

Supplemental Material

Review of the Occurrence of Anti-infectives in Contaminated Wastewaters, Natural and Drinking Waters

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Table 1. Occurrence of anti-infectives in nanograms-per-liter in contaminated wastewaters, natural and drinking waters.

Compound	Matrix																								
	Wastewaters						Natural waters						Drinking water												
	N ^a	Mean	Median	75%	95%	Max	LOQ _{low} ^b	LOQ _{high} ^c	N ^a	Mean	Median	75%	95%	Max	LOQ _{low} ^b	LOQ _{high} ^c	N ^a	Mean	Median	75%	95%	Max	LOQ _{low} ^b	LOQ _{high} ^c	
Azoles																									
Clotrimazole	13	21	23	28	33	33	5	5	35	15	17	22	30	34	1	370	0							370	370
Metronidazole	4	25375	5600	49800	90200	90200	26	112	0						2	9	0							N.A.	N.A.
Miconazole	0						18	18	0						18	18	0							N.A.	N.A.
Ornidazole	0						N.A.	N.A.	4	36	38	56	58	58	10	10	0							N.A.	N.A.
Ronidazole	0						N.A.	N.A.	0						11	11	0							N.A.	N.A.
Tiabendazole	0						N.A.	N.A.	0						11	11	0							N.A.	N.A.
β-Lactams																									
Amoxicillin	13	99	25	200	279	280	1.8	74	0						5	20	0							N.A.	N.A.
Ampicillin	0						13	66	1	11	11	NC	NC	11	5	10	0							N.A.	N.A.
Benzylpenicillin ^d	5	32152	1680	42150	153000	153000	4	100000	1	350	350	NC	NC	350	2	33	0							N.A.	N.A.
Cefaclor	4	740	740	890	980	980	59	59	0						16000	16000	0							N.A.	N.A.
Cefadroxil	0						77	84	0						24000	24000	0							N.A.	N.A.
Cefalexin	13	2143	1800	3750	5450	5600	26	37	0						N.A.	N.A.	0							N.A.	N.A.
Cefapirin	0						15	18	1	9	9	NC	NC	9	8	8	0							N.A.	N.A.
Cefazolin	0						11	14	0						N.A.	N.A.	0							N.A.	N.A.
Cefdinir	0						N.A.	N.A.	0						18000	18000	0							N.A.	N.A.
Cefotaxime	3	386	34	834	1100	1100	12	15	0						N.A.	N.A.	0							N.A.	N.A.
Cefprozil	0						N.A.	N.A.	0						12000	12000	0							N.A.	N.A.
Ceftazidime	0						N.A.	N.A.	0						10	10	0							N.A.	N.A.
Ceftiofur	0						N.A.	N.A.	0						8700	8700	0							N.A.	N.A.
Ceftriaxone	0						N.A.	N.A.	0						4	4	0							N.A.	N.A.
Cefuroxime	0						413	413	0						19200	19200	0							N.A.	N.A.
Cloxacillin	2	168	168	320	320	320	1	20	0						5	20	0							N.A.	N.A.
Dicloxacillin	0						20	25	0						5	25	0							N.A.	N.A.
Flucloxacillin	0						N.A.	N.A.	1	7	7	NC	NC	7	5	5	0							N.A.	N.A.
Meticillin	0						20	25	0						5	50	0							N.A.	N.A.
Mezlocillin	0						N.A.	N.A.	0						5	5	0							N.A.	N.A.
Nafcillin	0						20	25	0						15	25	0							N.A.	N.A.
Oxacillin	0						8	25	1	10	10	NC	NC	10	5	25	0							N.A.	N.A.
Phenoxymethylpenicillin ^e	2	120	120	160	160	160	5	82	0						2	33	0							N.A.	N.A.
Piperacillin	0						N.A.	N.A.	1	48	48	NC	NC	48	2	5	0							N.A.	N.A.

