Supplementary Information

Molecular identification of hyaluronate lyase, not hyaluronidase, as an intrinsic hyaluronan-degrading enzyme in *Clostridium perfringens* strain ATCC 13124

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Supplementary Fig. 1 Bacterial GAG degradation, import, and metabolism system.

Supplementary Fig. 2 Growth profile of *C. perfringens* cells by measuring OD_{600} in log10 form.

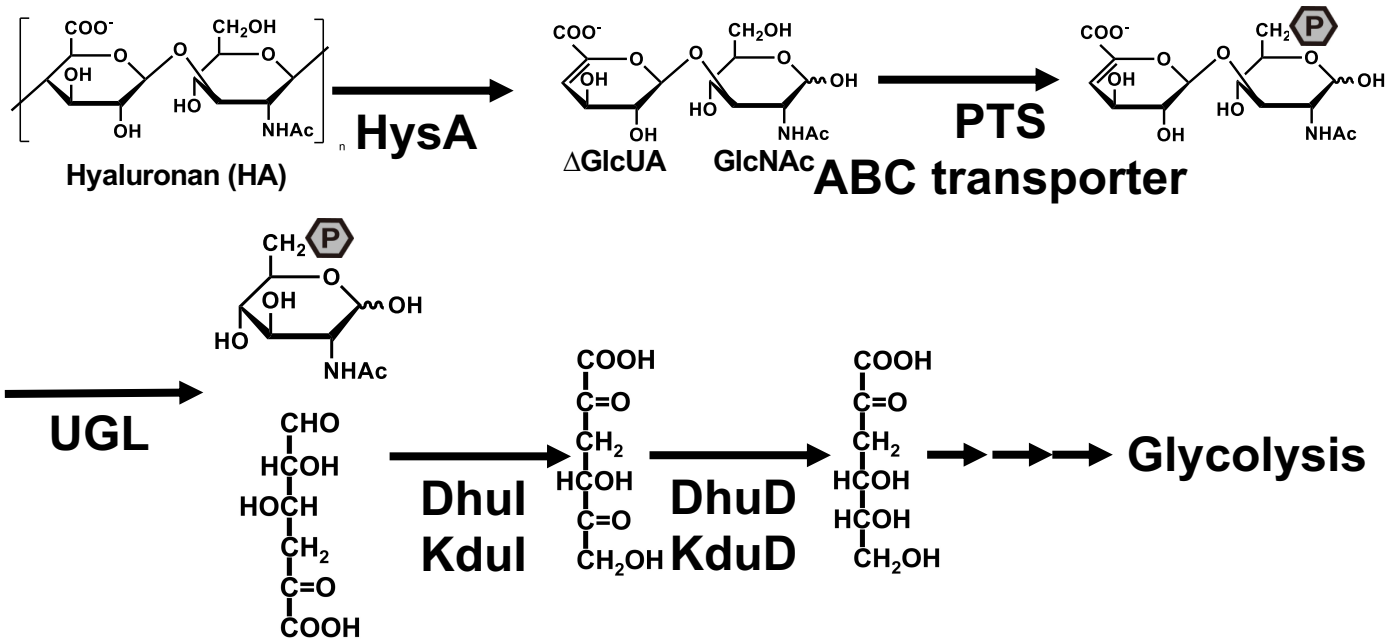
Supplementary Fig. 3 RNA-seq of *C. perfringens*.

Supplementary Fig. 4 Superimposition of CpeHysA and xanthan lyase.

Supplementary Table 1 Gene expression of *C. perfringens* through RNAseq.

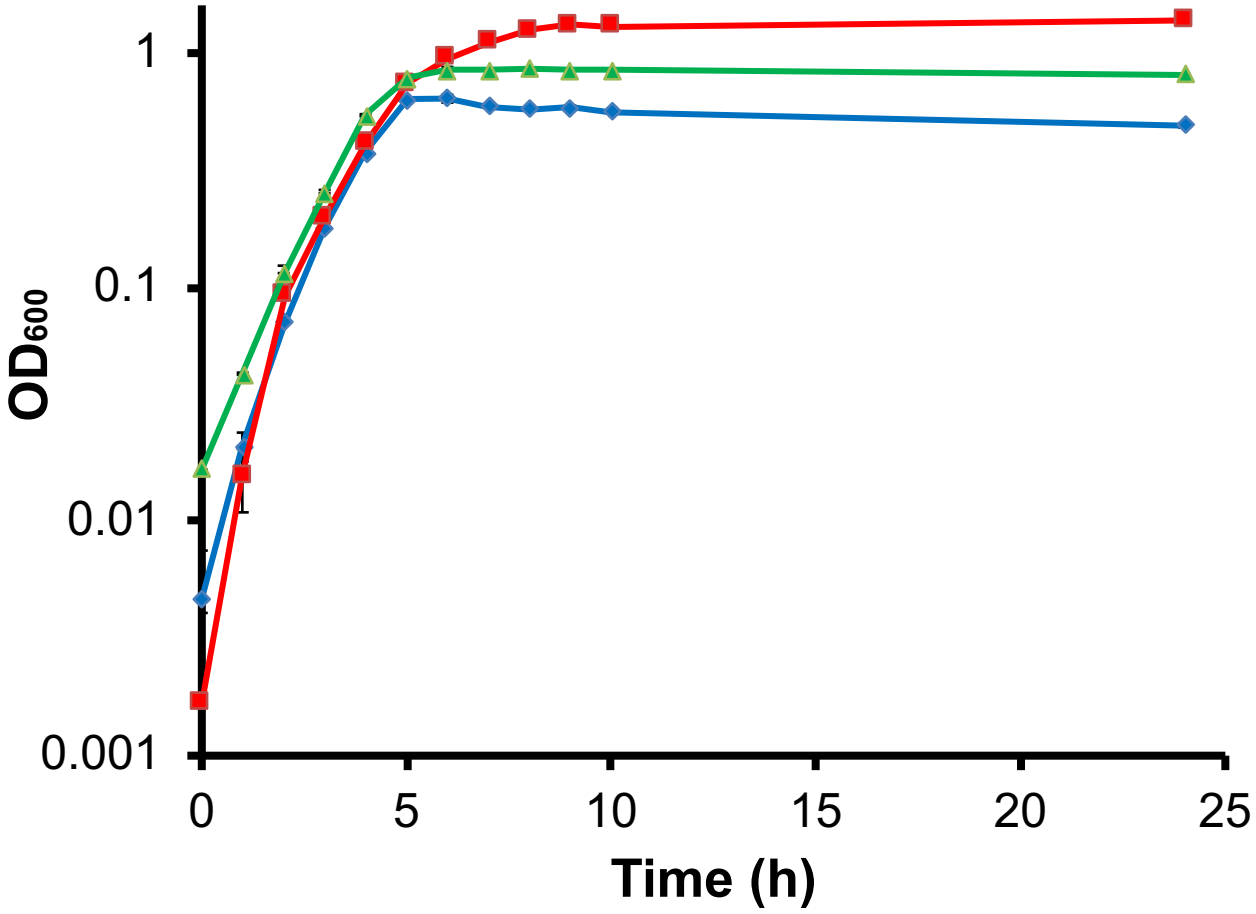
Supplementary Table 2 Primers.

Supplementary Fig. 1



Supplementary Fig. 1 Bacterial GAG degradation, import, and metabolism system. Example of degradation enzymes, HysA and UGL; transporter, PTS and ABC transporter (non-phosphorylation of the substrate); metabolizing enzyme, DhuI/KduI and DhuD/KduD.

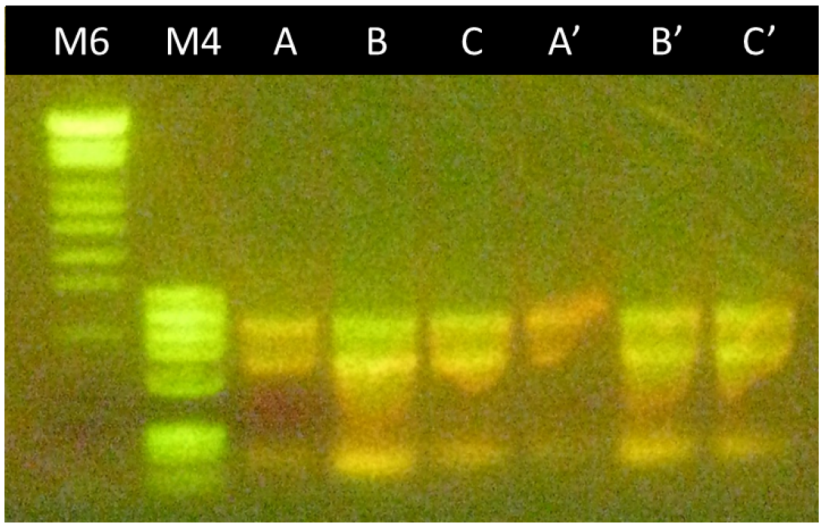
Supplementary Fig. 2



Supplementary Fig. 2 Growth profile of *C. perfringens* cells by measuring OD_{600} in log10 form. Blue, nutrient-poor medium; red, nutrient-poor medium containing HA; and green, nutrient-poor medium containing mucin. The profile is identical to Fig. 2c.

Supplementary Fig. 3

a



b

No.	growth medium	quantity (μg)	ratio(Abs260/Abs280)	RIN	rRNA ratio
A	Poor+	17.019	1.89	7.2	1.1
B	Poor+HA	36.716	1.9	7.3	1
C	Poor+mucin	33.961	1.97	7.2	1

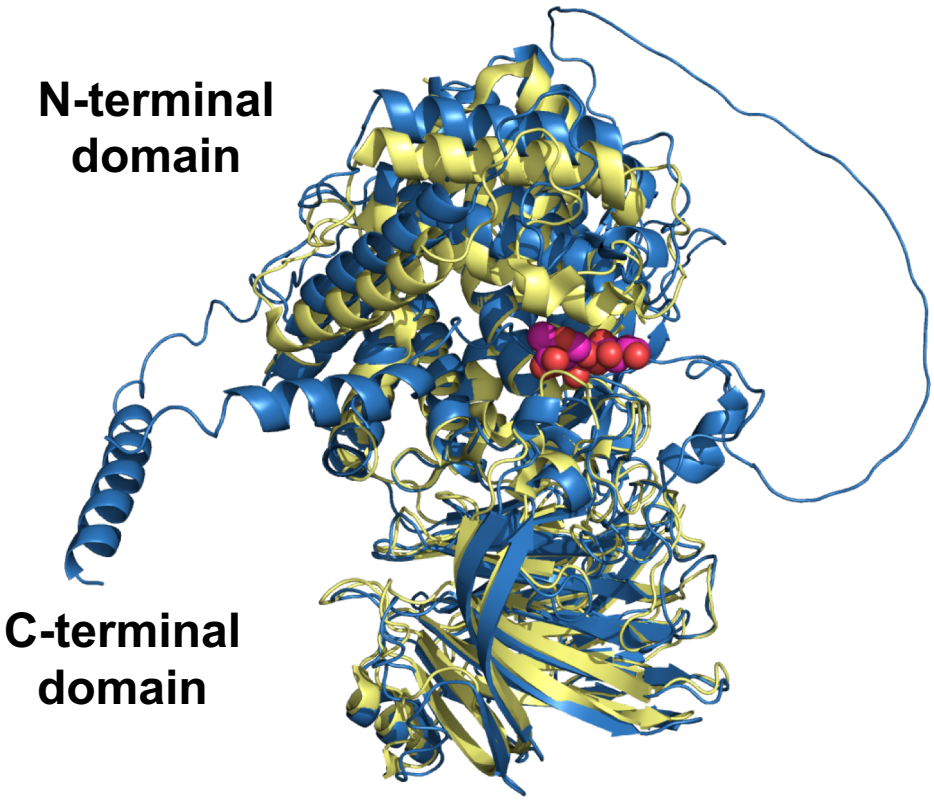
No.	growth medium	total read bases	total reads
A	Poor+	5041504082	49915882
B	Poor+HA	5041270974	49913574
C	Poor+mucin	6955687796	68868196

No.	growth medium	total read bases	total reads
A	Poor+	4955895319	49366152
B	Poor+HA	4964571195	49416680
C	Poor+mucin	6842367613	68121182

No.	growth medium	processed data	mapped read		failed to aligned		multiple aligned	
A	Poor+	49366152	44776526	90.70%	2548788	5.16%	2040838	4.13%
B	Poor+HA	49416680	44736304	90.53%	2232878	4.52%	2447498	4.95%
C	Poor+mucin	68121182	60852264	89.33%	3693250	5.42%	3575668	5.25%

Supplementary Fig. 3 RNA-seq of *C. perfringens*. (**a**) Extracted RNA was applied to agarose gel electrophoresis. A, A ': Poor + medium B, B': Poor + HA medium C, C ': Poor + mucin medium. (**b**) Basic statistics of RNA-seq.

Supplementary Fig. 4



Supplementary Fig. 4 Superimposition of CpeHysA and xanthan lyase. Blue, the AlphaFold2 model of CpeHysA; yellow, crystal structure of *Bacillus* sp. GL1 xanthan lyase (PDB ID, 1X1J). Ball model shows xanthan disaccharide.

