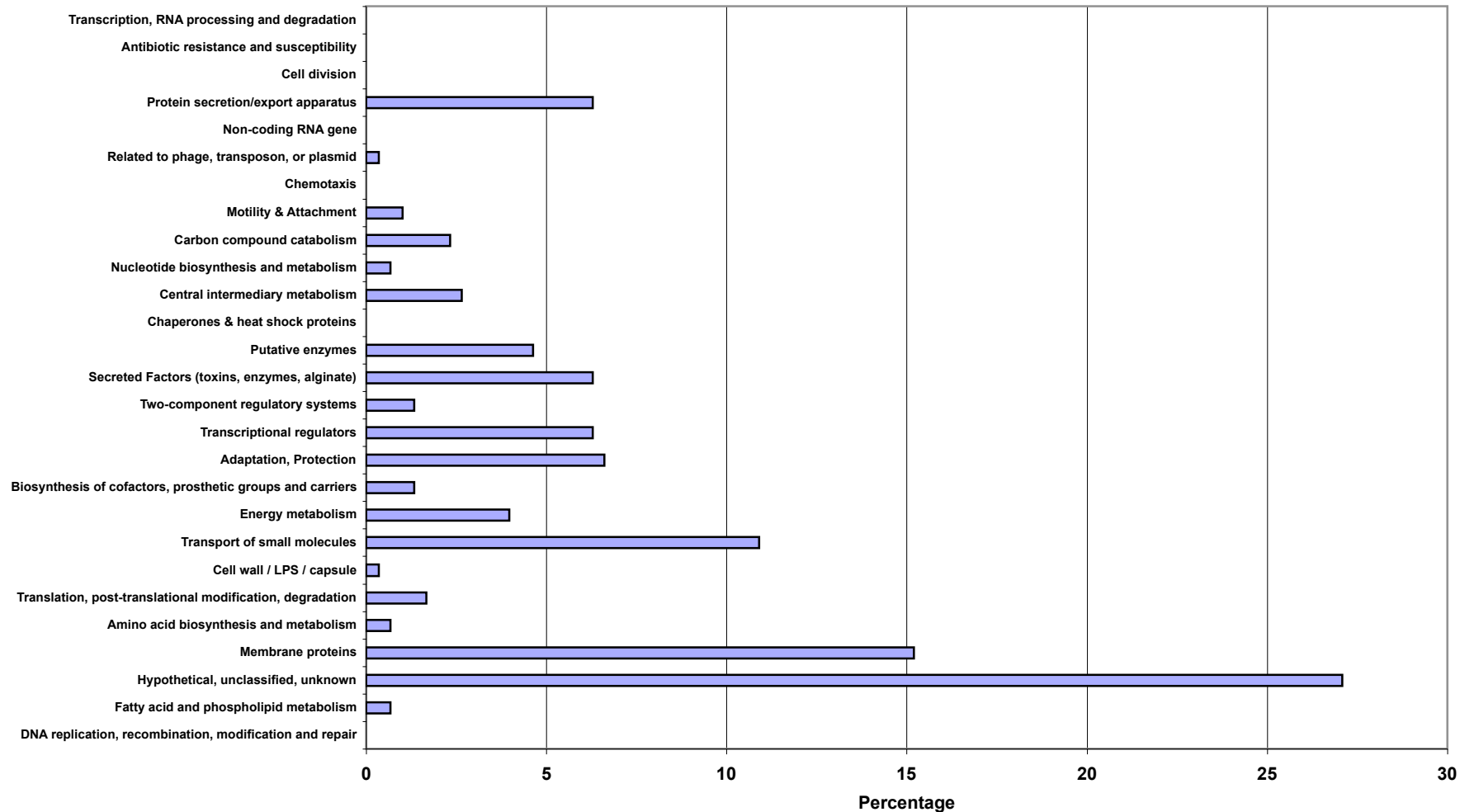


Supplementary Figure 1: Core set of genes differentially regulated in all the studies



Supplementary Table 1: Comparison of all the genes that are differentially regulated in the 18 transcriptome studies. The list of open reading frames (ORFs) are divided into core and accessory gene set as defined in Mathee *et al.* [PNAS. 2008.105(8). 3100-05].

ORF	Product name	Function class
Transcriptional core set ORFs present in the <i>P. aeruginosa</i> core genome		
PA0044	exoenzyme T	Secreted Factors (toxins, enzymes, alginate)
PA0045	hypothetical protein	Hypothetical, unclassified, unknown
PA0059	osmotically inducible protein OsmC	Adaptation, Protection
PA0070	hypothetical protein	Membrane proteins
PA0078	hypothetical protein	Hypothetical, unclassified, unknown
PA0082	hypothetical protein	Hypothetical, unclassified, unknown
PA0084	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA0085	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA0140	alkyl hydroperoxide reductase subunit F	Adaptation, Protection
PA0141	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA0162	histidine porin OpcC	Membrane proteins
PA0183	arylsulfatase	Central intermediary metabolism
PA0184	probable ATP-binding component of ABC transporter	Transport of small molecules
PA0185	probable permease of ABC transporter	Membrane proteins
PA0186	probable binding protein component of ABC transporter	Transport of small molecules
PA0229	dicarboxylic acid transporter PcaT	Membrane proteins
PA0284	hypothetical protein	Hypothetical, unclassified, unknown
PA0290	hypothetical protein	Hypothetical, unclassified, unknown
PA0291	Anaerobically-induced outer membrane porin OprE precursor	Membrane proteins
PA0424	multidrug resistance operon repressor MexR	Transcriptional regulators
PA0447	glutaryl-CoA dehydrogenase	Fatty acid and phospholipid metabolism
PA0460	hypothetical protein	Hypothetical, unclassified, unknown
PA0471	probable transmembrane sensor	Two-component regulatory systems
PA0472	probable sigma-70 factor, ECF subfamily	Transcriptional regulators
PA0514	heme d1 biosynthesis protein NirL	Hypothetical, unclassified, unknown
PA0517	probable c-type cytochrome precursor	Biosynthesis of cofactors, prosthetic groups and carriers
PA0518	cytochrome c-551 precursor	Biosynthesis of cofactors, prosthetic groups and carriers
PA0519	nitrite reductase precursor	Energy metabolism
PA0524	nitric-oxide reductase subunit B	Energy metabolism
PA0572	hypothetical protein	Hypothetical, unclassified, unknown
PA0604	probable binding protein component of ABC transporter	Transport of small molecules
PA0605	probable permease of ABC transporter	Membrane proteins
PA0672	heme oxygenase	Biosynthesis of cofactors, prosthetic groups and carriers
PA0688	probable binding protein component of ABC transporter	Transport of small molecules
PA0762	sigma factor AlgU	Transcriptional regulators
PA0763	anti-sigma factor MucA	Transcriptional regulators
PA0764	negative regulator for alginate biosynthesis MucB	Transcriptional regulators
PA0775	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA0848	probable alkyl hydroperoxide reductase	Adaptation, Protection
PA0849	thioredoxin reductase 2	Nucleotide biosynthesis and metabolism
PA0852	chitin-binding protein CbpD precursor	Secreted Factors (toxins, enzymes, alginate)
PA0866	aromatic amino acid transport protein AroP2	Transport of small molecules
PA0874	hypothetical protein	Hypothetical, unclassified, unknown
PA0929	two-component response regulator	Transport of small molecules
PA0938	hypothetical protein	Hypothetical, unclassified, unknown
PA0958	Outer membrane porin OprD precursor	Transport of small molecules
PA0962	probable dna-binding stress protein	Adaptation, Protection
PA1071	branched-chain amino acid transport protein BraF	Transport of small molecules
PA1156	NrdA, catalytic component of class Ia ribonucleotide reductase	Nucleotide biosynthesis and metabolism
PA1179	two-component response regulator PhoP	Transcriptional regulators
PA1180	two-component sensor PhoQ	Two-component regulatory systems
PA1230	hypothetical protein	Membrane proteins
PA1245	hypothetical protein	Membrane proteins
PA1246	alkaline protease secretion protein AprD	Secreted Factors (toxins, enzymes, alginate)
PA1249	alkaline metalloproteinase precursor	Secreted Factors (toxins, enzymes, alginate)

