

Electronic Supplementary Information (ESI)

**Emerging investigators series: occurrence and fate of emerging organic contaminants in
wastewater treatment plants with an enhanced nitrification step**

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List of Figures

Figure S1. Non-metric multidimensional scaling analysis plot based on the removal of structure-validated EOCs.	S1
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List of Tables

Table S1 Operational parameters and nutrition removal of the two plants during sampling dates	S2
Table S2 Structure validation information and results for 86 EOC suspect hits	S3
Table S3 Physical and chemical properties of 11 reference compounds and their RFs	S9
Table S4 Raw signal intensity of sulfamethoxazole and N4-acetyl sulfamethoxazole	S10
Table S5 Spearman's correlation of RF to different compound properties and retention times .	S11
Table S6 Single-step removal (%) of selected recalcitrant EOCs with validated structures	S12

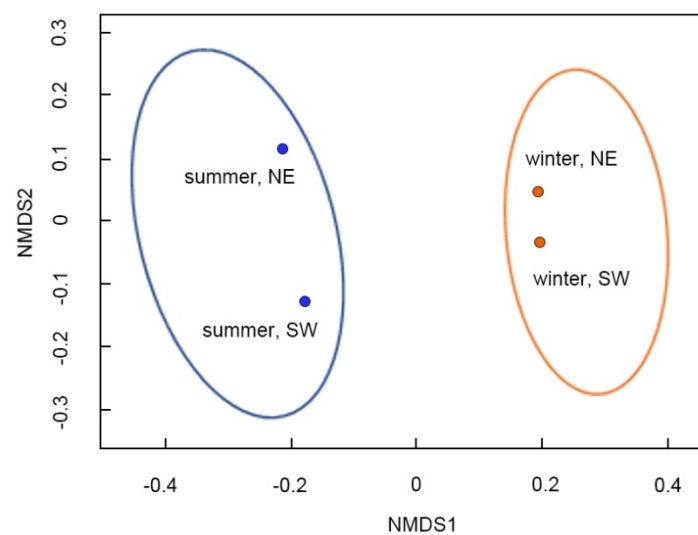


Figure S1. Non-metric multidimensional scaling analysis plot based on the removal of structure-validated EOCs.

Table S1 Operational parameters and nutrition removal of the two plants during sampling dates

	Summer, NE	Winter, NE	Summer, SW	Winter, SW
Flow (MGD)	12.84	11.81	6.82	4.5
pH	8.48	8.42	8.42	8.31
Temperature (°C)	23	17	22.5	19
BOD Influent (mg/L)	130	269	169	281
BOD influent of nitrification tower (mg/L)	5	5	5	<5
BOD effluent (mg/L)	4	4	4	< 4
TSS influent (mg/L)	126	215	250	225
TSS effluent (mg/L)	2.2	2.4	1.4	1.8
NH ₃ -N influent (mg/L)	14.3	33.8	16.9	27.4
NH ₃ -N influent of nitrification tower (mg/L)	0.8	6.5	0.10	0.14
NH ₃ -N effluent (mg/L)	0.05	0.22	0.06	0.07
Phosphate influent (mg/L)	3.5	6.9	4.4	5.3
Phosphate effluent (mg/L)	1.6	1.7	0.3	0.3

