

Supplementary Table 2. Differentially expressed genes in metC mutant compared with wild-type Pcc21 strain

Gene ID	Gene name	Description	Log ₂ FC (Δ metC/WT)
D5081_13730	<i>aceA</i>	Isocitrate lyase	6.92
D5081_13735		Malate synthase A	5.93
D5081_13725		Isocitrate dehydrogenase kinase/phosphatase	5.92
D5081_00915		C4-dicarboxylate transport protein	5.41
D5081_14585	<i>omcC</i>	Peroxiredoxin OsmC	4.96
D5081_19500	<i>ygdI</i>	Uncharacterized lipoprotein YgdI	4.78
D5081_20870		Uncharacterized protein	4.72
D5081_03045	<i>osmE</i>	Osmotically-inducible putative lipoprotein OsmE	4.58
D5081_20875	<i>uhpC</i>	Membrane sensor protein UhpC	4.32
D5081_16500	<i>yqaE</i>	UPF0057 membrane protein YqaE	4.30
D5081_06295		Putative ribose/galactose/methyl galactoside import ATP-binding protein 2	4.27
D5081_20860	<i>fbpC1</i>	Fe(3+) ions import ATP-binding protein FbpC1	4.24
D5081_03000	<i>pelW</i>	Pectate disaccharide-lyase	4.22
D5081_00025	<i>trxC</i>	Thioredoxin 2	4.14
D5081_11840	<i>actP</i>	Cation/acetate symporter ActP	4.09
D5081_02105		Aldehyde dehydrogenase B	4.08
D5081_02520		L-threonine 3-dehydrogenase	4.08
D5081_11835	<i>yjcH</i>	Inner membrane protein YjcH	4.06
D5081_20865	<i>fbpB</i>	Ferric transport system permease protein FbpB	3.96
D5081_06290	<i>rbsB</i>	Ribose import binding protein RbsB	3.85
D5081_12635		Uncharacterized protein	3.81
D5081_16140		Uncharacterized protein	3.74
D5081_17315		Acetolactate synthase isozyme 1 small subunit	3.66
D5081_17320		Acetolactate synthase isozyme 1 large subunit	3.65
D5081_08670		Anaerobic nitric oxide reductase flavorubredoxin	3.64
D5081_10510	<i>narH</i>	Respiratory nitrate reductase 1 beta chain	3.58
D5081_16780	<i>bglG</i>	Beta-glucoside operon antiterminator	3.52
D5081_04420		Sucrose porin	3.50
D5081_09835		ATP-dependent 6-phosphofructokinase	3.49
D5081_01610	<i>cspE</i>	Cold shock-like protein CspE	3.40
D5081_03555		Ribosome modulation factor	3.40
D5081_05980	<i>yusQ</i>	Probable tautomerase YusQ	3.38
D5081_06305		Uncharacterized oxidoreductase sll0816	3.36
D5081_14970		L-arabinose-binding periplasmic protein	3.34
D5081_21310		Uncharacterized protein	3.32
D5081_05005		UPF0391 membrane protein ECA0470	3.30
D5081_05335	<i>yqjD</i>	Uncharacterized protein YqjD	3.29
D5081_11830	<i>acs</i>	Acetyl-coenzyme A synthetase	3.29
D5081_10515		Respiratory nitrate reductase 1 alpha chain	3.28
D5081_10505	<i>narJ</i>	Nitrate reductase molybdenum cofactor assembly chaperone NarJ	3.28
D5081_09780	<i>yibT</i>	Uncharacterized protein YibT	3.26
D5081_02125		D-xylose-binding periplasmic protein	3.22

D5081_08275		Maltoporin	3.22
D5081_06300	<i>rbsC</i>	Ribose import permease protein RbsC	3.21
D5081_01855	<i>uspB</i>	Universal stress protein B	3.19
D5081_14965	<i>araG</i>	Arabinose import ATP-binding protein AraG	3.18
D5081_07980	<i>pel</i>	Pectate lyase	3.17
D5081_06780	<i>rhmR</i>	Uncharacterized HTH-type transcriptional regulator RhmR	3.14
D5081_04730	<i>cbbR</i>	HTH-type transcriptional regulator CbbR	3.13
D5081_10500	<i>narI</i>	Respiratory nitrate reductase 1 gamma chain	3.13
D5081_17395		Uncharacterized protein	3.12
D5081_13465	<i>acnA</i>	Aconitate hydratase A	3.10
D5081_05985		Uncharacterized protein	3.09
D5081_06310	<i>iolC</i>	5-dehydro-2-deoxygluconokinase	3.09
D5081_05935	<i>ydhR</i>	Putative monooxygenase YdhR	3.08
D5081_00845	<i>ggt</i>	Glutathione hydrolase proenzyme	3.07
D5081_06270		Putative 3-oxopropanoate dehydrogenase	3.04
