Supplementary Information for

Conductive 3D Sponge for Affordable and Highly-efficient Water Purification

Yanbiao Liu,*a,b,c Fang Li,a,b,c Qin Xia,a Jiawei Wu,d Jianshe Liu,a,b,c Mingzhi Huang,e and Jianping Xie*d

a. School of Environmental Science and Engineering, Donghua University, 2999 North Renmin Road, Shanghai, 201620 P.R. China. E-mail: yanbiaoliu@dhu.edu.cn; Fax: +86 21 6779 2522; Tel: +86 21 6779 2519.
b. Engineering Center of ministry of Environmental Protection (Textile), Donghua University, 2999 North Renmin Road, Shanghai, 201620 P.R. China.
c. Shanghai Institute of Pollution Control and Ecological Security, Shanghai, 200092 P.R. China.
d. Department of Chemical and Biomolecular Engineering, National University of Singapore, 4 Engineering Drive 4, 117585 Singapore, E-mail: chexiej@nus.edu.sg; Fax: +65 6516 1936; Tel: +65 6516 1067.
e. Department of Water Resource and Environment, Guangdong Provincial Key Laboratory of Urbanization and Geo-simulation, Sun Yan-sen University, Guangzhou 510275, P.R. China.

Supporting Information: 8 figures.
Figure S1. Digital pictures of commercial polyurethane sponges used in the present work.
Figure S2. Digital picture of the filtration setup and filtration device.
Figure S3. (a, b) FESEM images of the CNT sponge and (c,d) TEM images of the CNT.
Figure S4. The extracted ion chromatogram of m/z 445.162 of the influent tetracycline and effluent samples.
Figure S5. Effect of HNO₃ treatment on tetracycline removal efficiency as a function of total cell potential.
**Figure S6.** The MS spectra of TC effluent sample showing the presence of m/z = +445.162, m/z = +365.065 and m/z = +269.0807.
**Figure S7.** Effect of CNT loading (a) and SDBS concentration (b) on the removal of methyl orange by the CNT sponge sample. The removal efficiency of methyl orange as a function of time. Inset shows the FESEM image of the CNT sponge after 6 h continuous operation showing the presence of precipitates.
Figure S8. Comparison of two regeneration methods for TC electro-oxidation by the CNT sponge.