Compound	Matrix																								
	Wastewaters							Natural waters							Drinking water										
	N ^a	Mean	Median	75%	95%	Max	LOQ _{low} ^b	LOQ _{high} ^c	N ^a	Mean	Median	75%	95%	Max	LOQ _{low} ^b	LOQ _{high} ^c	N ^a	Mean	Median	75%	95%	Max	LOQ _{low} ^b	LOQ _{high} ^c	
<i>metabolites / degradation products</i>																									
Iso-penicillic acid	2	598000	598000	1050000	1050000	1050000	960	960	2	599000	599000	935000	935000	935000	960	960	0							N.A.	N.A.
Penicilloaldehyde	2	41035000	41035000	75300000	75300000	75300000	1360	1360	0						1360	1360	0							N.A.	N.A.
Penicilloic acid	2	6095000	6095000	8490000	8490000	8490000	640	640	2	8840000	8840000	10540000	10540000	10540000	640	640	0							N.A.	N.A.
Penillic acid	2	14495000	14495000	23500000	23500000	23500000	410	410	0						410	410	0							N.A.	N.A.
Penilloic acid	2	216750000	216750000	389000000	389000000	389000000	1050	1050	0						1050	1050	0							N.A.	N.A.
Quinoxaline-dioxides																									
Carbadox	0						5	100	0						35	1400	0							100	100
Olaquinox	0						6	6	0						N.A.	N.A.	0							N.A.	N.A.
Lincosamides																									
Clindamycin	5	5	5	5	5	5	3	100	20	116	6	29	1050	1100	0.1	198	0							N.A.	N.A.
Lincomycin	28	22056	190	2500	213000	240000	0.3	50	26	171	33	249	864	1400	0.04	50	0							0.07	5
Macrolides																									
Azithromycin	28	177	141	278	405	450	0.8	231	12	40	17	40	173	175	0.5	100	0							N.A.	N.A.
Clarithromycin	60	334	215	420	1245	2000	0.2	500	20	44	14	43	225	260	0.02	30	0							N.A.	N.A.
Erythromycin	60	704	149	280	1200	27000	0.4	500	45	85	17	45	715	1022	0.1	220	1	5	5	NC	NC	5	0.1	220	
Josamycin	0						N.A.	N.A.	0						0.07	0.07	0							N.A.	N.A.
Oleandomycin	2	18	18	30	30	30	0.3	3	9	1	0.4	3	5	5	0.04	8	0							0.07	0.07
Roxithromycin	48	143	37	110	829	1000	0.3	650	31	59	30	65	190	560	0.04	650	1	1	1	NC	NC	1	1	1	
Spiramycin	9	69	75	101	161	161	1	70	8	42	44	71	74	74	0.05	35	0							2	2
Tilmicosin	0						0.7	0.7	1	0.4	0.4	NC	NC	0.4	0.1	2	0							2	2
Tylosin	10	168	58	65	1150	1150	0.8	1155	12	55	26	70	265	280	0.04	1155	2	3	3	4	4	4	0.8	1	
<i>metabolites / degradation products</i>																									
Erythromycin-H ₂ O	52	2848	450	1414	5650	83000	1	500	51	184	40	146	1186	1700	0.3	250	0							10	10
Polyether ionophores																									
Monensin A	12	29	10.5	27	175	190	1	3	3	403	30	887	1172	1172	0.1	380	0							N.A.	N.A.
Monensin B	0						N.A.	N.A.	0						50	50	0							N.A.	N.A.
Narasin A	0						N.A.	N.A.	1	40	40	NC	NC	40	40	40	0							N.A.	N.A.
Salinomycin	1	25	25	NC	NC	25	3	3	0						40	40	0							N.A.	N.A.
Quinolones																									
Cinoxacin	0						N.A.	N.A.	0						33	33	0							N.A.	N.A.
Ciprofloxacin	156	382207	251	595	35630	31000000	1	3630	22	470	180	360	2822	5600	0.3	2000	0							1	3
Clinafloxacin	0						5	5	0						N.A.	N.A.	0							N.A.	N.A.
Danofloxacin	0						15	1650	0						5	40	0							N.A.	N.A.
Difloxacin	0						30	130	0						9	130	0							N.A.	N.A.

