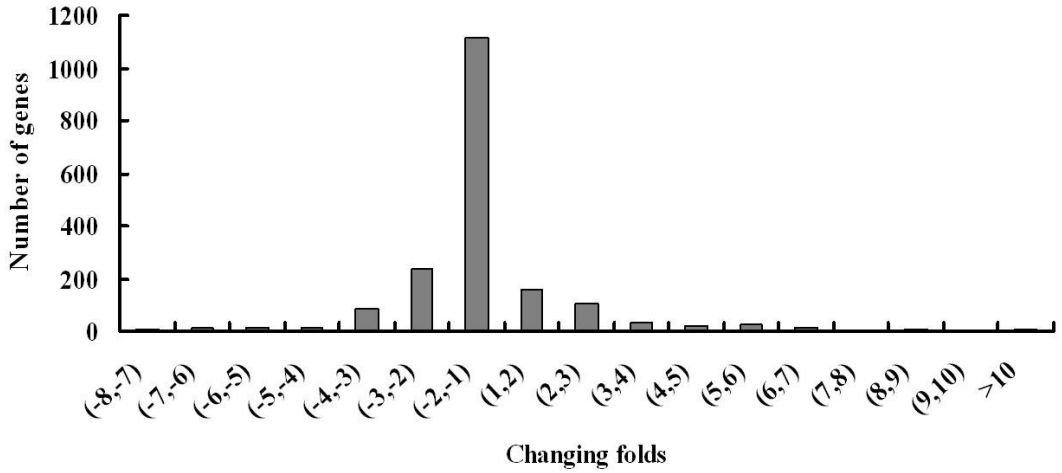
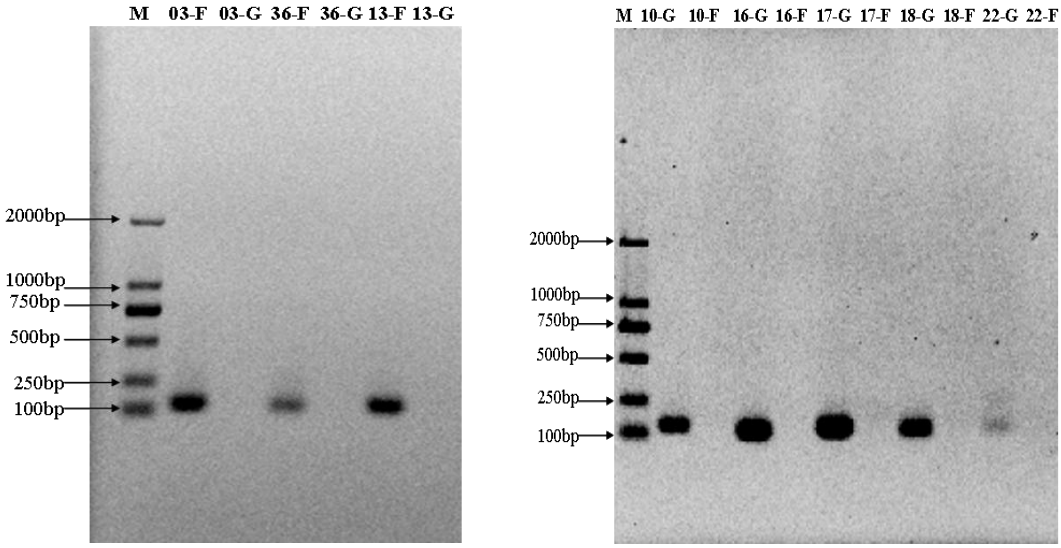
Supplementary materials:



Supplementary Figure S1. The number of DEGs with different up or down-regulating folds.



Supplementary Figure S2. The expression information of selected sRNA genes for RT-PCR under the two conditions. M, DL2000; F, fructose; G, syngas; 03, DSM-SR03; 36, DSM-SR36; 13, DSM-SR13; 10, DSM-SR10; 16, DSM-SR16; 17, DSM-SR17; 18, DSM-SR18; 22, DSM-SR22.

Supplementary Table S1. The primers for qRT-PCR analysis with target gene information.

Gene ID	Primers (5′→3′)	Length (bp)
CLJU_c31840	TATTTGTATCTACAGCCACG CAACTGCATAAGGATGTGAG	159
CLJU_c00900	AGGCTAGGTTTATTAGCAGA CTGTAGCTCCAGGTATGAGA	123
CLJU_c20600	TGCGATGAAGGTATTTACAC AGCTACAACGGAATCACCAG	81
CLJU_c06610	GAAACGGGAATGCTTATGTC GGGTATCACAGGCTCTTATT	250
CLJU_c07050	AAGGAATTAGGTACTGGAGCAA TCCGGTGAAGATTCGTGATA	86
CLJU_c11360	TGGACCTATGATGGGATTTG TACTCTTCCTTAGCCTCTTG	219
CLJU_c12770	AAGAAGGGAATAACGCCAGAA GAACCGCACCTGAAACCAAT	112
CLJU_c28660	CAAGCGATGATGAAACGATA CTCTGGCAACATTTCTGTCC	165
CLJU_c23060	GGGAGCGAAACCTCTGTATT TGTATCTCCTGCGGCTATTT	136
CLJU_c37550	ACTTGGCAGAATAGTTTGGA ATCTTTAATGCAGGATGACC	186
16S rRNA	TACTAGGTGTAGGAGGTATCG GTCAAGTCCAGGTAAGGTTC	173

16 **Supplementary Table S2.** The primers for RT-PCR analysis with target sRNA information.

sRNA	Primers (5′→3′)	Length (bp)
DSM-SR03	TTGATTTTCCTCCTCTAATTC GGTAGTATATTAACTTTAGATG	138
DSM-SR10	TTAGTTTAAGCGAATTTGGG ACTCGATACCCTGTCCTTTT	130
DSM-SR13	TTAGCATAGTAGTGGGTTTA GACCAGCTATGAGAAGTCAA	135
DSM-SR16	AGGCTTCCTGGCTCAGATTC GCCCACCGTTACTGTATGGA	100
DSM-SR17	ACGGATTTACAGCACCATCA AGAGTTGCAGCGGTCCCATA	120
DSM-SR18	CTCCGAAAGAATTAACAACA AGGATGAAACCCTAACTATG	108
DSM-SR22	TTCCACTCTGTTTATCCTAT GTTTAGTAGACTTCAGCGTA	107
DSM-SR36	ACTCCTTTCCAATTTAGCAT AAAACTTTAGGATTTATAATTAG	129

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Supplementary Table S3. DEGs up-regulated and down-regulated in *C. ljungdahlii* DSM 13528 grown on the CO-CO_2 mixture *vs* fructose. FDR, false discovery rate.

Gene	Gene function	FDR	Log_2 Ratio (CO-CO2/Fructose)	Regulation mode
CLJU_c00010	chromosomal replication initiator protein	0	-1.557113238	DOWN
CLJU_c00020	DNA polymerase III subunit beta	0	-1.358931866	DOWN
CLJU_c00030	hypothetical protein	5.19E-133	-1.68839472	DOWN
CLJU_c00040	DNA replication and repair protein RecF	0	-1.355306875	DOWN
CLJU_c00070	DNA gyrase subunit A	0	-1.196875139	DOWN
CLJU_c00170	seryl-tRNA synthetase	0	-1.615728932	DOWN
CLJU_c00220	phage protein with HTH motif	9.62E-24	-1.388638006	DOWN
CLJU_c00330	hypothetical protein	1.37E-14	-1.16894963	DOWN
CLJU_c00350	phage-like terminase	0.0003257	-3.26053318	DOWN
CLJU_c00360	hypothetical protein	4.68E-68	-2.538872006	DOWN
CLJU_c00400	phage-like protein	0.0008593	-1.912609876	DOWN
CLJU_c00410	hypothetical protein	1.22E-23	-1.333596642	DOWN
CLJU_c00430	hypothetical protein	3.96E-09	-2.845495681	DOWN
CLJU_c00510	hypothetical protein	1.29E-31	-1.121556767	DOWN
CLJU_c00520	hypothetical protein	5.84E-25	-1.1486403	DOWN
CLJU_c00530	hypothetical protein	7.33E-79	-1.036007541	DOWN
CLJU_c00540	hypothetical protein	2.79E-152	-1.459953254	DOWN
CLJU_c00550	hypothetical protein	3.14E-05	-1.934304948	DOWN
CLJU_c00580	DNA-binding protein	1.51E-12	-1.600019646	DOWN
CLJU_c00590	IclR family transcriptional regulator	1.75E-76	-1.615241142	DOWN
CLJU_c00630	hypothetical protein	0.0003671	-2.00776711	DOWN
CLJU_c00640	transcriptional regulatory protein	3.14E-32	-1.891471109	DOWN

CLJU_c00670	hydroxyacid dehydrogenase /reductase-like protein	0	1.193788932	UP
CLJU_c00680	hydroxyacid dehydrogenase/reductase	0	1.331926327	UP
CLJU_c00710	phosphatidylserine decarboxylase	1.03E-50	-1.366327844	DOWN
CLJU_c00760	tRNA-specific adenosine deaminase	1.88E-123	-1.922241639	DOWN
CLJU_c00780	transporter protein	2.84E-15	-2.146665215	DOWN
CLJU_c00890	hypothetical protein	4.20E-06	-1.170591055	DOWN
CLJU_c00900	sugar fermentation stimulation protein	5.89E-13	-2.00776711	DOWN
CLJU_c00960	aminotransferase	0	-3.951624031	DOWN
CLJU_c00970	D-3-phosphoglycerate dehydrogenase	0	-4.086743969	DOWN
CLJU_c00980	hypothetical protein	0	-3.643835953	DOWN
CLJU_c01040	HD superfamily hydrolase	2.50E-18	-1.215678944	DOWN
CLJU_c01050	response regulator	1.45E-18	-1.26053318	DOWN
CLJU_c01060	sensory transduction histidine kinase	3.78E-23	-1.654812119	DOWN
CLJU_c01070	ABC transporter ATPase	1.98E-21	-2.116143271	DOWN
CLJU_c01080	ABC transporter permease	2.29E-50	-1.835877678	DOWN
CLJU_c01120	uracil DNA glycosylase	2.88E-12	-1.374424146	DOWN
CLJU_c01180	foldase-like protein	0	-1.925877351	DOWN
CLJU_c01260	sugar ABC transporter periplasmic protein	0	3.739994025	UP
CLJU_c01270	sugar ABC transporter ATPase	1.45E-210	2.802551347	UP
CLJU_c01280	sugar ABC transporter permease	1.12E-72	2.556602763	UP
CLJU_c01340	hypothetical protein	5.54E-19	-1.573472492	DOWN
CLJU_c01370	hypothetical protein	5.46E-17	-1.871679612	DOWN
CLJU_c01480	corrin/porphyrin methyltransferase	6.66E-144	-1.348480879	DOWN
CLJU_c01490	hypothetical protein	0	-1.100885083	DOWN

CLJU_c01500	hypothetical protein	0	-1.19998759	DOWN
CLJU_c01510	regulators of stationary/sporulation gene expression	0	-2.005012216	DOWN
CLJU_c01520	tRNA nucleotidyltransferase	1.08E-113	-1.007275334	DOWN
CLJU_c01580	hypothetical protein	6.32E-89	2.866511365	UP
CLJU_c01600	polysaccharide deacetylase	1.73E-39	-1.141460362	DOWN
CLJU_c01610	polysaccharide deacetylase	2.07E-124	-1.353916626	DOWN
CLJU_c01650	antibiotic resistance protein	1.36E-09	-1.178621982	DOWN
CLJU_c01680	hypothetical protein	4.03E-24	-1.398036704	DOWN
CLJU_c01690	hypothetical protein	4.56E-28	-1.074159981	DOWN
CLJU_c01740	deoxyribonuclease	2.19E-24	-1.877676086	DOWN
CLJU_c01750	hypothetical protein	6.43E-115	-1.155356372	DOWN
CLJU_c01760	hypothetical protein	1.02E-07	-1.787078994	DOWN
CLJU_c01780	hypothetical protein	1.31E-67	-1.875166547	DOWN
CLJU_c01790	hypothetical protein	8.69E-28	-2.15731246	DOWN
CLJU_c01830	hypothetical protein	9.85E-06	-3.701105771	DOWN
CLJU_c01840	anaerobic ribonucleoside-triphosphate reductase	0	-1.390645799	DOWN
CLJU_c01850	anaerobic ribonucleoside-triphosphate reductase activating protein	3.50E-186	-1.77714262	DOWN
CLJU_c01860	transcriptional regulator	1.46E-123	-1.711662124	DOWN
CLJU_c01870	hydrolase	4.62E-15	-1.12353225	DOWN
CLJU_c01900	transcriptional regulator	0	-1.065075583	DOWN
CLJU_c01910	hypothetical protein	0	-1.340078643	DOWN
CLJU_c01930	mannose-1-phosphate guanylyltransferase	1.68E-06	-2.475546071	DOWN
CLJU_c01940	hypothetical protein	0.0001534	-1.221362583	DOWN

CLJU_c01970	Fe-S oxidoreductase	0	-1.675742418	DOWN
CLJU_c01980	solute-binding protein	4.91E-186	-1.754062127	DOWN
CLJU_c01990	glycosyltransferase	0.0003338	-1.416652382	DOWN
CLJU_c02030	spore coat protein	1.43E-06	-1.412536273	DOWN
CLJU_c02060	peptidase	0.0004185	-1.398036704	DOWN
CLJU_c02070	hypothetical protein	1.24E-212	-1.27589749	DOWN
CLJU_c02080	hypothetical protein	1.05E-99	-2.629351407	DOWN
CLJU_c02110	4-diphosphocytidyl-2-C-methyl-D-erythritol kinase	1.25E-45	-1.583184249	DOWN
CLJU_c02130	spore germination protein GerA	0.000266	-1.435030911	DOWN
CLJU_c02140	spore germination protein GerAB/AC	4.81E-66	-1.694582648	DOWN
CLJU_c02150	stage II sporulation protein R	8.33E-53	-1.978434512	DOWN
CLJU_c02220	transcriptional termination factor rho	0	-1.217496986	DOWN
CLJU_c02230	50S ribosomal protein L31	1.03E-110	-1.537287293	DOWN
CLJU_c02290	translation factor	1.10E-163	-1.178405422	DOWN
CLJU_c02300	protein-tyrosine-phosphatase	5.25E-100	-1.282886245	DOWN
CLJU_c02360	F1Fo ATPase subunit I	0	-1.961088615	DOWN
CLJU_c02370	F1Fo ATPase subunit A	0	-1.100827848	DOWN
CLJU_c02380	F1F0 ATPase subunit C	0	-1.480477375	DOWN
CLJU_c02390	F1Fo ATPase subunit B	0	-1.156231446	DOWN
CLJU_c02400	F1Fo ATPase subunit delta	0	-1.38008241	DOWN
CLJU_c02430	F1Fo ATPase subunit beta	0	-1.098780512	DOWN
CLJU_c02440	F1Fo ATPase subunit epsilon	0	-1.132294345	DOWN
CLJU_c02520	hypothetical protein	1.68E-09	-2.097034448	DOWN
CLJU_c02510	hypothetical protein	3.29E-28	-1.65126679	DOWN
CLJU_c02580	S-adenosylmethionine synthetase	0	-1.071717907	DOWN
CLJU_c02590	exodeoxyribonuclease V subunit	2.20E-75	-1.065549481	DOWN

	alpha			
CLJU_c02620	ribosome-associated protein	0	1.252769012	UP
CLJU_c02680	transcriptional accessory protein	6.96E-144	-1.020378061	DOWN
CLJU_c02690	hypothetical protein	1.85E-182	1.136439604	UP
CLJU_c02710	hypothetical protein	7.98E-20	-1.171265842	DOWN
CLJU_c02720	phosphohydrolase	9.30E-59	-1.180208874	DOWN
CLJU_c02770	hypothetical protein	6.20E-22	-2.280997282	DOWN
CLJU_c02780	hypothetical protein	1.17E-149	-1.701583248	DOWN
CLJU_c02790	hypothetical protein	4.16E-91	-1.930555251	DOWN
CLJU_c02800	adenylate cyclase	5.18E-88	-1.404598077	DOWN
CLJU_c02900	hypothetical protein	7.96E-52	-2.373125006	DOWN
CLJU_c02920	hypothetical protein	9.81E-14	-1.209788381	DOWN
CLJU_c02930	hypothetical protein	6.52E-14	-1.118140081	DOWN
CLJU_c02940	kinase	0	-1.845227297	DOWN
CLJU_c02950	hypothetical protein	3.30E-83	-1.358206109	DOWN
CLJU_c02960	radical SAM domain-containing protein	7.55E-48	-1.057426429	DOWN
CLJU_c03020	hypothetical protein	1.10E-121	-1.052597594	DOWN
CLJU_c03030	CopG-family transcriptional regulator	3.77E-266	-1.332749861	DOWN
CLJU_c03040	transcriptional regulator	5.65E-129	-1.031975386	DOWN
CLJU_c03080	cell division protein	1.47E-212	-1.105230114	DOWN
CLJU_c03120	excinuclease ABC subunit A	6.63E-267	-1.220431328	DOWN
CLJU_c03130	hypothetical protein	7.39E-77	-1.442878504	DOWN
CLJU_c03150	peptidoglycan synthetase	1.38E-100	-1.061571298	DOWN
CLJU_c03170	excinuclease ABC subunit C	2.64E-195	-1.050933644	DOWN
CLJU_c03180	UDP-N-acetylenolpyruvoylglucosamine reductase	2.56E-126	-1.063202681	DOWN

CLJU_c03250	6-phosphofructokinase	0	-1.632097865	DOWN
CLJU_c03260	pyruvate kinase	0	-1.826783985	DOWN
CLJU_c03270	rRNA (uracil-5-)-methyltransferase	4.68E-92	-1.567267601	DOWN
CLJU_c03460	hypothetical protein	0.0003536	-1.726196752	DOWN
CLJU_c03800	hypothetical protein	1.19E-62	-1.229566829	DOWN
CLJU_c03810	transcriptional regulator	2.49E-18	-1.433725895	DOWN
CLJU_c03840	dihydrodipicolinate synthese family protein	7.29E-08	1.471533615	UP
CLJU_c03850	4-hydroxythreonine-4-phosphate dehydrogenase	1.73E-07	1.382434924	UP
CLJU_c03860	D-isomer specific 2-hydroxyacid dehydrogenase	6.98E-06	1.224893647	UP
CLJU_c03870	transporter protein	8.70E-10	1.376896741	UP
CLJU_c03930	hypothetical protein	2.91E-118	-1.971565284	DOWN
CLJU_c03940	hypothetical protein	2.33E-78	1.457339733	UP
CLJU_c03970	6-pyruvoyl-tetrahydropterin synthase	1.40E-244	-1.014444666	DOWN
CLJU_c03980	hypothetical protein	1.10E-141	-1.076249024	DOWN
CLJU_c04010	diguanylate cyclase	0	-1.510023209	DOWN
CLJU_c04020	6-pyruvoyl-tetrahydropterin synthase	4.04E-53	-1.458665883	DOWN
CLJU_c04040	ammonium transporter	1.20E-93	-2.692947248	DOWN
CLJU_c04110	ATP-dependent RNA helicase	7.76E-34	-1.474657985	DOWN
CLJU_c04120	deoxyguanosinetriphosphate triphosphohydrolase	8.61E-26	-1.704023255	DOWN
CLJU_c04130	Ca2+/Na+ antiporter	1.30E-11	-4.719964799	DOWN
CLJU_c04150	transcriptional regulator	8.88E-141	-2.161323576	DOWN
CLJU_c04170	aspartate ammonia-lyase	0	2.489919351	UP
CLJU_c04180	amino acid ABC transporter	1.41E-29	-2.879443013	DOWN
CLJU_c04200	sigma factor	4.01E-44	-1.007397235	DOWN
CLJU_c04210	hypothetical protein	8.74E-58	-1.194829933	DOWN

CLJU_c04230	hypothetical protein	1.37E-14	-1.009571606	DOWN
CLJU_c04260	hypothetical protein	6.48E-28	-1.665228735	DOWN
CLJU_c04300	dihydrodipicolinate synthase	2.45E-60	2.224893647	UP
CLJU_c04310	Na+/H+-dicarboxylate symporter	9.32E-97	2.458948986	UP
CLJU_c04370	transporter protein	7.51E-172	-1.244992329	DOWN
CLJU_c04380	secretion protein	1.58E-115	-1.268161194	DOWN
CLJU_c04390	secretion protein HlyD family protein	2.72E-282	-1.547915763	DOWN
CLJU_c04400	carbamoyl-phosphate synthase small subunit	4.23E-41	-1.506589251	DOWN
CLJU_c04410	carbamoyl-phosphate synthase large subunit	9.41E-94	-1.230179195	DOWN
CLJU_c04420	N-acyl-L-amino acid amidohydrolase	2.01E-81	-1.578492373	DOWN
CLJU_c04430	sensor histidine kinase	1.82E-69	-1.432280917	DOWN
CLJU_c04500	hypothetical protein	4.35E-32	-1.161430423	DOWN
CLJU_c04550	glycosyltransferase	3.06E-07	-1.276300496	DOWN
CLJU_c04560	signal transduction histidine kinase	1.65E-39	-1.276393835	DOWN
CLJU_c04570	hypothetical protein	1.28E-22	-1.639044803	DOWN
CLJU_c04580	ABC transporter ATPase	1.85E-26	-1.902739632	DOWN
CLJU_c04610	metal ion ABC transporter permease	3.00E-11	-1.321074722	DOWN
CLJU_c04620	hypothetical protein	1.16E-41	-1.062330224	DOWN
CLJU_c04650	aromatic amino acid aminotransferase	1.52E-112	-1.357331291	DOWN
CLJU_c04680	permease	2.69E-12	-1.277606693	DOWN
CLJU_c04700	hypothetical protein	1.10E-27	-1.6385333	DOWN
CLJU_c04710	hypothetical protein	2.48E-26	-1.625772446	DOWN
CLJU_c04720	hypothetical protein	5.87E-24	-1.629028093	DOWN
CLJU_c04730	permease	1.26E-53	-1.776548327	DOWN

CLJU_c04740	protein kinase-like protein	1.07E-43	-1.637458552	DOWN
CLJU_c04820	cell wall hydrolyse	0.0003557	-1.230785837	DOWN
CLJU_c04850	hypothetical protein	3.22E-37	6.453712338	UP
CLJU_c04860	hypothetical protein	3.19E-39	5.516448093	UP
CLJU_c04870	phosphoesterase	6.55E-106	5.984227054	UP
CLJU_c04880	peptidase	8.23E-89	5.408115471	UP
CLJU_c04890	molybdate-binding protein	3.48E-34	6.319411246	UP
CLJU_c04900	nitrogenase iron protein	3.84E-06	6.131784243	UP
CLJU_c04930	nitrogenase molybdenum-iron protein subunit alpha	3.84E-06	6.131784243	UP
CLJU_c04940	nitrogenase molybdenum-iron protein subunit beta	1.08E-07	6.546821742	UP
CLJU_c04960	nitrogenase associated protein N	6.87E-16	7.868749837	UP
CLJU_c04970	homocitrate synthase subunit omega	3.84E-06	6.131784243	UP
CLJU_c04980	homocitrate synthase subunit alpha	8.58E-05	3.868749837	UP
CLJU_c04990	surface-layer protein	0	-1.536189451	DOWN
CLJU_c05010	transcriptional regulator	4.99E-10	-1.893750849	DOWN
CLJU_c05020	sensory transduction histidine kinase	3.94E-29	-2.536391626	DOWN
CLJU_c05030	hypothetical protein	0.0002077	-2.067888102	DOWN
CLJU_c05050	hypothetical protein	2.09E-18	-2.213990594	DOWN
CLJU_c05060	hypothetical protein	0	-1.451311497	DOWN
CLJU_c05070	hypothetical protein	0	-1.40730046	DOWN
CLJU_c05080	hypothetical protein	0	-1.209697673	DOWN
CLJU_c05090	hypothetical protein	5.81E-130	-1.151787532	DOWN
CLJU_c05130	hypothetical protein	1.89E-149	-1.028252474	DOWN
CLJU_c05150	capsular polysaccharide biosynthesis protein	8.51E-186	-1.198019175	DOWN
CLJU_c05160	exopolysaccharide biosynthesis protein	2.11E-134	-1.392571493	DOWN