D5081_21735		Succinate dehydrogenase hydrophobic membrane anchor subunit	3.01
D5081_02515		2-amino-3-ketobutyrate coenzyme A ligase	3.00
D5081_18520		Bacterioferritin	3.00
D5081_07975		Exo-poly-alpha-D-galacturonosidase	2.97
D5081_01075		L-threonate dehydrogenase	2.95
D5081_10445	<i>yeaQ</i>	UPF0410 protein YeaQ	2.95
D5081_02135	<i>xylH</i>	Xylose transport system permease protein XylH	2.94
D5081_14420		Glycine cleavage system transcriptional activator	2.86
D5081_09180	<i>ytfK</i>	Uncharacterized protein YtfK	2.86
D5081_11280		PTS system beta-glucoside-specific EIIBCA component	2.84
D5081_12115	<i>sdhE</i>	FAD assembly factor SdhE	2.83
D5081_00890	<i>yhjR</i>	Protein YhjR	2.81
D5081_00365	<i>ytaP</i>	Putative hydrolase YtaP	2.81
D5081_18685		D-ribose pyranase	2.77
D5081_07725		Protein U	2.75
D5081_06285	<i>iolG</i>	Myo-inositol 2-dehydrogenase	2.74
D5081_04390		Solute-binding protein Csal	2.73
D5081_02120	<i>xylA</i>	Xylose isomerase	2.72
D5081_08480	<i>rpiB</i>	D-erythrulose-4-phosphate isomerase	2.71
D5081_03330	<i>cspE</i>	Cold shock-like protein CspB	2.69
D5081_12480		Uncharacterized protein	2.66
D5081_12500		50S ribosomal protein L31 type B	2.66
D5081_15475		Uncharacterized protein	2.66
D5081_16030		DNA protection during starvation protein	2.65
D5081_21195	<i>nanC</i>	Probable N-acetylneuraminic acid outer membrane channel protein NanC	2.63
D5081_20090		Uncharacterized protein	2.62
D5081_07770	<i>fadL</i>	Long-chain fatty acid transport protein	2.62
D5081_21040		Uncharacterized protein	2.62
D5081_10585		Uncharacterized protein	2.61
D5081_19065	<i>yegS</i>	Probable lipid kinase YegS	2.58

D5081_05430		PTS system beta-glucoside-specific EIIBCA component	2.58
D5081_16315		Ferric aerobactin receptor	2.55
D5081_07440	<i>elaB</i>	Protein ElaB	2.55
D5081_09185	<i>ytfJ</i>	Uncharacterized protein YtfJ	2.55
D5081_09365	<i>parD</i>	Antitoxin ParD	2.55
D5081_09760		YcgL domain-containing protein ECA2367	2.55
D5081_04725	<i>aspA</i>	Aspartate ammonia-lyase	2.54
D5081_17170		30S ribosomal protein S20	2.53
D5081_13470		Proton/glutamate-aspartate symporter	2.52
D5081_14305		Uncharacterized protein	2.51
D5081_04415		PTS system sucrose-specific EIIBC component	2.51
D5081_08470		Pectate disaccharide-lyase	2.51
D5081_02130	<i>xylG</i>	Xylose import ATP-binding protein XylG	2.50
D5081_07720		Protein U	2.50
D5081_06315	<i>mocC</i>	Rhizopine catabolism protein MocC	2.50
D5081_09370	<i>parE4</i>	Toxin ParE4	2.49
D5081_02750	<i>fadB</i>	Fatty acid oxidation complex subunit alpha	2.48
D5081_16425		Adenosylmethionine-8-amino-7-oxononanoate aminotransferase	2.48
D5081_07025	<i>ddpA</i>	Probable D,D-dipeptide-binding periplasmic protein DdpA	2.45
D5081_09855		UPF0229 protein PC1_1960	2.45
D5081_08295	<i>ganQ</i>	Putative arabinogalactan oligomer transport system permease protein GanQ	2.44
D5081_16410	<i>bioC</i>	Malonyl-[acyl-carrier protein] O-methyltransferase	2.42
D5081_19605		Alkyl hydroperoxide reductase C	2.42
D5081_05315	<i>yqjG</i>	Glutathionyl-hydroquinone reductase YqjG	2.42
D5081_09860	<i>yeaG</i>	Uncharacterized protein YeaG	2.40
D5081_14415		Probable glucarate transporter	2.40
D5081_19125		Uncharacterized protein	2.40
D5081_15640		Acyl carrier protein	2.40
D5081_03520		Glutaredoxin 2	2.39
D5081_07045	<i>amiF</i>	Oligopeptide transport ATP-binding protein AmiF	2.38
D5081_16420		Biotin synthase	2.38
D5081_02995	<i>kduD</i>	2-dehydro-3-deoxy-D-gluconate 5-dehydrogenase	2.36