Supplementary Table 1

ORF	Product name	Function class
PA1289	hypothetical protein	Hypothetical, unclassified, unknown
PA1300	probable sigma-70 factor, ECF subfamily	Transcriptional regulators
PA1317	cytochrome o ubiquinol oxidase subunit II	Energy metabolism
PA1318	cytochrome o ubiquinol oxidase subunit I	Energy metabolism
PA1319	cytochrome o ubiquinol oxidase subunit III	Energy metabolism
PA1323	hypothetical protein	Hypothetical, unclassified, unknown
PA1324	hypothetical protein	Hypothetical, unclassified, unknown
PA1346	hypothetical protein	Hypothetical, unclassified, unknown
PA1408	hypothetical protein	Membrane proteins
PA1541	probable drug efflux transporter	Membrane proteins
PA1544	transcriptional regulator Anr	Transcriptional regulators
PA1546	oxygen-independent coproporphyrinogen III oxidase	Biosynthesis of cofactors, prosthetic groups and carriers
PA1555	probable cytochrome c	Energy metabolism
PA1556	probable cytochrome c oxidase subunit	Energy metabolism
PA1557	probable cytochrome oxidase subunit (cbb3-type)	Energy metabolism
PA1657	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA1673	hypothetical protein	Hypothetical, unclassified, unknown
PA1691	translocation protein in type III secretion	Protein secretion/export apparatus
PA1696	translocation protein in type III secretion	Protein secretion/export apparatus
PA1698	Type III secretion outer membrane protein PopN precursor	Membrane proteins
PA1699	conserved hypothetical protein in type III secretion	Protein secretion/export apparatus
PA1700	conserved hypothetical protein in type III secretion	Protein secretion/export apparatus
PA1701	conserved hypothetical protein in type III secretion	Protein secretion/export apparatus
PA1705	regulator in type III secretion	Protein secretion/export apparatus
PA1706	type III secretion protein PcrV	Protein secretion/export apparatus
PA1707	regulatory protein PcrH	Secreted Factors (toxins, enzymes, alginate)
PA1708	translocator protein PopB	Protein secretion/export apparatus
PA1709	Translocator outer membrane protein PopD precursor	Protein secretion/export apparatus
PA1710	ExsC, exoenzyme S synthesis protein C precursor.	Translation, post-translational modification, degradation
PA1711	ExsE	Hypothetical, unclassified, unknown
PA1712	exoenzyme S synthesis protein B	Translation, post-translational modification, degradation
PA1713	transcriptional regulator ExsA	Protein secretion/export apparatus
PA1714	ExsD	Hypothetical, unclassified, unknown
PA1715	type III export apparatus protein	Protein secretion/export apparatus
PA1716	Type III secretion outer membrane protein PscC precursor	Protein secretion/export apparatus
PA1717	type III export protein PscD	Protein secretion/export apparatus
PA1719	type III export protein PscF	Protein secretion/export apparatus
PA1720	type III export protein PscG	Protein secretion/export apparatus
PA1721	type III export protein PscH	Protein secretion/export apparatus
PA1722	type III export protein PscI	Protein secretion/export apparatus
PA1723	type III export protein PscJ	Protein secretion/export apparatus
PA1761	hypothetical protein	Hypothetical, unclassified, unknown
PA1793	peptidyl-prolyl cis-trans isomerase B	Translation, post-translational modification, degradation
PA1869	probable acyl carrier protein	Fatty acid and phospholipid metabolism
PA1894	hypothetical protein	Hypothetical, unclassified, unknown
PA1902	phenazine biosynthesis protein PhzD	Secreted Factors (toxins, enzymes, alginate)
PA1904	probable phenazine biosynthesis protein	Secreted Factors (toxins, enzymes, alginate)
PA1982	quinoprotein alcohol dehydrogenase	Carbon compound catabolism
PA2080	hypothetical protein	Hypothetical, unclassified, unknown
PA2081	kynurenine formamidase, KynB	Hypothetical, unclassified, unknown
PA2087	hypothetical protein	Hypothetical, unclassified, unknown
PA2088	hypothetical protein	Hypothetical, unclassified, unknown
PA2111	hypothetical protein	Hypothetical, unclassified, unknown
PA2112	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA2113	pyroglutamate porin OpdO	Transport of small molecules
PA2114	probable major facilitator superfamily (MFS) transporter	Membrane proteins
PA2143	hypothetical protein	Hypothetical, unclassified, unknown

Supplementary Table 1

ORF	Product name	Function class
PA2146	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA2158	probable alcohol dehydrogenase (Zn-dependent)	Putative enzymes
PA2159	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA2166	hypothetical protein	Hypothetical, unclassified, unknown
PA2171	hypothetical protein	Hypothetical, unclassified, unknown
PA2173	hypothetical protein	Hypothetical, unclassified, unknown
PA2177	probable sensor/response regulator hybrid	Two-component regulatory systems
PA2191	adenylate cyclase ExoY	Secreted Factors (toxins, enzymes, alginate)
PA2193	hydrogen cyanide synthase HcnA	Central intermediary metabolism
PA2194	hydrogen cyanide synthase HcnB	Central intermediary metabolism
PA2195	hydrogen cyanide synthase HcnC	Central intermediary metabolism
PA2247	2-oxoisovalerate dehydrogenase (alpha subunit)	Amino acid biosynthesis and metabolism
PA2248	2-oxoisovalerate dehydrogenase (beta subunit)	Amino acid biosynthesis and metabolism
PA2260	hypothetical protein	Hypothetical, unclassified, unknown
PA2261	probable 2-ketogluconate kinase	Carbon compound catabolism
PA2262	probable 2-ketogluconate transporter	Membrane proteins
PA2263	probable 2-hydroxyacid dehydrogenase	Putative enzymes
PA2264	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA2265	gluconate dehydrogenase	Carbon compound catabolism
PA2266	probable cytochrome c precursor	Carbon compound catabolism
PA2299	probable transcriptional regulator	Transcriptional regulators
PA2302	probable non-ribosomal peptide synthetase	Putative enzymes
PA2304	hypothetical protein	Hypothetical, unclassified, unknown
PA2305	probable non-ribosomal peptide synthetase	Putative enzymes
PA2307	probable permease of ABC transporter	Membrane proteins
PA2309	hypothetical protein	Hypothetical, unclassified, unknown
PA2310	hypothetical protein	Putative enzymes
PA2331	hypothetical protein	Membrane proteins
PA2385	PvdQ	Adaptation, Protection
PA2386	L-ornithine N5-oxygenase	Adaptation, Protection
PA2389	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA2392	PvdP	Adaptation, Protection
PA2393	probable dipeptidase precursor	Central intermediary metabolism
PA2394	PvdN	Adaptation, Protection
PA2396	pyoverdine synthetase F	Secreted Factors (toxins, enzymes, alginate)
PA2397	pyoverdine biosynthesis protein PvdE	Membrane proteins
PA2403	hypothetical protein	Membrane proteins
PA2404	hypothetical protein	Membrane proteins
PA2405	hypothetical protein	Hypothetical, unclassified, unknown
PA2407	probable adhesion protein	Motility & Attachment
PA2408	probable ATP-binding component of ABC transporter	Transport of small molecules
PA2409	probable permease of ABC transporter	Membrane proteins
PA2410	hypothetical protein	Hypothetical, unclassified, unknown
PA2411	probable thioesterase	Adaptation, Protection
PA2412	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA2413	L-2,4-diaminobutyrate:2-ketoglutarate 4-aminotransferase, PvdH	Adaptation, Protection
PA2414	L-sorbose dehydrogenase	Carbon compound catabolism
PA2415	hypothetical protein	Membrane proteins
PA2424	PvdL	Adaptation, Protection
PA2425	PvdG	Adaptation, Protection
PA2426	sigma factor PvdS	Transcriptional regulators
PA2433	hypothetical protein	Hypothetical, unclassified, unknown
PA2468	ECF sigma factor FoxI	Transcriptional regulators
PA2505	tyrosine porin OpdT	Transport of small molecules
PA2523	probable two-component response regulator	Transcriptional regulators
PA2548	hypothetical protein	Hypothetical, unclassified, unknown
PA2588	probable transcriptional regulator	Transcriptional regulators

