

## Supporting Information

# Influence of Nitrogen Precursors on the Structure, Composition, and Oxygen Reduction Reaction Performance of Dual Heteroatom Doped Carbon Nanohorns

Wu Xiaohui<sup>a</sup>, Liu Lu<sup>b</sup>, Tang Pei<sup>c</sup>, Li Meixian<sup>b</sup>, Shi Zujin<sup>a\*</sup>

<sup>a</sup> Beijing National Laboratory for Molecular Sciences, State Key Lab of Rare Earth Materials Chemistry and Applications, College of Chemistry and Molecular Engineering, Peking University, Beijing 100871, P.R. China.

E-mail: zjshi@pku.edu.cn

<sup>b</sup> Institute of analytical chemistry, College of Chemistry and Molecular Engineering, Peking University, Beijing 100871, P.R. China.

<sup>c</sup> Beijing National Laboratory for Molecular Sciences, College of Chemistry and Molecular Engineering, Peking University, Beijing 100871, P. R. China

Table S1. The atomic percent of dopants in samples determined by XPS

Sample	C (At %)	O (At %)	N (At %)	B(At %)	P (At %)
NCNH-a	95.3	3.2	1.5	0	0
NCNH-m	93.7	5.5	0.8	0	0
NBCNH-a	81.2	10.8	1.8	6.2	0
NBCNH-m	88.3	3.6	1.2	6.9	0
NPCNH-a	87.1	7.4	5.2	0	0.3
NPCNH-m	95.0	4.1	0.6	0	0.3

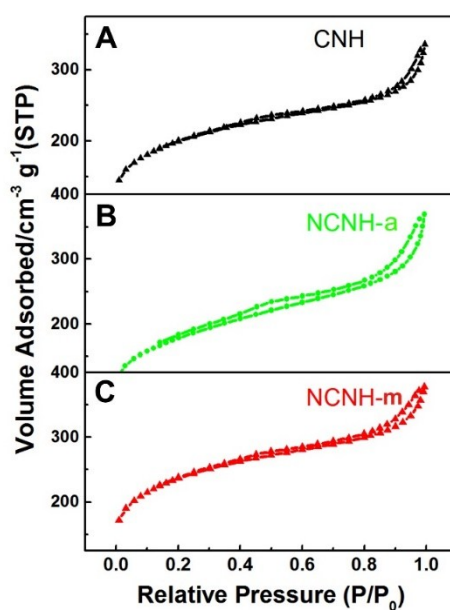


Fig.S1. N<sub>2</sub> adsorption-desorption isotherms for CNH, NCNH-a and NCNH-m.

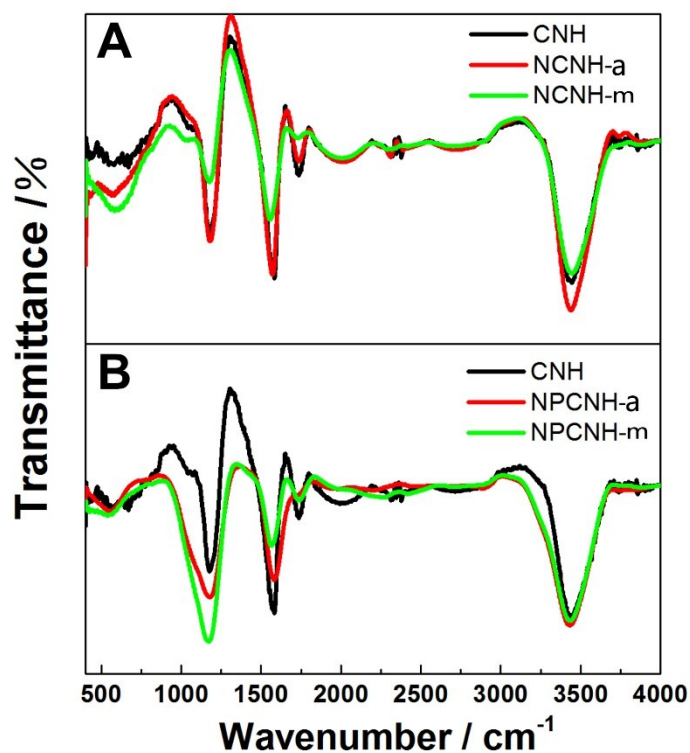


Fig.S2. FT-IR spectra of A): CNH, NCNH-a and NCNH-m. B): CNH, NPCNH-a and NPCNH-m

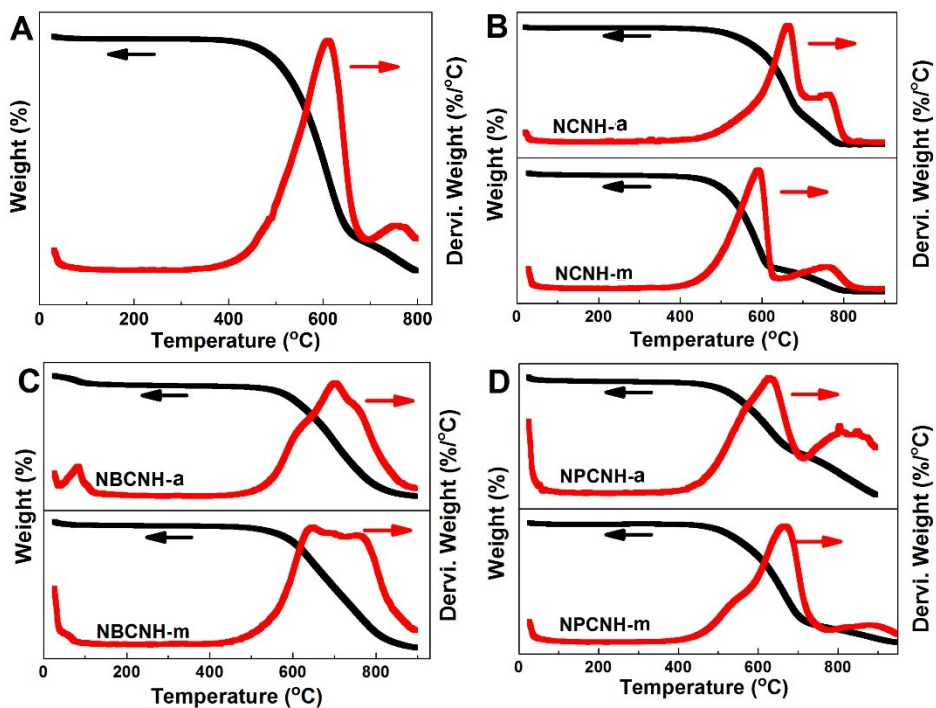


Fig.S3. TGA curves of A): CNH; B) NCNH-a and NCNH-m; C): NBCNH-a and NBCNH-m; D): NPCNH-a and NPCNH-m, respectively.