Table S2 Structure validation information and results for 86 EOC suspect hits

Compound	Formula	Classification	Adduct & m/z	Fragments	Validation Results
O-desmethyl-venlafaxine	C ₁₆ H ₂₅ NO ₂	Metabolites	[M+H] ⁺ 264.1958	58.07, 107.05, 133.06	Level 1
Amantadine	C ₁₀ H ₁₇ N	Pharmaceuticals	[M+H] ⁺ 152.1434	65.04, 110.06, 135.12	Level 1
DEET	C ₁₂ H ₁₇ NO	Pesticides	[M+H] ⁺ 192.1383	72.05, 91.05, 100.07, 119.05	Level 1
Dimethachlor	C ₁₃ H ₁₈ ClNO ₂	Pesticides	[M+H] ⁺ 256.1099	148.11, 224.08	Failed
Fluconazole	C ₁₃ H ₁₂ F ₂ N ₆ O	Pharmaceuticals	[M+H] ⁺ 307.1113	169.05, 220.07, 238.08	Level 1
Flucytosine	C ₄ H ₄ FN ₃ O	Pharmaceuticals	[M+H] ⁺ 130.0411	84.05, 113.02, 130.14	Level 1
Metaxalone	C ₁₂ H ₁₅ NO ₃	Pharmaceuticals	[M+H] ⁺ 222.1125	123.08, 135.08, 161.10, 181.07	Level 1
Nalidixic acid	C ₁₂ H ₁₂ N ₂ O ₃	Pharmaceuticals	[M+H] ⁺ 233.0921	116.79, 187.05, 215.08	Failed
Padimate O	C ₁₇ H ₂₇ NO ₂	PCPs	[M+H] ⁺ 278.2115	151.06, 166.09	Failed
Paracetamol	C ₈ H ₉ NO ₂	Pharmaceuticals	[M+H] ⁺ 152.0706	110.06, 134.06, 152.07	Level 1
Trimethoprim	C ₁₄ H ₁₈ N ₄ O ₃	Pharmaceuticals	[M+H] ⁺ 291.1452	123.07, 245.10, 261.10	Level 1
Benzoyl ecgonine	C ₁₆ H ₁₉ NO ₄	Metabolites: cocaine	[M+H] ⁺ 290.1387	150.09, 168.10, 272.13	Level 2
EDDP	C ₂₀ H ₂₃ N	Metabolites: Methadone	[M+H] ⁺ 278.1903	186.13, 234.13, 249.15	Level 2
D-617	C ₁₇ H ₂₆ N ₂ O ₂	Metabolites: Verapamil	[M+H] ⁺ 291.2067	151.08, 177.09, 248.15, 260.16	Level 2
Fluazifop	C ₁₅ H ₁₂ F ₃ NO ₄	Pesticides	[M-H] ⁻ 326.0646	254.08, 255.05, 282.07	Failed
Benzotriazole	C ₆ H ₅ N ₃	Industrial Chemicals	[M+H] ⁺ 120.0556	65.04, 92.05, 121.06	Level 1
1,3-Dimethyl-2-imidazolidinone	C ₅ H ₁₀ N ₂ O	Industrial Chemicals	[M+H] ⁺ 115.0866	113.07, 115.09	Failed
N,N-didesmethyl	C ₁₅ H ₂₃ NO ₂	Metabolites:	[M+H] ⁺	204.15,	Level 2