Supplementary Table 1

ORF	Product name	Function class
PA2592	probable periplasmic spermidine/putrescine-binding protein	Transport of small molecules
PA2630	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA2634	isocitrate lyase	Putative enzymes
PA2687	two-component sensor PfeS	Two-component regulatory systems
PA2747	hypothetical protein	Hypothetical, unclassified, unknown
PA2760	probable outer membrane protein precursor	Transport of small molecules
PA2808	two-component response repressor, PtrA	Transcriptional regulators
PA2850	organic hydroperoxide resistance protein	Adaptation, Protection
PA2896	probable sigma-70 factor, ECF subfamily	Transcriptional regulators
PA3235	conserved hypothetical protein	Membrane proteins
PA3278	hypothetical protein	Membrane proteins
PA3281	hypothetical protein	Membrane proteins
PA3283	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA3284	hypothetical protein	Hypothetical, unclassified, unknown
PA3287	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA3328	probable FAD-dependent monooxygenase	Putative enzymes
PA3369	hypothetical protein	Membrane proteins
PA3371	hypothetical protein	Hypothetical, unclassified, unknown
PA3413	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA3414	hypothetical protein	Hypothetical, unclassified, unknown
PA3416	probable pyruvate dehydrogenase E1 component, beta chain	Energy metabolism
PA3446	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA3447	probable ATP-binding component of ABC transporter	Transport of small molecules
PA3448	probable permease of ABC transporter	Membrane proteins
PA3450	probable antioxidant protein	Adaptation, Protection
PA3460	probable acetyltransferase	Putative enzymes
PA3461	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA3515	hypothetical protein	Hypothetical, unclassified, unknown
PA3516	probable lyase	Putative enzymes
PA3517	probable lyase	Carbon compound catabolism
PA3518	hypothetical protein	Hypothetical, unclassified, unknown
PA3519	hypothetical protein	Hypothetical, unclassified, unknown
PA3520	hypothetical protein	Hypothetical, unclassified, unknown
PA3523	probable RND efflux membrane fusion protein precursor	Transport of small molecules
PA3531	bacterioferritin	Transport of small molecules
PA3573	probable major facilitator superfamily (MFS) transporter	Adaptation, Protection
PA3600	conserved hypothetical protein	Translation, post-translational modification, degradation
PA3690	probable metal-transporting P-type ATPase	Membrane proteins
PA3691	hypothetical protein	Hypothetical, unclassified, unknown
PA3709	probable major facilitator superfamily (MFS) transporter	Membrane proteins
PA3790	Putative copper transport outer membrane porin OprC precursor	Transport of small molecules
PA3842	probable chaperone	Secreted Factors (toxins, enzymes, alginate)
PA3899	probable sigma-70 factor, ECF subfamily	Transcriptional regulators
PA3900	probable transmembrane sensor	Membrane proteins
PA3904	hypothetical protein	Hypothetical, unclassified, unknown
PA3936	probable permease of ABC taurine transporter	Membrane proteins
PA3937	probable ATP-binding component of ABC taurine transporter	Transport of small molecules
PA3938	probable periplasmic taurine-binding protein precursor	Transport of small molecules
PA3954	hypothetical protein	Hypothetical, unclassified, unknown
PA4067	Outer membrane protein OprG precursor	Membrane proteins
PA4139	hypothetical protein	Hypothetical, unclassified, unknown
PA4156	probable TonB-dependent receptor	Transport of small molecules
PA4168	second ferric pyoverdine receptor FpvB	Transport of small molecules
PA4171	probable protease	Putative enzymes
PA4179	probable porin	Membrane proteins
PA4217	flavin-containing monooxygenase	Putative enzymes
PA4218	probable transporter	Membrane proteins

Supplementary Table 1

ORF	Product name	Function class
PA4219	hypothetical protein	Membrane proteins
PA4220	hypothetical protein	Hypothetical, unclassified, unknown
PA4221	Fe(III)-pyochelin outer membrane receptor precursor	Transport of small molecules
PA4222	probable ATP-binding component of ABC transporter	Transport of small molecules
PA4224	pyochelin biosynthetic protein PchG	Transport of small molecules
PA4225	pyochelin synthetase	Secreted Factors (toxins, enzymes, alginate)
PA4226	dihydroaeruginic acid synthetase	Secreted Factors (toxins, enzymes, alginate)
PA4227	transcriptional regulator PchR	Transcriptional regulators
PA4228	pyochelin biosynthesis protein PchD	Secreted Factors (toxins, enzymes, alginate)
PA4229	pyochelin biosynthetic protein PchC	Secreted Factors (toxins, enzymes, alginate)
PA4230	salicylate biosynthesis protein PchB	Secreted Factors (toxins, enzymes, alginate)
PA4231	salicylate biosynthesis isochorismate synthase	Secreted Factors (toxins, enzymes, alginate)
PA4296	two-component response regulator, PprB	Transcriptional regulators
PA4359	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA4429	probable cytochrome c1 precursor	Energy metabolism
PA4430	probable cytochrome b	Energy metabolism
PA4431	probable iron-sulfur protein	Putative enzymes
PA4467	hypothetical protein	Membrane proteins
PA4468	superoxide dismutase	Adaptation, Protection
PA4469	hypothetical protein	Hypothetical, unclassified, unknown
PA4470	fumarate hydratase	Energy metabolism
PA4471	hypothetical protein	Hypothetical, unclassified, unknown
PA4480	rod shape-determining protein MreC	Cell wall / LPS / capsule
PA4501	Glycine-glutamate dipeptide porin OpdP	Transport of small molecules
PA4563	30S ribosomal protein S20	Central intermediary metabolism
PA4570	hypothetical protein	Hypothetical, unclassified, unknown
PA4590	protein activator	Transport of small molecules
PA4613	catalase	Adaptation, Protection
PA4670	ribose-phosphate pyrophosphokinase	Carbon compound catabolism
PA4673	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA4708	Heme-transport protein, PhuT	Transport of small molecules
PA4709	probable hemin degrading factor	Putative enzymes
PA4710	Haem/Haemoglobin uptake outer membrane receptor PhuR precursor	Transport of small molecules
PA4719	probable transporter	Membrane proteins
PA4738	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA4739	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA4876	osmotically inducible lipoprotein OsmE	Membrane proteins
PA4880	probable bacterioferritin	Central intermediary metabolism
PA4896	probable sigma-70 factor, ECF subfamily	Transcriptional regulators
PA4909	probable ATP-binding component of ABC transporter	Transport of small molecules
PA4981	probable amino acid permease	Membrane proteins
PA5261	alginate biosynthesis regulatory protein AlgR	Secreted Factors (toxins, enzymes, alginate)
PA5311	probable major facilitator superfamily (MFS) transporter	Membrane proteins
PA5315	50S ribosomal protein L33	Translation, post-translational modification, degradation
PA5407	hypothetical protein	Hypothetical, unclassified, unknown
PA5469	conserved hypothetical protein	Membrane proteins
PA5482	hypothetical protein	Membrane proteins
PA5530	probable MFS dicarboxylate transporter	Membrane proteins

Transcriptional core set ORFs present in the *P. aeruginosa* PAO1 accessory genome