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Enoxacin	2	225000	225000	300000	300000	300000	36	3630	1	11	11	NC	NC	11	10	43	0								N.A.	N.A.	
Enrofloxacin	14	126149	60	23700	876000	900000	3	20600	2	10	10	NC	NC	10	3	200	0									5	5
Fleroxacin	2	20	20	20	20	20	1	90	0						1	9	0									N.A.	N.A.
Flumequine	11	18779	14880	24138	49586	49820	5	2310	10	20	16	29	32	32	2	43	2	2	2	3	3	3	3	3	2	2	
Gatifloxacin	0						N.A.	N.A.	0						7000	7000	0									N.A.	N.A.
Lomefloxacin	2	225000	225000	300000	300000	300000	2	3300	0						2	6000	0									N.A.	N.A.
Moxifloxacin	2	1273	1273	2175	2175	2175	0.6	0.6	1	17	17	NC	NC	17	0.6	2	0									N.A.	N.A.
Nalidixic acid	4	94	65	138	200	200	3	4620	0						10	66	0									N.A.	N.A.
Norfloxacin	115	7911	76	253	7150	420000	3	8000	21	58	25	95	203	251	2	2700	0									4	6
Ofloxacin/Levofloxacin	109	4807	288	739	25775	160000	1	8000	17	39	20	62	109	109	1	4400	2	1	1	2	2	2	2	2	0.3	0.3	
Oxolinic acid	4	1207500	1160000	2405000	2500000	2500000	5	2640	2	16	16	19	19	19	4	33	1	4	4	NC	NC	4	4	4	4	4	
Pipemidic acid	0						7	155	0						10	155	0									10	10
Sarafloxacin	3	3333	3000	3750	4000	4000	5	220	2	1505	1505	3000	3000	3000	2	220	0									2	2
Sparfloxacin	0						N.A.	N.A.	0						5700	5700	0									N.A.	N.A.
Tosufloxacin	0						245	245	0						245	245	0									N.A.	N.A.
Sulfonamides																											
Sulfacetamide	3	77	64	129	151	151	1	13200	0						0.5	9600	0									1	1
Sulfabenzamide	0						1	1	0							0										N.A.	N.A.
Sulfachlorpyridazine	3	2697	1560	5288	6530	6530	1	165	5	17	20	30	30	30	0.5	825	0									7	7
Sulfadiazine	10	30966	4640	76000	111400	111400	1	100000	13	310825	170000	480000	1094000	1160000	0.3	33000	0									0.3	1155
Sulfadimethoxine	14	2206	2500	2500	10284	12230	1	2800	10	1553	53	60	15000	15000	0.2	2800	0									4	4
Sulfadimidine ^f	31	45154	363	3633	369000	400000	1	49500	35	114193	215	87500	835000	900000	0.3	33000	0									0.8	495
Sulfadoxine	0						1	1	0						1	1	0									N.A.	N.A.
Sulfaguanidine	1	211100	211100	NC	NC	211100	5	300000	10	473000	270000	540000	1600000	1600000	33000	33000	0									N.A.	N.A.
Sulfamerazine	4	20505	2490	40225	77000	77000	1	1700	3	87	60	158	190	190	0.3	1700	0									6	6
Sulfamethizole ^g	0						1	600	11	136387	70000	205000	329000	330000	1	33000	0									5	5
Sulfamethoxazole	177	1301	352	643	4167	69000	1	2500	115	285	72	298	1080	6000	0.3	14000	2	0.4	0.4	1	1	1	1	1	0.2	495	
Sulfamethoxy-pyridazine	2	5	5	9	9	9	1	2800	0						1	2800	0									N.A.	N.A.
Sulfametoxydiazine ^h	1	4	4	NC	NC	4	1	6	0						1	1	0									N.A.	N.A.
Sulfamonomethoxine	2	4110	4110	5110	5110	5110	1	49500	0						1	110	0									N.A.	N.A.
Sulfamoxole	0						1	1	0						N.A.	N.A.	0									N.A.	N.A.
Sulfanilamide	0						5	10200	9	138889	140000	180000	300000	300000	10200	33000	0									N.A.	N.A.
Sulfapyridine	17	123	85	158	308	350	1	528	8	19	15	30	39	39	1	528	0									0.5	528
Sulfaquinoxaline	0						1	2200	0						2200	2200	0									N.A.	N.A.
Sulfasalazine	13	272	290	400	437	438	10	64	11	158	120	155	757	780	5	5	0									N.A.	N.A.