D5081_15310		Uncharacterized protein Rv1507c	2.36
D5081_21745		Succinate dehydrogenase iron-sulfur subunit	2.35
D5081_13765	<i>pdeB</i>	Probable cyclic di-GMP phosphodiesterase PdeB	2.35
D5081_16415	<i>bioF</i>	8-amino-7-oxononanoate synthase	2.34
D5081_04385	<i>teaB</i>	Ectoine TRAP transporter small permease protein TeaB	2.34
D5081_13435		D-apiose import binding protein	2.34
D5081_21730		Succinate dehydrogenase cytochrome b556 subunit	2.32
D5081_12620		Exo-poly- α -D-galacturonosidase	2.30
D5081_12515	<i>acrR</i>	HTH-type transcriptional regulator AcrR	2.30
D5081_15805		Uncharacterized protein	2.30
D5081_06685		Glycogen phosphorylase	2.29
D5081_15725		Uncharacterized protein YcfJ	2.29
D5081_03005	<i>yesP</i>	Probable ABC transporter permease protein YesP	2.28

D5081_13355	<i>cstA</i>	Peptide transporter CstA	2.27
D5081_02825	<i>yhfA</i>	Protein YhfA	2.27
D5081_07740		Uncharacterized protein	2.26
D5081_07380		Quinate/shikimate dehydrogenase (quinone)	2.26
D5081_11015	<i>ymlA</i>	Uncharacterized protein YmjA	2.26
D5081_13015	<i>nrdH</i>	Glutaredoxin-like protein NrdH	2.26
D5081_14560		Uncharacterized protein	2.25
D5081_07040	<i>dppD</i>	Dipeptide transport ATP-binding protein DppD	2.25
D5081_06555	<i>yigI</i>	Uncharacterized protein YigI	2.25
D5081_16405	<i>bioD</i>	ATP-dependent dethiobiotin synthetase BioD	2.25
D5081_13845	<i>iraP</i>	Anti-adaptor protein IraP	2.25
D5081_20570	<i>yifE</i>	UPF0438 protein YifE	2.24
D5081_08895		Uncharacterized protein	2.23
D5081_15450	<i>hspQ</i>	Heat shock protein HspQ	2.21
D5081_15135	<i>flhE</i>	Flagellar protein FlhE	2.19
D5081_21190	<i>yiiY</i>	Uncharacterized protein YiiY	2.18
D5081_07070		Uncharacterized protein	2.17
D5081_14960	<i>araH</i>	L-arabinose transport system permease protein AraH	2.17
D5081_14975		Ribulokinase	2.17
D5081_10130	<i>yciN</i>	Protein YciN	2.17
D5081_16955		Uncharacterized protein	2.16
D5081_12185	<i>gcvH</i>	Glycine cleavage system H protein	2.15
D5081_09890	<i>yeaC</i>	Uncharacterized protein YeaC	2.15
D5081_16775		PTS system beta-glucoside-specific EIIBCA component	2.14
D5081_15595	<i>yceQ</i>	Uncharacterized protein YceQ	2.14
D5081_14450	<i>yehH</i>	Uncharacterized protein YehH	2.11
D5081_00240		High-affinity choline transporter 1	2.10
D5081_15305		dTDP-4-amino-4,6-dideoxy-D-glucose transaminase	2.08
D5081_20510		Probable amino-acid ABC transporter-binding protein HI	2.08
D5081_19055	<i>pcpF</i>	Glutathionyl-hydroquinone reductase PcpF	2.06
D5081_08285		Cyclodextrin-binding protein	2.06
D5081_06275	<i>iolD</i>	3D-(3,5/4)-trihydroxycyclohexane-1,2-dione hydrolase	2.06
D5081_04770		Uncharacterized protein	2.06
D5081_00865	<i>bcsC</i>	Putative cellulose synthase operon protein C	2.06
D5081_21765	<i>sucD</i>	Succinate--CoA ligase [ADP-forming] subunit alpha	2.05
D5081_13365	<i>osmB</i>	Osmotically-inducible lipoprotein B	2.04
D5081_16795	<i>lpp</i>	Major outer membrane lipoprotein Lpp	2.04
D5081_08900		Uncharacterized protein	2.03
D5081_10960		Uncharacterized protein	2.02
D5081_09065	<i>wcaB</i>	Putative colanic acid biosynthesis acetyltransferase WcaB	2.02
D5081_08280	<i>malK</i>	Maltose/maltodextrin import ATP-binding protein MalK	2.02
D5081_06245	<i>licT</i>	Transcription antiterminator LicT	2.02
D5081_05415		Periplasmic chaperone Spy	2.01
D5081_08340	<i>phoU</i>	Phosphate-specific transport system accessory protein PhoU	2.01
D5081_04410		Sucrose-6-phosphate hydrolase	2.01

