water

MDPI

Supplementary Material

Table S1. Antibiotic profile of species detected in the effluent wastewater from Al-Jassim et al, 2015 [1]. Unshaded cells indicate susceptible strains. Red-shaded cells indicate resistant strains. Amp: Ampicillin, Kan: Kanamycin, Erm: Erythromycin, Tet: Tetracycline, Cef: Cefuroxime, Chl: Chloramphenicol, Mer: Meropenem, Cip: Ciprofloxacin.

Isolate	Amp	Kan	Erm	Tet	Cef	Chl	Mer	Cip	No. Res	Identity
October 2013										
EHPC8									5	*Acinetobacter* sp. ADP1 strain ADP1 16S ribosomal RNA, complete sequence

Table S2. Antibiotic profile of species detected in the chlorinated effluent wastewater from Al-Jassim et al, 2015. Unshaded cells indicate susceptible strains. Red-shaded cells indicate resistant strains. Amp: Ampicillin, Kan: Kanamycin, Erm: Erythromycin, Tet: Tetracycline, Cef: Cefuroxime, Chl: Chloramphenicol, Mer: Meropenem, Cip: Ciprofloxacin.

Isolate	Amp	Kan	Erm	Tet	Cef	Chl	Mer	Cip	No. Res	Identity
April 2013										
JWW2 N C 1									1	Uncultured *Acinetobacter* sp.
JWW2 N C 2									1	Uncultured *Acinetobacter* sp.

Table S3. Gene names, categories and primer sequences of genes assayed by RT-qPCR.

Locus Tag	Gene Product		Primer Sequence	Category
BVL33_01915	disulfide bond formation protein B	For	TGTTGCTGCACGTCATGTTT	Cellular Repair
		Rev	AGGCACATTCACCAGAACCT	
BVL33_02390	recombinase RecB	For	AGAGCGTTACAGCACCGAAA	Cellular Repair
		Rev	TAGCCACCGCCTTGATTGTT	
BVL33_03500	30S ribosomal protein S4	For	AAATGCAAACTCTCTCGCCG	Cellular Repair
		Rev	ACCATGTTGACCAGGTGCTT	
BVL33_08275	histidine uptake and utilization operon protein HutD	For	AACTTGCTCGGAGTGAAGGG	Cellular Repair
		Rev	ACCGTCAAATAGCGTTGCAT	
BVL33_11370	lauroyl acyltransferase	For	GCAGTCTAAAAGCTGGGCGA	Cellular Repair
		Rev	GCGGTTAATGTTGCTGCCTG	
BVL33_15970	DNA transfer protein p32	For	GAGTGCATCAGACCAGCGT	Cellular Repair
		Rev	CACCTTGGGTATTTGCCCCT	
BVL33_05485	multidrug transporter MatE	For	CGTTGTTGTTTGCCTCTGCT	Resistance
		Rev	TAGTCGCCAACATTGCTCCA	
BVL33_06020	copper resistance protein CopC	For	TGCTTGATGCACAACGTAAGG	Resistance
		Rev	CATCCGCTCCCATTGTGGTC	
BVL33_10090	MBL fold metallo-hydrolase	For	TATTCCAACGCCTGGACACA	Resistance
		Rev	TCGCCGTACCATAATCTGGC	
BVL33_13780	adenosine deaminase	For	ACGATTGGGGCAAGTGGTAG	Resistance
		Rev	GCAGCGTCTTTCAAGCTACG	
BVL33_12425	superoxide dismutase	For	ATTCGGTTCAGGTTGGGCTT	Stress Response
		Rev	TTGACCGTGTGCAAGTGGAG	
BVL33_12940	DNA starvation/stationary phase protection protein	For	CCGCACCTCAATCATTACCC	Stress Response
		Rev	ATCGCGACAGGATACGGTTT	
BVL33_02700	efflux transporter periplasmic adaptor subunit	For	TGCTGGAGCTGTGTTATGGG	Virulence, Disease & Defense
		Rev	TGCTCATTGGTCAGGGTGAG	
BVL33_02825	pilus assembly protein PilP	For	CAATCGTCAACCGCAACCAC	

		Rev	CTGCACCCGCTCAATTTGTC	Virulence, Disease & Defense
BVL33_09420	bifunctional adenosylcobinamide kinase/adenosylcobinamide-phosphate guanylyltransferase	For	GCAGCAACAACAGACAGACA A	Virulence, Disease & Defense
		Rev	TCGACGGCTAATTTCACCCA	
BVL33_15580	type II secretion system protein GspF	For	GAAGGTGATTCCGCTCGACA	Virulence, Disease & Defense
		Rev	ACCATGAACGCTGTTGTTGC	
rpoB	DNA directed RNA polymerase subunit ß	For	CATGCAACGTCAGGCAGTTC	Housekeeping Gene
		Rev	GCCTCACCTGCAACCATTTC	

Table S4. List of the 288 genes of *Acinetobacter junii* that were upregulated in the effluent. The gene expression values of the effluent-retentate and effluent-wash were compared to the gene expression values of the influent-retentate and the influent-wash respectively. Each of these upregulations were included if they were more than 2 fold-change and were statistically significant ($p<0.05$) on the Baggerly proportion-based test.

Locus_Tag	**Gene Product**	**Fold Change**	
		Effluent Retentate	**Effluent Wash**
BVL33_12835	16S rRNA (guanine(966)-N(2))-methyltransferase RsmD	30.5	2.832487
BVL33_14925	2,4-dienoyl-CoA reductase	3.462268	4.505703
BVL33_03375	30S ribosomal protein S10	2.076544	30.41573
BVL33_03425	30S ribosomal protein S17	2.265961	46.72222
BVL33_03500	30S ribosomal protein S4	3.408155	13.28
BVL33_10980	3-hydroxyacyl-CoA dehydrogenase	8.922664	2.906655
BVL33_14410	3-hydroxyacyl-CoA dehydrogenase	3.64953	6.76875
BVL33_04625	3-hydroxyisobutyrate dehydrogenase	3.138095	3.100985
BVL33_15990	50S ribosomal protein L10	2.060467	31.09244
BVL33_03475	50S ribosomal protein L15	2.554358	35.7
BVL33_03435	50S ribosomal protein L24	2.424499	24
BVL33_03420	50S ribosomal protein L29	2.319695	39.52542
BVL33_01415	50S ribosomal protein L34	2.050733	10.46154
BVL33_03485	50S ribosomal protein L36	4.034972	35.83333
BVL33_08220	5-hydroxyisourate hydrolase	97.4	2.354745
BVL33_15425	ABC transporter	2.940048	2.252026
BVL33_14405	acetyl-CoA acetyltransferase	3.150962	8.38209
BVL33_14920	acetyl-CoA carboxylase carboxyltransferase subunit	2.795568	5.492063
BVL33_14010	acetyltransferase	2.349158	3.039216
BVL33_03210	acyl-CoA dehydrogenase	2.176676	8.129032
BVL33_03530	acyl-CoA dehydrogenase	7.295322	4.52822
BVL33_10730	acyl-CoA dehydrogenase	3.295582	5.322344
BVL33_14915	acyl-CoA dehydrogenase	4.444805	7.558559
BVL33_14950	acyl-CoA dehydrogenase	9.878247	2.66343
BVL33_14955	acyl-CoA dehydrogenase	3.797297	4.64
BVL33_13315	acyl-CoA thioesterase	2.468645	3.035019
BVL33_03330	acyl-CoA thioesterase II	2.091443	2.77821
BVL33_13885	acyltransferase	117.2	2.008791
BVL33_13780	adenosine deaminase	6.485507	3.827447
BVL33_10260	adenosine kinase	3.720113	4.737903
BVL33_15465	aldehyde-activating protein	137.9	2.151692
BVL33_03915	alpha/beta hydrolase	2.488778	6.261905

