**Supplementary materials**

**Partial nitrification in entrapped-cell-based reactors with two different cell-to-matrix ratios: performance, microenvironment and microbial community**

Pattaraporn Kunapongkiti1, Tawan Limpiyakorn1,2,3, [Prinpida Sonthiphand](http://frontiersin.org/people/u/168200)4, Chaiwat Rongsayamanont5,6\*

*1Department of Environmental Engineering, Faculty of Engineering, Chulalongkorn University, Bangkok 10330, Thailand*

*2Biotechnology for Wastewater Engineering Research Group, Chulalongkorn University, Bangkok 10330, Thailand*

*3Research Network of NANOTEC-CU (RNN) on Environment, Thailand*

*4Department of Biology, Faculty of Science, Mahidol University, Bangkok 10400, Thailand*

*5Environmental Assessment and Technology for Hazardous Waste Management Research Center, Faculty of Environmental Management, Prince of Songkla University, Songkhla 90110, Thailand*

*6Research Program : The Development of Management System for Reduction and Control of Water Contamination and Distribution in Songkhla Lake Basin and the Western Coastline of the South of Thailand, Center of Excellence on Hazardous Substance Management (HSM), Bangkok 10330, Thailand*

pH controller

HCl

DO controller

NaOH

Effluent

Influent

Air pump

**Figure S1.** The entrapped-cell-based reactor setup

**Figure S2.** Rarefaction curves of the bacterial 16S rRNA gene diversity in gel matrices.