Electronic Supplementary Material (ESI) for New Journal of Chemistry.

Interplay between porous texture and surface-active sites for efficient oxygen reduction reactions in N-inherited carbon

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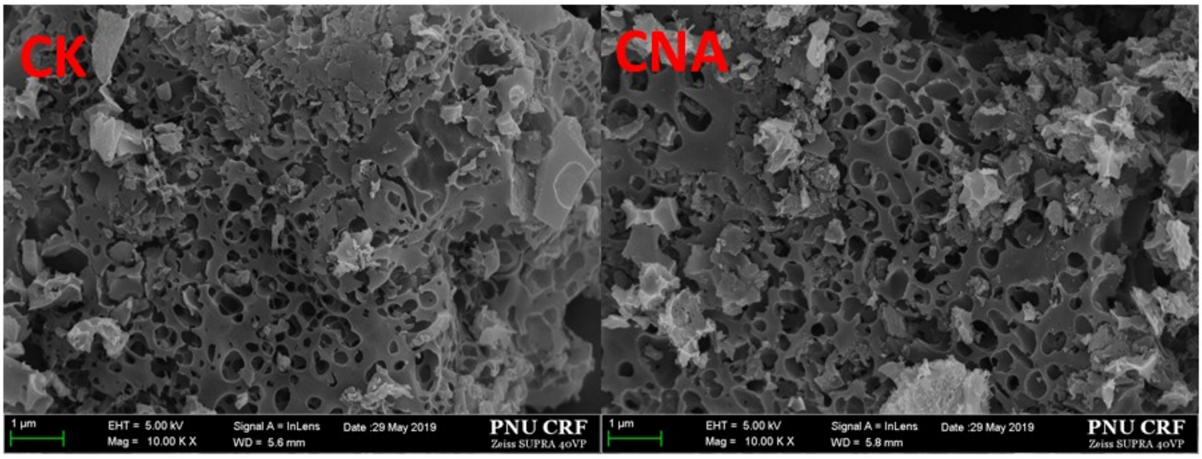

Figure S1. High magnification FE-SEM images of CK and CAN samples

Table S1 Quantitative analysis of C, O and N from XPS analysis

Sample	C 1s	O 1s	N 1s
CK	92.0	6.9	1.1
CNA	85.6	12.0	2.4
CAIR	90.6	7.8	1.6

Table S2 Deconvoluted N peaks from XPS analysis.

Sample	Pyridinic-N	Pyrrolic-N	Quaternary-N	Oxidized-N
CK	28.3	27.7	21.2	22.8
CNA	26.4	46.6	27.0	-
CAIR	26.6	25.1	35.1	13.2