venlafaxine		venlafaxine	250.1802	232.17, 250.18	
10,11-Dihydroxy carbamazepine	C ₁₅ H ₁₄ N ₂ O ₃	Metabolites: carbamazepine	[M+H] ⁺ 271.1077	180.08, 181.08, 182.10, 210.09	Level 2
Methylbenzotriazole	C ₇ H ₇ N ₃	Industrial Chemicals	[M+H] ⁺ 134.0713	53.04, 79.05, 106.07	Level 2
2-Amino benzimidazol	C ₇ H ₇ N ₃	Pesticides	[M+H] ⁺ 134.0713	92.05, 93.06, 107.06,	Failed
N,O-didesvenlafaxine	C ₁₅ H ₂₃ NO ₂	Metabolites: venlafaxine	[M+H] ⁺ 250.1802	107.06, 133.06, 134.07, 201.13	Level 2
8-Hydroxyquinoline	C ₉ H ₇ NO	Pesticides	[M+H] ⁺ 146.0600	117.06	Failed
Amphetamine	C ₉ H ₁₃ N	Pharmaceuticals	[M+H] ⁺ 136.1121	65.04, 91.05, 136.11	Level 2
Atenolol acid	C ₁₄ H ₂₁ NO ₄	Metabolites: Atenolol, Metoprolol	[M+H] ⁺ 268.1543	145.06, 191.07, 226.11	Level 2
Benalaxyl	C ₂₀ H ₂₃ NO ₃	Pesticides	[M+H] ⁺ 326.1751	148.11, 208.13, 266.15, 294.15	Failed
Bendiocarb	C ₁₁ H ₁₃ NO ₄	Pesticides	[M+H] ⁺ 224.0917	81.03, 109.03, 167.07, 193.05	Failed
Benzisothiazolone	C ₇ H ₅ NOS	PCPs	[M+H] ⁺ 152.0165	105.03, 109.01, 152.02	Failed
Bisphenol A	C ₁₅ H ₁₆ O ₂	Industrial Chemicals	[M+H] ⁺ 229.1223	95.09, 147.12, 219.09	Failed
Butyl paraben	C ₁₁ H ₁₄ O ₃	PCPs	[M+H] ⁺ 195.1016	95.05, 111.06, 121.03, 139.04	Failed
Caffeine	C ₈ H ₁₀ N ₄ O ₂	Pharmaceuticals	[M+H] ⁺ 195.0876	110.07, 138.07	Level 2
Carbamazepine	C ₁₅ H ₁₂ N ₂ O	Pharmaceuticals	[M+H] ⁺ 237.1022	192.08, 194.10	Level 2
Carbamazepine 10, 11-epoxide	C ₁₅ H ₁₂ N ₂ O ₂	Metabolites: carbamazepine	[M+H] ⁺ 253.0972	180.08, 182.10, 210.09	Level 2
Carbetamide	C ₁₂ H ₁₆ N ₂ O ₃	Pesticides	[M+H] ⁺ 237.1234	72.08, 118.09, 120.04, 192.07	Failed
Carbofuran	C ₁₂ H ₁₅ NO ₃	Pesticides	[M+H] ⁺ 222.1125	123.04, 137.06, 165.09	Failed

Cefalexin	C ₁₆ H ₁₇ N ₃ O ₄ S	Pharmaceuticals	[M+H] ⁺ 348.1012	106.07, 158.03, 174.05, 192.05	Level 2
Citalopram	C ₂₀ H ₂₁ FN ₂ O	Pharmaceuticals	[M+H] ⁺ 325.1711	109.04, 262.10, 234.07	Level 2
Cortisol	C ₂₁ H ₃₀ O ₅	Pharmaceuticals	[M+H] ⁺ 363.2155	109.06, 225.13, 309.19	Level 2
Cotinine	C ₁₀ H ₁₂ N ₂ O	Metabolites: Nicotine	[M+H] ⁺ 177.1022	80.05, 98.06, 146.06, 177.10	Level 2
Cymoxanil	C ₇ H ₁₀ N ₄ O ₃	Pesticides	[M+H] ⁺ 199.0826	83.02, 110.03, 111.02, 128.05, 129.03	Failed
Morphine	C ₁₇ H ₁₉ NO ₃	Pharmaceuticals	[M+H] ⁺ 286.1438	201.09, 211.08, 229.09, 268.13, 286.15	Level 2
Dibutyl phthalate	C ₁₆ H ₂₂ O ₄	PCPs	[M-H] ⁻ 277.1445	121.03, 127.11, 134.04, 147.01, 233.15, 277.14	Level 2
Diethyl phthalate	C ₁₂ H ₁₄ O ₄	PCPs	[M+H] ⁺ 223.0965	149.02, 167.03, 177.05	Failed
Atenolol	C ₁₄ H ₂₂ N ₂ O ₃	Pharmaceuticals	[M+H] ⁺ 267.1703	74.06, 98.10, 116.11, 145.06, 190.09, 225.12, 267.17	Level 2
Ethambutol	C ₁₀ H ₂₄ N ₂ O ₂	Pharmaceuticals	[M+H] ⁺ 205.191	116.11	Level 2
Ethylparaben	C ₉ H ₁₀ O ₃	PCPs	[M+H] ⁺ 167.0703	95.05, 121.03, 139.04	Level 2
Fenamidone	C ₁₇ H ₁₇ N ₃ OS	Pesticides	[M+H] ⁺ 312.1165	92.05, 103.05, 236.12	Failed
Fexofenadine	C ₃₂ H ₃₉ NO ₄	Pharmaceuticals	[M+H] ⁺ 502.2952	131.09, 171.12, 233.12, 262.16, 466.27, 484.28	Level 2
Fibricor	C ₁₇ H ₁₅ ClO ₄	Pharmaceuticals	[M+H] ⁺ 317.0586	231.02	Level 2

