

Supplementary Information

## Nitrogen Removal over Nitrite by Aeration Control in Aerobic Granular Sludge Sequencing Batch Reactors. *Int. J. Environ. Res. Public Health* 2014, 11

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**Table S1.** Parameters for individual quantitative PCR runs. B and M are the parameters of the linear calibration curve, B is the constant and M the slope.

Parameters	Run 1	Run 2	Run 3	Run 4	Run 5	Run 6	Run 7
B	33.289	33.735	36.637	37.055	37.379	31.605	35.612
M	-3.537	-3.438	-3.446	-3.422	-3.542	-3.434	-3.514
Efficiency	0.917	0.954	0.951	0.960	0.916	0.955	0.926
R <sup>2</sup>	0.999	0.998	0.998	0.994	0.997	0.997	0.998

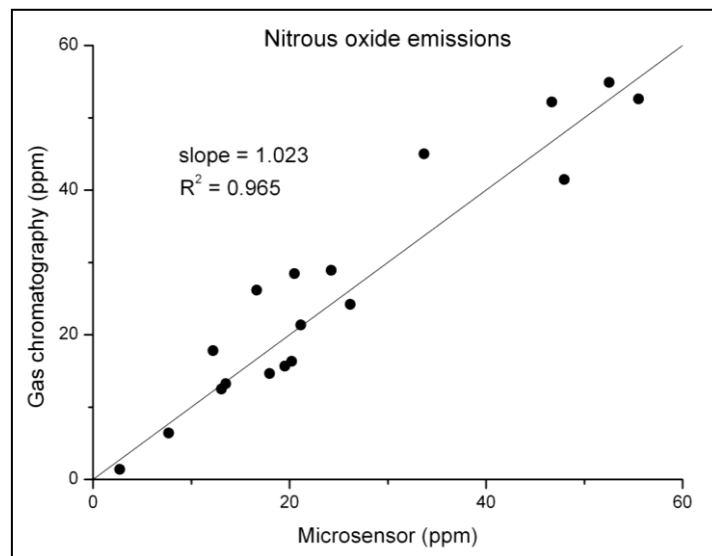
**Table S2.** *Nitrospira* 16S rRNA gene concentrations analyzed by qPCR under different aeration conditions during the study period of 261 days.

Reactor	Aeration Strategy	TempErature	Day	<i>Nitrospira</i> (cn ng <sup>-1</sup> of DNA)
Parent reactor	alternating high-low DO	20 °C	0	1779
	alternating high-low DO	20 °C	42	4583
	alternating high-low DO	20 °C	62	781
	alternating high-low DO	20 °C	75	919
	alternating high-low DO	20 °C	83	458
	alternating high-low DO	20 °C	92	76
	alternating high-low DO	20 °C	125	26
	alternating high-low DO	20 °C	140	95
Reactor 1	alternating high-low DO	20 °C	152	107
	alternating high-low DO	15 °C	170	78
	alternating high-low DO	15 °C	182	45
	constant high DO	15 °C	191	40

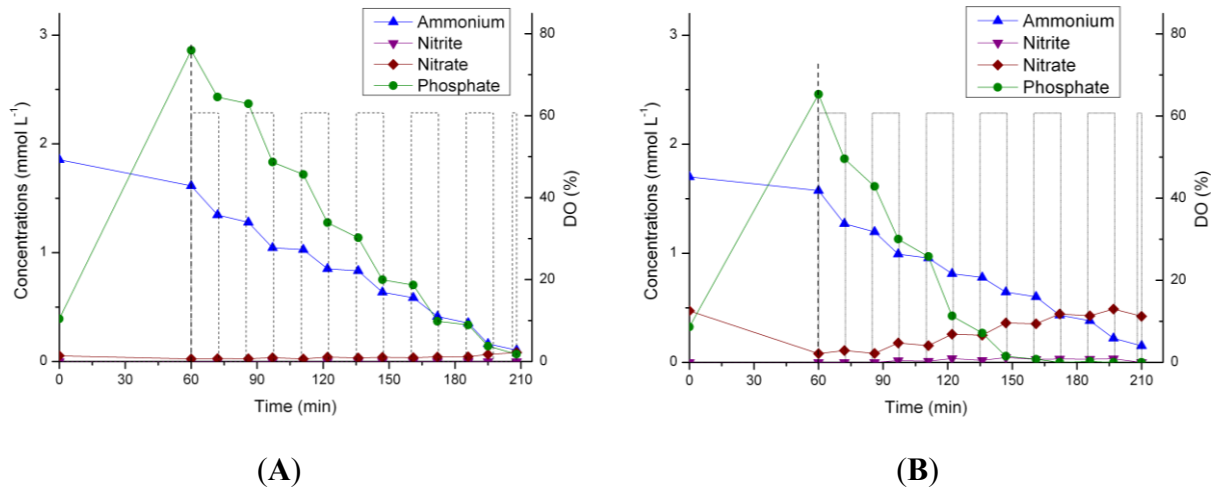
Table S2. Cont.

Reactor	Aeration Strategy	TempERature	Day	Nitrospira (cn ng <sup>-1</sup> of DNA)
Reactor 2	constant high DO	15 °C	201	545
	constant high DO	15 °C	212	586
	constant high DO	15 °C	217	1936
	intermittent aeration	15 °C	232	810
	intermittent aeration	15 °C	251	303
	intermittent aeration	15 °C	254	230
	intermittent aeration	15 °C	258	337
	alternating high-low DO	20 °C	170	75
	alternating high-low DO	20 °C	182	91
	constant high DO	20 °C	191	163
	constant high DO	20 °C	201	203
	constant high DO	20 °C	212	207
	constant high DO	20 °C	217	473
	intermittent aeration	20 °C	232	168
	intermittent aeration	20 °C	251	99
	intermittent aeration	20 °C	254	87
	intermittent aeration	20 °C	258	86

Figure S1. Comparison between gas chromatography and microsensor measurements for nitrous oxide in the gas phase.



**Figure S2.** Nutrient removal during SBR cycles operated at day 258 for reactor A (20 °C) and reactor B (15 °C) with intermittent aeration. Nutrient concentrations at time 0 were calculated based on the effluent concentrations of the previous cycle and the influent concentrations. Aeration started after 60 min of plug-flow feeding (indicated by the vertical dashed line). The dotted lines show schematically the aeration strategy.



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