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Sulfathiazole	7	167683	180	8995	1158680	1158680	3	33000	4	14	13	23	30	30	1	3600	0							8	858
Sulfisomidine	0						3	8800	0						8800	8800	0							N.A.	N.A.
Sulfisoxazole	4	22	21	28	34	34	1	3600	0						0.4	3600	0							0.4	0.4
<i>metabolites / degradation products</i>																									
Acetyl-Sulfadiazine	0						N.A.	N.A.	0						17	17	0							N.A.	N.A.
Acetyl-Sulfadimethoxine	0						N.A.	N.A.	0						17	17	0							N.A.	N.A.
Acetyl-Sulfamethazine	0						N.A.	N.A.	0						17	17	0							N.A.	N.A.
Acetyl-Sulfamethoxazole	13	779	570	1200	2230	2235	20	212	6	86	14	239	240	240	2	50	0							N.A.	N.A.
Acetyl-Sulfathiazole	0						N.A.	N.A.	0						17	17	0							N.A.	N.A.
Tetracyclines																									
Chlortetracycline	24	703804	80450	230000	4300000	12000000	4.0	500	8	225	171	315	690	690	7	1650	0							25	25
Demeclocycline	7	1215	1140	2310	3150	3150	10	165	4	208	185	380	440	440	12	165	0							12	12
Doxycycline	33	531	83	353	2440	6700	2	165	4	34	30	62	73	73	1	165	0							4	4
Meclocycline	4	530	435	785	1070	1070	23	90	2	55	55	100	100	100	5	500	0							N.A.	N.A.
Minocycline	2	4640	4640	8900	8900	8900	10	165	0						5	165	0							5	5
Oxytetracycline	29	34693400	1100000	2750000	64525000	920000000	1	100000	19	240611	1340	513250	701650	712000	0.07	1155	0							4	4
Tetracycline	62	13731500	370	850	11180	850000000	2	700000	10	186	110	300	560	560	3	250	0							3	3
<i>metabolites / degradation products</i>																									
α-apo-oxytetracycline	2	4765000	4765000	9420000	9420000	9420000	1300	1300	9	8986	9570	11275	12900	12900	1300	1300	0							N.A.	N.A.
β-apo-oxytetracycline	2	1061500	1061500	2090000	2090000	2090000	600	600	9	6339	4740	8915	15100	15100	600	600	0							N.A.	N.A.
Doxycycline-H ₂ O	0						N.A.	N.A.	0						100	100	0							N.A.	N.A.
Epi-oxytetracycline	2	9450000	9450000	18100000	18100000	18100000	1200	1200	9	21778	22800	28925	34200	34200	1200	1200	0							N.A.	N.A.
Iso-chlortetracycline	0						N.A.	N.A.	0						100	100	0							N.A.	N.A.
Iso-epi-chlortetracycline	0						N.A.	N.A.	0						100	100	0							N.A.	N.A.
Tetracycline-H ₂ O	0						N.A.	N.A.	0						10	10	0							N.A.	N.A.
<i>Other</i>																									
Amprolium	9	59	24	53	288	288	8	8	0						N.A.	N.A.	0							N.A.	N.A.
Bacitracin	0						40	40	0						N.A.	N.A.	0							N.A.	N.A.
Chloramphenicol	6	1038	1010	1730	2430	2430	5	667	5	136	127	207	266	266	2	80	0							5	5
Dapsone	0						N.A.	N.A.	0						7	7	0							N.A.	N.A.
Furazolidone	0						N.A.	N.A.	0						4	4	0							N.A.	N.A.
Gentamicin	2	3000	3000	5000	5000	5000	200	200	0						N.A.	N.A.	0							N.A.	N.A.
Novobiocin	0						3	3	0						3	3	0							N.A.	N.A.
Ormetoprim	0						5	5	0						5	5	0							N.A.	N.A.
Roxarsone	0						N.A.	N.A.	0						2000	2000	0							N.A.	N.A.

