

## Supporting Information

### ILs-derived N, S Co-doped Ordered Mesoporous Carbon for High-Performance Oxygen Reduction

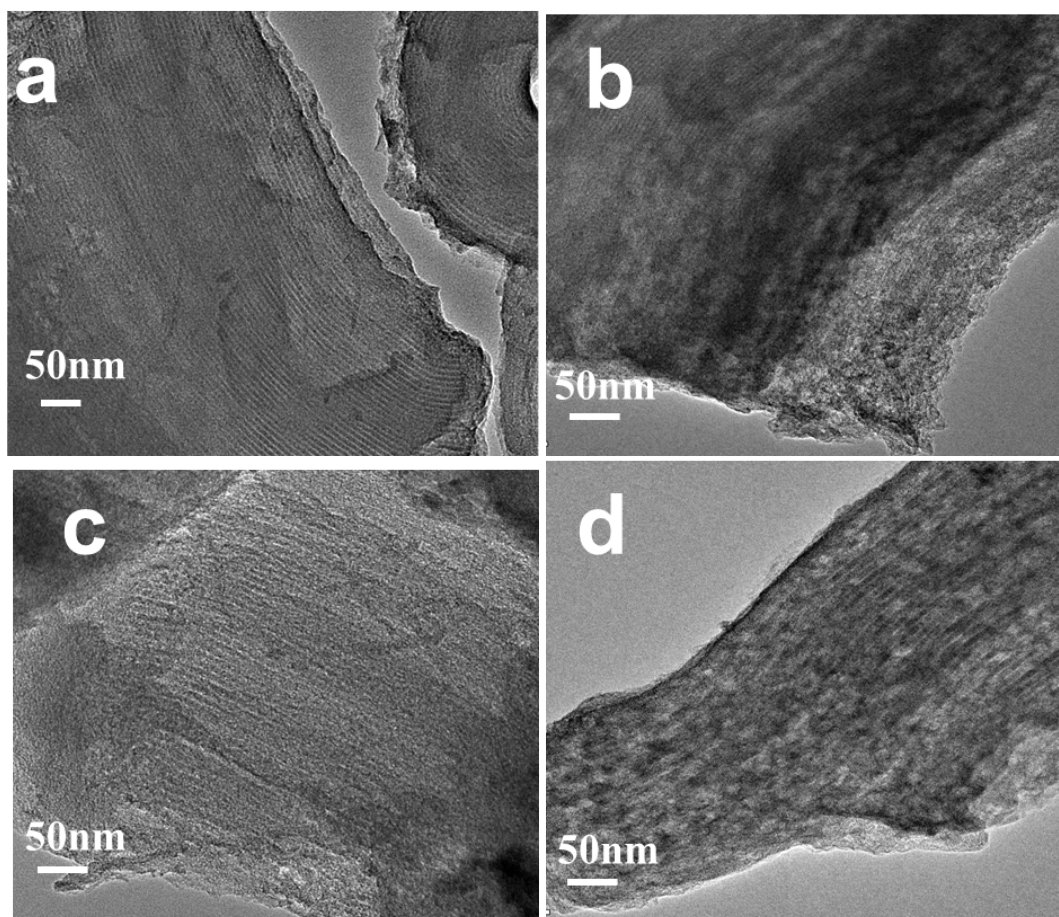
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**Fig. S1** TEM images of the a) commercial OMC, b) IOMC-700, c) IOMC-800, and d) IOMC-900.