Supplementary Table 1 Gene expression of *C. perfringens* through RNAseq

Feature ID	Genome	Start	End	Strand	Type	Locus Tag	Old Locus Tag	Gene Symbol	Protein ID	Product	B-1/C-1/D-1	B-1/C-1/D-1	B-1/C-1/D-1	C-1/C-1/D-1	C-1/C-1/D-1	B-1 mean	C-1 mean	N-A-1	N-B-1	N-C-1	A-1 RPKM	B-1 RPKM	C-1 RPKM	A-1 Read Count	B-1 Read Count	C-1 Read Count
gene0	NC_008261.1	411	1764	+	protein_coding	CPF_R00010	CPF_0001		WP_003451025	chromosomal replication initiator protein DnaA	0.618285	0.613552	0.250444	0.992571	0.405233	1.346011	0.589396	4.138856	4.067681	0.896304	1.138856	47.467666	58.260203	81.005114	1318	2181	2173
gene1	NC_008261.1	2079	3119	+	protein_coding	CPF_R00020	CPF_0002		WP_003451044	DNA polymerase III, beta subunit	1.618285	1.657631	1.299002	1.782146	1.245776	7.475117	7.318275	8.012723	7.635320	7.318275	8.012723	7.635320	129.745782	303636445	191272434	3022	6761	5956
gene2	NC_008261.1	3305	3511	+	protein_coding	CPF_R00030	CPF_0003		WP_003470354	5-4 domain-containing protein	1.282922	0.382229	-1.107464	0.626666	1.388666	0.453556	0.216067	0.552833	0.700118	0.216067	0.552833	0.700118	58.459585	131.377993	93.433366	256	550	547
gene3	NC_008261.1	3567	4852	+	protein_coding	CPF_R00040	CPF_0004		WP_003450993	DNA replication protein	1.984433	0.165624	1.836935	0.218671	1.080046	5.739483	5.683871	6.872599	7.795630	5.683871	6.872599	7.795630	39.261132	140.142245	47.371814	502	3078	1455
gene4	NC_008261.1	4866	4926	+	protein_coding	CPF_R00030	CPF_0005		WP_003451015	DUF30 domain protein	1.615977	0.171605	1.579727	0.734814	1.022947	0.396682	0.380317	1.072724	0.413404	0.380317	1.072724	0.413404	66.467655	173.913163	74.372266	367	918	549
gene5	NC_008261.1	5163	7079	+	protein_coding	CPF_R00035	CPF_0006		WP_003446052	DNA topoisomerase IV, subunit B	1.639879	1.737866	1.681323	0.566971	-0.025273	7.211443	7.221464	5.945093	7.195495	7.221464	5.945093	7.195495	123.932882	294044422	133278724	3926	11400	7226
gene6	NC_008261.1	7101	9620	+	protein_coding	CPF_R00040	CPF_0007		WP_003470357	DNA gyrase subunit B	1.786560	3.117432	1.744321	8.193867	1.030017	7.780994	7.759689	8.605023	7.802351	7.759689	8.605023	7.802357	177.656624	467852391	219302434	9471	23844	15630
gene7	NC_008261.1	11863	14775	+	rRNA	CPF_R00050	CPF_2399		rRNA	23S ribosomal RNA	**-2.038457**	5.312929	**-2.038457**	5.312929	4.620346	6.174427	4.572374	6.689927	6.173427	4.572374	6.689927	6.173427	53.373034	6.689927	58.357330	332.018546	93212021	3473	1957	7680
gene8	NC_008261.1	14866	14986	+	protein_coding	CPF_R00055	CPF_3000	rrf	55 ribosomal RNA		**22.763600**	2.285976	1.188258	9.756678	**19.757704**	7.192653	5.371990	9.881895	9.633041	5.371990	9.881895	9.633041	31.178810	10.834834	795995782	80	2452	2679
gene9	NC_008261.1	15422	15925	+	protein_coding	CPF_R00060	CPF_0008		WP_003450996	DNA primase	1.354969	1.354537	1.352946	0.000000	0.000000	2.202957	1.946025	2.202957	1.946025	1.946025	2.202957	1.946025	41.417124	2.157165	14.127400	4139105	23	144	59
gene10	NC_008261.1	16274	19030	+	protein_coding	CPF_R00075	CPF_0011		WP_003190027	membrane protein	1.347566	4.913391	1.462141	4.885380	-1.040499	4676195	4.704920	5.135276	4.647645	4.704920	5.135276	4.647645	19.751579	49.768724	20.699115	1152	2775	1614
gene11	NC_008261.1	19273	20667	+	protein_coding	CPF_R00080	CPF_0012		WP_003451079	FAD/NAD(P)-binding oxidoreductase	-1.274662	5.745162	-1.115922	5.652579	-1.139615	5.827883	5.922897	5.572760	5.734355	5.922897	5.572760	5.734355	49.846851	68.728028	45.293446	3353	1939	1787
gene12	NC_008261.1	20680	20913	+	protein_coding	CPF_R00090	CPF_0013		WP_003450993	DUF167 family protein	1.354969	1.354537	1.352946	0.000000	0.000000	1.946025	1.946025	1.946025	1.946025	1.946025	1.946025	1.946025	41.417124	57.572503	43.261511	5434893	2883	2585	2508
gene13	NC_008261.1	21265	22542	+	protein_coding	CPF_R00090	CPF_0014		WP_003190026	serine--tRNA ligase	1.513378	7.747692	1.702984	7.655688	-1.125287	7.388931	7.454569	8.052341	7.284276	7.454569	8.052341	7.284276	141.181377	313899023	143161781	3817	8108	5191
gene14	NC_008261.1	22719	23138	+	protein_coding	CPF_R00095	CPF_0015		WP_003190025	hypothetical protein	-1.120441	0.847262	0.900657	1.109650	1.119728	0.847788	0.932277	0.761911	0.770109	0.932277	0.761911	0.770109	15.997055	0.589296	6.9	6	2	7
gene15	NC_008261.1	23755	24021	+	protein_coding	CPF_R00110	CPF_0018		WP_003450912	hypothetical protein	1.461416	2.466452	0.000000	2.113691	-1.404890	1945699	2.206316	2.753684	1.115899	2.206316	2.753684	1.115899	25.6621	8.333579	1.986392	15	45	15
gene16	NC_008261.1	24771	25852	+	protein_coding	CPF_R00120	CPF_0019		WP_003450861	hypothetical protein	1.210611	1.187925	1.110005	0.910543	-0.243593	6892379	1.153222	0.938924	0.833365	1.153222	0.938924	0.833365	23.311101	1.401528	0.681499	17	25	17
gene17	NC_008261.1	26114	29590	+	protein_coding	CPF_R00135	CPF_0024		WP_003190030	ATP-dependent Clp protease, ATP-binding subunit ClpX	-1.456416	4.042558	-1.362623	3.997402	-1.068833	4274589	4.322857	3.780434	4.226821	4.322857	3.780434	4.226821	14.410773	19.226591	15.375602	1060	1352	1512
gene18	NC_008261.1	29580	31335	+	protein_coding	CPF_R00140	CPF_0025		WP_003451013	ATP-dependent Clp protease, proteolytic subunit ClpP	1.513378	1.747557	1.514453	1.618313	0.997440	4.031033	4.097440	4.031033	4.097440	4.097440	4.031033	4.097440	24.761822	26.703950	26.790857	2967	3144	3469
gene19	NC_008261.1	33434	34702	+	protein_coding	CPF_R00145	CPF_0026		WP_003470235	CCA-tRNA nucleotidyltransferase	**2.139047**	3.449314	**2.078698**	3.151563	-1.401049	2.693723	2.947938	4.035963	2.461431	2.947938	4.035963	2.461431	5.103229	23.890391	4.067956	137	608	146
gene20	NC_008261.1	34818	35810	+	protein_coding	CPF_R00150	CPF_0027		WP_003470587	3'-5' exonbonucleases, RNase T and DinG	1.168759	8.054497	1.278364	7.868692	-1.093728	7.817902	7.942794	8.167771	7.813540	7.942794	8.167771	7.813540	209.025994	338.104387	220.763944	4391	6790	6200
gene21	NC_008261.1	35842	37002	+	protein_coding	CPF_R00155	CPF_0028		WP_003451021	murein L,D-transpeptidase	**-2.038457**	2.873242	2.323934	1.444299	2.534582	2.084411	3.992092	1.160604	2.284411	3.992092	1.160604	2.284411	26.875080	2.402182	22.274079	4398643	59	523	151
gene22	NC_008261.1	37194	38414	+	protein_coding	CPF_R00160	CPF_0029		WP_003470663	peptidase T	**-2.116099**	2.921004	-1.851544	9.830091	-1.141788	10.179901	10.267601	9.195974	10.084703	10.267601	9.195974	10.084703	103.297615	684368322	116938086	27207	16900	40263
gene23	NC_008261.1	38520	39305	+	protein_coding	CPF_R00165	CPF_0030		WP_003450934	Sporulation protein YpuI	1.354969	1.354537	1.352946	0.000000	0.000000	1.946025	1.946025	1.946025	1.946025	1.946025	1.946025	1.946025	41.417124	75.977440	164.029433	8180942	1408	2906	2121
gene24	NC_008261.1	39832	40971	+	protein_coding	CPF_R00175	CPF_0032		WP_003190035	DUF1887 domain protein	**2.161074**	1.112145	**2.161074**	1.017693	-1.029159	0662629	0.883684	1.809119	0.642220	0.883684	1.809119	0.642220	0.456115	3.843382	0.465234	11	84	15
gene25	NC_008261.1	41086	41970	+	protein_coding	CPF_R00180	CPF_0033		WP_003451010	6-phosphogluconate dehydrogenase, decarboxylating	**2.161074**	5.637627	**2.161074**	5.557627	-1.352322	4317939	4.882823	6.244174	4.032843	4.882823	6.244174	4.032843	29.549977	38.383463	24.976505	642	1861	649
gene26	NC_008261.1	42133	42702	+	protein_coding	CPF_R00185	CPF_0034		WP_003190579	TetR/AcrR family transcriptional regulator	-1.269935	4.550919	-1.352129	4.594434	-1.064973	4771576	4.726382	4.381969	4.671201	4.726382	4.381969	4.671201	20.090041	29.841034	23.447792	242	344	378
gene27	NC_008261.1	42757	42831	+	tRNA	CPF_R00190	CPF_0035		tRNA-Arg		**-2.004499**	0.984829	-1.078863	0.991999	**-2.017998**	1.061333	1.798869	0.539165	0.650009	1.798869	0.539165	0.650009	1.890802	0.659279	0.471437	3	7	1
gene28	NC_008261.1	42917	44242	+	protein_coding	CPF_R00195	CPF_0036		WP_003190037	Mg/Co/Ni transporter MgtE family protein	-1.127317	1.194408	1.241443	0.935904	1.088946	7.256427	7.080973	6.419779	6.256420	6.419779	6.256420	6.419779	128.195464	175.794623	93.584444	3379	4501	3530
gene29	NC_008261.1	44245	44676	+	protein_coding	CPF_R00200	CPF_0037		WP_003450857	nucleoside deoxyribosyltransferase	-1.288340	6.573900	1.245199	6.233576	-1.601740	6408217	6.575040	6.339273	6.077297	6.575040	6.339273	6.077297	86.661768	116.403888	58.274863	792	1017	712
gene30	NC_008261.1	44739	45167	+	protein_coding	CPF_R00205	CPF_0038		WP_003450846	hypothetical protein	-1.457423	1.121209	-1.298824	1.143535	-1.187752	7402775	7.473005	6.932613	7.332204	7.473005	6.932613	7.332204	142.016135	163.425491	143.937703	1379	1918	1947
gene31	NC_008261.1	45310	45675	+	protein_coding	CPF_R00210	CPF_0039		WP_003450965	DUF2809 domain protein	1.027488	0.230480	-1.021115	0.265514	1.049183	0243935	0.211746	0.250989	0.281014	0.211746	0.250989	0.281014	0.129153	0.270196	0.193212	1	2	2
gene32	NC_008261.1	45785	46447	+	protein_coding	CPF_R00215	CPF_0040		WP_003450923	hypothetical protein	1.451354	2.248495	0.000000	2.237109	-1.220750	2.651114	2.160604	2.284411	2.865951	2.160604	2.284411	2.865951	17.010320	9.245487	7.460367	144	102	59
gene33	NC_008261.1	46559	48031	+	protein_coding	CPF_R00240	CPF_0041		WP_003190040	YdiJ family protein	1.590934	5.993374	1.460226	5.719115	-1.450113	5.715005	5.989375	5.999455	5.452001	5.989375	5.999455	5.452001	48.521604	92.379576	27.080804	1512	2752	1550
gene34	NC_008261.1	48363	49559	+	protein_coding	CPF_R00245	CPF_0042		WP_003190041	phosphoglycerate kinase	**2.106255**	1.049428	1.117119	1.195339	1.230653	5.139273	5.154104	4.245533	5.119901	5.154104	4.245533	5.119901	109.211555	63094142	225462936	55584	152124	76424
gene35	NC_008261.1	49747	50673	+	protein_coding	CPF_R00230	CPF_0043		WP_003450162	GTP-binding protein Obg/CgtA	1.025381	0.568189	-1.178717	0.715390	1.208634	6893738	0.570387	0.606547	0.843764	0.570387	0.606547	0.843764	0.356948	0.800095	0.686559	7	15	7
gene36	NC_008261.1	50693	51277	+	protein_coding	CPF_R00235	CPF_0044		WP_003190042	hypothetical protein	-1.195886	0.931896	1.292993	0.636408	-1.464211	0.732003	0.957028	0.598961	1.057038	0.957028	0.598961	1.057038	0.509914	0.809035	1.088798	0.265844	10	13	6
gene37	NC_008261.1	51280	51717	+	protein_coding	CPF_R00240	CPF_0045		WP_003190043	hypothetical protein	1.354969	1.354537	1.352946	0.000000	0.000000	1.946025	1.946025	1.946025	1.946025	1.946025	1.946025	1.946025	41.417124	0.663703	0.331501	6	12	10
gene38	NC_008261.1	52186	52905	+	protein_coding	CPF_R00245	CPF_0046		WP_003450877	hypothetical protein	1.310191	0.255594	1.174227	0.383325	1.115790	0189761	0.126530	0.516300	0.284595	0.126530	0.516300	0.284595	0.065653	0.818074	0.198432	1	9	4
gene39	NC_008261.1	53171	53959	+	protein_coding	CPF_R00250	CPF_0047		WP_003450570	deoxyribose-phosphate aldolase	1.395935	4.823762	1.288600	4.164425	-1.190746	1.590798	4.202200	3.979997	4.092186	4.202200	3.979997	4.092186	44.423373	13.978464	23.338	238	709	303
gene40	NC_008261.1	54302	54566	+	protein_coding	CPF_R00255	CPF_0048		WP_003190044	signal recognition particle protein	-1.114746	1.457593	1.000000	1.397632	-1.114746	1.545793	1.554355	1.397633	1.397633	1.554355	1.397633	1.397633	31.134426	4.649449	3049.885704	4590.143921	286664	187446	34473
gene41	NC_008261.1	54742	55235	+	protein_coding	CPF_R00260	CPF_0049		WP_003450852	DUF1489 domain protein	1.645232	1.491429	1.142490	1.417940	1.202384	1.550989	1.645154	1.580007	1.512357	1.645154	1.580007	1.512357	33.000000	1.594426	2.276008	1.600287	17	20	20
gene42	NC_008261.1	55675	56961	+	protein_coding	CPF_R00265	CPF_0050		WP_003450178	branched-chain amino acid aminotransferase	**-4.149099**	5.999312	**2.008790**	6.447649	1.722642	5.438711	5.060531	7.112248	5.845153	5.060531	7.112248	5.845153	25.563293	178.996461	49.369024	696	4659	1797
gene43	NC_008261.1	57183	58428	+	protein_coding	CPF_R00270	CPF_0052		WP_003470623	DNA polymerase III, delta subunit	1.354969	1.354537	1.352946	0.000000	0.000000	1.946025	1.946025	1.946025	1.946025	1.946025	1.946025	1.946025	41.417124	3.990071	24.375356	9046485	47	3575	2737
gene44	NC_008261.1	59538	59876	+	protein_coding	CPF_R00280	CPF_0053		WP_003450189	YbaB/EbfC family protein	1.480814	9.006351	1.603621	8.550459	-1.017692	8670079	8.724219	9.297607	8.616273	8.724219	9.297607	8.616273	361.148798	728.810963	385.702295	2590	4983	3698
gene45	NC_008261.1	59974	60570	+	protein_coding	CPF_R00285	CPF_0054		WP_003450875	recombination protein O	1.801324	6.013608	1.665923	6.073794	1.081217	5660132	5.804045	6.453103	5.716781	5.804045	6.453103	5.716781	37.610178	120.874498	44.952356	475	1457	759
gene46	NC_008261.1	60796	61674	+	protein_coding	CPF_R00290	CPF_0055		WP_003450842	hypothetical protein	1.183322	3.355602	1.249424	3.272954	4.339588	4.168998	5.156887	4.117446	4.284411	5.156887	4.117446	4.284411	26.985577	108.828265	76.286	146	1	1
gene47	NC_008261.1	61690	61368	-	protein_coding	CPF_R00295	CPF_0056		WP_003450885	pro-sigmK processing inhibitor BofA family protein	1.672543	3.189960	1.412514	3.029372	-1.184181	3464234	3.344471	4.086609	3.583320	3.344471	4.086609	3.583320	6.946496	24.457112	9.504780	41	138	75
gene48	NC_008261.1	61643	62768	+	protein_coding	CPF_R00300	CPF_0057		WP_003450844	hypothetical protein	1.098890	2.929232	1.013407	2.029948	-1.084352	2271889	2.028608	2.000951	2.219779	2.028608	2.000951	2.219779	0.206230	0.219733	0.212413	5	5	4
gene49	NC_008261.1	62839	63118	+	protein_coding	CPF_R00305	CPF_0058		WP_003450880	hypothetical protein	**2.051471**	3.826356	**0.870618**	3.704787	-1.133221	2754338	2.844716	5.146734	2.668822	2.844716	5.146734	2.668822	4.727006	50.269998	4.910803	18	183	25
gene50	NC_008261.1	63114	63367	+	protein_coding	CPF_R00310	CPF_0059		WP_003450870	hypothetical protein	1.395935	4.823762	1.288600	4.164425	-1.190746	1.590798	4.202200	3.979997	4.092186	4.202200	3.979997	4.092186	44.423373	13.978464	23.338	238	709	303
gene51	NC_008261.1	63533	64609	+	protein_coding	CPF_R00315	CPF_0060		WP_003450871	hypothetical protein	-1.594946	4.642289	-1.310871	4.508770	-1.216768	4847685	4.991241	4.317733	4.708258	4.991241	4.317733	4.708258	24.019878	28.768053	21.733381	549	627	642
gene52	NC_008261.1	64678	65583	+	protein_coding	CPF_R00320	CPF_0061		WP_003190046	2-phosphoglycerate kinase	-1.489737	3.133770	-1.089092	2.924203	-1.367870	3204522	3.438449	2.883388	2.988514	3.438449	2.883388	2.988514	17.469947	9.114200	6.127121	143	167	151
gene53	NC_008261.1	65733	66869	+	protein_coding	CPF_R00325	CPF_0062		WP_003450847	DUF1010 domain protein	-1.372824	4.647620	-1.454139	4.458727	-1.058881	4522446	4.882242	4.424144	4.284498	4.882242	4.424144	4.284498	22.373939	30.485737	26412854	594	775	939
gene54	NC_008261.1	67045	67740	+	protein_coding	CPF_R00330	CPF_0063		WP_003450181	5-methyltetrahydrofolate--homocysteine methyltransferase	1.748877	8.682127	1.838867	8.440702	-1.056288	8052198	8.691329	8.084121	8.091329	8.691329	8.084121	8.091329	238.925682	573103549	248.184893	3487	8067	4885
gene55	NC_008261.1	68148	68879	+	protein_coding	CPF_R00340	CPF_0064		WP_003450861	HRW domain protein	1.102691	1.185914	1.520893	1.371373	-1.487124	2396059	5.580052	2.422422	3.011727	5.580052	2.422422	3.011727	73.988297	17.344569	10.892227	1937	1594	597
gene56	NC_008261.1	69170	70336	+	protein_coding	CPF_R00340	CPF_0065		WP_003470291	MFS transporter, DHA1 family, multidrug resistance protein	1.341214	3.976281	1.476976	3.902236	-1.101323	3699946	3.770147	4.193983	3.631049	3.770147	4.193983	3.631049	9.680842	26.354198	9.816556	239	622	324
gene57	NC_008261.1	70361	71259	+	protein_coding	CPF_R00345	CPF_0066		WP_003470242	N-acetylneuraminate lyase	1.589129	4.884981	1.235134	4.850023	-1.209492	2.385538	2.847159	4.004144	2.447118	2.847159	4.004144	2.447118	8.390071	24.175054	9.996015	75	375	187
gene58	NC_008261.1	71319	72002	+	protein_coding	CPF_R00350	CPF_0067		WP_003450147	deoxyribose-phosphate aldolase	1.080528	5.150617	1.138329	5.112479	-1.053493	5057322	5.099051	5.206768	5.019871	5.099051	5.206768	5.019871	25.916900	52.554340	27.810853	375	727	538
gene59	NC_008261.1	72548	74066	+	protein_coding	CPF_R00355	CPF_0068		WP_003450151	16S ribosomal RNA	1.123112	2.261714	1.094575	1.614019	-1.187730	0333876	0.541338	1.128539	0.728539	0.541338	1.128539	0.728539	0.205293	0.113285	0.118304	11	4	5
gene60	NC_008261.1	74246	77157	+	rRNA	CPF_R00360	CPF_3002		rRNA	23S ribosomal RNA	1.023047	0.202122	-1.259942	0.347691	-1.287656	0320565	0.186353	0.219225	0.551437	0.186353	0.219225	0.551437	0.097397	0.237721	0.388547	6	6	13
gene61	NC_008261.1	77726	78574	+	protein_coding	CPF_R00375	CPF_0069		WP_003450930	PRD domain protein	**-2.038457**	4.124609	1.000000	4.033265	-1.137602	1.765000	3.395985	3.482451	3.497408	3.395985	3.482451	3.497408	0.308885	0.683437	0.423530	1	7	3
gene62	NC_008261.1	78607	78866	+	protein_coding	CPF_R00380	CPF_0070		WP_003450874	DUF178 family protein	1.354969	**-2.038457**	**2.078698**	0.000000	0.000000	0.000000	1.946025	1.946025	1.946025	1.946025	1.946025	1.946025	41.417124	0.000000	220.067070	2594879859	1291524845	2241	2151	16347
gene63	NC_008261.1	79744	81189	+	protein_coding	CPF_R00385	CPF_0071		WP_003450823	PTS sugar transporter subunit IIB	1.012451	2.775518	**-1.594246**	3.694688	**4.008211**	3683029	2.767607	2.785459	4.601240	2.767607	2.785459	4.601240	4.380489	8.514543	25.014530	134	249	1023
gene64	NC_008261.1	81258	81776	+	protein_coding	CPF_R00390	CPF_0072		WP_003450820	Tail-specific protease family protein	-1.214293	1.159036	1.304162	1.238147	-1.188992	1.149890	1.159254	1.464633	1.139229	1.159254	1.464633	1.139229	0.201917	1.810158	1.498783	10	19	22
gene65	NC_008261.1	84077	86988	+	protein_coding	CPF_R00400	CPF_0005		23S ribosomal RNA		**-2.038457**	2.026421	**-1.877663**	2.074733	-1.013849	2471332	2481473	2.146127	2.481431	1.734802	2.481374	3.441364	3.412890	4.116170	212	201	339
gene66	NC_008261.1	87996	88968	+	protein_coding	CPF_R00405	CPF_0073		WP_003450944	Aspartate kinase	**-1.354969**	2.204771	**-1.352946**	2.097493	-1.021449	1009192	0.842239	1.447461	0.790540	0.842239	1.447461	0.790540	14.478182	12.608700	15.131421	1185	1059	53923
gene67	NC_008261.1	90409	90645	+	protein_coding	CPF_R00420	CPF_0075		WP_003450485	hypothetical protein	-1.219876	0.884146	1.031152	0.687057	-1.333510	0807149	1.041036	0.754302	0.625808	1.041036	0.754302	0.625808	0.797807	1.043162	0.447567	4	5	3
gene68	NC_008261.1	90697	91444	+	protein_coding	CPF_R00425	CPF_0076		WP_003450481	hypothetical protein	1.395935	2.823187	1.288600	2.164425	-1.190746	1.590798	2.202200	1.979997	2.092186	2.202200	1.979997	2.092186	23.423946	7.339767	22.735342	238	554	1974
gene69	NC_008261.1	91444	92397	+	protein_coding	CPF_R00430	CPF_0077		WP_003472992	NADH peroxidase	1.142964	1.923377	**2.147679**	12.466444	-1.879305	12.373188	12.837248	13.030126	11.927146	12.837248	13.030126	11.927146	700.017251	935721795	375762008	90242	102756	57706
gene70	NC_008261.1	93261	93884	+	protein_coding	CPF_R00435	CPF_0078		WP_003450940	histidine phosphotransferase ptsH	1.400613	4283461	1.728312	4114005	-1.241645	3887994	4047224	4.533488	3.734971	4047224	4.533488	3.734971	11.893267	32.330011	10.539339	157	408	186
gene71	NC_008261.1	94243	95933	+	protein_coding	CPF_R00450	CPF_0079		WP_003450502	DeoR family transcriptional regulator	**-1.354969**	2.823187	**-1.352946**	2.097493	-1.021449	2.385538	1.815142	2.092589	2.477179	1.815142	2.092589	2.477179	0.648207	2.317792	1.972745	4	9	6
gene72	NC_008261.1	95495	96649	+	protein_coding	CPF_R00455	CPF_0080		WP_003450488	hypothetical protein	**-2.038457**	1.745496	**-1.750155**	2.204181	**2.008040**	2.214807	2.854846	1.195433	4.064145	2.854846	1.195433	4.064145	3.765234	1.883653	13.235342	92	44	433
gene73	NC_008261.1	96656	97501	+	protein_coding	CPF_R00460	CPF_0081		WP_003450511	Acetyltransferase, GNAT family	**-1.354969**	1.173096	1.352946	1.641277	1.349329	2.385538	2.787498	2.887787	2.634914	2.887498	2.887787	2.634914	0.648207	4.499922	17.320460	7	21	276
gene74	NC_008261.1	97515	98531	+	protein_coding	CPF_R00465	CPF_0082		WP_003450561	5-dehydro-2-deoxygluconokinase	**-1.000000**	1.710405	**-1.730693**	2.069949	**2.008211**	2.249579	2.690788	1.091809	3.924413	2.690788	1.091809	3.924413	4.090231	1.604439	12.098828	88	33	348
gene75	NC_008261.1	98545	98812	+	protein_coding	CPF_R00470	CPF_0083		WP_003450552	5-dehydro-2-deoxygluconokinase	**-1.354969**	1.173096	1.352946	1.641277	1.349329	2.385538	2.787498	2.887787	2.634914	2.887498	2.887787	2.634914	0.648207	2.124297	1.287654	19.750658	119	20	429
gene76	NC_008261.1	99329	101248	+	protein_coding	CPF_R00465	CPF_0084		WP_003450928	3D-(3,5)-inositolphosphate dehydrogenase	**2.243611**	**1.777616**	**2.020617**	**2.014125**	1.431309	3892679	1.383181	5.038716	3.083176	1.383181	5.038716	3.083176	9.035474	2.214764	28.046824	367	86	1523
gene77	NC_008261.1	101324	102325	+	protein_coding	CPF_R00470	CPF_0085		WP_003450931	inositol 2-dehydrase	**-1.714078**	3.264638	**-1.627811**	3.623361	**2.008211**	5071584	4.569763	2.332543	5.628512	4.569763	2.332543	5.628512	17.973943	5.822970	41.991777	381	118	1190
gene78	NC_008261.1	102444	103337	+	protein_coding	CPF_R00475	CPF_0086		WP_003450953	myo-inositol 2-dehydrogenase	**-1.000000**	1.710405	**-1.730693**	2.421604	**2.008211**	5429176	4.943445	2.984099	3.382324	4.943445	2.984099	3.382324	20.294906	10.176785	5.069475	440	184	1357
gene79	NC_008261.1	103419	105008	+	protein_coding	CPF_R00480	CPF_0087		WP_003450474	solute/sodium symporter family protein	**-1.000000**	1.710405	**-1.730693**	2.050669	**2.008211**	3791141	2.425325	0.986459	4.263094	2.425325	0.986459	4.263094	6.451322	1.399412	15.677507	217	45	705
gene80	NC_008261.1	105096	106145	+	protein_coding	CPF_R00485	CPF_0088		WP_003450929	myo-inositol 2-dehydrogenase	**-1.000000**	1.710405	**-1.730693**	2.241188	**2.008211**	3851102	2.320241	0.479758	4.251159	2.320241	0.479758	4.251159	6.229326	0.677207	15.092625	227	46	624
gene81	NC_008261.1	106517	107275	+	protein_coding	CPF_R00490	CPF_0089		WP_003450947	formate/nitrite transporter family protein	-1.588804	1.330094	**-2.704790**	1.816912	1.759020	2070389	1.705350	1.037411	2.520124	1.705350	1.037411	2.520124	1.681543	1.498361	4.239207	27	23

