

Anammox-Based Processes for Mature Leachate Treatment in SBR: A Modelling Study

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Figure S1. Aerial photo of leachate treatment plant of Lavis, Trento

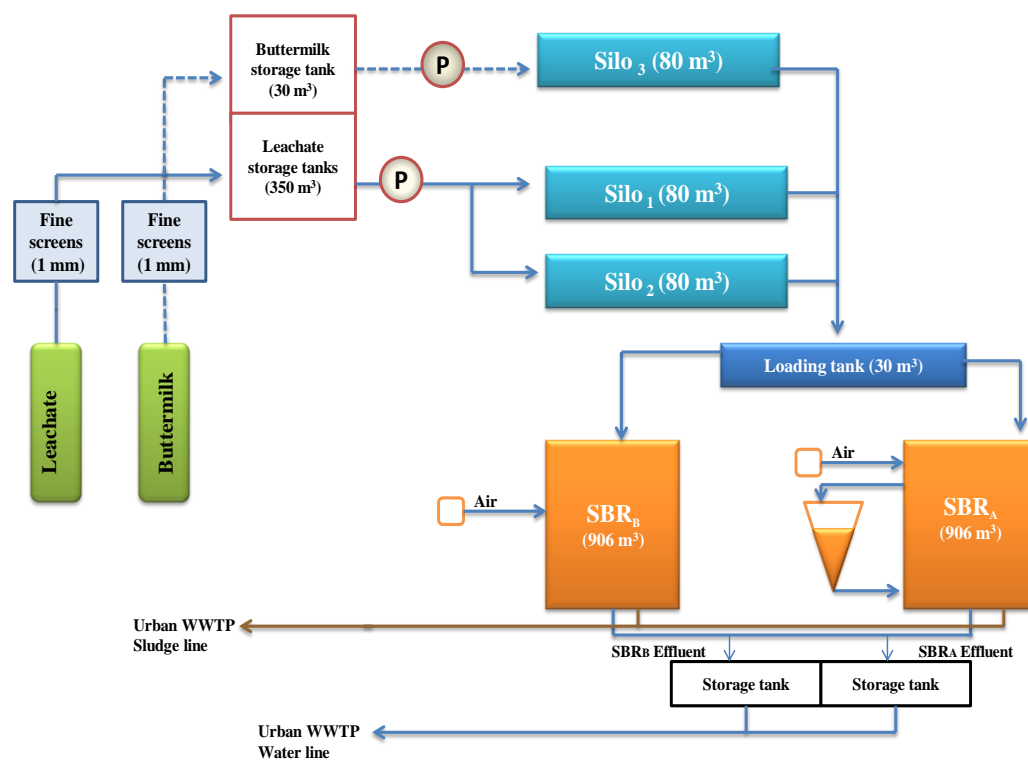


Figure S2. Schematic diagram of the full-scale leachate treatment plant.

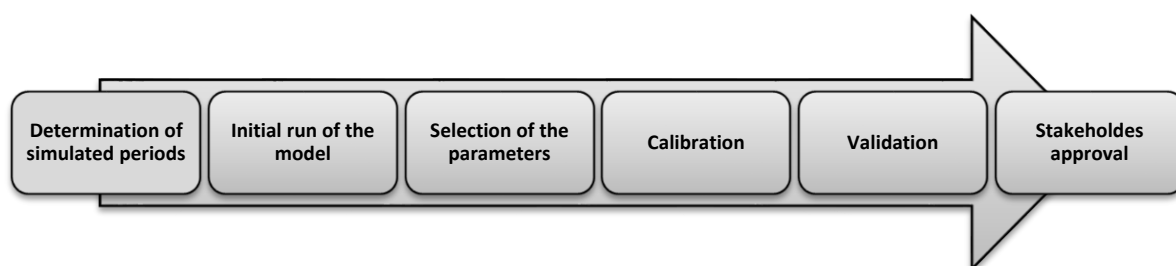


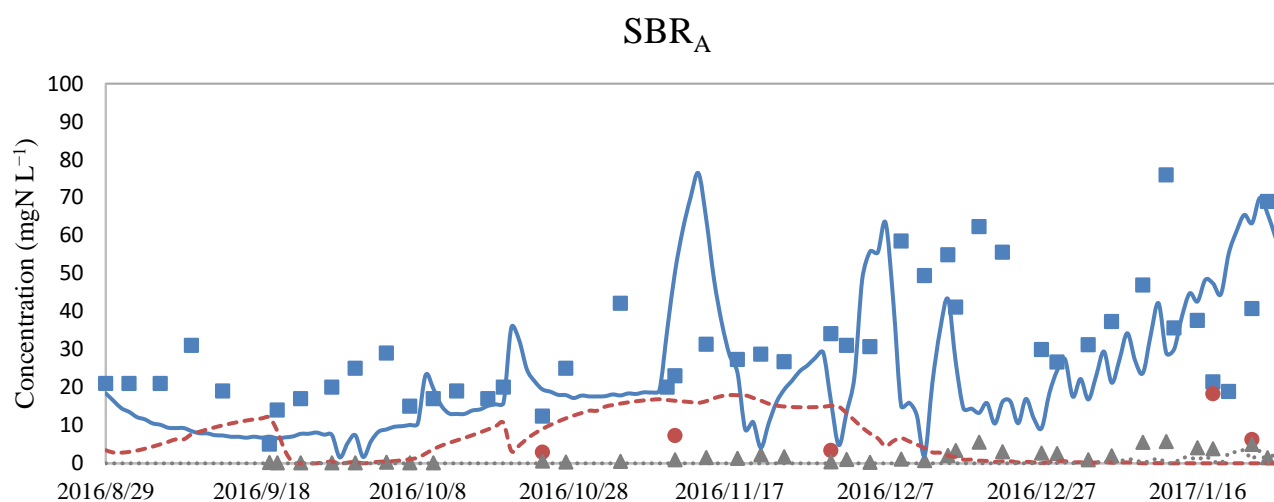
Figure S3. Line map for model calibration and validation processes.