CLJU_c05170	hypothetical protein	1.44E-10	3.925333365	UP
CLJU_c05180	hypothetical protein	2.32E-08	3.868749837	UP
CLJU_c05260	hypothetical protein	8.87E-87	-1.469358185	DOWN
CLJU_c05270	glycosyltransferase	3.56E-63	-1.142979968	DOWN
CLJU_c05280	membrane protein	6.21E-43	-1.279656903	DOWN
CLJU_c05290	glycosyltransferase	1.56E-87	-1.268520071	DOWN
CLJU_c05300	glycosyltransferase	1.45E-37	-1.182232461	DOWN
CLJU_c05320	dTDP glucose 4, 6-dehydratase	1.32E-84	-1.232437978	DOWN
CLJU_c05330	dTDP-glucose pyrophosphorylase	9.27E-70	-1.173279208	DOWN
CLJU_c05340	dTDP-4-dehydrorhamnose reductase	8.29E-68	-1.24070655	DOWN
CLJU_c05350	dTDP-4-dehydrorhamnose 3,5-epimerase	1.51E-53	-1.180511096	DOWN
CLJU_c05360	hypothetical protein	6.24E-13	-1.468128599	DOWN
CLJU_c05370	hypothetical protein	8.07E-27	-1.7576893	DOWN
CLJU_c05460	hypothetical protein	3.63E-12	-2.055214272	DOWN
CLJU_c05470	hypothetical protein	1.62E-09	-4.430458181	DOWN
CLJU_c05520	polysaccharide biosynthesis protein	9.30E-08	-1.602925377	DOWN
CLJU_c05540	bifunctional enzyme mannose-1-phosphate guanylyltransferase /mannose-6-phosphate isomerase	3.72E-07	-1.230785837	DOWN
CLJU_c05570	dTDP-4-dehydrorhamnose reductase	1.09E-07	-1.077669123	DOWN
CLJU_c05590	hypothetical protein	0	3.187130598	UP
CLJU_c05640	hydrolase	1.61E-79	-1.198196124	DOWN
CLJU_c05650	ABC transporter	4.42E-201	-1.444272705	DOWN
CLJU_c05660	ABC transporter ATPase	1.00E-117	-1.942843795	DOWN
CLJU_c05740	hypothetical protein	1.34E-55	-1.389512631	DOWN
CLJU_c05750	hypothetical protein	1.14E-24	-1.582461275	DOWN
CLJU_c05760	hypothetical protein	6.15E-33	-1.230390307	DOWN

CLJU_c05820	Fe3+ ABC transporter periplasmic protein	4.05E-189	-2.068378731	DOWN
CLJU_c05830	Fe3+-siderophore ABC transporter permease	2.48E-115	-2.016398979	DOWN
CLJU_c05840	Fe3+ ABC transporter ATPase	1.47E-234	-2.450752337	DOWN
CLJU_c05850	sporulation protein YtaF-like protein	7.63E-70	-2.600272551	DOWN
CLJU_c05860	surface-layer protein	0	-1.564661114	DOWN
CLJU_c05910	FAD/FMN-containing dehydrogenase	2.42E-230	-1.457877192	DOWN
CLJU_c05930	hypothetical protein	7.76E-65	-1.8845955	DOWN
CLJU_c05970	hypothetical protein	2.94E-12	-2.181098712	DOWN
CLJU_c05980	signal peptidase	1.45E-159	-1.596000102	DOWN
CLJU_c06030	methyl-accepting chemotaxis protein	4.68E-120	2.068541809	UP
CLJU_c06040	protease	6.68E-262	-1.370584315	DOWN
CLJU_c06050	protease	3.14E-181	-1.681126719	DOWN
CLJU_c06060	hypothetical protein	3.14E-80	-1.551702342	DOWN
CLJU_c06070	Fe2+/Zn2+ uptake regulation protein	2.62E-68	-1.717285698	DOWN
CLJU_c06080	hypothetical protein	9.17E-23	-2.503026807	DOWN
CLJU_c06090	HD-GYP domain-containing protein	1.90E-265	-1.321148462	DOWN
CLJU_c06100	membrane-associated protein	1.58E-65	-1.892289892	DOWN
CLJU_c06110	cell division protein FtsH-like protein	6.64E-57	-2.631981411	DOWN
CLJU_c06140	hypothetical protein	3.83E-23	-1.030607086	DOWN
CLJU_c06150	transcriptional regulator	0	-1.123837662	DOWN
CLJU_c06160	transcriptional regulator	9.12E-226	-1.021541426	DOWN
CLJU_c06180	polysaccharide deacetylase	6.35E-22	-1.290662846	DOWN
CLJU_c06190	cobyric acid synthase	1.45E-144	-1.424841056	DOWN
CLJU_c06200	UDP-N-acetylmuramyl tripeptide synthetase	4.74E-186	-1.630699264	DOWN

CLJU_c06220	undecaprenyl-diphosphatase	0	-1.73583771	DOWN
CLJU_c06270	amidohydrolase	3.95E-10	-2.582461275	DOWN
CLJU_c06280	ABC transporter ATPase	6.43E-05	-2.181098712	DOWN
CLJU_c06290	ABC transporter permease	0.0009885	-1.623103259	DOWN
CLJU_c06300	ABC transporter periplasmic protein	2.53E-08	-1.743855419	DOWN
CLJU_c06330	transporter protein	4.46E-09	-1.106620496	DOWN
CLJU_c06380	ATPase	5.43E-07	-1.02664512	DOWN
CLJU_c06390	hypothetical protein	3.19E-15	-1.129049255	DOWN
CLJU_c06430	hypothetical protein	3.43E-24	-2.288367388	DOWN
CLJU_c06440	hypothetical protein	9.88E-08	-2.662631623	DOWN
CLJU_c06450	transcriptional regulatory protein	1.62E-83	-1.487666634	DOWN
CLJU_c06460	hypothetical protein	4.13E-08	-1.028490589	DOWN
CLJU_c06470	transporter protein	0.0008025	-1.169385292	DOWN
CLJU_c06480	ABC transporter permease	0.0002097	-1.775106353	DOWN
CLJU_c06490	ABC transporter ATPase	9.04E-12	-1.297527387	DOWN
CLJU_c06510	transcriptional regulator	3.22E-08	-1.280997282	DOWN
CLJU_c06580	permease	2.76E-28	-1.426891566	DOWN
CLJU_c06590	ComE-like protein	1.41E-70	-1.41680912	DOWN
CLJU_c06600	1-acyl-sn-glycerol-3-phosphate acyltransferase	7.76E-59	-1.583574895	DOWN
CLJU_c06750	hypothetical protein	4.10E-33	-1.306629595	DOWN
CLJU_c06760	transcriptional regulator	1.25E-174	-1.943317212	DOWN
CLJU_c06770	xanthine and CO dehydrogenases maturation protein	2.16E-285	2.159563231	UP
CLJU_c06810	RNA polymerase sigma factor	4.40E-07	-1.190143852	DOWN
CLJU_c06830	glycosyl transferase family protein	2.18E-75	-1.023746403	DOWN
CLJU_c06890	cation-transporting ATPase	2.93E-19	-1.186301786	DOWN
CLJU_c06900	nucleic acid-binding protein	2.03E-77	-1.106015669	DOWN

CLJU_c06910	hypothetical protein	1.17E-18	-2.568655475	DOWN
CLJU_c07030	NADH dehydrogenase I subunit E	0	2.475488955	UP
CLJU_c07040	NADH dehydrogenase I subunit F	0	2.821197581	UP
CLJU_c07050	NADH dehydrogenase-like protein	0	3.006338028	UP
CLJU_c07060	4Fe-4S ferredoxin	0	2.883873269	UP
CLJU_c07070	Fe-Fe hydrogenase 2	0	2.774994256	UP
CLJU_c07080	Fe-S-cluster-containing hydrogenase components 2	0	2.437771821	UP
CLJU_c07100	microcompartment shellprotein	1.26E-07	-1.03290411	DOWN
CLJU_c07110	methyl-accepting chemotaxis protein	1.68E-192	-1.61623654	DOWN
CLJU_c07120	aminoacid permease	0	-2.077754255	DOWN
CLJU_c07140	phenylalanine biosynthesis protein	2.44E-98	-1.898246176	DOWN
CLJU_c07150	homoserine dehydrogenase	2.65E-52	-1.732878117	DOWN
CLJU_c07160	homoserine kinase	7.60E-30	-1.560601841	DOWN
CLJU_c07170	hypothetical protein	6.15E-177	-1.468562786	DOWN
CLJU_c07180	transmembrane protein	1.05E-77	-1.256405294	DOWN
CLJU_c07260	septum site-determining protein MinC	1.92E-163	-1.373197453	DOWN
CLJU_c07290	rod shape-determining protein RodA	9.62E-247	-1.572957151	DOWN
CLJU_c07300	methylglyoxal synthase	1.70E-225	-1.612610885	DOWN
CLJU_c07310	endopeptidase	5.13E-13	-3.247594124	DOWN
CLJU_c07320	stage IV sporulation protein FB	1.36E-05	-1.793028261	DOWN
CLJU_c07330	Fe-S oxidoreductase	5.29E-138	-1.660630659	DOWN
CLJU_c07340	hypothetical protein	7.20E-52	-1.72715313	DOWN
CLJU_c07350	ribonuclease E	6.55E-104	-1.334254536	DOWN
CLJU_c07360	50S ribosomal protein L21	0	-1.247467932	DOWN
CLJU_c07440	D-alanyl-D-alanine carboxypeptidase	1.37E-138	-1.851305979	DOWN

CLJU_c07500	methionine synthase	2.76E-23	1.318869795	UP
CLJU_c07510	cobalamin B12-binding methyltransferase	2.15E-83	1.688324423	UP
CLJU_c07520	corrinoid protein methyltransferase	4.13E-120	1.83805304	UP
CLJU_c07530	metal-binding protein	2.43E-34	1.206971739	UP
CLJU_c07550	methionine synthase	7.75E-45	1.340818281	UP
CLJU_c07560	cobalamin B12-binding methyltransferase	7.71E-78	1.462429555	UP
CLJU_c07570	corrinoid protein methyltransferase	6.08E-49	1.279516899	UP
CLJU_c07590	secretion protein HlyD	6.13E-06	-1.845495681	DOWN
CLJU_c07600	transporter protein	8.28E-11	-1.324191817	DOWN
CLJU_c07620	transporter protein	3.98E-66	-1.941756222	DOWN
CLJU_c07690	ABC transporter permease	1.73E-20	-1.503804331	DOWN
CLJU_c07710	two component sensor kinase	5.03E-60	-2.11993485	DOWN
CLJU_c07720	transcriptional regulator	0	-1.717837477	DOWN
CLJU_c07730	hydroxylamine reductase	0	1.403297298	UP
CLJU_c07760	ABC transporter ATPase	5.95E-11	-1.393621413	DOWN
CLJU_c07780	ABC transporter ATPase	5.13E-07	-1.398036704	DOWN
CLJU_c07790	permease	5.20E-53	-1.840908411	DOWN
CLJU_c07800	signal transduction histidine kinase	2.76E-13	-1.323542977	DOWN
CLJU_c07810	hypothetical protein	9.97E-61	-2.175313047	DOWN
CLJU_c07840	two-component sensor histidine kinase	4.66E-29	-1.165252676	DOWN
CLJU_c07850	hypothetical protein	3.88E-42	-1.331285953	DOWN
CLJU_c07860	hypothetical protein	2.28E-85	-1.747361362	DOWN
CLJU_c07870	cation-transporting ATPase	2.04E-106	-1.249935989	DOWN
CLJU_c07880	hypothetical protein	4.04E-13	-1.339007238	DOWN
CLJU_c07890	DNA polymerase III subunit delta	2.79E-50	-1.81870538	DOWN

CLJU_c07900	30S ribosomal protein S20	0	-2.012197134	DOWN
CLJU_c07910	germination protease	2.86E-05	-1.323542977	DOWN
CLJU_c07940	GTP-binding protein LepA	0	-1.556061501	DOWN
CLJU_c07950	oxygen-independent coproporphyrinogen III oxidase	1.20E-174	-1.851477203	DOWN
CLJU_c08000	50S ribosomal protein L11 methyltransferase	3.11E-181	-1.523299202	DOWN
CLJU_c08010	hypothetical protein	1.91E-98	-1.291897351	DOWN
CLJU_c08020	oxidoreductase	9.35E-158	-1.272329607	DOWN
CLJU_c08040	30S ribosomal protein S21	0	-1.437667211	DOWN
CLJU_c08050	hypothetical protein	0	-1.343877986	DOWN
CLJU_c08060	hypothetical protein	2.00E-08	-2.756959006	DOWN
CLJU_c08070	membrane-associated phosphohydrolase	2.08E-207	-1.424572726	DOWN
CLJU_c08080	hypothetical protein	1.81E-101	-1.930384578	DOWN
CLJU_c08090	diacylglycerol kinase	2.87E-33	-1.915230577	DOWN
CLJU_c08150	transcriptional regulator	7.00E-09	-1.076108609	DOWN
CLJU_c08170	isochorismatase	3.28E-11	-1.806815212	DOWN
CLJU_c08180	hypothetical protein	2.86E-07	-1.368786071	DOWN
CLJU_c08190	hypothetical protein	2.92E-06	-1.321074722	DOWN
CLJU_c08200	spore coat protein	1.28E-23	-2.657050591	DOWN
CLJU_c08210	DNA primase	0	-1.358187512	DOWN
CLJU_c08240	hypothetical protein	3.25E-130	-1.185894379	DOWN
CLJU_c08300	hypothetical protein	1.79E-10	-1.065035986	DOWN
CLJU_c08310	hypothetical protein	5.10E-06	-1.162129476	DOWN
CLJU_c08320	transcriptional regulator-like protein	5.83E-12	-1.417679577	DOWN
CLJU_c08370	hypothetical protein	0.0004747	-2.540641099	DOWN
CLJU_c08410	prolipoprotein diacylglyceryl transferase	1.68E-62	-1.716447458	DOWN

CLJU_c08420	hypothetical protein	1.39E-15	-1.44531614	DOWN
CLJU_c08440	transcriptional regulator	2.22E-18	-1.415376225	DOWN
CLJU_c08450	Na+ driven multidrug efflux pump	1.17E-45	-1.503612979	DOWN
CLJU_c08460	methyltransferase	3.49E-75	-2.054329997	DOWN
CLJU_c08470	hypothetical protein	1.21E-26	-1.633750503	DOWN
CLJU_c08480	permease	0	-4.694083139	DOWN
CLJU_c08490	spore germination protein	1.09E-07	-1.23977462	DOWN
CLJU_c08500	spore germination protein	4.93E-28	-2.825732426	DOWN
CLJU_c08510	spore germination protein	6.99E-47	-1.210875294	DOWN
CLJU_c08520	hydrolase	3.96E-249	1.26868138	UP
CLJU_c08540	phosphoribosylaminoimidazole carboxylase	0	-4.521657996	DOWN
CLJU_c08550	phosphoribosylaminoimidazole-succinocarboxamide synthase	0	-3.637739787	DOWN
CLJU_c08560	amidophosphoribosyltransferase	0	-3.473365744	DOWN
CLJU_c08570	phosphoribosylformylglycinamidine cyclo-ligase	0	-3.552811937	DOWN
CLJU_c08580	folate-dependent phosphoribosylglycinamide formyltransferase PurN	8.41E-285	-3.381713848	DOWN
CLJU_c08590	bifunctional purine biosynthesis protein PurH	0	-3.563310174	DOWN
CLJU_c08600	phosphoribosylamine-glycine ligase	0	-4.122335886	DOWN
CLJU_c08610	exopolysaccharide biosynthesis protein	2.56E-137	-1.209627287	DOWN
CLJU_c08620	hypothetical protein	8.50E-181	-1.287372344	DOWN
CLJU_c08630	Zn-dependent hydrolase, glyoxylase II family	3.81E-47	-1.26053318	DOWN
CLJU_c08640	hypothetical protein	1.90E-177	-1.673869619	DOWN

CLJU_c08690	oxidoreductase	2.73E-06	-1.896121754	DOWN
CLJU_c08720	2-dehydropantoate 2-reductase	1.86E-07	-2.623103259	DOWN
CLJU_c08740	branched-chain amino acid aminotransferase	6.60E-20	-2.197339353	DOWN
CLJU_c08750	tRNA (uracil-5-) -methyltransferase, SAM-dependent	0	-1.148842593	DOWN
CLJU_c08760	hypothetical protein	0	-1.307518781	DOWN
CLJU_c08770	alkaline phosphatase superfamily enzyme	3.08E-117	-1.870073703	DOWN
CLJU_c08790	nitrate/sulfonate/bicarbonate ABC transporter permease	1.84E-09	-1.000072718	DOWN
CLJU_c08810	ABC transporter ATPase	3.56E-40	-1.621396937	DOWN
CLJU_c08820	hypothetical protein	1.99E-05	-3.623103259	DOWN
CLJU_c08850	transcriptional regulator	0.0004405	-1.294480512	DOWN
CLJU_c08880	Na(+)/H(+) antiporter	2.11E-131	-1.035602143	DOWN
CLJU_c08890	cardiolipin synthetase	3.91E-145	-1.504806018	DOWN
CLJU_c08900	zinc finger containing protein	1.87E-09	-2.512071947	DOWN
CLJU_c08910	multidrug/protein/lipid ABC transporter ATPase/permease	3.83E-26	-1.476713772	DOWN
CLJU_c08920	multidrug/protein/lipid ABC transporter ATPase/permease	8.94E-29	-1.07595418	DOWN
CLJU_c08930	formate dehydrogenase H	0	2.109199471	UP
CLJU_c08990	hypothetical protein	0	1.51246506	UP
CLJU_c09020	hypothetical protein	1.38E-83	-1.607301403	DOWN
CLJU_c09040	iron-sulfur cluster-binding protein	3.00E-242	-1.394267013	DOWN
CLJU_c09050	2-isopropylmalate synthase	1.12E-43	-1.372347183	DOWN
CLJU_c09090	anaerobic-type carbon monoxide dehydrogenase FAD/NAD-dependent	0	-5.648853263	DOWN

	oxidoreductase subunit			
CLJU_c09100	anaerobic-type carbon monoxide dehydrogenase electron transfer subunit	0	-6.358122732	DOWN
CLJU_c09110	anaerobic-type carbon monoxide dehydrogenase	0	-7.045061596	DOWN
CLJU_c09120	ATP-dependent RNA helicase	6.37E-26	-1.328316374	DOWN
CLJU_c09130	Mg2+ and Co2+ transporter	2.58E-08	-1.223696412	DOWN
CLJU_c09160	permease	3.18E-10	-1.171996505	DOWN
CLJU_c09170	two-component response regulator	4.06E-30	-1.190143852	DOWN
CLJU_c09180	two-component sensor histidine kinase	3.31E-53	-1.875536444	DOWN
CLJU_c09190	DNA gyrase subunit B	3.18E-99	-1.248278028	DOWN
CLJU_c09200	DNA gyrase subunit A	0	-2.054658689	DOWN
CLJU_c09250	arginine repressor	2.30E-10	-1.045635295	DOWN
CLJU_c09310	methyl-accepting chemotaxis protein	5.46E-55	-1.081872331	DOWN
CLJU_c09350	hypothetical protein	0	-2.089588736	DOWN
CLJU_c09360	phosphoserine phosphatase	3.13E-34	-1.271782321	DOWN
CLJU_c09420	chemotaxis protein methyltransferase	1.10E-82	1.025599925	UP
CLJU_c09620	hypothetical protein	5.76E-06	-1.121556767	DOWN
CLJU_c09630	flagellin protein	0	1.980109072	UP
CLJU_c09640	glycosyltransferase	7.87E-10	-1.215678944	DOWN
CLJU_c09650	hypothetical protein	1.33E-23	-1.694764244	DOWN
CLJU_c09660	hypothetical protein	8.55E-07	-1.236554317	DOWN
CLJU_c09670	hypothetical protein	3.23E-22	-1.534776477	DOWN
CLJU_c09680	hypothetical protein	5.84E-25	-1.895248716	DOWN
CLJU_c09690	carbon storage regulator	3.67E-146	-1.603037636	DOWN
CLJU_c09700	hypothetical protein	9.38E-157	-1.380317537	DOWN

CLJU_c09720	hypothetical protein	0	-2.021210363	DOWN
CLJU_c09730	glycosyltransferase	9.37E-164	-1.343846589	DOWN
CLJU_c09750	hypothetical protein	3.46E-110	-1.075088849	DOWN
CLJU_c09760	hypothetical protein	2.09E-11	-1.579287027	DOWN
CLJU_c09830	transposase	0.000488	-1.976740214	DOWN
CLJU_c09840	hypothetical protein	0.0003633	-1.540641099	DOWN
CLJU_c09850	hypothetical protein	8.11E-16	-2.775106353	DOWN
CLJU_c09860	transposase	5.70E-06	-1.582461275	DOWN
CLJU_c09900	hypothetical protein	2.73E-08	-1.058040316	DOWN
CLJU_c09910	nucleotidyltransferase	4.77E-63	-1.250408963	DOWN
CLJU_c09920	nucleotidyltransferase substrate-binding protein	2.08E-67	-1.353949247	DOWN
CLJU_c09930	hypothetical protein	1.59E-12	-1.755297872	DOWN
CLJU_c09940	glycosyltransferase	9.28E-25	-1.223914589	DOWN
CLJU_c09960	hypothetical protein	1.40E-06	-1.038140759	DOWN
CLJU_c10000	nucleoside-diphosphate-sugar epimerase	9.42E-55	1.365094218	UP
CLJU_c10100	hypothetical protein	4.69E-06	-1.862569194	DOWN
CLJU_c10110	hypothetical protein	0	-1.661792847	DOWN
CLJU_c10120	hypothetical protein	5.10E-43	-1.524731519	DOWN
CLJU_c10130	hypothetical protein	4.25E-59	-1.196182769	DOWN
CLJU_c10140	deoxyuridine 5'-triphosphate nucleotidohydrolase	4.30E-152	-1.737854957	DOWN
CLJU_c10150	single-stranded DNA-binding protein	1.52E-257	-1.718005946	DOWN
CLJU_c10190	flagellar basal body protein FlgB	0	1.321940516	UP
CLJU_c10200	flagellar basal-body rod protein FlgC	1.54E-125	1.068187387	UP
CLJU_c10210	flagellar hook-basal body complex protein FliE	1.71E-200	1.086152453	UP

CLJU_c10220	flagellar M-ring protein FliF	0	1.007040034	UP
CLJU_c10230	flagellar motor switch protein FliG	2.01E-247	1.004784731	UP
CLJU_c10470	manganese-dependent inorganic pyrophosphatase	0	-1.324928607	DOWN
CLJU_c10480	cation-transporting ATPase	2.86E-24	-1.912609876	DOWN
CLJU_c10490	hypothetical protein	2.05E-208	-1.625025571	DOWN
CLJU_c10500	ATP-dependent protease La	2.60E-13	-1.425870912	DOWN
CLJU_c10540	S-adenosyl-methyltransferase	2.71E-84	-1.161317501	DOWN
CLJU_c10550	hypothetical protein	4.01E-110	-1.243119386	DOWN
CLJU_c10580	UDP-N-acetylmuramoyl-tripeptide--D-alanyl-D-alanine ligase	2.98E-216	-1.416601983	DOWN
CLJU_c10590	phospho-N-acetylmuramoyl-pentapeptide-transferase	1.85E-70	-1.211459249	DOWN
CLJU_c10600	cell division protein	2.01E-156	-1.761277737	DOWN
CLJU_c10610	cell division protein	1.27E-130	-1.858551833	DOWN
CLJU_c10620	division initiation protein	4.79E-101	-1.372559798	DOWN
CLJU_c10630	small basic protein	1.89E-43	-1.328817919	DOWN
CLJU_c10640	division initiation protein	5.33E-85	-1.184911951	DOWN
CLJU_c10750	RNA-binding protein	3.08E-103	-1.667708561	DOWN
CLJU_c10770	hypothetical protein	1.23E-115	-1.068268449	DOWN
CLJU_c10790	hypothetical protein	6.38E-14	-2.067888102	DOWN
CLJU_c10800	VirB8 protein	8.07E-27	-1.950084582	DOWN
CLJU_c10830	CRP protein	5.35E-44	-1.862569194	DOWN
CLJU_c10850	acetyltransferase	1.52E-12	-2.350418683	DOWN
CLJU_c10860	hypothetical protein	1.99E-05	-3.623103259	DOWN
CLJU_c10870	two-component sensor histidine kinase	4.62E-97	1.52128665	UP
CLJU_c10880	hypothetical protein	1.79E-05	-2.912609876	DOWN
CLJU_c10910	general secretion pathway protein F	1.06E-05	-2.335821307	DOWN