Flecainide	C ₁₇ H ₂₀ F ₆ N ₂ O ₃	Pharmaceuticals	[M+H] ⁺ 415.1451	81.07, 98.10, 301.03, 398.12, 415.15	Level 2
Gabapentin	C ₉ H ₁₇ NO ₂	Pharmaceuticals	[M+H] ⁺ 172.1332	95.09, 119.09, 137.10, 154.12, 172.13	Level 2
Galaxolidone	C ₁₈ H ₂₄ O ₂	Metabolites: Galaxolide	[M+H] ⁺ 273.1849	157.10, 175.11, 255.17, 273.19	Level 2
Hydroxy benzotriazole	C ₆ H ₅ N ₃ O	Industrial Chemicals	[M+H] ⁺ 136.0505	119.05, 136.05	Failed
Imiprothrin	C ₁₇ H ₂₂ N ₂ O ₄	Pesticides	[M+H] ⁺ 319.1652	81.07, 113.06, 121.10, 135.12, 151.11, 163.11	Failed
Didemethyl- isoproturon	C ₁₀ H ₁₄ N ₂ O	Pesticides	[M+H] ⁺ 179.1179	94.07, 136.11, 137.07, 162.09, 179.12	Failed
Ephedrine	C ₁₀ H ₁₅ NO	Pharmaceuticals	[M+H] ⁺ 166.1226	117.07, 133.09, 148.11	Level 2
Lamotrigine	C ₉ H ₇ Cl ₂ N ₅	Pharmaceuticals	[M+H] ⁺ 256.0151	166.03, 173.99, 210.98, 256.02	Failed
Lignocaine	C ₁₄ H ₂₂ N ₂ O	Pharmaceuticals	[M+H] ⁺ 235.1805	58.07, 86.10, 235.18	Level 2
Lorsartan	C ₂₂ H ₂₃ ClN ₆ O	Pharmaceuticals	[M+H] ⁺ 423.1695	207.09, 235.10, 377.15, 405.16	Level 2
Metformin	C ₄ H ₁₁ N ₅	Pharmaceuticals	[M+H] ⁺ 130.1087	60.06, 71.06, 85.05	Level 2
Aspartame	C ₁₄ H ₁₈ N ₂ O ₅	Industrial Chemicals	[M+H] ⁺ 295.1288	120.08, 180.10, 235.11	Failed
Metoprolol	C ₁₅ H ₂₅ NO ₃	Pharmaceuticals	[M+H] ⁺ 268.1907	116.11, 159.08, 191.11	Level 2
Metronidazole	C ₆ H ₉ N ₃ O ₃	Pharmaceuticals	[M+H] ⁺ 172.0720	82.05, 111.04, 128.05, 172.07	Level 2
N-(2,4-dimethyl- phenyl)-formamide	C ₉ H ₁₁ NO	Pesticides	[M+H] ⁺ 150.0913	117.06, 122.10, 123.08,	Level 2