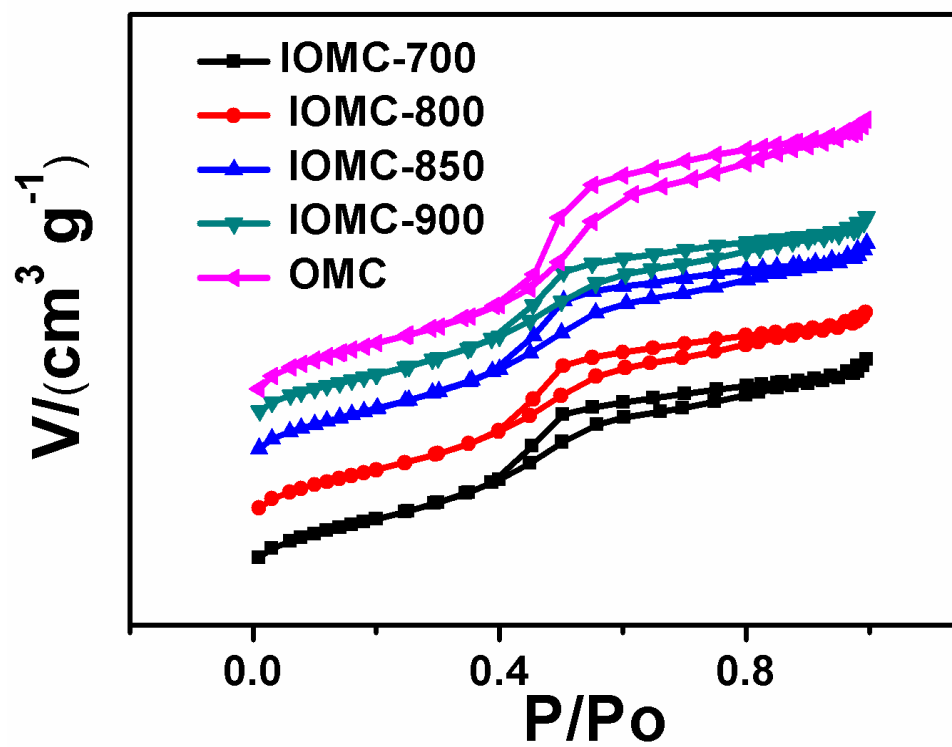


Fig. S2 BET images of the resultant composites.

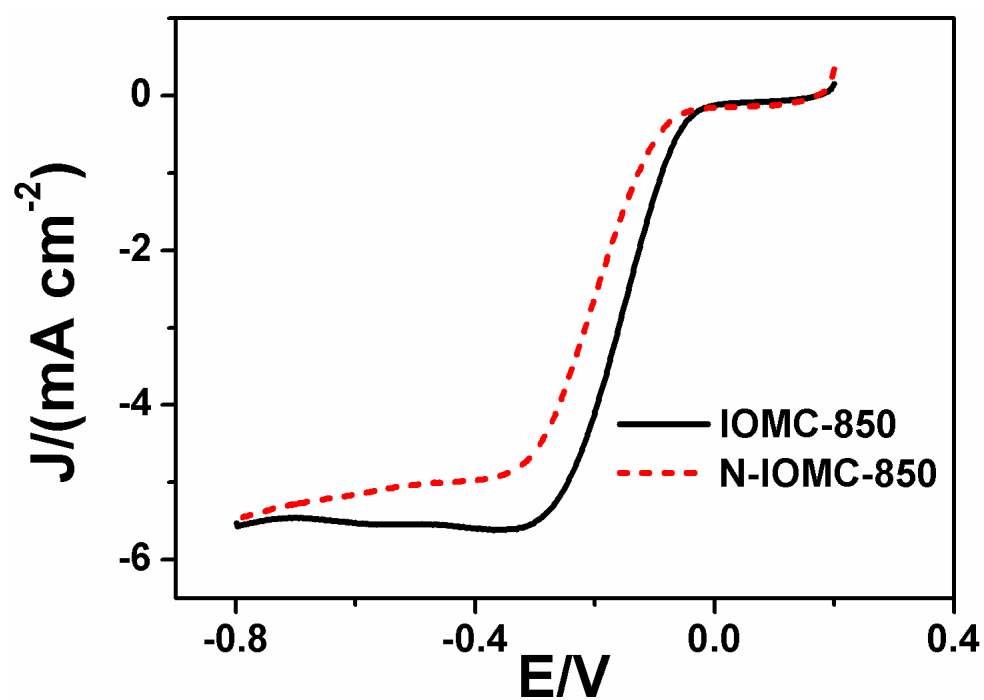
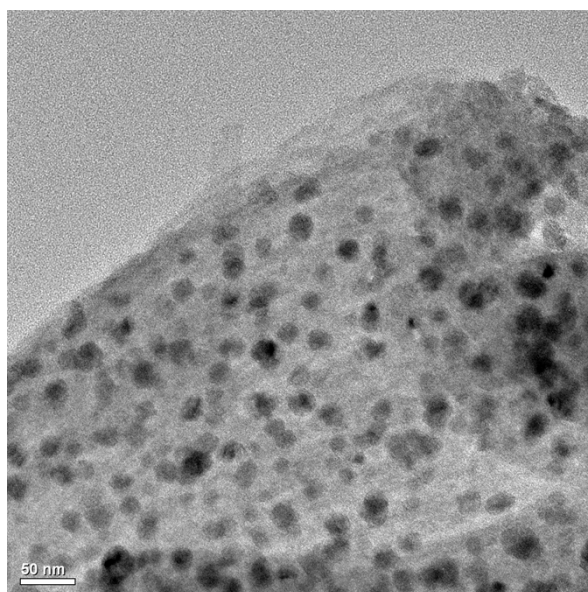