PA0203	probable binding protein component of ABC transporter	Transport of small molecules
PA0204	probable permease of ABC transporter	Membrane proteins
PA0205	probable permease of ABC transporter	Membrane proteins
PA0206	probable ATP-binding component of ABC transporter	Transport of small molecules
PA0633	hypothetical protein	Related to phage, transposon, or plasmid
PA0691	hypothetical protein	Hypothetical, unclassified, unknown

Supplementary Table 1

ORF	Product name	Function class
PA1414	hypothetical protein	Hypothetical, unclassified, unknown
PA1592	hypothetical protein	Hypothetical, unclassified, unknown
PA1718	type III export protein PscE	Protein secretion/export apparatus
PA2033	hypothetical protein	Hypothetical, unclassified, unknown
PA2034	hypothetical protein	Hypothetical, unclassified, unknown
PA2184	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA2190	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA2308	probable ATP-binding component of ABC transporter	Transport of small molecules
PA2398	ferripyoverdine receptor	Transport of small molecules
PA2399	pyoverdine synthetase D	Secreted Factors (toxins, enzymes, alginate)
PA2400	PvdJ	Adaptation, Protection
PA2402	probable non-ribosomal peptide synthetase	Putative enzymes
PA2452	hypothetical protein	Hypothetical, unclassified, unknown
PA3370	hypothetical protein	Membrane proteins
PA3477	transcriptional regulator RhIR	Adaptation, Protection
PA3841	exoenzyme S	Secreted Factors (toxins, enzymes, alginate)
PA3866	pyocin protein	Adaptation, Protection
PA3923	hypothetical protein	Hypothetical, unclassified, unknown
PA4193	probable permease of ABC transporter	Membrane proteins
PA4223	probable ATP-binding component of ABC transporter	Membrane proteins
PA4306	Type IVb pilin, Flp	Motility & Attachment
PA4555	type 4 fimbrial biogenesis protein PilY2	Motility & Attachment
PA4748	triosephosphate isomerase	Central intermediary metabolism

Supplementary Table 2: Functional categorization of genes that are uniquely expressed under the different study conditions.

Code	Class	Percentage of differentially regulated unique genes (minus the core set)									
		Iron	QS	Oxi. Stress	PCP	Copper	Sulfate	Osmotic	Biofilms	RsmA	Total %
a	DNA replication, recombination, modification and repair	0	1	1	0	0	0	0	0	0	0.4
b	Fatty acid and phospholipid metabolism	0	2	0	1	0	0	0	2	1	1.2
c	Hypothetical, unclassified, unknown	27	32	26	31	14	14	3	40	1	29.7
d	Membrane proteins	22	12	8	11	33	14	0	12	8	13.3
e	Amino acid biosynthesis and metabolism	3	3	2	4	0	0	3	2	6	2.5
f	Translation, post-translational modification, degradation	1	1	3	5	2	0	3	4	1	2.4
g	Cell wall / LPS / capsule	1	1	1	3	0	0	0	5	6	2.2
h	Transport of small molecules	10	7	9	12	19	17	0	4	8	7.7
i	Energy metabolism	4	3	15	3	7	3	0	3	7	5.1
j	Biosynthesis of cofactors, prosthetic groups and carriers	4	2	2	3	1	0	0	0	3	1.7
k	Adaptation, Protection	3	2	4	0	5	0	3	3	14	3.1
l	Transcriptional regulators	7	6	3	7	10	3	37	5	3	5.8
m	Two-component regulatory systems	1	1	0	0	4	0	10	2	1	1.1
n	Secreted Factors (toxins, enzymes, alginate)	7	2	0	1	1	0	0	1	7	2.2
o	Putative enzymes	7	10	7	9	3	34	3	7	0	8.0
p	Chaperones & heat shock proteins	1	0	0	1	0	0	0	0	0	0.2
q	Central intermediary metabolism	1	3	3	4	0	0	0	1	0	2.1
r	Nucleotide biosynthesis and metabolism	0	1	0	0	0	14	0	1	1	0.7
s	Carbon compound catabolism	1	6	4	0	0	14	0	1	11	3.9
t	Motility & Attachment	1	0	1	0	0	0	0	2	13	1.2
u	Chemotaxis	1	0	1	1	0	0	0	1	0	0.4
v	Related to phage, transposon, or plasmid	0	5	10	1	0	0	0	0	1	3.2
w	Non-coding RNA gene	0	0	0	0	0	0	0	0	0	0.1
x	Protein secretion/export apparatus	1	1	0	0	0	0	33	1	1	1.1
y	Cell division	0	0	0	0	0	0	0	1	0	0.3
zA	Antibiotic resistance and susceptibility	0	0	0	1	0	0	0	0	1	0.2
zB	Transcription, RNA processing and degradation	0	0	0	0	0	0	3	1	0	0.4

Note: QS- quorum sensing, Oxi. Stress- oxidative stress, PCP- pentachlorophenol stress

Supplementary Table 3: List of genes that are uniquely expressed in the various transcriptome studies. The various conditions include iron response, quorum sensing, oxidative stress, pentachlorophenol stress, copper stress, sulfate starvation, osmotic shock, biofilm formation, alginate production and loss of the post-transcriptional regulator RsmA.

Iron

ORF	Product name	Function class
PA0013	conserved hypothetical protein	Membrane proteins
PA0027	hypothetical protein	Hypothetical, unclassified, unknown
PA0128	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA0203	probable binding protein component of ABC transporter	Transport of small molecules
PA0223	probable dihydrodipicolinate synthetase	Cell wall / LPS / capsule
PA0224	probable aldolase	Putative enzymes
PA0251	hypothetical protein	Hypothetical, unclassified, unknown
PA0252	hypothetical protein	Hypothetical, unclassified, unknown
PA0265	succinate-semialdehyde dehydrogenase	Central intermediary metabolism
PA0266	4-aminobutyrate aminotransferase	Central intermediary metabolism
PA0296	probable glutamine synthetase	Putative enzymes
PA0346	hypothetical protein	Hypothetical, unclassified, unknown
PA0417	probable chemotaxis protein	Chemotaxis
PA0433	hypothetical protein	Hypothetical, unclassified, unknown
PA0460	hypothetical protein	Hypothetical, unclassified, unknown
PA0470	Ferrichrome receptor FiuA	Transport of small molecules
PA0471	probable transmembrane sensor	Two-component regulatory systems
PA0472	probable sigma-70 factor, ECF subfamily	Transcriptional regulators
PA0500	biotin synthase	Biosynthesis of cofactors, prosthetic groups and carriers
PA0527	transcriptional regulator Dnr	Transcriptional regulators
PA0539	hypothetical protein	Membrane proteins
PA0605	probable permease of ABC transporter	Membrane proteins
PA0672	heme oxygenase	Biosynthesis of cofactors, prosthetic groups and carriers
PA0707	transcriptional regulator ToxR	Transcriptional regulators
PA0725	hypothetical protein of bacteriophage Pf1	Hypothetical, unclassified, unknown
PA0774	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA0801	hypothetical protein	Membrane proteins
PA0802	hypothetical protein	Membrane proteins
PA0818	hypothetical protein	Hypothetical, unclassified, unknown
PA0842	probable glycosyl transferase	Putative enzymes
PA0844	hemolytic phospholipase C precursor	Secreted Factors (toxins, enzymes, alginate)
PA0848	probable alkyl hydroperoxide reductase	Adaptation, Protection
PA0930	two-component sensor	Transport of small molecules
PA0931	ferric enterobactin receptor PirA	Transport of small molecules
PA0968	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA1003	Transcriptional regulator MvfR	Biosynthesis of cofactors, prosthetic groups and carriers
PA1108	probable major facilitator superfamily (MFS) transporter	Membrane proteins
PA1134	hypothetical protein	Hypothetical, unclassified, unknown
PA1148	exotoxin A precursor	Secreted Factors (toxins, enzymes, alginate)
PA1211	hypothetical protein	Hypothetical, unclassified, unknown
PA1247	alkaline protease secretion protein AprE	Secreted Factors (toxins, enzymes, alginate)
PA1248	Alkaline protease secretion outer membrane protein AprF precursor	Secreted Factors (toxins, enzymes, alginate)
PA1249	alkaline metalloproteinase precursor	Secreted Factors (toxins, enzymes, alginate)
PA1300	probable sigma-70 factor, ECF subfamily	Transcriptional regulators
PA1301	probable transmembrane sensor	Membrane proteins
PA1302	probable heme utilization protein precursor	Membrane proteins
PA1316	probable major facilitator superfamily (MFS) transporter	Membrane proteins
PA1317	cytochrome o ubiquinol oxidase subunit II	Energy metabolism
PA1318	cytochrome o ubiquinol oxidase subunit I	Energy metabolism
PA1319	cytochrome o ubiquinol oxidase subunit III	Energy metabolism
PA1320	cytochrome o ubiquinol oxidase subunit IV	Energy metabolism
PA1321	cytochrome o ubiquinol oxidase protein CyoE	Energy metabolism
PA1363	probable sigma-70 factor, ECF subfamily	Transcriptional regulators
PA1365	probable siderophore receptor	Transport of small molecules
PA1431	regulatory protein RsaL	Secreted Factors (toxins, enzymes, alginate)
PA1556	probable cytochrome c oxidase subunit	Energy metabolism
PA1559	hypothetical protein	Hypothetical, unclassified, unknown
PA1654	probable aminotransferase	Putative enzymes
PA1655	probable glutathione S-transferase	Putative enzymes
PA1687	spermidine synthase	Amino acid biosynthesis and metabolism
PA1908	probable major facilitator superfamily (MFS) transporter	Membrane proteins
PA1911	probable transmembrane sensor	Membrane proteins
PA1917	hypothetical protein	Hypothetical, unclassified, unknown
PA1972	conserved hypothetical protein	Membrane proteins
PA2002	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA2021	hypothetical protein	Hypothetical, unclassified, unknown