Compound	Matrix																								
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	N ^a	Mean	Median	75%	95%	Max	LOQ _{low} ^b	LOQ _{high} ^c	N ^a	Mean	Median	75%	95%	Max	LOQ _{low} ^b	LOQ _{high} ^c	N ^a	Mean	Median	75%	95%	Max	LOQ _{low} ^b	LOQ _{high} ^c	
Trimethoprim	210	1351	270	795	5000	55200	0.9	150000	90	94	18	42	510	3000	0.2	4000	0							0.5	250
Vancomycin	0						N.A.	N.A.	0						30.0	30	0							N.A.	N.A.
Virginiamycin	0						5	12	0						5	170	0							N.A.	N.A.

^a Number of values reported being > LOQ for each compound. ^b Lowest LOQ reported. ^c Highest LOQ reported. ^d Also known as penicillin G. ^e Also known as penicillin V. ^f Also known as sulfamethazine. ^g Also known as sulfamethiazole. ^h Also known as sulfameter. NA : not available. NC : Not calculated.

Table 2. Effective concentrations of sulfamethoxazole on several aquatic species

Category	Name	Test type	Effect	Author and publication year	Value (ng/L)
LOEC	<i>L. gibba</i>	LOEC	Fronnd number	(Brain et al. 2004)	30000
LOEC	<i>L. gibba</i>	LOEC	Chlorophyll a	(Brain et al. 2004)	100000
LOEC	<i>L. gibba</i>	LOEC	Chlorophyll b	(Brain et al. 2004)	100000
LOEC	<i>L. gibba</i>	LOEC	Wet weight	(Brain et al. 2004)	100000
LOEC	<i>L. gibba</i>	LOEC	Carotenoids	(Brain et al. 2004)	300000
LOEC	<i>S. typhimurium</i> TA98	AMES	Mutagenicity	(Isidori et al. 2005)	6250000
LOEC	<i>S. typhimurium</i> TA100	AMES	Mutagenicity	(Isidori et al. 2005)	5000000
LOEC	<i>S. typhimurium</i> TA98	AMES	Mutagenicity	(Isidori et al. 2005)	10000000
LOEC	<i>S. typhimurium</i> TA100	AMES	Mutagenicity	(Isidori et al. 2005)	10000000
LOEC	<i>H. attenuata</i>	LOEC	Morphology	(Quinn et al. 2008)	10000000
LOEC	<i>B. stearrowthermophilus</i>	LOEC	Color change	(Smith et al. 2007)	132500
EC50	Pathogens	MIC50	Population Inhibition	(Al-Ahmad et al. 1999)	2000
EC50	<i>Ps. Putida</i>	IC50	Growth inhibitory activity	(Al-Ahmad et al. 1999)	256000
EC50	Pathogens	MIC50	Population Inhibition	(Al-Ahmad et al. 1999)	256000
EC50	<i>C. vulgaris</i>	EC50	Growth inhibition	(Baran et al. 2006)	15689230
EC50	<i>P. subcapitata</i>	EC50	Growth inhibition	(Blaise et al. 2006)	13400000
EC50	<i>H. attenuata</i>	EC50	Morphology perturbation	(Blaise et al. 2006)	19300000
EC50	<i>V. fischeri</i>	EC50	Luminescence inhibition	(Blaise et al. 2006)	65300000
EC50	<i>L. gibba</i>	EC50	Wet weight	(Brain et al. 2004)	81000
EC50	<i>L. gibba</i>	EC50	Fronnd number	(Brain et al. 2004)	249000
EC50	<i>L. gibba</i>	EC50	Chlorophyll b	(Brain et al. 2004)	682000
EC50	<i>L. gibba</i>	EC50	Chlorophyll a	(Brain et al. 2004)	985000
EC50	<i>L. gibba</i>	EC50	Carotenoids	(Brain et al. 2004)	4983000
EC50	<i>S. capricornutum</i>	EC50	Growth inhibitory activity	(Eguchi et al. 2004)	1530000
EC50	<i>S. leopolensis</i>	EC50	Growth	(Ferrari et al. 2004)	26800
EC50	<i>P. subcapitata</i>	EC50	Growth	(Ferrari et al. 2004)	146000
EC50	<i>C. meneghiniana</i>	EC50	Growth	(Ferrari et al. 2004)	2400000
EC50	<i>C. dubia</i>	EC50	Chronic toxicity	(Isidori et al. 2005)	210000
EC50	<i>P. subcapitata</i>	EC50	Chronic toxicity	(Isidori et al. 2005)	520000
EC50	<i>B. calyciflorus</i>	EC50	Chronic toxicity	(Isidori et al. 2005)	9630000