CLJU_c10990	hypothetical protein	7.42E-14	-1.899434488	DOWN
CLJU_c11000	Xaa-Pro dipeptidase	0	-1.102917491	DOWN
CLJU_c11010	elongation factor EF-P	0	-1.237255349	DOWN
CLJU_c11020	hypothetical protein	0	-1.648106819	DOWN
CLJU_c11110	alkaline shock protein	0	-1.174536391	DOWN
CLJU_c11120	nusB-like protein	7.90E-116	-1.477058594	DOWN
CLJU_c11140	exodeoxyribonuclease VII small subunit	1.39E-72	-1.229649546	DOWN
CLJU_c11170	rRNA methylase	2.33E-135	-1.148379215	DOWN
CLJU_c11180	nicotinamide adenine dinucleotide kinase	2.99E-129	-1.105830077	DOWN
CLJU_c11200	DNA repair protein RecN	1.09E-220	-1.131528434	DOWN
CLJU_c11280	bifunctional tRNA-nucleotidyltransferase	5.46E-22	-1.619893703	DOWN
CLJU_c11290	segregation and condensation protein A	2.96E-35	-1.959069188	DOWN
CLJU_c11300	segregation and condensation protein B	3.63E-28	-1.38785201	DOWN
CLJU_c11330	D-alanyl-D-alanine carboxypeptidase	4.90E-13	-2.845495681	DOWN
CLJU_c11340	hypothetical protein	3.05E-19	-2.028087094	DOWN
CLJU_c11430	hypothetical protein	1.58E-44	-2.142477418	DOWN
CLJU_c11450	hypothetical protein	3.79E-11	-1.731163005	DOWN
CLJU_c11460	hydrolase	1.82E-59	-1.565770084	DOWN
CLJU_c11470	hypothetical protein	1.68E-39	-1.71433293	DOWN
CLJU_c11480	hypothetical protein	1.48E-19	-1.380327692	DOWN
CLJU_c11490	hypothetical protein	7.72E-27	-1.597836501	DOWN
CLJU_c11500	serine hydroxymethyltransferase	0	-1.383892062	DOWN
CLJU_c11510	hydrolase	8.36E-18	-1.855276701	DOWN

CLJU_c11520	transcriptional regulator	1.09E-08	-1.353182468	DOWN
CLJU_c11540	bifunctional enzyme phosphoribosylformylglycinamidine (FGAM) synthase	0	-2.835075863	DOWN
CLJU_c11550	PpiR family transcriptional regulator	2.91E-67	-1.810730262	DOWN
CLJU_c11560	zinc-containing alcohol dehydrogenase	4.34E-114	3.069918987	UP
CLJU_c11570	xylulose kinase	6.92E-147	3.990428394	UP
CLJU_c11580	D-3-phosphoglycerate dehydrogenase	0	4.465137945	UP
CLJU_c11590	6-phosphogluconate dehydrogenase	2.31E-221	3.691445305	UP
CLJU_c11600	high affinity gluconate/H+ symporter	0	6.501529375	UP
CLJU_c11610	gluconokinase	0	6.59355005	UP
CLJU_c11620	D-isomer specific 2-hydroxyacid dehydrogenase	0	6.381930264	UP
CLJU_c11630	2-keto-3-deoxy-6-phosphogluconate aldolase	0	5.661653603	UP
CLJU_c11640	C4-dicarboxylate transporter protein/chemotaxis domain-containing protein	2.42E-277	4.804973927	UP
CLJU_c11660	ATP phosphoribosyltransferase, regulatory subunit	0	-1.322999293	DOWN
CLJU_c11870	ethanolamine utilization protein	1.62E-09	1.28658597	UP
CLJU_c11880	ethanol dehydrogenase	1.44E-06	1.171782311	UP
CLJU_c11940	ethanolamine utilization protein EutQ	1.23E-05	1.213398008	UP
CLJU_c12000	helicase subunit of Holliday junction resolvase	2.91E-35	-1.103552659	DOWN

CLJU_c12020	transcriptional regulator	1.39E-12	-1.146665215	DOWN
CLJU_c12030	hypothetical protein	1.86E-07	-2.623103259	DOWN
CLJU_c12040	dipeptide ABC transporter	2.87E-35	-1.1124881	DOWN
CLJU_c12050	dipeptide ABC transporter permease	1.01E-39	-2.4651509	DOWN
CLJU_c12060	dipeptide ABC transporter permease	5.54E-14	-1.83923669	DOWN
CLJU_c12070	dipeptide ABC transporter ATPase	4.02E-12	-1.291560076	DOWN
CLJU_c12090	dipeptidase	1.33E-65	-3.00776711	DOWN
CLJU_c12190	ferric uptake regulation protein	1.46E-253	-1.89134126	DOWN
CLJU_c12200	metal-dependent hydrolase	0	-1.145553701	DOWN
CLJU_c12210	hypothetical protein	5.24E-119	-1.315899202	DOWN
CLJU_c12220	membrane associated GTPase	0	-1.400710838	DOWN
CLJU_c12230	O-methyltransferase	0	-1.604456197	DOWN
CLJU_c12240	protease	0	-1.789544933	DOWN
CLJU_c12270	twitching motility protein	5.20E-36	-1.084210407	DOWN
CLJU_c12280	glycosyltransferase	0	-1.262721154	DOWN
CLJU_c12350	transcriptional regulator	7.03E-62	-1.223150088	DOWN
CLJU_c12420	phosphate import ATP-binding protein	4.32E-06	-1.503804331	DOWN
CLJU_c12430	phosphate transporter protein	1.97E-11	-1.330922508	DOWN
CLJU_c12460	hypothetical protein	9.75E-105	-1.01278411	DOWN
CLJU_c12490	stage IV sporulation protein A	1.10E-269	-1.288557824	DOWN
CLJU_c12550	primosomal protein N'	1.24E-77	-1.668062101	DOWN
CLJU_c12660	hypothetical protein	3.52E-54	-1.523567586	DOWN
CLJU_c12670	50S ribosomal protein L28	0	-1.668347201	DOWN
CLJU_c12680	alkaline shock protein	5.01E-37	-1.024517475	DOWN
CLJU_c12700	ATP-dependent DNA helicase	2.28E-44	-1.03969121	DOWN
CLJU_c12710	hypothetical protein	1.49E-104	-1.230423669	DOWN
CLJU_c12720	phosphopantetheine	4.22E-66	-1.056194594	DOWN

	adenylyltransferase			
CLJU_c12750	hypothetical protein	2.33E-37	-1.319991414	DOWN
CLJU_c12800	50S ribosomal protein L32	6.59E-229	-1.134553454	DOWN
CLJU_c12810	fatty acid/phospholipid synthesis protein PlsX	3.21E-151	-1.488646461	DOWN
CLJU_c12820	acyl carrier protein	0	-1.968547199	DOWN
CLJU_c12830	dsRNA-specific ribonuclease	6.22E-62	-1.435030911	DOWN
CLJU_c12840	hypothetical protein	4.63E-68	-1.245926847	DOWN
CLJU_c12850	chromosome segregation protein	2.95E-235	-1.089687799	DOWN
CLJU_c12870	hypothetical protein	4.88E-140	-1.870739819	DOWN
CLJU_c12880	signal recognition particle GTPase	0	-1.265297063	DOWN
CLJU_c12890	30S ribosomal protein S16	0	-1.842525643	DOWN
CLJU_c12900	hypothetical protein	0	-2.011848522	DOWN
CLJU_c12910	16S rRNA processing protein	2.17E-53	-1.389752878	DOWN
CLJU_c12920	tRNA (guanine-N1)-methyltransferase	1.94E-85	-1.511125607	DOWN
CLJU_c12930	50S ribosomal protein L19	0	-1.734808984	DOWN
CLJU_c12950	GTP-binding protein	8.92E-80	-1.162285899	DOWN
CLJU_c12960	ribonuclease HII	3.62E-102	-1.984559718	DOWN
CLJU_c12970	hypothetical protein	1.84E-20	-1.866806187	DOWN
CLJU_c12990	Smf protein	3.98E-66	-2.004352445	DOWN
CLJU_c13000	DNA topoisomerase I	0	-1.622266381	DOWN
CLJU_c13020	30S ribosomal protein S2	0	-1.039011688	DOWN
CLJU_c13080	1-deoxy-D-xylulose 5-phosphate reductoisomerase	3.87E-95	-1.157847516	DOWN
CLJU_c13090	membrane-associated metalloprotease	1.68E-70	-1.264491193	DOWN
CLJU_c13100	4-hydroxy-3-methylbut-2-en-1-yl diphosphate synthase	1.00E-99	-1.436946018	DOWN

CLJU_c13110	hypothetical protein	7.78E-40	-1.032159782	DOWN
CLJU_c13200	30S ribosomal protein S15	0	-1.422871996	DOWN
CLJU_c13210	polyribonucleotide nucleotidyltransferase	0	-1.317715958	DOWN
CLJU_c13220	zinc-dependent protease	3.27E-126	-1.467899764	DOWN
CLJU_c13230	hypothetical protein	3.53E-41	-2.497572377	DOWN
CLJU_c13240	protease	3.85E-79	-2.110477701	DOWN
CLJU_c13290	hypothetical protein	0	-1.429336661	DOWN
CLJU_c13320	hypothetical protein	4.95E-113	-1.511537516	DOWN
CLJU_c13330	hypothetical protein	5.92E-26	-1.388209334	DOWN
CLJU_c13360	hypothetical protein	2.50E-05	-2.879443013	DOWN
CLJU_c13370	adenylosuccinate lyase	0	-1.734596417	DOWN
CLJU_c13380	hypothetical protein	1.24E-46	-2.900637235	DOWN
CLJU_c13390	glutamyl-tRNA synthetase	0	-1.62976699	DOWN
CLJU_c13410	D-alanyl-D-alanine carboxypeptidase	1.27E-89	-1.939758165	DOWN
CLJU_c13420	hydrolase	6.09E-45	-1.962953262	DOWN
CLJU_c13460	methyl-accepting chemotaxis protein	0	-1.637167167	DOWN
CLJU_c13480	regulatory protein	2.12E-45	-1.334415309	DOWN
CLJU_c13490	subtilin related serine protease	3.98E-08	-2.360068853	DOWN
CLJU_c13630	shikimate kinase	7.34E-20	-2.377990761	DOWN
CLJU_c13640	peptide deformylase	2.84E-74	-1.39153644	DOWN
CLJU_c13680	transcriptional regulator	1.52E-13	-1.313147806	DOWN
CLJU_c13690	branched amino acid transport protein	1.98E-22	-1.936994035	DOWN
CLJU_c13700	hypothetical protein	0.000418	-1.0501134	DOWN
CLJU_c13710	transcriptional regulator	1.76E-27	-1.309315553	DOWN
CLJU_c13730	hypothetical protein	1.53E-33	-1.982184353	DOWN

CLJU_c13740	transcriptional regulator	2.42E-65	-2.370337189	DOWN
CLJU_c13750	hypothetical protein	6.64E-60	-1.63927455	DOWN
CLJU_c13770	sensory transduction histidine kinase	5.15E-15	-1.014833385	DOWN
CLJU_c13780	transcriptional regulator	1.28E-07	-1.352031534	DOWN
CLJU_c13860	methyl-accepting transducer	6.60E-231	-1.085353269	DOWN
CLJU_c13870	sodium:solute symporter	7.32E-106	-1.943000819	DOWN
CLJU_c13910	transcriptional regulator	2.18E-11	-2.116143271	DOWN
CLJU_c13990	hypothetical protein	1.45E-99	1.006311989	UP
CLJU_c14010	hypothetical protein	6.44E-142	1.017642236	UP
CLJU_c14030	major facility transporter	0.0004163	-1.153617976	DOWN
CLJU_c14100	transcriptional regulator	0.0008599	-1.001614883	DOWN
CLJU_c14110	methyl-accepting chemotaxis protein	2.92E-226	-1.238952136	DOWN
CLJU_c14120	transcriptional regulator	5.12E-16	-1.233788325	DOWN
CLJU_c14130	transcriptional regulator	4.69E-34	-1.423362603	DOWN
CLJU_c14150	cAMP-binding protein	4.77E-13	-1.061987501	DOWN
CLJU_c14180	two component sensor histidine kinase	2.72E-67	-1.590291389	DOWN
CLJU_c14200	hypothetical protein	1.41E-101	-1.258281431	DOWN
CLJU_c14220	hypothetical protein	2.94E-11	-2.250191236	DOWN
CLJU_c14230	metallophosphoesterase	1.45E-17	-1.675570679	DOWN
CLJU_c14250	ABC transporter permease	4.44E-16	-1.580290176	DOWN
CLJU_c14280	aromatic animotransferase	0.0001851	-1.360068853	DOWN
CLJU_c14290	permease	2.70E-06	-1.528466385	DOWN
CLJU_c14310	helicase	1.21E-13	-1.820295127	DOWN
CLJU_c14320	7,8-dihydro-8-oxoguanine-triphosphatase	1.15E-40	-2.244992329	DOWN
CLJU_c14350	VanZ family protein	6.52E-10	-1.884228075	DOWN
CLJU_c14360	D-alanyl-D-alanine	1.45E-08	-3.475546071	DOWN

	carboxypeptidase			
CLJU_c14370	sensor protein VanS	1.09E-58	-1.826512577	DOWN
CLJU_c14380	regulatory protein VanR	2.71E-54	-1.709218417	DOWN
CLJU_c14390	two-component response regulator	1.43E-12	-1.313320594	DOWN
CLJU_c14400	two component sensor histidine kinase	4.12E-38	-1.395151313	DOWN
CLJU_c14480	hypothetical protein	5.11E-08	-1.14776525	DOWN
CLJU_c14530	hypothetical protein	3.81E-50	-1.052134031	DOWN
CLJU_c14600	hypothetical protein	6.58E-06	-3.00776711	DOWN
CLJU_c14620	hypothetical protein	6.18E-35	-3.971503566	DOWN
CLJU_c14630	low molecular weight protein-tyrosine-phosphatase	3.23E-11	-1.522340282	DOWN
CLJU_c14640	hypothetical protein	1.09E-07	-1.124113982	DOWN
CLJU_c14650	hypothetical protein	4.67E-51	-1.200895502	DOWN
CLJU_c14660	helicase	6.92E-163	-1.612187482	DOWN
CLJU_c14670	vancomycin resistance protein	3.99E-16	-1.209509177	DOWN
CLJU_c14680	transcriptional regulator	8.43E-33	-1.733949028	DOWN
CLJU_c14750	excinuclease ABC subunit A	5.96E-18	-1.255099294	DOWN
CLJU_c14780	phospho-2-dehydro-3-deoxyheptonate aldolase	1.64E-212	-1.568655475	DOWN
CLJU_c14820	major facilitator family transporter	3.38E-257	-2.099605115	DOWN
CLJU_c14830	hypothetical protein	4.85E-54	-1.694429706	DOWN
CLJU_c14840	transport/signal transduction system protein	5.07E-269	-1.257504075	DOWN
CLJU_c14850	hypothetical protein	1.78E-21	-1.556271751	DOWN
CLJU_c14860	hypothetical protein	2.29E-06	-2.453178258	DOWN
CLJU_c14870	hypothetical protein	1.75E-24	-1.643734592	DOWN
CLJU_c14880	transcriptional regulator	8.01E-41	-2.382523704	DOWN
CLJU_c14890	transcriptional regulator	8.28E-11	-1.324191817	DOWN

CLJU_c14900	hypothetical protein	4.07E-25	-1.661186761	DOWN
CLJU_c14910	carbohydrate kinase	4.92E-18	2.589890464	UP
CLJU_c14960	protease	1.37E-05	-1.997498774	DOWN
CLJU_c14970	two-component response regulator	6.84E-09	-2.038140759	DOWN
CLJU_c14980	sensory transduction histidine kinase	2.03E-19	-1.921947741	DOWN
CLJU_c15030	hypothetical protein	2.10E-37	-1.067405353	DOWN
CLJU_c15050	MutS-like protein	2.35E-29	-1.657749402	DOWN
CLJU_c15060	aminopeptidase	6.11E-36	-1.313259756	DOWN
CLJU_c15070	Na+ ABC transporter permease	1.42E-32	-1.238078329	DOWN
CLJU_c15080	Na+ ABC transporter ATPase	1.71E-26	-1.009348492	DOWN
CLJU_c15120	xanthine phosphoribosyltransferase	2.82E-64	-1.935650118	DOWN
CLJU_c15130	xanthine/uracil permease	1.47E-53	-2.364244529	DOWN
CLJU_c15150	hypothetical protein	1.04E-05	-1.810730262	DOWN
CLJU_c15160	transcriptional regulator	5.88E-10	-1.646950001	DOWN
CLJU_c15170	ABC transporter-like ATPase/permease	5.15E-08	-1.005403972	DOWN
CLJU_c15180	ABC transporter ATPase/permease	3.79E-24	-1.371473617	DOWN
CLJU_c15210	transcriptional regulator	1.57E-26	-1.610117618	DOWN
CLJU_c15220	transcription activator	4.47E-26	-1.225767762	DOWN
CLJU_c15240	transcriptional regulator	8.53E-106	-1.770098232	DOWN
CLJU_c15250	hypothetical protein	1.45E-17	-1.407374568	DOWN
CLJU_c15360	Zn-ribbon nucleic-acid-binding protein	3.76E-117	-1.712882939	DOWN
CLJU_c15370	NAD(P)H:flavin oxidoreductase	1.56E-298	-1.61255334	DOWN
CLJU_c15380	hypothetical protein	1.26E-202	-2.161868904	DOWN
CLJU_c15390	hypothetical protein	8.27E-06	-1.22256533	DOWN
CLJU_c15400	hypothetical protein	0.000977	-1.038140759	DOWN
CLJU_c15430	hypothetical protein	9.48E-44	-2.015157441	DOWN

CLJU_c15490	ABC transporter ATPase	1.49E-12	1.053781731	UP
CLJU_c15520	methyl-accepting chemotaxis protein	1.73E-08	-1.596136212	DOWN
CLJU_c15540	molybdopterin oxidoreductase	1.60E-78	-1.340186989	DOWN
CLJU_c15550	transcriptional regulator	1.09E-17	-1.246909896	DOWN
CLJU_c15560	hypothetical protein	5.79E-07	-2.20806576	DOWN
CLJU_c15600	spore germination permease	0.0006562	-2.497572377	DOWN
CLJU_c15610	spore germination protein	5.08E-14	-2.652850603	DOWN
CLJU_c15620	hypothetical protein	1.57E-16	-1.850770623	DOWN
CLJU_c15650	arsenate resistance operon repressor ArsD	1.92E-05	-1.623103259	DOWN
CLJU_c15660	arsenical pump-driving ATPase	5.38E-23	-1.369654902	DOWN
CLJU_c15670	heavy metal resistance membrane protein	3.29E-05	-1.153617976	DOWN
CLJU_c15730	hypothetical protein	0	-1.464469419	DOWN
CLJU_c15930	penicillin-binding protein 1A	4.78E-17	-1.775106353	DOWN
CLJU_c15990	divalent cation transporter	9.43E-21	-1.352249349	DOWN
CLJU_c16000	divalent cation transporter	2.12E-26	-1.695470237	DOWN
CLJU_c16020	aminoacid permease	0.0001554	-2.097034448	DOWN
CLJU_c16060	hypothetical protein	0.0006567	-1.184982147	DOWN
CLJU_c16130	tryptophan synthase subunit alpha	2.26E-09	-1.266246831	DOWN
CLJU_c16140	glycosyltransferase	1.35E-37	-1.346263054	DOWN
CLJU_c16150	Zn-dependent alcohol dehydrogenase	2.33E-25	1.425192298	UP
CLJU_c16160	enoate reductase	1.19E-75	1.470006145	UP
CLJU_c16180	hypothetical protein	4.20E-143	1.143427038	UP
CLJU_c16210	PadR-like family transcriptional regulator	2.83E-06	-1.187366767	DOWN
CLJU_c16360	membrane associated histidine kinase-like ATPase	4.72E-09	-2.468128599	DOWN

CLJU_c16400	hypothetical protein	8.16E-45	-1.40923491	DOWN
CLJU_c16420	amino acid permease	2.70E-25	1.260850525	UP
CLJU_c16430	beta-lactamase	2.25E-16	1.122612597	UP
CLJU_c16440	spore germination protein	0.0004747	-2.540641099	DOWN
CLJU_c16460	spore germination protein	2.63E-05	-2.26053318	DOWN
CLJU_c16480	spore germination protein	2.42E-06	-3.845495681	DOWN
CLJU_c16500	hypothetical protein	0.00023	-3.311159253	DOWN
CLJU_c16510	bifunctional aldehyde/alcohol dehydrogenase	0	-2.987305947	DOWN
CLJU_c16520	bifunctional aldehyde/alcohol dehydrogenase	6.37E-27	-2.131250163	DOWN
CLJU_c16530	ATP-dependent DNA helicase	8.38E-128	-1.963187319	DOWN
CLJU_c16580	phage-like transcriptional factor	3.42E-59	-2.046028668	DOWN
CLJU_c16610	DNA-binding protein	4.28E-23	-1.768219967	DOWN
CLJU_c16620	hypothetical protein	0.0001062	-1.643002817	DOWN
CLJU_c16660	hypothetical protein	1.70E-13	-1.046504232	DOWN
CLJU_c16670	hypothetical protein	5.75E-09	1.723699504	UP
CLJU_c16680	hypothetical protein	8.65E-14	1.627440202	UP
CLJU_c16690	hypothetical protein	4.60E-32	2.221051581	UP
CLJU_c16700	hypothetical protein	1.64E-13	2.143466048	UP
CLJU_c16710	hypothetical protein	1.39E-43	2.141837908	UP
CLJU_c16720	phage-like protein	8.88E-28	1.725791883	UP
CLJU_c16750	hypothetical protein	3.11E-10	1.589890464	UP
CLJU_c16820	hypothetical protein	0.00023	-3.311159253	DOWN
CLJU_c16840	phage portal protein	0.0004405	-1.294480512	DOWN
CLJU_c16860	hypothetical protein	7.15E-42	1.342054991	UP
CLJU_c16900	hypothetical protein	3.06E-10	1.87544449	UP
CLJU_c16950	hypothetical protein	8.28E-24	-2.274517409	DOWN

CLJU_c16960	hypothetical protein	1.57E-22	-1.401071828	DOWN
CLJU_c16970	phosphoesterase	8.38E-09	-1.071416913	DOWN
CLJU_c16980	hypothetical protein	5.18E-61	-1.494129776	DOWN
CLJU_c17020	cell division membrane protein	8.78E-76	-2.287473723	DOWN
CLJU_c17090	hypothetical protein	3.13E-05	-1.590681782	DOWN
CLJU_c17140	nucleotide kinase-like protein	7.63E-131	-1.007950173	DOWN
CLJU_c17190	hypothetical protein	1.03E-56	-1.096378528	DOWN
CLJU_c17290	hypothetical protein	6.98E-146	-2.220665797	DOWN
CLJU_c17310	transcriptional regulator	5.32E-10	-1.305621069	DOWN
CLJU_c17370	glutamate synthaselarge subunit	0	-2.041386418	DOWN
CLJU_c17380	glutamate synthasesmall subunit	1.49E-192	-1.999036009	DOWN
CLJU_c17400	hypothetical protein	5.03E-14	-1.03552481	DOWN
CLJU_c17420	MarR family transcriptional regulator	1.50E-05	-1.360068853	DOWN
CLJU_c17430	hypothetical protein	0.0006567	-1.184982147	DOWN
CLJU_c17450	hypothetical protein	1.68E-36	-1.124795141	DOWN
CLJU_c17460	membrane-associated response regulator	6.11E-28	-2.415811405	DOWN
CLJU_c17470	membrane-associated ferredoxin	2.74E-08	-1.976740214	DOWN
CLJU_c17560	LysR family transcriptional regulator	4.17E-20	-2.503804331	DOWN
CLJU_c17600	flavodoxin	9.28E-34	-2.055214272	DOWN
CLJU_c17670	hypothetical protein	9.88E-08	-2.662631623	DOWN
CLJU_c17710	asparagine synthetase	0	-2.663608802	DOWN
CLJU_c17720	LysR family transcriptional regulator	2.00E-33	-1.15983918	DOWN
CLJU_c17750	hypothetical protein	3.29E-273	-1.521707244	DOWN
CLJU_c17760	transcriptional regulator	9.25E-13	-2.216943911	DOWN
CLJU_c17800	hypothetical protein	5.83E-11	-3.793028261	DOWN
CLJU_c17820	aldo/keto reductase	7.87E-50	-1.225171237	DOWN