D5081_11290	<i>licT</i>	Transcription antiterminator LicT	1.98
D5081_21760		Succinate--CoA ligase [ADP-forming] subunit beta	1.96
D5081_00875	<i>bcsB</i>	Cyclic di-GMP-binding protein	1.96
D5081_21215		Uncharacterized protein	1.96
D5081_15190		Flagellar P-ring protein	1.96
D5081_07030	<i>dppB</i>	Dipeptide transport system permease protein DppB	1.95
D5081_11075	<i>ytfH</i>	Uncharacterized HTH-type transcriptional regulator YtfH	1.95
D5081_13245	<i>pspB</i>	Phage shock protein B	1.95
D5081_07730		Uncharacterized protein	1.94
D5081_08290	<i>genP</i>	Putative arabinogalactan oligomer transport system permease protein GanP	1.94
D5081_00945		Queuosine precursor transporter	1.93
D5081_15165	<i>flgD</i>	Basal-body rod modification protein FlgD	1.93
D5081_02315		Uncharacterized protein	1.92
D5081_03120		Oligogalacturonide lyase	1.92
D5081_17390	<i>ygaZ</i>	Inner membrane protein YgaZ	1.92
D5081_05000	<i>osmY</i>	Osmotically-inducible protein Y	1.91
D5081_15275	<i>fliE</i>	Flagellar hook-basal body complex protein FliE	1.90
D5081_11245	<i>proP</i>	Proline/betaine transporter	1.90
D5081_15155	<i>flgB</i>	Flagellar basal body rod protein FlgB	1.89
D5081_02985	<i>kdgF</i>	Pectin degradation protein KdgF	1.89
D5081_03010	<i>yesQ</i>	Probable ABC transporter permease protein YesQ	1.89
D5081_20930		Methyl-accepting chemotaxis protein III	1.88
D5081_22155	<i>gltL</i>	Glutamate/aspartate import ATP-binding protein GltL	1.88
D5081_08345	<i>pstB</i>	Phosphate import ATP-binding protein PstB	1.87
D5081_08350	<i>pstA</i>	Phosphate transport system permease protein PstA	1.87
D5081_02590		Methyl-accepting chemotaxis serine transducer	1.87
D5081_00695	<i>yidQ</i>	Uncharacterized protein YidQ	1.87
D5081_11715	<i>fic</i>	Probable protein adenylyltransferase Fic	1.86
D5081_06240	<i>bglC</i>	Aryl-phospho-beta-D-glucosidase BglC	1.86
D5081_20545	<i>ytfQ</i>	Galactofuranose-binding protein YtfQ	1.86
D5081_19255		Nucleoside diphosphate kinase	1.85
D5081_15225	<i>mopB</i>	Protein MopB	1.85
D5081_02925		UPF0266 membrane protein	1.85
D5081_21740		Succinate dehydrogenase flavoprotein subunit	1.85
D5081_07735		F1 capsule-anchoring protein	1.84
D5081_11265	<i>yjgG</i>	Putrescine aminotransferase	1.84
D5081_09410		PTS system oligo-beta-mannoside-specific EIIB component	1.83
D5081_12380	<i>bolA</i>	DNA-binding transcriptional regulator Bola	1.83
D5081_00870		Endoglucanase	1.83
D5081_15775	<i>folE</i>	GTP cyclohydrolase 1	1.83
D5081_11270	<i>patD</i>	Gamma-aminobutyraldehyde dehydrogenase	1.82
D5081_11285	<i>bglC</i>	Aryl-phospho-beta-D-glucosidase BglC	1.82
D5081_21600		Ferric uptake regulation protein	1.82
D5081_04380	<i>ygiK</i>	Uncharacterized protein YgiK	1.81
D5081_08665	<i>norW</i>	Nitric oxide reductase FIRd-NAD(+) reductase	1.81

D5081_14545		Superoxide dismutase [Cu-Zn]	1.80
D5081_08760		D-galactonate dehydratase family member	1.78
D5081_07035	<i>ddpC</i>	Probable D,D-dipeptide transport system permease protein DdpC	1.78
D5081_21750	<i>sucA</i>	2-oxoglutarate dehydrogenase E1 component	1.78
D5081_16325	<i>ybhF</i>	Probable multidrug ABC transporter ATP-binding protein YbhF	1.77
D5081_08300		Uncharacterized protein in bgaB 5'region (Fragment)	1.77
D5081_20280		Ribosome hibernation promoting factor	1.77
D5081_21755	<i>odhB</i>	Dihydrolipoyllysine-residue succinyltransferase component of 2-oxoglutarate dehydrogenase complex	1.76
D5081_00245		Uncharacterized protein	1.76
D5081_11035		Uncharacterized protein	1.75