EC50	<i>C. dubia</i>	EC50	Acute toxicity	(Isidori et al. 2005)	15510000
EC50	<i>V. fischeri</i>	EC50	Acute toxicity	(Isidori et al. 2005)	23300000
EC50	<i>D. magna</i>	EC50	Acute toxicity	(Isidori et al. 2005)	25200000
EC50	<i>B. calyciflorus</i>	EC50	Acute toxicity	(Isidori et al. 2005)	26270000
EC50	<i>T. platyurus</i>	EC50	Acute toxicity	(Isidori et al. 2005)	35360000
EC50	<i>D. magna</i>	EC50	Acute toxicity	(Jung et al. 2008)	177600000
EC50	<i>E. coli DH5α</i>	EC50	Growth inhibition	(Wammer et al. 2006)	31125408
EC50	<i>B. fragilis</i>	MIC50	Growth inhibition	(Wüst and Wilkins 1978)	2400000
EC50	Gram-positive bacteria	MIC50	Growth inhibition	(Wüst and Wilkins 1978)	4000000
EC50	<i>Fusobacterium</i>	MIC50	Growth inhibition	(Wüst and Wilkins 1978)	11000000
EC50	<i>Peptococcus/Peptostreptococcus</i>	MIC50	Growth inhibition	(Wüst and Wilkins 1978)	32000000
EC50	<i>Clostridium</i>	MIC50	Growth inhibition	(Wüst and Wilkins 1978)	32000000
EC50	<i>Bacteroides</i>	MIC50	Growth inhibition	(Wüst and Wilkins 1978)	53000000

Table 3. Effective concentrations of ofloxacin/levofloxacin on several aquatic species