Supplementary Table 3

ORF	Product name	Function class
PA2034	hypothetical protein	Hypothetical, unclassified, unknown
PA2038	hypothetical protein	Hypothetical, unclassified, unknown
PA2039	hypothetical protein	Membrane proteins
PA2041	probable amino acid permease	Transport of small molecules
PA2131	fimbrial subunit CupA4	Motility & Attachment
PA2181	hypothetical protein	Hypothetical, unclassified, unknown
PA2258	transcriptional regulator PtxR	Secreted Factors (toxins, enzymes, alginate)
PA2383	probable transcriptional regulator	Transcriptional regulators
PA2384	hypothetical protein	Hypothetical, unclassified, unknown
PA2387	probable sigma-70 factor, ECF subfamily	Transcriptional regulators
PA2388	probable transmembrane sensor	Membrane proteins
PA2390	probable ATP-binding/permease fusion ABC transporter	Membrane proteins
PA2391	probable outer membrane protein precursor	Membrane proteins
PA2395	PvdO	Adaptation, Protection
PA2406	hypothetical protein	Hypothetical, unclassified, unknown
PA2420	probable porin	Membrane proteins
PA2427	hypothetical protein	Hypothetical, unclassified, unknown
PA2437	hypothetical protein	Membrane proteins
PA2441	hypothetical protein	Hypothetical, unclassified, unknown
PA2451	hypothetical protein	Hypothetical, unclassified, unknown
PA2467	Anti-sigma factor FoxR	Membrane proteins
PA2490	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA2531	probable aminotransferase	Amino acid biosynthesis and metabolism
PA2637	NADH dehydrogenase I chain A	Energy metabolism
PA2638	NADH dehydrogenase I chain B	Energy metabolism
PA2686	two-component response regulator PfeR	Transcriptional regulators
PA2688	Ferric enterobactin receptor, outer membrane protein PfeA precursor	Membrane proteins
PA2691	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA2753	hypothetical protein	Hypothetical, unclassified, unknown
PA2761	hypothetical protein	Membrane proteins
PA2767	probable enoyl-CoA hydratase/isomerase	Putative enzymes
PA2776	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA2910	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA2916	hypothetical protein	Membrane proteins
PA2917	probable transcriptional regulator	Transcriptional regulators
PA3049	ribosome modulation factor	Translation, post-translational modification, degradation
PA3165	histidinol-phosphate aminotransferase	Amino acid biosynthesis and metabolism
PA3221	CsaA protein	Protein secretion/export apparatus
PA3222	hypothetical protein	Membrane proteins
PA3233	hypothetical protein	Hypothetical, unclassified, unknown
PA3355	hypothetical protein	Membrane proteins
PA3397	ferredoxin--NADP+ reductase	Biosynthesis of cofactors, prosthetic groups and carriers
PA3407	heme acquisition protein HasAp	Transport of small molecules
PA3408	Haem uptake outer membrane receptor HasR precursor	Transport of small molecules
PA3409	probable transmembrane sensor	Membrane proteins
PA3410	probable sigma-70 factor, ECF subfamily	Transcriptional regulators
PA3436	hypothetical protein	Hypothetical, unclassified, unknown
PA3530	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA3553	ArnC	Adaptation, Protection
PA3556	inner membrane L-Ara4N transferase ArnT	Adaptation, Protection
PA3558	ArnF	Membrane proteins
PA3608	polyamine transport protein PotB	Membrane proteins
PA3749	probable major facilitator superfamily (MFS) transporter	Membrane proteins
PA3767	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA3768	probable metallo-oxidoreductase	Putative enzymes
PA3775	hypothetical protein	Membrane proteins
PA3811	heat shock protein HscB	Chaperones & heat shock proteins
PA3812	probable iron-binding protein IscA	Biosynthesis of cofactors, prosthetic groups and carriers
PA3814	L-cysteine desulfurase (pyridoxal phosphate-dependent)	Amino acid biosynthesis and metabolism
PA3885	hypothetical protein	Hypothetical, unclassified, unknown
PA3901	Fe(III) dicitrate transport protein FecA	Membrane proteins
PA4090	hypothetical protein	Hypothetical, unclassified, unknown
PA4091	4-hydroxyphenylacetate 3-monooxygenase large chain	Carbon compound catabolism
PA4158	ferric enterobactin transport protein FepC	Transport of small molecules
PA4175	protease IV	Secreted Factors (toxins, enzymes, alginate)
PA4223	probable ATP-binding component of ABC transporter	Membrane proteins
PA4224	pyochelin biosynthetic protein PchG	Transport of small molecules
PA4225	pyochelin synthetase	Secreted Factors (toxins, enzymes, alginate)

