## Supporting Information

## Enhanced soot oxidation activity over CuO/CeO<sub>2</sub> mesoporous nanosheets

Shuaifeng Yang<sup>1</sup>, Jinguo Wang<sup>1\*</sup>, Wei Chai<sup>2</sup>, Jian Zhu<sup>3</sup>, Yong Men<sup>1</sup>

<sup>1</sup>College of Chemistry and Chemical Engineering, Shanghai University of Engineering Science, Shanghai 201620, P. R. China

<sup>2</sup>Department of Chemical Engineering, Zaozhuang Vocational College, ZaoZhuang 277800, P. R. China

<sup>3</sup>The Education Ministry Key Lab of Resource Chemistry, Shanghai Normal University, Shanghai 200234, P. R. China

\*Author to whom correspondence should be addressed. E-mail address: Jinguowang1982@sues.edu.cn, Tel: +86-21 6787 4046



Fig. S1 Schematic flowing chart of the reaction system for soot oxidation.



Fig. S2  $N_2$  adsorption-desorption isotherms, FESEM image (inset) and elemental compositions (inset) of pure soot (MA100 Mitsubishi, Japan).



Fig. S3 FESEM image of crushed CuCe7.2.



Fig. S4 Soot oxidation efficiency for pure soot without catalysts.



Fig. S5  $N_2$  adsorption-desorption isotherms of CuCe7.2-600 (a) and catalytic performances of CuCe7.2-600 and CuCe9.5 (b).



Fig. S6 Catalytic performances of crushed CuCe7.2 for soot oxidation.



Fig. S7 Effect of feed composition on soot oxidation activity of crushed CuCe7.2.



Fig. S8 Effect of contact mode on soot oxidation activity over CuCe7.2.



Fig. S9 Stability test of CuCe7.2 for soot oxidation.



Fig. S10 XRD pattern and FESEM image of CuCe7.2 after the 6<sup>th</sup> recycle.