BVL33_09520	alpha/beta hydrolase	53.2	2.066298
BVL33_01885	aminotransferase	4.440252	2.53271
BVL33_02620	AraC family transcriptional regulator	4.392857	2.355987
BVL33_08910	ArsR family transcriptional regulator	2.036885	4.798054
BVL33_00405	ATP synthase subunit C	3.588047	25.97753
BVL33_13795	ATP-binding protein	81.1	2.69375
BVL33_03755	ATP-dependent Clp protease proteolytic subunit	2.133949	9.628205
BVL33_02910	bacterioferritin	37.78571	5.093407
BVL33_09420	bifunctional adenosylcobinamide kinase/adenosylcobinamide-phosphate guanylyltransferase	63.4	2.235521
BVL33_02630	branched-chain amino acid transporter	51.9	3.560453
BVL33_02625	branched-chain amino acid transporter AzlC	23.8	2.455825
BVL33_13135	carbonic anhydrase	2.196213	6.015306
BVL33_00815	carbon-nitrogen hydrolase family protein	26.1	2.99
BVL33_00485	cell division protein	4.969492	4.61165
BVL33_10415	cell division protein ZapE	2.672598	4.343137
BVL33_14895	chromosome segregation ATPase	62.5	3.272727
BVL33_13200	co-chaperone GroES	2.695457	6.160714
BVL33_08815	cold-shock protein	11.73249	3.144366
BVL33_10600	cold-shock protein	2.523687	18.31429
BVL33_11380	cold-shock protein	11.0527	8.610442
BVL33_05035	copper oxidase	2.150523	7.72093
BVL33_06435	copper-translocating P-type ATPase	2.402924	6.091176
BVL33_06430	Cu(I)-responsive transcriptional regulator	3.387755	6.967742
BVL33_10290	cyd operon protein YbgT	397.9	9.462185
BVL33_12235	cytochrome b	2.709231	5.144068
BVL33_10295	cytochrome bd biosynthesis protein	137.3	11.02817
BVL33_12115	cytochrome o ubiquinol oxidase subunit IV	18.37591	7.453552
BVL33_16210	D-alanyl-D-alanine endopeptidase	2.316013	3.125557
BVL33_09800	DcaP-like protein	3.040541	2.459119
BVL33_08930	dehydratase	2.246973	2.622449
BVL33_04600	dehydrogenase	2.101783	4.530474
BVL33_05585	Diaminohydroxyphosphoribosylaminopyrimidine deaminase	2.333614	6.268908
BVL33_03335	dicarboxylate/amino acid:cation symporter	2.267062	2.243523
BVL33_01915	disulfide bond formation protein B	3.577778	4.735849
BVL33_07100	DNA repair protein RecO	3.980843	4.087432
BVL33_12940	DNA starvation/stationary phase protection protein	823.9	3.498681
BVL33_15970	DNA transfer protein p32	250.5	2.556522
BVL33_16075	DNA-binding protein	14.04817	4.144909
BVL33_11785	DNA-binding protein HU	16.05456	2.228625
BVL33_03505	DNA-directed RNA polymerase subunit alpha	2.1905	26.43243
BVL33_02930	DNA-directed RNA polymerase subunit omega	3.323394	7.448148
BVL33_01690	DUF1328 domain-containing protein	1223.3	2.370656
BVL33_10305	DUF2057 domain-containing protein	120.4	2.448529
BVL33_03525	DUF2059 domain-containing protein	162.6	2.35914
BVL33_13670	DUF493 domain-containing protein	2.333738	7.137255
BVL33_02285	DUF805 domain-containing protein	128.9	2.179487
BVL33_00825	DUF962 family protein	2.256461	3.757282

BVL33_01605	efflux transporter periplasmic adaptor subunit	4.756341	2.328173
BVL33_02700	efflux transporter periplasmic adaptor subunit	37.59091	2.055076
BVL33_13770	efflux transporter periplasmic adaptor subunit	4.533566	4.018574
BVL33_12775	endopeptidase La	2.044061	8
BVL33_04630	enoyl-CoA hydratase	6.214286	6.639785
BVL33_06955	enoyl-CoA hydratase	2.150674	6.306383
BVL33_08315	enoyl-CoA hydratase	57.5	4.055873
BVL33_14910	enoyl-CoA hydratase	4.295492	8.183168
BVL33_14205	entericidin, EcnA/B family	5.453934	11.82609
BVL33_02075	esterase	2.897358	3.4375
BVL33_07030	esterase	41.3	4.307692
BVL33_00395	F0F1 ATP synthase subunit delta	4.060057	10.87591
BVL33_00375	F0F1 ATP synthase subunit epsilon	2.035819	12.66071
BVL33_00385	F0F1 ATP synthase subunit gamma	2.009419	23.53846
BVL33_07215	FAD-dependent oxidoreductase	2.85922	5.487047
BVL33_09750	flavin reductase	2.243902	3.868421
BVL33_14275	folate-binding protein YgfZ	2.262383	2.527919
BVL33_14300	gamma-glutamylcyclotransferase	2.705341	2.903226
BVL33_03800	gamma-glutamyl-phosphate reductase	2.046606	6.513253
BVL33_04015	glutaredoxin 3	3.614112	6.786378
BVL33_11410	glutathione S-transferase	3.46077	2.767981
BVL33_11715	glutathione S-transferase	4.519694	2.505882
BVL33_06275	GNAT family N-acetyltransferase	11.4	2.844828
BVL33_03235	GTP cyclohydrolase II	6.019016	2.981053
BVL33_14880	GTP-binding protein	30.5638	4.713004
BVL33_06425	heavy metal transport/detoxification protein	1372	3.559908
BVL33_02645	heavy metal-responsive transcriptional regulator	43.8	3.848816
BVL33_14790	helix-turn-helix domain-containing protein	3.263484	3.019531
BVL33_10785	hemin transporter HemP	95.7	6.89959
BVL33_14440	hemolysin III	3.154529	4.358108
BVL33_08275	histidine uptake and utilization operon protein HutD	28.8	5.536765
BVL33_15450	HopJ type III effector protein	146.9	4.973333
BVL33_14220	hybrid sensor histidine kinase/response regulator	4.354603	2.9396
BVL33_00110	hypothetical protein	32.4	2.503906
BVL33_00130	hypothetical protein	38	4.852564
BVL33_00300	hypothetical protein	11.18261	3.39604
BVL33_00835	hypothetical protein	8.653286	7.192488
BVL33_01350	hypothetical protein	2.463713	3.484663
BVL33_01365	hypothetical protein	35.2	3.496994
BVL33_01790	hypothetical protein	5.662736	3.279675
BVL33_01855	hypothetical protein	53.2	2.187467
BVL33_02080	hypothetical protein	6.518852	2.125
BVL33_02190	hypothetical protein	29.1	2.165379
BVL33_02195	hypothetical protein	3.032526	5.278481
BVL33_02830	hypothetical protein	3.882609	3.565217
BVL33_02860	hypothetical protein	4.172505	6.673338
BVL33_02865	hypothetical protein	2.492218	3.931741
BVL33_03075	hypothetical protein	3.967136	3.145299
BVL33_03140	hypothetical protein	8.314332	4.43956
BVL33_03545	hypothetical protein	2160.3	6.8

BVL33_03550	hypothetical protein	2.915571	6.410023
BVL33_03560	hypothetical protein	7.225962	3.991803
BVL33_03565	hypothetical protein	4.627951	3.624874
BVL33_03965	hypothetical protein	7.191275	3.126506
BVL33_04080	hypothetical protein	7.122905	5.23355
BVL33_04610	hypothetical protein	2.679181	2.497143
BVL33_04790	hypothetical protein	9.285317	6.430108
BVL33_04920	hypothetical protein	5.753296	2.717791
BVL33_05155	hypothetical protein	64.5	3.725061
BVL33_05920	hypothetical protein	27.4	2.002414
BVL33_06250	hypothetical protein	9.387443	11.1791
BVL33_06390	hypothetical protein	37.2	2.506108
BVL33_06870	hypothetical protein	1329.8	3.193443
BVL33_06985	hypothetical protein	14.27523	5.348837
BVL33_07715	hypothetical protein	2.57377	5.833333
BVL33_07725	hypothetical protein	2.221675	2.166189
BVL33_08100	hypothetical protein	86.8	2.142857
BVL33_08110	hypothetical protein	15.51479	2.184654
BVL33_08470	hypothetical protein	25.61842	2.008341
BVL33_09040	hypothetical protein	23.2	2.825389
BVL33_09490	hypothetical protein	88.6	2.781853
BVL33_09715	hypothetical protein	24.1	10.55085
BVL33_10055	hypothetical protein	53.4	5.836957
BVL33_10190	hypothetical protein	3.148297	2.625899
BVL33_10205	hypothetical protein	6.595142	2.356447
BVL33_10335	hypothetical protein	3.552895	5.339623
BVL33_10385	hypothetical protein	9.934607	2.596273
BVL33_10800	hypothetical protein	67.4	5.049587
BVL33_11455	hypothetical protein	46.5	2.507937
BVL33_11640	hypothetical protein	2.491979	2.46087
BVL33_11850	hypothetical protein	4.03066	6.903134
BVL33_12435	hypothetical protein	27.2	14.35
BVL33_12810	hypothetical protein	178	2.141274
BVL33_13235	hypothetical protein	5.642353	3.706818
BVL33_13300	hypothetical protein	4.017442	2.371872
BVL33_13460	hypothetical protein	15.06082	4.056604
BVL33_13615	hypothetical protein	38.3	2.285965
BVL33_13660	hypothetical protein	2.498841	5.726316
BVL33_13685	hypothetical protein	2.173768	2.743949
BVL33_13785	hypothetical protein	2.7182	2.563754
BVL33_13905	hypothetical protein	78.9	3.265455
BVL33_14200	hypothetical protein	152	2.343023
BVL33_14335	hypothetical protein	5.833498	11.12329
BVL33_14415	hypothetical protein	2.27124	4.8
BVL33_14620	hypothetical protein	3.972487	4.721617
BVL33_14735	hypothetical protein	5.767081	2.744589
BVL33_14870	hypothetical protein	240.1531	2.401869
BVL33_15020	hypothetical protein	2.424875	7.315166
BVL33_15165	hypothetical protein	2.870665	2.578362

