Performance Assessment of Rural Decentralized Domestic Wastewater Treatment Facilities in Foshan, China

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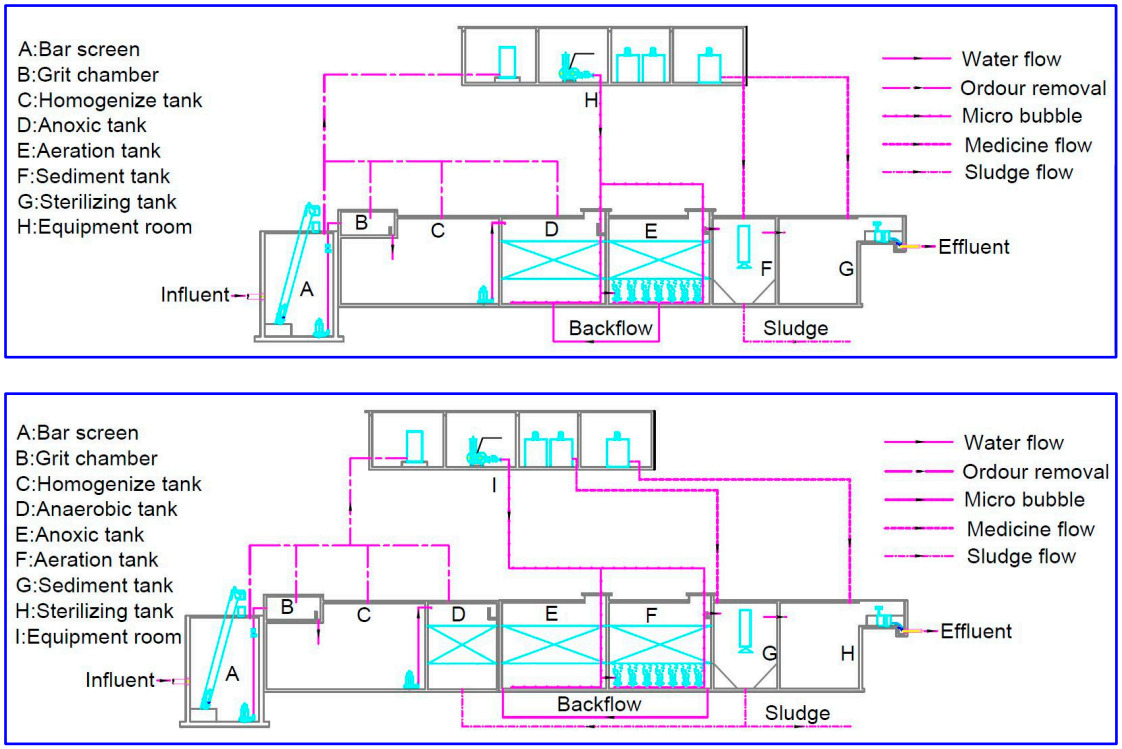


Figure S1. Schematic diagrams of the AO and AAO treatment technologies.

