

Supporting Information

Table S1. Ozonation-aerobic fluidized bed operating conditions.

Running Stage	Operating time (days)	Ozonation			Aerobic Fluidized Bed	
		Ozone flow rate (L/min)	COD conc.(mg/L)	Total phenol conc. (mg/L)	HRT (hr)	COD conc. (mg/L)
1	1-103	2	200-300	20-30	125	150-160
2	104-124	1	180-250	20-30	125	150-160
3	125-220	1.5	180-250	20-30	86	150-160

Table S2. Ozonation intermittent test data

Time (days)	Influent COD (mg/L)	Effluent COD (mg/L)	COD removal (%)	Influent Total phenol (mg/L)	Effluent Total phenol (mg/L)
1	204	117	42.6	27.1	Undetected
4	308	213	30.8	29.7	Undetected
12	256	152	40.6	29.8	Undetected
37	204	121	40.7	29.9	Undetected
45	256	150	41.4	31.6	Undetected
58	268	154	42.5	26.3	Undetected
74	247	152	38.5	27.4	Undetected
91	198	118	40.4	30.1	Undetected
104	221	152	31.2	31.1	Undetected
114	212	148	30.2		Undetected
127	190	111	41.6	30.3	Undetected
130	163	85	47.9	36.4	Undetected
133	205	118	42.4	31.2	Undetected
136	255	146	42.7	25.1	Undetected
145	266	186	30.1	26.6	Undetected
152	263	181	31.2	27.2	Undetected
164	265	150	43.4	34.2	Undetected
173	213	153	28.2	32.9	Undetected
187	223	148	33.6	17.6	Undetected
200	240	156	35.0	24.8	Undetected
209	192	142	26.0	19.5	Undetected

Table S3. Ozonation-aerobic fluidized bed NH₃-N removal trends

Operating time (days)	Influent NH ₃ -N (mg/L)	Effluent NH ₃ -N (mg/L)	NH ₃ -N removal rate (%)
152	22.7	0.36	98.4
164	28.7	0.27	99.1
173	26.4	0.45	98.3
187	17.6	0.13	99.3
200	27.8	0.21	99.2

Figure S1.