gene279	NC_008261.1	326817	327867	protein_coding	CPF_RS01390	CPF_0270	-1.014335	0.549336	-1.185422	0.640137	1.148952	0.852213	0.556969	0.539165	0.760017	0.559869	0.539165	0.760017	0.350149	0.859279	0.576201	10	18	22							
gene281	NC_008261.1	328565	328855	protein_coding	CPF_RS01400	CPF_0273	-0.229361	0.405432	-0.692554	0.432276	-1.125218	0.447091	4.556903	4.258995	4.386699	4.556903	4.258995	4.386699	17.868406	27.896500	17.132121	110	163	141							
gene282	NC_008261.1	329048	330338	protein_coding	CPF_RS01405	CPF_0274	0.200011	10.039724	2.646852	9.890902	-1.214232	9.379124	9.532046	10.587548	9.240005	9.532046	10.587548	9.240005	659.888513	1709.632890	608.730899	18134	44914	22364							
gene283	NC_008261.1	330512	331282	protein_coding	CPF_RS01410	CPF_0275	-1.118786	0.402060	-1.335530	3.891543	-1.193732	3.814030	3.943906	4.105842	3.668429	3.943906	4.105842	3.668429	10.974500	24.755016	10.226700	179	386	223							
gene284	NC_008261.1	331293	332127	protein_coding	CPF_RS01415	CPF_0276	-1.388392	4.066877	-1.290040	4.005769	-1.078240	4.246356	4.229984	3.828271	4.193607	4.229984	3.828271	4.193607	12.242997	19.883308	14.888995	254	339	355							
gene285	NC_008261.1	332413	332652	protein_coding	CPF_RS01420	CPF_0277	-0.170006	12.175077	1.124450	12.203955	1.040514	12.090980	12.062345	12.288881	12.119642	12.062345	12.288881	12.119642	3684.306874	5736.342400	4187981958	18706	27843	28427							
gene286	NC_008261.1	332543	333942	protein_coding	CPF_RS01425	CPF_0278	**0.273009**	8.373109	1.971464	8.447965	1.182409	7.931848	8.351776	8.372505	7.831848	8.351776	8.372505	7.831848	8.351776	9.872509	189.789271	592.779924	242.436526	2409	7193	4114						
gene287	NC_008261.1	333978	334853	protein_coding	CPF_RS01430	CPF_0279	-1.230970	0.415563	-1.760615	0.546046	-1.415376	0.597283	2.535093	3.354394	2.751995	2.535093	3.354394	2.751995	60.706466	124677.9931	45.892466	1125	2386	1137							
gene288	NC_008261.1	334964	335986	protein_coding	CPF_RS01435	CPF_0280	1.690999	7.373281	**0.778200**	7.179164	-1.268935	6.819677	7.004074	7.761950	6.640135	7.004074	7.761950	6.640135	105.187788	268.079840	88.688239	2276	5505	2586							
gene289	NC_008261.1	336182	337013	protein_coding	CPF_RS01440	CPF_0281	0.268966	3.197103	0.914000	3.179157	0.024292	2.881293	3.246079	3.354371	3.135421	3.246079	3.354371	3.135421	5.492647	13.754217	5.145968	99	237	124							
gene290	NC_008261.1	337074	338060	protein_coding	CPF_RS01445	CPF_0282	**1.142425**	7.263560	1.829470	6.999187	-1.428326	6.907245	7.168141	7.360244	6.655842	7.168141	7.360244	6.655842	119.587911	212161.483	90024.424	2497	4235	2513							
gene291	NC_008261.1	338214	338558	protein_coding	CPF_RS01450	CPF_0283	-1.681141	1.419712	1.195599	1.159857	-1.858863	1.044338	1.582246	2.422800	1.507181	1.582246	2.422800	1.507181	1.146572	8.512422	11.8	5	9	7							
gene292	NC_008261.1	338634	339833	protein_coding	CPF_RS01455	CPF_0284	-1.068493	1.517205	1.066664	1.422267	-1.139721	1.470365	1.565093	1.469515	1.378410	1.565093	1.469515	1.378410	2628.845328	3382.552770	2580027890	66736	82091	87563							
gene293	NC_008261.1	340037	341744	protein_coding	CPF_RS01460	CPF_0285	-0.446245	**0.171198**	2.354647	**0.275189**	3.015572	0.277113	1.866807	2.692382	2.427739	1.866807	2.692382	2.427739	1.866807	4.578697	496	264	2580								
gene294	NC_008261.1	344115	344420	protein_coding	CPF_RS01465	CPF_0286	0.548665	2.522000	-1.584954	5.700456	**4.004409**	4.604740	3.820630	5.377908	6.042349	3.820630	5.377908	6.042349	10.041025	59.141174	56.681615	65	366	490							
gene295	NC_008261.1	344469	344870	protein_coding	CPF_RS01470	CPF_0287	**0.240009**	4.132867	-1.874611	5.154457	**-0.007940**	4.511988	3.817556	4.721125	5.627583	3.817556	4.721125	5.627583	8.466279	37.022925	41.954383	72	301	477							
gene296	NC_008261.1	344854	345336	protein_coding	CPF_RS01475	CPF_0288	-1.175494	5.855173	-1.164000	5.440728	-1.347134	5.409275	4.613743	5.409000	6.039172	4.613743	5.409000	6.039172	18.489346	60.719564	82.690090	587	1508	3508							
gene297	NC_008261.1	345917	346311	protein_coding	CPF_RS01480	CPF_0289	1.935669	4.780317	-1.871211	5.695502	**0.017016**	5.155640	4.327565	5.280415	6.142141	4.327565	5.280415	6.142141	14.483418	55.272857	61.308632	182	664	1030							
gene298	NC_008261.1	347127	347492	protein_coding	CPF_RS01485	CPF_0290	1.165533	7.842736	1.462529	7.684497	-1.201160	7.375882	7.772214	7.969397	7.412349	7.772214	7.969397	7.412349	172.350960	291.995332	168.240664	888	1435	1157							
gene299	NC_008261.1	347505	347858	protein_coding	CPF_RS01490	CPF_0291	-1.021892	7.837450	1.032603	7.829909	-1.010492	7.814319	7.821844	7.853087	7.808600	7.821844	7.853087	7.808600	187.477845	278.517298	219937790	1404	1994	2202							
gene300	NC_008261.1	348296	349120	protein_coding	CPF_RS01495	CPF_0292	-1.383210	7.379758	1.911644	7.289882	-1.387320	7.268863	7.237139	7.352204	6.928423	7.237139	7.352204	6.928423	1049.392262	1914888853	1724631104	18155	29645	19996							
gene301	NC_008261.1	349120	350064	protein_coding	CPF_RS01500	CPF_0293	-1.083002	10.483934	1.751283	10.128878	-1.015870	10.073941	10.426904	10.542145	9.733733	10.426904	10.542145	9.733733	17646.642612	167463.144	86365523	23523	32002	23083							
gene302	NC_008261.1	350291	351148	protein_coding	CPF_RS01505	CPF_0294	-1.385365	1.363968	1.401465	1.321022	1.159993	1.010421	2.029894	2.745673	2.032187	2.029894	2.745673	2.032187	2.444303	22.170730	683	424	538								
gene303	NC_008261.1	351354	352040	protein_coding	CPF_RS01510	CPF_0295	-1.762301	9.311228	**2.644198**	9.093637	-1.330186	8.703213	8.911462	9.728923	8.499835	8.911462	9.728923	8.499835	408.916939	940.767614	357695175	5943	13071	6950								
gene304	NC_008261.1	352030	352938	protein_coding	CPF_RS01515	CPF_0297	-1.442942	9.854316	1.811667	9.481609	-1.259695	9.225392	9.393432	9.922449	9.060035	9.393432	9.922449	9.060035	581.072862	1055.879376	527371627	11174	19411	13558							
gene305	NC_008261.1	353027	353413	protein_coding	CPF_RS01520	CPF_0298	-1.188264	1.341301	-1.380423	1.167752	-1.060594	1.085736	3.854639	3.399828	3.339328	3.854639	3.399828	3.339328	31.954116	84.715002	35.659985	870	2205	1298							
gene306	NC_008261.1	354336	355616	protein_coding	CPF_RS01525	CPF_0299	1.828499	4.831991	1.776131	4.654958	1.029485	4.237982	4.217075	5.087733	4.258995	4.217075	5.087733	4.258995	13.284325	47.747523	15.594982	360	1237	565							
gene307	NC_008261.1	355704	356180	protein_coding	CPF_RS01530	CPF_0300	0.445742	4.644442	**0.000000**	4.583289	1.000000	4.454382	4.724822	5.107041	4.724822	4.724822	5.107041	4.724822	10.020446	44.972785	20491166	878	1147	1147							
gene308	NC_008261.1	357949	358800	protein_coding	CPF_RS01535	CPF_0301	**0.250997**	7.888387	**0.140000**	7.582076	-1.146836	7.097538	7.197054	8.213269	6.999395	7.197054	8.213269	6.999395	121.781421	348.790910	117195278	2195	6010	2824							
gene309	NC_008261.1	358936	359761	protein_coding	CPF_RS01540	CPF_0302	**-0.224499**	3.188769	**-0.814775**	3.008676	-1.188904	2.845436	6.713831	6.192117	6.975546	6.713831	6.192117	6.975546	83.145813	50.739938	115618973	3277	745	2374							
gene310	NC_008261.1	359754	361352	protein_coding	CPF_RS01545	CPF_0303	**-0.250010**	4.273297	**-0.606406**	4.489967	1.415723	5.068123	4.823553	3.785813	5.325092	4.823553	3.785813	5.325092	23.639575	19.326884	34318498	732	625	1552							
gene311	NC_008261.1	361573	362577	protein_coding	CPF_RS01550	CPF_0304	**-0.250004**	4.763008	**-0.090097**	4.979849	1.418100	5.322604	5.578274	4.078809	6.080223	5.578274	4.078809	6.080223	36.922335	24.403150	58.437091	785	496	1661							
gene312	NC_008261.1	362736	364001	protein_coding	CPF_RS01555	CPF_0305	-1.281477	4.353225	-1.837958	4.151138	1.278176	3.259595	3.585494	4.727687	3.583853	3.585494	4.727687	3.583853	5.205283	17.352809	37006006	855	1883	1583							
gene313	NC_008261.1	364316	365002	protein_coding	CPF_RS01560	CPF_0306	**-0.425241**	5.860452	**-0.700747**	5.981250	1.193305	6.247808	6.121621	5.610421	6.376589	6.121621	5.610421	6.376589	53.806671	70534.180	72727774	782	980	1413							
gene314	NC_008261.1	365240	366152	protein_coding	CPF_RS01565	CPF_0307	**-0.750370**	7.174550	**-1.367000**	7.000000	1.004000	7.000000	7.000000	7.000000	7.000000	7.000000	7.000000	7.000000	1262.103	24.999000	1262.103	796	389	1043							
gene315	NC_008261.1	366858	367646	protein_coding	CPF_RS01570	CPF_0308	**-0.708377**	2.364334	**-0.730018**	2.010624	1.121094	4.769521	4.687788	1.874507	4.826487	4.687788	1.874507	4.826487	19.941011	3.885463	23371575	327	62	535							
gene316	NC_008261.1	367959	368852	protein_coding	CPF_RS01575	CPF_0309	**-0.708377**	2.364334	**-0.730018**	2.010624	1.121094	3.965447	4.450007	4.904355	2.944411	4.450007	4.904355	2.944411	19.941011	2.254135	23371575	327	512	921							
gene317	NC_008261.1	368854	370254	protein_coding	CPF_RS01580	CPF_0310	**-0.800025**	4.083894	**-0.730018**	4.037008	-1.095605	5.705088	5.771332	2.888619	5.639604	5.771332	2.888619	5.639604	41.669178	9.352722	42.345878	1235	265	1678							
gene318	NC_008261.1	370338	370736	protein_coding	CPF_RS01585	CPF_0311	**-0.444444**	2.320001	**-0.730018**	2.320001	1.104331	5.667357	5.722271	6.131961	5.566011	5.722271	6.131961	5.566011	7.586111	12.846605	59.511422	10.344494	1498	803	2089							
gene319	NC_008261.1	371104	371613	protein_coding	CPF_RS01590	CPF_0312	-1.672136	6.604521	-1.534076	6.045829	-1.089432	6.424272	6.486357	5.744665	6.326761	6.486357	5.744665	6.326761	70.441651	77.756101	72.171473	760	802	1041							
gene320	NC_008261.1	371637	372149	protein_coding	CPF_RS01595	CPF_0313	-1.565851	6.547052	-1.367230	6.453249	-1.145272	6.779985	6.878511	6.231564	6.682820	6.878511	6.231564	6.682820	94.355821	104.964102	92012942	1024	1069	1335							
gene321	NC_008261.1	372276	372856	protein_coding	CPF_RS01600	CPF_0314	-1.322462	4.217189	-1.499002	4.232933	-1.122698	4.388642	4.479438	4.084868	4.299698	4.479438	4.084868	4.299698	10.026066	16.625164	41.918702	1034	134	323	173						
gene322	NC_008261.1	372975	373949	protein_coding	CPF_RS01605	CPF_0315	-1.229150	3.268344	-1.112244	3.342281	-1.061416	3.193541	3.122900	3.325045	3.265792	3.122900	3.325045	3.265792	5.882496	14.904130	7.542394	84	198	144							
gene323	NC_008261.1	373942	374463	protein_coding	CPF_RS01610	CPF_0316	-1.608230	2.325607	**-1.121689**	2.179479	-1.121689	2.374078	2.891791	2.206114	2.317247	2.891791	2.206114	2.317247	4.922906	5.229525	17565595	65	66	310							
gene324	NC_008261.1	374562	377219	protein_coding	CPF_RS01615	CPF_0317	**-0.817938**	4.451021	**-0.183898**	4.978829	**0.008048**	5.343485	5.669855	3.494198	7.097115	5.669855	3.494198	7.097115	39.911543	15.682052	125.734295	2188	843	9452							
gene325	NC_008261.1	377156	378556	protein_coding	CPF_RS01620	CPF_0318	-1.002266	7.335008	1.339000	7.145548	-1.000000	7.149439	7.259029	7.375889	7.125899	7.259029	7.375889	7.125899	173.005977	262.908171	139854446	2940	4659	3164							
gene326	NC_008261.1	378116	379868	protein_coding	CPF_RS01625	CPF_0319	**0.093479**	8.081625	**0.178897**	**0.764496**	1.583353	3.395340	3.601723	3.054891	3.200786	3.601723	3.054891	3.200786	8.414965	622349298	7219652	102	7219	117							
gene327	NC_008261.1	380174	381106	protein_coding	CPF_RS01630	CPF_0320	-1.166059	3.235208	-1.225333	3.284270	-1.078583	2.881589	2.602409	2.451124	2.933251	2.602409	2.451124	2.933251	1.519037	35.583000	5.519334	39	862	21							
gene328	NC_008261.1	381297	382679	protein_coding	CPF_RS01635	CPF_0321	-1.171351	4.688718	-1.485063	4.850901	-1.267821	4.970422	4.802193	4.574020	5.144544	4.802193	4.574020	5.144544	21.157024	33.321459	30270147	719	932	1							
gene329	NC_008261.1	383008	384312	protein_coding	CPF_RS01640	CPF_0322	**0.460108**	1.778690	**0.870000**	1.795550	1.002488	1.295789	1.239328	2.530035	1.274298	1.239328	2.530035	1.274298	10.142023	6.820124	1.246328	28	180	46							
gene330	NC_008261.1	384484	385390	protein_coding	CPF_RS01645	CPF_0323	-1.016454	6.247464	-1.902104	6.015828	-1.102508	6.420179	6.231564	6.257992	6.272585	6.231564	6.257992	6.272585	53.592097	108.764679	72678865	1947	2891	2491							
gene331	NC_008261.1	385985	387334	protein_coding	CPF_RS01650	CPF_0324	-1.154173	5.888991	-1.298022	5.765992	-1.124633	5.875476	5.791382	5.584500	5.960817	5.791382	5.584500	5.960817	41.877787	69.041126	53560492	1196	1885	2045							
gene332	NC_008261.1	387342	388229	protein_coding	CPF_RS01655	CPF_0325	-1.144544	4.882599	-1.487299	4.811000	-1.000000	5.036197	5.060357	5.102467	5.010046	5.060357	5.102467	5.010046	47.749340	250222.5000	177493340	5882	11223	7423							
gene333	NC_008261.1	389547	390003	protein_coding	CPF_RS01660	CPF_0326	-1.241624	3.154955	-1.432946	3.251857	1.154091	3.481746	3.314390	3.002701	3.521683	3.314390	3.002701	3.521683	6.837607	10.262356	9.043290	69	99	122							
gene334	NC_008261.1	390072	392246	protein_coding	CPF_RS01665	CPF_0327	-1.250732	4.854468	-1.183151	4.435601	-1.127755	4.622375	4.698398	4.209955	4.899931	4.698398	4.209955	4.899931	12.214142	23.434045	13.237354	662	1031	974							
gene335	NC_008261.1	392477	393274	protein_coding	CPF_RS01670	CPF_0329	-1.069087	0.597687	-1.306471	0.718859	1.222004	0.779151	0.847816	0.551437	0.937112	0.847816	0.551437	0.937112	0.414650	0.881585	0.797544	7	11	18							
gene336	NC_008261.1	393400	394851	protein_coding	CPF_RS01675	CPF_0330	-1.140380	1.882587	-1.260125	1.344461	-1.099921	1.458275	1.528117	1.125197	1.391630	1.528117	1.125197	1.391630	4.285163	3.391351	1.406551	44	100	58							
gene337	NC_008261.1	395023	395911	protein_coding	CPF_RS01680	CPF_0331	-1.087123	1.139379	-1.272754	1.054684	-1.113966	1.159787	1.455350	1.330039	1.504584	1.455350	1.330039	1.504584	1.227582	2.215620	1.932892	21	31	28							
gene338	NC_008261.1	395917	396303	protein_coding	CPF_RS01685	CPF_0332	-1.517640	4.583151	-1.806670	4.725815	1.229206	5.048272	4.893934	4.292106	5.203351	4.893934	4.292106	5.203351	22.598786	28.384314	31.520503	185	222	345							
gene339	NC_008261.1	396319	396792	protein_coding	CPF_RS01690	CPF_0333	-1.705370	2.000000	-1.705370	2.000000	1.000000	1.948439	2.000000	2.000000	2.000000	2.000000	2.000000	2.000000	1.948439	2.000000	1.948439	0	0	0							
gene340	NC_008261.1	396913	396997	protein_coding	CPF_RS01695	CPF_0334	-1.093479	0.081625	-1.278877	0.078413	-1.169549	0.827652	0.750171	0.879649	0.524576	0.750171	0.879649	0.524576	0.497580	1.214461	0.372187	3	7	3							
gene341	NC_008261.1	397008	397377	protein_coding	CPF_RS01700	CPF_0335	-1.166059	3.235208	-1.225333	3.284270	-1.078583	2.881589	2.602409	2.451124	2.933251	2.602409	2.451124	2.933251	1.519037	35.583000	5.519334	39	862	21							
gene342	NC_008261.1	397452	398123	protein_coding	CPF_RS01705	CPF_0336	-1.045044	2.833805	-1.120052	2.524107	-1.170504	2.554691	2.670779	2.607215	2.443649	2.670779	2.607215	2.443649	4.009514	7.358021	3.998797	57	100	76							
gene343	NC_008261.1	398968	401887	protein_coding	CPF_RS01710	CPF_0337	-1.000000	5.884353	-1.470665	5.404627	-1.404657	5.648332	5.386812	5.442511	5.386812	5.386812	5.442511	5.386812	48.611884	85.638692	75.204977	1268	1667	1884							
gene344	NC_008261.1	402227	402655	protein_coding	CPF_RS01715	CPF_0338	-1.223637	0.988618	1.313020	0.934726	-1.073003	6.791701	6.847113	7.153353	6.741064	6.847113	7.153353	6.741064	92.004774	183575.0006	95313084	847	1615	1180							
gene345	NC_008261.1	402669	403896	protein_coding	CPF_RS01720	CPF_0339	-1.453948	6.059611	-1.235749	6.180103	-1.178572	5.911787	5.795635	6.335611	6.030225	5.795635	6.335611	6.030225	42.191711	111.875373	56342482	1098	2778	1980							
gene346	NC_008261.1	403899	405362	protein_coding	CPF_RS01725	CPF_0340	-1.470014	6.702222	-1.470014	7.679812	-1.765868	8.310997	7.744594	8.310997	7.744594	7.744594	8.310997	7.744594	1.767868	36312.7522	1.767868	4672	10755	9798							
gene347	NC_008261.1	405519	407381	protein_coding	CPF_RS01730	CPF_0341	-1.167381	1.531480	1.541680	1.549582	-1.268322	1.585493	1.529455	1.258386	1.559060	1.529455	1.258386	1.559060	25.183136	14.358346	54594855	49724846	1384	2057	2620						
gene348	NC_008261.1	407530	408444	protein_coding	CPF_RS01735	CPF_0342	-1.187427	4.905020	-1.340405	4.579729	-1.252179	4.522448	4.642246	4.369499	4.567090	4.642246	4.369499	4.567090	10.576319	14.861932	12431371	979	2751	1876							
gene349	NC_008261.1	408684	409568	protein_coding	CPF_RS01740	CPF_0343	-1.555056	6.376623	-1.690733	6.433769	1.087246	6.763126	6.703055	6.066088	6.823736	6.703055	6.066088	6.823736	82.255237	96.321729	102437687	1540	1724	2564							
gene350	NC_008261.1	410913	411843	protein_coding	CPF_RS01745	CPF_0344	-1.000000	3.152377	-1.190330	3.086669	0.824219	2.575992	2.595824	2.981412	2.529733	2.595824	2.981412	2.529733	5.899826	6.391147	60.089398	1225	1774	1998							
gene351	NC_008261.1	412875	412941	protein_coding	CPF_RS01750	CPF_0345	-1.284275	1.272007	1.029324	1.444223	2.147851	1.753778	1.104269	1.465224	1.423232	1.104269	1.465224	1.423232	0.811713	2.583690	1.485227	10	29	23							
gene352	NC_008261.1	413991	414241	protein_coding	CPF_RS01755	CPF_0346	-1.649318	0.554988	1.254959	0.663734	1.158602	0.804263	1.133009	0.929953	1.122844	1.133009	0.929953	1.122844	5.994475	13.623023	6.000000	2988	2517	4820							
gene353	NC_008261.1	414446	415225	protein_coding	CPF_RS01760	CPF_0347	-1.118708	3.788903	-1.151578	3.971185	2.288279	3.887281	3.700851	3.870684	4.074298	3.700851	3.870684	4.074298	9.150998	20.539066	13.463155	151	324	297							
gene354	NC_008261.1	416374	419333	protein_coding	CPF_RS01765	CPF_0350	**0.207008**	9.224415	**0.040000**	9.090673	-1.206209	8.363441	8.499835	10.054229	8.229229	8.499835	10.054229	8.229229	306.122946	1149888666	297373679	6217	22321	8074							
gene355	NC_008261.1	419427	419630	protein_coding	CPF_RS01770	CPF_0351	-1.730936	10.343628	-1.115131	10.061166	-1.085115	9.928432	9.982427	10.750829	9.995117	9.982427	10.750829	9.995117	884.159902	2064014.120	1001249785	25867	39758	29758							
gene356	NC_008261.1	421410	421766	protein_coding	CPF_RS01775	CPF_0352	-1.766300	3.841743	-1.712853	3.667374	0.033271	3.276601	3.253701	4.076084	3.299662	3.253701	4.076084	3.299662	6.488047	24.376690	7.125230	49	176	78							
gene357	NC_008261.1	422075	422472	protein_coding	CPF_RS01780	CPF_0353	-1.035483	3.129492	-1.179152	3.142497	-1.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	4.092419	3.000000	4.092419	194	194	258							
gene358	NC_008261.1	422460	423149	protein_coding	CPF_RS01785	CPF_0354	-1.695735	4.933658	1.996556	4.809737	-1.117399	4.455011	4.572374	5.334208	4.337671	4.572374	5.334208	4.337671	18.000244	57.364969	16550941	585	1782	719							
gene359	NC_008261.1	423121	423713	protein_coding	CPF_RS01790	CPF_0355	-1.169267	2.423836	-1.396273	2.411879	-1.109179	2.117519	2.276707	2.110173	2.447009	2.276707	2.110173	2.447009	4.133342	7.009035	4.0	26	265	135							
gene360	NC_008261.1	423665	424842	protein_coding	CPF_RS01795	CPF_0356	**0.207008**	4.364564	**0.000000**	4.444459	-1.024129	4.369467	4.336699	5.392268	4.352302	4.336699	5.392268	4.352302	15.307481	59.927852	16593345	643	1658	642							
gene361	NC_008261.1	425346	431828	protein_coding	CPF_RS01800	CPF_0357	-1.555895	3.078039	1.556081	3.065349	2.776220	2.773479	3.291966	2.780027	2.772375	3.291966	2.780027	2.772375	3.411998	7.280017	4.395887	5.291127	231	727	372						
gene362	NC_008261.1	426472	434523	protein_coding	CPF_RS01805	CPF_0358	-1.000000	3.000000	-1.000000	3.000000	-1.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	1.757879	3.000000	1.757879	0	0	0							
gene363	NC_008261.1	434536	437700	protein_coding	CPF_RS01810	CPF_0359	**0.081091**	3.870364	**0.080000**	3.746161	-1.139660	2.890674	2.986514	3.015787	2.797919	2.986514	3.015787	2.797919	5.242272	45.040293	5.384661	351	2883	482							
gene364	NC_008261.1	438159	438710	protein_coding	CPF_RS01815	CPF_0360	-1.000000	4.000000	-1.000000	4.000000	-1.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	2.000000	27.350000	2.000000	478	423	427							
gene365	NC_008261.1	438829	439407	protein_coding	CPF_RS01820	CPF_0361	-1.356671	4.341287	-1.376008	4.351857	1.015551	4.579134	4.568010	4.125814	4.590283	4.568010	4.125814	4.590283	17.992988	24.936447	19907836	220	292	326							
gene366	NC_008261.1	439758	441944	protein_coding	CPF_RS01825	CPF_0362	**0.145045**	4.241355	**0.040000**	4.050329	-1.091089	4.004095	4.097265	3.972389	4.127484	4.097265	3.972389	4.127484	10.047437	57.163208	10.024000	2965	2674	3542							
gene367	NC_008261.1	441948	443861	protein_coding	CPF_RS01830	CPF_0363	-1.826977	4.280046	-1.690197	4.229021	-1.080923	4.680326	4.736796	3.867338	4.624529	4.736796	3.867338	4.624529	20.145658	20.502654	20.288923	739	719	995							
gene368	NC_008261.1	443864	445157	protein_coding	CPF_RS01835	CPF_0364	-1.000000	3.000000	-1.000000	3.000000	-1.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	4.997440	27.817170	3.229395	2723	2239	1375							
gene369	NC_008261.1	445157	445296	protein_coding	CPF_RS01840	CPF_0365	-1.082961	0.645000	**0.000000**	0.542642	**-0.000000**	0.575568	0.398761	0.615171	0.398767	0.615174	0.415971	0.671701	0.398767	0.615174	0.415971	67.291707	126279.126	18875287	568	1019	213				
gene370	NC_008261.1	446200	447226	protein_coding	CPF_RS01860	CPF_0369	1.130834	0.388