D5081_02140		Xylose operon regulatory protein	1.75
D5081_03015	<i>msmX</i>	Oligosaccharides import ATP-binding protein MsmX	1.75
D5081_15335		Uncharacterized protein	1.74
D5081_09920	<i>ynjH</i>	Uncharacterized protein	1.74
D5081_12600		Uncharacterized protein	1.74
D5081_16345	<i>moaE</i>	Molybdopterin synthase catalytic subunit	1.73
D5081_02940	<i>cspC</i>	Cold shock-like protein CspC	1.73
D5081_14955	<i>araC</i>	Arabinose operon regulatory protein	1.73
D5081_11140	<i>echR</i>	Transcriptional activator protein EchR	1.73
D5081_12465	<i>ybaY</i>	Uncharacterized lipoprotein YbaY	1.73
D5081_13625	<i>katG</i>	Catalase-peroxidase	1.72
D5081_18645	<i>iclR</i>	Acetate operon repressor	1.72
D5081_19135		Pyrethroid hydrolase	1.71
D5081_04000	<i>cspD</i>	Cold shock-like protein CspD	1.71
D5081_10705		Acyl-coenzyme A dehydrogenase	1.71
D5081_07175		Uncharacterized protein	1.70
D5081_15300		Probable UDP-N-acetylglucosamine--peptide N-acetylglucosaminyltransferase	1.70
D5081_00235		4-hydroxy-tetrahydrodipicolinate synthase	1.70
D5081_14550	<i>ufaA1</i>	Tuberculostearic acid methyltransferase UfaA1	1.69
D5081_14880	<i>ynfD</i>	Uncharacterized protein YnfD	1.69
D5081_06360		PTS system beta-glucoside-specific EIIBCA component	1.69
D5081_22170		Glutamate/aspartate import solute-binding protein	1.68
D5081_06320	<i>iolB</i>	5-deoxy-glucuronate isomerase	1.68
D5081_17415		2-isopropylmalate synthase	1.68
D5081_15925	<i>yejG</i>	Uncharacterized protein YejG	1.66
D5081_07785	<i>mgo</i>	Probable malate:quinone oxidoreductase	1.66
D5081_01690	<i>ybeL</i>	Uncharacterized protein	1.65
D5081_03030		Endo-1,4-beta-xylanase B	1.65
D5081_02745	<i>fadA</i>	3-ketoacyl-CoA thiolase	1.64
D5081_15235	<i>fliM</i>	Flagellar motor switch protein FliM	1.64
D5081_13025	<i>nrdE</i>	Ribonucleoside-diphosphate reductase subunit alpha	1.63
D5081_21550		Uncharacterized protein	1.62
D5081_06345		Iron uptake protein A1	1.61

D5081_15180	<i>flgG</i>	Flagellar basal-body rod protein FlgG	1.60
D5081_19735	<i>loiP</i>	Metalloprotease LoiP	-1.60
D5081_13340	<i>ydeP</i>	Protein YdeP	-1.61
D5081_02430		Orotate phosphoribosyltransferase	-1.62
D5081_06445	<i>yxeM</i>	Probable amino-acid-binding protein YxeM	-1.62
D5081_09975		Aldehyde-alcohol dehydrogenase	-1.63
D5081_13795	<i>dauA</i>	C4-dicarboxylic acid transporter DauA	-1.63
D5081_01440	<i>D5081_01440</i>	Phosphoribosylformylglycinamide cyclo-ligase	-1.64
D5081_20940		UPF0423 protein BMEII0885	-1.64
D5081_15370	<i>betI</i>	HTH-type transcriptional regulator BetI	-1.64
D5081_10765		Ankyrin-3	-1.68
D5081_20950		Uncharacterized ABC transporter permease	-1.69
D5081_00405	<i>adeP</i>	Adenine permease AdeP	-1.69
D5081_00175		Methionine aminotransferase	-1.71
D5081_20965	<i>resA</i>	Thiol-disulfide oxidoreductase ResA	-1.71
D5081_11180		SDS degradation transcriptional activation protein	-1.71
D5081_04990		Uncharacterized protein	-1.72
D5081_03780		Citrate/malate transporter	-1.73
D5081_20980	<i>cbl</i>	HTH-type transcriptional regulator cbl	-1.74
D5081_06990	<i>occM</i>	Octopine transport system permease protein OccM	-1.74
D5081_21930		Probable histidine-binding protein	-1.74
D5081_10890		Uncharacterized protein	-1.75
D5081_07005	<i>nirD</i>	Nitrite reductase (NADH) small subunit	-1.75
D5081_01750	<i>ntrC</i>	DNA-binding transcriptional regulator NtrC	-1.75
D5081_16185		Serralysin C	-1.76
D5081_12730	<i>menB</i>	1,4-dihydroxy-2-naphthoyl-CoA synthase	-1.78
