP-2	-0.02 (vs Hg/HgO) ^{a)}	-0.244	[S2]
S1-AZ-800	-0.060 (vs Hg/HgO) ^{a)}	/	[S3]
hN-CCs	-0.06 (vs Ag/AgCl)	/	[S4]
NCNC700/900	-0.13 (vs Ag/AgCl)	/	[S5]
HAZ-800	-0.011 (vs Hg/HgO) ^{a)}	-0.172	This article
Pt/C (20 wt.%)	0.08 (vs Hg/HgO) ^{a)}	-0.116	This article

^{a)} Potential measured at the ORR current is 5% of -0.3 V (1600 rpm).

References:

- [S1] S. Gao, H. Fan, X. Wei, L. Li, Y. Bando, D. Golberg, *Part. Part. Syst. Charact.* 2013, **30**, 864-872.
- [S2] S. Gao, Y. Chen, H. Fan, X. Wei, C. Hu, L. Wang, L. Qu, *J. Mater. Chem. A* 2014, **2**, 6320-6325.
- [S3] S. Gao, H. Fan, Y. Chen, L. Li, Y. Bando, D. Golberg, *Nano Energy* 2013, **2**, 1261-1270.
- [S4] C. Hu, Y. Xiao, Y. Zhao, N. Chen, Z. Zhang, M. Cao, Liangti Qu, *Nanoscale* 2013, **5**, 2726-2733.
- [S5] S. Chen, J. Bi, Y. Zhao, L. Yang, C. Zhang, Y. Ma, Q. Wu, X. Wang, Z. Hu, *Adv. Mater.* 2012, **24**, 5593-5597.

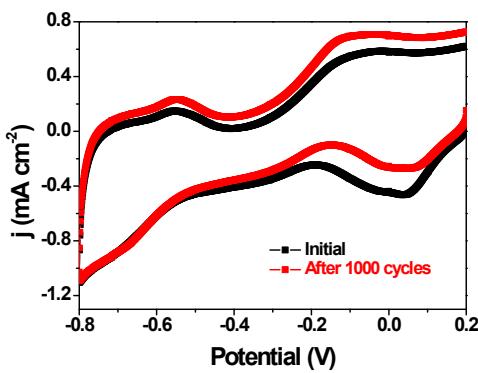


Figure S2. Electrochemical stability of 20 wt% Pt/C (JM) as determined by continuous cyclic voltammetry in O₂-saturated 0.1 M KOH. Scan rate: 10 mV s⁻¹.