Supplementary Table 3

ORF	Product name	Function class
PA4226	dihydroaeruginosic acid synthetase	Secreted Factors (toxins, enzymes, alginate)
PA4227	transcriptional regulator PchR	Transcriptional regulators
PA4228	pyochelin biosynthesis protein PchD	Secreted Factors (toxins, enzymes, alginate)
PA4229	pyochelin biosynthetic protein PchC	Secreted Factors (toxins, enzymes, alginate)
PA4230	salicylate biosynthesis protein PchB	Secreted Factors (toxins, enzymes, alginate)
PA4231	salicylate biosynthesis isochorismate synthase	Secreted Factors (toxins, enzymes, alginate)
PA4288	probable transcriptional regulator	Transcriptional regulators
PA4357	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA4358	probable ferrous iron transport protein	Membrane proteins
PA4359	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA4370	Insulin-cleaving metalloproteinase outer membrane protein precursor	Membrane proteins
PA4371	hypothetical protein	Hypothetical, unclassified, unknown
PA4372	hypothetical protein	Hypothetical, unclassified, unknown
PA4500	probable binding protein component of ABC transporter	Transport of small molecules
PA4503	probable permease of ABC transporter	Membrane proteins
PA4513	probable oxidoreductase	Putative enzymes
PA4514	probable outer membrane receptor for iron transport	Transport of small molecules
PA4515	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA4516	hypothetical protein	Hypothetical, unclassified, unknown
PA4517	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA4519	ornithine decarboxylase	Amino acid biosynthesis and metabolism
PA4629	hypothetical protein	Hypothetical, unclassified, unknown
PA4630	hypothetical protein	Hypothetical, unclassified, unknown
PA4633	probable chemotaxis transducer	Adaptation, Protection
PA4654	probable major facilitator superfamily (MFS) transporter	Membrane proteins
PA4675	probable TonB-dependent receptor	Transport of small molecules
PA4687	ferric iron-binding periplasmic protein HitA	Transport of small molecules
PA4688	iron (III)-transport system permease HitB	Membrane proteins
PA4706	probable ATP-binding component of ABC transporter	Transport of small molecules
PA4773	hypothetical protein	Hypothetical, unclassified, unknown
PA4785	probable acyl-CoA thiolase	Putative enzymes
PA4826	hypothetical protein	Hypothetical, unclassified, unknown
PA4833	conserved hypothetical protein	Membrane proteins
PA4838	hypothetical protein	Hypothetical, unclassified, unknown
PA4858	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA4860	probable permease of ABC transporter	Membrane proteins
PA4861	probable ATP-binding component of ABC transporter	Transport of small molecules
PA4862	probable ATP-binding component of ABC transporter	Transport of small molecules
PA4883	hypothetical protein	Hypothetical, unclassified, unknown
PA4892	urease accessory protein UreF	Biosynthesis of cofactors, prosthetic groups and carriers
PA4893	urease accessory protein UreG	Biosynthesis of cofactors, prosthetic groups and carriers
PA4894	hypothetical protein	Membrane proteins
PA4895	probable transmembrane sensor	Membrane proteins
PA4897	hypothetical protein	Hypothetical, unclassified, unknown
PA4973	thiamin biosynthesis protein ThiC	Biosynthesis of cofactors, prosthetic groups and carriers
PA5119	glutamine synthetase	Amino acid biosynthesis and metabolism
PA5124	two-component sensor NtrB	Two-component regulatory systems
PA5125	two-component response regulator NtrC	Transcriptional regulators
PA5150	probable short-chain dehydrogenase	Putative enzymes
PA5217	probable binding protein component of ABC iron transporter	Transport of small molecules
PA5287	ammonium transporter AmtB	Membrane proteins
PA5309	probable oxidoreductase	Putative enzymes
PA5312	probable aldehyde dehydrogenase	Putative enzymes
PA5313	probable pyridoxal-dependent aminotransferase	Putative enzymes
PA5314	hypothetical protein	Hypothetical, unclassified, unknown
PA5386	probable 3-hydroxyacyl-CoA dehydrogenase	Putative enzymes
PA5479	proton-glutamate symporter	Membrane proteins
PA5526	hypothetical protein	Hypothetical, unclassified, unknown
PA5531	TonB protein	Transport of small molecules

ORF	Product name	Function class
Quorum Sensing		
PA0006	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA0048	probable transcriptional regulator	Transcriptional regulators
PA0049	hypothetical protein	Hypothetical, unclassified, unknown
PA0050	hypothetical protein	Hypothetical, unclassified, unknown
PA0051	potential phenazine-modifying enzyme	Putative enzymes
PA0052	hypothetical protein	Hypothetical, unclassified, unknown
PA0055	hypothetical protein	Hypothetical, unclassified, unknown
PA0079	hypothetical protein	Hypothetical, unclassified, unknown
PA0080	hypothetical protein	Hypothetical, unclassified, unknown
PA0097	hypothetical protein	Hypothetical, unclassified, unknown
PA0105	cytochrome c oxidase, subunit II	Energy metabolism
PA0106	cytochrome c oxidase, subunit I	Energy metabolism
PA0107	conserved hypothetical protein	Energy metabolism
PA0108	cytochrome c oxidase, subunit III	Energy metabolism
PA0112	hypothetical protein	Membrane proteins
PA0113	probable cytochrome c oxidase assembly factor	Energy metabolism
PA0119	probable dicarboxylate transporter	Transport of small molecules
PA0122	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA0129	gamma-aminobutyrate permease	Transport of small molecules
PA0130	probable aldehyde dehydrogenase	Putative enzymes
PA0131	hypothetical protein	Hypothetical, unclassified, unknown
PA0132	beta-alanine--pyruvate transaminase	Amino acid biosynthesis and metabolism
PA0144	hypothetical protein	Hypothetical, unclassified, unknown
PA0145	hypothetical protein	Hypothetical, unclassified, unknown
PA0153	protocatechuate 3,4-dioxygenase, beta subunit	Carbon compound catabolism
PA0154	protocatechuate 3,4-dioxygenase, alpha subunit	Carbon compound catabolism
PA0160	hypothetical protein	Hypothetical, unclassified, unknown
PA0167	probable transcriptional regulator	Transcriptional regulators
PA0191	probable transcriptional regulator	Transcriptional regulators
PA0200	hypothetical protein	Hypothetical, unclassified, unknown
PA0209	conserved hypothetical protein	Putative enzymes
PA0210	malonate decarboxylase delta subunit	Carbon compound catabolism
PA0211	malonate decarboxylase beta subunit	Carbon compound catabolism
PA0212	malonate decarboxylase gamma subunit	Carbon compound catabolism
PA0213	hypothetical protein	Carbon compound catabolism
PA0214	probable acyl transferase	Carbon compound catabolism
PA0221	probable aminotransferase	Putative enzymes
PA0226	probable CoA transferase, subunit A	Carbon compound catabolism
PA0227	probable CoA transferase, subunit B	Carbon compound catabolism
PA0228	beta-ketoadipyl CoA thiolase PcaF	Fatty acid and phospholipid metabolism
PA0234	hypothetical protein	Hypothetical, unclassified, unknown
PA0235	4-hydroxybenzoate transporter PcaK	Membrane proteins
PA0239	hypothetical protein	Membrane proteins
PA0241	probable major facilitator superfamily (MFS) transporter	Membrane proteins
PA0251	hypothetical protein	Hypothetical, unclassified, unknown
PA0264	hypothetical protein	Hypothetical, unclassified, unknown
PA0265	succinate-semialdehyde dehydrogenase	Central intermediary metabolism
PA0266	4-aminobutyrate aminotransferase	Central intermediary metabolism
PA0269	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA0270	hypothetical protein	Hypothetical, unclassified, unknown
PA0271	hypothetical protein	Hypothetical, unclassified, unknown
PA0274	hypothetical protein	Hypothetical, unclassified, unknown
PA0287	3-guanidinopropionate transport protein	Transport of small molecules
PA0297	probable glutamine amidotransferase	Amino acid biosynthesis and metabolism
PA0298	probable glutamine synthetase	Putative enzymes
PA0299	putrescine aminotransferase	Putative enzymes
PA0300	polyamine transport protein	Transport of small molecules
PA0301	polyamine transport protein	Transport of small molecules
PA0302	polyamine transport protein PotG	Transport of small molecules
PA0303	polyamine transport protein PotH	Membrane proteins
PA0304	polyamine transport protein PotI	Membrane proteins
PA0305	hypothetical protein	Hypothetical, unclassified, unknown
PA0321	probable acetylpolyamine aminohydrolase	Putative enzymes
PA0363	phosphopantetheine adenyltransferase	Central intermediary metabolism
PA0364	probable oxidoreductase	Putative enzymes
PA0385	hypothetical protein	Hypothetical, unclassified, unknown