gene545	NC_000261.1	647019	647726	protein_coding	CPF_RS0710	CPF_0543	protein_coding	CPF_RS0710	CPF_0543	WP_003471485.trehalose opene	1.199968	3.877789	1.602478	3.454720	-1.325434	3.333403	3.548582	3.811578	3.131273	3.548582	3.811578	3.131273	8.011874	19.894553	6.841831	120	282	137
gene546	NC_000261.1	648176	650362	protein_coding	CPF_RS0711	CPF_0544	protein_coding	CPF_RS0711	CPF_0544	WP_003471431.stage V sporulat	-1.616466	1.149172	-1.541959	1.123598	-1.048320	1.512251	1.546673	0.853830	1.478594	1.546673	0.853830	1.478594	1.446145	1.175668	1.535889	67	52	95
gene547	NC_000261.1	650309	651073	protein_coding	CPF_RS0712	CPF_0545	protein_coding	CPF_RS0712	CPF_0545	WP_003471344.N-acetylmuram	-0.517377	3.785995	-2.287592	3.856653	1.116692	4.407313	4.329799	3.314930	4.467254	4.329799	3.314930	4.467254	14.484645	13.229919	18.445241	205	179	349
gene548	NC_000261.1	651951	653048	protein_coding	CPF_RS0713	CPF_0546	protein_coding	CPF_RS0713	CPF_0546	WP_003471179.bifunctional dim	**0.990090**	2.584470	**0.604040**	1.968497	-1.719291	1.418280	1.882656	3.587156	1.080237	1.882656	3.587156	1.080237	1.983048	16.797195	0.998262	46	373	31
gene549	NC_000261.1	653970	653723	protein_coding	CPF_RS0714	CPF_0547	protein_coding	CPF_RS0714	CPF_0547	WP_003471205.riboflavin synthe	**0.990090**	3.096188	**1.020807**	2.098772	**-1.027608**	1.374104	2.322241	1.120696	1.066997	2.322241	1.120696	1.066997	2.963413	24.949709	0.973193	41	330	18
gene550	NC_000261.1	653875	655074	protein_coding	CPF_RS0715	CPF_0548	protein_coding	CPF_RS0715	CPF_0548	WP_011590250.bifunctional 3,4'-	**4.108800**	3.456209	**0.007046**	2.744688	-1.933208	2.044701	2.574761	4.639413	1.623764	2.574761	4.639413	1.623764	3.820996	34.900364	1.826819	97	847	62
gene551	NC_000261.1	655021	655862	protein_coding	CPF_RS0716	CPF_0549	protein_coding	CPF_RS0716	CPF_0549	WP_003471176.6,7-dimethyl-8-	**0.990090**	4.491205	**10.000070**	3.923250	-1.932913	2.170687	3.374862	3.533221	2.300725	3.374862	3.533221	2.300725	6.139988	112.464070	3.597004	60	1051	47
gene552	NC_000261.1	655789	656791	protein_coding	CPF_RS0717	CPF_0550	protein_coding	CPF_RS0717	CPF_0550	WP_011590251.cell wall-binding	-1.315260	1.619203	-1.316207	1.153513	-1.133166	1.110124	2.200875	4.419925	2.020141	2.200875	4.419925	2.020141	1.260038	12.311995	1.158093	119.024205	2561	2381	2341
gene553	NC_000261.1	656885	657292	protein_coding	CPF_RS0718	CPF_0551	protein_coding	CPF_RS0718	CPF_0551	WP_003471667.hypothetical pro	-1.805123	5.007324	-1.852861	5.024518	1.028335	5.470184	5.451465	4.599388	5.488967	5.451465	4.599388	5.488967	33.998814	34.297033	38.217803	290	283	441
gene554	NC_000261.1	657294	657939	protein_coding	CPF_RS0719	CPF_0552	protein_coding	CPF_RS0719	CPF_0552	WP_003471734.hypothetical pro	-1.319240	1.110460	-1.334120	10.205224	-1.034195	2.242238	10.081803	0.407470	10.260338	10.081803	0.407470	10.260338	10.485175	1005.473316	11.070039	1415.350275	8457	5629	9967
gene555	NC_000261.1	658230	660434	protein_coding	CPF_RS0720	CPF_0553	protein_coding	CPF_RS0720	CPF_0553	WP_011590252.1,3-beta-galact	**-2.584094**	2.739377	**-10.810947**	3.947649	1.684921	4.189421	1.793011	5.160929	4.184921	1.793011	5.160929	4.184921	1.793011	5.160929	13.021864	3387911	3035305	607	160	1908
gene556	NC_000261.1	660668	663370	protein_coding	CPF_RS0721	CPF_0554	protein_coding	CPF_RS0721	CPF_0554	WP_011590253.sulfatase-modifyi	-1.994533	2.127907	-2.000000	2.379229	-1.002335	2.131729	2.531866	2.522294	1.751382	2.531866	2.522294	1.751382	6.801633	9.021078	7.551382	41	241	447
gene557	NC_000261.1	662383	663972	protein_coding	CPF_RS0722	CPF_0555	protein_coding	CPF_RS0722	CPF_0555	WP_011590254.DNA-binding rec	**-1.708828**	1.891817	**-1.708828**	1.891817	1.000000	2.740240	2.740240	1.306032	2.740240	2.740240	1.306032	2.740240	4.251332	2.145765	5.181361	143	69	233
gene558	NC_000261.1	663425	664105	protein_coding	CPF_RS0723	CPF_0556	protein_coding	CPF_RS0723	CPF_0556	WP_011590255.class-specific ad	-1.424965	1.011227	-1.424965	1.011227	1.000000	1.622153	1.622153	3.229206	1.622153	1.622153	3.229206	1.622153	3.385127	2.324991	3.429245	24	360	258
gene559	NC_000261.1	665589	666515	protein_coding	CPF_RS0724	CPF_0557	protein_coding	CPF_RS0724	CPF_0557	WP_011590256.sugar ABC transp	**-7.109108**	3.060182	**-11.524337**	3.328159	1.839653	5.219403	4.799146	1.951329	5.876461	4.799146	1.951329	5.876461	21.108898	4.107157	43.596489	414	77	1143
gene560	NC_000261.1	666517	667398	protein_coding	CPF_RS0725	CPF_0558	protein_coding	CPF_RS0725	CPF_0558	WP_003449931.carbohydrate AC	**-4.469099**	3.254965	**-14.260444**	3.512732	1.768853	5.551951	5.145544	2.059429	5.591621	5.145544	2.059429	5.591621	28.836201	4.540930	54.840642	497	81	1368
gene561	NC_000261.1	667934	668329	protein_coding	CPF_RS0726	CPF_0559	protein_coding	CPF_RS0726	CPF_0559	WP_003450602.TVFXG_TMEMB	-1.203024	3.018385	-1.203024	3.018385	1.000000	2.615646	2.880077	2.443447	2.622242	2.880077	2.443447	2.622242	3.011275	15.418322	4.622930	57	217	91
gene562	NC_000261.1	668915	669431	protein_coding	CPF_RS0727	CPF_0560	protein_coding	CPF_RS0727	CPF_0560	WP_003471256.(Fe-S)-binding p	1.928171	2.822792	1.941303	2.822792	-1.019299	3.144724	2.187700	2.197499	3.144732	2.187700	2.63193	3.144732	2.187700	2.63193	11.461853	3.240336	62	258	102
gene563	NC_000261.1	669595	669431	protein_coding	CPF_RS0728	CPF_0561	protein_coding	CPF_RS0728	CPF_0561	WP_003471789.CDP-ribitol ribo	1.192463	2.185147	1.192463	2.185147	1.000000	2.824377	1.884137	1.842421	1.884137	1.884137	1.842421	1.884137	1.929328	7.513975	2.565588	24	87	43
gene564	NC_000261.1	670467	671099	protein_coding	CPF_RS0729	CPF_0562	protein_coding	CPF_RS0729	CPF_0562	WP_003450071.DUF47 domain-	**2.271194**	4.948091	**2.078016**	4.945524	-1.003051	4.243227	4.245429	5.767050	4.241026	4.245429	5.767050	4.241026	13.516398	78.972835	15.528378	181	1011	278
gene565	NC_000261.1	671092	672950	protein_coding	CPF_RS0730	CPF_0563	protein_coding	CPF_RS0730	CPF_0563	WP_003450180.cysteine desulfur	**-2.009007**	4.687188	**-2.009007**	4.687188	1.000000	5.225214	4.225617	2.652416	2.994164	4.225617	2.652416	2.994164	37.579993	173.332672	32.880265	1004	3502	929
gene566	NC_000261.1	672372	674264	protein_coding	CPF_RS0731	CPF_0564	protein_coding	CPF_RS0731	CPF_0564	WP_003450257.PTS fructose-lic	**-2.009007**	3.464877	**-2.009007**	3.464877	1.000000	5.122772	4.046260	4.130656	2.906400	3.956932	4.130656	2.906400	3.963592	12.610042	9.481702	12.420985	505	363	665
gene567	NC_000261.1	674268	675188	protein_coding	CPF_RS0732	CPF_0565	protein_coding	CPF_RS0732	CPF_0565	WP_003450344.DUF1460 family	**-0.004844**	2.445349	**-0.004844**	2.445349	-1.000000	2.981340	3.006563	2.000120	3.006563	2.981340	2.000120	3.006563	5.337700	4.234975	5.758596	104	80	150
gene568	NC_000261.1	675188	675934	protein_coding	CPF_RS0733	CPF_0566	protein_coding	CPF_RS0733	CPF_0566	WP_003450612.DsrR/CglR trans	**-0.004844**	2.144150	**-0.078096**	2.083586	-1.132613	3.134620	3.225734	1.425219	3.046079	3.225734	1.425219	3.046079	6.391266	2.449128	6.484627	107	11	97
gene569	NC_000261.1	675959	676837	protein_coding	CPF_RS0734	CPF_0567	protein_coding	CPF_RS0734	CPF_0567	WP_011590259.hypothetical pro	**-1.237482**	0.321452	**-1.194892**	0.305110	-0.025652	0.484084	0.510013	0.202608	0.459474	0.510013	0.202608	0.459474	0.313047	0.218304	0.312120	3	2	4
gene570	NC_000261.1	676728	677828	protein_coding	CPF_RS0735	CPF_0568	protein_coding	CPF_RS0735	CPF_0568	WP_011590260.Ar-26 ABC subfa	**2.549137**	4.174851	**2.549137**	4.174851	-1.313166	3.681486	4.188828	5.221721	3.349440	4.188828	5.221721	3.349440	13.051855	53.128519	9.505816	304	1183	296
gene571	NC_000261.1	678088	678745	protein_coding	CPF_RS0736	CPF_0569	protein_coding	CPF_RS0736	CPF_0569	WP_041702615.cysteine hydrola	-1.052989	5.891148	1.021485	5.638662	-1.075524	5.675684	5.728515	5.654024	5.623341	5.728515	5.654024	5.623341	40.537653	72.895243	41.840042	566	973	781
gene572	NC_000261.1	679172	680436	protein_coding	CPF_RS0737	CPF_0570	protein_coding	CPF_RS0737	CPF_0570	WP_003471344.N-acetylmuram	1.908515	2.135377	1.908515	2.135377	1.000000	3.115338	3.115338	0.784248	3.115338	3.115338	0.784248	3.115338	0.935328	1.091272	0.907755	29	29	30
gene573	NC_000261.1	680740	681663	protein_coding	CPF_RS0738	CPF_0571	protein_coding	CPF_RS0738	CPF_0571	WP_011590262.glutamine -N-acety	**-10.900091**	8.225424	**-7.900009**	8.068370	-1.302835	9.892146	10.084703	6.708933	9.703270	10.084703	6.708933	9.703270	949.289114	142.611820	845.755085	18556	2665	22102
gene574	NC_000261.1	681964	682868	protein_coding	CPF_RS0739	CPF_0572	protein_coding	CPF_RS0739	CPF_0572	WP_003450305.Mg2+/Co2+ Sulfa	1.007433	1.192002	1.007433	1.192002	-1.000000	1.293235	1.293235	1.293235	1.293235	1.293235	1.293235	1.293235	1.929966	0.930326	1.929966	106	149	127
gene576	NC_000261.1	684644	687755	rRNA	CPF_RS0742	CPF_0574	rRNA	CPF_RS0742	CPF_0574	23S ribosomal R	-1.337470	0.357257	-1.370554	0.367210	0.024736	0.641419	0.624035	0.204528	0.659287	0.624035	0.204528	0.659287	0.389588	0.220741	0.485684	24	13	40
gene579	NC_000261.1	688429	689921	protein_coding	CPF_RS0744	CPF_0576	protein_coding	CPF_RS0744	CPF_0576	WP_003450325.DNA-binding rec	-1.305549	5.693594	1.011628	5.498566	-1.320700	5.667383	5.891565	5.500611	5.490232	5.891565	5.500611	5.490232	44.669855	65.140010	38.265998	654	913	750
gene580	NC_000261.1	689835	690674	protein_coding	CPF_RS0745	CPF_0577	protein_coding	CPF_RS0745	CPF_0577	WP_003450400.NUDIX domain-	-1.295828	2.833237	-1.295828	2.833237	-1.000000	2.691127	2.681342	2.880486	2.446584	2.681342	2.880486	2.446584	8.034764	33.025270	12.232818	82.108627	1017	1336	1254
gene581	NC_000261.1	690485	691780	protein_coding	CPF_RS0746	CPF_0578	protein_coding	CPF_RS0746	CPF_0578	WP_003450206.diaminopimelate-	1.729619	5.717244	1.729243	5.941326	1.030565	5.544487	5.331172	6.121627	5.766335	5.331172	6.121627	5.766335	30.601525	99.197020	46.378807	839	2600	1700
gene582	NC_000261.1	692237	692455	protein_coding	CPF_RS0747	CPF_0579	protein_coding	CPF_RS0747	CPF_0579	WP_003450005.DUF3006 domai	1.000000	4.115959	1.000000	4.115959	1.000000	4.400462	5.350064	6.724679	5.350597	5.350064	6.724679	5.350597	8.238355	8.403399	10.392580	3912	8932	1231
gene583	NC_000261.1	692458	692988	protein_coding	CPF_RS0748	CPF_0580	protein_coding	CPF_RS0748	CPF_0580	WP_003450206.signal peptidase	1.230760	2.837010	1.185188	2.785053	1.030865	7.501930	7.475936	7.774041	7.528927	7.475936	7.774041	7.528927	142.255289	266.411898	177.787718	1598	2861	2670
gene584	NC_000261.1	693013	693166	protein_coding	CPF_RS0749	CPF_0581	protein_coding	CPF_RS0749	CPF_0581	WP_003450624.ATP-dependent	-1.197250	1.842031	-1.197250	1.842031	1.000000	2.341312	2.341312	1.881088	2.341312	2.341312	1.881088	2.341312	1.929966	0.930326	1.929966	1183	2130	1725
gene585	NC_000261.1	693386	697506	protein_coding	CPF_RS0750	CPF_0582	protein_coding	CPF_RS0750	CPF_0582	WP_011590264.ATP-dependent	-1.381806	4.964596	-1.887465	5.167734	1.351467	5.418258	5.200351	4.736796	5.637877	5.200351	4.736796	5.637877	27.724634	37.859567	42.242631	1244	1824	2534