CLJU_c17830	hypothetical protein	5.42E-05	-1.286068272	DOWN
CLJU_c17860	hypothetical protein	1.29E-14	-1.21291516	DOWN
CLJU_c17910	carbon monoxide dehydrogenase catalytic subunit	1.22E-11	-1.370157671	DOWN
CLJU_c17920	propanediol utilization protein PduV-like protein	0	-2.187805989	DOWN
CLJU_c17930	microcompartment protein	0	-1.754017619	DOWN
CLJU_c17970	DeoR family transcriptional regulator	2.16E-12	-1.304655733	DOWN
CLJU_c18040	methyl-accepting chemotaxis protein	4.16E-20	-1.333837312	DOWN
CLJU_c18050	dihydrodipicolinate reductase	3.65E-173	3.172569858	UP
CLJU_c18060	transcriptional regulator	9.60E-65	-1.856900444	DOWN
CLJU_c18110	DeoR family transcriptional regulator	1.03E-67	-1.103125282	DOWN
CLJU_c18160	pyrimidine-nucleoside phosphorylase	1.17E-193	1.164302242	UP
CLJU_c18180	hypothetical protein	6.12E-40	-1.006538761	DOWN
CLJU_c18190	hypothetical protein	5.28E-11	-2.229282246	DOWN
CLJU_c18200	hypothetical protein	1.78E-17	-1.1256036	DOWN
CLJU_c18210	hypothetical protein	1.87E-38	-2.026067926	DOWN
CLJU_c18220	hypothetical protein	0	-1.797035812	DOWN
CLJU_c18230	hypothetical protein	3.13E-97	-1.482522219	DOWN
CLJU_c18280	sugar transporter	2.76E-05	1.009164956	UP
CLJU_c18300	hypothetical protein	1.80E-14	-1.424199191	DOWN
CLJU_c18370	hydrolase	5.61E-19	-1.06395705	DOWN
CLJU_c18380	hypothetical protein	4.40E-10	-1.282066341	DOWN
CLJU_c18390	hypothetical protein	1.57E-06	-1.058040316	DOWN
CLJU_c18410	hypothetical protein	2.03E-38	-1.382856218	DOWN
CLJU_c18420	glutathionylspermidine synthase	7.63E-198	-1.55140753	DOWN

CLJU_c18430	hypothetical protein	7.18E-40	-1.448808658	DOWN
CLJU_c18440	spore germination protein	9.29E-47	-2.407374568	DOWN
CLJU_c18450	spore germination protein	1.50E-11	-1.830147716	DOWN
CLJU_c18460	spore germination protein	4.99E-61	-2.517308595	DOWN
CLJU_c18470	iron-containing alcohol dehydrogenase	0	-1.659519836	DOWN
CLJU_c18480	hypothetical protein	3.43E-11	-1.887806485	DOWN
CLJU_c18490	transcriptional regulator	4.99E-15	-1.964140177	DOWN
CLJU_c18500	methyl-accepting chemotaxis sensory transducer	7.24E-143	-1.088947854	DOWN
CLJU_c18590	integral membrane protein	1.12E-35	-3.42126901	DOWN
CLJU_c18600	cell wall-binding protein	1.29E-11	-1.104229949	DOWN
CLJU_c18610	signal transduction protein	0	-2.15725197	DOWN
CLJU_c18620	manganese catalase	1.18E-14	-2.111389741	DOWN
CLJU_c18630	hypothetical protein	1.50E-05	-1.639044803	DOWN
CLJU_c18680	hypothetical protein	5.49E-06	-1.701105771	DOWN
CLJU_c18700	hypothetical protein	1.53E-89	2.34705223	UP
CLJU_c18720	hypothetical protein	8.73E-11	1.075516023	UP
CLJU_c18760	hydrolase	8.27E-06	-1.22256533	DOWN
CLJU_c18770	hypothetical protein	1.17E-05	-1.540641099	DOWN
CLJU_c18790	hypothetical protein	3.98E-08	-2.360068853	DOWN
CLJU_c18800	hypothetical protein	3.38E-25	-1.119303611	DOWN
CLJU_c18830	hypothetical protein	2.51E-17	-3.153617976	DOWN
CLJU_c18840	hypothetical protein	2.04E-22	-2.22256533	DOWN
CLJU_c18870	amino acid transporter, LysE family	3.72E-24	-1.5895507	DOWN
CLJU_c18880	methyl-accepting chemotaxis protein	4.54E-36	-2.738580477	DOWN
CLJU_c18890	transcriptional regulator	2.93E-32	-1.663745244	DOWN
CLJU_c18900	ABC transporter	2.72E-51	-1.062540628	DOWN

CLJU_c18940	vancomycin b-type resistance protein VanW	2.33E-09	-1.068978163	DOWN
CLJU_c18950	collagen triple helix repeat-containing protein	5.44E-11	-1.602925377	DOWN
CLJU_c19030	gamma-glutamyltranspeptidase	2.39E-141	-1.169508439	DOWN
CLJU_c19070	ATP-dependent RNA helicase	1.50E-30	-1.070889341	DOWN
CLJU_c19080	cobalamin synthesis protein CobW	0	-3.613267322	DOWN
CLJU_c19090	uroporphyrinogen decarboxylase-like protein	0	-2.64781033	DOWN
CLJU_c19100	uroporphyrinogen decarboxylase	0	-2.717959274	DOWN
CLJU_c19110	cobalamin B12-binding protein	0	-2.927051272	DOWN
CLJU_c19120	uroporphyrinogen decarboxylase-like protein	0	-3.034193574	DOWN
CLJU_c19130	ferredoxin-containing protein	0	-2.874523852	DOWN
CLJU_c19140	exonuclease	1.32E-59	-2.98395972	DOWN
CLJU_c19150	hypothetical protein	7.95E-165	-1.163161749	DOWN
CLJU_c19160	hypothetical protein	1.77E-05	-1.775106353	DOWN
CLJU_c19190	hypothetical protein	0.000116	-2.1256036	DOWN
CLJU_c19200	transposase	3.54E-05	-2.234537971	DOWN
CLJU_c19210	iron-sulfur cluster-binding protein	2.68E-27	-1.233691568	DOWN
CLJU_c19220	nucleoside transporter family protein	2.03E-246	-2.790633746	DOWN
CLJU_c19230	cytosine deaminase	0	-2.838810335	DOWN
CLJU_c19240	hypothetical protein	1.34E-46	-1.813302676	DOWN
CLJU_c19310	peptidase T	0	1.647724556	UP
CLJU_c19320	amino acid permease	0	1.160341531	UP
CLJU_c19370	permease	4.86E-08	-1.267386851	DOWN
CLJU_c19420	epimerase	2.42E-44	-1.036598594	DOWN
CLJU_c19430	hypothetical protein	1.58E-52	-1.019961871	DOWN
CLJU_c19440	hypothetical protein	1.91E-73	-1.212807572	DOWN

CLJU_c19450	two-component response regulator	3.18E-13	-1.188979919	DOWN
CLJU_c19460	signal transduction histidine kinase	2.89E-36	-1.640590686	DOWN
CLJU_c19470	hypothetical protein	4.90E-92	-1.791141151	DOWN
CLJU_c19480	flavin reductase-like protein	0	-7.388220499	DOWN
CLJU_c19490	ferritin	0	-7.389816197	DOWN
CLJU_c19500	cold-shock protein	1.70E-22	-2.492097247	DOWN
CLJU_c19510	pyrophosphohydrolase	3.40E-42	-1.174650348	DOWN
CLJU_c19580	cold-shock protein	0	-2.348229146	DOWN
CLJU_c19600	transcriptional regulator	0	-1.195970652	DOWN
CLJU_c19640	two-component response regulator	3.03E-17	-1.275179956	DOWN
CLJU_c19650	ABC transporter ATPase	8.90E-22	2.898294113	UP
CLJU_c19660	ABC transporter-like membrane protein	2.88E-09	2.006253361	UP
CLJU_c19710	flagellar motor protein MotB	1.83E-07	-1.502421777	DOWN
CLJU_c19720	flagellar motor protein MotA	2.53E-08	-1.743855419	DOWN
CLJU_c19740	multidrug resistance efflux pump	1.91E-48	-1.549893412	DOWN
CLJU_c19750	hypothetical protein	6.69E-84	-1.428133128	DOWN
CLJU_c19780	aminoacid transporter PotE	1.52E-31	-1.935240851	DOWN
CLJU_c19790	LysR family transcriptional regulator	1.98E-17	-1.747799007	DOWN
CLJU_c19800	hypothetical protein	4.80E-59	-1.334533761	DOWN
CLJU_c19810	response regulator	1.15E-12	-1.653605348	DOWN
CLJU_c19820	signal transduction histidine kinase	3.72E-27	-1.715099043	DOWN
CLJU_c19840	AraC family transcriptional regulator	4.28E-18	-1.351023714	DOWN
CLJU_c19860	glycosylhydrolase	6.46E-98	-2.142677113	DOWN
CLJU_c19870	hypothetical protein	0	-1.459512398	DOWN
CLJU_c19880	GntR family transcriptional regulator	1.73E-74	-2.131512257	DOWN
CLJU_c19890	lemA like protein	0.0002727	-1.750858806	DOWN
CLJU_c19900	glycine-rich transmembrane protein	2.81E-05	-3.582461275	DOWN

CLJU_c19920	regulatory protein MerR	2.90E-07	-1.482925601	DOWN
CLJU_c19930	nucleoside-diphosphate-sugar epimerase, WcaG	9.01E-13	-1.529993855	DOWN
CLJU_c19960	hypothetical protein	8.22E-74	-1.48399585	DOWN
CLJU_c19970	methyl-accepting chemotaxis protein	0	-4.747445535	DOWN
CLJU_c19980	ADP-ribosylglycohydrolase	0	-3.462031264	DOWN
CLJU_c19990	dehydrogenase	1.43E-180	-2.231432061	DOWN
CLJU_c20030	Fe-S-cluster-containing hydrogenase component	9.36E-94	1.165392636	UP
CLJU_c20040	formate dehydrogenase subunit alpha	0	1.131254975	UP
CLJU_c20100	hypothetical protein	2.41E-11	-1.210201504	DOWN
CLJU_c20210	tungsten-containing aldehyde ferredoxin oxidoreductase	8.38E-199	1.375704782	UP
CLJU_c20310	exonuclease SbcD	1.37E-42	-1.153617976	DOWN
CLJU_c20330	electron transfer flavoprotein subunit beta	1.59E-108	-1.249732648	DOWN
CLJU_c20350	FAD/FMN-containing dehydrogenase	9.64E-92	-1.099050793	DOWN
CLJU_c20360	2-dehydropantoate 2-reductase	5.38E-60	-1.555602515	DOWN
CLJU_c20370	transcriptional regulator	6.09E-56	1.635631009	UP
CLJU_c20380	permease	6.90E-81	-2.778381485	DOWN
CLJU_c20390	ketol-acid reductoisomerase	0	-1.993344045	DOWN
CLJU_c20400	ketol-acid reductoisomerase	0	-1.924272794	DOWN
CLJU_c20410	dihydroxy-acid dehydratase	0	-1.777640114	DOWN
CLJU_c20420	acetolactate synthaselarge subunit	1.28E-202	-1.445159424	DOWN
CLJU_c20430	acetolactate synthasesmall subunit	2.19E-60	-1.575485239	DOWN
CLJU_c20440	hypothetical protein	0.0002496	-2.623103259	DOWN
CLJU_c20450	biotin carboxylase	8.93E-70	-1.613529933	DOWN

CLJU_c20460	transcriptional regulator	5.63E-16	-1.575938151	DOWN
CLJU_c20510	hypothetical protein	2.57E-09	-1.360068853	DOWN
CLJU_c20530	Na+/solute symporter: sodium/proline symporter family protein	2.16E-91	-2.337609403	DOWN
CLJU_c20560	corrinoid protein	1.48E-21	1.73946682	UP
CLJU_c20570	uroporphyrinogen-III decarboxylase-like protein	7.58E-44	1.816282417	UP
CLJU_c20590	PTS system fructose-specific transporter subunit IIABC	0	-6.014665105	DOWN
CLJU_c20600	1-phosphofructokinase	0	-5.733456941	DOWN
CLJU_c20610	DeoR family transcriptional regulator	0	-5.481184752	DOWN
CLJU_c20620	methionine synthase	2.77E-67	1.544091949	UP
CLJU_c20640	CobW-like protein	1.38E-81	1.838885197	UP
CLJU_c20650	hypothetical protein	3.26E-49	1.881240781	UP
CLJU_c20660	hypothetical protein	1.45E-118	2.301381396	UP
CLJU_c20670	corrinoid protein	1.71E-124	2.139796057	UP
CLJU_c20680	uroporphyrinogen-III decarboxylase-like protein	1.81E-208	2.14545918	UP
CLJU_c20690	methionine synthase	1.03E-200	2.039959979	UP
CLJU_c20700	corrinoid protein	0	2.203875866	UP
CLJU_c20710	uroporphyrinogen-III decarboxylase-like protein	0	2.4627248	UP
CLJU_c20760	translation initiation factor IF-3	0	-1.49236502	DOWN
CLJU_c20770	two-component response regulator	1.16E-75	-1.5268353	DOWN
CLJU_c20780	sensor histidine kinase	1.43E-51	-1.534566585	DOWN
CLJU_c20790	sodium:dicarboxylate symporter	3.81E-66	-1.298393571	DOWN
CLJU_c20810	transcriptional regulator/sugar kinase	7.16E-08	1.044321402	UP

CLJU_c20870	hypothetical protein	1.08E-40	-1.223566854	DOWN
CLJU_c20880	GGDEF domain sensor protein	2.14E-216	-2.141582446	DOWN
CLJU_c20910	stage V sporulation protein AC	8.04E-05	-3.453178258	DOWN
CLJU_c20940	stage V sporulation protein AE	2.55E-06	-1.745960007	DOWN
CLJU_c20950	hypothetical protein	2.57E-10	-1.016767108	DOWN
CLJU_c20960	short-chain dehydrogenase	7.81E-25	-1.093182122	DOWN
CLJU_c20980	CoA enzyme activase	2.74E-12	-3.181098712	DOWN
CLJU_c21020	hypothetical protein	1.85E-143	-1.959915591	DOWN
CLJU_c21030	LexA repressor	2.24E-264	-1.41813791	DOWN
CLJU_c21040	DNA polymerase IV	2.50E-159	-1.103896406	DOWN
CLJU_c21060	MtaA/CmuA family methyltransferase	0	-2.275359985	DOWN
CLJU_c21070	uroporphyrinogen decarboxylase/methylcobalamin:coenzyme M methyltransferase	0	-1.856181583	DOWN
CLJU_c21080	cobalamin B12-binding protein	0	-1.633258293	DOWN
CLJU_c21090	hypothetical protein	9.97E-162	-1.855988054	DOWN
CLJU_c21120	transporter protein	1.77E-28	-1.499756624	DOWN
CLJU_c21140	transporter protein	2.37E-26	-1.936569775	DOWN
CLJU_c21150	hypothetical protein	2.49E-80	-1.208334243	DOWN
CLJU_c21190	NADH:flavin oxidoreductase	8.66E-133	2.431728578	UP
CLJU_c21200	aluminum resistance protein	5.40E-84	-1.51062853	DOWN
CLJU_c21210	RNA-binding protein Hfq	3.54E-57	-1.495991341	DOWN
CLJU_c21220	tRNA delta(2)-isopentenylpyrophosphate transferase	5.33E-294	-2.119610247	DOWN
CLJU_c21230	DNA mismatch repair protein MutL	0	-1.999371188	DOWN
CLJU_c21240	DNA mismatch repair protein MutS	0	-2.073592801	DOWN
CLJU_c21250	MiaB protein	0	-2.0309572	DOWN

CLJU_c21270	class I/II aminotransferase	0	-3.385616729	DOWN
CLJU_c21280	hypothetical protein	0	-3.731885824	DOWN
CLJU_c21290	aspartate aminotransferase	0	-2.806306623	DOWN
CLJU_c21330	cytidylate kinase	2.84E-197	-1.012075971	DOWN
CLJU_c21360	ribosomal large subunit pseudouridine synthase B	1.16E-28	-1.683278774	DOWN
CLJU_c21370	glycosyltransferase	0	-1.514657531	DOWN
CLJU_c21380	SirA-like protein	0	-1.726859908	DOWN
CLJU_c21420	formiminoglutamase	2.07E-46	-1.495613524	DOWN
CLJU_c21430	methyl-accepting chemotaxis protein	3.29E-06	-1.731163005	DOWN
CLJU_c21480	urocanate hydratase	3.65E-36	1.753751046	UP
CLJU_c21550	SNF2 family helicase	2.63E-31	-1.544774899	DOWN
CLJU_c21560	hypothetical protein	1.93E-101	4.327508714	UP
CLJU_c21570	FAD/FMN-containing dehydrogenase	0	5.219569726	UP
CLJU_c21580	electron transfer flavoprotein subunit alpha	0	5.346926925	UP
CLJU_c21590	electron transfer flavoprotein subunit beta	0	5.635177617	UP
CLJU_c21600	hypothetical protein	0	5.41644146	UP
CLJU_c21610	lactate permease	0	5.039956664	UP
CLJU_c21620	transcriptional regulator	1.19E-185	-1.929596458	DOWN
CLJU_c21630	hypothetical protein	1.67E-125	-1.632818414	DOWN
CLJU_c21640	hypothetical protein	1.24E-68	-1.527178839	DOWN
CLJU_c21740	spermidine/putrescine ABC transporter permease	6.47E-05	-1.077669123	DOWN
CLJU_c21770	hypothetical protein	9.62E-31	-1.94794295	DOWN
CLJU_c21780	hypothetical protein	1.69E-13	-1.530622343	DOWN
CLJU_c21790	ArsR family transcriptional regulator	9.66E-25	-1.241674153	DOWN

CLJU_c21850	hypothetical protein	9.38E-61	-1.973819778	DOWN
CLJU_c21860	small acid-soluble spore protein	1.44E-05	-2.311159253	DOWN
CLJU_c21870	metal-dependent phosphoesterase	1.67E-17	-1.09816553	DOWN
CLJU_c21930	arginase	2.09E-158	-5.609261334	DOWN
CLJU_c21940	flavoprotein	0	-5.237209023	DOWN
CLJU_c21950	helicase	8.13E-102	-1.693422555	DOWN
CLJU_c21990	hypothetical protein	9.05E-29	-1.685839015	DOWN
CLJU_c22000	Fe-S oxidoreductase	3.22E-76	-1.316676258	DOWN
CLJU_c22010	hypothetical protein	2.55E-22	-1.079363421	DOWN
CLJU_c22040	metal-iron-binding protein	4.47E-31	-1.150973255	DOWN
CLJU_c22100	methyl-accepting chemotaxis transducer protein	2.48E-44	1.112925216	UP
CLJU_c22110	chemotaxis protein CheW	2.83E-14	1.11700889	UP
CLJU_c22130	chemotaxis protein CheY	4.74E-15	1.264422011	UP
CLJU_c22190	hypothetical protein	2.21E-17	-1.022021093	DOWN
CLJU_c22200	metal-binding protein	1.04E-44	-1.958989812	DOWN
CLJU_c22220	hypothetical protein	1.91E-122	-3.2911215	DOWN
CLJU_c22230	cobalt transport protein CbiM	7.21E-159	-2.770179672	DOWN
CLJU_c22260	transporter protein	1.72E-05	-1.427183049	DOWN
CLJU_c22270	hypothetical protein	2.45E-09	-1.666957549	DOWN
CLJU_c22310	cobalt ABC transporter ATPase	1.14E-07	-1.679246337	DOWN
CLJU_c22320	cobalt ABC transporter permease	4.74E-07	-1.713705808	DOWN
CLJU_c22330	cell wall-binding protein	8.67E-21	-2.158653566	DOWN
CLJU_c22340	surface/cell-adhesion protein	2.07E-31	-2.160131283	DOWN
CLJU_c22350	cell wall-binding protein	9.01E-09	-1.785374688	DOWN
CLJU_c22360	surface/cell-adhesion protein	4.68E-195	-3.649005123	DOWN
CLJU_c22370	hypothetical protein	3.44E-06	-3.810730262	DOWN
CLJU_c22380	hypothetical protein	0	-3.178621982	DOWN

CLJU_c22390	surface/cell-adhesion protein	0	-2.500141737	DOWN
CLJU_c22400	hypothetical protein	1.40E-06	-2.153617976	DOWN
CLJU_c22410	hypothetical protein	3.04E-12	-1.960972898	DOWN
CLJU_c22420	surface/cell-adhesion protein	1.94E-122	-2.203949652	DOWN
CLJU_c22440	hypothetical protein	4.01E-10	-2.960972898	DOWN
CLJU_c22450	surface/cell-adhesion protein	3.68E-46	-2.006776588	DOWN
CLJU_c22460	hypothetical protein	1.45E-28	-1.026187956	DOWN
CLJU_c22490	hypothetical protein	2.27E-10	-2.175644282	DOWN
CLJU_c22500	ABC transporter ATPase/permease	8.35E-08	-1.368061644	DOWN
CLJU_c22510	iron-sulfur cluster-binding protein	0	1.615515243	UP
CLJU_c22520	Na+-driven multidrug efflux pump	0	4.431344525	UP
CLJU_c22530	methyltransferase	0	4.89441472	UP
CLJU_c22540	peptide ABC transporter periplasmic protein	0	5.074640336	UP
CLJU_c22550	hypothetical protein	0	4.585554137	UP
CLJU_c22560	peptide ABC transporter ATPase	0	5.104599414	UP
CLJU_c22570	peptide ABC transporter ATPase	0	4.739212084	UP
CLJU_c22580	peptide ABC transporter periplasmic protein	0	5.004515174	UP
CLJU_c22590	peptide ABC transporter permease	0	4.561272898	UP
CLJU_c22600	peptide ABC transporter permease	0	4.409609055	UP
CLJU_c22610	hypothetical protein	0	5.43863331	UP
CLJU_c22620	methyltransferase	0	5.064670047	UP
CLJU_c22630	peptide ABC transporter ATPase	1.88E-287	5.411892162	UP
CLJU_c22640	peptide ABC transporter ATPase	0	5.838233411	UP
CLJU_c22650	peptide ABC transporter permease	0	5.465901747	UP
CLJU_c22660	peptide ABC transporter permease	0	5.929291379	UP
CLJU_c22670	peptide ABC transporter periplasmic	0	5.943339153	UP

	protein			
CLJU_c22690	methyltransferase	1.35E-253	3.264032041	UP
CLJU_c22700	hypothetical protein	0	4.415423853	UP
CLJU_c22770	radical SAM domain-containing protein	1.19E-12	1.306770654	UP
CLJU_c22790	microcompartment protein	2.41E-139	-1.924815491	DOWN
CLJU_c22800	succinate dehydrogenase flavoprotein subunit	1.14E-12	-1.52464062	DOWN
CLJU_c22830	transcriptional regulator	1.10E-23	-1.360068853	DOWN
CLJU_c22890	peptidyl-prolyl cis-trans isomerase	8.45E-130	-1.242050001	DOWN
CLJU_c22900	membrane-bound protein	6.24E-105	-1.778017948	DOWN
CLJU_c22920	ABC transporter ATP-binding protein	3.54E-05	-1.311159253	DOWN
CLJU_c22930	permease	0.0004747	-2.540641099	DOWN
CLJU_c22950	two-component response regulator	3.05E-12	-1.196570121	DOWN
CLJU_c22980	DNA topoisomerase I	5.74E-21	-1.540641099	DOWN
CLJU_c22990	ATP-dependent RNA helicase	5.46E-73	-2.256233042	DOWN
CLJU_c23020	transcriptional regulator	3.09E-14	1.205784824	UP
CLJU_c23030	hypothetical protein	0	2.245031293	UP
CLJU_c23040	hypothetical protein	0	2.303661972	UP
CLJU_c23050	nitrogenase iron protein	0	2.075596306	UP
CLJU_c23060	hydrogenase expression/formation protein HypE	0	2.228634337	UP
CLJU_c23070	hydrogenase expression/formation protein HypD	0	2.148469012	UP
CLJU_c23080	hydrogenase expression/formation protein	1.60E-205	1.854835339	UP
CLJU_c23090	hydrogenase maturation protein HypF	0	2.1320397	UP