Supplementary Table 3

ORF	Product name	Function class
PA0399	cystathionine beta-synthase	Amino acid biosynthesis and metabolism
PA0436	probable transcriptional regulator	Transcriptional regulators
PA0439	probable oxidoreductase	Putative enzymes
PA0440	probable oxidoreductase	Putative enzymes
PA0441	dihydropyrimidinase	Nucleotide biosynthesis and metabolism
PA0443	probable transporter	Membrane proteins
PA0444	N-carbamoyl-beta-alanine amidohydrolase	Nucleotide biosynthesis and metabolism
PA0453	hypothetical protein	Hypothetical, unclassified, unknown
PA0456	probable cold-shock protein	Transcriptional regulators
PA0459	probable ClpA/B protease ATP binding subunit	Translation, post-translational modification, degradation
PA0467	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA0468	hypothetical protein	Hypothetical, unclassified, unknown
PA0469	hypothetical protein	Hypothetical, unclassified, unknown
PA0473	probable glutathione S-transferase	Putative enzymes
PA0474	hypothetical protein	Hypothetical, unclassified, unknown
PA0480	probable hydrolase	Putative enzymes
PA0482	malate synthase G	Central intermediary metabolism
PA0489	probable phosphoribosyl transferase	Putative enzymes
PA0497	hypothetical protein	Hypothetical, unclassified, unknown
PA0498	hypothetical protein	Hypothetical, unclassified, unknown
PA0512	conserved hypothetical protein	Biosynthesis of cofactors, prosthetic groups and carriers
PA0513	probable transcriptional regulator	Biosynthesis of cofactors, prosthetic groups and carriers
PA0527	transcriptional regulator Dnr	Transcriptional regulators
PA0542	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA0610	transcriptional regulator PrtN	Transcriptional regulators
PA0614	hypothetical protein	Hypothetical, unclassified, unknown
PA0615	hypothetical protein	Hypothetical, unclassified, unknown
PA0616	hypothetical protein	Related to phage, transposon, or plasmid
PA0617	probable bacteriophage protein	Related to phage, transposon, or plasmid
PA0618	probable bacteriophage protein	Related to phage, transposon, or plasmid
PA0619	probable bacteriophage protein	Related to phage, transposon, or plasmid
PA0620	probable bacteriophage protein	Related to phage, transposon, or plasmid
PA0621	conserved hypothetical protein	Related to phage, transposon, or plasmid
PA0622	probable bacteriophage protein	Related to phage, transposon, or plasmid
PA0623	probable bacteriophage protein	Related to phage, transposon, or plasmid
PA0624	hypothetical protein	Related to phage, transposon, or plasmid
PA0625	hypothetical protein	Related to phage, transposon, or plasmid
PA0626	hypothetical protein	Related to phage, transposon, or plasmid
PA0627	conserved hypothetical protein	Related to phage, transposon, or plasmid
PA0628	conserved hypothetical protein	Related to phage, transposon, or plasmid
PA0629	conserved hypothetical protein	Related to phage, transposon, or plasmid
PA0630	hypothetical protein	Related to phage, transposon, or plasmid
PA0631	hypothetical protein	Related to phage, transposon, or plasmid
PA0632	hypothetical protein	Related to phage, transposon, or plasmid
PA0635	hypothetical protein	Related to phage, transposon, or plasmid
PA0636	hypothetical protein	Related to phage, transposon, or plasmid
PA0637	conserved hypothetical protein	Related to phage, transposon, or plasmid
PA0638	probable bacteriophage protein	Related to phage, transposon, or plasmid
PA0639	conserved hypothetical protein	Related to phage, transposon, or plasmid
PA0640	probable bacteriophage protein	Related to phage, transposon, or plasmid
PA0641	probable bacteriophage protein	Related to phage, transposon, or plasmid
PA0642	hypothetical protein	Related to phage, transposon, or plasmid
PA0643	hypothetical protein	Related to phage, transposon, or plasmid
PA0644	hypothetical protein	Related to phage, transposon, or plasmid
PA0645	hypothetical protein	Related to phage, transposon, or plasmid
PA0646	hypothetical protein	Related to phage, transposon, or plasmid
PA0647	hypothetical protein	Related to phage, transposon, or plasmid
PA0648	hypothetical protein	Related to phage, transposon, or plasmid
PA0671	hypothetical protein	Hypothetical, unclassified, unknown
PA0683	probable type II secretion system protein	Protein secretion/export apparatus
PA0701	probable transcriptional regulator	Transcriptional regulators
PA0717	hypothetical protein of bacteriophage Pfl	Hypothetical, unclassified, unknown
PA0718	hypothetical protein of bacteriophage Pfl	Hypothetical, unclassified, unknown
PA0719	hypothetical protein of bacteriophage Pfl	Hypothetical, unclassified, unknown
PA0720	helix destabilizing protein of bacteriophage Pfl	DNA replication, recombination, modification and repair
PA0721	hypothetical protein of bacteriophage Pfl	Hypothetical, unclassified, unknown
PA0723	coat protein B of bacteriophage Pfl	Related to phage, transposon, or plasmid
PA0736	hypothetical protein	Membrane proteins

Supplementary Table 3

ORF	Product name	Function class
PA0740	SDS hydrolase SdsA1	Putative enzymes
PA0745	probable enoyl-CoA hydratase/isomerase	Putative enzymes
PA0746	probable acyl-CoA dehydrogenase	Putative enzymes
PA0747	probable aldehyde dehydrogenase	Putative enzymes
PA0776	hypothetical protein	Hypothetical, unclassified, unknown
PA0783	sodium/proline symporter PutP	Membrane proteins
PA0826	hypothetical protein	Hypothetical, unclassified, unknown
PA0841	hypothetical protein	Hypothetical, unclassified, unknown
PA0845	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA0854	fumarate hydratase	Energy metabolism
PA0867	hypothetical protein	Hypothetical, unclassified, unknown
PA0870	aromatic amino acid aminotransferase	Amino acid biosynthesis and metabolism
PA0871	pterin-4-alpha-carbinolamine dehydratase	Amino acid biosynthesis and metabolism
PA0885	probable C4-dicarboxylate transporter	Transport of small molecules
PA0910	hypothetical protein	Hypothetical, unclassified, unknown
PA0938	hypothetical protein	Hypothetical, unclassified, unknown
PA0943	hypothetical protein	Hypothetical, unclassified, unknown
PA0997	Homologous to beta-keto-acyl-acyl-carrier protein synthase	Biosynthesis of cofactors, prosthetic groups and carriers
PA0998	Homologous to beta-keto-acyl-acyl-carrier protein synthase	Biosynthesis of cofactors, prosthetic groups and carriers
PA0999	3-oxoacyl-[acyl-carrier-protein] synthase III	Biosynthesis of cofactors, prosthetic groups and carriers
PA1018	hypothetical protein	Hypothetical, unclassified, unknown
PA1019	cis,cis-muconate transporter MucK	Membrane proteins
PA1025	probable porin	Membrane proteins
PA1049	pyridoxine 5'-phosphate oxidase	Biosynthesis of cofactors, prosthetic groups and carriers
PA1051	probable transporter	Membrane proteins
PA1070	branched-chain amino acid transport protein BraG	Transport of small molecules
PA1072	branched-chain amino acid transport protein BraE	Membrane proteins
PA1073	branched-chain amino acid transport protein BraD	Membrane proteins
PA1074	branched-chain amino acid transport protein BraC	Transport of small molecules
PA1106	hypothetical protein	Hypothetical, unclassified, unknown
PA1113	probable ATP-binding/permease fusion ABC transporter	Membrane proteins
PA1123	hypothetical protein	Hypothetical, unclassified, unknown
PA1127	probable oxidoreductase	Adaptation, Protection
PA1130	rhamnosyltransferase 2	Cell wall / LPS / capsule
PA1131	probable major facilitator superfamily (MFS) transporter	Membrane proteins
PA1137	probable oxidoreductase	Putative enzymes
PA1143	hypothetical protein	Hypothetical, unclassified, unknown
PA1144	probable major facilitator superfamily (MFS) transporter	Membrane proteins
PA1150	pyocin S2	Adaptation, Protection
PA1166	hypothetical protein	Hypothetical, unclassified, unknown
PA1183	C4-dicarboxylate transport protein	Transport of small molecules
PA1186	hypothetical protein	Hypothetical, unclassified, unknown
PA1190	conserved hypothetical protein	Membrane proteins
PA1197	hypothetical protein	Hypothetical, unclassified, unknown
PA1206	hypothetical protein	Hypothetical, unclassified, unknown
PA1207	glutathione-regulated potassium-efflux system protein KefB	Transport of small molecules
PA1220	hypothetical protein	Hypothetical, unclassified, unknown
PA1223	probable transcriptional regulator	Transcriptional regulators
PA1228	hypothetical protein	Hypothetical, unclassified, unknown
PA1236	probable major facilitator superfamily (MFS) transporter	Membrane proteins
PA1239	hypothetical protein	Hypothetical, unclassified, unknown
PA1242	hypothetical protein	Hypothetical, unclassified, unknown
PA1250	alkaline proteinase inhibitor AprI	Secreted Factors (toxins, enzymes, alginate)
PA1262	probable major facilitator superfamily (MFS) transporter	Membrane proteins
PA1266	probable oxidoreductase	Putative enzymes
PA1338	gamma-glutamyltranspeptidase precursor	Amino acid biosynthesis and metabolism
PA1340	probable permease of ABC transporter	Transport of small molecules
PA1341	probable permease of ABC transporter	Membrane proteins
PA1342	probable binding protein component of ABC transporter	Transport of small molecules
PA1344	probable short-chain dehydrogenase	Putative enzymes
PA1367	hypothetical protein	Hypothetical, unclassified, unknown
PA1377	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA1379	probable short-chain dehydrogenase	Putative enzymes
PA1386	probable ATP-binding component of ABC transporter	Transport of small molecules
PA1395	hypothetical protein	Hypothetical, unclassified, unknown
PA1399	probable transcriptional regulator	Transcriptional regulators
PA1400	probable pyruvate carboxylase	Energy metabolism
PA1416	conserved hypothetical protein	Hypothetical, unclassified, unknown