gene586	NC_000261.1	697862	698768	protein_coding	CPF_RS0751	CPF_0583	protein_coding	CPF_RS0751	CPF_0583	WP_011590265.amino acid ABC	-1.004999	7.344320	-1.972908	7.312035	1.020855	7.754028	7.814959	7.594976	7.894780	7.814959	7.594976	7.894780	61.145869	89.940029	46234546	3215	4908	10945
gene587	NC_000261.1	698829	699500	protein_coding	CPF_RS0752	CPF_0584	protein_coding	CPF_RS0752	CPF_0584	WP_011590267.amino acid ABC	-1.456411	8.340054	**-2.625811**	8.021080	1.861870	8.076252	9.652776	8.616870	9.076252	9.652776	8.616870	9.076252	9.652776	328.800547	31836373	81.196620	4675	4306	15432
gene588	NC_000261.1	699497	700219	protein_coding	CPF_RS0753	CPF_0585	protein_coding	CPF_RS0753	CPF_0585	gnG	-1.451640	9.222180	**-4.901998**	9.181032	**2.027408**	10.070320	9.494939	8.957259	10.680568	9.494939	8.957259	10.680568	845.631803	593.829322	1672.183459	9675	8883	34193
gene589	NC_000261.1	700457	702245	protein_coding	CPF_RS0754	CPF_0586	protein_coding	CPF_RS0754	CPF_0586	WP_003450224.L-Ala synthase fo	1.300000	6.604403	1.300000	6.604403	-1.000356	6.353695	6.413040	6.480466	6.294884	6.413040	6.480466	6.294884	67.991533	149.176363	68.389955	2502	5465	3499
gene590	NC_000261.1	702497	703461	protein_coding	CPF_RS0755	CPF_0587	protein_coding	CPF_RS0755	CPF_0587	WP_011590268.LTA synthase fo	1.741846	7.227928	1.741846	7.102488	-1.192970	7.506967	7.835320	7.980786	7.635320	7.835320	7.980786	7.635320	834.701	1580.765	152.525689	158.180568	6269	5895	8254
gene591	NC_000261.1	704443	705824	protein_coding	CPF_RS0756	CPF_0588	protein_coding	CPF_RS0756	CPF_0588	WP_011590269.sulfate ABC trans	**2.235000**	5.501750	**2.235000**	5.544649	1.045979	4.994259	4.953771	4.110999	4.953771	4.994259	4.953771	4.110999	23.475065	58.162042	28.028789	587	2561	937
gene592	NC_000261.1	705867	707528	protein_coding	CPF_RS0757	CPF_0589	protein_coding	CPF_RS0757	CPF_0589	WP_011590270.enterotoxin	-1.610587	4.809029	-1.214721	4.697421	-1.325931	5.039203	5.246791	4.559204	4.839829	5.246791	4.559204	4.839829	28.555436	32.904431	23.827146	1004	1106	1120
gene593	NC_000261.1	707529	708165	protein_coding	CPF_RS0758	CPF_0590	protein_coding	CPF_RS0758	CPF_0590	WP_011590271.M18 family amin	-1.115172	4.415999	-1.195412	4.235699	1.054473	5.541953	5.318908	4.122659	5.390358	5.318908	4.122659	5.390358	33.094639	32.892580	33.094639	1002	1231	1231
gene594	NC_000261.1	708975	709952	protein_coding	CPF_RS0759	CPF_0591	protein_coding	CPF_RS0759	CPF_0591	WP_003448762.hypothetical pro	-1.121514	0.311138	-1.201880	0.348232	1.013442	0.424671	0.409421	0.239223	0.506914	0.409421	0.239223	0.506914	0.242411	0.253369	0.362644	1	1	2
gene595	NC_000261.1	709844	710463	protein_coding	CPF_RS0760	CPF_0592	protein_coding	CPF_RS0760	CPF_0592	WP_003450272.DNA-binding rec	-1.000000	4.346188	-1.000000	4.346188	1.000000	4.615837	4.627168	3.014834	3.716140	4.627168	3.014834	3.716140	1.243373	4.031087	1.435899	246	765	258
gene596	NC_000261.1	710691	714020	protein_coding	CPF_RS0761	CPF_0593	protein_coding	CPF_RS0761	CPF_0593	WP_011590272.MMPL family tra	**-2.416768**	4.066801	**-2.070608**	4.128103	1.105601	4.824188	4.752308	3.479835	4.897139	4.752308	3.479835	4.897139	20.412714	15.516806	24.835391	1438	1045	2339
gene597	NC_000261.1	714281	715876	protein_coding	CPF_RS0762	CPF_0594	protein_coding	CPF_RS0762	CPF_0594	WP_003448726.peptide chain re	**-1.407801**	5.656481	**0.146766**	5.782959	1.162281	4.905175	4.799895	5.868710	5.014854	4.799895	5.868710	5.014854	21.087894	139.477092	27.648190	712	4502	1246
gene598	NC_000261.1	716090	716795	protein_coding	CPF_RS0763	CPF_0595	protein_coding	CPF_RS0763	CPF_0595	WP_003448743.hypothetical pro	**2.715502**	3.225397	**2.715502**	3.225397	1.013210	4.361798	4.352500	5.759635	4.271125	4.352500	5.759635	4.271125	14.898648	81.022736	16.978737	191	993	291
gene599	NC_000261.1	717071	717871	protein_coding	CPF_RS0764	CPF_0596	protein_coding	CPF_RS0764	CPF_0596	WP_003450506.Cof-type HAD-l	1.992682	5.661985	2.167609	5.595215	-1.087943	5.125268	5.188431	6.131145	5.064825	5.188431	6.131145	5.064825	27.500432	102.533881	28.604048	466	1861	648
gene600	NC_000261.1	717912	718574	protein_coding	CPF_RS0765	CPF_0597	protein_coding	CPF_RS0765	CPF_0597	WP_003447888.sugar transferas	1.985515	3.793977	1.985515	3.793977	1.000000	3.455984	3.455984	4.241299	3.241323	3.455984	4.241299	3.241323	1.146094	1.047934	1.146094	14	19	19
gene601	NC_000261.1	718945	719469	protein_coding	CPF_RS0766	CPF_0598	protein_coding	CPF_RS0766	CPF_0598	WP_003450502.chemosensory/pil	**-1.000000**	4.400654	**0.010097**	4.620785	-1.293694	3.992034	3.720704	5.217644	4.092201	3.720704	5.217644	4.092201	9.239027	53.066528	13.679404	180	982	354
gene602	NC_000261.1	719912	720393	protein_coding	CPF_RS0767	CPF_0599	protein_coding	CPF_RS0767	CPF_0599	WP_011590932.glycosyl hydrola	1.183179	2.127666	1.183179	2.127666	1.000000	4.446027	4.499025	4.215074	3.931147	4.499025	4.215074	3.931147	1.179733	3.316	1.179733	316	1690	429
gene605	NC_000261.1	721994	723043	protein_coding	CPF_RS0770	CPF_0602	protein_coding	CPF_RS0770	CPF_0602	WP_003450529.dTDP-glucose 4	**2.040469**	2.188714	**0.159456**	2.275829	1.001144	1.727758	1.859654	2.886427	1.798657	1.859654	2.886427	1.798657	1.620688	9.324084	2.155141	36	198	64
gene606	NC_000261.1	723068	724828	protein_coding	CPF_RS0771	CPF_0603	protein_coding	CPF_RS0771	CPF_0603	WP_003448723.O-antigen ligase	**2.851180**	1.210700	**1.210700**	1.212671	1.003741	1.738635	0.710963	1.921821	0.710391	1.921821	0.710391	1.921821	0.763617	0.468869	4.028925	0.582021	12	99	20
gene607	NC_000261.1	724279	725127	protein_coding	CPF_RS0772	CPF_0604	protein_coding	CPF_RS0772	CPF_0604	WP_011590273.hypothetical pro	**-0.000972**	1.412215	**-0.000972**	1.412215	1.000000	3.851250	3.550129	3.381634	3.194965	3.550129	3.381634	3.194965	8.017539	59.280487	11.077939	144	1031	286
gene608	NC_000261.1	725221	725961	protein_coding	CPF_RS0773	CPF_0605	protein_coding	CPF_RS0773	CPF_0605	WP_003448712.hypothetical pro	**0.008742**	4.104891	**0.008742**	4.250090	1.194729	3.501937	3.375946	4.991241	3.632629	3.375946	4.991241	3.632629	7.080939	44.507982	9.929559	111	667	206
gene609	NC_000261.1	725970	727421	protein_coding	CPF_RS0774	CPF_0606	protein_coding	CPF_RS0774	CPF_0606	WP_011590274.hypothetical pro	**-1.415599**	3.415599	**-1.415599**	3.415599	1.000000	2.532144	2.514462	3.573278	2.476397	2.514462	3.573278	2.476397	3.473373	2.483399	1.634127	43	187	182
gene610	NC_000261.1	727443	729866	protein_coding	CPF_RS0775	CPF_0607	protein_coding	CPF_RS0775	CPF_0607	WP_003450005.cell wall-binding	-1.531489	5.233488	-1.531489	5.233488	1.000000	5.788768	-1.063209	5.490874	5.552265	6.149823	5.448839	5.552265	6.149823	5.448839	35.764555	100.830849	37.122754	1834	4946	2545
gene611	NC_000261.1	729995	731847	protein_coding	CPF_RS0776	CPF_0608	protein_coding	CPF_RS0776	CPF_0608	WP_003448649.cell wall-binding	-1.751256	2.824535	-1.798737	2.721577	-1.067979	3.847188	3.852276	4.819382	4.010197	3.852276	4.819382	4.010197	5.401332	5.401332	7.017444	2518	3887	1928
gene612	NC_000261.1	731849	733213	protein_coding	CPF_RS0777	CPF_0609	protein_coding	CPF_RS0777	CPF_0609	WP_011590275.cell wall-binding	-1.760459	4.278845	**-0.820487**	4.430100	1.265099	4.881835	4.715156	3.882907	5.054400	4.715156	3.882907	5.054400	19.877664	20.901307	28.493451	574	577	1100
gene613	NC_000261.1	733418	735258	protein_coding	CPF_RS0778	CPF_0610	protein_coding	CPF_RS0778	CPF_0610	WP_011590276.choline binding	**-0.017051**	4.421059	**-0.017051**	4.421059	1.000000	3.121700	3.105695	3.544238	3.091444	3.105695	3.544238	3.091444	3.091444	4.468399	1.880517	146	1899	1189
gene614	NC_000261.1	735312	736280	protein_coding	CPF_RS0779	CPF_0611	protein_coding	CPF_RS0779	CPF_0611	WP_003450555.DNA-binding rec	**74.102204**	5.430676	**14.000000**	7.211318	**0.001891**	4.182822	3.149986	9.382658	5.554310	3.149986	9.382658	5.554310	6.000224	752.149191	39.683477	123	14740	1087
gene615	NC_000261.1	736427	737110	protein_coding	CPF_RS0780	CPF_0612	protein_coding	CPF_RS0780	CPF_0612	WP_011590940.6c-1 operon pro	**101.002797**	5.912597	**11.002100**	8.008937	**0.000191**	4.724127	3.452710	10.125024	6.463728	3.452710	10.125024	6.463728	7.532801	1194354253	78.624542	109	18522	1521
gene616	NC_000261.1	737229	738521	protein_coding	CPF_RS0781	CPF_0613	protein_coding	CPF_RS0781	CPF_0613	WP_011590277.hypothetical pro	**-1.000000**	3.545205	**-1.000000**	3.545205	1.000000	2.121219	4.884791	3.212831	3.214197	4.884791	3.212831	3.214197	0.000000	1.410620	0.000000	172	1097	442
gene617	NC_000261.1	738640	739950	protein_coding	CPF_RS0782	CPF_0614	protein_coding	CPF_RS0782	CPF_0614	WP_011590310.LysR family trans	**-2.528946**	**0.447671**	**2.519005**	0.500545	2.009866	1.748214	0.491294	1.000988	0.578842	0.491294	1.000988	0.578842	4.991241	24.546784	147.163908	2.177482	525	3009	777
gene618	NC_000261.1	739939	741213	protein_coding	CPF_RS0783	CPF_0615	protein_coding	CPF_RS0783	CPF_0615	WP_003450506.cofactor-depende	**2.351502**	5.281581	**2.351502**	5.281581	1.000000	3.970751	4.851493	4.000988	3.755635	4.851493	4.000988	3.755635	1.223599	14.849164	1.223599	1183	2994	465
gene619	NC_000261.1	741966	742964	protein_coding	CPF_RS0784	CPF_0616	protein_coding	CPF_RS0784	CPF_0616	WP_003447922.tryptophan--tR	**2.198888**	5.927876	**2.198888**	5.788846	-1.188227	5.278827	5.405698	6.500499	5.156887	5.405698	6.500499	5.156887	32.507035	124.332432	30.473524	687	2512	861
gene620	NC_000261.1	743917	744911	protein_coding	CPF_RS0785	CPF_0617	protein_coding	CPF_RS0785	CPF_0617	WP_011590279.hypothetical pro	**-1.000000**	3.125235	**-1.000000**	3.125235	1.000000	1.682831	1.242239	3.369611	1.021000	1.242239	3.369611	1.021000	1.128713	1.225020	1.145094	1	104	16
gene621	NC_000261.1	744600	745112	protein_coding	CPF_RS0786	CPF_0618	protein_coding	CPF_RS0786	CPF_0618	WP_011590280.anaerobic sulfat	**-2.208944**	5.588646	**-1.971448**	5.498264	-1.140602	6.108438	6.208505	5.030394	6.069650	6.208505	5.030394	6.069650	58.394947	45.447579	53.338653	1374	1023	1742
gene622	NC_000261.1	745323	746153	protein_coding	CPF_RS0787	CPF_0619	protein_coding	CPF_RS0787	CPF_0619	WP_011590281.hypothetical pro	**2.484469**	4.649487	**2.484469**	4.649487	1.000000	4.491598	5.000223	4.412541	4.000997	5.000223	4.412541	4.000997	2.445808	30.345853	2.636036	1	1	1
gene623	NC_000261.1	746277	747195	protein_coding	CPF_RS0788	CPF_0620	protein_coding	CPF_RS0788	CPF_0620	WP_011590282.phosphate ABC	1.326432	1.298076	1.564697	1.150338	-1.179628	0.863841	1.110198	1.517748	0.871865	1.110198	1.517748	0.871865	0.865752	2.716808	0.733922	15	4	9
gene624	NC_000261.1	747277	748164	protein_coding	CPF_RS0789	CPF_0621	protein_coding	CPF_RS0789	CPF_0621	WP_011590283.phosphate ABC	1.416141	1.369075	1.932286	1.237827	-1.365187	1.090613	1.338209	1.840003	0.884841	1.338209	1.840003	0.884841	1.117105	3.730715	0.758529	22	67	19
gene625	NC_000261.1	748167	749014	protein_coding	CPF_RS0790	CPF_0622	protein_coding	CPF_RS0790	CPF_0622	WP_011590284.phosphate ABC	1.352933	1.219965	1.788581	1.380246	-1.189931	0.955739	0.884414	1.262094	1.022294	0.884414	1.262094	1.022294	0.630287	3.383840