D5081_21960	<i>cysD</i>	Sulfate adenylyltransferase subunit 2	-1.78
D5081_22010		Sulfite reductase [NADPH] flavoprotein alpha-component	-1.80
D5081_19100	<i>ydhB</i>	Probable membrane transporter protein YdhB	-1.80
D5081_15295	<i>fliC</i>	Flagellin	-1.81
D5081_10895		Uncharacterized protein	-1.81
D5081_08915		Uncharacterized protein	-1.81
D5081_14510	<i>pntA</i>	NAD(P) transhydrogenase subunit alpha	-1.81
D5081_17440	<i>alaE</i>	L-alanine exporter AlaE	-1.82
D5081_11920		Uncharacterized protein	-1.82
D5081_11935		Uncharacterized protein	-1.82
D5081_06435		Adenylosuccinate lyase	-1.82
D5081_04860	<i>ddpC</i>	Dipeptide transport system permease protein DppC	-1.84
D5081_10845		Uncharacterized protein	-1.84
D5081_10695		Methylthioribose kinase	-1.85
D5081_18925		2-hydroxy-3-oxopropionate reductase	-1.86
D5081_10900	<i>tssM</i>	Type VI secretion system component TssM	-1.86
D5081_12830	<i>cysT</i>	Probable sulfate transport system permease protein cysT	-1.86
D5081_07615		Colicin V production protein	-1.87
D5081_20955		Uncharacterized ABC transporter permease	-1.87

D5081_05800		Uncharacterized protein	-1.88
D5081_14515		NAD(P) transhydrogenase subunit beta	-1.88
D5081_02215		Uncharacterized protein	-1.88
D5081_04680		Uncharacterized protein	-1.88
D5081_07115		Methyl-accepting chemotaxis citrate transducer	-1.88
D5081_18715	<i>viaA</i>	Protein ViaA	-1.89
D5081_10265	<i>hrcN</i>	Type III secretion ATP synthase HrcN	-1.90
D5081_21935	<i>artQ</i>	Arginine transport system permease protein ArtQ	-1.90
D5081_06455	<i>yxeO</i>	Probable amino-acid import ATP-binding protein YxeO	-1.91
D5081_06790		Citrate synthase	-1.92
D5081_21955	<i>cysN</i>	Sulfate adenylyltransferase subunit 1	-1.93
D5081_20960		Uncharacterized ABC transporter ATP-binding protein	-1.93
D5081_12835		Sulfate-binding protein	-1.94
D5081_10840	<i>tssC</i>	Type VI secretion system sheath protein TssC	-1.94
D5081_04155		Outer membrane lipoprotein 3	-1.95
D5081_14905	<i>ynfM</i>	Inner membrane transport protein YnfM	-1.95
D5081_18890		Aerotaxis receptor	-1.96
D5081_18310		Uncharacterized protein	-1.97
D5081_00395		Dihydropolyllysine-residue acetyltransferase component of pyruvate dehydrogenase complex	-1.97
D5081_00140	<i>tcyJ</i>	L-cystine-binding protein TcyJ	-1.97
D5081_21780		Cytochrome bd-I ubiquinol oxidase subunit 2	-1.97
D5081_00435		Putative lipoprotein NMB1124/NMB1162	-1.98
D5081_21965	<i>cobA</i>	Siroheme synthase 1	-1.98
D5081_00420	<i>aegA</i>	Putative oxidoreductase AegA	-1.99
D5081_08740	<i>lipC</i>	Esterase LipC	-2.02
D5081_20985	<i>gltP</i>	Proton/glutamate-aspartate symporter	-2.02
D5081_06450	<i>yxeN</i>	Probable amino-acid permease protein YxeN	-2.03
D5081_10215		Uncharacterized protein	-2.05
D5081_04660	<i>lolD</i>	Lipoprotein-releasing system ATP-binding protein LolD	-2.05
D5081_03160		Uncharacterized protein	-2.06
D5081_06460		N-acetylcysteine deacetylase	-2.08
D5081_13685	<i>narQ</i>	Nitrate/nitrite sensor protein NarQ	-2.12
D5081_08825		Uncharacterized protein	-2.12
D5081_09620	<i>cdiB</i>	Outer membrane transporter CdiB	-2.13
D5081_02380	<i>lysR</i>	Transcriptional activator protein LysR	-2.15
D5081_21155	<i>uca</i>	Urea amidolyase	-2.16
D5081_10875		Uncharacterized protein	-2.16
D5081_08185	<i>purE</i>	N5-carboxyaminoimidazole ribonucleotide mutase	-2.17
D5081_17620	<i>aceE</i>	Pyruvate dehydrogenase E1 component	-2.18
D5081_06055	<i>fdnG</i>	Formate dehydrogenase, nitrate-inducible, major subunit	-2.19
