

## Supporting Information

### Combined Effect of Free Nitrous Acid Pretreatment and Sodium Dodecylbenzene Sulfonate on Short-Chain Fatty Acid Production from Waste Activated Sludge

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**Table S1. Variation of NO<sub>2</sub><sup>-</sup>-N in the combined FNA and SDBS treatment reactors with time.<sup>a</sup>**

Reactor	Treatment time (d)				
	0	3	6	9	15
0.51 mg FNA/L+SDBS	200.0 ± 2.1	85.6 ± 1.5	27.2 ± 1.1	5.3 ± 0.1	0.5 ± 0.1
0.77 mg FNA/L+SDBS	300.0 ± 2.8	192.7 ± 2.2	91.5 ± 2.2	21.6 ± 0.2	2.5 ± 0.1
1.54 mg FNA/L+SDBS	600.0 ± 4.2	428.9 ± 3.6	185.6 ± 5.6	37.9 ± 0.6	5.2 ± 0.1
2.31 mg FNA/L+SDBS	900.0 ± 4.3	723.9 ± 3.9	425.1 ± 6.7	156.9 ± 3.2	21.6 ± 0.2
3.08 mg FNA/L+SDBS	1350.0 ± 4.5	821.6 ± 5.4	438.9 ± 6.2	185.4 ± 4.1	26.8 ± 0.2

<sup>a</sup> Error bars represent standard deviations of triplicate measurements, and NO<sub>2</sub><sup>-</sup>-N concentrations are expressed in mg/L.

**Table S2. Variation of NO<sub>3</sub><sup>-</sup>-N in the combined FNA and SDBS treatment reactors with time.<sup>a</sup>**

Reactor	Treatment time (d)				
	0	3	6	9	15
0.51 mg FNA/L+SDBS	24.3 ± 2.1	13.6 ± 1.5	6.7 ± 0.4	2.4 ± 0.3	0.1 ± 0.05
0.77 mg FNA/L+SDBS	24.3 ± 2.1	15.4 ± 1.7	7.8 ± 0.6	3.2 ± 0.4	0.3 ± 0.1
1.54 mg FNA/L+SDBS	24.3 ± 2.1	16.7 ± 2.1	8.2 ± 0.5	4.6 ± 0.4	0.5 ± 0.1
2.31 mg FNA/L+SDBS	24.3 ± 2.1	18.2 ± 1.8	9.5 ± 0.8	5.1 ± 0.6	0.6 ± 0.1
3.08 mg FNA/L+SDBS	24.3 ± 2.1	18.9 ± 2.4	10.2 ± 1.4	5.5 ± 0.7	0.8 ± 0.1

<sup>a</sup> Error bars represent standard deviations of triplicate measurements, and NO<sub>3</sub><sup>-</sup>-N concentrations are expressed in mg/L.

**Table S3. Variations of SDBS with fermentation time in the fermentation system <sup>a</sup>**

Fermentation time (d)	1	3	5	7	9	12	15
SDBS in aqueous phase (mg)	52.39	52.95	53.12	53.24	53.31	53.38	53.40
SDBS in sludge phase (mg)	217.43	216.63	216.06	215.83	215.20	214.89	214.29
Total SDBS in system (mg)	269.82	269.58	269.18	269.07	268.51	268.27	267.69

<sup>a</sup> Error bars represent standard deviations of triplicate measurements.