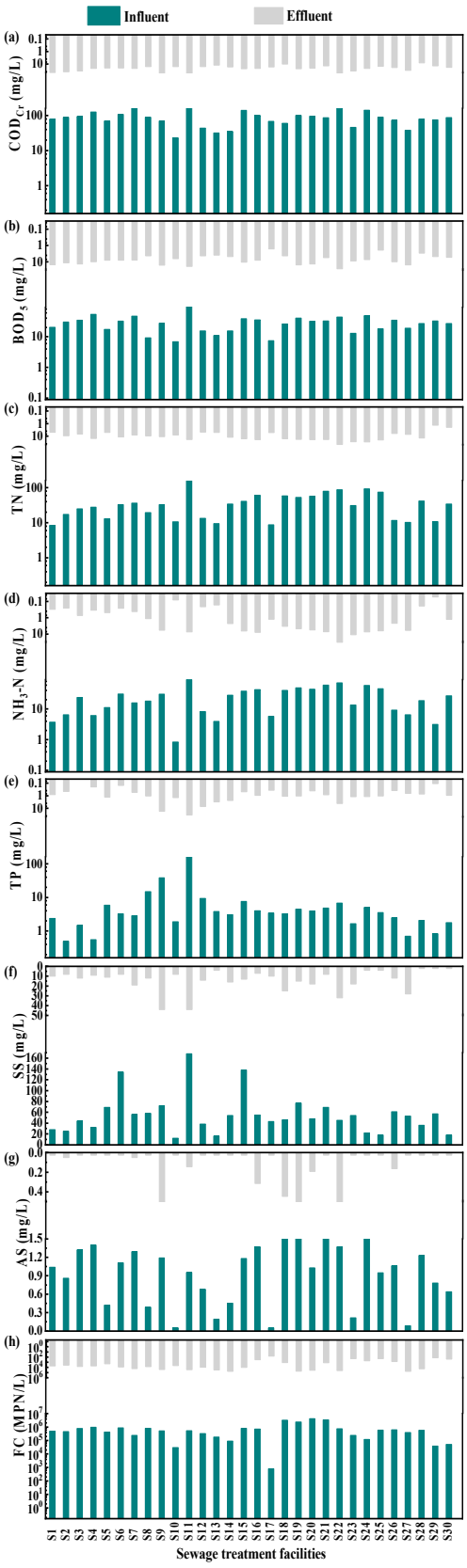


Figure S2. The influent and effluent concentrations of COD_{Cr}, BOD_5, TN, NH_3-N, TP, SS, AS, and FC.

