

Supporting Information:

A Facile Nanocasting Strategy to Nitrogen-Doped Hierarchically Porous Carbon Monolith by Treatment with Ammonia for Efficient Oxygen Reduction

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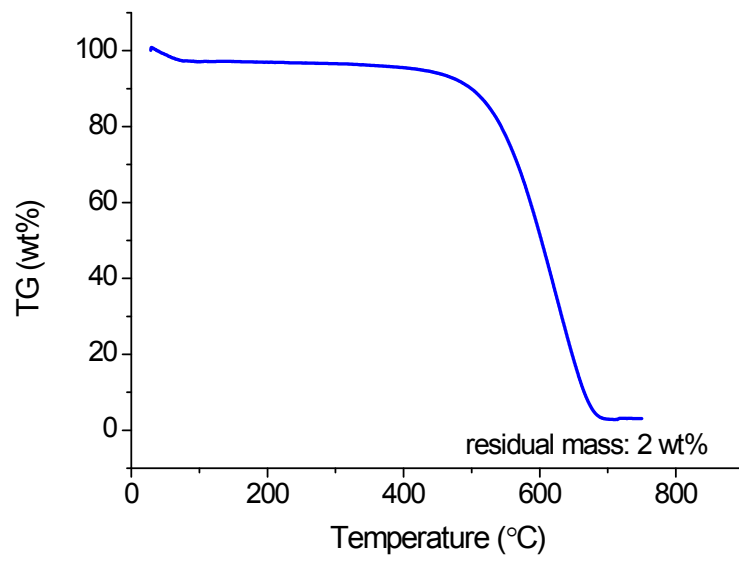


Fig. S1 TG curves of NCM-850 in an air flow. This result implies that the silica framework was completely removed in the final carbon monolith.

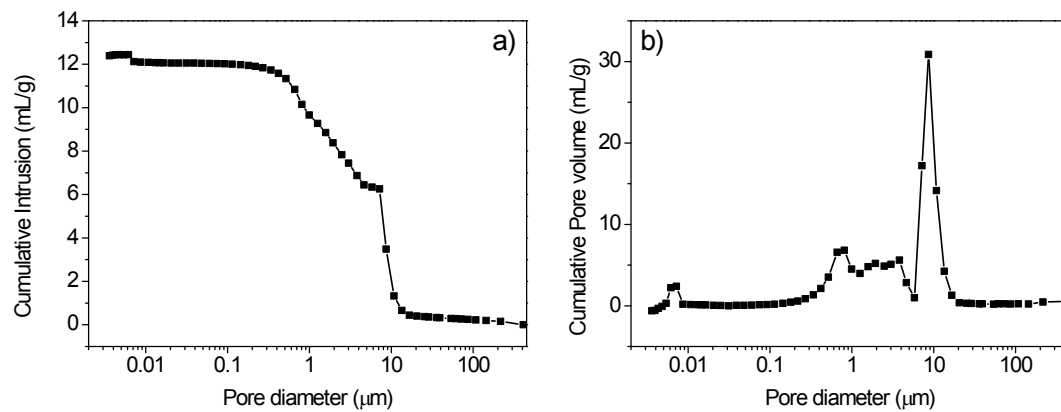


Fig. S2 Mercury intrusion curve (a) and pore diameter distribution (b) for the parent silica monolith (SM). The measured macropore volume is 12.4 mL/g, and the macropore diameter is 8.5 μ m.