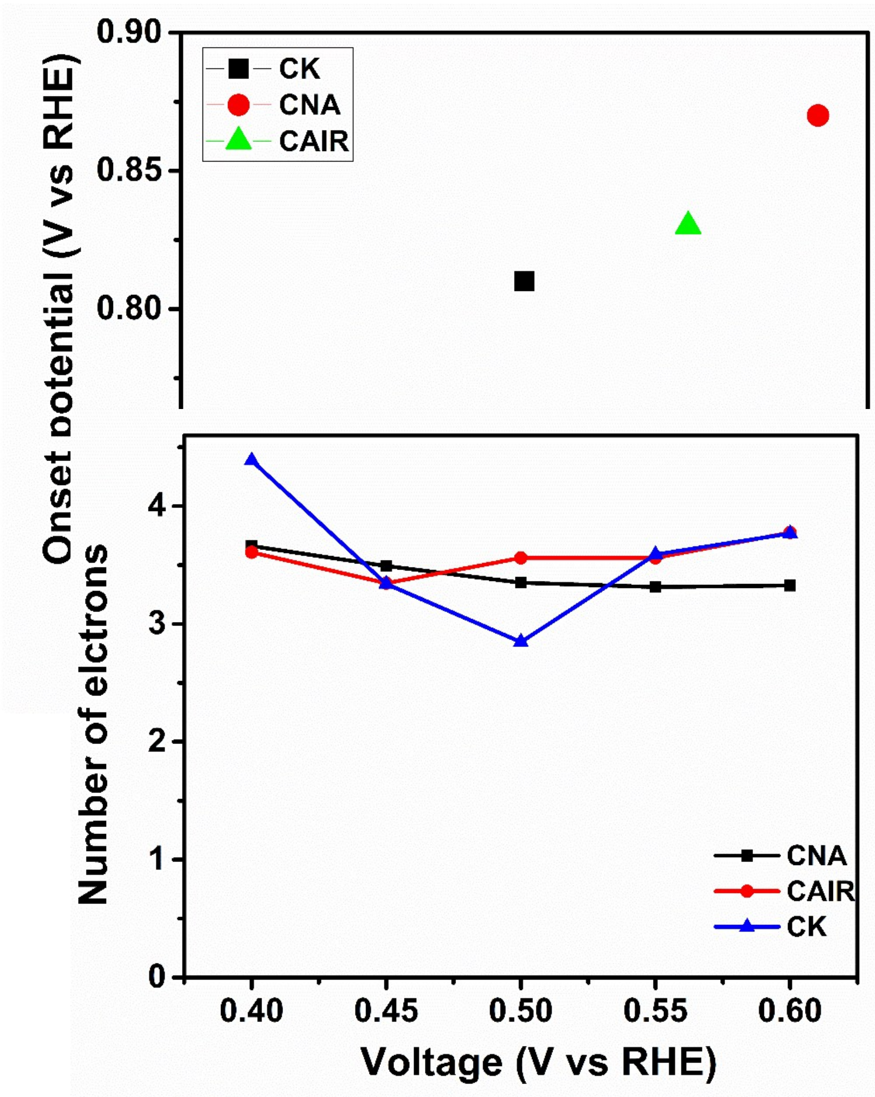

Figure S3. Transferred electron numbers after cycling

Catalyst	E_{onset} (V vs RHE)	$E_{1/2}$ (V vs RHE)	References
Okra derived carbon	0.975	0.86	[1]
Seaweed-Derived Nitrogen-Rich Porous Biomass Carbon	1.01	-	[2]
Protein hydrogel networks derived porous carbon	0.93	0.83	[3]
Carbon Materials Derived from Cellulose	0.83	81	[4]
Ni and P doped carbon from waste biomass	0.81	0.67	[5]
N, P and Fe Carbon derived from plant biomass	0.957	0.852	[6]
Lignosulfonate biomass derived N and S co-doped porous carbon	0.80	-	[7]
Egg-Derived Mesoporous Carbon	0.84	0.69	[8]
peanut shell-based graphitic carbon	0.91	0.81	[9]
protein-rich enoki mushroom biomass to a nitrogen-doped carbon	0.94	0.81	[10]

Mandarin Biomass derived N- inherited carbon	**0.87**	**0.75**	**This work**

Table S3

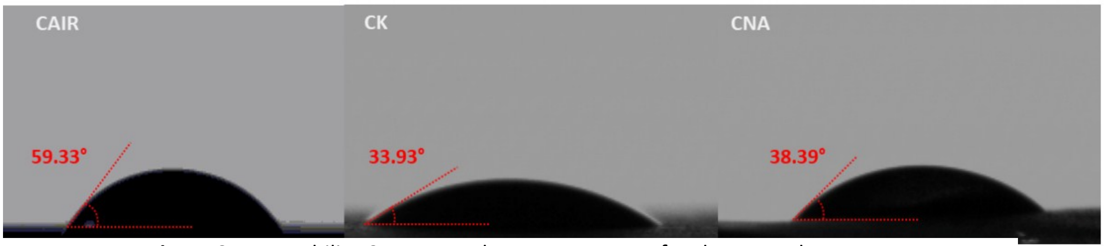

Figure S4. Wettability Contact angle measurement of carbon samples.

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