BVL33_15185	hypothetical protein	4.446875	2.525938
BVL33_15540	hypothetical protein	16.10998	3.636593
BVL33_15950	hypothetical protein	10.04596	14.016
BVL33_16200	hypothetical protein	3.146237	6.088792
BVL33_04785	integration host factor subunit alpha	12.70067	5.811111
BVL33_02040	ion channel protein Tsx	3.372745	7.822785
BVL33_01480	iron-sulfur cluster insertion protein ErpA	2.180138	4.103896
BVL33_11810	iron-sulfur cluster scaffold-like protein	2.557733	6.102041
BVL33_02100	IS4 family transposase	15	4.69697
BVL33_10635	IS5 family transposase	18.9	54.95455
BVL33_08500	KTSC domain-containing protein	2.264423	6
BVL33_03810	leucine carboxyl methyltransferase	3.390387	2.102022
BVL33_11865	leucine efflux protein	13.4	5.008
BVL33_01730	lipoprotein-34 precursor (NlpB)	5.434343	2.027
BVL33_10015	L-threonine dehydrogenase	2.942724	12.92935
BVL33_07205	LysR family transcriptional regulator	4.515113	4.061905
BVL33_07660	LysR family transcriptional regulator	2.198089	9.690141
BVL33_09775	LysR family transcriptional regulator	56.1	2.053154
BVL33_09940	LysR family transcriptional regulator	2.468031	4.080882
BVL33_10090	MBL fold metallo-hydrolase	7.887324	5.55814
BVL33_15490	MBL fold metallo-hydrolase	2.270368	2.65625
BVL33_00060	membrane fusogenic activity	533.7	3.015905
BVL33_00210	MerR family transcriptional regulator	21	3.735395
BVL33_13790	metal-binding protein	4.915254	3.469333
BVL33_03340	metal-dependent hydrolase	4.318819	2.403166
BVL33_06175	metal-dependent hydrolase	2.150112	5
BVL33_06180	metal-dependent hydrolase	6.240685	2.554945
BVL33_10645	metal-dependent hydrolase	27.3	7.967742
BVL33_14520	metal-dependent hydrolase	2.644662	6.3
BVL33_15940	molecular chaperone HtpG	3.238601	2.40709
BVL33_03520	monooxygenase	4.664364	5.227723
BVL33_08935	multidrug ABC transporter ATP-binding protein	2.516129	2.073873
BVL33_12380	multifunctional CCA tRNA nucleotidyl transferase/2'3'-cyclic phosphodiesterase/2'nucleotidase/phosphatase	2.589515	5.116906
BVL33_15710	Na+/H+ antiporter subunit C	5.830957	8.5
BVL33_10760	NAD kinase	2.987368	4.365957
BVL33_02650	NAD-dependent epimerase	2.211765	2.148004
BVL33_00220	NADPH-dependent FMN reductase	2.24	5.238372
BVL33_05100	NERD nuclease	2.678201	5.408696
BVL33_10315	nitroreductase	2.208313	4.876113
BVL33_08215	OHCU decarboxylase	17.2	3.744186
BVL33_00475	osmotically inducible protein C	467.8	2.543022
BVL33_06310	outer membrane protein assembly factor BamE	2.45483	5.890995
BVL33_02175	peptidase M23	6.650165	2.328402
BVL33_11510	peptide-methionine (R)-S-oxide reductase	2.521968	4.547252
BVL33_11780	peptidylprolyl isomerase	2.965278	2.312921
BVL33_01205	peptidylprolyl isomerase A	2.722393	3.25419
BVL33_08505	peroxiredoxin	3.931154	3.118902
BVL33_02635	phosphohydrolase	43.3	3.067916

BVL33_03260	phospholipid ABC transporter ATP-binding protein MlaF	2.951862	2.759036
BVL33_06265	phosphomannomutase/phosphoglucomutase	2.615748	2.08046
BVL33_06815	phosphoribosylglycinamide formyltransferase	2.113953	2.494915
BVL33_07190	phosphoserine phosphatase	12.9	3.609375
BVL33_02810	pilus assembly protein PilM	2.85793	6.96875
BVL33_13875	porin	2.561313	3.328018
BVL33_10235	potassium transporter TrkA	2.155313	3.350365
BVL33_04010	preprotein translocase subunit SecB	2.093359	8.672646
BVL33_15770	preprotein translocase subunit SecG	99.2	4.621005
BVL33_03480	preprotein translocase subunit SecY	2.177824	24.05882
BVL33_14745	preprotein translocase subunit YajC	14.7938	8.034965
BVL33_04950	protein FilA	17.06712	5.883268
BVL33_12120	protoheme IX farnesyltransferase	2.11039	7.08079
BVL33_03200	PspC family transcriptional regulator	6.899419	4.04
BVL33_01545	putative methionine/alanine importer small subunit	113.5	19.53623
BVL33_02250	putative porin	7.204301	11.0463
BVL33_02320	putative porin	17.49637	2.28169
BVL33_05055	QacE family quaternary ammonium compound efflux SMR transporter	51.9	2.005685
BVL33_02920	reactive intermediate/imine deaminase	2.426571	2.096849
BVL33_13760	recombinase	2.030246	2.286331
BVL33_02390	recombinase RecB	5.06327	4.657143
BVL33_14235	response regulator	5.725977	3.488636
BVL33_14240	response regulator	2.505036	9.693548
BVL33_02045	ribosomal subunit interface protein	4.385163	4.082251
BVL33_04615	ribosome silencing factor RsfS	2.761638	9.013699
BVL33_13450	RNA-binding protein	4.754069	4.906943
BVL33_02695	RND transporter	3.846766	3.893069
BVL33_13355	SCP-2 sterol transfer family protein	3.011516	6.903084
BVL33_00120	SEC-C motif-containing protein	34.5	6.071429
BVL33_11660	septum formation protein Maf	82.8	2.153106
BVL33_07060	serine protease	3.535242	2.267658
BVL33_01875	short-chain dehydrogenase	6.642015	3.610465
BVL33_02685	sodium:proton antiporter	27.5	2.566125
BVL33_14490	SPOR domain-containing protein	329.6	2.131664
BVL33_13600	succinate dehydrogenase, cytochrome b556 subunit	3.378666	10.32558
BVL33_13560	succinate--CoA ligase subunit alpha	2.39483	5.572816
BVL33_03950	sulfurtransferase	4.809957	3.717325
BVL33_12425	superoxide dismutase	4.444538	6.12766
BVL33_14930	terpene utilization protein AtuA	2.45565	9.015873
BVL33_04800	thiol reductase thioredoxin	4.41999	9.02439
BVL33_05715	threonylcarbamoyl-AMP synthase	2.565367	4.945917
BVL33_12935	TIGR00341 family protein	2.237654	2.312
BVL33_03275	toluene tolerance protein	2.160089	4.913043
BVL33_00055	transcriptional regulator	2.392125	8.993197
BVL33_02260	transcriptional regulator	36.78523	2.060891
BVL33_03350	transcriptional regulator	144	2.278726
BVL33_13710	transcriptional regulator	63.3	4.458333
BVL33_08615	transcriptional regulator LldR	99	3.909667

BVL33_04365	transmembrane anchor protein	38.5	13.12844
BVL33_13990	transporter	2.435075	10.87805
BVL33_11060	transposase	29.7	47.7
BVL33_05265	two-component sensor histidine kinase	2.271475	2.454264
BVL33_08700	type 1 glutamine amidotransferase domain-containing protein	12.8	35.16628
BVL33_12475	type I glutamate--ammonia ligase	2.011826	9.863248
BVL33_11615	type II secretion system protein M	3.578947	2.633001
BVL33_07350	universal stress protein	3.589327	3.75
BVL33_13485	universal stress protein	6.336593	4.8125
BVL33_09895	urea carboxylase	2.833029	9.138889
BVL33_14350	VOC family protein	2.871901	4.872093
BVL33_09555	YcgL domain-containing protein	450.9	2.8631
BVL33_01095	YciK family oxidoreductase	3.172644	3.92562
BVL33_13370	zinc metalloprotease HtpX	2.162952	11.38218

Table S5. List of the 378 genes of *Acinetobacter junii* that were upregulated in the chlorinated effluent. The gene expression values of the chlorinated effluent-retentate and chlorinated effluent-wash were compared to the gene expression values of the influent-retentate and the influent-wash respectively. Each of these upregulations were included if they were more than 2 fold-change and were statistically significant ($p<0.05$) on the Baggerly proportion-based test.