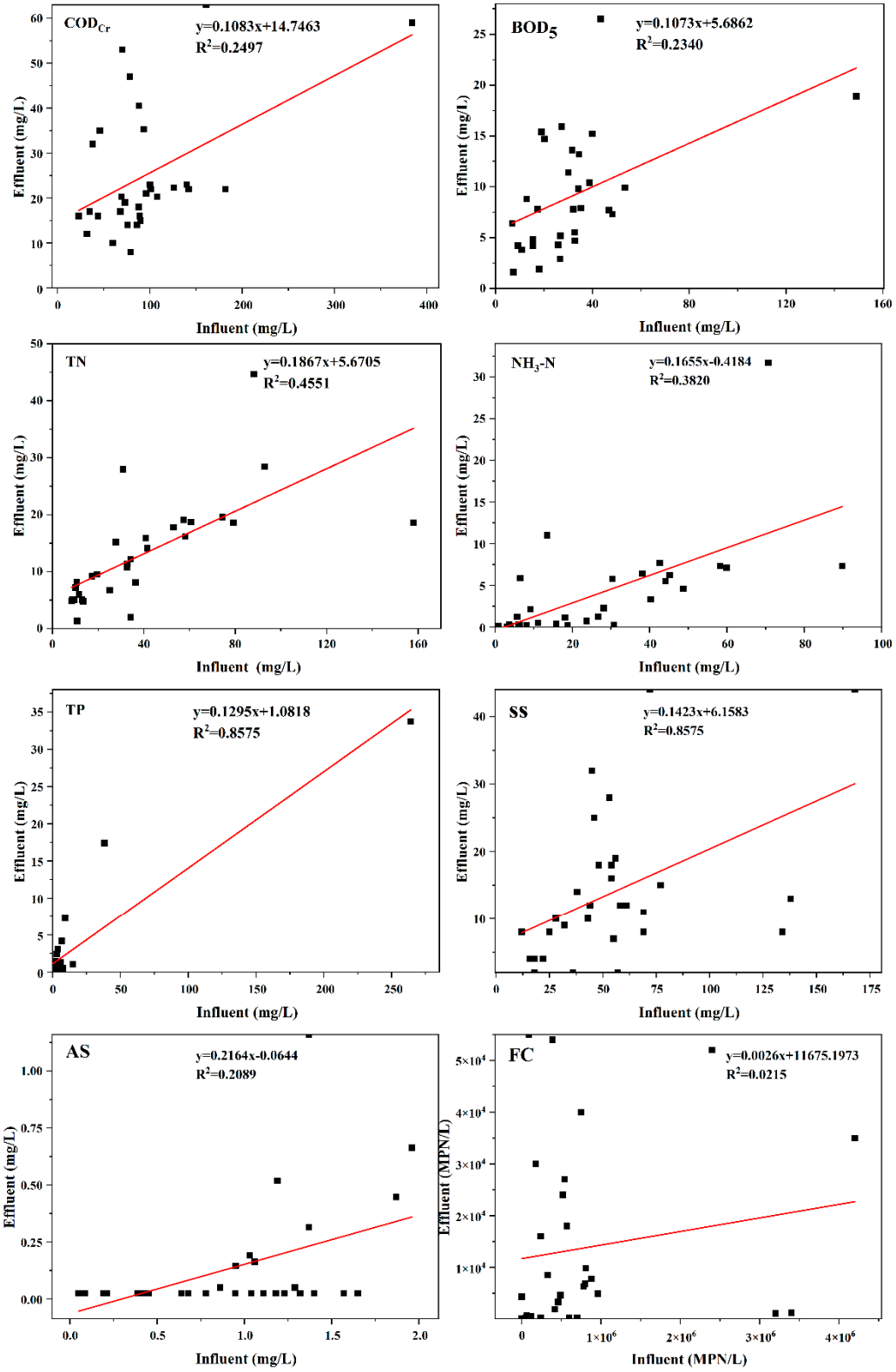


Figure S3. Linear regression analysis of influent-effluent concentrations for COD_{Cr}, BOD_5, TN, NH_3-N, TP, SS, AS, and FC.

Table S1. Values of the boxplots of the influent and effluent concentrations and the removal efficiencies.

	Contaminants	Max	Min	Median	Upper quartile	Lower Quartile	Mean
Influent (mg/L)	COD_{Cr}	142.00	23.00	87.00	101.00	68.00	95.55
	BOD_5	53.40	6.90	28.67	35.25	17.30	31.40
	TN	92.90	8.37	32.70	57.40	12.90	39.08
	NH_3-N	89.80	0.84	21.25	42.60	6.52	26.95
	TP	9.30	0.49	3.35	5.03	1.89	13.61
	SS	77.00	12.00	50.50	61.00	32.00	54.87
	AS	1.96	0.05	1.04	1.32	0.45	0.94
	FC	960000	800	505000	800000	180000	807493
Effluent (mg/L)	COD_{Cr}	53.00	8.00	20.65	32.00	16.00	25.09
	BOD_5	18.90	1.60	7.80	9.05	4.70	13.20
	TN	28.43	1.32	11.10	18.60	6.00	13.08
	NH_3-N	6.20	0.05	1.71	6.20	0.30	4.04
	TP	2.42	0.03	0.94	2.42	0.45	2.84
	SS	32.00	2.00	11.50	18.00	8.00	13.97
	AS	0.31	0.03	0.14	0.14	0.03	0.14
	FC	55000	60	5600	24000	700	13794
Removal efficiency (%)	COD_{Cr}	89.87	30.44	77.56	83.33	60.87	67.66
	BOD_5	89.44	18.52	72.04	83.17	54.91	64.97
	TN	94.26	23.02	64.79	72.12	47.20	59.87
	NH_3-N	99.16	76.63	91.83	95.87	83.20	84.74
	TP	97.96	5.71	73.56	86.59	38.61	62.86
	SS	96.49	38.89	74.41	84.06	64.29	71.64
	AS	98.48	50.00	94.12	97.60	77.08	84.36
	FC	99.97	92.50	99.13	99.58	95.00	94.94

Table S2. The weighted average removal efficiency of contaminants computed using 8 parameters (COD_{Cr}, BOD_5, NH_3-N, TN, TP, SS,AS, and FC) with AO and AAO.

	S1	**S2**	**S3**	**S4**	**S5**	**S6**	**S7**	**S8**	**S9**	**S10**
$Ef_w(\%)$	67.38	72.88	82.02	83.91	80.78	88.72	87.61	81.71	56.50	45.88
Tech-nology	AAO	AO	AAO	AAO	AAO	AAO	AAO	AO	AO	AO
	S11	**S12**	**S13**	**S14**	**S15**	**S16**	**S17**	**S18**	**S19**	**S20**
$Ef_w(\%)$	86.90	78.13	72.48	66.95	85.82	81.32	71.56	80.22	77.03	78.08
Tech-nology	AAO	AO	AO	AO	AAO	AAO	AO	AAO	AAO	AAO
	S21	**S22**	**S23**	**S24**	**S25**	**S26**	**S27**	**S28**	**S29**	**S30**
$Ef_w(\%)$	88.87	48.47	48.98	87.59	87.42	78.15	38.50	90.51	87.72	91.80
Tech-nology	AO	AAO	AO	AO	AAO	AAO	AO	AAO	AO	AAO