D5081_12735		o-succinylbenzoate synthase	-2.21
D5081_14280		Probable pectate lyase E	-2.23
D5081_20625		Ketol-acid reductoisomerase (NADP(+))	-2.24
D5081_18145		Amino-acid acetyltransferase	-2.24

D5081_01755	<i>ntrB</i>	Sensory histidine kinase/phosphatase NtrB	-2.25
D5081_10880	<i>clpV1</i>	AAA+ ATPase ClpV1	-2.25
D5081_04870	<i>gsiB</i>	Glutathione-binding protein GsiB	-2.25
D5081_07160	<i>yxjG</i>	Uncharacterized protein YxjG	-2.26
D5081_15955		Uncharacterized protein	-2.27
D5081_08190		N5-carboxyaminoimidazole ribonucleotide synthase	-2.27
D5081_10850	<i>tssF</i>	Type VI secretion system component TssF1	-2.27
D5081_07315	<i>nrtA</i>	Nitrate/nitrite binding protein NrtA	-2.27
D5081_06440		S-(2-succino)cysteine N-acetyltransferase	-2.28
D5081_12740		2-succinylbenzoate--CoA ligase	-2.29
D5081_04655		Uncharacterized protein	-2.30
D5081_01760		Glutamine synthetase	-2.31
D5081_19425		Phosphoribosylformylglycinamide synthase	-2.32
D5081_04485		2-iminobutanoate/2-iminopropanoate deaminase	-2.33
D5081_03890	<i>pflB</i>	Formate acetyltransferase 1	-2.34
D5081_18720		Aspartate--ammonia ligase	-2.34
D5081_10860		Uncharacterized protein	-2.34
D5081_07010		Nitrite reductase (NADH) large subunit	-2.35
D5081_20925		Formate dehydrogenase H	-2.36
D5081_08630	<i>cysK</i>	Cysteine synthase A	-2.39
D5081_10885	<i>vasH</i>	Transcriptional regulator VasH	-2.40
D5081_18255	<i>modC</i>	Molybdenum import ATP-binding protein ModC	-2.41
D5081_04675		Uncharacterized protein	-2.41
D5081_00715	<i>yflS</i>	Putative malate transporter YflS	-2.44
D5081_08325	<i>tcyJ</i>	L-cystine-binding protein TcyJ	-2.44
D5081_13960	<i>artQ</i>	Arginine transport system permease protein ArtQ	-2.45
D5081_21150	<i>ydhC</i>	Uncharacterized HTH-type transcriptional regulator YdhC	-2.45
D5081_06605	<i>glpB</i>	Anaerobic glycerol-3-phosphate dehydrogenase subunit B	-2.46
D5081_08320	<i>gltJ</i>	Glutamate/aspartate import permease protein GltJ	-2.46
D5081_04640		Uncharacterized protein	-2.51
D5081_05040	<i>entC</i>	Isochorismate synthase EntC	-2.52
D5081_05045		Enterobactin synthase component E	-2.55
D5081_11960	<i>ghxP</i>	Guanine/hypoxanthine permease GhxP	-2.55
D5081_18245	<i>modA</i>	Molybdate-binding protein ModA	-2.55
D5081_20520	<i>yhdW</i>	Putative amino-acid ABC transporter-binding protein YhdW	-2.56
D5081_04665		Uncharacterized protein	-2.57
D5081_17735	<i>grcA</i>	Autonomous glycyl radical cofactor	-2.59
D5081_04645		Uncharacterized protein	-2.60
D5081_04505	<i>argF</i>	Ornithine carbamoyltransferase	-2.61
D5081_16740	<i>nrfC</i>	Protein NrfC	-2.61
D5081_18250	<i>modB</i>	Molybdenum transport system permease protein ModB	-2.62
D5081_10870	<i>tssK</i>	Type VI secretion system baseplate component TssK1	-2.68
D5081_16715	<i>ccmA</i>	Cytochrome c biogenesis ATP-binding export protein CcmA	-2.70
D5081_16745	<i>nrfB</i>	Cytochrome c-type protein NrfB	-2.70
D5081_06600		Anaerobic glycerol-3-phosphate dehydrogenase subunit A	-2.71

D5081_16750	<i>nrfA</i>	Cytochrome c-552	-2.72
D5081_04495	<i>pyrB</i>	Aspartate carbamoyltransferase	-2.72
D5081_09580	<i>csy2</i>	CRISPR-associated protein Csy2	-2.73
D5081_00145	<i>glnM</i>	Probable glutamine ABC transporter permease protein GlnM	-2.74
D5081_00835		Uncharacterized protein	-2.75
D5081_05050		Enterobactin synthase component B	-2.76
D5081_04490		Aspartate carbamoyltransferase regulatory chain	-2.78
D5081_17615	<i>pdhR</i>	Pyruvate dehydrogenase complex repressor	-2.78