Locus Tag	**Product**	**Fold Change**	
		Chlorinated Effluent Retentate	**Chlorinated Effluent Wash**
BVL33_02915	(2Fe-2S)-binding protein	4.9011944	2.3180585
BVL33_09975	1,6-dihydroxycyclohexa-2,4-diene-1-carboxylate dehydrogenase	4.7754237	2.7730496
BVL33_14925	2,4-dienoyl-CoA reductase	4.1714069	5.5019011
BVL33_01640	2,5-didehydrogluconate reductase B	109.8	3.5368488
BVL33_16140	3',5'-cyclic-AMP phosphodiesterase	8.1312217	2.5212427
BVL33_03375	30S ribosomal protein S10	2.2756237	5.5505618
BVL33_03490	30S ribosomal protein S13	2.3137984	2.6268657
BVL33_03425	30S ribosomal protein S17	3.2482887	7.7777778
BVL33_03500	30S ribosomal protein S4	2.471633	16.66
BVL33_04625	3-hydroxyisobutyrate dehydrogenase	2.4357143	3.2549261
BVL33_05835	4-(cytidine5'-diphospho)-2-C-methyl-D-erythritol kinase	3.2923611	13.253731
BVL33_15990	50S ribosomal protein L10	2.5054722	80.823529
BVL33_14845	50S ribosomal protein L13	2.0855623	14.628205
BVL33_03435	50S ribosomal protein L24	4.3703079	3.2231405
BVL33_03420	50S ribosomal protein L29	3.5045501	8.5762712
BVL33_01680	A/G-specific adenine glycosylase	2.1092715	4.3029046
BVL33_07530	AAA family ATPase	2.2414889	9.0869565
BVL33_14010	acetyltransferase	2.1920587	4.4117647
BVL33_01010	acetyltransferase	160.1	2.2240803
BVL33_14915	acyl-CoA dehydrogenase	2.4623377	3.1891892
BVL33_01060	acyl-CoA desaturase	12.003247	3.9157175
BVL33_13315	acyl-CoA thioesterase	2.1141304	7.3929961
BVL33_13885	acyltransferase	421.2	8.7923077
BVL33_13780	adenosine deaminase	3.2762681	2.0388914
BVL33_10260	adenosine kinase	3.6680731	3.5241935
BVL33_01535	aldehyde dehydrogenase	2.9508461	8.5671642
BVL33_11555	alkyl hydroperoxide reductase subunit F	2.6671361	5.977813
BVL33_14260	alkylphosphonate utilization protein	510.1	17.461538
BVL33_03915	alpha/beta hydrolase	2.4538653	9.1547619

BVL33_06810	alpha/beta hydrolase	9.5213675	5.6297641
BVL33_03805	alpha/beta hydrolase	3.6136141	2.8003859
BVL33_09520	alpha/beta hydrolase	81.9	3.9060773
BVL33_09935	amidohydrolase	164.7	2.1270217
BVL33_00965	aminotransferase	4.3692644	30.211055
BVL33_04605	ammonium transporter	2.1580167	17.875
BVL33_06660	anion permease	2.8144531	4.1944444
BVL33_00780	AsnC family transcriptional regulator	2.193812	3.1138546
BVL33_09565	ATP-binding protein	2.116454	31.170732
BVL33_15180	ATP-dependent DNA helicase PcrA	2.0515654	15.7
BVL33_02910	bacterioferritin	57.839286	7.0934066
BVL33_14130	Bcr/CflA family drug resistance efflux transporter	2.9392713	2.3962645
BVL33_09965	benzoate 1,2-dioxygenase small subunit	3.273743	5.347619
BVL33_09420	bifunctional adenosylcobinamide kinase/adenosylcobinamide-phosphate guanylyltransferase	170.2	13.803089
BVL33_08795	bifunctional ADP-dependent (S)-NAD(P)H-hydrate dehydratase/NAD(P)H-hydrate epimerase	2.4409938	2.6
BVL33_05640	biopolymer transporter ExbD	4.852459	2.8544137
BVL33_12625	BON domain-containing protein	2.8146674	313
BVL33_15470	C4-dicarboxylate ABC transporter	4.6845638	2.135064
BVL33_14380	carbohydrate porin	3.6626506	5.2233503
BVL33_02710	cation transporter	4.8384615	2.3392508
BVL33_04350	cation transporter	2.2271293	18.142857
BVL33_15000	CDP-diacylglycerol—serine O-phosphatidyltransferase	2.1909704	5.3006993
BVL33_10115	cell division protein FtsB	2.4645833	13.708333
BVL33_16155	cell division protein FtsW	3.6935933	8.5092593
BVL33_12690	cell division protein ZapA	305.9	3.6976499
BVL33_12610	chemotaxis protein	3.1638158	3.693109
BVL33_07345	chloramphenicol acetyltransferase CAT	2.113189	5.8024691
BVL33_13200	co-chaperone GroES	2.8244982	4.3571429
BVL33_02505	cold-shock protein	2.9530062	7.1347826
BVL33_06020	copper resistance protein CopC	2.1157959	50.423358
BVL33_06015	copper resistance protein CopD	4.1067161	6.0070922
BVL33_07275	copper resistance protein NlpE	9.7659574	2.8874388
BVL33_12235	cytochrome b	2.4492308	4.7542373
BVL33_12110	cytochrome o ubiquinol oxidase subunit III	3.0714623	27.710526
BVL33_14115	DcaP-like protein	3.6638225	4.9609225
BVL33_08930	dehydratase	9.6682809	4.0484694
BVL33_09160	dehydrogenase	2.9172932	2.1584446
BVL33_13225	DeoR family transcriptional regulator	5.8915254	9.2222222
BVL33_05625	dethiobiotin synthase	2.4654315	12.04878
BVL33_15090	diacylglycerol kinase	4.9061611	5.7431193
BVL33_13210	diacylglycerol kinase	4.7487437	8.0761905
BVL33_07690	diguanylate phosphodiesterase	4.8299712	6.5367412
BVL33_10940	dihydroneopterin aldolase	2.4575372	2.8963255
BVL33_01915	disulfide bond formation protein B	9.65	6.6352201
BVL33_01080	disulfide bond formation protein DsbA	2.6916984	5.8372093
BVL33_04075	DNA polymerase III subunit delta	2.8116057	11.693069
BVL33_12940	DNA starvation/stationary phase protection protein	179.5	2.1741425
BVL33_15970	DNA transfer protein p32	493	21.165217
BVL33_02405	DNA-binding protein	9.6983471	5.1121988
BVL33_11785	DNA-binding protein HU	9.1649869	4.3187732
BVL33_08195	DNA-binding response regulator	2.1125828	2.8047337
BVL33_16105	DNA-binding response regulator	3.5240642	10.353933
BVL33_13865	DNA-binding response regulator PmrA	2.4438202	58.015707
BVL33_01690	DUF1328 domain-containing protein	553.3	4.0289575
BVL33_10665	DUF2157 domain-containing protein	9.375	2.7706577

