**Supporting Information**

**Micro-aeration assisted with electrogenic respiration enhanced the microbial catabolism and ammonification of aromatic amines in industrial wastewater**

Ke Shia, Haoyi Chenga, Carolyn R. Cornellb, Haiwei Wu a, Shuhong Gaoa, Jiandong Jiangc, Tiejun Liua, Aijie Wanga, Jizhong Zhoud,e,f,g, Bin Lianga\*

aState Key Laboratory of Urban Water Resource and Environment, Shenzhen Key Laboratory of Organic Pollution Prevention and Control, School of Civil & Environmental Engineering, Harbin Institute of Technology Shenzhen, Shenzhen, 518055, China

bDepartment of Civil and Environmental Engineering, Rice University, Houston, Texas, 77005, USA

cKey Lab of Agricultural Environmental Microbiology, Ministry of Agriculture, College of Life Sciences, Nanjing Agricultural University, 210095 Nanjing, China

dInstitute for Environmental Genomics and Department of Microbiology and Plant Biology, University of Oklahoma, Norman, OK 73019, USA

eSchool of Civil Engineering and Environmental Sciences, University of Oklahoma, Norman, OK 73019, USA

fSchool of Computer Science, University of Oklahoma, Norman, OK 73019, USA

gEarth and Environmental Sciences, Lawrence Berkeley National Laboratory, Berkeley, CA 94720, USA

\*Corresponding author. E-mail: liangbin1214@163.com, liangbin1214@hit.edu.cn

**1. Materials and Methods**

**1.1 Micro-aerobic reactors construction**

One tube connected with a valve was inserted into the anode chamber and opened to meet the micro-aerobic. Anaerobic control group was set by turning off the gas valve to cut off the air into the anodic headspace.



**Fig. S1.** The schematic diagram of Micro-aeration assisted with electrogenic bioreactor

**1.2 Biofilm samples collection**

The manually shaken part is considered to be the biological layer on the surface of the electrode, which is called the incompact “Outer” biofilm. The biological layer remaining on the electrode and mechanically shaken part by vortex shaker is called the compact “Inner” biofilm.

**2. Results**



**Fig. S2.** Hierarchical clustering of dioxygenase genes from the suspension (S), outer (Ou) and inner (In) electrode biofilm communities. Black represents no hybridization above background level and red represents positive hybridization. The color intensity indicates differences in signal intensity



**Fig. S3.** Hierarchical clustering of cytochrome c genes from the suspension (S), outer (Ou) and inner (In) electrode biofilm communities. Black represents no hybridization above background level and red represents positive hybridization. The color intensity indicates differences in signal intensity.