D5081_01380	<i>metF</i>	5,10-methylenetetrahydrofolate reductase	-2.78
D5081_10855		Uncharacterized protein	-2.79
D5081_21545	<i>purH</i>	Bifunctional purine biosynthesis protein PurH	-2.81
D5081_09575	<i>csy1</i>	CRISPR-associated protein Csy1	-2.81
D5081_21540	<i>purD</i>	Phosphoribosylamine--glycine ligase	-2.82
D5081_17210		Carbamoyl-phosphate synthase large chain	-2.82
D5081_13695	<i>napD</i>	Chaperone NapD	-2.82
D5081_01910	<i>yghW</i>	Uncharacterized protein YghW	-2.83
D5081_21630		Asparagine synthetase B [glutamine-hydrolyzing]	-2.84
D5081_05070	<i>pksJ</i>	Polyketide synthase PksJ	-2.87
D5081_03225	<i>pepT</i>	Peptidase T	-2.88
D5081_04875	<i>yagU</i>	Inner membrane protein YagU	-2.88
D5081_17205		Carbamoyl-phosphate synthase small chain	-2.91
D5081_00150	<i>tcyL</i>	L-cystine transport system permease protein TcyL	-2.91
D5081_04670		Uncharacterized protein	-2.91
D5081_04650	<i>lppX</i>	Chaperone protein LppX	-2.92
D5081_05890	<i>ubiU</i>	Ubiquinone biosynthesis protein UbiU	-2.92
D5081_21635		Uncharacterized protein	-2.92
D5081_09445		Diaminopimelate decarboxylase	-2.93
D5081_04695		50S ribosomal protein L16 3-hydroxylase	-2.99
D5081_07545		Acetate kinase	-3.00
D5081_03885	<i>focA</i>	Probable formate transporter 1	-3.03
D5081_05065		Linear gramicidin synthase subunit B	-3.07
D5081_20330	<i>aaeX</i>	Protein AaeX	-3.09
D5081_09590	<i>cas6f</i>	CRISPR-associated endonuclease Cas6f/Csy4	-3.12
D5081_09585	<i>csy3</i>	CRISPR-associated protein Csy3	-3.16
D5081_07275		Acireductone dioxygenase 1	-3.17
D5081_07550		Phosphate acetyltransferase	-3.22
D5081_21160	<i>atzF</i>	Allophanate hydrolase	-3.25
D5081_05055		Dimodular nonribosomal peptide synthase	-3.25
D5081_01790	<i>xanP</i>	Xanthine permease XanP	-3.30
D5081_05060	<i>dhbA</i>	2,3-dihydro-2,3-dihydroxybenzoate dehydrogenase	-3.32
D5081_03355		Formate-dependent phosphoribosylglycinamide formyltransferase	-3.44
D5081_02585	<i>metE</i>	Cobalamin-independent methionine synthase	-3.47
D5081_16700	<i>ccmD</i>	Heme exporter protein D	-3.55
D5081_12605	<i>btsT</i>	Pyruvate/proton symporter BtsT	-3.56
D5081_16695	<i>ccmE</i>	Cytochrome c-type biogenesis protein CcmE	-3.61

D5081_13700	<i>napA</i>	Periplasmic nitrate reductase	-3.63
D5081_20995	<i>dcuB</i>	Anaerobic C4-dicarboxylate transporter DcuB	-3.65
D5081_16720	<i>nrfG</i>	Formate-dependent nitrite reductase complex subunit NrfG	-3.67
D5081_16710	<i>ccmB</i>	Heme exporter protein B	-3.86
D5081_16705		Heme exporter protein	-3.86
D5081_16735	<i>nrfD</i>	Protein NrfD	-3.93
D5081_13720	<i>napC</i>	Cytochrome c-type protein NapC	-3.96
D5081_13690	<i>napF</i>	Ferredoxin-type protein NapF	-4.07
D5081_16675	<i>ccmH</i>	Cytochrome c-type biogenesis protein CcmH	-4.18
D5081_16680	<i>ccmH</i>	Cytochrome c-type biogenesis protein CcmH	-4.31
D5081_12455	<i>amtB</i>	Ammonia channel	-4.43
D5081_12450		Nitrogen regulatory protein P-II 2	-4.44
D5081_16685	<i>dsbE</i>	Thiol:disulfide interchange protein DsbE	-4.44
D5081_16690	<i>ccmF</i>	Cytochrome c-type biogenesis protein CcmF	-4.55
D5081_13705	<i>napG</i>	Ferredoxin-type protein NapG	-4.67
D5081_10050	<i>ompW</i>	Outer membrane protein W	-4.77
D5081_13715		Periplasmic nitrate reductase, electron transfer subunit	-4.78
D5081_13710	<i>napH</i>	Ferredoxin-type protein NapH	-4.80
D5081_16725	<i>nrfF</i>	Formate-dependent nitrite reductase complex subunit NrfF	-5.44
D5081_16730	<i>nrfE</i>	Probable cytochrome c-type biogenesis protein NrfE	-5.87