BVL33_00320	DUF2946 domain-containing protein	2.454324	2.348
BVL33_10900	DUF4124 domain-containing protein	191.1	2.0283401
BVL33_07080	DUF4845 domain-containing protein	692.5	2.5146783
BVL33_02170	DUF721 domain-containing protein	2.0580219	9.0634573
BVL33_00825	DUF962 family protein	9.7196819	17.902913
BVL33_03655	EamA family transporter	4.7609756	461.8
BVL33_06415	efflux transporter periplasmic adaptor subunit	4.8244514	5.1418182
BVL33_01605	efflux transporter periplasmic adaptor subunit	2.4604151	3.8188854
BVL33_11495	efflux transporter periplasmic adaptor subunit	9.3396226	2.0877049
BVL33_13770	efflux transporter periplasmic adaptor subunit	5.406993	2.3254086
BVL33_14205	entericidin, EcnA/B family	2.4665876	12.144928
BVL33_01990	esterase	4.8811075	2.9891462
BVL33_02090	exodeoxyribonuclease III	2.7756874	10.722222
BVL33_15630	exodeoxyribonuclease V subunit alpha	4.0683333	3.756962
BVL33_15640	exonuclease V subunit gamma	2.2271062	5.7337808
BVL33_00400	F0F1 ATP synthase subunit B	2.1343733	31.35
BVL33_00375	F0F1 ATP synthase subunit epsilon	3.2951155	16.982143
BVL33_05365	ferredoxin--NADP(+) reductase	2.4613201	2.9661498
BVL33_15495	ferrochelatase	2.4619758	3.0776699
BVL33_09050	FMN-binding glutamate synthase family protein	2.7280248	3.2449664
BVL33_14275	folate-binding protein YgfZ	4.8915663	4.893401
BVL33_00425	Fur family transcriptional regulator	8.1731481	2.2044199
BVL33_15840	fusaric acid resistance protein	4.0597303	2.5813461
BVL33_07630	gamma carbonic anhydrase family protein	2.1144086	4.2595156
BVL33_14300	gamma-glutamylcyclotransferase	4.8747698	5.641129
BVL33_08305	glutamate dehydrogenase	9.5916955	4.2598425
BVL33_11505	glutathione peroxidase	9.7744565	2.0793743
BVL33_11410	glutathione S-transferase	3.2639087	2.5197216
BVL33_11715	glutathione S-transferase	2.4562363	3.0941176
BVL33_13230	glycerol kinase	2.052223	4.1537162
BVL33_11630	glycerol-3-phosphate dehydrogenase	4.0289776	8.4571429
BVL33_14560	glycerophosphodiester phosphodiesterase	9.5291829	3.5527344
BVL33_14685	glycosyl transferase	3.2640449	2.7459027
BVL33_14820	glycosyl transferase	2.4195804	2.4346505
BVL33_03370	GMP synthase	5.8941368	4.3928058
BVL33_06275	GNAT family N-acetyltransferase	114	2.862069
BVL33_14945	GNAT family N-acetyltransferase	168.3	4.1639344
BVL33_01655	GntR family transcriptional regulator	13.843284	10.542005
BVL33_03235	GTP cyclohydrolase II	6.5279642	3.8884211
BVL33_07180	GTPase ObgE	5.6396286	5.7328244
BVL33_14880	GTP-binding protein	4.8278932	17.089686
BVL33_02500	homoserine kinase	3.282673	3.2384106
BVL33_15450	HopJ type III effector protein	792.2	4.5866667
BVL33_04700	HPr family phosphocarrier protein	2.8212351	13.932039
BVL33_14220	hybrid sensor histidine kinase/response regulator	2.0031381	2.0108998
BVL33_10660	hydrolase	3.2686916	4.8760589
BVL33_01475	hypothetical protein	2.9024552	3.643167
BVL33_01630	hypothetical protein	2.9536232	2.2311877
BVL33_13085	hypothetical protein	4.8948035	2.5135135
BVL33_13685	hypothetical protein	4.9304261	2.089172
BVL33_04040	hypothetical protein	2.4564995	2.8843416
BVL33_02080	hypothetical protein	4.9330601	6.1875
BVL33_03550	hypothetical protein	9.0242669	7.284738
BVL33_07570	hypothetical protein	371.6	5.3246835
BVL33_03205	hypothetical protein	132.3	3.2682927
BVL33_11010	hypothetical protein	3.2779553	3.8896104
BVL33_12300	hypothetical protein	204.3	89.333333
BVL33_07715	hypothetical protein	4.9208592	6.4266667

BVL33_14655	hypothetical protein	792.2	12.045455
BVL33_00095	hypothetical protein	4.8593074	4.1524664
BVL33_10335	hypothetical protein	5.4332895	4.8553459
BVL33_09100	hypothetical protein	19.303665	5.1394183
BVL33_12850	hypothetical protein	137.8	2.1218725
BVL33_04960	hypothetical protein	4.0893971	4.6480638
BVL33_01050	hypothetical protein	371.6	4.8291262
BVL33_01570	hypothetical protein	4.858427	2.4946237
BVL33_02190	hypothetical protein	305.9	2.6692427
BVL33_04320	hypothetical protein	176.3	29.085714
BVL33_04430	hypothetical protein	3.2699784	12.39
BVL33_05450	hypothetical protein	4.8502538	3.2544379
BVL33_05890	hypothetical protein	111.1	30.465909
BVL33_07515	hypothetical protein	6.1422535	3.8336397
BVL33_07970	hypothetical protein	19.506667	30.531915
BVL33_07990	hypothetical protein	458.4	114.91429
BVL33_08020	hypothetical protein	5.7090012	32.833333
BVL33_08030	hypothetical protein	3.2116788	12.666667
BVL33_08035	hypothetical protein	6.566343	101
BVL33_08045	hypothetical protein	4.0254237	33.057692
BVL33_10275	hypothetical protein	2.1171755	10.114699
BVL33_14585	hypothetical protein	9.3771429	8.8
BVL33_10385	hypothetical protein	13.981124	9.173913
BVL33_07495	hypothetical protein	734.9	5.1470588
BVL33_13615	hypothetical protein	135.9	4.7789474
BVL33_12715	hypothetical protein	106.6	5.8787879
BVL33_07005	hypothetical protein	17.129474	17.939655
BVL33_00080	hypothetical protein	3.8207237	9.1162791
BVL33_06410	hypothetical protein	7.3305671	9.2150538
BVL33_11640	hypothetical protein	2.4566845	3.906087
BVL33_13235	hypothetical protein	2.4541176	2.1818182
BVL33_08040	hypothetical protein	7.1738587	127
BVL33_06250	hypothetical protein	3.8339529	4.7910448
BVL33_03560	hypothetical protein	5.7355769	12.405738
BVL33_03565	hypothetical protein	2.2691218	3.0444894
BVL33_02815	hypothetical protein	6.5263158	460.3
BVL33_00300	hypothetical protein	8.1962733	7.4752475
BVL33_00455	hypothetical protein	4.8545455	5.629771
BVL33_00615	hypothetical protein	167.3	229.6
BVL33_01240	hypothetical protein	103.6	11.936047
BVL33_01790	hypothetical protein	6.4599057	5.899187
BVL33_01900	hypothetical protein	2.4614186	5.1088083
BVL33_03150	hypothetical protein	4.852194	58.4
BVL33_03545	hypothetical protein	1673.8	4.8
BVL33_03865	hypothetical protein	184	2.2188841
BVL33_04715	hypothetical protein	488.9	7.6363636
BVL33_04790	hypothetical protein	4.9157968	7.9354839
BVL33_05255	hypothetical protein	4.9021053	3.8686131
BVL33_05720	hypothetical protein	3.6820702	4.0297578
BVL33_06135	hypothetical protein	168.3	44.080645
BVL33_06985	hypothetical protein	4.853211	10.5
BVL33_07760	hypothetical protein	372.7	10.46875
BVL33_07765	hypothetical protein	4.7843137	33.137255
BVL33_07770	hypothetical protein	548.2	20.275862
BVL33_08100	hypothetical protein	104.4	2.4195011
BVL33_09035	hypothetical protein	4.8362069	2.4205817
BVL33_11645	hypothetical protein	7.0522825	3.8539945
BVL33_11710	hypothetical protein	2.4579256	11.929577