				132.08, 133.08, 150.09	
N,N-diethyl-3-methoxybenzamide	C ₁₂ H ₁₇ NO ₂	Metabolites: DEET	[M+H] ⁺ 208.1332	100.08, 135.04, 136.05, 208.13, 209.14	Failed
N4-acetyl sulfamethazine	C ₁₄ H ₁₆ N ₄ O ₃ S	Metabolites: Sulfadimidine	[M-H] ⁻ 319.0870	134.06, 164.08, 205.02, 255.13, 319.09	Failed
N4-acetyl sulfamethoxazole	C ₁₂ H ₁₃ N ₃ O ₄ S	Metabolites: sulfamethoxazole	[M+H] ⁺ 296.0700	134.06, 198.02, 108.04	Level 1
Napropamid	C ₁₇ H ₂₁ NO ₂	Pesticides	[M+H] ⁺ 272.1645	128.11, 129.11, 171.08, 199.08	Failed
Nicotine	C ₁₀ H ₁₄ N ₂	PCPs	[M+H] ⁺ 163.123	106.07, 132.08, 163.12	Level 2
Oxcarbazepine	C ₁₅ H ₁₂ N ₂ O ₂	Pharmaceuticals	[M+H] ⁺ 253.0972	180.08, 208.08, 236.07	Level 2
Paraxanthine	C ₇ H ₈ N ₄ O ₂	Metabolites: Caffine	[M+H] ⁺ 181.072	124.05, 142.06, 163.06	Level 2
Picaridin	C ₁₂ H ₂₃ NO ₃	Pesticides	[M+H] ⁺ 230.1751	95.09, 112.11, 128.07, 130.12	Failed
Piperacillin	C ₂₃ H ₂₇ N ₅ O ₇ S	Pharmaceuticals	[M+H] ⁺ 518.1704	114.04, 115.05, 143.08, 160.05	Level 2
Prometon	C ₁₀ H ₁₉ N ₅ O	Pesticides	[M+H] ⁺ 226.1662	142.07, 152.12, 184.12	Level 2
Propamocarb	C ₉ H ₂₀ N ₂ O ₂	Pesticides	[M+H] ⁺ 189.1598	102.05, 144.10, 147.11	Failed
Ranitidine	C ₁₃ H ₂₂ N ₄ O ₃ S	Pharmaceuticals	[M+H] ⁺ 315.1485	98.08, 124.08, 125.01, 176.05, 224.10	Level 1
Sulfamethoxazole	C ₁₀ H ₁₁ N ₃ O ₃ S	Pharmaceuticals	[M+H] ⁺ 254.0594	147.08, 156.01, 160.09	Level 2
Sulfanilamide	C ₆ H ₈ N ₂ O ₂ S	Pharmaceuticals	[M+H] ⁺ 173.0379	108.05, 125.05, 156.01	Failed
Tebufenozide	C ₂₂ H ₂₈ N ₂ O ₂	Pesticides	[M+H] ⁺ 353.2224	203.15, 297.16	Failed

Terbumeton	C ₁₀ H ₁₉ N ₅ O	Pesticides	[M+H] ⁺ 226.1662	114.07, 142.07, 170.10	Failed
Tetraglyme	C ₁₀ H ₂₂ O ₅	Industrial Chemicals	[M+H] ⁺ 223.154	89.06, 103.0 8, 133.09, 147.10	Level 2
Tramadol	C ₁₆ H ₂₅ NO ₂	Pharmaceuticals	[M+H] ⁺ 264.1958	58.07, 246.18, 264.20	Level 2
Triethanolamine	C ₆ H ₁₅ NO ₃	PCPs	[M+H] ⁺ 150.1125	70.07, 88.08, 114.09, 132.10	Level 2
Triethyl phosphate	C ₆ H ₁₅ O ₄ P	Industrial Chemicals	[M+H] ⁺ 183.0781	98.98, 127.02, 155.05,	Level 2
Valsartan	C ₂₄ H ₂₉ N ₅ O ₃	Pharmaceuticals	[M+H] ⁺ 436.2343	235.10, 207.09, 291.15	Level 2
Venlafaxine	C ₁₇ H ₂₇ NO ₂	Pharmaceuticals	[M+H] ⁺ 278.2115	58.07, 121.06, 147.08	Level 2

Table S3 Physical and chemical properties of 11 reference compounds and their RFs