CLJU_c23100	hypothetical protein	0	1.844920409	UP
CLJU_c23110	nitrogenase iron-molybdenum cofactor biosynthesis protein	0	1.469999228	UP
CLJU_c23130	hypothetical protein	2.68E-07	-1.049545522	DOWN
CLJU_c23150	nicotinamidase	3.00E-07	-1.319426869	DOWN
CLJU_c23160	glyoxalase	4.02E-12	1.202173571	UP
CLJU_c23180	symporter	1.87E-22	-1.687839517	DOWN
CLJU_c23190	FAD/FMN-containing dehydrogenase	2.28E-139	-1.777836145	DOWN
CLJU_c23200	hypothetical protein	0	-1.618506594	DOWN
CLJU_c23220	zinc-containing alcohol dehydrogenase superfamily	0	2.952737755	UP
CLJU_c23230	sigma-54-interacting transcriptional regulator	8.63E-38	-1.014596709	DOWN
CLJU_c23260	hypothetical protein	5.92E-58	-1.437581403	DOWN
CLJU_c23280	cation/multidrug efflux pump	0	-1.350865026	DOWN
CLJU_c23290	MarR family transcriptional regulator	3.41E-70	-1.796363973	DOWN
CLJU_c23320	hypothetical protein	0	1.186580711	UP
CLJU_c23330	CrcB protein	0.0001185	-1.010126382	DOWN
CLJU_c23360	hypothetical protein	2.55E-09	-2.497572377	DOWN
CLJU_c23380	tRNA (5-methylaminomethyl-2-thiouridylate)-methyltransferase	7.51E-46	-1.043423979	DOWN
CLJU_c23400	hypothetical protein	9.26E-15	-1.436690135	DOWN
CLJU_c23420	acetolactate synthaselarge subunit	4.80E-277	-1.230944018	DOWN
CLJU_c23430	amino acid permease	3.73E-157	-3.45829239	DOWN
CLJU_c23440	permease	1.20E-49	-2.507254931	DOWN
CLJU_c23570	carbamate kinase	1.69E-05	2.099362765	UP

CLJU_c23580	uracil permease	0.0008242	2.032248569	UP
CLJU_c23590	aerobic-type CO dehydrogenase large subunit	0.0006292	1.102036899	UP
CLJU_c23750	anaerobic sulfite reductase subunit C	5.18E-20	2.476432414	UP
CLJU_c23760	anaerobic sulfite reductase subunit B	0.0001199	1.672352624	UP
CLJU_c23770	anaerobic sulfite reductase subunit A	6.07E-08	1.520349531	UP
CLJU_c23810	deacetylase	1.47E-63	1.059782064	UP
CLJU_c23850	xanthine/uracil permease	8.59E-26	1.235462889	UP
CLJU_c23880	xanthine dehydrogenase subunit	0	4.590231519	UP
CLJU_c23890	xanthine dehydrogenase, iron-sulfur cluster and FAD-binding subunit A	0	5.213999006	UP
CLJU_c23900	xanthine dehydrogenase, molybdopterin-binding subunit B	0	5.103380528	UP
CLJU_c23910	xanthine dehydrogenase molybdopterin-binding subunit B	0	4.222655832	UP
CLJU_c23920	molybdopterin-guanine dinucleotide biosynthesis protein	3.66E-64	-1.31385624	DOWN
CLJU_c23930	transcriptional regulator	1.99E-96	-1.3968094	DOWN
CLJU_c23950	permease	1.28E-42	1.045161888	UP
CLJU_c24010	AMP-binding protein	2.26E-23	1.206971739	UP
CLJU_c24050	aldehyde oxidoreductase	1.96E-06	-1.243255188	DOWN
CLJU_c24200	aconitate hydratase/aconitase	2.33E-68	1.419709824	UP
CLJU_c24240	NADH oxidase	0	-1.59694372	DOWN
CLJU_c24250	aminoacid permease	4.05E-41	-2.623103259	DOWN
CLJU_c24260	cyclase	3.40E-83	-2.583932662	DOWN
CLJU_c24270	membrane-bound phosphohydrolase	5.79E-38	-1.351801237	DOWN
CLJU_c24300	hypothetical protein	3.63E-41	2.059470038	UP
CLJU_c24310	hypothetical protein	6.83E-170	2.441303551	UP
CLJU_c24320	aminoacid transporter	2.53E-290	-1.852955769	DOWN

CLJU_c24340	methyl-accepting transducer	1.44E-265	-3.410950022	DOWN
CLJU_c24410	nicotinate-nucleotide pyrophosphorylase	0.0003481	-1.061987501	DOWN
CLJU_c24420	L-aspartate oxidase	1.55E-05	-1.23977462	DOWN
CLJU_c24430	quinolinate synthetase A	1.77E-05	-1.775106353	DOWN
CLJU_c24550	major facility transporter	1.50E-07	-1.582461275	DOWN
CLJU_c24570	acetyltransferase	2.09E-80	-1.424419265	DOWN
CLJU_c24580	hypothetical protein	4.47E-06	-1.301175164	DOWN
CLJU_c24590	hypothetical protein	1.96E-08	-1.754347793	DOWN
CLJU_c24600	methyltransferase	1.44E-14	-1.428374867	DOWN
CLJU_c24610	NUDIX family hydrolase	4.26E-10	-1.726196752	DOWN
CLJU_c24620	hypothetical protein	4.98E-34	-2.449706066	DOWN
CLJU_c24630	NUDIX family hydrolase	1.45E-17	-1.897396783	DOWN
CLJU_c24670	bifunctional ABC transporter protein/LytT family transcriptional regulator	1.29E-10	-1.26053318	DOWN
CLJU_c24680	hypothetical protein	1.75E-12	-1.308994669	DOWN
CLJU_c24690	cation efflux pump	1.53E-08	-1.038140759	DOWN
CLJU_c24700	hypothetical protein	1.29E-43	-1.378684532	DOWN
CLJU_c24710	hypothetical protein	9.71E-37	-1.318052219	DOWN
CLJU_c24720	hypothetical protein	3.64E-154	-1.079443893	DOWN
CLJU_c24740	ATP-dependent protease adaptor protein ClpS	8.30E-16	-1.363626673	DOWN
CLJU_c24770	methyl-accepting chemotaxis protein	0	1.983020156	UP
CLJU_c24780	flavodoxin	7.59E-152	-1.529388824	DOWN
CLJU_c24800	transcriptional regulator	1.91E-06	-1.203949652	DOWN
CLJU_c24830	hypothetical protein	3.64E-15	-3.00776711	DOWN
CLJU_c24840	PadR family transcriptional regulator	6.29E-10	-1.997498774	DOWN
CLJU_c24850	signal-transduction and	5.55E-117	-1.646073782	DOWN

	transcriptional-control protein			
CLJU_c24860	zinc-containing alcohol dehydrogenase	0	3.40506137	UP
CLJU_c24880	NADPH-dependent butanol dehydrogenase	0	2.165604802	UP
CLJU_c24910	hypothetical protein	2.39E-12	-1.635381589	DOWN
CLJU_c24920	hydrolase	4.76E-06	-1.129639113	DOWN
CLJU_c24980	transporter protein	1.67E-09	1.982920857	UP
CLJU_c24990	uroporphyrinogen-III decarboxylase-like protein	9.82E-10	1.270490514	UP
CLJU_c25000	hypothetical protein	1.64E-26	-1.45543071	DOWN
CLJU_c25030	permease	6.75E-27	-1.064160644	DOWN
CLJU_c25040	molybdenum cofactor sulfurase-like protein	2.40E-199	1.413086941	UP
CLJU_c25050	molybdenum cofactor biosynthesis protein C	4.40E-88	1.20841851	UP
CLJU_c25060	molybdenum cofactor biosynthesis protein B	1.68E-212	1.798058342	UP
CLJU_c25180	hypothetical protein	6.62E-17	-2.234537971	DOWN
CLJU_c25190	hypothetical protein	1.87E-09	-2.512071947	DOWN
CLJU_c25200	aldo/keto reductase	4.50E-83	-2.085674585	DOWN
CLJU_c25250	methyltransferase	9.65E-80	-1.219921706	DOWN
CLJU_c25270	hypothetical protein	1.32E-36	-1.26053318	DOWN
CLJU_c25280	hypothetical protein	1.01E-06	-1.675570679	DOWN
CLJU_c25290	apo-citrate lyase phosphoribosyl-dephospho-CoA transferase	6.35E-147	-1.476734616	DOWN
CLJU_c25320	citrate lyase subunit alpha	7.91E-146	2.372491562	UP
CLJU_c25330	citrate lyase subunit beta	0	2.711734944	UP

CLJU_c25340	citrate lyase acyl carrier protein, citrate lyase gamma chain	4.63E-38	1.870360887	UP
CLJU_c25350	citrate (pro-3S)-lyase ligase	2.72E-96	2.224893647	UP
CLJU_c25360	NADP-dependent malic enzyme	3.67E-112	1.961859241	UP
CLJU_c25370	triphosphoribosyl-dephospho-CoA synthase	9.97E-61	-2.175313047	DOWN
CLJU_c25480	anaerobic sulfite reductase subunit B	1.76E-13	1.160930589	UP
CLJU_c25530	hypothetical protein	2.52E-89	-1.350361389	DOWN
CLJU_c25540	hypothetical protein	2.89E-66	1.603639874	UP
CLJU_c25560	membrane-bound histidine kinase	1.76E-19	1.034922704	UP
CLJU_c25570	hypothetical protein	1.45E-30	2.156362266	UP
CLJU_c25600	hypothetical protein	3.11E-117	-2.048386656	DOWN
CLJU_c25620	transcriptional regulator	1.77E-11	-1.044804489	DOWN
CLJU_c25630	hypothetical protein	4.34E-136	-1.137431679	DOWN
CLJU_c25640	transcriptional regulator	2.95E-09	-1.482925601	DOWN
CLJU_c25670	two-component sensor histidine kinase	4.87E-33	-1.594774536	DOWN
CLJU_c25680	erythromycin esterase	3.98E-14	-1.179496608	DOWN
CLJU_c25750	two-component response regulator	2.29E-14	-1.002340037	DOWN
CLJU_c25760	two-component sensor histidine kinase	9.63E-31	-1.68919245	DOWN
CLJU_c25770	ABC transporter ATPase	2.90E-15	-1.976740214	DOWN
CLJU_c25780	permease	1.09E-07	-1.23977462	DOWN
CLJU_c25830	transketolase	1.19E-07	1.201686256	UP
CLJU_c25920	hypothetical protein	1.41E-24	-1.781649199	DOWN
CLJU_c25930	hypothetical protein	3.23E-49	-1.666957549	DOWN
CLJU_c25990	hypothetical protein	2.16E-237	2.154161433	UP
CLJU_c26000	hypothetical protein	5.20E-119	1.794039443	UP
CLJU_c26010	hypothetical protein	0	2.355732131	UP

CLJU_c26020	molybdenum ABC transporter solute-binding protein	0	2.369717515	UP
CLJU_c26030	hypothetical protein	0	2.170972799	UP
CLJU_c26090	diguanylate cyclase	5.79E-53	-2.431548242	DOWN
CLJU_c26110	amidohydrolase	2.19E-217	-3.011028913	DOWN
CLJU_c26120	adenine deaminase	3.72E-206	-3.455508318	DOWN
CLJU_c26130	ABC transporter substrate-binding protein	0	-3.213329155	DOWN
CLJU_c26140	ABC transporter ATPase	0	-2.88957434	DOWN
CLJU_c26150	ABC transporter permease	3.02E-89	-2.873329889	DOWN
CLJU_c26160	ABC transporter permease	2.43E-84	-2.776673648	DOWN
CLJU_c26200	hydrolase	1.62E-17	-1.299406072	DOWN
CLJU_c26210	transcriptional regulator	8.33E-09	-1.557514918	DOWN
CLJU_c26230	transport protein ATPase/permease	7.74E-41	-3.078887101	DOWN
CLJU_c26240	transport protein ATPase/permease	4.85E-57	-2.634192438	DOWN
CLJU_c26250	hypothetical protein	4.13E-49	-1.184982147	DOWN
CLJU_c26260	transcriptional regulator	3.47E-05	-1.197339353	DOWN
CLJU_c26270	ABC transporter ATPase	6.48E-05	-1.540641099	DOWN
CLJU_c26340	hypothetical protein	1.51E-08	-1.764764409	DOWN
CLJU_c26370	acyl-CoA thioesterase 1	1.88E-14	-1.509031493	DOWN
CLJU_c26390	transcription elongation factor	6.02E-138	-1.668695499	DOWN
CLJU_c26400	phosphoribosyltransferase	0.0003633	-1.540641099	DOWN
CLJU_c26460	transcriptional regulator	5.94E-42	-1.739482443	DOWN
CLJU_c26480	permease	1.10E-91	-2.816582989	DOWN
CLJU_c26500	hypothetical protein	1.35E-23	-1.286068272	DOWN
CLJU_c26560	hypothetical protein	3.43E-13	-1.794646539	DOWN
CLJU_c26570	glycerol dehydrogenase	0	-1.456593608	DOWN
CLJU_c26620	MFS family transporter protein	2.91E-18	-1.927664222	DOWN

CLJU_c26670	isoaspartyl dipeptidase	2.16E-43	-1.202562148	DOWN
CLJU_c26720	asparagine synthetase	0	-1.502514551	DOWN
CLJU_c26730	polysaccharide deacetylase	0	-1.594206482	DOWN
CLJU_c26740	glutaminyl-tRNA synthetase	0	-1.134484628	DOWN
CLJU_c26750	hypothetical protein	2.02E-275	-1.859579454	DOWN
CLJU_c26760	hypothetical protein	3.14E-55	-1.25386945	DOWN
CLJU_c26810	hypothetical protein	1.41E-89	-1.117983714	DOWN
CLJU_c26820	membrane associated GGDEF domain-containing protein	4.25E-202	-1.461686411	DOWN
CLJU_c26830	integrase/recombinase	5.10E-25	-1.43456258	DOWN
CLJU_c26850	hypothetical protein	7.36E-12	-1.235586823	DOWN
CLJU_c26860	ABC transporter ATPase	6.18E-16	-1.485599736	DOWN
CLJU_c26870	transcriptional regulator	3.49E-21	-2.106620496	DOWN
CLJU_c26890	hypothetical protein	4.19E-32	-1.030673928	DOWN
CLJU_c26900	FeS cluster assembly protein	1.61E-41	-2.186039454	DOWN
CLJU_c26920	hypothetical protein	4.31E-07	-2.225767762	DOWN
CLJU_c26930	hypothetical protein	0.0001851	-1.360068853	DOWN
CLJU_c26940	transcriptional regulator	5.42E-25	-2.856900444	DOWN
CLJU_c26980	hypothetical protein	0.000191	-1.275179956	DOWN
CLJU_c27040	two component sensor kinase	6.67E-23	-1.367264355	DOWN
CLJU_c27050	two-component response regulator	7.91E-07	-1.168339482	DOWN
CLJU_c27070	ABC transporter ATPase	5.68E-05	-3.497572377	DOWN
CLJU_c27080	AP endonuclease	1.34E-32	-1.960283438	DOWN
CLJU_c27090	DNA mismatch repair protein	9.74E-36	-1.199539889	DOWN
CLJU_c27120	transcriptional regulator	4.34E-23	-2.326007017	DOWN
CLJU_c27210	acetyltransferase	1.88E-12	-1.551912211	DOWN
CLJU_c27260	hybrid cluster protein	0	1.66820479	UP
CLJU_c27270	FAD-dependent dehydrogenase	2.63E-05	-2.26053318	DOWN

CLJU_c27290	glycine reductase complex component C subunit alpha	0	-3.923110736	DOWN
CLJU_c27390	transcriptional regulator	2.39E-07	-1.872717149	DOWN
CLJU_c27400	hypothetical protein	1.71E-06	-3.1256036	DOWN
CLJU_c27410	hydrolase	7.12E-27	-1.31688803	DOWN
CLJU_c27500	hypothetical protein	5.50E-12	-1.360068853	DOWN
CLJU_c27510	RNA polymerase sigma factor	3.94E-06	-1.430458181	DOWN
CLJU_c27550	MFS family transporter protein	4.83E-23	-1.537809508	DOWN
CLJU_c27560	uroporphyrinogen-III decarboxylase-like protein	2.31E-26	1.532607883	UP
CLJU_c27570	hypothetical protein	8.07E-88	1.888227212	UP
CLJU_c27580	rifampin ADP-ribosyl transferase	0.0001752	-1.602925377	DOWN
CLJU_c27590	hypothetical protein	0.0007463	-1.475546071	DOWN
CLJU_c27610	bifunctional cystathionine gamma-lyase/maltose regulon repressor	0	-2.638665778	DOWN
CLJU_c27620	ABC transporter periplasmic solute-binding component	0	-2.671823304	DOWN
CLJU_c27630	amino acid ABC transporter permease	0	-2.652500051	DOWN
CLJU_c27640	polar amino acid ABC transporter ATPase	0	-2.951183581	DOWN
CLJU_c27650	mandelate racemase	0	-2.52739206	DOWN
CLJU_c27660	ABC transporter periplasmic protein	0	-2.59592998	DOWN
CLJU_c27670	metal ion ABC transporter permease	0	-3.610164204	DOWN
CLJU_c27680	ABC transporter ATPase	0	-3.550276946	DOWN
CLJU_c27700	selenocysteine-specific translation elongation factor	0	-5.103896069	DOWN
CLJU_c27710	L-seryl-tRNA(Sec) selenium	0	-5.307601434	DOWN

	transferase			
CLJU_c27720	selenide, water dikinase	0	-4.921802301	DOWN
CLJU_c27730	selenocysteine lyase	0	-4.678144623	DOWN
CLJU_c27740	LysR family transcriptional regulator	0	-5.33071803	DOWN
CLJU_c27750	hypothetical protein	0	-5.547695857	DOWN
CLJU_c27760	hypothetical protein	0	-5.652850603	DOWN
CLJU_c27770	glycine reductase complex component C subunit alpha	0	-5.653529088	DOWN
CLJU_c27780	glycine reductase complex component C subunit beta	0	-5.575030311	DOWN
CLJU_c27790	glycine/sarcosine/betaine reductase complex component A2	0	-6.323629811	DOWN
CLJU_c27800	thioredoxin	0	-6.376247323	DOWN
CLJU_c27810	thioredoxin reductase	0	-6.57155702	DOWN
CLJU_c27820	choline/carnitine/betaine transporter protein	0	-6.020624277	DOWN
CLJU_c27830	betaine reductase complex component B subunit gamma	0	-6.248953661	DOWN
CLJU_c27840	glycine reductase complex component B subunit alpha	0	-6.576923977	DOWN
CLJU_c27850	hypothetical protein	0	-3.793028261	DOWN
CLJU_c27860	permease	0	-4.240839018	DOWN
CLJU_c27880	hypothetical protein	1.68E-06	-2.475546071	DOWN
CLJU_c27960	regulatory protein	6.29E-81	-2.179860879	DOWN
CLJU_c28060	transcriptional regulator	3.05E-36	-1.581544987	DOWN
CLJU_c28070	membrane-bound ATPase	8.52E-42	-1.720856728	DOWN
CLJU_c28090	2-hydroxy-3-oxopropionate reductase	3.05E-172	-1.42805409	DOWN
CLJU_c28130	glucarate dehydratase	6.83E-50	1.11286703	UP

CLJU_c28230	dihydrodipicolinate synthase	2.13E-12	-1.221852712	DOWN
CLJU_c28280	adenosine deaminase	1.43E-41	-1.882489888	DOWN
CLJU_c28290	diguanylate cyclase	3.07E-166	-1.651359711	DOWN
CLJU_c28300	hypothetical protein	3.15E-222	-1.440167392	DOWN
CLJU_c28320	hypothetical protein	3.70E-34	-1.088297434	DOWN
CLJU_c28350	thiamine biosynthesis protein	1.61E-134	-1.709696463	DOWN
CLJU_c28360	cysteine desulfurase	3.08E-92	-1.515152279	DOWN
CLJU_c28370	polysaccharide deacetylase	2.60E-09	-3.582461275	DOWN
CLJU_c28380	hypothetical protein	1.07E-29	-1.396161856	DOWN
CLJU_c28390	hypothetical protein	8.42E-37	-1.754347793	DOWN
CLJU_c28400	helicase	7.55E-82	-1.290013058	DOWN
CLJU_c28410	hypothetical protein	4.58E-73	-1.437041421	DOWN
CLJU_c28420	cyclopropane-fatty-acyl-phospholipid synthase	0	-1.426670945	DOWN
CLJU_c28430	hypothetical protein	0	-2.123966167	DOWN
CLJU_c28480	AgrB-like protein	1.88E-22	-1.29224204	DOWN
CLJU_c28490	membrane-bound histidine kinase	7.18E-80	-1.024950312	DOWN
CLJU_c28510	hypothetical protein	2.93E-62	-2.065621495	DOWN
CLJU_c28520	diguanylate cyclase	1.45E-170	-1.440755246	DOWN
CLJU_c28530	signal transduction protein	2.72E-70	-1.141859092	DOWN
CLJU_c28580	small acid-soluble spore protein	5.77E-06	-2.383915595	DOWN
CLJU_c28600	cobalt transporter, permease subunit	8.59E-102	-1.905213531	DOWN
CLJU_c28610	cell wall-binding protein	4.30E-197	-1.458098679	DOWN
CLJU_c28620	hypothetical protein	8.86E-43	-1.769686077	DOWN
CLJU_c28720	NADH:flavin oxidoreductase	4.66E-09	1.298894229	UP
CLJU_c28870	two-component response regulator	2.06E-09	-2.879443013	DOWN
CLJU_c28880	two-component sensor histidine kinase	4.33E-11	-2.675570679	DOWN

CLJU_c28890	type IV leader peptidase	0.00023	-3.311159253	DOWN
CLJU_c28900	hypothetical protein	0	-5.773301856	DOWN
CLJU_c28910	rubrerythrin	0	-5.503647145	DOWN
CLJU_c28920	transposase	0	-3.652156499	DOWN
CLJU_c28930	hypothetical protein	0	-3.197956964	DOWN
CLJU_c28940	ABC transporter ATPase	0	-2.630383485	DOWN
CLJU_c28950	amino acid ABC transporter permease	0	-2.453392929	DOWN
CLJU_c28960	ABC transporter periplasmic solute-binding component	0	-2.931368303	DOWN
CLJU_c28970	aminotransferase	1.40E-05	-3.662631623	DOWN
CLJU_c28980	aminotransferase	0.0008593	-1.912609876	DOWN
CLJU_c28990	aminotransferase	1.81E-17	-2.37374379	DOWN
CLJU_c29000	hypothetical protein	1.18E-12	-1.233566132	DOWN
CLJU_c29040	cardiolipin synthetase	5.64E-198	-2.983141139	DOWN
CLJU_c29080	hypothetical protein	4.10E-44	-1.197339353	DOWN
CLJU_c29090	hypothetical protein	2.13E-43	-1.105380096	DOWN
CLJU_c29110	shikimate kinase	0	-1.02551315	DOWN
CLJU_c29190	hypothetical protein	2.77E-54	-1.153617976	DOWN
CLJU_c29210	transcriptional regulator	2.42E-101	-1.315278818	DOWN
CLJU_c29310	glycosyltransferase	7.65E-47	-1.003968269	DOWN
CLJU_c29320	hypothetical protein	5.66E-13	-1.178462047	DOWN
CLJU_c29330	AraC family transcriptional regulator	8.96E-78	-1.724936757	DOWN
CLJU_c29360	polygalacturonase	7.18E-24	-1.03962425	DOWN
CLJU_c29370	ATP-binding protein	1.25E-148	-1.713786742	DOWN
CLJU_c29380	IclR family transcriptional regulator	3.18E-114	-1.536852365	DOWN
CLJU_c29430	transcriptional regulator	0	4.624333024	UP
CLJU_c29440	aspartate racemase	0	4.586350106	UP