BVL33_12225	hypothetical protein	239	4.6091954
BVL33_12530	hypothetical protein	4.9260889	2.080145
BVL33_13320	hypothetical protein	2.4593176	2.6296296
BVL33_13460	hypothetical protein	12.192362	3.2515723
BVL33_13660	hypothetical protein	4.9217845	33.484211
BVL33_14070	hypothetical protein	2.4302671	10.727554
BVL33_14335	hypothetical protein	3.2296584	44.210046
BVL33_14840	hypothetical protein	132.3	33.0875
BVL33_15165	hypothetical protein	4.9081537	2.2474991
BVL33_15315	hypothetical protein	233.3	2.6296729
BVL33_15500	hypothetical protein	2.7364044	2.7728938
BVL33_15540	hypothetical protein	14.562118	4.19458
BVL33_12500	indole-3-glycerol phosphate synthase	2.1913611	10.099754
BVL33_06080	integrase	4.9114541	2.5428123
BVL33_04785	integration host factor subunit alpha	6.5620843	11.066667
BVL33_02040	ion channel protein Tsx	9.7174349	2.6139241
BVL33_01480	iron-sulfur cluster insertion protein ErpA	2.470112	3.012987
BVL33_03625	IS1595 family transposase	9.7434211	32.136364
BVL33_02100	IS4 family transposase	77	6.1077441
BVL33_04035	IS4 family transposase	77	3.8575851
BVL33_12865	IS4 family transposase	4.695122	3.3313253
BVL33_08500	KTSC domain-containing protein	4.8990385	15.005952
BVL33_14190	L,D-transpeptidase	9.6546961	2.9009901
BVL33_08380	LamB/YcsF family protein	4.8619247	3.4137931
BVL33_11370	lauroyl acyltransferase	189.9	6.8172043
BVL33_14550	ligand-gated channel protein	9.4371859	11.587302
BVL33_06790	lipoprotein releasing system, ATP-binding protein	4.8918575	5.1956522
BVL33_01730	lipoprotein-34 precursor (NlpB)	2.4604377	2.8355
BVL33_10015	L-threonine dehydrogenase	2.3215944	3.3641304
BVL33_01645	LysR family transcriptional regulator	3.2583333	3.3552036
BVL33_01845	LysR family transcriptional regulator	2.4365854	4.1282051
BVL33_04060	MacB family efflux pump subunit	2.2766323	10.140684
BVL33_02120	MarR family transcriptional regulator	4.9123103	3.422
BVL33_05435	MBL fold metallo-hydrolase	2.8118657	9.7336683
BVL33_10090	MBL fold metallo-hydrolase	14.215962	8.9806202
BVL33_00060	membrane fusogenic activity	771.4	2.7813121
BVL33_14375	membrane-bound PQQ-dependent dehydrogenase, glucose/quinate/shikimate family	3.7322145	3.7639836
BVL33_06175	metal-dependent hydrolase	3.5847191	3.9225664
BVL33_08355	metal-dependent hydrolase	3.672	5.6860841
BVL33_08360	metal-dependent hydrolase	6.1082544	4.5633803
BVL33_03340	metal-dependent hydrolase	3.1707686	3.3943203
BVL33_08940	metal-dependent hydrolase	94.8	23.811392
BVL33_12330	methionine ABC transporter permease	2.4461538	4.4398148
BVL33_01555	methionyl-tRNA formyltransferase	3.2865497	7.8767857
BVL33_02800	methyltransferase	4.7665198	14.859375
BVL33_10915	MFS transporter	2.4470803	8.8507463
BVL33_00145	MFS transporter	4.8733205	6.4
BVL33_09405	MFS transporter	4.6821192	4.9264602
BVL33_10005	MFS transporter	2.4185185	8.5093168
BVL33_04565	MFS transporter	2.448505	19.357143
BVL33_12580	microcin ABC transporter ATP-binding protein	9.1557377	4.5
BVL33_09150	molybdenum cofactor guanylyltransferase	23.90411	2.6536204
BVL33_13110	monofunctional biosynthetic peptidoglycan transglycosylase	4.8973717	5.1428571
BVL33_08235	monooxygenase	2.1140473	9.4078947
BVL33_15705	monovalent cation/H+ antiporter subunit A	2.5441932	2.8325581
BVL33_09945	muconate cycloisomerase	2.9416873	3.6741155

BVL33_09950	muconolactone delta-isomerase	3.290305	28.394161
BVL33_05485	multidrug transporter MatE	296.7	3.8522427
BVL33_10465	MxaD family protein	200.1	6.5052023
BVL33_14545	N-(5'-phosphoribosyl)anthranilate isomerase	6.1347388	2.2434211
BVL33_00245	Na/Pi cotransporter	3.2279202	2.5065847
BVL33_15710	Na+/H+ antiporter subunit C	4.8676171	33.767857
BVL33_10760	NAD kinase	4.9021053	3.9531915
BVL33_10045	NAD(P)H-quinone oxidoreductase	2.4352617	2.5242718
BVL33_02415	NAD-dependent succinate-semialdehyde dehydrogenase	2.8151796	3.8644537
BVL33_00220	NADPH-dependent FMN reductase	19.193846	27.534884
BVL33_13705	NADPH-dependent FMN reductase	4.8809892	2.1367707
BVL33_01815	nicotinate phosphoribosyltransferase	4.005059	36.532609
BVL33_05115	nicotinate phosphoribosyltransferase	2.8026005	2.3199023
BVL33_08460	nuclease	2.3717949	4.4029734
BVL33_14805	nucleoside-diphosphate kinase	2.8233457	3.8686131
BVL33_01250	nucleotide exchange factor GrpE	2.2441472	2.019179
BVL33_10570	nucleotidyl transferase	2.4576923	2.3065559
BVL33_03050	nucleotidyltransferase	2.8146789	5.6237705
BVL33_04980	NUDIX hydrolase	2.4608896	7.9845361
BVL33_04855	organic hydroperoxide resistance protein	2.2444297	2.6270784
BVL33_09250	ornithine carbamoyltransferase	3.2865749	2.8377193
BVL33_05860	outer membrane protein assembly factor BamD	2.3379825	8.884058
BVL33_06310	outer membrane protein assembly factor BamE	2.9575134	3.4233807
BVL33_09265	PAS domain-containing sensor histidine kinase	2.1142222	28.356
BVL33_09470	peptidase	2.4524496	2.5325779
BVL33_01675	peptidase M23	3.2744511	4.3852814
BVL33_06635	peptide deformylase	6.5665002	9.9193548
BVL33_01025	peptidylprolyl isomerase	7.3563672	2.3304721
BVL33_01030	peptidylprolyl isomerase	4.8733459	2.9762637
BVL33_07160	permease	3.256993	3.0769231
BVL33_00445	peroxidase	2.462331	3.5703506
BVL33_14470	peroxidase	6.5247642	7.5294118
BVL33_05595	peroxiredoxin	4.9007471	3.3875562
BVL33_01825	phosphatidylserine decarboxylase	4.9127676	4.8456376
BVL33_11650	phosphoglycerate kinase	2.7422782	22.291262
BVL33_06815	phosphoribosylglycinamide formyltransferase	4.8976744	8.9430508
BVL33_00205	phytase esterase	9.2781457	2.1099578
BVL33_08765	pilus assembly protein	4.7925926	20.145954
BVL33_02825	pilus assembly protein PilP	167.3	4.6359833
BVL33_06780	PilZ domain-containing protein	3.7008043	10.095361
BVL33_13280	poly-beta-1,6 N-acetyl-D-glucosamine synthase	2.4617006	9.8980263
BVL33_03935	polyketide cyclase	178.8	2.8436681
BVL33_13980	potassium-transporting ATPase subunit B	2.2183455	12.116325
BVL33_16010	preprotein translocase subunit SecE	2.1171092	9.8244898
BVL33_14745	preprotein translocase subunit YajC	4.8740876	10.433566
BVL33_04950	protein FilA	4.2126697	9.8677043
BVL33_04470	protein HsdA	3.2418953	66.950617
BVL33_06890	protein TolR	2.4546599	2.2188486
BVL33_14755	protein-export membrane protein SecF	2.1149068	2.4684211
BVL33_12120	protoheme IX farnesyltransferase	3.2597403	4.6965889
BVL33_03175	putative DNA modification/repair radical SAM protein	3.1672562	3.7634409
BVL33_13915	putative methylaconitate Delta-isomerase PrpF	2.629383	4.7598253
BVL33_02320	putative porin	2.4608555	2.3633803
BVL33_01590	pyrimidine utilization transport protein G	2.459946	4.128453
BVL33_02185	pyruvate dehydrogenase complex dihydrolipoyllysine-residue acetyltransferase	2.0170597	2.8479087
BVL33_12095	RDD family protein	7.3486631	5.6519387