Reference compound	Polar surface area (Å ²)	Log D	pKa	Molecular volume (Å ³)	RT (min)	Corrected Signal Intensity	Concentration (µg/L)	RF
Amantadine	26	2.4	-	160.1	6.22	1.39×10 ⁹	0.039	3.57
DEET	20.3	2	-	198.31	9.13	2.52×10 ¹¹	2.5	10.00
Fluconazole	81.6	0.4	12.7	244.46	6.95	1.44×10 ⁹	0.22	0.67
Flucytosine	67.5	-0.9	8.2	97	5.74	2.58×10 ⁹	0.71	0.36
Metaxalone	47.6	2.2	13.1	203.97	7.50	4.52×10 ⁹	0.63	0.72
Paracetamol	49.3	0.5	9.5	138.08	6.15	2.01×10 ¹¹	34.5	0.58
Ranitidine	83.58	0.3	7.8	485.35	5.56	2.27×10 ¹⁰	1.5	1.56
Trimethoprim	106	0.9	7.2	261.31	6.14	8.99×10 ⁹	0.45	2.00
N4-acetyl sulfamethoxazole	101.3	0.7	5.9	241.31	7.64	1.08×10 ¹⁰	3.8	0.29
O-desmethyl venlafaxine	43.7	2.6	10.1	271.57	6.53	1.83×10 ¹⁰	0.55	3.36
Benzotriazole	50.9	1.2	6.9	108.91	6.99	1.68×10 ¹¹	5.1	3.29

Table S4 Raw signal intensity of sulfamethoxazole and N4-acetyl sulfamethoxazole

Sample	Sulfametho xazole [M-H] ⁻	Sulfametho xazole [M+H] ⁺	Ratio [M-H] ⁻ / [M+H] ⁺	N4-acetyl sulfamethoxazole [M-H] ⁻	N4-acetyl sulfamethoxazole [M+H] ⁺	Ratio [M-H] ⁻ / [M+H] ⁺
NE-1	1.68×10 ⁷	7.55×10 ⁸	2.23×10 ⁻²	8.04×10 ⁷	5.98×10 ⁸	1.35×10 ⁻¹
NE-2	1.41×10 ⁷	7.72×10 ⁸	1.82×10 ⁻²	4.12×10 ⁷	6.11×10 ⁸	6.74×10 ⁻²
NE-3	4.24×10 ⁷	1.28×10 ⁹	3.32×10 ⁻²	4.11×10 ⁶	6.74×10 ⁷	6.11×10 ⁻²
NE-4	2.65×10 ⁷	1.10×10 ⁹	2.41×10 ⁻²	1.98×10 ⁷	1.76×10 ⁸	1.12×10 ⁻¹
NE-5	5.78×10 ⁷	1.50×10 ⁹	3.86×10 ⁻²	2.08×10 ⁷	1.42×10 ⁸	1.47×10 ⁻¹
NE-6	6.07×10 ⁷	1.47×10 ⁹	4.13×10 ⁻²	2.26×10 ⁷	1.31×10 ⁸	1.73×10 ⁻¹
SW-1	2.67×10 ⁷	9.85×10 ⁸	2.71×10 ⁻²	8.26×10 ⁷	6.00×10 ⁸	1.38×10 ⁻¹
SW-2	4.11×10 ⁷	1.29×10 ⁹	3.19×10 ⁻²	4.25×10 ⁷	3.92×10 ⁸	1.08×10 ⁻¹
SW-3	2.77×10 ⁷	8.82×10 ⁸	3.14×10 ⁻²	2.89×10 ⁷	2.12×10 ⁸	1.36×10 ⁻¹
SW-4	3.30×10 ⁷	9.93×10 ⁸	3.32×10 ⁻²	2.85×10 ⁷	1.74×10 ⁸	1.64×10 ⁻¹
SW-5	3.24×10 ⁷	9.80×10 ⁸	3.31×10 ⁻²	1.72×10 ⁷	1.38×10 ⁸	1.25×10 ⁻¹
SW-6	4.78×10 ⁷	1.11×10 ⁹	4.30×10 ⁻²	9.43×10 ⁶	1.41×10 ⁸	6.70×10 ⁻²