CLJU_c29450	MFS family transporter protein	5.71E-68	2.450606427	UP
CLJU_c29470	hypothetical protein	2.32E-49	-1.027293376	DOWN
CLJU_c29570	regulatory protein	0.0001062	-1.643002817	DOWN
CLJU_c29580	hypothetical protein	9.21E-06	-2.976740214	DOWN
CLJU_c29590	hypothetical protein	7.61E-77	-3.643002817	DOWN
CLJU_c29600	two-component response regulator	3.46E-34	-3.945031354	DOWN
CLJU_c29610	Signal transduction histidine kinase	3.00E-51	-4.980655264	DOWN
CLJU_c29620	hypothetical protein	8.68E-07	-3.181098712	DOWN
CLJU_c29630	hypothetical protein	2.94E-11	-1.738580477	DOWN
CLJU_c29650	esterase	2.44E-35	-2.308046641	DOWN
CLJU_c29660	tRNA (guanine-N(7)-)-methyltransferase	5.56E-09	-1.001614883	DOWN
CLJU_c29670	hypothetical protein	9.53E-14	-1.41841284	DOWN
CLJU_c29680	peptidase	7.65E-163	-2.040947013	DOWN
CLJU_c29690	hypothetical protein	0	-2.26663735	DOWN
CLJU_c29700	exopolysaccharide biosynthesis protein	8.07E-92	-1.421600356	DOWN
CLJU_c29740	hypothetical protein	2.56E-10	-1.466002298	DOWN
CLJU_c29750	NADPH-dependent FMN reductase-like protein	9.08E-48	-1.017500993	DOWN
CLJU_c29760	hypothetical protein	4.26E-10	-1.726196752	DOWN
CLJU_c29810	small acid-soluble spore protein	6.38E-14	-1.673729332	DOWN
CLJU_c29840	enoate reductase	0	1.58673421	UP
CLJU_c29910	purine deaminase, zinc-binding domain	0.0005452	-1.277606693	DOWN
CLJU_c29960	N-acyl-D-amino-acid deacylase	1.16E-11	-1.837842108	DOWN
CLJU_c29990	ABC transporter ATPase	1.96E-06	-1.243255188	DOWN
CLJU_c30000	basic membrane protein	6.49E-21	-1.496064071	DOWN
CLJU_c30010	hypothetical protein	6.38E-36	-1.891376042	DOWN

CLJU_c30020	cell wall hydrolase	1.17E-06	-1.044454533	DOWN
CLJU_c30040	signal receiver domain-containing protein	6.21E-64	-1.860967089	DOWN
CLJU_c30060	hypothetical protein	7.02E-48	-1.080724063	DOWN
CLJU_c30080	two-component response regulator	2.89E-14	-2.192717796	DOWN
CLJU_c30090	membrane-associated ATP-binding domain-containing protein	3.31E-16	-1.524385208	DOWN
CLJU_c30100	hypothetical protein	1.10E-10	-1.637602829	DOWN
CLJU_c30130	sensory transduction histidine kinase	3.27E-08	-1.136874712	DOWN
CLJU_c30140	two-component response regulator	2.28E-11	-1.745960007	DOWN
CLJU_c30150	permease	5.13E-13	-3.247594124	DOWN
CLJU_c30160	ABC transporter ATPase	1.71E-06	-3.879443013	DOWN
CLJU_c30190	hypothetical protein	1.79E-20	1.447286069	UP
CLJU_c30200	esterase	2.42E-07	-1.561702715	DOWN
CLJU_c30210	hypothetical protein	3.46E-11	-1.441862945	DOWN
CLJU_c30240	phloretin hydrolase	1.14E-29	-1.03931895	DOWN
CLJU_c30280	hypothetical protein	1.30E-30	-1.475052757	DOWN
CLJU_c30290	hypothetical protein	1.45E-43	-3.146665215	DOWN
CLJU_c30300	uroporphyrinogen decarboxylase-like protein	0	-3.11438453	DOWN
CLJU_c30310	cell wall-binding protein	3.26E-18	-1.022792794	DOWN
CLJU_c30360	hypothetical protein	3.54E-05	-2.234537971	DOWN
CLJU_c30380	hypothetical protein	1.31E-06	-1.06461297	DOWN
CLJU_c30400	chemotaxis sensory transducer protein	1.57E-45	-1.195827491	DOWN
CLJU_c30410	hypothetical protein	9.16E-07	-1.960972898	DOWN
CLJU_c30430	methyl-accepting chemotaxis protein	1.95E-16	-1.09462795	DOWN
CLJU_c30440	hypothetical protein	2.27E-63	2.605238428	UP
CLJU_c30450	3-methylitaconate isomerase	7.00E-155	3.731246313	UP

CLJU_c30460	aconitate hydratase/aconitase	0	4.031170993	UP
CLJU_c30470	citrate lyase subunit alpha	0	3.11348033	UP
CLJU_c30480	citrate lyase subunit beta	0	2.751911586	UP
CLJU_c30490	citrate lyase acyl carrier protein, citrate lyase gamma chain	9.08E-236	2.552746576	UP
CLJU_c30500	NAD-dependent malic enzyme	0	2.514552939	UP
CLJU_c30510	GntR family transcriptional regulator	1.06E-96	-1.702593853	DOWN
CLJU_c30530	amidohydrolase	3.27E-19	-2.347996021	DOWN
CLJU_c30550	acetyltransferase	1.91E-41	-1.249409801	DOWN
CLJU_c30560	methyl-accepting chemotaxis protein	5.70E-126	-1.220025456	DOWN
CLJU_c30570	hypothetical protein	5.95E-07	-3.976740214	DOWN
CLJU_c30590	hypothetical protein	7.57E-14	-1.141234252	DOWN
CLJU_c30600	chemotaxis sensory transducer-like protein	0	-1.336731161	DOWN
CLJU_c30610	D-isomer specific 2-hydroxyacid dehydrogenase	4.57E-280	-1.161778119	DOWN
CLJU_c30710	hypothetical protein	0	4.313622566	UP
CLJU_c30720	hypothetical protein	3.93E-62	-1.388032322	DOWN
CLJU_c30740	1,3-propanediol dehydrogenase	0	3.152542803	UP
CLJU_c30750	enoate reductase	9.54E-266	2.592883524	UP
CLJU_c30760	MFS family transporter protein	3.67E-71	2.297043433	UP
CLJU_c30860	LysR family transcriptional regulator	3.25E-24	-1.400376842	DOWN
CLJU_c30880	hypothetical protein	1.23E-17	-1.335821307	DOWN
CLJU_c30890	hypothetical protein	2.33E-07	-1.181098712	DOWN
CLJU_c30920	hypothetical protein	7.24E-12	-1.714845828	DOWN
CLJU_c30940	hypothetical protein	7.77E-07	-2.190143852	DOWN
CLJU_c30950	hypothetical protein	1.13E-110	2.312356489	UP
CLJU_c30970	membrane associated GGDEF domain-containing protein	1.80E-19	-1.787780183	DOWN

CLJU_c31030	antibiotic resistance protein	1.59E-11	-1.335821307	DOWN
CLJU_c31070	phage-like protein	2.16E-08	1.336254756	UP
CLJU_c31080	cell wall hydrolase/autolysin	3.65E-48	2.86456204	UP
CLJU_c31090	hypothetical protein	2.18E-13	2.546821742	UP
CLJU_c31100	hypothetical protein	1.43E-18	2.916055552	UP
CLJU_c31110	hypothetical protein	1.72E-35	2.546821742	UP
CLJU_c31120	hypothetical protein	3.48E-13	2.347512934	UP
CLJU_c31130	hypothetical protein	1.51E-12	2.061394915	UP
CLJU_c31140	hypothetical protein	3.95E-15	2.102036899	UP
CLJU_c31150	hypothetical protein	1.90E-37	2.224893647	UP
CLJU_c31160	hypothetical protein	3.40E-94	2.930526035	UP
CLJU_c31170	hypothetical protein	7.66E-30	2.136733459	UP
CLJU_c31180	hypothetical protein	3.20E-18	2.184251663	UP
CLJU_c31190	hypothetical protein	2.20E-11	1.945371119	UP
CLJU_c31200	hypothetical protein	1.17E-21	1.937611695	UP
CLJU_c31210	hypothetical protein	4.23E-10	2.345187881	UP
CLJU_c31220	phage protein	1.84E-107	2.798360509	UP
CLJU_c31240	hypothetical protein	4.10E-31	2.213084345	UP
CLJU_c31250	hypothetical protein	4.40E-115	2.954769817	UP
CLJU_c31260	hypothetical protein	1.75E-83	3.052712672	UP
CLJU_c31270	hypothetical protein	2.71E-131	2.820582555	UP
CLJU_c31280	hypothetical protein	8.79E-76	2.995282243	UP
CLJU_c31290	hypothetical protein	1.11E-90	3.041586434	UP
CLJU_c31300	hypothetical protein	8.19E-47	2.562251783	UP
CLJU_c31310	phage-like protein	0	3.328181456	UP
CLJU_c31320	hypothetical protein	4.16E-115	3.289023985	UP
CLJU_c31330	phage-like protein	5.21E-146	2.576165704	UP
CLJU_c31340	hypothetical protein	1.82E-09	1.466651393	UP

CLJU_c31370	hypothetical protein	3.21E-36	1.674469565	UP
CLJU_c31380	phage terminaselarge subunit	1.56E-25	1.539404271	UP
CLJU_c31390	phage-like endonuclease	2.20E-07	1.08115817	UP
CLJU_c31420	hypothetical protein	9.61E-06	1.03662701	UP
CLJU_c31430	hypothetical protein	6.68E-10	2.402431833	UP
CLJU_c31440	hypothetical protein	3.14E-05	1.464359582	UP
CLJU_c31570	hypothetical protein	1.14E-44	1.375341274	UP
CLJU_c31580	hypothetical protein	2.51E-77	2.146734584	UP
CLJU_c31590	phage-like protein	2.75E-36	2.057016474	UP
CLJU_c31600	hypothetical protein	4.24E-17	1.651791302	UP
CLJU_c31610	phage replication protein	1.01E-69	2.235360646	UP
CLJU_c31620	phage-like hydrolase	6.84E-51	2.004294508	UP
CLJU_c31630	phage-like protein	4.74E-253	2.501775262	UP
CLJU_c31640	phage-like protein	0	2.986264554	UP
CLJU_c31650	hypothetical protein	6.00E-47	2.594127457	UP
CLJU_c31660	hypothetical protein	2.24E-42	2.530143001	UP
CLJU_c31670	hypothetical protein	1.09E-56	3.221726368	UP
CLJU_c31680	hypothetical protein	2.99E-112	3.23443742	UP
CLJU_c31690	hypothetical protein	8.30E-128	3.710941122	UP
CLJU_c31700	hypothetical protein	2.65E-136	3.073885859	UP
CLJU_c31710	transcriptional regulator	6.87E-43	3.290982838	UP
CLJU_c31770	hypothetical protein	2.33E-17	-2.871030773	DOWN
CLJU_c31790	metal ABC transporter ATPase	7.51E-61	-1.323542977	DOWN
CLJU_c31800	metal ABC transporter permease	3.46E-140	-1.077246157	DOWN
CLJU_c31830	PduX-like protein	5.60E-252	-2.195834442	DOWN
CLJU_c31840	cobalt-precorrin-6A reductase	1.78E-282	-1.945333774	DOWN
CLJU_c31850	sirohydrochlorin cobaltochelatase	4.16E-253	-1.594684851	DOWN
CLJU_c31860	cobalt-precorrin-3B	3.94E-194	-1.2521912	DOWN

	C(17)-methyltransferase			
CLJU_c31870	cobalamin biosynthesis protein CbiG	0	-1.783657491	DOWN
CLJU_c31880	cobalt-precorrin-4 C(11)-methyltransferase	9.40E-215	-1.060860835	DOWN
CLJU_c31890	cobalt-precorrin-2 C(20)-methyltransferase	0	-1.549009963	DOWN
CLJU_c31900	cobalt-precorrin-6Y C(15)-methyltransferase	1.87E-229	-1.623683938	DOWN
CLJU_c31940	nicotinate-nucleotide-dimethylbenzimidazole phosphoribosyltransferase	1.31E-169	-1.173961839	DOWN
CLJU_c31950	cobyrinic acid A,C-diamide synthase CbiA	5.32E-232	-1.073172775	DOWN
CLJU_c31980	porphobilinogen deaminase	1.34E-120	-1.099634312	DOWN
CLJU_c31990	precorrin-2 dehydrogenase	1.36E-62	-1.029604077	DOWN
CLJU_c32000	threonine-phosphate decarboxylase	1.84E-218	-1.001730118	DOWN
CLJU_c32010	cobalamin biosynthesis protein CobD	1.56E-158	-1.332997107	DOWN
CLJU_c32030	cobalt ABC transporter ATPase	6.36E-114	-1.16648969	DOWN
CLJU_c32040	cobalt permease	5.45E-180	-1.595533859	DOWN
CLJU_c32070	phage infection protein	1.36E-23	-1.39899722	DOWN
CLJU_c32080	phage infection protein	5.28E-18	-1.347996021	DOWN
CLJU_c32090	phosphatase	6.49E-18	-1.912609876	DOWN
CLJU_c32170	hypothetical protein	3.92E-54	-1.462922577	DOWN
CLJU_c32200	hypothetical protein	1.99E-05	-3.623103259	DOWN
CLJU_c32220	hypothetical protein	1.07E-14	-5.067888102	DOWN
CLJU_c32290	hypothetical protein	2.39E-44	-3.924853472	DOWN
CLJU_c32310	hypothetical protein	0.0003338	-1.416652382	DOWN
CLJU_c32340	methyltransferase	1.02E-05	-1.316676258	DOWN
CLJU_c32350	hypothetical protein	1.44E-08	-1.430458181	DOWN

CLJU_c32400	permease	2.04E-141	-1.400547923	DOWN
CLJU_c32560	hypothetical protein	1.24E-05	2.546821742	UP
CLJU_c32570	hypothetical protein	0.0002469	4.546821742	UP
CLJU_c32620	hypothetical protein	1.18E-42	-1.453178258	DOWN
CLJU_c32630	IS4-like transposase	5.83E-53	-1.135126374	DOWN
CLJU_c32710	hypothetical protein	1.75E-12	-1.81775069	DOWN
CLJU_c32720	hypothetical protein	1.04E-16	-1.640805261	DOWN
CLJU_c32730	AbiF-like protein	0	-2.68606036	DOWN
CLJU_c32760	hypothetical protein	9.70E-10	-1.319911727	DOWN
CLJU_c32820	hypothetical protein	0	-1.409455614	DOWN
CLJU_c32830	permease	5.24E-09	-1.418074457	DOWN
CLJU_c32890	aspartate kinase	2.69E-14	1.000078564	UP
CLJU_c32930	transcriptional regulator	3.61E-17	-1.136630622	DOWN
CLJU_c32940	ATP-dependent Clp protease proteolytic subunit	0	2.048273993	UP
CLJU_c32950	transcriptional regulator	0	2.874161077	UP
CLJU_c32960	two-component sensor kinase	1.25E-28	-1.010395768	DOWN
CLJU_c32980	hypothetical protein	9.14E-09	-1.445644585	DOWN
CLJU_c32990	hypothetical protein	6.18E-10	-1.793028261	DOWN
CLJU_c33000	hypothetical protein	9.03E-09	-2.026067926	DOWN
CLJU_c33070	hypothetical protein	7.07E-21	-1.666171981	DOWN
CLJU_c33080	hypothetical protein	1.95E-49	-3.159770203	DOWN
CLJU_c33090	hypothetical protein	7.07E-62	-3.676490472	DOWN
CLJU_c33100	Na+ driven multidrug efflux pump	6.00E-05	-1.438071365	DOWN
CLJU_c33120	LysR family transcriptional regulator	6.34E-27	-1.114682313	DOWN
CLJU_c33130	amino acid ABC transporter periplasmic solute-binding protein	0	-1.461597707	DOWN
CLJU_c33140	amino acid ABC transporter	3.04E-194	-1.717179493	DOWN

	permease			
CLJU_c33150	methyl-accepting chemotaxis protein	0	-1.219771185	DOWN
CLJU_c33160	ATP-dependent exonuclease	4.45E-235	-1.288877806	DOWN
CLJU_c33170	signal transduction protein	1.28E-182	-1.389073142	DOWN
CLJU_c33200	cobalt transport protein CbiM	0	2.611293312	UP
CLJU_c33250	L-serine dehydratase subunit alpha	9.02E-20	-1.132918983	DOWN
CLJU_c33280	cysteine desulfurase	4.67E-21	-1.566519731	DOWN
CLJU_c33290	hypothetical protein	1.67E-14	-1.274677362	DOWN
CLJU_c33300	LysR family transcriptional regulator	1.21E-94	-1.26346053	DOWN
CLJU_c33360	hypothetical protein	1.21E-29	-1.556189926	DOWN
CLJU_c33370	hypothetical protein	5.67E-193	-2.071262829	DOWN
CLJU_c33390	hypothetical protein	3.63E-76	-1.199132635	DOWN
CLJU_c33440	hypothetical protein	2.72E-89	-4.111389741	DOWN
CLJU_c33450	hypothetical protein	1.73E-242	-3.561028085	DOWN
CLJU_c33460	hypothetical protein	1.53E-115	-4.266959449	DOWN
CLJU_c33470	amidohydrolase	0	-3.358238188	DOWN
CLJU_c33570	lipase	1.71E-10	-1.931225555	DOWN
CLJU_c33590	lytic murein transglycosylase	6.21E-28	-1.318510581	DOWN
CLJU_c33600	dephospho-CoA kinase	1.00E-48	-1.123610101	DOWN
CLJU_c33630	hypothetical protein	3.31E-84	1.917405643	UP
CLJU_c33640	hemolysin III-like protein	0	5.253090539	UP
CLJU_c33650	hypothetical protein	1.51E-48	-1.551210341	DOWN
CLJU_c33730	single-stranded-DNA-specific exonuclease RecJ	7.40E-104	-1.339344967	DOWN
CLJU_c33740	protein-export membrane protein	1.49E-184	-1.571300829	DOWN
CLJU_c33750	protein-export membrane protein	0	-1.431274799	DOWN
CLJU_c33760	Fe-S oxidoreductase	0	-1.977296845	DOWN
CLJU_c33770	hypothetical protein	2.50E-83	-1.441014949	DOWN

CLJU_c33780	hypothetical protein	3.83E-109	-2.339310293	DOWN
CLJU_c33790	hypothetical protein	0	-2.265892533	DOWN
CLJU_c33800	queuine tRNA-ribosyltransferase	0	-1.697834134	DOWN
CLJU_c33810	S-adenosylmethionine--tRNA ribosyltransferase-isomerase	4.75E-178	-1.338848261	DOWN
CLJU_c33820	Holliday junction DNA helicase	1.12E-106	-1.25121177	DOWN
CLJU_c33840	hypothetical protein	5.14E-11	-1.51000948	DOWN
CLJU_c33850	hydrolase	0.000458	-1.701105771	DOWN
CLJU_c33870	hypothetical protein	0	-1.199007128	DOWN
CLJU_c33880	hypothetical protein	1.16E-122	-1.605479891	DOWN
CLJU_c33890	transcriptional regulator	8.71E-215	-1.958763717	DOWN
CLJU_c33900	hypothetical protein	0	-2.485078342	DOWN
CLJU_c33910	GTP-binding protein	7.55E-206	-2.330609253	DOWN
CLJU_c33920	hypoxanthine-guanine phosphoribosyltransferase	2.70E-207	-1.995649803	DOWN
CLJU_c33940	bifunctional transglycosylase/transpeptidase	0	-1.397626361	DOWN
CLJU_c33980	DNA modification methyltransferase	8.34E-45	-1.938214693	DOWN
CLJU_c33990	polysaccharide deacetylase	5.77E-06	-2.383915595	DOWN
CLJU_c34010	UDP-N-acetyl-D-mannosaminuronic acid transferase	4.05E-113	-1.329998	DOWN
CLJU_c34020	undecaprenyl-phosphate galactosephosphotransferase	3.43E-133	-1.613672224	DOWN
CLJU_c34030	acyltransferase	8.94E-80	-1.971227425	DOWN
CLJU_c34040	virulence factor MviN-like protein	1.33E-144	-1.819161533	DOWN
CLJU_c34050	glycosyltransferase	1.82E-212	-1.801861022	DOWN
CLJU_c34060	hypothetical protein	2.61E-101	-1.428674451	DOWN
CLJU_c34070	UDP-N-acetylglucosamine 2-epimerase	0	-1.706881109	DOWN

CLJU_c34110	maltose-binding extracellular protein	2.04E-235	-1.429227738	DOWN
CLJU_c34120	virulence factor MviN-like protein	0	-1.976543568	DOWN
CLJU_c34130	acyltransferase	3.06E-262	-1.998512021	DOWN
CLJU_c34140	hypothetical protein	1.68E-268	-1.496033737	DOWN
CLJU_c34150	glycosyltransferase	0	-1.904297427	DOWN
CLJU_c34160	glycosyltransferase	0	-1.788124501	DOWN
CLJU_c34170	glycosyltransferase	0	-1.810829941	DOWN
CLJU_c34180	capsular polysaccharide biosynthesis protein	0	-1.676854087	DOWN
CLJU_c34220	arginine/lysine/ornithine decarboxylase	4.88E-09	-1.340703529	DOWN
CLJU_c34270	hypothetical protein	2.31E-30	-1.346263054	DOWN
CLJU_c34310	esterase	4.76E-18	-1.976740214	DOWN
CLJU_c34320	hypothetical protein	3.19E-33	-2.079617395	DOWN
CLJU_c34390	protease	1.59E-141	-1.470446401	DOWN
CLJU_c34400	hypothetical protein	7.55E-103	-1.073074549	DOWN
CLJU_c34410	phenylalanyl-tRNA synthetase subunit B	4.99E-204	-1.044602453	DOWN
CLJU_c34420	phenylalanyl-tRNA synthetase subunit A	1.91E-137	-1.325252066	DOWN
CLJU_c34430	rRNA methylase	1.30E-39	-1.296963636	DOWN
CLJU_c34440	50S ribosomal protein L20	0	-1.617850268	DOWN
CLJU_c34450	50S ribosomal protein L35	0	-1.334696905	DOWN
CLJU_c34460	translation initiation factor IF-3	0	-1.297094936	DOWN
CLJU_c34550	dihydrodipicolinate reductase	0	-1.691442486	DOWN
CLJU_c34560	dihydrodipicolinate synthase	0	-1.612419918	DOWN
CLJU_c34570	aspartate-semialdehyde dehydrogenase	0	-1.366562616	DOWN
CLJU_c34580	small acid-soluble spore protein	2.31E-32	-1.767874784	DOWN