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gene1074	NC_008261.1	1234935	1235414	protein_coding	CPF_RS05330	CPF_1085				WP_011495929.1	**-0.202283**	3875355	**-0.207724**	3941910	1.111487	4.705532	4.826088	3.246455	4.738343	4.626086	3.246455	4.738345	18.711083	12.567499	22.835234	190	122	310
gene1075	NC_008261.1	1235541	1236104	protein_coding	CPF_RS05335	CPF_1086				WP_011500555.1	hypothetical pro	-1.237208	1.422360	-1.310895	1.460251	1.059559	1.626259	1.585062	1.277974	1.668526	1.585062	1.277974	1.668526	1.508619	2.104081	1.880733	18	24	30
gene1076	NC_008261.1	1236270	1236720	protein_coding	CPF_RS05340					WP_011495930.1	hypothetical pro	-1.306325	1.287903	-1.166439	1.214539	-1.121641	1.411039	1.466277	1.108551	1.330661	1.466272	1.108551	1.330661	1.378710	1.164197	1.325917	14	16	18
gene1077	NC_008261.1	1237089	1240918	protein_coding	CPF_RS05345	CPF_1087				WP_041726245.1	type I pullulanase	**-0.911991**	1.783508	**-0.780018**	1.818074	-0.033371	10.893040	10.916747	5.623341	10.869389	10.916747	5.623341	10.869389	193.393286	71.065264	1820.703399	267981	11426	409375
gene1078	NC_008261.1	1240204	1240363	protein_coding	CPF_RS05350					WP_011500557.1	hypothetical pro	**-0.811008**	2.659997	**-1.641188**	2.699014	1.070159	3.350415	3.350865	1.737329	2.607675	3.350865	1.737329	2.607675	6.827897	4.944599	6.446531	26	18	43
gene1079	NC_008261.1	1245440	1246039	protein_coding	CPF_RS05355	CPF_1089				WP_004377519.1	Ydcf family prot	**-0.112008**	3.421284	**-0.801016**	3.645535	1.430745	4.263295	4.012734	2.934087	4.529501	4.012734	2.934087	4.529501	11.581183	9.724360	19.034273	147	71	218
gene1080	NC_008261.1	1246197	1246496	protein_coding	CPF_RS05360					WP_011500558.1	hypothetical pro	-1.287083	2.022428	-1.245147	2.000465	-1.503882	2.190628	2.214653	1.850543	2.168888	2.214653	1.850543	2.168888	2.678836	3.790852	3.182200	17	23	27
gene1081	NC_008261.1	1247365	1247949	protein_coding	CPF_RS05365	CPF_1092				WP_045410066.1	sigma-70 family	-1.342400	2.572928	-1.335762	2.676797	-1.004976	2.472520	2.468947	2.493762	2.476099	2.468947	2.493762	2.476099	3.467551	3.474531	3.382004	0.109954	43	11	54
gene1082	NC_008261.1	1247942	1248724	protein_coding	CPF_RS05370	CPF_1093				WP_011500560.1	membrane prote	-1.146487	0.673728	-1.149054	0.671856	-1.002239	0.580675	0.582294	0.779514	0.579067	0.582294	0.779514	0.579067	0.362223	1.073538	0.406411	6	7	9
gene1083	NC_008261.1	1248718	1249590	protein_coding	CPF_RS05375	CPF_1094				WP_011500561.1	multiple MFS-ty	-1.223529	2.539378	1.242882	2.589797	1.050397	2.315598	2.440061	2.493762	2.490786	2.440061	2.493762	2.490786	3.468304	5.475670	15.065990	0.024872	175	266	253
gene1084	NC_008261.1	1249595	1250866	protein_coding	CPF_RS05380	CPF_1095				WP_011500562.1	membrane prote	-1.341890	2.542882	1.344356	2.430686	-1.150213	2.239399	2.339629	2.793798	2.137729	2.339629	2.793798	2.137729	2.031627	0.357601	3.141061	81	215	113
gene1085	NC_008261.1	1250866	1252860	protein_coding	CPF_RS05385	CPF_1096				WP_011500563.1	hypothetical pro	-1.101394	1.151163	1.290455	1.189156	-1.162356	1.522279	1.522279	3.372921	1.371947	1.522279	3.372921	1.371947	1.412285	0.592209	1.963998	1248	209	443
gene1086	NC_008261.1	1253040	1253390	protein_coding	CPF_RS05395	CPF_1098				WP_011500564.1	hypothetical pro	1.192142	0.317948	-1.075674	0.519029	1.282355	0.351812	0.215514	0.469070	0.574310	0.215514	0.469070	0.574310	0.134673	0.563486	0.402938	1	4	4
gene1087	NC_008261.1	1256995	1258430	protein_coding	CPF_RS05400	CPF_1099				WP_011500565.1	HTH domain-co	**-0.841188**	1.287182	**1.205455**	1.284605	0.748502	1.024852	1.028332	1.338338	1.210167	1.028332	1.338338	1.210167	4.709133	0.613389	4.096219	32	6	38
gene1091	NC_008261.1	1256667	1258130	protein_coding	CPF_RS05410	CPF_1101				WP_011500568.1	sulfatase	-1.570472	1.607181	-1.141020	1.406375	-1.376375	1.719820	1.965826	1.314428	1.504753	1.965826	1.314428	1.504753	2.163253	2.161569	1.593998	67	64	66
gene1092	NC_008261.1	1258282	1259071	protein_coding	CPF_RS05415	CPF_1102				WP_011500569.1	membrane prote	**0.000000**	0.655153	**0.814446**	0.733069	1.041682	0.261598	0.233792	1.835930	0.292707	0.233792	1.835930	0.292707	0.137015	3.726358	0.204973	2	52	4
gene1093	NC_008261.1	1259293	1261191	protein_coding	CPF_RS05420	CPF_1103				WP_011495970.1	tetra-peptide re	**-0.000000**	1.715495	**-0.405312**	3.786892	0.020957	1.660024	1.660024	1.660024	1.660024	1.660024	1.660024	1.660024	49.786040	135.352688	365621183	7884	5264	19885
gene1094	NC_008261.1	1261496	1261717	protein_coding	CPF_RS05425	CPF_1104				WP_011500570.1	hypothetical pro	**-0.821189**	5.573328	**-0.841386**	5.491203	-1.146879	6.867067	6.766651	4.590269	6.568964	6.766651	4.590269	6.568964	37.800502	33.854850	83.775646	410	152	562
gene1095	NC_008261.1	1262547	1263831	protein_coding	CPF_RS05430	CPF_1105				WP_011500571.1	hypothetical pro	**-1.144454**	1.854547	**-1.317817**	1.917582	1.522424	4.166357	3.944599	2.723576	3.549544	3.944599	2.723576	3.549544	56.114130	89.174866	139.758250	552	844	506
gene1096	NC_008261.1	1262784	1263206	protein_coding	CPF_RS05435	CPF_1106				WP_011500571.1	MarR family tran	-1.113953	5.868690	1.195757	5.660931	-1.332018	5.738517	5.947050	5.791382	5.533437	5.947050	5.791382	5.533437	46.934806	81.007112	39.035660	420	693	467
gene1097	NC_008261.1	1263174	1264551	protein_coding	CPF_RS05440	CPF_1107				WP_011500572.1	hypothetical pro	-1.194510	1.521497	1.333263	1.635173	1.233441	1.543249	1.559399	1.337468	1.505188	1.559399	1.337468	1.505188	2.531152	8.994454	34.601860	1386	2034	1660
gene1098	NC_008261.1	1264229	1264960	protein_coding	CPF_RS05445	CPF_1108				WP_011500572.1	hypothetical pro	-1.538464	3.362494	1.677893	3.493551	-1.090629	3.200285	3.265276	3.886767	3.140116	3.265276	3.886767	3.140116	6.586811	20.940203	6.935629	102	310	144
gene1099	NC_008261.1	1265388	1265839	protein_coding	CPF_RS05450	CPF_1109				WP_011500573.1	MarR family tran	-1.415548	1.573883	1.392824	1.674694	1.016315	0.623113	0.604798	1.533477	0.611450	0.604798	1.533477	0.611450	50.287251	66.134949	55.342615	587	745	664
gene1100	NC_008261.1	1266078	1267112	protein_coding	CPF_RS05455	CPF_1110				WP_041726248.1	acylaminoacylpe	-1.074005	0.221578	1.014219	0.268613	1.058957	0.213341	0.175983	0.276985	0.258628	0.175983	0.276985	0.258628	0.091343	0.286643	0.170811	2	6	5
gene1101	NC_008261.1	1267397	1268917	protein_coding	CPF_RS05460	CPF_1111				WP_011500574.1	DNA-binding re	**-0.844736**	2.750075	**-0.860076**	2.808276	1.061123	3.582250	3.539700	2.136591	3.625301	3.539700	2.136591	3.625301	7.924960	4.941339	9.809983	255	152	422
gene1102	NC_008261.1	1268935	1270859	protein_coding	CPF_RS05465	CPF_1112				WP_011500575.1	MFS transporter	**-0.811481**	2.854473	**-0.804208**	2.856117	1.197583	3.912223	3.784324	2.110647	3.044444	3.784324	2.110647	3.044444	9.782846	5.016251	11.077255	357	175	638
gene1103	NC_008261.1	1270941	1272200	protein_coding	CPF_RS05470	CPF_1113				WP_045416161.1	sugar ABC trans	**-0.884044**	4.859139	**-1.174078**	5.572270	**0.000000**	9.962290	8.687330	2.717893	11.424384	8.687330	2.717893	11.424384	352.086878	8.000527	2649.476467	9385	204	94416
gene1104	NC_008261.1	1272288	1273142	protein_coding	CPF_RS05475	CPF_1114				WP_011500584.1	hypothetical pro	-1.464186	3.192837	-1.310431	3.268505	1.100030	6.634347	5.622422	3.083635	8.212363	5.622422	3.083635	8.212363	37.940007	1.152585	24.934476	1344	25	1322
gene1105	NC_008261.1	1273190	1274047	protein_coding	CPF_RS05480	CPF_1115				WP_011500590.1	carbohydrate-ac	**-0.780140**	2.171092	**-1.165869**	2.182464	0.924064	6.795479	5.622422	0.883365	8.212363	5.622422	0.883365	8.212363	37.940007	1.152585	24.934476	1344	25	1322
gene1106	NC_008261.1	1274067	1274936	protein_coding	CPF_RS05485	CPF_1116				WP_011500576.1	DNA-binding re	**-0.774448**	2.197442	**-1.200000**	2.233007	1.000000	3.320076	3.320076	1.000000	3.320076	3.320076	1.000000	3.320076	45.440053	1.591382	37.410691	640	28	9188
gene1107	NC_008261.1	1274949	1277291	protein_coding	CPF_RS05490	CPF_1117				WP_045416339.1	glycoside hydrol	**-0.875078**	3.382185	**-1.050457**	4.095809	**7.000000**	7.515337	6.205919	1.843269	9.101035	6.205919	1.843269	9.101035	58.124212	3.756453	552.414413	2881	178	36606
gene1108	NC_008261.1	1277372	1278247	protein_coding	CPF_RS05495	CPF_1118				WP_011500578.1	hypothetical pro	**-0.111697**	3.215888	**-1.188501**	4.067662	1.378996	6.937302	5.484992	1.885633	8.174799	5.484992	1.885633	8.174799	58.231588	11.243013	3.894711	42.730592	634	89	10587
gene1109	NC_008261.1	1278316	1280108	protein_coding	CPF_RS05500	CPF_1119				WP_045416349.1	DUF1177 prote	**-0.111553**	1.342662	-1.130152	1.381552	-1.004395	0.945995	1.722581	1.425421	1.792897	1.722581	1.425421	1.792897	2.525948	6.602464	124.010784	4727	771	229605
gene1110	NC_008261.1	1280108	1280578	protein_coding	CPF_RS05505	CPF_1121				WP_011500579.1	hypothetical pro	-1.790747	1.258888	**-1.797099**	1.693073	**0.670197**	2.351351	1.745575	0.905013	3.167354	1.745575	0.905013	3.167354	1.806499	1.259788	7.056542	18	12	94
gene1111	NC_008261.1	1280868	1281395	protein_coding	CPF_RS05510	CPF_1122				WP_011500580.1	hypothetical pro	**-0.780051**	1.664603	**-0.814014**	1.696193	-1.142204	1.807392	1.732485	5.371994	4.494439	1.732485	5.371994	4.494439	2.940229	58.997948	24.777224	304	630	370
gene1112	NC_008261.1	1281873	1285885	protein_coding	CPF_RS05515	CPF_1123				WP_011500578.1	peptidase S8	**-0.747100**	2.928500	-1.751034	3.446802	-1.275833	5.223022	5.460415	3.882115	5.048979	5.460415	3.882115	5.048979	585.044002	100531951	54672575	58351	95367	69936
gene1113	NC_008261.1	1285885	1287411	protein_coding	CPF_RS05520	CPF_1124				WP_011500581.1	hypothetical pro	**-0.811481**	2.894275	**-0.804208**	2.856117	1.197583	3.912223	3.784324	2.110647	3.044444	3.784324	2.110647	3.044444	9.782846	5.016251	11.077255	357	175	638
gene1114	NC_008261.1	1287671	1289880	protein_coding	CPF_RS05525	CPF_1125				WP_045416318.1	ferrous iron trar	**0.100108**	0.682450	1.922005	0.806527	1.134312	0.360640	0.281014	1.405445	0.462832	0.281014	1.405445	0.462832	0.164622	2.386195	0.316637	7	97	18
gene1115	NC_008261.1	1290415	1291661	protein_coding	CPF_RS05530	CPF_1126				WP_011500582.1	HTH domain-co	**-0.484186**	1.318287	1.310141	1.358926	1.100030	0.634347	0.562844	1.338338	0.574310	0.562844	1.338338	0.574310	1.066316	0.528705	2.016	2	1	3
gene1116	NC_008261.1	1291649	1293237	protein_coding	CPF_RS05545	CPF_1129				WP_045416337.1	N-acetylglucosa	-1.243584	0.759905	-1.247145	0.757568	-1.002663	0.616687	0.681783	0.972453	0.657425	0.681783	0.972453	0.657425	0.614628	0.386667	1.314513	0.433838	4	13	6
gene1117	NC_008261.1	1292920	1293326	protein_coding	CPF_RS05550	CPF_1131				WP_045416400.1	membrane prote	**0.000001**	1.820600	1.388724	2.123600	1.734008	1.450599	1.106904	2.372693	1.901014	1.106904	2.372693	1.901014	0.853511	4.006205	2.438468	11	74	42
gene1120	NC_008261.1	1293709	1294302	protein_coding	CPF_RS05555	CPF_1132				WP_011500592.1	hypothetical pro	-1.112650	1.464942	-1.140297	1.307581	-1.298656	1.222918	1.422858	1.576899	1.374839	1.422858	1.576899	1.374839	1.067308	138.145921	240.403632	12104	1736	2888	2033
gene1121	NC_008261.1	**0.070000**	1.228171	**-0.780004**	1.000045	**-1.428220**	0.930584	0.291806	1.338338	0.574310	0.291806	1.338338	0.574310	0.134673	0.563486	0.402938	1	4	4
gene1122	NC_008261.1	1294262	1294545	protein_coding	CPF_RS05560	CPF_1133				WP_011500593.1	DUF4003 domai	**-0.811553**	1.342662	-1.130152	1.381552	-1.004395	0.945995	1.722581	1.425421	1.792897	1.722581	1.425421	1.792897	2.525948	6.602464	124.010784	4727	771	229605
gene1123	NC_008261.1	1296514	1297332	protein_coding	CPF_RS05565	CPF_1134				WP_011500594.1	4Fe-4S dicubsta	-1.494592	4.755705	**-0.800014**	5.368237	**0.000000**	5.703288	5.054406	4.474655	6.435460	5.054406	4.474655	6.435460	25.453107	31.394222	76.155223	441	520	1764
gene1124	NC_008261.1	1297925	1299555	protein_coding	CPF_RS05570	CPF_1135				WP_011500595.1	hypothetical pro	-1.110464	3.884724	-1.288924	3.882502	1.000000	4.423344	4.313119	2.578339	3.511964	4.313119	2.578339	3.511964	3.083604	2.873823	6.587964	54	69	71
gene1125	NC_008261.1	1298210	1300132	protein_coding	CPF_RS05575	CPF_1136				WP_011500585.1	FUS family prot	-1.116425	2.392366	-1.076302	2.528913	1.207119	2.445010	2.312994	2.474463	2.584562	2.312994	2.474463	2.584562	2.949769	6.505363	4.467988	50	253	243
gene1126	NC_008261.1	1300398	1300837	protein_coding	CPF_RS05580	CPF_1137				WP_011500586.1	hypothetical pro	**-0.811553**	1.342662	-1.130152	1.381552	-1.004395	0.945995	1.722581	1.425421	1.792897	1.722581	1.425421	1.792897	2.525948	6.602464	124.010784	4727	771	229605
gene1127	NC_008261.1	1300967	1301650	protein_coding	CPF_RS05590	CPF_1139				WP_045416343.1	DNA-binding re	-1.181914	0.758861	-1.076529	0.941696	1.274728	0.804067	0.847816	0.888941	0.998000	0.847816	0.888941	0.998000	0.414650	1.228919	0.878775	6	7	11
gene1128	NC_008261.1	1301654	1302910	protein_coding	CPF_RS05595	CPF_1140				WP_011500587.1	sensor histidine	-1.267186	2.160961	1.200952	2.086941	1.100543	1.835599	1.971892	1.130671	1.879189	2.223487	1.130671	1.879189	2.223746	1.793017	2.006964	3.349755	2.137782	54	136	76
gene1129	NC_008261.1	1302118	1303844	protein_coding	CPF_RS05640	CPF_1153				WP_011500640.1	ATPase, AAA-ty	-0.919624	4.454325	-1.828735	4.623143	-1.044892	4.642621	4.645474	4.431427	3.250966	4.645474	4.431427	3.250966	0.503816	0.275226	4.1	7	5	12
gene1130	NC_008261.1	1303940	1304629	protein_coding	CPF_RS05605	CPF_1142				WP_045416146.1	DUF4956 domai	1.108466	0.293585	-1.079931	0.434298	1.197066	0.339606	0.233792	0.332356	0.493293	0.233792	0.332356	0.493293	0.137015	0.429964	0.358702	2	6	7
gene1131	NC_008261.1	1304725	1306164	protein_coding	CPF_RS05610	CPF_1143				WP_011500588.1	hypothetical pro	-1.112650	3.884724	-1.288924	3.882502	1.000000	4.423344	4.313119	2.578339	3.511964	4.313119	2.578339	3.511964	0.579290	0.775622	1.039925	25	32	60
gene1132	NC_008261.1	1306960	1307929	protein_coding	CPF_RS05615	CPF_1144				WP_011500589.1	cation transport	1.002725	1.302978	-1.135474	1.819176	-1.132388	1.809108	1.901014	1.904941	1.121641	1.901014	1.904941	1.121641	2.046869	3.978406	1.991415	38	70	49
gene1133	NC_008261.1	1308049	1309422	protein_coding	CPF_RS05620	CPF_1145				WP_011500590.1	glycosyltransfer	-1.485533	2.145893	-1.628735	2.183183	1.049713	3.809931	3.840765	1.145684	3.573379	3.840765	1.145684	3.573379	3.457551	3.498611	3.147839	1	4	2
gene1134	NC_008261.1	1309503	1310750	protein_coding	CPF_RS05625	CPF_1146				WP_011500591.1	hypothetical pro	-1.071715	0.264509	1.125680	0.103035	-1.206406	0.124321	0.319146	0.219225	0.048429	0.319146	0.219225	0.048429	0.189383	0.237721	0.028332	5	6	1
gene1135	NC_008261.1	1310920	1311867	protein_coding	CPF_RS05630	CPF_1147				WP_011500592.1	hypothetical pro	-1.464186	4.051188	-1.310431	4.056562	1.100030	6.422344	5.622422	3.083635	8.212363	5.622422	3.083635	8.212363	37.940007	1.152585	24.934476	1344	25	1322
gene1136	NC_008261.1	1311130	1313563	protein_coding	CPF_RS05635	CPF_1148				WP_011500593.1	ATP-binding cas	-1.322429	2.731238	-1.338854	2.788205	1.022484	2.921204	2.911835	2.254145	2.440375	2.911835	2.254145	2.440375	1.087194	1.000507	1.087194	230	880	413
gene1137	NC_008261.1	1315800	1316466	protein_coding	CPF_RS05640	CPF_1150				WP_004457147.1	hypothetical pro	-1.083954	3.871972	1.044207	3.782924	-1.131872	3.840165	3.930560	3.814253	3.751849	3.930560	3.814253	3.751849	10.910040	19.734014	10.676042	153	267	202
gene1138	NC_008261.1	1316688	1317374	protein_coding	CPF_RS05645	CPF_1151				WP_011500596.1	hypothetical pro	-1.111664	1.788000	-1.188000	1.810000	1.011000	2.373000	2.341000	1.324919	2.809000	2.341000	1.324919	2.809000	1.124000	1.000000	1.124000	77	177	119
gene1139	NC_008261.1	1317389	1318063	protein_coding	CPF_RS05650	CPF_1152				WP_011500597.1	hypothetical pro	-1.831434	2.007892	-1.959343	1.946941	-1.568847	1.618380	2.491274	1.520800	1.618300	2.491274	1.520800	1.618300	0.545654	6.592787	1.623839	22	90	31
gene1140	NC_008261.1	1318064	1321323	protein_coding	CPF_RS05655	CPF_1153				WP_011500598.1	hypothetical pro	**-1.811553**	1.342662	**-1.130152**	1.381552	-1.004395	0.945995	1.722581	1.425421	1.792897	1.722581	1.425421	1.792897	2.525948	6.602464	124.010784	4727	771	229605
gene1141	NC_008261.1	1321433	1322194	protein_coding	CPF_RS05660	CPF_1154				WP_011500599.1	3-oxoacyl-ACP	**-0.808008**	7.538334	**-0.847004**	7.211693	-1.765177	9.427525	9.846337	5.771332	9.026525	9.846337	5.771332	9.026525	809.422150	79.360020	523360136	13048	1223	11279
gene1142	NC_008261.1	1322470	1323158	protein_coding	CPF_RS05665	CPF_1155				WP_011500600.1	MgcC family pro	**-0.811553**	1.342662	-1.130152	1.381552	-1.004395	0.945995	1.722581	1.425421	1.792897	1.722581	1.425421	1.792897	2.525948	6.602464	124.010784	4727	771	229605
gene1143	NC_008261.1	1323322	1324446	protein_coding	CPF_RS05670	CPF_1156				WP_025646860.1	hypothetical pro	1.317151	0.862682	-1.238552	0.720179	1.063632	0.533950	0.493295	0.890716	0.582294	0.493295	0.890716	0.582294	0.294125	1.220653	0.460579	7	28	13
gene1144	NC_008261.1	1324726	1325232	protein_coding	CPF_RS05675	CPF_1157				WP_004374578.1	N-acetylmuramo	-1.195289	2.422067	-1.341255	2.332796	-1.122118	2.212192	2.296823	2.554183	2.130599	2.296823	2.554183	2.130599	2.890280	6.924376	3.138265	31	71	45
gene1145	NC_008261.1	1325410	1328643	protein_coding	CPF_RS05680	CPF_1158				WP_011500601.1	alpha-glucosidas	-1.811553	1.342662	-1.130152	1.381552	-1.004395	0.945995	1.722581	1.425421	1.792897	1.722581	1.425421	1.792897	2.525948	6.602464	124.010784	4727	771	229605
gene1146	NC_008261.1	1328557	1329231	protein_coding	CPF_RS05685	CPF_1159				WP_004369700.1	DedA family prot	-1.328587	0.732231	**-0.800001**	1.000000	-1.312899	0.331539	0.337324	1.337488	0.337484	0.337324	1.337488	0.337484	0.129398	0.290097	0.961920	108	377	127
gene1147	NC_008261.1	1329447	1330488	protein_coding	CPF_RS05690	CPF_1160				WP_011500602.1	hypothetical pro	-1.044439	1.742764	-1.099221	1.682875	-1.058275	1.490921	1.454635	1.139130	1.328119	1.454635	1.139130	1.328119	2.344715	1.313946	2.197046	20	34	33
gene1148	NC_008261.1	1332241	1332576	protein_coding	CPF_RS05695	CPF_1161				WP_011500603.1	hypothetical pro	-1.256572	0.253313	-1.122210	0.208650	-1.119730	0.386910	0.471124	0.141631	0.307973	0.471124	0.141631	0.307973	0.281389	0.147160	0.210463	2	6	2
gene1149	NC_008261.1	1332592	1333870	protein_coding	CPF_RS05700	CPF_1162				WP_011500604.1	hypothetical pro	-1.121146	0.422895	-1.310794	0.429960	-1.091462	0.509233	0.537224	0.333897	0.539240	0.537224	0.333897	0.539240	0.238353	0.354451	0.380191	2	7	3
gene1150	NC_008261.1	1335925	1339947	protein_coding	CPF_RS05705	CPF_1163				WP_004369074.1	hypothetical pro	-1.245356	0.969923	-1.137923	1.043751	1.004507	0.887231	0.824478	1.141034	0.954760	0.824478	1.141034	0.954760	0.571239	1.742806	0.818962	12	35	23
gene1151	NC_008261.1	1339169	1339868	protein_coding	CPF_RS05710	CPF_1164				WP_011500605.1	hypothetical pro	-1.275344	2.351588	-1.373641	2.364556	1.244658	2.944564	2.941377	2.598499	2.947053	2.941377	2.598499	2.947053	1.739125	1.693250	1.994	762	202	302
gene1152	NC_008261.1	1339208	1332583	protein_coding	CPF_RS05715	CPF_1165				WP_011500606.1	NAD(P)H nitroro	-1.768154	3.388224	-1.517562	3.287104	-1.165128	3.710338	3.822212	2.999968	3.601723	3.822212	2.999968	3.601723	10.047722	10.233309	9.519403	116	113	147
gene1153	NC_008261.1	1332864	1333490	protein_coding	CPF_RS05720	CPF_1166				WP_011500607.1	hypothetical pro	**-0.830004**	6.999348	**-0.914182**	7.062849	1.138337	7.880941	7.883021	8.290534	7.974959	7.788020	8.290534	7.974959	1.782021	12.811021	108.870573	24293673	2421	1378	4308
gene1154	NC_008261.1	1333921	1335325	protein_coding	CPF_RS05725	CPF_1167				WP_011500608.1	hypothetical pro	**-0.000000**	1.782000	**-0.000000**	1.738995	1.078273	0.555275	0.532414	3.914993	0.684667	0.532414	3.914993	0.684667	0.206	1.287	0.206	2687	1582	4273
gene1155	NC_008261.1	1334008	1334829	protein_coding	CPF_RS05730	CPF_1168				WP_041726253.1	MBL fold hydrol	**-0.000000**	3.367919	**-0.641488**	3.508940	1.201505	3.514558	3.163076	1.664901	3.447921	3.163076	1.664901	3.447921	498.233281	2543291.02	699343204	8664	4238	16270
gene1156	NC_008261.1	1335411	1336115	protein_coding	CPF_RS05735	CPF_1169				WP_011500609.1	hypothetical pro	-1.111664	1.788000	-1.188000	1.810000	1.011000	2.373000	2.341000	1.324919	2.809000	2.341000	1.324919	2.809000	1.124000	1.000000	1.124000	77	177	119
gene1157	NC_008261.1	1336302	1337534	protein_coding	CPF_RS05740	CPF_1171				WP_004377608.1	sensor histidine	1.966654	0.452429	1.366665	0.400790	1.438995	0.441475	0.462718	1.153491	0.487788	0.462718	1.153491	0.487788	12.804703	49.946920	21.478490	334	1243	749
gene1158	NC_008261.1	1337554	1338000	protein_coding	CPF_RS05745	CPF_1172				WP_011500610.1	hypothetical pro	-1.173353	2.822812	-1.224000	2.882000	1.000000	4.544000	4.422700	2.694000	4.000000	4.422700	2.694000	4.000000	4.223797	1.991172	4.589978	1	7	2
gene1159	NC_008261.1	1338644	1340308	protein_coding	CPF_RS05750	CPF_1173	pduC			WP_011500611.1	propanediol deh	-1.910728	3.992970	-1.489609	3.829826	-1.282704	4.303915	4.487234	3.553132	4.128066	4.487234	3.553132	4.128066	16.778740	16.303783	14.185585	591	1949	1148
gene1160	NC_008261.1	1340600	1341268	protein_coding	CPF_RS05755	CPF_1174				WP_011500612.1	hypothetical pro	-1.770866	3.729274	-1.471554	3.607685	-1.203398	4.024465	4.160124	3.033897	3.897108	4.160124	3.033897	3.897108	12.683780	13.516957	11.016964	154	155	191
gene1161	NC_008261.1	1340608	1341332	protein_coding	CPF_RS05760	CPF_1175				WP_011500613.1	propanediol deh	-1.910728	3.992970	-1.489609	3.829826	-1.282704	4.303915	4.487234	3.553132	4.128066

