## Enhanced electrochemical properties of cerium metal-organic framework based composite electrodes for high-performance supercapacitor application

Rajendran Ramachandran<sup>a,b</sup>, Wenlu Xuan<sup>a</sup>, Changhui Zhao<sup>a,b</sup>, Xiaohui Leng<sup>a,b</sup>, Dazhi Sun<sup>c</sup>, Dan Luo<sup>a</sup>, and Fei Wang<sup>a,b,d\*</sup>

<sup>a</sup>Department of Electronic and Electrical Engineering, Southern University of Science and Technology, Shenzhen 518055, China.

<sup>b</sup>Shenzhen Key Laboratory of 3rd Generation Semiconductor Devices, Shenzhen 518055, China.

<sup>c</sup>Department of Materials Science and Engineering, Southern University of Science and Technology, Shenzhen 518055, China.

<sup>d</sup> State Key Laboratories of Transducer Technology, Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences, Shanghai 200050, China.

\* To whom correspondence should be addressed:

E-mail: wangf@sustc.edu.cn, Tel: (+86) 755-88018509



Fig. S1. FTIR spectrum of Graphene oxide



Fig. S2. EDS mapping images of Ce-MOF/GO composite



Fig. S3. EDS mapping images of Ce-MOF/CNT composite

Before 5000 cycles



**Fig. S4.** SEM images of electrodes before and after 5000 cycles in 3M KOH electrolyte (a) Ce-MOF (b) Ce-MOF/GO and (c) Ce-MOF/CNT.