CLJU_c34590	S-adenosylmethionine-dependent methyltransferase	3.91E-148	-1.611543854	DOWN
CLJU_c34600	33 kDa chaperonin	6.34E-116	-1.700488311	DOWN
CLJU_c34610	2,3,4,5-tetrahydropyridine-2,6-dicarboxylate N-succinyltransferase	0	-1.291623569	DOWN
CLJU_c34650	hypothetical protein	9.11E-28	-1.325170645	DOWN
CLJU_c34660	hypothetical protein	5.18E-09	-3.540641099	DOWN
CLJU_c34670	hypothetical protein	1.59E-64	-2.27541498	DOWN
CLJU_c34700	hypothetical protein	9.56E-23	-1.32382971	DOWN
CLJU_c34730	uroporphyrinogen-III decarboxylase-like protein	2.01E-97	2.10897436	UP
CLJU_c34760	phosphoglycerate dehydrogenase	0	10.46878766	UP
CLJU_c34770	demethylmenaquinone methyltransferase	0	10.59895022	UP
CLJU_c34780	transporter	0	8.595609356	UP
CLJU_c34790	amidohydrolase	0	8.73311288	UP
CLJU_c34800	hypothetical protein	0	8.369966773	UP
CLJU_c34810	hypothetical protein	6.86E-12	3.868749837	UP
CLJU_c34920	hypothetical protein	1.40E-06	1.197237304	UP
CLJU_c34930	hypothetical protein	3.59E-08	-1.834000042	DOWN
CLJU_c34960	hypothetical protein	1.01E-12	-3.221362583	DOWN
CLJU_c34970	hypothetical protein	7.86E-13	-1.157081831	DOWN
CLJU_c34990	hypothetical protein	2.84E-86	-1.303312407	DOWN
CLJU_c35000	nitroreductase	9.13E-106	-1.43019494	DOWN
CLJU_c35010	hypothetical protein	1.37E-23	-1.852709171	DOWN
CLJU_c35020	AraC family transcriptional regulator	3.57E-16	-2.304034819	DOWN
CLJU_c35030	transporter protein	0.0001484	-1.376010397	DOWN
CLJU_c35050	hypothetical protein	1.86E-05	-1.347996021	DOWN
CLJU_c35060	hydroxyethylthiazole kinase	5.53E-09	-1.164148643	DOWN

CLJU_c35070	transcriptional regulator	5.04E-28	-1.320342575	DOWN
CLJU_c35160	cell wall-binding protein	0	2.015555533	UP
CLJU_c35170	response regulator receiver domain-containing protein	1.15E-07	-1.521657996	DOWN
CLJU_c35250	hypothetical protein	3.47E-05	-2.845495681	DOWN
CLJU_c35260	hypothetical protein	1.63E-21	-1.455993273	DOWN
CLJU_c35270	transporter protein	2.89E-16	-1.175644282	DOWN
CLJU_c35310	resolvase	0.0002727	-1.750858806	DOWN
CLJU_c35320	hypothetical protein	0.000191	-1.275179956	DOWN
CLJU_c35340	ABC transporter ATPase	2.50E-05	-2.879443013	DOWN
CLJU_c35350	ABC transporter permease	2.96E-05	-1.738580477	DOWN
CLJU_c35370	hypothetical protein	0.0004644	-1.090608178	DOWN
CLJU_c35390	membrane-bound protein	3.61E-88	-1.221797494	DOWN
CLJU_c35400	regulatory protein	9.11E-101	-1.371004331	DOWN
CLJU_c35410	zinc-dependent peptidase	3.20E-98	-1.500931389	DOWN
CLJU_c35420	RNA helicase	7.20E-256	-1.887485708	DOWN
CLJU_c35430	flavinredoxin	3.76E-07	-1.268438378	DOWN
CLJU_c35460	hypothetical protein	1.46E-77	-1.776094162	DOWN
CLJU_c35470	undecaprenyl pyrophosphate synthase	1.06E-126	-1.760369809	DOWN
CLJU_c35480	divalent cation transporter	2.01E-21	-2.26053318	DOWN
CLJU_c35490	hypothetical protein	0	-1.453361144	DOWN
CLJU_c35500	hypothetical protein	1.65E-56	-1.186906596	DOWN
CLJU_c35510	thiamine biosynthesis protein	3.86E-186	-1.475468191	DOWN
CLJU_c35520	bifunctional adenosylcobalamin biosynthesis protein CobU	3.99E-90	-1.554015777	DOWN
CLJU_c35530	cobalamin synthase	8.92E-127	-1.464575813	DOWN
CLJU_c35540	alpha-ribazole phosphatase	9.83E-80	-1.428183878	DOWN

CLJU_c35550	Fur family transcriptional regulator	0	-3.006456335	DOWN
CLJU_c35560	hypothetical protein	9.22E-25	-4.023033866	DOWN
CLJU_c35580	transcriptional regulator	1.25E-51	-1.56201475	DOWN
CLJU_c35770	transporter	1.19E-227	-1.335766603	DOWN
CLJU_c35790	hypothetical protein	6.06E-12	-1.523567586	DOWN
CLJU_c35800	hypothetical protein	8.75E-167	-1.636940215	DOWN
CLJU_c35810	hypothetical protein	2.42E-06	-3.845495681	DOWN
CLJU_c35860	transcriptional regulator	4.65E-18	-1.317000132	DOWN
CLJU_c35870	dihydropyrimidine dehydrogenase	1.26E-05	-1.305621069	DOWN
CLJU_c35980	spore germination protein	1.26E-09	-2.108530086	DOWN
CLJU_c36010	para-aminobenzoate synthase component I	1.91E-15	-1.749111144	DOWN
CLJU_c36020	para-aminobenzoate synthase component II	1.06E-05	-2.335821307	DOWN
CLJU_c36030	carboxymuconolactone decarboxylase	1.71E-06	-3.879443013	DOWN
CLJU_c36040	transcriptional regulator	8.84E-12	-2.738580477	DOWN
CLJU_c36050	membrane-bound protein	2.23E-107	-1.815122032	DOWN
CLJU_c36070	hypothetical protein	6.82E-05	1.082153475	UP
CLJU_c36090	hemerythrin-like protein	0	-6.819738051	DOWN
CLJU_c36100	transporter protein	0	-3.140803888	DOWN
CLJU_c36160	chromate transporter	4.28E-06	-1.045195516	DOWN
CLJU_c36170	chromate transporter	0.000191	-1.275179956	DOWN
CLJU_c36190	hypothetical protein	4.28E-08	-1.497572377	DOWN
CLJU_c36200	methyl-accepting chemotaxis protein	9.59E-107	-1.913399745	DOWN
CLJU_c36210	nitroreductase	4.16E-20	-1.011173711	DOWN
CLJU_c36240	hypothetical protein	1.10E-13	-1.176968463	DOWN
CLJU_c36250	Fe-S oxidoreductase	1.63E-43	-2.189359565	DOWN

CLJU_c36260	SAM-dependent methyltransferase	0	-3.616827934	DOWN
CLJU_c36270	hypothetical protein	2.22E-77	-5.561702715	DOWN
CLJU_c36280	hypothetical protein	2.52E-139	-6.439020195	DOWN
CLJU_c36290	Na+/H+ antiporter	0	-4.091992992	DOWN
CLJU_c36300	transcriptional regulator	1.30E-146	-2.193791629	DOWN
CLJU_c36460	hydrolase	9.25E-36	1.109901125	UP
CLJU_c36500	phage related DNA helicase	3.56E-22	1.194715499	UP
CLJU_c36510	zinc-binding phage-protein	4.49E-13	1.38566695	UP
CLJU_c36520	phage-like protein	7.06E-15	2.028354653	UP
CLJU_c36530	phage-like protein	9.94E-65	1.41158127	UP
CLJU_c36540	hypothetical protein	1.64E-35	1.173119998	UP
CLJU_c36550	phage related DNA polymerase	1.11E-49	1.428789725	UP
CLJU_c36560	phage-like protein	5.93E-108	1.905508387	UP
CLJU_c36570	phage-like protein	3.98E-113	1.861950827	UP
CLJU_c36580	hypothetical protein	3.39E-52	1.681122834	UP
CLJU_c36590	hypothetical protein	8.93E-42	2.273803248	UP
CLJU_c36600	hypothetical protein	5.27E-28	2.311193494	UP
CLJU_c36610	hypothetical protein	4.22E-32	1.978537983	UP
CLJU_c36620	RNA polymerase sigma factor	8.95E-59	2.995579859	UP
CLJU_c36640	hypothetical protein	4.73E-13	2.678066275	UP
CLJU_c36650	phage regulatory protein	2.33E-83	2.00902435	UP
CLJU_c36660	transcriptional regulator	2.33E-08	1.203934029	UP
CLJU_c36680	phage integrase	3.25E-30	-1.226270355	DOWN
CLJU_c36890	peptide ABC transporter periplasmic protein	0.0003417	-1.167423776	DOWN
CLJU_c36900	hypothetical protein	5.68E-05	-3.497572377	DOWN
CLJU_c36950	transcriptional regulator	1.41E-19	-1.717003398	DOWN
CLJU_c36990	repressor	3.59E-92	-1.144233173	DOWN

CLJU_c37040	B3/4 domain-containing protein	1.37E-14	-1.16894963	DOWN
CLJU_c37050	radical SAM domain-containing protein	6.61E-08	-1.033122684	DOWN
CLJU_c37100	hypothetical protein	1.22E-20	-1.334533761	DOWN
CLJU_c37110	pyridoxamine 5'-phosphate oxidase-like, FMN-binding protein	8.60E-110	-1.07593992	DOWN
CLJU_c37170	GMP synthase	0	-1.498970282	DOWN
CLJU_c37180	inosine-5'-monophosphate dehydrogenase	0	-1.253264338	DOWN
CLJU_c37210	hypothetical protein	8.44E-76	-1.861760735	DOWN
CLJU_c37220	iron-dependent hydrogenase	0	-1.103467006	DOWN
CLJU_c37230	8-oxoguanine DNA glycosylase	0	-2.698680394	DOWN
CLJU_c37240	glutamate synthase	0	1.500096917	UP
CLJU_c37270	permease	8.35E-09	-1.623103259	DOWN
CLJU_c37340	carbon starvation protein A	0	6.046490492	UP
CLJU_c37350	carbon starvation protein A	0	2.204220079	UP
CLJU_c37390	pyruvate carboxylase	0	-2.224453061	DOWN
CLJU_c37400	O-sialoglycoprotein endopeptidase	6.14E-56	-1.429199395	DOWN
CLJU_c37430	transporter protein	8.03E-08	-3.360068853	DOWN
CLJU_c37450	hypothetical protein	1.70E-172	-1.881582981	DOWN
CLJU_c37510	hypothetical protein	0	1.128821127	UP
CLJU_c37520	hypothetical protein	0	1.137688128	UP
CLJU_c37530	ferredoxin-containing protein	0	1.060535394	UP
CLJU_c37540	glycine cleavage system H protein	0	1.591111018	UP
CLJU_c37550	CO dehydrogenase/acetyl-CoA synthase complex subunit beta	0	1.547464505	UP
CLJU_c37560	methyltetrahydrofolate:corrinoid/iron-sulfur protein methyltransferase	0	1.310612716	UP
CLJU_c37570	CO dehydrogenase/acetyl-CoA	0	1.789029573	UP

	synthase subunit gamma			
CLJU_c37580	CO dehydrogenase/acetyl-CoA synthase subunit delta	0	1.737220991	UP
CLJU_c37590	CODH nickel-insertion accessory protein	0	1.396860465	UP
CLJU_c37600	dihydrolipoamide dehydrogenase	0	2.19866005	UP
CLJU_c37610	methylenetetrahydrofolate reductase	0	1.329614385	UP
CLJU_c37620	hypothetical protein	0	1.655824734	UP
CLJU_c37630	bifunctional methylenetetrahydrofolate dehydrogenase/methenyltetrahydrofolate cyclohydrolase	0	1.591753152	UP
CLJU_c37640	formyltetrahydrofolate cyclohydrolase	0	1.600317685	UP
CLJU_c37650	formate-tetrahydrofolate ligase	0	1.842411226	UP
CLJU_c37660	CODH nickel-insertion accessory protein	0	1.395581039	UP
CLJU_c37670	carbon monoxide dehydrogenase	0	2.056208843	UP
CLJU_c37770	hypothetical protein	0	3.209786755	UP
CLJU_c37830	CODH nickel-insertion accessory protein	0	6.841726663	UP
CLJU_c37840	dTDP-4-dehydrorhamnose 3,5 epimerase	0	5.882017886	UP
CLJU_c37850	FMN-binding protein	0	5.639863654	UP
CLJU_c37860	membrane-spanning protein	1.29E-07	-2.067888102	DOWN
CLJU_c37870	permease	0.0002077	-2.067888102	DOWN
CLJU_c37900	hypothetical protein	1.04E-12	-1.831689881	DOWN
CLJU_c37910	LysR family transcriptional regulator	2.29E-42	-2.072410661	DOWN
CLJU_c37980	hypothetical protein	8.24E-58	4.2711873	UP

CLJU_c37990	hypothetical protein	6.38E-71	4.087390124	UP
CLJU_c38000	metal ion (Fe 3+) ABC transporter ATPase	0	4.336401962	UP
CLJU_c38010	hypothetical protein	0	1.565708201	UP
CLJU_c38020	metal ion (Fe 3+) ABC transporter ATPase	0	2.704783128	UP
CLJU_c38030	iron ABC transporter ATPase	0	2.875243599	UP
CLJU_c38040	iron ABC transporter permease	0	2.87834366	UP
CLJU_c38050	methyltransferase	0	2.96307722	UP
CLJU_c38060	formylmethanofuran dehydrogenase subunit E	0	2.548665442	UP
CLJU_c38080	ABC transporter ATPase	5.44E-227	-1.000591567	DOWN
CLJU_c38130	hypothetical protein	1.38E-13	-1.572119331	DOWN
CLJU_c38140	hypothetical protein	4.81E-24	-2.149343321	DOWN
CLJU_c38160	metal ion transporter	1.78E-67	-1.690521021	DOWN
CLJU_c38200	acetyltransferase	6.87E-58	-1.125101356	DOWN
CLJU_c38210	tyrosyl-tRNA synthetase	0	-1.25250811	DOWN
CLJU_c38220	hypothetical protein	3.86E-105	3.380811791	UP
CLJU_c38260	phosphatase	2.62E-40	-1.138810849	DOWN
CLJU_c38270	hydrolase	4.52E-89	-1.661071109	DOWN
CLJU_c38450	citrate:cation symporter	5.97E-81	3.40408157	UP
CLJU_c38460	NAD-dependent malic enzyme	2.86E-159	3.196540451	UP
CLJU_c38510	radical SAM domain-containing protein	5.75E-08	-1.075895681	DOWN
CLJU_c38550	hypothetical protein	2.69E-05	-1.400710838	DOWN
CLJU_c38610	transcriptional regulator	1.96E-08	-1.754347793	DOWN
CLJU_c38620	permease	7.69E-24	-1.984559718	DOWN
CLJU_c38630	ABC transporter ATPase	6.02E-61	-2.011505632	DOWN
CLJU_c38640	sensory transduction histidine kinase	9.15E-53	-1.853281426	DOWN

CLJU_c38650	transcriptional regulator	1.52E-24	-1.453178258	DOWN
CLJU_c38660	penicillin-binding protein	2.42E-17	-1.945031354	DOWN
CLJU_c38690	two component sensor kinase	3.00E-42	-1.367642073	DOWN
CLJU_c38700	SGNH hydrolase	1.58E-07	-3.311159253	DOWN
CLJU_c38710	membrane-associated protein	2.88E-56	-1.617109503	DOWN
CLJU_c38720	penicillinase repressor	5.61E-44	-1.756089127	DOWN
CLJU_c38730	hypothetical protein	0.0002766	-2.038140759	DOWN
CLJU_c38770	hypothetical protein	6.91E-15	-1.20806576	DOWN
CLJU_c38780	PadR family transcriptional regulator	7.80E-16	-1.721213345	DOWN
CLJU_c38790	tRNA-dihydrouridine synthase	2.62E-15	-3.017962877	DOWN
CLJU_c38800	formiminotetrahydrofolate cyclodeaminase	3.60E-21	-2.250191236	DOWN
CLJU_c38810	cell division protein	1.49E-170	-1.33765591	DOWN
CLJU_c38820	hydrolase	2.64E-174	-3.112229738	DOWN
CLJU_c38830	diguanylate cyclase	0	-7.102883523	DOWN
CLJU_c38850	spore germination protein GerA	3.00E-05	-1.482925601	DOWN
CLJU_c38860	spore germination protein GerAB	4.05E-08	-3.407374568	DOWN
CLJU_c38900	glycosyltransferase	4.26E-09	-1.923498193	DOWN
CLJU_c38920	acetolactate synthase	2.12E-61	-1.021016581	DOWN
CLJU_c38940	LysR family transcriptional regulator	5.74E-40	-1.126341363	DOWN
CLJU_c38950	dehydrogenase	9.52E-109	-3.469615148	DOWN
CLJU_c38960	amino acid permease	6.65E-133	-3.857337293	DOWN
CLJU_c39000	MarR family transcriptional regulator	8.90E-12	-1.845495681	DOWN
CLJU_c39010	acetyltransferase	6.34E-12	-2.038140759	DOWN
CLJU_c39020	HD-superfamily hydrolase	1.53E-18	-1.484057571	DOWN
CLJU_c39060	spore germination protein KB	2.39E-05	-1.955678598	DOWN
CLJU_c39080	SsrA-binding protein	2.07E-123	-1.495168286	DOWN

CLJU_c39090	ribonuclease R	7.44E-216	-1.407874896	DOWN
CLJU_c39100	hypothetical protein	3.78E-107	-1.792488431	DOWN
CLJU_c39110	enolase	0	-2.53526492	DOWN
CLJU_c39120	2,3-bisphosphoglycerate-independent phosphoglycerate mutase	0	-2.111117637	DOWN
CLJU_c39130	triosephosphate isomerase	0	-2.13818549	DOWN
CLJU_c39140	phosphoglycerate kinase	0	-1.927360785	DOWN
CLJU_c39150	glyceraldehyde-3-phosphate dehydrogenase	0	-2.816939381	DOWN
CLJU_c39160	transcriptional regulator	0	-3.415584905	DOWN
CLJU_c39180	degV protein	5.21E-197	-1.526478806	DOWN
CLJU_c39190	rRNA methylase	7.25E-71	-1.320654172	DOWN
CLJU_c39200	N-acetylmuramoyl-L-alanine amidase	2.33E-10	-3.719964799	DOWN
CLJU_c39220	hypothetical protein	3.48E-33	-1.378195472	DOWN
CLJU_c39230	hypothetical protein	1.93E-82	-2.232037633	DOWN
CLJU_c39250	vancomycin b-type resistance protein VanW	3.69E-134	-1.834295949	DOWN
CLJU_c39290	iron-sulfur cluster-binding protein	0.0008599	-1.001614883	DOWN
CLJU_c39320	ribonuclease BN	1.99E-05	-3.623103259	DOWN
CLJU_c39330	hypothetical protein	0	-1.747560926	DOWN
CLJU_c39340	rubrerythrin	0	-3.955131568	DOWN
CLJU_c39370	transcriptional regulator	8.95E-49	-1.475241994	DOWN
CLJU_c39380	hypothetical protein	8.75E-15	-1.882489888	DOWN
CLJU_c39410	electron transfer flavoprotein subunit beta	1.68E-07	1.127282851	UP
CLJU_c39420	acyl-CoA dehydrogenase	8.60E-13	1.317339896	UP
CLJU_c39440	acyl-CoA dehydrogenase	3.48E-48	1.200960905	UP
CLJU_c39470	hypothetical protein	0.0009014	-2.453178258	DOWN

CLJU_c39480	hypothetical protein	4.93E-12	-1.044454533	DOWN
CLJU_c39490	hypothetical protein	0.0001247	-1.08120948	DOWN
CLJU_c39570	transporter protein	1.00E-98	-1.127358348	DOWN
CLJU_c39580	pyridoxal biosynthesis protein PdxS	4.56E-241	1.984736946	UP
CLJU_c39590	glutamine amidotransferase subunit PdxT	3.66E-59	1.420373407	UP
CLJU_c39600	ABC transporter permease	1.73E-11	-1.161523174	DOWN
CLJU_c39610	ABC transporter permease	2.18E-08	-1.028862945	DOWN
CLJU_c39660	choline kinase	1.58E-285	-1.046440991	DOWN
CLJU_c39670	ethanol dehydrogenase	6.39E-07	-1.388638006	DOWN
CLJU_c39680	two-component sensor kinase	0	-1.560520827	DOWN
CLJU_c39690	response regulator	0	-1.409567027	DOWN
CLJU_c39820	pyruvate formate-lyase activating enzyme	9.85E-10	-1.234537971	DOWN
CLJU_c39830	pyruvate formate-lyase	6.63E-25	-1.054178969	DOWN
CLJU_c39840	acetaldehyde dehydrogenase	6.64E-19	-1.187004144	DOWN
CLJU_c39860	microcompartment shellprotein	0.0002165	-1.049029075	DOWN
CLJU_c39900	hypothetical protein	4.48E-08	-1.633087348	DOWN
CLJU_c39910	transcriptional regulator	3.52E-59	-2.976740214	DOWN
CLJU_c39920	lysine efflux transporter	0.0009014	-2.453178258	DOWN
CLJU_c39950	NADPH-dependent butanol dehydrogenase	0	1.701276427	UP
CLJU_c39960	hypothetical protein	1.47E-39	-1.990612388	DOWN
CLJU_c39970	two component sensor histidine kinase	3.99E-29	-1.764379946	DOWN
CLJU_c39980	two-component response regulator	3.18E-17	-1.564686573	DOWN
CLJU_c39990	ABC transporter permease	3.18E-25	-1.66407504	DOWN
CLJU_c40000	ABC transporter ATPase	3.65E-13	-1.934304948	DOWN
CLJU_c40010	hypothetical protein	4.48E-13	-2.015420682	DOWN

CLJU_c40040	hypothetical protein	0.0001044	-1.506289594	DOWN
CLJU_c40050	hypothetical protein	8.03E-08	-3.360068853	DOWN
CLJU_c40060	ABC transporter ATPase	0	-3.768669055	DOWN
CLJU_c40070	hypothetical protein	1.83E-26	-1.868215757	DOWN
CLJU_c40090	transcriptional regulator	2.70E-14	-2.672346778	DOWN
CLJU_c40100	aminopeptidase	6.74E-05	-2.775106353	DOWN
CLJU_c40110	transcriptional regulatory protein	5.81E-05	-1.047359289	DOWN
CLJU_c40220	electron transfer flavoprotein subunit alpha	0.0001554	-2.097034448	DOWN
CLJU_c40310	polyprenyl synthetase	6.79E-08	1.324429321	UP
CLJU_c40330	iron-sulfur cluster-binding protein	3.04E-09	1.258840979	UP
CLJU_c40340	hypothetical protein	2.43E-27	3.038674838	UP
CLJU_c40350	Na+/H+ antiporter	0	8.317571911	UP
CLJU_c40360	threonine synthase	0	9.96818532	UP
CLJU_c40370	endoribonuclease L-PSP	0	10.98604791	UP
CLJU_c40380	hypothetical protein	2.71E-12	4.769214163	UP
CLJU_c40390	alanine racemase	0	10.43879526	UP
CLJU_c40400	hypothetical protein	0	11.1017303	UP
CLJU_c40430	hypothetical protein	1.54E-10	-2.623103259	DOWN
CLJU_c40510	hypothetical protein	7.67E-97	-1.256292035	DOWN
CLJU_c40520	hypothetical protein	1.37E-61	-1.158234604	DOWN
CLJU_c40620	methylaspartate mutase subunit E	0	1.11780054	UP
CLJU_c40630	glutamate mutase	1.20E-302	1.151608503	UP
CLJU_c40640	glutamate mutase	8.12E-81	1.002369539	UP
CLJU_c40660	amino acid permease	5.99E-215	-1.193648849	DOWN
CLJU_c40670	transcriptional regulatory protein	3.08E-230	-1.034829347	DOWN
CLJU_c40680	glutamine amidotransferase	3.10E-164	4.794749256	UP
CLJU_c40690	N-acetylmuramoyl-L-alanine	5.18E-09	-1.574193659	DOWN

	amidase			
CLJU_c40700	30S ribosomal protein S9	0	-1.668676846	DOWN
CLJU_c40710	50S ribosomal protein L13	0	-1.305729624	DOWN
CLJU_c40720	tRNA pseudouridine synthase A	6.71E-95	-1.043156341	DOWN
CLJU_c40740	cobalt ABC transporter ATPase	2.92E-180	-1.119641393	DOWN
CLJU_c40800	30S ribosomal protein S13	0	-1.125498174	DOWN
CLJU_c41130	50S ribosomal protein L7/L12	0	-1.285078728	DOWN
CLJU_c41140	50S ribosomal protein L10	0	-1.134698646	DOWN
CLJU_c41180	preprotein translocase SecE	9.37E-210	-1.052704469	DOWN
CLJU_c41340	ATP:guanido phosphotransferase-like protein	1.19E-188	1.125893279	UP
CLJU_c41380	translation elongation factor G Ef-G	0	3.851363205	UP
CLJU_c41480	lysyl-tRNA synthetase	0	-1.366391692	DOWN
CLJU_c41490	transcription elongation factor	9.54E-238	-1.1063223	DOWN
CLJU_c41500	hypothetical protein	9.53E-56	-1.347187562	DOWN
CLJU_c41510	tRNA-dihydrouridine synthase	5.56E-128	-1.447007234	DOWN
CLJU_c41520	type III pantothenate kinase	8.65E-94	-1.179444688	DOWN
CLJU_c41560	stage II sporulation protein E	2.14E-08	-1.523567586	DOWN
CLJU_c41640	hypothetical protein	7.17E-73	-1.791166204	DOWN
CLJU_c41650	hypothetical protein	1.39E-55	-1.690773086	DOWN
CLJU_c41660	S4 domain-containing protein	7.32E-54	-1.703815059	DOWN
CLJU_c41670	DNA-binding protein HU	0	-1.104111708	DOWN
CLJU_c41680	hypothetical protein	0	-1.341604791	DOWN
CLJU_c41710	foldase	0	-1.031852164	DOWN
CLJU_c41780	bifunctional protein GcaD	0	-1.242499257	DOWN
CLJU_c41800	transcriptional regulator	4.23E-115	-1.549374807	DOWN
CLJU_c41840	CAAX amino terminal protease	9.27E-12	-2.144340162	DOWN
CLJU_c41850	membrane-associated gene regulator	2.27E-07	-2.038140759	DOWN