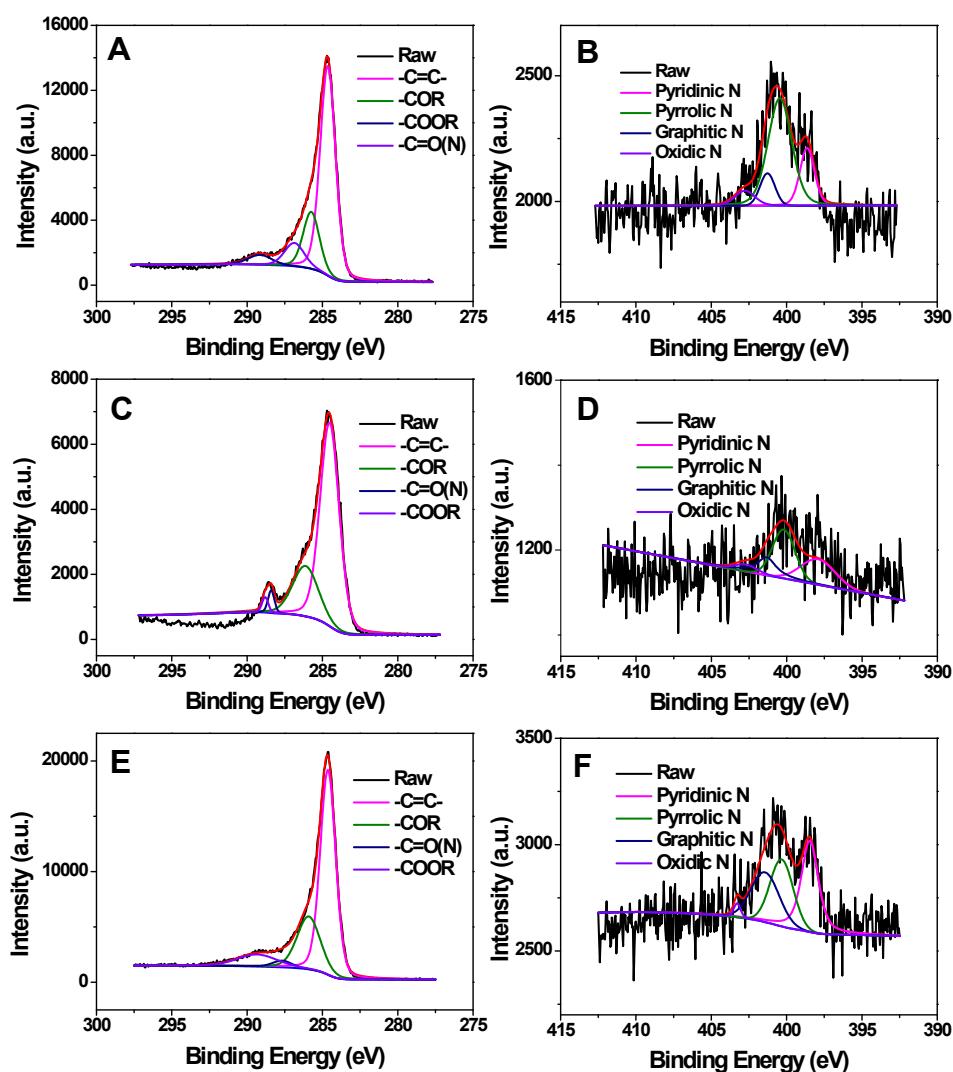


Figure S3. Deconvoluted C 1s and N 1s XPS spectra of HAZ-600 (A and B), HAZ-700 (C and D) and HAZ-900 (E and F), respectively. The black line represent the experimental data, the red line represents the fitting data for the overall signal, and the other lines are the deconvoluted individual peaks for different species present in the sample.

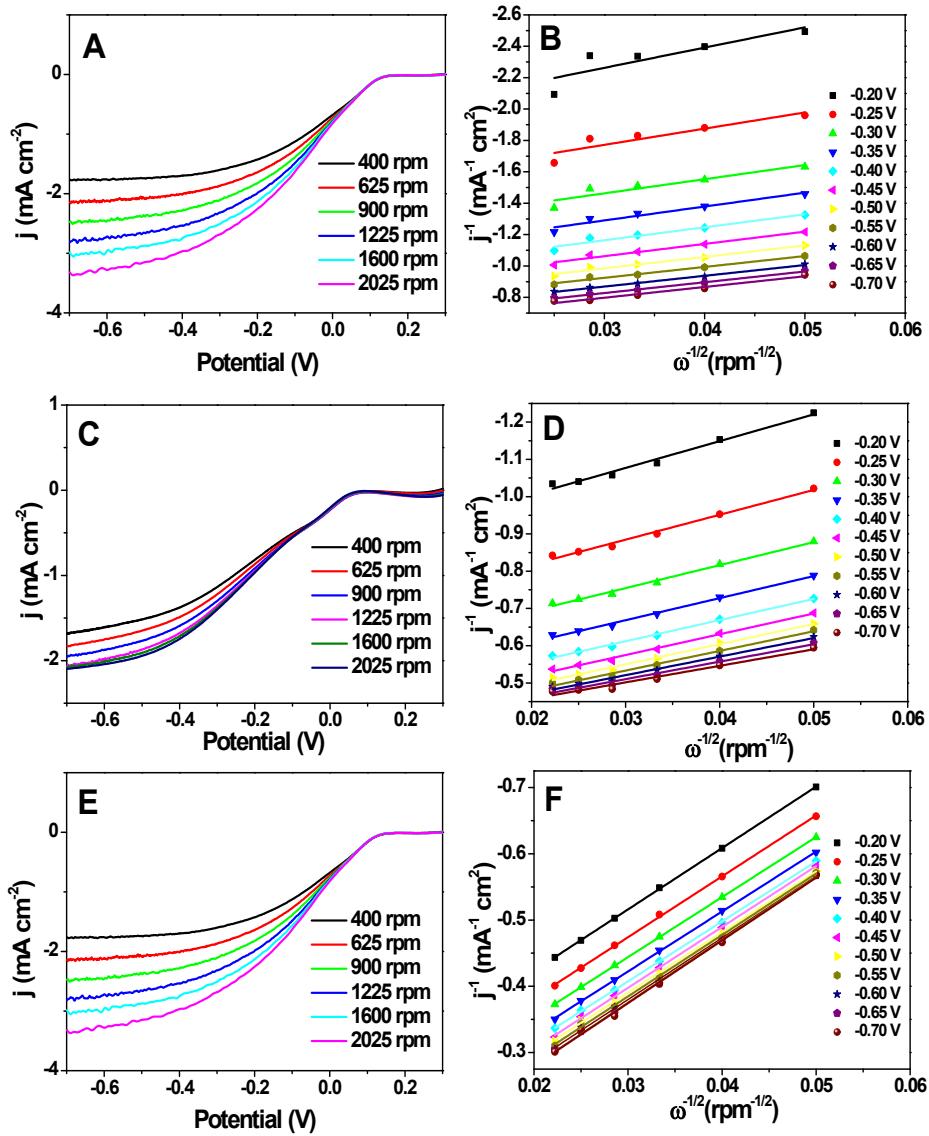


Figure S4. LSV and K-L plots of HAZ-600 (A, B), HAZ-700 (C, D), HAZ-900 (E, F), respectively. Scan rate: 10 mV s^{-1} , rotation rate: from 400 to 2025 rpm, the potential range: from -0.20 to -0.70 V .