BVL33_02390	recombinase RecB	8.3284717	6.0142857
BVL33_11765	RecX family transcriptional regulator	2.4536913	2.1355705
BVL33_14235	response regulator	4.9295603	2.6282468
BVL33_14240	response regulator	3.703777	60.467742
BVL33_05120	ribose-phosphate pyrophosphokinase	21.743961	15.086207
BVL33_04615	ribosome silencing factor RsfS	2.4702748	17.794521
BVL33_08265	Rieske (2Fe-2S) protein	2.1932192	22.833333
BVL33_00800	RNA pseudouridine synthase	4.7978339	20.655914
BVL33_12950	RNA pseudouridine synthase	2.1126374	3.1546392
BVL33_13450	RNA-binding protein	7.3616637	4.4811958
BVL33_04695	RNase adaptor protein RapZ	2.4674238	2.1504425
BVL33_14330	RNA-splicing ligase RtcB	7.1967213	3.2668593
BVL33_04055	RND transporter	3.6576402	2.6998617
BVL33_07320	RND transporter	9.1587302	488.4
BVL33_08560	rod shape-determining protein RodA	2.2408377	3.6472019
BVL33_07220	rubredoxin	2.4650948	18.631068
BVL33_06805	S49 family peptidase	2.4617584	2.1259622
BVL33_08375	SAM-dependent methyltransferase	2.4350962	2.4434968
BVL33_02440	SAM-dependent methyltransferase	9.5066667	4.0512821
BVL33_00795	SAM-dependent methyltransferase	7.3091537	7.3931398
BVL33_03130	SAM-dependent methyltransferase	4.9086162	6.2175732
BVL33_13355	SCP-2 sterol transfer family protein	3.0190739	13.066079
BVL33_07335	secretion protein HlyD	8.0740741	3.5305245
BVL33_07060	serine protease	2.1128855	3.063197
BVL33_08365	short-chain dehydrogenase	4.9001148	2.2905983
BVL33_01875	short-chain dehydrogenase	2.2772419	3.2674419
BVL33_04660	short-chain dehydrogenase	4.8911175	2.3231423
BVL33_11905	signal peptidase	186.3	2.7479912
BVL33_02685	sodium:proton antiporter	144.5	7.7099768
BVL33_14490	SPOR domain-containing protein	425.3	3.7964459
BVL33_09785	succinyl-CoA--3-ketoacid-CoA transferase subunit B	2.4628399	3.0711753
BVL33_00975	sugar transferase	9.6	3.4739454
BVL33_12425	superoxide dismutase	3.7623762	19.056738
BVL33_06595	taurine ABC transporter substrate-binding protein	3.671875	9.1388889
BVL33_06610	taurine dioxygenase	4.8964706	7.2763158
BVL33_06600	taurine transporter ATP-binding subunit	2.4564498	54.656388
BVL33_04800	thiol reductase thioredoxin	4.2298006	4.597561
BVL33_02060	thiol:disulfide interchange protein	2.1023392	2.8013245
BVL33_08150	TIGR01244 family protein	6.0637813	10.911458
BVL33_07415	TIGR03643 family protein	333.7	6.4480519
BVL33_03280	toluene tolerance protein	2.4662899	22.333333
BVL33_13710	transcriptional regulator	226.2	7.047619
BVL33_15845	transcriptional regulator	2.4560261	3.8384615
BVL33_05910	transcriptional regulator	2.4632353	4.3744923
BVL33_07575	transcriptional regulator	181.7	2.7786885
BVL33_06315	transcriptional repressor	2.4632353	24.6
BVL33_06580	transcriptional repressor RcnR to maintain nickel and cobalt homeostasis	658.8	15.6
BVL33_01380	transglycosylase	698	2.3614458
BVL33_04725	translation initiation factor IF-3	2.1178623	5.5402299
BVL33_04365	transmembrane anchor protein	136.5	24.715596
BVL33_04670	transporter	825.6	3.9117647
BVL33_07200	tRNA dihydrouridine synthase DusB	3.2818878	21.48227
BVL33_15260	tRNA pseudouridine(38-40) synthase TruA	4.8593407	2.6004862
BVL33_11535	tRNA (cytosine(32)/uridine(32)-2'-O)-methyltransferase TrmJ	8.125	12.163934
BVL33_14505	tryptophan synthase subunit alpha	2.055994	2.6612666
BVL33_07425	two-component sensor histidine kinase	4.6715328	4.2675585

BVL33_13860	two-component sensor histidine kinase	3.6605166	2.0567568
BVL33_08395	type I deoxyribonuclease HsdR	4.0988372	2.7208481
BVL33_15580	type II secretion system protein GspF	2.4604377	22.225
BVL33_12010	UDP-2,3-diacylglucosamine diphosphatase	2.4455446	36.209302
BVL33_14700	UDP-glucose 6-dehydrogenase	9.3435583	3.9595092
BVL33_14350	VOC family protein	3.277686	4.6395349
BVL33_04825	YggT family protein	3.0819017	16.72
BVL33_04570	YjgF family translation initiation inhibitor	14.510393	3.3699422
BVL33_12630	YraN family protein	7.3449831	4.1851852
BVL33_08650	Zn-dependent oxidoreductase	2.1091633	80.022727

Table S6. ICP-MS analysis of the influent, effluent and chlorinated effluent of October 2017 wastewater samples. Each sample was read twice and the average between the samples are listed below. Metal concentrations too low to be detected by the ICP-MS are denoted as <0.001parts per billion. Numbers in superscript refer to the atomic weight of the cation.

	CATION	Concentration (parts per billion, ppb)															
		^{24}Mg	^{27}Al	^{47}Ti	^{53}Cr	^{55}Mn	^{56}Fe	^{57}Fe	^{59}Co	^{60}Ni	^{63}Cu	^{66}Zn	^{90}Zr	^{107}Ag	^{111}Cd	^{202}Hg	^{208}Pb
Influent	Average	2.36E+04	1.79E+01	1.62E+00	<0.001	1.97E+01	4.79E+01	8.74E+01	<0.001	1.24E+00	1.33E+01	3.62E+00	8.77E-01	<0.001	<0.001	9.50E-01	2.93E-01
	Std Dev	2.56E+03	4.70E+00	3.00E-01	-	1.64E+00	3.49E+00	1.03E+01	-	2.04E-01	1.99E+00	1.05E+00	2.50E-03	-	-	7.96E-02	7.00E-04
Effluent	Average	1.72E+04	9.28E+00	1.82E+00	<0.001	3.81E-01	1.68E+01	5.83E+01	<0.001	2.04E+00	1.76E+01	1.13E+01	8.23E-01	<0.001	<0.001	8.69E-01	2.52E-01
	Std Dev	1.04E+03	2.15E+00	2.40E-01	-	1.16E-02	6.65E-01	3.63E+00	-	1.29E-01	7.25E-01	1.31E+00	5.50E-04	-	-	5.32E-02	6.00E-04
Chlorinated Effluent	Average	4.84E+04	6.50E+00	9.50E-01	<0.001	3.35E-01	3.69E+00	6.69E+01	<0.001	1.74E+00	1.14E+01	1.80E+01	8.20E-01	<0.001	<0.001	8.18E-01	2.51E-01
	Std Dev	7.90E+02	9.21E-01	5.60E-02	-	2.20E-03	1.36E-01	1.30E+00	-	8.00E-02	2.05E-01	2.10E-01	3.00E-04	-	-	2.94E-02	1.10E-03

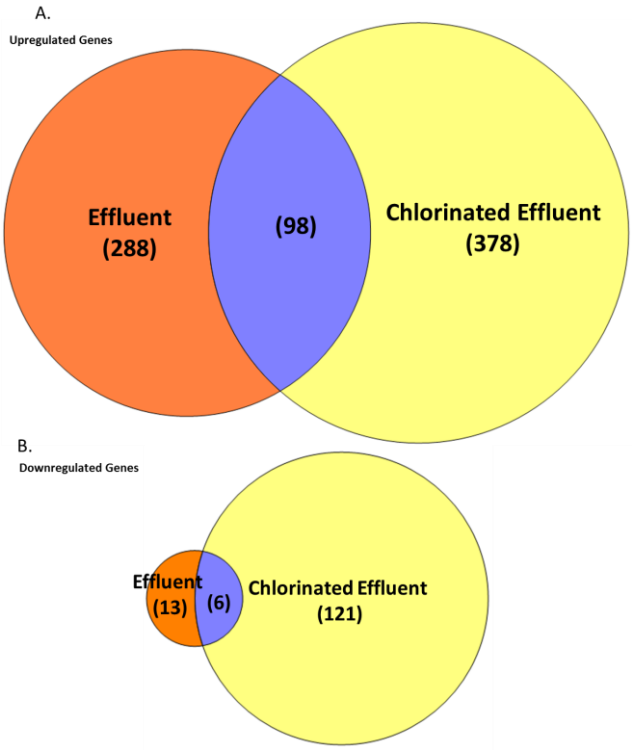

Figure S1. Venn diagrams representing the numbers of significantly upregulated (A) and downregulated (B) genes only in the effluent (orange) , chlorinated effluent (yellow) and in both effluent and chlorinated effluent (purple). Only genes which displayed a 2 times up/downregulation and having $p<0.05$ on the Baggerly proportion-based test were considered as significant.