Category	Name	Test type	Effect	Author and publication year	Value (ng/L)
LOEC	<i>V. fischeri</i>	EC01	Bioluminescence inhibition	(Backhaus et al. 2000)	940
LOEC	<i>L. gibba</i>	LOEC	Wet weight	(Brain et al. 2004)	300000
LOEC	<i>L. gibba</i>	LOEC	Carotenoids	(Brain et al. 2004)	1000000
LOEC	<i>L. gibba</i>	LOEC	Chlorophyll a	(Brain et al. 2004)	1000000
LOEC	<i>L. gibba</i>	LOEC	Chlorophyll b	(Brain et al. 2004)	1000000
LOEC	<i>L. gibba</i>	LOEC	Fronnd number	(Brain et al. 2004)	1000000
LOEC	<i>S. typhimurium</i> TA98 AMES	AMES	Mutagenicity	(Isidori et al. 2005)	312500
LOEC	<i>S. typhimurium</i> TA98 AMES	AMES	Mutagenicity	(Isidori et al. 2005)	2500000
LOEC	<i>E. coli</i> PQ37	SOS	Genotoxicity	(Isidori et al. 2005)	6250000
LOEC	<i>E. coli</i> PQ37	SOS	Genotoxicity	(Isidori et al. 2005)	25000000
LOEC	<i>E. coli</i> PQ37	SOS	Genotoxicity	(Kümmerer et al. 2000)	1000
LOEC	<i>D. magna</i>	LOEC	Reproduction inhibition	(Yamashita et al. 2006)	63000
LOEC	<i>P. subcapitata</i>	LOEC	Growth inhibition	(Yamashita et al. 2006)	630000
EC50	<i>V. fischeri</i>	EC50	Bioluminescence inhibition	(Backhaus et al. 2000)	13590000
EC50	<i>L. gibba</i>	EC50	Wet weight	(Brain et al. 2004)	532000
EC50	<i>L. gibba</i>	EC50	Fronnd number	(Brain et al. 2004)	653000
EC50	<i>L. gibba</i>	EC50	Chlorophyll b	(Brain et al. 2004)	840000
EC50	<i>L. gibba</i>	EC50	Chlorophyll a	(Brain et al. 2004)	989000
EC50	<i>L. gibba</i>	EC50	Carotenoids	(Brain et al. 2004)	1374000
EC50	<i>Ps. putida</i>	EC50	Growth	(Ferrari et al. 2004)	10000
EC50	<i>S. Leopoldensis</i>	EC50	Growth	(Ferrari et al. 2004)	16000
EC50	<i>C. meneghiniana</i>	EC50	Growth	(Ferrari et al. 2004)	90600
EC50	<i>P. subcapitata</i>	EC50	Growth	(Ferrari et al. 2004)	4740000
EC50	<i>C. dubia</i>	EC50	Mortality	(Ferrari et al. 2004)	26700000
EC50	<i>D. magna</i>	EC50	Mortality	(Ferrari et al. 2004)	76580000
EC50	<i>E. coli</i>	MIC50	Growth inhibition	(Fu et al. 1992)	120000
EC50	<i>S. aureus</i>	MIC50	Growth inhibition	(Fu et al. 1992)	500000
EC50	<i>S. pneumonia</i>	MIC50	Growth inhibition	(Fu et al. 1992)	2000000
EC50	<i>E. faecalis</i>	MIC50	Growth inhibition	(Fu et al. 1992)	2000000
EC50	Peptostrepto	MIC50	Growth inhibition	(Fu et al. 1992)	2000000
EC50	<i>B. fragilis</i>	MIC50	Growth inhibition	(Fu et al. 1992)	4000000

EC50	Bacteria	EC50	Anaerobic inhibition	(Gartiser et al. 2007)	37400000
EC50	<i>B. calyciflorus</i>	EC50	Population growth inhibiton	(Isidori et al. 2005)	530000
EC50	<i>P. subcapitata</i>	EC50	Growth inhibition	(Isidori et al. 2005)	1440000
EC50	<i>C. dubia</i>	EC50	Population growth inhibiton	(Isidori et al. 2005)	3130000
EC50	<i>C. dubia</i>	EC50	Acute toxicity	(Isidori et al. 2005)	17410000
EC50	<i>B. calyciflorus</i>	EC50	Acute toxicity	(Isidori et al. 2005)	29880000
EC50	<i>D. magna</i>	EC50	Acute toxicity	(Isidori et al. 2005)	31750000
EC50	<i>T. platyurus</i>	EC50	Acute toxicity	(Isidori et al. 2005)	33980000
EC50	Pathogens	MIC50	Population Inhibition	(Kümmerer et al. 2000)	7500
EC50	<i>Ps. putida</i>	EC50	Growth inhibitory activity	(Kümmerer et al. 2000)	10000
EC50	<i>S. aureus</i>	EC50	Growth probability	(Nix et al. 1997)	320000
EC50	<i>M. aeruginosa</i>	EC50	Growth inhibition	(Robinson et al. 2005)	7900
EC50	<i>M. aeruginosa</i>	EC50	Growth inhibition	(Robinson et al. 2005)	21000
EC50	<i>P. subcapitata</i>	EC50	Growth inhibition	(Robinson et al. 2005)	7400000
EC50	<i>P. subcapitata</i>	EC50	Growth inhibition	(Robinson et al. 2005)	12100000
EC50	<i>L. minor</i>	EC50	Reproduction inhibition	(Robinson et al. 2005)	51000
EC50	<i>D. magna</i>	EC50	Reproduction inhibition	(Yamashita et al. 2006)	340000
EC50	<i>P. subcapitata</i>	EC50	Growth inhibition	(Yamashita et al. 2006)	1200000

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