Table S1. Variation range of calibrated parameters.

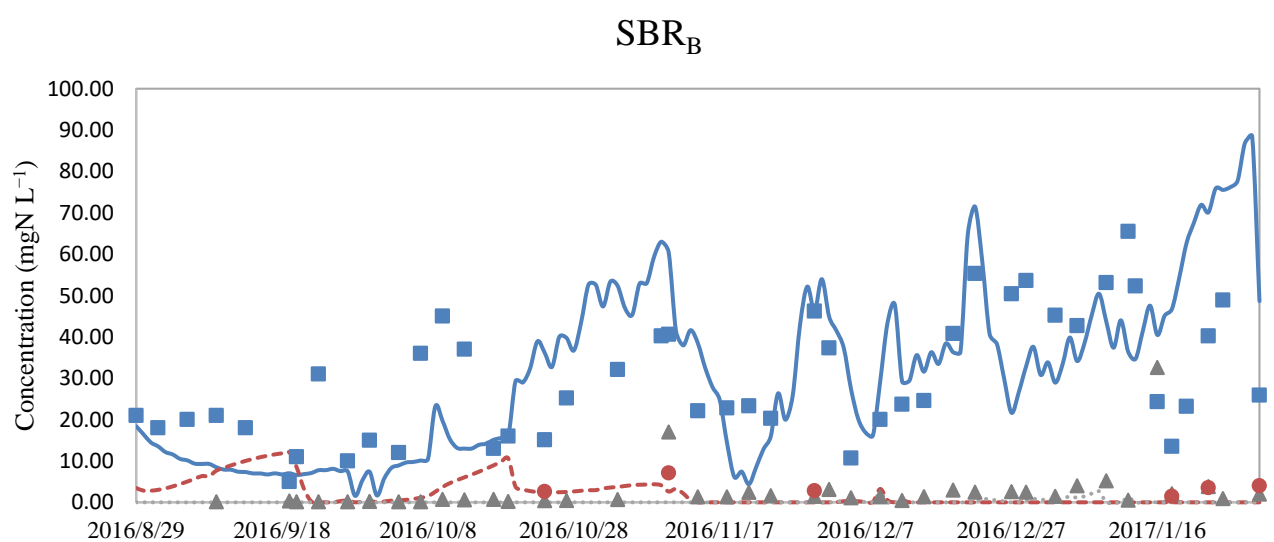
Parameters	Units	Variation range
Max. spec. growth rate. _{AOB}	d ⁻¹	0.8-1.1
Substrate (NH ₄) half sat. _{AOB}	mg N L ⁻¹	0.7-26.6
Aerobic decay rate. _{AOB}	d ⁻¹	0.035-0.17
Anoxic decay rate. _{AOB}	d ⁻¹	0.035-0.08
Aerobic decay rate. _{NOB}	d ⁻¹	0.07-0.17
Anoxic/anaerobic decay rate. _{NOB}	d ⁻¹	0.07-0.08
Aerobic decay rate. _{AAO}	d ⁻¹	0.0019-0.0095
DO half sat. _{AOB}	mg O ₂ L ⁻¹	0.125-0.25
DO half sat. _{NOB}	mg O ₂ L ⁻¹	0.25-0.50

Table S2. Reproducibility of sCOD values at the end of SBRs cycles in track studies.

		sCOD measured mg sCOD L ⁻¹	sCOD simulated mg sCOD L ⁻¹	Percentage change %
SBR _A	I Track study	548	512	-1%
	II Track study	451	494	8%
	III Track study	423	595	-18%
	<i>Average</i>	474	534	-4%
SBR _B	I Track study	526	521	-7%
	II Track study	427	464	9%
	III Track study	567	482	29%
	<i>Average</i>	507	4899	11%



a)



b)

Figure S4. . Comparison of measured (■ TAN, ▲ TNN, ● NO_3^- -N) and simulated (— TAN, - - - TNN, NO_3^- -N) nitrogen effluent concentrations during the monitoring periods for SBR_A (a) and SBR_B (b).