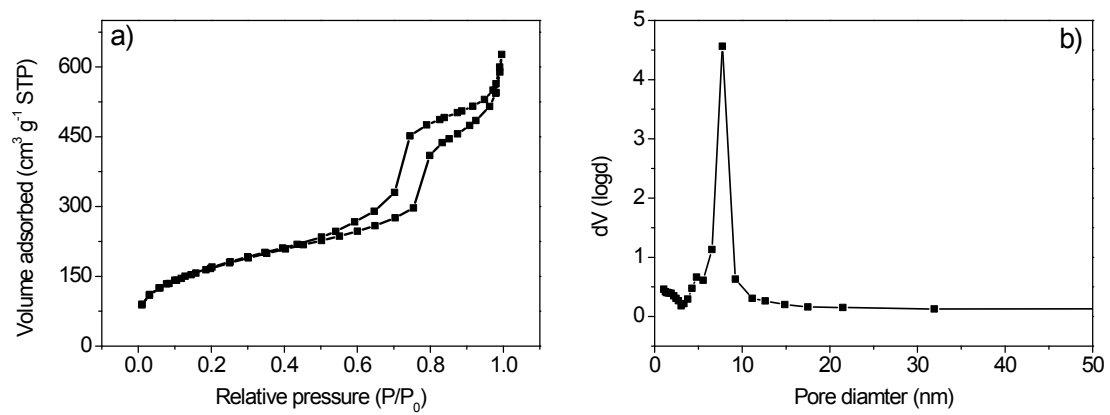


Fig. S3 Nitrogen adsorption-desorption isotherms (a) and pore size distribution (b) for the parent SM.

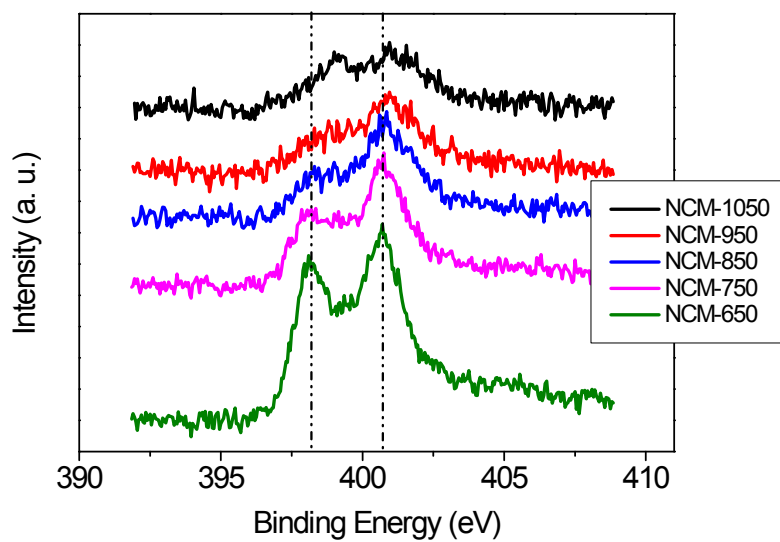
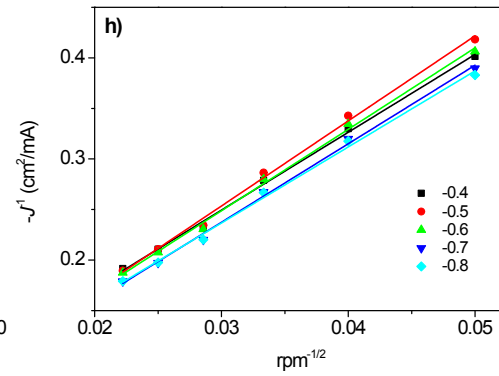
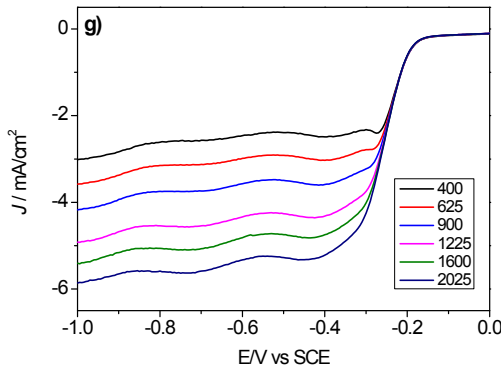