CLJU_c41860	hydrolase	6.11E-06	-1.031051334	DOWN
CLJU_c41910	hypothetical protein	0.0004747	-2.540641099	DOWN
CLJU_c41920	pyruvate-formate lyase-activating enzyme	4.11E-19	-1.526998491	DOWN
CLJU_c41950	glutamine synthetase	0	-1.984294444	DOWN
CLJU_c41960	hypothetical protein	6.13E-159	-1.551702342	DOWN
CLJU_c41980	UDP-N-acetylglucosamine 1-carboxyvinyltransferase	0	-1.371204763	DOWN
CLJU_c41990	metal dependent hydrolase	0	-1.586240773	DOWN
CLJU_c42000	hypothetical protein	7.09E-30	-1.529993855	DOWN
CLJU_c42010	hypothetical protein	1.65E-264	-1.618601867	DOWN
CLJU_c42020	hypothetical protein	9.45E-34	-1.955678598	DOWN
CLJU_c42050	hypothetical protein	3.60E-31	-1.436520914	DOWN
CLJU_c42060	hypothetical protein	9.99E-16	-2.407374568	DOWN
CLJU_c42070	LysR family transcriptional regulator	5.13E-09	-1.640805261	DOWN
CLJU_c42080	subtilisin related protease	5.69E-20	-1.697304201	DOWN
CLJU_c42140	biotin carboxyl carrier protein	8.75E-103	-1.018915046	DOWN
CLJU_c42200	MarR family transcriptional regulator	5.53E-98	-1.279366956	DOWN
CLJU_c42210	hypothetical protein	3.28E-299	-1.419646663	DOWN
CLJU_c42220	DNA replication protein DnaD	1.22E-177	-1.414752526	DOWN
CLJU_c42230	DNA replication protein DnaC	5.76E-162	-1.268525971	DOWN
CLJU_c42310	ATP/GTP-binding protein	1.65E-114	-1.853265416	DOWN
CLJU_c42320	hypothetical protein	6.04E-32	-1.060860835	DOWN
CLJU_c42350	adenylosuccinate synthase	0	-1.392036582	DOWN
CLJU_c42360	dehydrogenase	2.76E-198	-1.027742019	DOWN
CLJU_c42390	divalent cation transporter	2.83E-56	-1.426470079	DOWN
CLJU_c42420	GtrA-like protein	1.24E-21	-3.104229949	DOWN

CLJU_c42440	LysR family transcriptional regulator	6.58E-12	-1.051079814	DOWN
CLJU_c42450	permease	0.000217	1.684325266	UP
CLJU_c42490	agmatine deiminase	4.78E-40	2.478917678	UP
CLJU_c42500	aminoacid permease	2.27E-12	3.464359582	UP
CLJU_c42540	hypothetical protein	1.11E-35	-1.316833577	DOWN
CLJU_c42550	carbamate kinase	2.42E-43	1.617440817	UP
CLJU_c42560	ornithine carbamoyltransferase	2.75E-19	1.128678332	UP
CLJU_c42630	LysR family transcriptional regulator	2.82E-06	-1.012605666	DOWN
CLJU_c42690	heat shock protein	0	2.551147668	UP
CLJU_c42700	heat shock protein	5.23E-40	1.220982135	UP
CLJU_c42770	30S ribosomal protein S18	0	-1.711482881	DOWN
CLJU_c42780	ssDNA-binding protein	0	-1.555459736	DOWN
CLJU_c42790	30S ribosomal protein S6	0	-1.629732965	DOWN
CLJU_c42800	hypothetical protein	7.70E-25	-1.007429755	DOWN
CLJU_c42830	hypothetical protein	1.52E-13	-1.156878305	DOWN
CLJU_c42840	hypothetical protein	1.04E-07	-1.360068853	DOWN
CLJU_c42930	RNA-binding protein	0	-1.702632992	DOWN
CLJU_c42940	membrane protein OxaA	0	-1.418980492	DOWN
CLJU_c42950	hypothetical protein	3.90E-125	-1.581945935	DOWN
CLJU_c42960	ribonuclease P protein component	8.85E-238	-1.907018028	DOWN
CLJU_c42970	50S ribosomal protein L34	0	-1.549199809	DOWN

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Supplementary Table S4. List of top ten up- and down-regulated DEGs in *Clostridium ljungdahlii* grown autotrophically. FDR, false discovery rate.

Gene	Gene Product	FDR	Log_2 Ratio (CO-CO_2/Fructose)
up-regulated			
CLJU_c40400	hypothetical protein	0	11.10
CLJU_c40370	endoribonuclease L-PSP	0	10.97
CLJU_c34770	demethylmenaquinone methyltransferase	0	10.60
CLJU_c34760	phosphoglycerate dehydrogenase	0	10.47
CLJU_c40390	alanine racemase	0	10.44
CLJU_c40360	threonine synthase	0	9.97
CLJU_c34790	amidohydrolase	0	8.73
CLJU_c34780	transporter	0	8.60
CLJU_c34800	hypothetical protein	0	8.40
CLJU_c40350	Na^+/H^+ antiporter	0	8.32
down-regulated			
CLJU_c19490	ferritin	0	-7.39
CLJU_c19480	flavin reductase-like protein	0	-7.39
CLJU_c38830	diguanylate cyclase	0	-7.10
CLJU_c09110	anaerobic-type carbon monoxide dehydrogenase	0	-7.05
CLJU_c36090	hemerythrin-like protein	0	-6.82
CLJU_c27840	glycine reductase complex component B subunit alpha	0	-6.58
CLJU_c27810	thioredoxin reductase	0	-6.57
CLJU_c36280	hypothetical protein	2.52e-139	-6.44
CLJU_c27800	thioredoxin	0	-6.38
CLJU_c09100	anaerobic-type carbon monoxide dehydrogenase electron transfer subunit	0	-6.36

Supplementary Table S5. The pathways that were affected by up- and down-regulated DEGs. FDR, false discovery rate.

Pathways	DEGs tested	P-value	FDR
up-regulated pathways			
Methane metabolism [PATH:ko00680]	15	1.69E-06	0.0001316
Citrate cycle (TCA cycle) [PATH:ko00020]	9	5.61E-06	0.0002188
Vitamin B6 metabolism [PATH:ko00750]	4	7.29E-05	0.0018947
Nitrotoluene degradation [PATH:ko00633]	5	0.0002	0.0038903
Chloroalkane and chloroalkene degradation [PATH:ko00625]	6	0.000251	0.0039197
Glyoxylate and dicarboxylate metabolism [PATH:ko00630]	7	0.000583	0.0075837
Drug metabolism - cytochrome P450 [PATH:ko00982]	3	0.003448	0.0268928
Metabolism of xenobiotics by cytochrome P450 [PATH:ko00980]	3	0.003448	0.0268928
Retinol metabolism [PATH:ko00830]	3	0.003448	0.0268928
Two-component system [PATH:ko02020]	20	0.002451	0.0268928
Bacterial chemotaxis [PATH:ko02030]	9	0.003915	0.0277586
Lysine biosynthesis [PATH:ko00300]	6	0.00785	0.0471023
Pentose phosphate pathway [PATH:ko00030]	6	0.00785	0.0471023
Naphthalene degradation [PATH:ko00626]	3	0.010453	0.0582358
Fatty acid metabolism [PATH:ko00071]	3	0.015994	0.0831684
Nitrogen metabolism [PATH:ko00910]	7	0.023064	0.1103096
Pyruvate metabolism [PATH:ko00620]	6	0.024042	0.1103096
Flagellar assembly [PATH:ko02040]	6	0.040689	0.1763197
Glycine, serine and threonine metabolism [PATH:ko00260]	6	0.047586	0.1855862
Glycolysis / Gluconeogenesis [PATH:ko00010]	6	0.047586	0.1855862

Tyrosine metabolism [PATH:ko00350]	3	0.054334	0.2018116
Carbon fixation pathways in prokaryotes [PATH:ko00720]	4	0.065788	0.233247
ABC transporters [PATH:ko02010]	14	0.073219	0.2483074
Glycerolipid metabolism [PATH:ko00561]	2	0.083049	0.2591122
Sulfur relay system [PATH:ko04122]	2	0.083049	0.2591122
Peroxisome [PATH:ko04146]	1	0.092507	0.2672437
Phenylalanine metabolism [PATH:ko00360]	1	0.092507	0.2672437
One carbon pool by folate [PATH:ko00670]	2	0.130113	0.3382946
Streptomycin biosynthesis [PATH:ko00521]	2	0.130113	0.3382946
Valine, leucine and isoleucine degradation [PATH:ko00280]	1	0.12923	0.3382946
Pentose and glucuronate interconversions [PATH:ko00040]	2	0.156482	0.3937281
Galactose metabolism [PATH:ko00052]	1	0.168614	0.4109957
Starch and sucrose metabolism [PATH:ko00500]	1	0.209672	0.4955879
Oxidative phosphorylation [PATH:ko00190]	2	0.243352	0.5582777
Polyketide sugar unit biosynthesis [PATH:ko00523]	1	0.251597	0.5607028
Drug metabolism - other enzymes [PATH:ko00983]	1	0.335556	0.707389
Folate biosynthesis [PATH:ko00790]	1	0.335556	0.707389
Novobiocin biosynthesis [PATH:ko00401]	0	0.435019	0.8482871
Riboflavin metabolism [PATH:ko00740]	0	0.435019	0.8482871
Terpenoid backbone biosynthesis [PATH:ko00900]	1	0.416675	0.8482871
Benzoate degradation [PATH:ko00362]	0	0.496177	0.879586
Sulfur metabolism [PATH:ko00920]	0	0.496177	0.879586
Tropane, piperidine and pyridine alkaloid biosynthesis [PATH	0	0.496177	0.879586
Ubiquinone and other terpenoid-quinone biosynthesis [PATH:ko	0	0.496177	0.879586

Arginine and proline metabolism [PATH:ko00330]	3	0.507912	0.8803801
C5-Branched dibasic acid metabolism [PATH:ko00660]	0	0.550771	0.8948428
Cell cycle - Caulobacter [PATH:ko04112]	1	0.52824	0.8948428
Fructose and mannose metabolism [PATH:ko00051]	1	0.562145	0.8948428
Photosynthesis [PATH:ko00195]	0	0.550771	0.8948428
Alanine, aspartate and glutamate metabolism [PATH:ko00250]	2	0.621064	0.9295138
Amino sugar and nucleotide sugar metabolism [PATH:ko00520]	1	0.653286	0.9295138
Bacterial secretion system [PATH:ko03070]	0	0.681792	0.9295138
Base excision repair [PATH:ko03410]	0	0.642987	0.9295138
Carbon fixation in photosynthetic organisms [PATH:ko00710]	0	0.747304	0.9295138
Cysteine and methionine metabolism [PATH:ko00270]	1	0.750761	0.9295138
Fatty acid biosynthesis [PATH:ko00061]	0	0.747304	0.9295138
Histidine metabolism [PATH:ko00340]	1	0.624675	0.9295138
Nicotinate and nicotinamide metabolism [PATH:ko00760]	0	0.747304	0.9295138
Nucleotide excision repair [PATH:ko03420]	0	0.747304	0.9295138
Propanoate metabolism [PATH:ko00640]	0	0.747304	0.9295138
Protein export [PATH:ko03060]	0	0.747304	0.9295138
RNA degradation [PATH:ko03018]	0	0.747304	0.9295138
Thiamine metabolism [PATH:ko00730]	0	0.747304	0.9295138
Selenocompound metabolism [PATH:ko00450]	0	0.774857	0.9443568
DNA replication [PATH:ko03030]	0	0.821345	0.9561929
Glycerophospholipid metabolism [PATH:ko00564]	0	0.799431	0.9561929
Valine, leucine and isoleucine biosynthesis	0	0.821345	0.9561929

[PATH:ko00290]			
Butanoate metabolism [PATH:ko00650]	0	0.840886	0.9645452
Pantothenate and CoA biosynthesis [PATH:ko00770]	0	0.873837	0.9737039
Peptidoglycan biosynthesis [PATH:ko00550]	0	0.873837	0.9737039
Homologous recombination [PATH:ko03440]	0	0.900016	0.9887496
Mismatch repair [PATH:ko03430]	0	0.920803	0.9965755
Phenylalanine, tyrosine and tryptophan biosynthesis [PATH:ko	0	0.937302	0.9965755
Purine metabolism [PATH:ko00230]	3	0.945469	0.9965755
Aminoacyl-tRNA biosynthesis [PATH:ko00970]	0	0.968987	0.9968214
Pyrimidine metabolism [PATH:ko00240]	1	0.971262	0.9968214
Porphyrin and chlorophyll metabolism [PATH:ko00860]	0	0.984733	0.9975215
Ribosome [PATH:ko03010]	0	0.998004	0.9980036
down-regulated pathways			
Porphyrin and chlorophyll metabolism [PATH:ko00860]	23	7.55E-06	0.0005889
RNA degradation [PATH:ko03018]	9	0.000254	0.0099149
Pantothenate and CoA biosynthesis [PATH:ko00770]	11	0.001775	0.046149
Photosynthesis [PATH:ko00195]	5	0.004408	0.0859594
ABC transporters [PATH:ko02010]	40	0.00565	0.088144
Bacterial secretion system [PATH:ko03070]	6	0.012401	0.1381803
Protein export [PATH:ko03060]	7	0.011246	0.1381803
Valine, leucine and isoleucine biosynthesis [PATH:ko00290]	8	0.018169	0.1771463
Polyketide sugar unit biosynthesis [PATH:ko00523]	5	0.02903	0.2515906
Alanine, aspartate and glutamate metabolism [PATH:ko00250]	13	0.035926	0.2785975
Mismatch repair [PATH:ko03430]	10	0.046433	0.2785975

Nicotinate and nicotinamide metabolism [PATH:ko00760]	6	0.044621	0.2785975
Nucleotide excision repair [PATH:ko03420]	6	0.044621	0.2785975
Peptidoglycan biosynthesis [PATH:ko00550]	8	0.069788	0.3888214
Tropane, piperidine and pyridine alkaloid biosynthesis [PATH	3	0.077841	0.4047754
Glycerophospholipid metabolism [PATH:ko00564]	6	0.10641	0.4882335
Tyrosine metabolism [PATH:ko00350]	6	0.10641	0.4882335
C5-Branched dibasic acid metabolism [PATH:ko00660]	3	0.138215	0.5390377
Homologous recombination [PATH:ko03440]	8	0.131081	0.5390377
Streptomycin biosynthesis [PATH:ko00521]	5	0.132494	0.5390377
Cell cycle - Caulobacter [PATH:ko04112]	6	0.197287	0.5699397
Glycerolipid metabolism [PATH:ko00561]	4	0.166344	0.5699397
Novobiocin biosynthesis [PATH:ko00401]	2	0.17567	0.5699397
Oxidative phosphorylation [PATH:ko00190]	6	0.197287	0.5699397
Phenylalanine metabolism [PATH:ko00360]	2	0.17567	0.5699397
Ribosome [PATH:ko03010]	19	0.172538	0.5699397
Selenocompound metabolism [PATH:ko00450]	5	0.184662	0.5699397
Drug metabolism - other enzymes [PATH:ko00983]	4	0.231166	0.6217566
Purine metabolism [PATH:ko00230]	23	0.224095	0.6217566
Lysine biosynthesis [PATH:ko00300]	8	0.259881	0.6756907
Benzoate degradation [PATH:ko00362]	2	0.2735	0.6881602
DNA replication [PATH:ko03030]	5	0.306526	0.7032076
Naphthalene degradation [PATH:ko00626]	3	0.29229	0.7032076
Thiamine metabolism [PATH:ko00730]	4	0.301646	0.7032076
Butanoate metabolism [PATH:ko00650]	5	0.37207	0.7723107
Fatty acid metabolism [PATH:ko00071]	3	0.376254	0.7723107

Sulfur relay system [PATH:ko04122]	3	0.376254	0.7723107
Terpenoid backbone biosynthesis [PATH:ko00900]	4	0.374761	0.7723107
Glycolysis / Gluconeogenesis [PATH:ko00010]	10	0.401219	0.8024372
Amino sugar and nucleotide sugar metabolism [PATH:ko00520]	6	0.429307	0.8332311
Fructose and mannose metabolism [PATH:ko00051]	5	0.43798	0.8332311
Folate biosynthesis [PATH:ko00790]	3	0.459161	0.8527283
Cysteine and methionine metabolism [PATH:ko00270]	7	0.477291	0.8657841
Peroxisome [PATH:ko04146]	1	0.491984	0.8721543
Carbon fixation in photosynthetic organisms [PATH:ko00710]	3	0.537919	0.9121238
One carbon pool by folate [PATH:ko00670]	3	0.537919	0.9121238
Aminoacyl-tRNA biosynthesis [PATH:ko00970]	8	0.615962	0.9285273
Chloroalkane and chloroalkene degradation [PATH:ko00625]	3	0.675502	0.9285273
Drug metabolism - cytochrome P450 [PATH:ko00982]	1	0.691732	0.9285273
Galactose metabolism [PATH:ko00052]	1	0.691732	0.9285273
Glycine, serine and threonine metabolism [PATH:ko00260]	8	0.702348	0.9285273
Metabolism of xenobiotics by cytochrome P450 [PATH:ko00980]	1	0.691732	0.9285273
Nitrotoluene degradation [PATH:ko00633]	2	0.643831	0.9285273
Phenylalanine, tyrosine and tryptophan biosynthesis [PATH:ko	6	0.652854	0.9285273
Pyruvate metabolism [PATH:ko00620]	7	0.679255	0.9285273
Retinol metabolism [PATH:ko00830]	1	0.691732	0.9285273
Sulfur metabolism [PATH:ko00920]	1	0.601227	0.9285273

Two-component system [PATH:ko02020]	31	0.612638	0.9285273
Valine, leucine and isoleucine degradation [PATH:ko00280]	1	0.601227	0.9285273
Bacterial chemotaxis [PATH:ko02030]	9	0.757739	0.9850601
Arginine and proline metabolism [PATH:ko00330]	5	0.976316	0.9990351
Base excision repair [PATH:ko03410]	1	0.822038	0.9990351
Carbon fixation pathways in prokaryotes [PATH:ko00720]	2	0.979102	0.9990351
Citrate cycle (TCA cycle) [PATH:ko00020]	1	0.992131	0.9990351
Fatty acid biosynthesis [PATH:ko00061]	1	0.926549	0.9990351
Flagellar assembly [PATH:ko02040]	2	0.999035	0.9990351
Glyoxylate and dicarboxylate metabolism [PATH:ko00630]	1	0.994354	0.9990351
Histidine metabolism [PATH:ko00340]	3	0.88749	0.9990351
Methane metabolism [PATH:ko00680]	9	0.886465	0.9990351
Nitrogen metabolism [PATH:ko00910]	7	0.875625	0.9990351
Pentose and glucuronate interconversions [PATH:ko00040]	0	0.992213	0.9990351
Pentose phosphate pathway [PATH:ko00030]	1	0.997945	0.9990351
Propanoate metabolism [PATH:ko00640]	1	0.926549	0.9990351
Pyrimidine metabolism [PATH:ko00240]	10	0.908053	0.9990351
Riboflavin metabolism [PATH:ko00740]	0	0.844028	0.9990351
Starch and sucrose metabolism [PATH:ko00500]	0	0.949131	0.9990351
Ubiquinone and other terpenoid-quinone biosynthesis [PATH:ko	0	0.892589	0.9990351
Vitamin B6 metabolism [PATH:ko00750]	0	0.892589	0.9990351

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Table S6 List of top 10 pathways affected by up- and down-regulated DEGs. FDR, false discovery rate.

Pathway term	Pathway ID	DEGs tested	P value	FDR
Pathways for upregulated DEGs				
Wood–Ljungdahl pathway	ko00680	15	1.69E-06	0.0001316
Branched citrate cycle	ko00020	9	5.61E-06	0.0002188
Vitamin B6 metabolism	ko00750	4	7.29E-05	0.0018947
Nitrotoluene degradation	ko00633	5	0.0002	0.0038903
Chloroalkane and chloroalkene degradation	ko00625	6	0.000251	0.0039197
Glyoxylate and dicarboxylate metabolism	ko00630	7	0.000583	0.0075837
Cytochrome P450	ko00982	3	0.003448	0.0268928
Metabolism of xenobiotics by cytochrome P450	ko00980	3	0.003448	0.0268928
Retinol metabolism	ko00830	3	0.003448	0.0268928
Two-component system	ko02020	20	0.002451	0.0268928
Pathways for downregulated DEGs				
Vitamin B12 metabolism	ko00860	23	7.55E-06	0.0005889
RNA degradation	ko03018	9	0.000254	0.0099149
Pantothenate and CoA biosynthesis	ko00770	11	0.001775	0.046149
Photosynthesis-like	ko00195	5	0.004408	0.0859594
ABC transporters	ko02010	40	0.00565	0.088144
Bacterial secretion system	ko03070	6	0.012401	0.1381803

Protein export	ko03060	7	0.011246	0.1381803
Valine, leucine and isoleucine biosynthesis	ko00290	8	0.018169	0.1771463
Polyketide sugar unit biosynthesis	ko00523	5	0.02903	0.2515906
Alanine, aspartate and glutamate metabolism	ko00250	13	0.035926	0.2785975

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Supplementary Table S7. The expression information of selected genes for qRT-PCR under the two conditions.

Gene ID	Gene function	Fold change (log2)	
		RNA-seq	qRT-PCR
CLJU_c31840	cbiJ cobalt-precorrin-6A reductase	-1.95	-1.74
CLJU_c00900	sfsA putative sugar fermentation stimulation protein	-2.01	-1.51
CLJU_c20600	1-phosphofructokinase	-5.73	-3.83
CLJU_c06610	(Re)-citrate-synthase	-0.90	-0.88
CLJU_c07050	NADH dehydrogenase-like protein	3.01	2.26
CLJU_c11360	rnfC putative electron transport complex protein RnfC	0.58	0.69
CLJU_c12770	pta phosphotransacetylase	-1.06	-0.75
CLJU_c28660	hyaB hydrogenase 1 large chain	-0.26	-0.49
CLJU_c23060	hypE1 putative hydrogenase expression/formation protein HypE	2.23	2.36
CLJU_c37550	CO dehydrogenase/acetyl-CoA synthase complex subunit beta	1.55	2.11