gene1337	NC_008261.1	1537532	1538464	protein_coding	CPF_RS06635	CPF_1360	WP_003469969.1	tRNA (adenosine	1.894400	3.562456	1.938486	3.543526	-0.022371	3.114634	3.131273	4.053014	3.098084	3.131273	4.053014	3.098084	5.927756	24.060491	6.745643	117	454	178
gene1338	NC_008261.1	1538508	1538750	protein_coding	CPF_RS06640	CPF_1361	WP_003460455.1	RNA-binding pr	-1.070379	0.383407	1.058108	0.298838	-1.132571	10.347390	10.437584	10.339462	10.257975	10.437584	10.339462	10.257975	11.990509	1442.477286	1292.814376	6120	7089	8885
gene1339	NC_008261.1	1538955	1540135	protein_coding	CPF_RS06645	CPF_1362	WP_003469951.1	hypothetical pro	2.190790	1.550490	2.540329	1.000375	1.485493	4.992966	6.684267	4.721125	4.092969	6.684267	4.721125	4.092969	96.382934	2119.357	653	2497	794
gene1340	NC_008261.1	1540294	1541299	protein_coding	CPF_RS06650	CPF_1363	WP_003469966.1	hypothetical pro	-1.180594	4.462045	-1.550141	4.649355	1.313018	4.775613	4.583400	4.343895	4.976295	4.583400	4.343895	4.976295	18.156710	29.252762	26.811033	348	536	687
gene1341	NC_008261.1	1541479	1542950	protein_coding	CPF_RS06655	CPF_1364	WP_003452542	XRE family tranc	-1.108990	7.351114	1.087425	7.216159	-1.205943	7.239794	7.429116	7.127876	7.155956	7.429116	7.127876	7.155956	138.568142	202.308003	127.796408	1794	2504	2212
gene1342	NC_008261.1	1542298	1542890	protein_coding	CPF_RS06660	CPF_1365	WP_003477798.1	hypothetical pro	0.809459	5.917017	4.700096	5.695023	-1.294016	4.860994	5.050446	6.932277	4.678591	5.050446	6.932277	4.678591	25.379088	160.541902	21.232663	211	1276	236
gene1343	NC_008261.1	1542781	1544135	protein_coding	CPF_RS06665	CPF_1366	WP_003460878.1	tyrosine recomb	-1.441180	2.367035	-1.606563	2.353776	-0.021532	2.735801	2.751211	2.036906	2.720478	2.751211	2.036906	2.720478	4.297378	4.459538	5.120044	123	122	196
gene1344	NC_008261.1	1544649	1544867	protein_coding	CPF_RS06670	CPF_1367	WP_003469979.DUF3892 domai		-0.167948	1.292196	-1.410066	1.040371	-1.561376	1.660075	1.853792	3.224474	1.320240	1.853792	3.224474	1.320240	15.128937	25.291568	10	15	8
gene1345	NC_008261.1	1544995	1546194	protein_coding	CPF_RS06675	CPF_1368	WP_003460873.1	thiosinine amino	-0.211589	9.178483	-10.207190	9.100022	-1.147222	11.584215	11.883171	7.210428	11.485567	11.883171	7.210428	11.485567	2663.044618	19314.5876	27663.03289	75220	4694	93876
gene1346	NC_008261.1	1546225	1547704	protein_coding	CPF_RS06680	CPF_1369	WP_003460860.1	amino acid-acet	-1.282558	2.249398	-1.410452	2.066157	-1.340750	2.680092	2.868986	5.203325	2.252298	2.868986	5.203325	2.252298	52.540473	25.712598	52.540473	692	1562	1089
gene1347	NC_008261.1	1548207	1549427	protein_coding	CPF_RS06685	CPF_1370	WP_003470081.1	dicarboxylate/ar	1.587428	8.891003	-1.227753	8.819988	5.599456	8.410839	5.645665	5.999458	8.410839	5.645665	5.999458	8.410839	1.129897	392.810970	42.334589	1270	9895	1464
gene1348	NC_008261.1	1549442	1549794	protein_coding	CPF_RS06690	CPF_1371	WP_003460445.1	hypothetical pro	2.050000	3.555000	2.274279	3.184666	1.200129	4.664428	4.336771	4.347759	4.999999	4.336771	4.347759	4.999999	14.421084	8.449439	1.269175	101	566	188
gene1349	NC_008261.1	1550070	1550714	protein_coding	CPF_RS06695	CPF_1372	WP_003460593.1	membrane prote	10.451712	6.510175	8.210648	6.729132	1.269598	5.204207	5.034868	8.417773	5.379240	5.034868	8.417773	5.379240	25.064122	393.804008	35.467419	342	5137	647
gene1350	NC_008261.1	1550747	1551065	protein_coding	CPF_RS06700	CPF_1373	WP_003460460.1	membrane prote	-1.315400	5.859482	1.992602	5.915123	0.411668	4.968268	5.206355	4.000000	4.175095	5.206355	4.000000	4.175095	73.804309	6.815756	28.133	326	326	383
gene1351	NC_008261.1	1551028	1551411	protein_coding	CPF_RS06705	CPF_1374	WP_003466007.DNA mismatch-		-1.102753	6.397640	1.029530	6.304466	-1.335747	6.378376	6.468584	6.327474	6.285468	6.468584	6.327474	6.285468	69.509992	11.382039	68.045515	565	865	739
gene1352	NC_008261.1	1551763	1552491	protein_coding	CPF_RS06710	CPF_1375	WP_003453545.HAD-IB family h		1.005279	6.055814	1.266022	5.814974	-1.388891	5.811329	6.053017	6.080613	5.579291	6.053017	6.080613	5.579291	50.935936	99.931772	40.072153	792	1426	633
gene1353	NC_008261.1	1552668	1553264	protein_coding	CPF_RS06715	CPF_1376	WP_003477808.ECF transmembr		4.700000	3.539000	5.040977	4.429792	1.350203	5.159794	4.740288	7.250000	5.499014	4.740288	7.250000	5.499014	20.240420	197999441	44.180701	671	2146	671
gene1354	NC_008261.1	1553267	1553966	protein_coding	CPF_RS06720	CPF_1377	WP_003470822.exodeoxyribonu		-1.694676	7.105018	-1.899326	7.102391	-1.002744	7.493187	7.491211	6.730207	7.495166	7.491211	6.730207	7.495166	144.886111	144266.455	173402.888	2308	2197	3698
gene1355	NC_008261.1	1554219	1554444	protein_coding	CPF_RS06725	CPF_1378	WP_003466344	hypothetical pro	-1.296563	2.167276	1.042214	2.625219	-1.272728	3.570979	3.751649	3.414414	2.988427	3.751649	3.414414	2.988427	9.536941	15.275859	8.374212	46	70	54
gene1356	NC_008261.1	1554567	1554689	protein_coding	CPF_RS06730	CPF_1379	WP_003470084.N-acetylfranthe		1.143512	5.183568	1.495768	4.982293	-1.308065	4.890180	5.067733	5.281205	4.700299	5.067733	5.281205	4.700299	25.814144	55.290568	21.640328	231	473	259
gene1357	NC_008261.1	1554912	1555850	protein_coding	CPF_RS06735	CPF_1380	WP_003470101.ATP-binding cas		2.012149	9.419128	2.128209	9.258235	-1.295377	9.324432	9.429257	9.329789	9.329789	9.429257	9.329789	9.329789	9.329789	9256118843	3234257.2	1865	10387	546
gene1358	NC_008261.1	1556039	1556938	protein_coding	CPF_RS06740	CPF_1381	WP_003469885.dihydroorotate d		2.206010	0.788913	2.108740	0.740147	7.431114	1.716274	4.305024	3.392981	1.718676	4.305024	3.392981	1.718676	4.712261	10.819590	387606.4051	2.184252	206	70551	556
gene1359	NC_008261.1	1556958	1557688	protein_coding	CPF_RS06745	CPF_1382	WP_003464419.aspartate/glutam		-1.201591	3.414178	-1.393964	3.261366	1.168013	3.164652	3.458228	3.050447	3.234250	3.458228	3.050447	3.234250	117.342245	5365.60262	3.185327	278	80401	664
gene1360	NC_008261.1	1557723	1558586	protein_coding	CPF_RS06750	CPF_1384	WP_003470687.ornithine 5-* phos		-10.204547	6.831931	1.031471	7.308739	1.459241	4.326715	4.044449	11.540580	4.628681	4.044449	11.540580	4.628681	11.872224	3568.174050	20.420756	217	62349	499
gene1361	NC_008261.1	1558596	1559795	protein_coding	CPF_RS06755	CPF_1385	WP_003469888.dihydroorotase		1.792768	6.900039	1.767062	6.291925	4.277554	4.113032	5.575533	4.448658	4.113032	5.575533	4.448658	4.113032	11.575530	2.444571	3623.685866	17885145	316	87928	607
gene1362	NC_008261.1	1559817	1559973	protein_coding	CPF_RS06760	CPF_1386	WP_003470264.aspartate carbar		-1.164768	2.878131	-1.113971	2.528427	0.853335	2.205340	1.090541	2.833332	1.000000	1.090541	2.833332	1.000000	0.394932	346.121296	0.889504	2	1113	4
gene1363	NC_008261.1	1559880	1560903	protein_coding	CPF_RS06765	CPF_1387	WP_003453538.aspartate carbar		1.701310	6.870474	2.005018	6.193609	-1.452443	3.626572	3.905793	11.392110	3.367312	3.905793	11.392110	3.367312	10.640878	3269.329826	8.150858	208	61098	213
gene1364	NC_008261.1	1560903	1561264	protein_coding	CPF_RS06770	CPF_1388	WP_003453512.aspartate carbar		1.213412	6.033402	1.432604	5.875349	1.001569	5.205611	5.245511	5.245511	5.245511	5.245511	5.245511	5.245511	437.394922	353.728357	421.446237	7241	5580	92972
gene1365	NC_008261.1	1561264	1562404	protein_coding	CPF_RS06775	CPF_1389	WP_003467569.ATP-dependent		-17.280000	8.061476	-11.710989	7.841042	-1.473812	10.090161	10.373816	6.264550	9.814263	10.373816	6.264550	9.814263	1136.196671	107155237	931794774	26464	2386	29015
gene1366	NC_008261.1	1562404	1563814	protein_coding	CPF_RS06780	CPF_1390	WP_003469890.undecaprenyl-p		-1.182446	2.073403	-1.242446	2.073403	-1.268522	3.466974	3.419074	2.866667	3.000000	3.419074	2.866667	3.000000	7.382882	32.753240	149.000000	3879870	634	2768	1002
gene1367	NC_008261.1	1564788	1565765	protein_coding	CPF_RS06785	CPF_1391	WP_003462511.mannose-6-phos		2.511000	7.226047	2.511491	7.199747	-1.034146	6.642840	6.667109	7.831846	6.618662	6.667109	7.831846	6.618662	80.426760	275.794868	87.125095	1664	5455	2410
gene1368	NC_008261.1	1565831	1566370	protein_coding	CPF_RS06790	CPF_1392	WP_003470265.DUF1727 domai		0.809142	5.752373	0.704174	-0.595190	4.922457	4.964951	5.685885	4.881212	4.964951	5.685885	4.881212	4.964951	6.685885	4.881212	23.817636	139.387226	2.485255	679	3831	946
gene1369	NC_008261.1	1566389	1568120	protein_coding	CPF_RS06795	CPF_1393	WP_003453555.glutamine amido		-0.011174	7.242760	0.479674	5.703046	-1.232992	3.519206	6.080613	7.890884	3.000000	6.080613	7.890884	3.000000	1.529885	51.492758	257.496951	5.124943	796	3812	1061
gene1370	NC_008261.1	1569892	1571244	protein_coding	CPF_RS06815	CPF_1397	WP_003467177.VanW family prot		-0.270997	8.073323	-0.930909	8.044447	-1.041003	8.692830	8.721886	7.473005	8.663891	8.721886	7.473005	8.663891	360.457962	2251.814885	399097815	9631	5768	14256
gene1371	NC_008261.1	1571291	1572557	protein_coding	CPF_RS06820	CPF_1398	WP_003470653.membrane-associ		1.210000	7.135257	1.210000	6.931592	-1.322452	4.550644	5.010797	4.550644	5.010797	4.550644	5.010797	4.550644	27.167677	42.382199	27.867551	579	866	608
gene1372	NC_008261.1	1572557	1573976	protein_coding	CPF_RS06825	CPF_1399	WP_003453591.hypothetical pro		-1.380193	5.731929	1.400409	5.729529	0.014408	5.967095	5.958765	5.491915	5.977442	5.958765	5.491915	5.977442	47.150543	64363.884	54198080	410	535	630
gene1373	NC_008261.1	1573976	1574452	protein_coding	CPF_RS06830	CPF_1400	WP_003464419.aspartate/glutam		-1.201591	3.414178	-1.393964	3.261366	1.168013	3.164652	3.458228	3.050447	3.234250	3.458228	3.050447	3.234250	117.342245	5365.60262	3.185327	278	80401	664
gene1374	NC_008261.1	1574452	1575030	protein_coding	CPF_RS06835	CPF_1401	WP_003453575.hypothetical pro		-1.296036	5.906289	-1.456345	5.687236	1.133692	6.179854	6.096304	5.722197	6.264550	6.096304	5.722197	6.264550	52.658351	76517316	66379808	645	896	1087
gene1375	NC_008261.1	1575004	1576504	protein_coding	CPF_RS06840	CPF_1402	WP_003453564.ABC transporter		-1.314000	5.314000	-1.314000	5.314000	1.420723	5.880613	5.880613	5.880613	5.880613	5.880613	5.880613	5.880613	9.276378	3.396206	8.476378	382	588	387
gene1376	NC_008261.1	1576487	1577164	protein_coding	CPF_RS06845	CPF_1403	WP_003453585.DNA-binding re		-1.154487	5.577164	-1.443441	-3.305647	4.342775	4.534917	4.752308	4.154652	4.539417	4.752308	4.154652	4.539417	9.752308	4.154652	17.612101	38.287754	1.447734	253	525	278
gene1377	NC_008261.1	1577411	1578875	protein_coding	CPF_RS06850	CPF_1405	WP_003453604.2-hydroxyglutar		1.933027	5.282443	0.600046	5.030906	-1.364893	4.599449	4.828394	5.779228	4.379482	4.828394	5.779228	4.379482	21.670120	80.100008	17.076997	579	2046	610
gene1378	NC_008261.1	1578842	1581600	protein_coding	CPF_RS06855	CPF_1406	WP_003453632.nucleoside phos		2.000000	4.888000	2.000000	4.888000	-1.329056	4.888000	5.188228	5.691914	4.187824	5.188228	5.691914	4.187824	28.774946	74.793678	22.871461	1717	1717	4494
gene1379	NC_008261.1	1581600	1583889	protein_coding	CPF_RS06860	CPF_1407	WP_003470696.IgG family peptid		1.588623	7.555349	2.000079	7.535281	-1.302060	7.035331	7.228305	7.894868	6.847508	7.228305	7.894868	6.847508	123.891501	297502.175	104740096	5210	11565	5892
gene1380	NC_008261.1	1583889	1584844	protein_coding	CPF_RS06865	CPF_1408	WP_003467144.4-hydroxybenzo		-2.009754	4.454549	-1.441479	4.207979	-0.742579	4.346338	4.364428	4.109914	4.083000	4.364428	4.109914	4.083000	1.523591	24.180	1.076547	757	1176	1076
gene1381	NC_008261.1	1584844	1586536	protein_coding	CPF_RS06870	CPF_1409	WP_003470666.MATE family effl		-0.240009	4.866160	-1.636968	4.743892	-1.260475	5.273189	5.409099	4.377726	5.140688	5.409099	4.377726	5.140688	32.563816	29.773875	30.223574	961	840	1193
gene1382	NC_008261.1	1586536	1587958	protein_coding	CPF_RS06875	CPF_1410	WP_003470699.aminoglycoside /		1.000000	5.000000	1.000000	4.875000	-1.274029	4.222000	4.554573	3.784395	4.314532	4.554573	3.784395	4.314532	20.000000	47.779681	17.785987	550	433	724
gene1383	NC_008261.1	1587958	1588399	protein_coding	CPF_RS06880	CPF_1411	WP_003470700.nucleotidyltransf		-1.780504	2.140934	-1.811029	2.178132	-1.062046	2.605840	2.561338	1.789523	2.651113	2.561338	1.789523	2.651113	3.783678	3.578322	4.807418	73	66	124
gene1384	NC_008261.1	1588399	1589375	protein_coding	CPF_RS06885	CPF_1412	WP_003470701.cadaverine/lysine		-1.154944	3.011788	1.003445	2.884355	2.446746	2.667595	2.508597	1.146839	3.302118	2.508597	1.146839	3.302118	1.251795	2.664489	1.251795	50	66	44
gene1385	NC_008261.1	1589376	1590806	protein_coding	CPF_RS06890	CPF_1413	WP_003453652.polyacanthanide 1		1.935661	5.849787	1.933300	5.850742	1.001221	5.393623	5.392742	6.345568	5.394502	5.392742	6.345568	5.394502	32.156500	112.101835	35.751375	1100	3666	1635
gene1386	NC_008261.1	1590806	1591966	protein_coding	CPF_RS06895	CPF_1414	WP_003453633.RluA family peptid		1.322139	6.622808	1.388750	6.585955	-1.050381	6.388679	6.424234	6.827107	6.353321	6.424234	6.827107	6.353321	68.925018	152.191943	71.585909	1413	3001	1974
gene1387	NC_008261.1	1591966	1593194	protein_coding	CPF_RS06900	CPF_1415	WP_003470702.aminoglycosides		1.000000	7.160000	1.094439	7.095333	-1.084439	7.095333	7.160000	7.160000	7.024000	7.160000	7.024000	7.160000	11.221604	11.921604	187339.167	120104212	3019	8400	4080
gene1391	NC_008261.1	1597100	1599094	protein_coding	CPF_RS06905	CPF_1416	WP_003470703.ATP-dependent		1.598961	2.152102	1.602481	2.149718	-1.008021	1.837986	1.840003	2.517138	1.839930	1.840003	2.517138	1.839930	1.942930	6.766281	2.238293	82	273	129
gene1392	NC_008261.1	1599247	1600717	protein_coding	CPF_RS06910	CPF_1417	WP_003453632.nucleoside phos		2.000000	4.888000	2.000000	4.888000	-1.329056	4.888000	5.188228	5.691914	4.187824	5.188228	5.691914	4.187824	28.432633	146.122000	25.346116	888	4353	1056
gene1393	NC_008261.1	1600717	1601933	protein_coding	CPF_RS06915	CPF_1419	WP_003452838.hypothetical pro		1.243000	1.653268	-1.093187	1.502871	0.475180	10.787444	10.530605	10.475180	10.787444	10.530605	10.475180	10.787444	1513.921163	1522910183	8683	14497	14472
gene1394	NC_008261.1	1601933	1602527	protein_coding	CPF_RS06920	CPF_1420	WP_003453641.hypothetical pro		-1.011777	1.124666	-1.048669	1.000000	1.259302	1.239100	1.157533	1.782870	1.052344	1.157533	1.782870	1.052344	0.858294	2125.114118	10.893812	2884	16951	21614
gene1395	NC_008261.1	1602430	1603827	protein_coding	CPF_RS06925	CPF_1421	WP_003470704.dipeptidase PepD		-1.917196	10.727775	-1.576889	10.593105	-1.213880	11.067083	11.207779	10.268329	10.928152	11.207779	10.268329	10.928152	1920.996880	1364855372	1906993395	56813	38589	75400
gene1396	NC_008261.1	1603827	1605326	protein_coding	CPF_RS06930	CPF_1422	WP_003477835.ABC transporter		1.734000	5.783499	1.581500	5.712256	-0.011667	4.024684	4.075904	5.688885	4.881212	4.075904	5.688885	4.881212	23.661836	3.975332	24.098289	346.573890	24.607139	304	9189	462
gene1397	NC_008261.1	1605326	1606011	protein_coding	CPF_RS06935	CPF_1423	WP_003470705.acyl-CoA thioes		1.000000	5.154000	1.490357	5.161128	1.252988	5.480704	5.320050	10.208	5.154000	5.320050	10.208	5.154000	30.282247	102.741601	42.795247	264	854	497
gene1398	NC_008261.1	1606212	1606967	protein_coding	CPF_RS06940	CPF_1424	WP_003453463.ABC transporter		1.572466	4.393000	1.714466	4.325311	-1.090305	4.015758	4.078609	4.731631	3.953877	4.078609	4.731631	3.953877	12.087620	37.542257	12.247162	193	574	264
gene1399	NC_008261.1	1606967	1607876	protein_coding	CPF_RS06945	CPF_1425	WP_003470706.iron ABC transp		1.170362	4.882000	1.170362	4.882000	-1.000000	4.882000	4.954573	5.099914	4.614934	4.954573	5.099914	4.614934	24.967677	8.099957	47.779681	1717	850	4494
gene1400	NC_008261.1	1608068	1609066	protein_coding	CPF_RS06950	CPF_1426	WP_003453650.iron ABC transp		-1.004723	6.490070	-1.059704	6.383148	-1.160083	6.447676	6.555683	6.425115	6.241455	6.555683	6.425115	6.241455	73.436592	118899957	70.857137	552	2398	2002
gene1401	NC_008261.1	1609066	1609442	protein_coding	CPF_RS06955	CPF_1427	WP_003453657.acyl-CoA thioes		-1.011487	4.846006	-1.142209	4.558990	-1.162165	4.571183	4.460006	4.955527	4.264709	4.460006	4.955527	4.264709	6.895552	120.735464	6.937048	1131	1868	1426
gene1402	NC_008261.1	1609862	1610584	protein_coding	CPF_RS06960	CPF_1428	WP_003453662.ABC transporter		-1.253078	7.021066	-1.048519	6.894305	-1.195094	7.055957	7.185690	6.860213	6.928566	7.185690	6.860213	6.928566	120.757665	156812876	111.452815	1847	2290	2279
gene1403	NC_008261.1	1610739	1611737	protein_coding	CPF_RS06965	CPF_1429	WP_003470707.ABC transporter		-1.177119	5.344633	-1.201944	5.214851	-1.035595	5.431598	5.440338	5.227733	5.200075	5.440338	5.227733	5.200075	69.177998	104880741	63.840288	1000	4429	1811
gene1404	NC_008261.1	1611737	1612546	protein_coding	CPF_RS06970	CPF_1430	WP_003452074.pyrroline-5-carb		-1.454975	6.365265	-1.131623	6.788729	-1.285742	7.057484	7.241112	6.700118	6.875511	7.241112	6.700118	6.875511	124.135023	42.056854	106.587811	2003	2172	2279
gene1405	NC_008261.1	1612546	1612206	protein_coding	CPF_RS06975	CPF_1431	WP_003453602.cobalt/nickel/		-1.292755	6.295028	-1.055527	6.117990	-1.180031	6.362445	6.482976	6.115528	6.244155	6.482976	6.115528	6.244155	70.227759	98.817220	65.595885	965	1325	1330
gene1406	NC_008261.1	1612206	1611561	protein_coding	CPF_RS06980	CPF_1432	WP_003452120.precorrin-6Y C5,1		-1.229192	1.081148	-1.229192	1.081148	4.189756	4.154052	4.072357	4.154052	4.072357	4.154052	4.072357	4.154052	0.000000	0.000000	0.000000	160	292	248
gene1407	NC_008261.1	1611561	1610432	protein_coding	CPF_RS06985	CPF_1433	WP_003453653.RluA family peu		-0.962732	5.266932	1.022024	5.474498	-1.131168	5.548280	5.637871	5.488967	5.400981	5.637871	5.488967	5.400981	38.155894	64.231193	37.437652	494	795	648
gene1408	NC_008261.1	1610432	1610157	protein_coding	CPF_RS06990	CPF_1434	WP_003453640.cobalt/nickel/		-1.152323	7.086732	1.022664	6.884722	-1.131145	7.180056	7.284479	7.177000	7.084979	7.284479	7.177000	7.084979	1.269469	1649.196865	1.269469	1	1	1
gene1409	NC_008261.1	1610157	1610204	protein_coding	CPF_RS06995	CPF_1435	WP_003453122.precorrin-8X m	cbiC	-1.212572	7.216195	1.061415	7.035373	-1.287040	7.172238	7.356570	7.078499	6.992510	7.356570	7.078499	6.992510	133.181504	175.179758	171.126868	1775	2232	2087
gene1410	NC_008261.1	1610204	1611411	protein_coding	CPF_RS07000	CPF_1436	WP_003453123.precorrin-2 oxid		-1.132247	7.171822	1.010892	6.968374	-1.157779	6.939231	6.882228	6.988209	6.471461	6.882228	6.988209	6.471461	52.238293	25.428253	146.122000	25.346116	888	4353	1056
gene1411	NC_008261.1	1611411	1611818	protein_coding	CPF_RS07005	CPF_1437	WP_003453592.hypothetical pro		-1.336990	7.542087	1.830625	7.305296	-1.369245	7.105212	7.335518	7.754474	6.882173	7.335518	7.754474	6.882173	131.535733	265.195241	108.761575	3431	6613	3723
gene1412	NC_008261.1	1611818	1612126	protein_coding	CPF_RS07010	CPF_1438	WP_003453648.hypothetical pro		-1.095110	5.035963	1.444343	4.839615	-1.410222	5.088763	5.181669	5.012035	5.049931	5.181669	5.012035	5.049931	1.120134	4.114426	1.120134	7	7	7
gene1413	NC_008261.1	1612394	1622543	protein_coding	CPF_RS07015	CPF_1439	WP_003470007.mannosyl-glycos		-1.431509	7.293915	1.055709	7.000520	-1.511257	7.253284	7.557273	7.039736	6.961523	7.557273	7.039736	6.961523	152.419666	170.815961	114.188799	10157	10882	10173
gene1414	NC_008261.1	1622967	1623248	protein_coding	CPF_RS07020	CPF_1440	WP_003452142.hypothetical pro		2.408000	1.223468	2.000000	1.186086	-1.062470	1.060735	1.207800	1.894216	0.520110	1.207800	1.894216	0.520110	1.294921	32.948882	449.823578	1508.528126	28149	91187	42750
gene1415	NC_008261.1	1623248	1624453	protein_coding	CPF_RS07025	CPF_1441	WP_003470708.nitrogen fixation		-2.404448	11.020440	1.000000	11.000557	-1.000739	10.268329	11.844619	10.272277	10.268329	11.844619	10.272277	10.268329	1.844619	10.272277	10.268329	1.844619	10.272277	10.268329	1