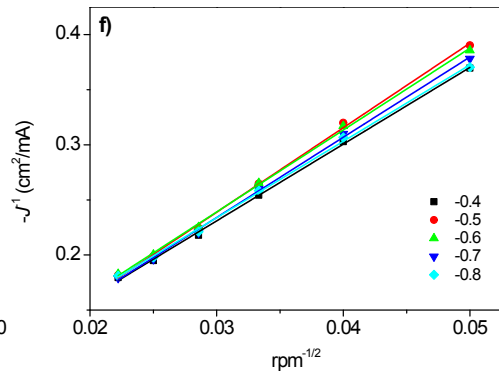
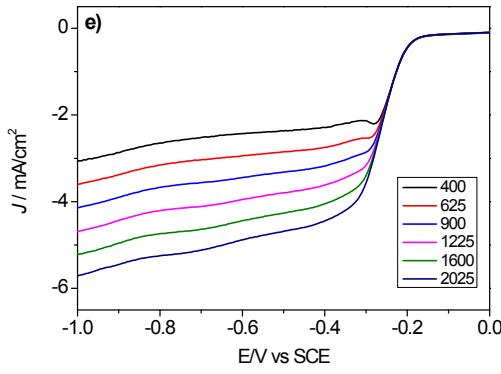
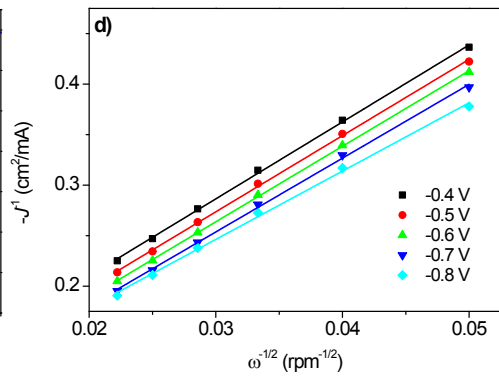
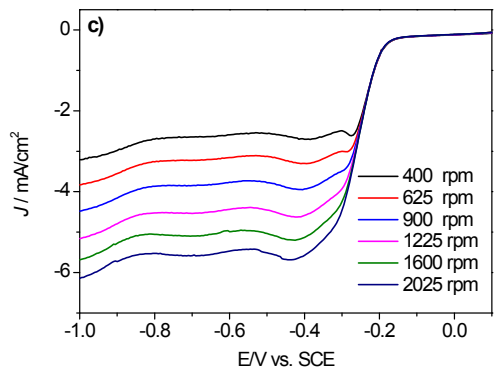
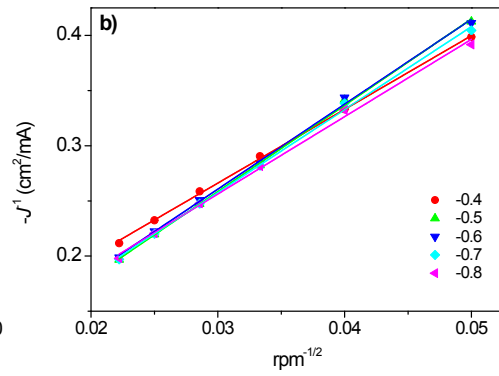
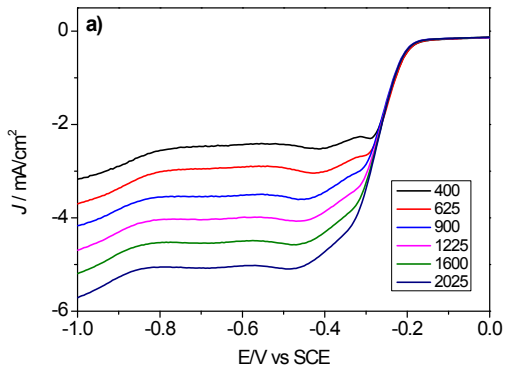