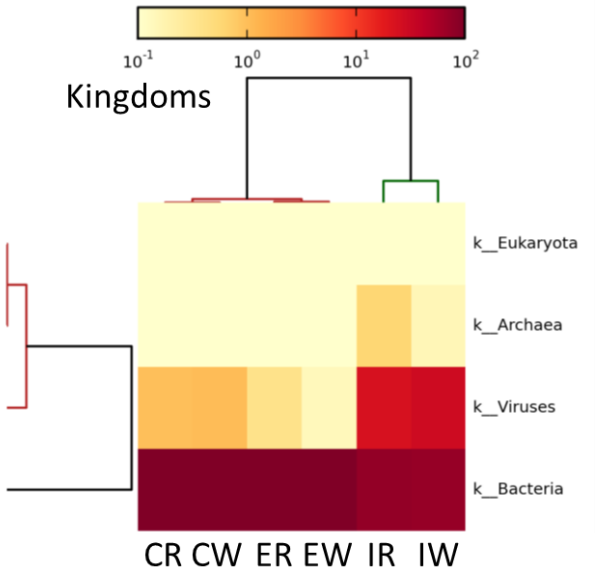

Figure S2. Heatmap representing relative abundances of the different kingdoms detected in the wastewater samples collected in July, October and November 2015. Colored scale bar represents the relative abundances for each heatmap. IR: Influent-retentate, IW: Influent-wash, ER: Effluent-retentate, EW: Effluent-wash, CR: Chlorinated Effluent-retentate, CW: Chlorinated Effluent-wash.

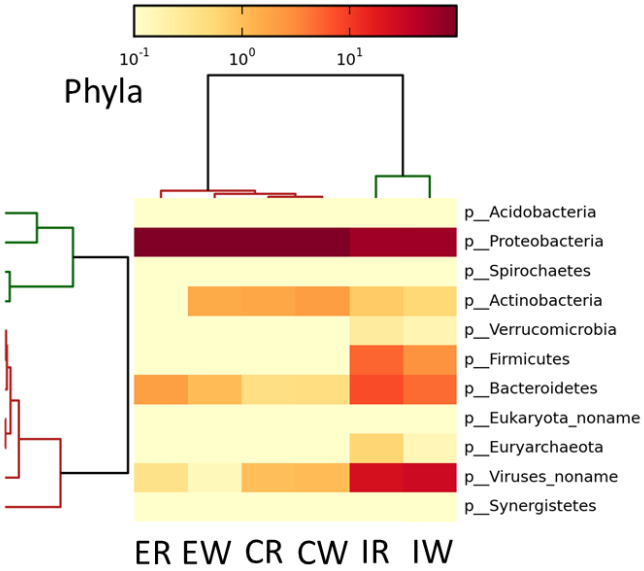

Figure S3. Heatmap representing relative abundances of the different phyla detected in the wastewater samples collected in July, October and November 2015. Colored scale bar represents the relative abundances for each heatmap. IR: Influent-retentate, IW: Influent-wash, ER: Effluent-retentate, EW: Effluent-wash, CR: Chlorinated Effluent-retentate, CW: Chlorinated Effluent-wash.

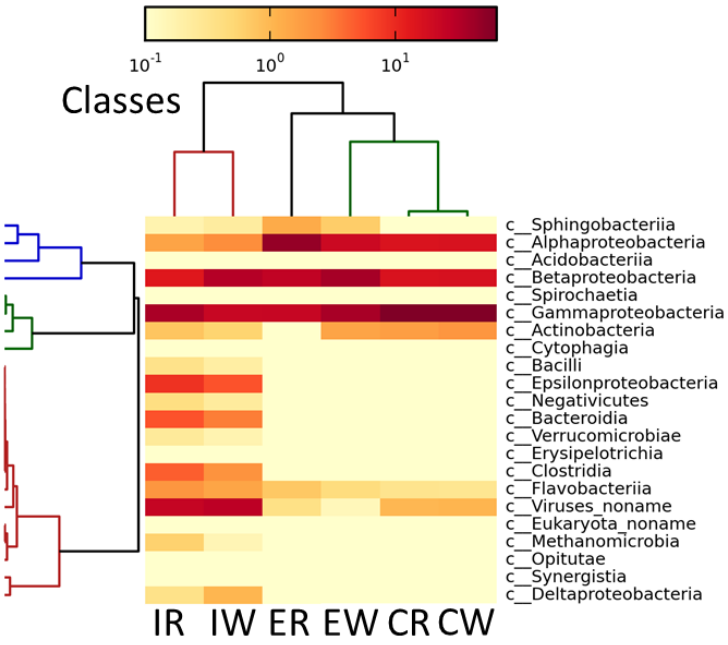

Figure S4. Heatmap representing relative abundances of the different classes detected in the wastewater samples collected in July, October and November 2015. Colored scale bar represents the relative abundances for each heatmap. IR: Influent-retentate, IW: Influent-wash, ER: Effluent-retentate, EW: Effluent-wash, CR: Chlorinated Effluent-retentate, CW: Chlorinated Effluent-wash.

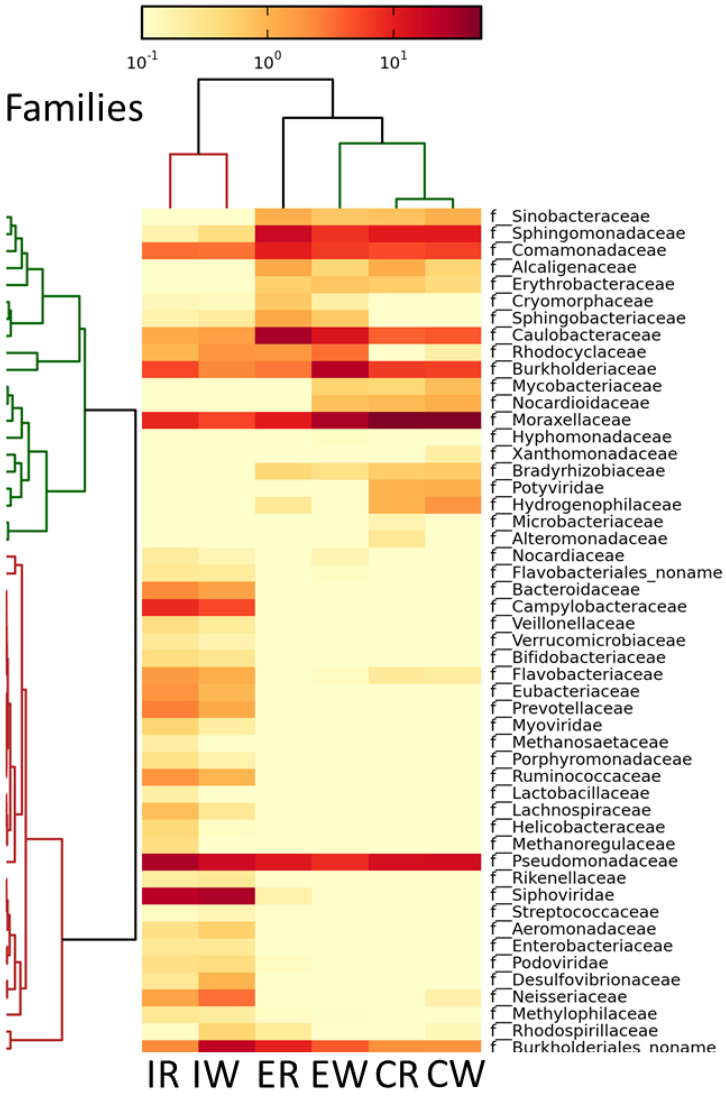

Figure S5. Heatmap representing relative abundances of the different families detected in the wastewater samples collected in July, October and November 2015. Colored scale bar represents the relative abundances for each heatmap. IR: Influent-retentate, IW: Influent-wash, ER: Effluent-retentate, EW: Effluent-wash, CR: Chlorinated Effluent-retentate, CW: Chlorinated Effluent-wash.

References

1. Al-Jassim, N.; Ansari, M.I.; Harb, M.; Hong, P.-Y. Removal of bacterial contaminants and antibiotic resistance genes by conventional wastewater treatment processes in saudi arabia: Is the treated wastewater safe to reuse for agricultural irrigation? *Water Research* **2015**, *2015*, 277.