Table S5 Spearman's correlation of RF to different compound properties and retention times

Property parameters	ρ	P-value
Polar surface area	-0.636	0.04
Log D	0.700	0.02
pKa	0.091	0.80
Molecular volume	0.127	0.71
RT	0.173	0.61

Table S6 Single-step removal (%) of selected recalcitrant EOCs with validated structures

		Primary clarifier/EBPR		Secondary biological treatment		Secondary clarifier		Nitrification tower		Tertiary treatment	
		summer	winter	summer	winter	summer	winter	summer	winter	summer	winter
Atenolol	NE	-39.3	-34.4	-8.2	85.4	22.8	-22.9	54.1	36.8	-106.7	25.9
	SW	32.7	65.5	65.6	54.3	-5.7	16.0	32.3	76.2	-24.4	-1.0
DEET	NE	-17.3	-36.3	91.1	99.9	11.7	-12529.8	74.8	26.4	-453.4	-77.1
	SW	46.2	84.2	86.9	95.5	-67.3	-72.4	59.9	69.5	-5.4	-228.7
Fexofenadine	NE	-2.4	29.1	48.0	-110.8	-5.6	-18.5	21.7	53.3	66.4	-44.9
	SW	20.5	-157.1	38.6	29.2	-24.7	5.3	38.9	53.8	-1.9	-31.2
Gabapentin	NE	-11.8	-14.2	68.0	91.4	61.6	-138.4	62.8	55.4	98.3	29.2
	SW	14.7	69.5	69.6	77.8	4.8	28.0	72.6	54.3	9.5	-2.9
Losartan	NE	-12.2	19.3	45.1	-3.0	17.3	-34.8	2.0	15.4	0.5	10.8
	SW	-105.2	-43.8	49.8	31.1	-10.6	10.8	43.5	46.1	22.3	14.1
Metoprolol	NE	-12.4	-16.1	42.1	17.9	22.7	16.2	-58.6	-3.4	47.2	17.9
	SW	-48.5	19.6	27.3	5.9	-13.0	12.1	50.9	41.8	-4.7	1.2
Paracetamol	NE	-19.7	-36.1	98.4	100.0	87.0	-	77.1	73.1	-58.9	57.3
	SW	84.0/	92.2	99.7	100.0	100.0	-	-	100.0	-	-
Prometon	NE	-25.6	-58.8	2.6	-217.5	-24.9	11.2	-24.7	-18.5	8.3	-0.1
	SW	-44.5	-68.9	22.7	30.6	2.9	-40.1	-13.1	15.7	25.3	-18.9
Ranitidine	NE	-4.1	5.8	70.9	86.2	10.2	-59.0	58.3	25.7	100.0	36.6
	SW	-125.7	73.2	67.1	72.9	-49.7	22.4	45.3	68.1	19.8	-47.7
Sulfamethoxazole	NE	-5.8	-30.7	16.1	69.4	3.5	-13.4	26.2	-28.4	83.8	21.3
	SW	-87.7	46.0	51.6	60.6	-18.3	-19.6	21.3	14.9	8.5	74.1
Tramadol	NE	-0.9	-15.3	21.3	-2.6	-16.5	26.8	-28.6	-37.0	75.1	24.0
	SW	-69.9	23.2	-4.9	-37.0	-7.8	9.6	19.1	35.9	-0.4	-0.8
Trimethoprim	NE	-9.2	-7.6	29.1	20.5	36.1	-4.7	-40.3	35.7	96.1	12.4
	SW	15.2	-6.5	23.4	14.2	-2.7	13.3	66.3	73.2	12.0	6.2
Venlafaxine	NE	-35.0	2.1	13.7	-5.0	34.3	-0.4	-78.3	-2.0	74.6	21.9
	SW	-57.0	-47.9	23.6	18.6	0.9	7.7	23.1	13.2	1.1	0.6

“-”: no detection in the influent of the treatment step, and single-step removal is not available.