Fig. S4 The N1s XPS spectra for all NCMs prepared at different pyrolysis temperatures.

Table S1. The C, N, O contents of the NCMs determined by XPS analysis and the calculated corresponding N/C, O/C and (N+O)/C atom ratios.

Samples	C (at%)	N (at%)	O (at%)	N/C	O/C	(O+N)/C
NCM-650	90.8	4.7	3.92	0.052	0.043	0.095
NCM-750	90.6	3.3	5.43	0.036	0.06	0.096
NCM-850	90.6	2.3	6.37	0.025	0.07	0.095
NCM-950	92.5	1.7	5.02	0.018	0.054	0.072
NCM-1050	93.7	1.6	3.94	0.017	0.042	0.059



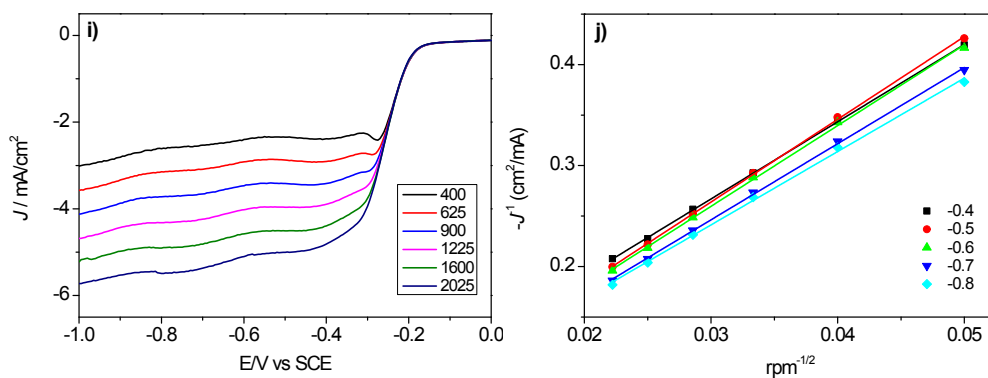


Fig. S5 LSV curves (a, c, e, g, i) and the calculated Koutecky-Levich (K-L) plots (b, d, f, h, j) of NCM-650 (a, b), NCM-750 (c, d), NCM-850 (e, f), NCM-950 (g, h), and NCM-1050 (i, j) in O₂-saturated 0.1 M KOH solution at rotating speeds of 400~2025 rpm (sweep rate: 5 mV/s).

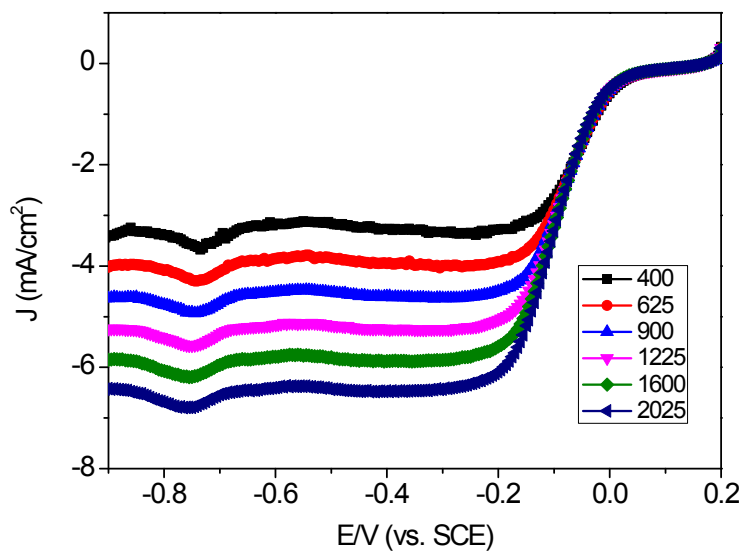


Fig. S6 LSVs of 40% Pt/C in O₂-saturated 0.1 M KOH solution at different rotating speeds of 400~2025 rpm (sweep rate: 5 mV/s).

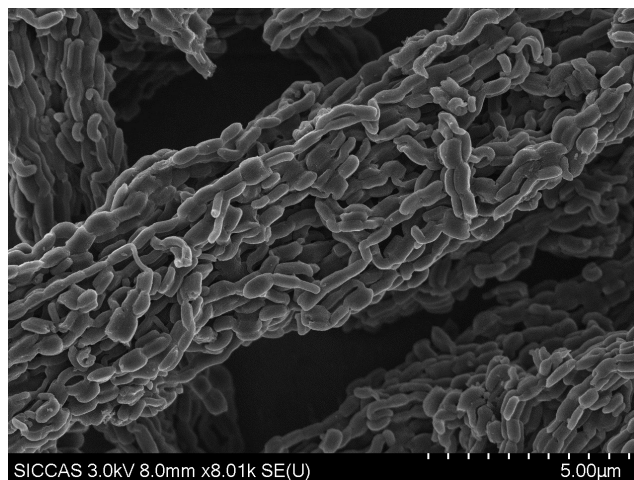


Fig. S7 SEM image of N-CMK-3, implying that it is composed of sub-micrometer-sized aggregated rod-like particles, greatly different from that of NCMs.