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gene2134	NC_008261.1	2417637	2417552	-	protein_coding	CPF_RS10595	CPF_2177		WP_011590998.1	**0.8893172**	**0.4662273**	**0.8090025**	4567116	1.131706	3842695	3.754482	5.303496	3.932981	3.754482	5.303496	3.932981	9.566559	56.089141	12.266986	238	1334	408
gene2135	NC_008261.1	2417558	2418196	+	protein_coding	CPF_RS10600	CPF_2178		WP_011590999.1	regulatory protei	**2.3232200**	4765155	1.878238	4900130	1.183181	4343461	4.223820	5.375870	4.466490	4.223820	5.375870	4.466490	13.315908	59.041035	18.204554	180	763	329
gene2136	NC_008261.1	2418196	2419446	-	protein_coding	CPF_RS10605	CPF_2179		WP_011590999.1	transglutaminas	1.024034	5072854	**2.8134240**	4925146	**-2.438018**	4822700	5.566839	4.257421	6.622705	5.566839	4.257421	18.660215	68.231176	16.699097	402	1718	588
gene2137	NC_008261.1	2419541	2420012	+	protein_coding	CPF_RS10610	CPF_2180		WP_011590999.1	DNA-binding re	-1.850002	5344498	-1.303818	6108604	-1.418911	6548505	6.805751	5.918230	6.000973	6.805751	5.918230	6.000973	89.123750	88.075508	68.716166	1267	1197	1306
gene2138	NC_008261.1	2420012	2421725	+	protein_coding	CPF_RS10615	CPF_2181		WP_011590999.1	sensor histidine	-1.340051	5414868	-1.060720	5351656	-1.260963	5480423	5.832047	2.207939	5.229373	5.832047	2.207939	5.229373	38.057977	52.560604	34.021245	1227	1620	1466
gene2139	NC_008261.1	2421988	2422734	-	protein_coding	CPF_RS10620	CPF_2182		WP_011590999.1	NAD(P)-dependi	1.891580	3063611	1.819314	3096070	1.039722	2666078	2.838127	3.557719	2.694325	2.838127	3.557719	2.694325	3.923351	16.349581	5.017302	62	247	106
gene2140	NC_008261.1	2422640	2423602	-	protein_coding	CPF_RS10625	CPF_2183		WP_011591000.1	membrane dipep	**3.7791724**	2358441	**2.6708009**	2454499	-1.153153	1865785	2.091219	3.194984	1.885623	2.091219	3.194984	1.885623	2.409226	12.014891	2.386558	49	234	85
gene2141	NC_008261.1	2424650	2425352	+	protein_coding	CPF_RS10630	CPF_2184		WP_011590999.1	aldehyde hydroge	**0.7701724**	3479170	**-4.077996**	4613230	-1.081488	5161567	7.573288	4.657919	4.460270	7.573288	4.657919	4.460270	155.189929	80.859502	169391176	4046	20170	5914
gene2142	NC_008261.1	2425462	2426232	+	protein_coding	CPF_RS10635	CPF_2185		WP_011590999.1	threonine/serin	-1.180551	6324668	-1.258159	6378455	1.064044	6500159	6.455527	6.216061	6.545085	6.455527	6.216061	6.545085	68.973816	104.535429	82.868369	1125	1630	1807
gene2143	NC_008261.1	2426232	2426754	+	protein_coding	CPF_RS10640	CPF_2186		WP_011591000.1	threonine/serin	-1.488724	3263878	-1.318573	6349282	1.000452	6429146	4.050971	4.657788	6.631218	4.050971	4.657788	6.631218	75.142090	59.905796	90291016	1055	1011	1333
gene2144	NC_008261.1	2426772	2427044	-	protein_coding	CPF_RS10645	CPF_2187		WP_011591000.1	transcriptional	-1.996495	5498830	**0.8008277**	5111109	-1.605492	4668504	5.022461	6.019936	4.334085	5.022461	6.019936	4.334085	24.760505	93.458183	16.578608	142	516	128
gene2145	NC_008261.1	2427232	2427522	+	protein_coding	CPF_RS10650	CPF_2188		WP_011591000.1	hypothetical pro	**2.2209414**	5191628	1.881318	4873718	1.050214	4725421	5.308881	4.945829	4.233377	5.308881	4.945829	4.233377	83.710198	76.555054	10262	10375	15148
gene2146	NC_008261.1	2427144	2429144	-	protein_coding	CPF_RS10655	CPF_2189		WP_011590999.1	histidine--tRNA	1.490298	7868650	1.773003	7737596	-1.189697	7459782	7.586111	8.161712	7.335518	7.586111	8.161712	7.335518	156.354797	337.206770	150.355568	4128	8511	5307
gene2147	NC_008261.1	2429423	2429651	+	protein_coding	CPF_RS10660	CPF_2190		WP_011591000.1	MBL fold metallo	-1.017053	2847385	-1.061944	4595158	-1.104295	5240253	5.847021	5.975548	4.598163	5.847021	5.975548	4.598163	33.923976	31.558984	16.772829	1128	3131	2063
gene2148	NC_008261.1	2431655	2432475	+	protein_coding	CPF_RS10665	CPF_2191		WP_011590999.1	DNA-binding re	-1.028129	7862691	-1.138997	7486211	-1.127000	7126772	7.842726	7.842726	7.842726	7.842726	7.842726	7.842726	7.654954	197.453338	277.725116	193.756791	2594	3488	3403
gene2149	NC_008261.1	2432635	2433084	-	protein_coding	CPF_RS10670	CPF_2192		WP_011591000.1	5'-methoxy-2'-H	1.689170	6958589	1.970327	6580033	-1.166448	6219948	6.331097	7.087412	6.108977	6.331097	7.087412	6.108977	64.182230	178.827402	59875511	611	1802	762
gene2150	NC_008261.1	2433099	2433579	+	protein_coding	CPF_RS10675	CPF_2193		WP_011591000.1	deoxycytidylate	1.353379	6079768	-1.222284	5622320	6.058922	6.388179	5.779226	5.104749	5.779226	5.104749	118.418641	46.603203	1.887	2381	5187	2887
gene2151	NC_008261.1	2433579	2434591	+	protein_coding	CPF_RS10680	CPF_2194		WP_011591000.1	adenine phospho	1.764351	6997944	1.828846	7055445	-1.079117	6853781	6.590087	7.419814	6.708933	6.590087	7.419814	6.708933	75.877813	218.838595	93878658	832	2297	1378
gene2152	NC_008261.1	2434591	2434747	-	protein_coding	CPF_RS10685	CPF_2195		WP_011591000.1	DNA-binding re	**0.8647756**	2484373	**0.8978855**	2588656	-1.141727	2316882	2.070185	2.184710	2.224103	2.070185	2.184710	2.224103	3.237024	21.858662	1.447374	43	364	84
gene2153	NC_008261.1	2437047	2437916	+	protein_coding	CPF_RS10690	CPF_2196		WP_011591000.1	protein transloc	1.168571	7885615	1.059828	7956763	1.102604	7844184	7.774043	7.998788	7.914958	7.774043	7.998788	7.914958	180.821544	300.994808	234946365	3328	5296	5781
gene2154	NC_008261.1	2437909	2439164	+	protein_coding	CPF_RS10695	CPF_2197		WP_011591000.1	protein transloc	1.127182	7872186	1.081154	8227073	1.058982	8142453	7.449492	7.655851	7.395275	7.449492	7.655851	7.395275	162.358402	261.725746	7468	11782	12534
gene2155	NC_008261.1	2439266	2440639	+	protein_coding	CPF_RS10700	CPF_2198		WP_011591000.1	thioether cross-	**2.0000064**	8439624	**2.5170470**	8385496	-1.072121	7807176	7.857566	9.064799	7.757098	7.857566	9.064799	7.757098	192.864977	626.170778	212558428	5606	17400	8260
gene2156	NC_008261.1	2440709	2440949	-	protein_coding	CPF_RS10705	CPF_2199		WP_011591000.1	protein translo	1.188888	2344351	1.150553	2359461	1.153114	2441463	5.054498	5.557017	5.044126	5.054498	5.557017	5.044126	432.135468	1701106.006	401473823	1289	4853	1601
gene2157	NC_008261.1	2441045	2443114	-	protein_coding	CPF_RS10710	CPF_2200		WP_011591000.1	peptidyl-prolyl	-1.267538	8868132	1.633278	8797773	-1.268544	8631938	8.816744	9.158773	8.451002	8.816744	9.158773	8.451002	384.112966	861.659387	350827771	2194	3613	2679
gene2158	NC_008261.1	2443253	2442495	+	protein_coding	CPF_RS10715	CPF_2201		WP_011591000.1	ATPase, AAA fa	**2.0008021**	7597336	**0.1600161**	7605495	1.011926	7055385	7.047838	8.189671	7.064944	7.047838	8.189671	7.064944	108.518482	343309411	122623139	2624	7936	3964
gene2159	NC_008261.1	2442819	2443544	-	protein_coding	CPF_RS10720	CPF_2202		WP_011591000.1	DNA-binding re	-1.017129	1374704	-1.484206	2460206	-1.063356	2352329	2.449946	1.783217	1.834170	2.449946	1.783217	1.834170	0.630987	142.795516	65325377	1316	2963	1913
gene2160	NC_008261.1	2443566	2444606	-	protein_coding	CPF_RS10725	CPF_2203		WP_011591000.1	Holliday junction	1.068038	6219203	1.155155	6161944	-1.081587	6115079	6.171903	6.266866	6.058779	6.171903	6.266866	6.058779	56.306310	107251528	57435168	1240	2258	1691
gene2161	NC_008261.1	2444606	2445325	+	protein_coding	CPF_RS10730	CPF_2204		WP_011591000.1	DNA-binding re	1.180534	2358264	1.151239	2359461	-1.154154	2344563	5.459544	5.677114	5.362754	5.459544	5.677114	5.362754	34.789512	73679286	32795054	446	641	562
gene2162	NC_008261.1	2445454	2446047	-	protein_coding	CPF_RS10735	CPF_2205		WP_011591000.1	5'-dATP-dependi	1.194147	2338144	-1.067888	1324506	-1.118234	1194644	-1.116750	1.372732	1.277974	-1.116750	1.372732	1.277974	0.675331	2.247541	1.250023	11	27	21
gene2163	NC_008261.1	2446345	2448950	+	protein_coding	CPF_RS10740	CPF_2206		WP_011591000.1	DNA-binding re	-1.010006	8121444	-1.000000	8121447	-1.012847	8117028	4.780245	4.880127	4.239129	4.780245	4.880127	4.239129	20.915600	41.074419	22.446112	1569	2946	2251
gene2164	NC_008261.1	2450140	2453787	-	protein_coding	CPF_RS10745	CPF_2207		WP_011591000.1	2'-3'-cyclic-nuc	**-0.9170454**	8102583	**-0.7188447**	8248009	1.304402	10775455	10585466	6.202075	10.968854	10585466	6.202075	10.968854	1234.662955	103500243	1981160110	102229	7636	204404
gene2165	NC_008261.1	2454034	2455934	+	protein_coding	CPF_RS10750	CPF_2208		WP_011591000.1	protein-tyrosine-	**-0.8801499**	6351602	**-0.8154982**	6441414	-1.165881	7391724	2.284276	5.538346	3.066571	2.284276	5.538346	3.066571	127.620603	68.818783	17432747	2695	1350	4419
gene2166	NC_008261.1	2455935	2458343	+	protein_coding	CPF_RS10755	CPF_2209		WP_011591000.1	sensor histidine	-1.840667	5861864	-1.514053	4934611	**-0.6455439**	5397283	6.145399	5.261321	4.742809	6.145399	5.261321	4.742809	14.587301	54.874661	21.008774	305	481	272
gene2167	NC_008261.1	2458370	2457107	-	protein_coding	CPF_RS10760	CPF_2210		WP_011591000.1	YqbC/PnpB fam	1.538157	7485315	**0.2000018**	7260915	-1.341744	6865873	7.181154	7.802351	6.757046	7.181154	7.802351	6.757046	120.480994	271.418448	97114125	1861	4051	2027
gene2168	NC_008261.1	2457233	2457886	+	protein_coding	CPF_RS10765	CPF_2211		WP_011591000.1	YqgF family pro	1.127182	7872186	1.081154	8227073	1.058982	8142453	7.449492	7.655851	7.395275	7.449492	7.655851	7.395275	33.919424	59.803832	25.935966	1164	1782	1524
gene2169	NC_008261.1	2459298	2459288	-	protein_coding	CPF_RS10770	CPF_2212		WP_011591000.1	PLP-dependent	1.033297	3455341	-1.035997	3245561	-1.316586	3225755	3.402051	3.476999	3.033045	3.402051	3.476999	3.033045	7.391196	15.462826	6.408127	220	440	255
gene2170	NC_008261.1	2460733	2459288	+	protein_coding	CPF_RS10775	CPF_2213		WP_011591000.1	cysteine desulfu	1.186888	2548987	1.250553	2379637	-1.192477	2407080	2.479166	2.840051	2.327000	2.479166	2.840051	2.327000	3.507328	8.992208	3.319811	67	164	95
gene2171	NC_008261.1	2460257	2460730	-	protein_coding	CPF_RS10780	CPF_2214		WP_011591000.1	protein translo	1.564070	4048142	1.575662	4043369	-1.006125	3733073	3.737479	4.384628	3.728670	3.737479	4.384628	3.728670	9.473956	29.938762	10517821	95	287	141
gene2172	NC_008261.1	2460852	2460555	+	protein_coding	CPF_RS10785	CPF_2215		WP_011591000.1	DNA-binding re	**-0.8771819**	2242464	**-1.8180000**	2305395	-1.179146	2404635	5.539009	7.087112	5.192584	5.539009	7.087112	5.192584	34.456716	176.698008	15.435311	1000	3000	1000
gene2173	NC_008261.1	2462762	2463286	+	protein_coding	CPF_RS10790	CPF_2216		WP_011591000.1	5'-methylthio-5'-	1.000501	6834139	-1.183010	7279796	1.891367	7273298	6.827101	8.841177	7.745636	6.827101	8.841177	7.745636	31.179266	152.948996	20934852	2089	3350	6418
gene2174	NC_008261.1	2463320	2464009	-	protein_coding	CPF_RS10795	CPF_2217		WP_011591000.1	spermidine prot	-1.105119	1178448	-1.151612	1206687	1.042071	1282124	1.252752	1.108551	1.312205	1.252752	1.108551	1.312205	1.027610	1.846197	1.281079	15	23	25
gene2175	NC_008261.1	2464146	2464008	+	protein_coding	CPF_RS10800	CPF_2218		WP_011591000.1	peptidyl-prolyl	1.024863	2358614	1.144314	2729176	-1.116991	2261953	2.342202	2.371098	2.182584	2.342202	2.371098	2.182584	132.272725	213423540	132269023	6976	10761	9326
gene2176	NC_008261.1	2466832	2468332	-	protein_coding	CPF_RS10805	CPF_2219		WP_011591000.1	alanine:cation s	**0.7196631**	6139441	**2.8080**[illegible]	6459723	1.432107	5092313	4.839373	5.739575	5.346795	4.839373	5.739575	5.346795	83.892287	178.800211	29632096	3940306	646	7631	1383
gene2177	NC_008261.1	2468509	2468343	+	protein_coding	CPF_RS10810	CPF_2220		WP_011591000.1	2'-3'-cyclic-nuc	**-0.6851159**	1188855	**-0.8000000**	2266709	1.195268	1475395	1.352317	1.812377	1.608617	1.352317	1.812377	1.608617	0.202860	7.548900	1.793878	10	20	20
gene2178	NC_008261.1	2468809	2469885	-	protein_coding	CPF_RS10815	CPF_2221		WP_011591000.1	2-keto-3-deox	1.600278	2348131	**3.1471180**	2701883	-1.335082	2405765	2.623244	3.308761	2.206316	2.623244	3.308761	2.206316	3.906253	13.176391	3.315818	89	287	101
gene2179	NC_008261.1	2470211	2470750	+	protein_coding	CPF_RS10820	CPF_2222		WP_011591000.1	cupin domain-c	-1.314576	5130080	-1.191884	5907363	1.000000	5499000	5.539372	5.331171	5.109597	5.539372	5.331171	5.109597	3.116170	31.190927	5.720017	57	265	105
gene2180	NC_008261.1	2470782	2471831	+	protein_coding	CPF_RS10825	CPF_2223		WP_011591000.1	spermidine/puti	-0.7074182	5785742	**-0.8104276**	6366372	**2.0404610**	6423425	5.837591	5.734353	7.060050	5.837591	5.734353	7.060050	43.173317	77.371060	12301407	959	1643	3653
gene2181	NC_008261.1	2471834	2472679	+	protein_coding	CPF_RS10830	CPF_2224		WP_011591000.1	DNA-binding re	1.012147	3135546	**-0.8000000**	3237038	**2.0409295**	6282438	5.680909	5.131011	5.640144	5.680909	5.131011	5.640144	68.059390	30.186213	80247305	1251427	1701	3373
gene2182	NC_008261.1	2472673	2473473	+	protein_coding	CPF_RS10835	CPF_2225		WP_011591000.1	sensor histidine	-1.088311	5381995	**-2.8500000**	5899299	**2.1160000**	5965579	5.443387	5.321294	5.637886	5.443387	5.321294	5.637886	33.460825	57.038715	82589776	567	924	1871
gene2183	NC_008261.1	2473457	2474557	+	protein_coding	CPF_RS10840	CPF_2226		WP_011591000.1	spermidine/puti	-1.000501	6834139	-1.183010	7279796	1.891367	7273298	6.827101	8.841177	7.745636	6.827101	8.841177	7.745636	31.179266	152.948996	20934852	2089	3350	6418
gene2184	NC_008261.1	2474557	2475243	-	protein_coding	CPF_RS10845	CPF_2227		WP_011591000.1	nucleoside-diph	**-0.8802430**	1370230	**-2.8012404**	1544608	2.025323	1862964	5.545154	4.324157	5.888033	5.545154	4.324157	5.888033	43.440205	29072357	50344965	397	254	620
gene2185	NC_008261.1	2474428	2475897	+	protein_coding	CPF_RS10850	CPF_2228		WP_011591000.1	acylphosphatase	-1.631094	5274692	-1.328870	5134770	-1.227429	5489795	5.639604	4.933765	5.343964	5.639604	4.933765	5.343964	38.166193	43.219379	34572054	218	236	264
gene2186	NC_008261.1	2476160	2476778	-	protein_coding	CPF_RS10855	CPF_2229		WP_011591000.1	peptidyl-prolyl	-1.325434	2209777	-1.859219	2811429	-1.180640	2491197	2.237109	4.112399	1.790743	2.237109	4.112399	1.790743	5.942414	1.800423	21	54	29
gene2187	NC_008261.1	2476905	2478176	+	protein_coding	CPF_RS10860	CPF_2230		WP_011591000.1	2'-dATP-dependi	**-0.6266870**	**0.7179790**	**0.5171790**	6310417	-1.424444	5743602	6.044708	7.388135	5.490490	6.044708	7.388135	5.490490	49.388829	214421054	38414542	1329	5516	1382
gene2188	NC_008261.1	2478231	2478573	+	protein_coding	CPF_RS10865	CPF_2231		WP_011591000.1	protein translo	1.000000	1000000	1.000000	1000000	1.142485	4549314	4853415	2.055779	5.461240	4853415	2.055779	5.461240	1.201170	95825386	1.444446	262	1250	331
gene2189	NC_008261.1	2479465	2480475	+	protein_coding	CPF_RS10870	CPF_2232		WP_011591000.1	asparagine synth	**0.6708302**	6415841	**1.6108286**	6531505	1.126430	4806237	4.721125	8.718900	4.692883	4.721125	8.718900	4.692883	20.058213	502320062	24.725986	429	10263	707
gene2190	NC_008261.1	2480601	2481419	+	protein_coding	CPF_RS10875	CPF_2234		WP_011591000.1	4-hydroxybenz	**0.8018154**	3221046	**0.8653461**	3276873	1.071038	2424452	2.375455	4.339487	2.444651	2.375455	4.339487	2.444651	3.116170	29.180402	4.010130	32	46	95
gene2191	NC_008261.1	2481606	2482611	+	protein_coding	CPF_RS10880	CPF_2235		WP_011591000.1	2-hydroxyacyl-C	1.174530	4949466	1.189969	3348663	1.048016	3201352	2.891258	3.458010	2.357147	2.891258	3.458010	2.357147	3.334742	8.547737	42	253	70
gene2192	NC_008261.1	2481901	2482611	+	protein_coding	CPF_RS10885	CPF_2236		WP_011591000.1	LrgB family prot	**0.2005044**	4012107	**0.2408704**	3923371	-1.113195	3458346	3.538564	4.551593	3.381858	3.538564	4.551593	3.381858	7.911584	32.685756	8255122	119	470	186
gene2193	NC_008261.1	2483277	2483539	+	protein_coding	CPF_RS10890	CPF_2237		WP_011591000.1	tRNA-specific 2-t	-1.137949	5350000	-1.144453	5239000	1.000000	5499000	5.539372	5.331171	5.109597	5.539372	5.331171	5.109597	3.116170	31.190927	5.720017	57	265	105
gene2194	NC_008261.1	2485767	2486924	+	protein_coding	CPF_RS10900	CPF_2239		WP_011591000.1	arginyl-tRNA--p	-1.702274	4785742	**-2.8104276**	6366372	**2.0404610**	6423425	5.837591	5.734353	7.060050	5.837591	5.734353	7.060050	43.173317	77.371060	12301407	959	1643	3653
gene2195	NC_008261.1	2487897	2487544	-	protein_coding	CPF_RS10905	CPF_2240		WP_011591000.1	DNA-binding re	-1.187991	1368399	-1.191974	1189182	-1.412364	1201488	1.372665	2.144666	1.277000	1.372665	2.144666	1.277000	1.233937	3.772890	1.232686	13	38	33
gene2196	NC_008261.1	2487630	2489666	-	protein_coding	CPF_RS10910	CPF_2241		WP_011591000.1	sensor histidine	-1.030059	6574419	-1.019578	6584206	1.013222	5608631	6.015331	6.559239	5.570387	6.015331	6.559239	5.570387	0.348086	0.776764	0.399229	15	32	23
gene2197	NC_008261.1	2489666	2491542	+	protein_coding	CPF_RS10915	CPF_2242		WP_011591000.1	sensor histidine	-1.011425	5375513	-1.133143	5098531	-1.016339	5187187	1.000000	5499000	5.539372	1.000000	5499000	5.539372	0.863684	0.429856	0.602679	0.505914	17	23	27
gene2198	NC_008261.1	2491663	2492556	-	protein_coding	CPF_RS10920	CPF_2243		WP_011591000.1	DNA-binding re	-1.000000	2011076	1.240661	1294471	1.148234	2745651	4.935950	1.142234	2745651	4.935950	1.142234	2745651	4.935950	0.900040	8.240983	1.511016	18	156	40
gene2200	NC_008261.1	2492719	2493939	-	protein_coding	CPF_RS10925	CPF_2244		WP_011591000.1	alpha/beta hydr	-1.538129	3727060	-1.317996	3423955	-1.165503	3937524	4.004550	3.430351	3.828598	4.004550	3.430351	3.828598	11.907332	14.656602	11.440021	232	273	297
gene2201	NC_008261.1	2493762	2494356	+	protein_coding	CPF_RS10930	CPF_2245		WP_011591000.1	4-hydroxybenz	-1.447487	1166158	1.964906	1304102	-1.087187	1306032	2.819180	2.809011	2.379000	2.819180	2.809011	2.379000	0.682976	0.929514	1.000000	14	47	13
gene2202	NC_008261.1	2494499	2494584	+	tRNA	CPF_RS10935	CPF_2246		WP_011591000.1	tRNA-Leu	-1.000000	1000000	1.000000	1000000	1.142485	4549314	4853415	2.055779	5.461240	4853415	2.055779	5.461240	1.201170	95825386	0.900040	8.240983	1.511016	18	156	40
gene2203	NC_008261.1	2494584	2495769	-	protein_coding	CPF_RS10940	CPF_2247		WP_011591000.1	ATP-dependent	-1.150006	4241128	-1.448213	4355687	-1.070117	3745675	3.897109	4.230147	3.794979	3.897109	4.230147	3.794979	0.004237	2.897636	0.008910	214	854	350
gene2204	NC_008261.1	2495611	2496356	-	protein_coding	CPF_RS10945	CPF_2248		WP_011591000.1	sensor histidine	-1.582283	6610795	-1.557990	6597583	-1.019431	6339040	6.925238	6.925174	6.952939	6.925238	6.925174	6.952939	100.513798	108.219505	111.318731	1161	1195	1719
gene2205	NC_008261.1	2496356	2496963	+	protein_coding	CPF_RS10950	CPF_2249		WP_011591000.1	DNA-binding re	-1.307845	5739899	-1.271837	5491585	-1.312537	5192590	5.622277	5.545889	5.724427	5.622277	5.545889	5.724427	95.084661	125842.9	95.084661	1316	1641	2371
gene2206	NC_008261.1	2496963	2498256	-	protein_coding	CPF_RS10955	CPF_2250		WP_011591000.1	polymerase-rel	-1.143167	6374212	-1.249906	6436756	1.092491	6534980	6471461	6278424	6.590087	6471461	6278424	6.590087	69.678561	103533853	67492011	1257	2054	1952
gene2207	NC_008261.1	2498939	2498256	+	protein_coding	CPF_RS10960	CPF_2251		WP_011591000.1	DNA-binding re	-1.014144	5379370	-1.021337	5308273	-1.041739	5224819	4.339813	4.231617	4.229886	4.339813	4.231617	4.229886	44.725950	110433853	67492011	1257	2054	1952
gene2209	NC_008261.1	2501693	2502928	+	protein_coding	CPF_RS10970	CPF_2253		WP_011591000.1	aminopeptidase	**-0.7096828**	10397557	-1.707529	10081040	-1.587043	10803215	11.141522	9.703270	10.475180	11.141522	9.703270	10.475180	1845.903299	925.550427	1477.474698	48296	23136	51648
gene2210	NC_008261.1	2502940	2504190	+	protein_coding	CPF_RS10975	CPF_2254		WP_011591000.1	sensor histidine	-0.9000000	4819009	**0.1000000**	5091192	1.366494	4089724	3.879969	5.985783	4.330147	3.879969	5.985783	4.330147	10.444431	91.781007	16.500298	232	1949	490
gene2211	NC_008261.1	2504197	2505217	+	protein_coding	CPF_RS10980	CPF_2255		WP_011591000.1	protein translo	**3.7715664**	1859178	**4.1000000**	2011379	1.304267	1190000	5.098866	8.925174	5.922315	5.098866	8.925174	5.922315	2.546764	160271229	35797513	525	3277	1301
gene2212	NC_008261.1	2505734	2506080	-	protein_coding	RNase_P_RNA	CPF_RS14695	mpB		RNase P RNA c	1.114748	1547579	1.000000	1554550	1.114748	1547579	15.397832	15.554350	15.554350	15.397832	15.554350	15.554350	4985.154383	4443432.93903	4903080.53032	366931	311865	481187
gene2213	NC_008261.1	2506112	2506350	+	protein_coding	CPF_RS10985	CPF_2257		WP_011591000.1	protein-tyrosine	-1.000000	1000000	1.000000	1000000	1.231459	1231459	2.537488	3.509599	2.526456	2.537488	3.509599	2.526456	1.229521	15.008693	4.229521	4	15	8
gene2214	NC_008261.1	2506548	2507237	+	protein_coding	CPF_RS10990	CPF_2258		WP_011591000.1	sensor histidine	-1.000000	4819009	**0.1000000**	5091192	1.366494	4089724	3.879969	5.985783	4.330147	3.879969	5.985783	4.330147	10.444431	91.781007	16.500298	232	1949	490
gene2215	NC_008261.1	2507255	2507932	+	protein_coding	CPF_RS10995	CPF_2259		WP_011591000.1	DNA-binding re	-1.000000	1000000	1.000000	1000000	1.231459	1231459	2.537488	3.509599	2.526456	2.537488	3.509599	2.526456	1.229521	15.008693	4.229521	4	15	8
gene2216	NC_008261.1	2507831	2508811	+	protein_coding	CPF_RS11000	CPF_2260		WP_011591000.1	sensor histidine	-0.9000000	6918618	**0.6000000**	6745743	1.055455	5553488	5511492	8.136716	5.592557	5511492	8.136716	5.592557	35.079103	331.605068	40439787	728	6579	1122
gene2217	NC_008261.1	2509325	2510113	+	protein_coding	CPF_RS11005	CPF_2261		WP_011591000.1	sensor histidine	-1.417244	5282817	-1.381385	5886082	1.083229	5637435	5380661	6.093395	5.580066	5380661	6.093395	5.580066	0.683144	5.495399	37.085126	97450410	44186024	619	1555	988
gene2218	NC_008261.1	2510113	2510802	+	protein_coding	CPF_RS11010	CPF_2262		WP_011591000.1	protein translo	-1.000000	1000000	1.000000	1000000	1.142485	4549314	4853415	2.055779	5.461240	4853415	2.055779	5.461240	1.201170	95825386	0.900040	8.240983	1.511016	18	156	40
gene2219	NC_008261.1	2510816	2511703	+	protein_coding	CPF_RS11015	CPF_2263		WP_011591000.1	membrane prote	1.434796	3526719	1.830786	3425

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Supplementary Table 2 Primers

name	Base sequence (5'-3')	Fragment length
F-CPF_0394	5'-AAGGAGATATACATATGAAAGAATCTAGAAAAAAAC-3'	3039 bp
R-CPF_0394	5'-GGTGGTGGTGCTCGAGTTTTTTTCTTTTCTTAGTAAAC-3'	