

Oxygen assisted conversion of butanol to value-added product on nanocarbon catalysts: tuning product selectivity via nitrogen doping

Xueya Dai,^{‡a,b} Fan Li,^{‡a,b,c} Di Wang,^a Miao Guo,^a Yunli Bai,^{a,b} Wei Qi *^{a,b}

^a Shenyang National Laboratory for Materials Science Institute of Metal Research, Chinese Academy of Sciences, Shenyang, Liaoning, 110016, P. R. China.

^b School of Materials Science and Engineering University of Science and Technology of China, Shenyang, Liaoning, 110016, P. R. China.

^c Shanghai Shaanxi Coal Hi-tech Research Institute Co., Ltd., Shanghai, 201616, P. R. China.

Corresponding Author, E-mail: wqi@imr.ac.cn

‡ These authors contributed equally to this work.

Table S1 N 1s and O 1s XPS analysis results of OCNT and NCNT catalysts (after reaction)

Samples	N1 (%)	N2 (%)	N3 (%)	N4 (%)	O1 (%)	O2 (%)	O3 (%)	O4 (%)
NCNT700	24.7	20.0	50.6	24.7	25.9	42.6	31.5	0
NCNT800	35.7	12.5	35.7	16.1	22.9	52.1	25.0	0
NCNT900	27.8	22.2	38.9	11.1	25.5	46.8	27.7	0
OCNT	-	-	-	-	17.4	34.8	43.5	4.3

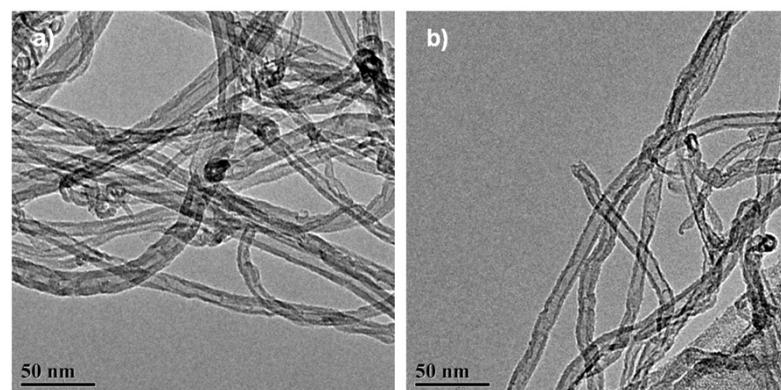


Fig. S1. TEM images of OCNT.

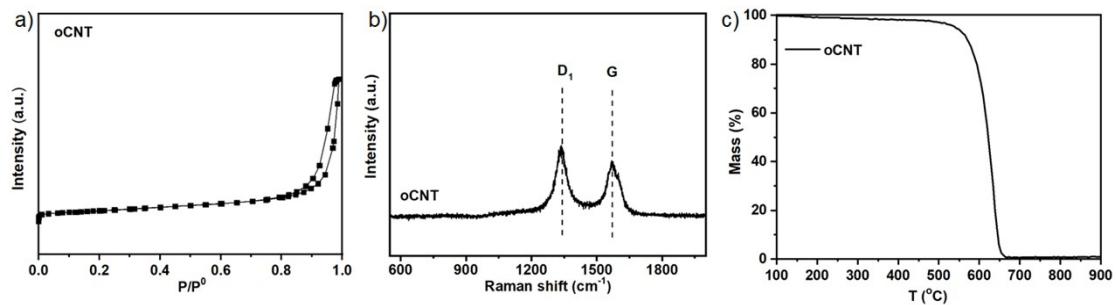


Fig. S2. N_2 adsorption-desorption isotherms (a), Raman spectra (b) and Thermogravimetric analysis profiles (c) of oCNT samples.