Fig. S3 Linear sweep voltammetric (LSV) curves of IOMC-850 and N-IOMC-850.

Scan rate is 5 mV/s, rotation rate is 1600 rpm.



**Fig. S4** TEM image of the Fe-IOMC.

**Table S1** The  $I_D/I_G$  values of the OMC, IOMC-850, and N-IOMC-850 by Raman spectroscopy.

Materials	OMC	IOMC-850	N-IOMC-850
$I_D/I_G$	0.94	1.05	0.98

**Table S2** The BET surface area values of the IOMC-700, IOMC-800, IOMC-850, IOMC-900, and OMC by nitrogen sorption technique.

Materials	IOMC-700	IOMC-800	IOMC-850	IOMC-900	OMC
BET surface area/m <sup>2</sup> g <sup>-1</sup>	600.8	599.0	666.1	594.0	749.1

**Table S3** Comparison of ORR performance in basic media for IOMC-850 with other metal-free heteroatom-doped carbon electrocatalysts (a catalysts directly grown on current collectors).

Catalyst	$E_{\text{onset}}/\text{V}$	$E_{1/2}/\text{V}$	Reference electrode	References
S-G	-0.15	-0.37	vs. SCE	1
N,S-G	-0.06	-	vs. Ag/AgCl	2
S,N-CNTs	Similar to Pt/C	-	vs. SCE	3
N, O, S-C	~0.96	~0.74	vs. RHE	4
S, N-C	0.035	-	vs. Ag/AgCl	5
S <sub>2</sub> N <sub>2</sub> -GN1000	-0.052	-	vs. Ag/AgCl	6
N,S-RGO/GQDs	-0.10	-	vs. Ag/AgCl	7
CNT/HDC-1000	0.92	0.82	vs. RHE	8
C-PANI/NSA	0.84	0.67	vs. RHE	9
S-G-800	-0.15	-	vs. SCE	10
N-OMMC-G	-0.05	-	vs. Ag/AgCl	11
IOMC-850	0.009	-0.155	vs. Ag/AgCl	this work

Notes: S<sub>2</sub>N<sub>2</sub>-GN: N and S dual-doped graphene that prepared with bithiophene-dipyrrolemethane ; RGO: reduced graphene oxide; GQDs: Graphene quantum dots; HDC: Heteroatom-doped carbon; PANI: polyaniline; NSA: b-naphthalene sulfonic acid; OMMC: ordered macro-mesoporous carbon; G: graphene

## References

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