Supplementary Table 3

ORF	Product name	Function class
PA1418	probable sodium:solute symport protein	Transport of small molecules
PA1419	probable transporter	Membrane proteins
PA1426	hypothetical protein	Hypothetical, unclassified, unknown
PA1431	regulatory protein RsaL	Secreted Factors (toxins, enzymes, alginate)
PA1440	hypothetical protein	Hypothetical, unclassified, unknown
PA1519	probable transporter	Membrane proteins
PA1537	probable short-chain dehydrogenase	Putative enzymes
PA1538	probable flavin-containing monooxygenase	Putative enzymes
PA1540	conserved hypothetical protein	Membrane proteins
PA1542	hypothetical protein	Hypothetical, unclassified, unknown
PA1568	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA1569	probable major facilitator superfamily (MFS) transporter	Membrane proteins
PA1575	hypothetical protein	Hypothetical, unclassified, unknown
PA1576	probable 3-hydroxyisobutyrate dehydrogenase	Putative enzymes
PA1608	probable chemotaxis transducer	Adaptation, Protection
PA1609	beta-ketoacyl-ACP synthase I	Fatty acid and phospholipid metabolism
PA1610	beta-hydroxydecanoyl-ACP dehydrase	Fatty acid and phospholipid metabolism
PA1617	probable AMP-binding enzyme	Putative enzymes
PA1650	probable transporter	Membrane proteins
PA1746	hypothetical protein	Hypothetical, unclassified, unknown
PA1759	probable transcriptional regulator	Transcriptional regulators
PA1763	hypothetical protein	Hypothetical, unclassified, unknown
PA1768	hypothetical protein	Hypothetical, unclassified, unknown
PA1772	probable methyltransferase	Biosynthesis of cofactors, prosthetic groups and carriers
PA1774	CfrX protein	Hypothetical, unclassified, unknown
PA1775	conserved cytoplasmic membrane protein, CmpX protein	Membrane proteins
PA1776	ECF sigma factor SigX	Transcriptional regulators
PA1781	assimilatory nitrite reductase large subunit	Central intermediary metabolism
PA1784	hypothetical protein	Hypothetical, unclassified, unknown
PA1789	hypothetical protein	Hypothetical, unclassified, unknown
PA1790	hypothetical protein	Hypothetical, unclassified, unknown
PA1812	membrane-bound lytic murein transglycosylase D precursor	Amino acid biosynthesis and metabolism
PA1824	conserved hypothetical protein	Membrane proteins
PA1852	hypothetical protein	Hypothetical, unclassified, unknown
PA1853	probable transcriptional regulator	Transcriptional regulators
PA1871	LasA protease precursor	Secreted Factors (toxins, enzymes, alginate)
PA1875	probable outer membrane protein precursor	Protein secretion/export apparatus
PA1891	hypothetical protein	Membrane proteins
PA1892	hypothetical protein	Hypothetical, unclassified, unknown
PA1893	hypothetical protein	Putative enzymes
PA1895	hypothetical protein	Membrane proteins
PA1896	hypothetical protein	Hypothetical, unclassified, unknown
PA1897	hypothetical protein	Hypothetical, unclassified, unknown
PA1898	quorum-sensing control repressor	Transcriptional regulators
PA1901	phenazine biosynthesis protein PhzC	Secreted Factors (toxins, enzymes, alginate)
PA1903	phenazine biosynthesis protein PhzE	Secreted Factors (toxins, enzymes, alginate)
PA1905	probable pyridoxamine 5'-phosphate oxidase	Secreted Factors (toxins, enzymes, alginate)
PA1922	probable TonB-dependent receptor	Transport of small molecules
PA1924	hypothetical protein	Hypothetical, unclassified, unknown
PA1927	5-methyltetrahydropteroyltriglutamate-homocysteine S-methyltransferase	Amino acid biosynthesis and metabolism
PA1935	hypothetical protein	Hypothetical, unclassified, unknown
PA1942	hypothetical protein	Hypothetical, unclassified, unknown
PA1946	binding protein component precursor of ABC ribose transporter	Transport of small molecules
PA1947	ribose transport protein RbsA	Transport of small molecules
PA1955	hypothetical protein	Hypothetical, unclassified, unknown
PA1974	hypothetical protein	Hypothetical, unclassified, unknown
PA1976	probable two-component sensor	Two-component regulatory systems
PA1977	hypothetical protein	Membrane proteins
PA1978	probable transcriptional regulator	Transcriptional regulators
PA1979	probable two-component sensor	Two-component regulatory systems
PA1980	probable two-component response regulator	Transcriptional regulators
PA1981	hypothetical protein	Hypothetical, unclassified, unknown
PA1983	cytochrome c550	Energy metabolism
PA1984	probable aldehyde dehydrogenase	Putative enzymes
PA1991	probable iron-containing alcohol dehydrogenase	Putative enzymes
PA1992	probable two-component sensor	Two-component regulatory systems
PA2000	probable CoA transferase, subunit B	Amino acid biosynthesis and metabolism
PA2001	acetyl-CoA acetyltransferase	Central intermediary metabolism

Supplementary Table 3

ORF	Product name	Function class
PA2002	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA2003	3-hydroxybutyrate dehydrogenase	Carbon compound catabolism
PA2004	conserved hypothetical protein	Membrane proteins
PA2006	probable major facilitator superfamily (MFS) transporter	Membrane proteins
PA2012	methylcrotonyl-CoA carboxylase, alpha-subunit (biotin-containing)	Carbon compound catabolism
PA2013	putative 3-methylglutaconyl-CoA hydratase	Carbon compound catabolism
PA2014	methylcrotonyl-CoA carboxylase, beta-subunit	Carbon compound catabolism
PA2015	putative isovaleryl-CoA dehydrogenase	Carbon compound catabolism
PA2018	Resistance-Nodulation-Cell Division (RND) multidrug efflux transporter	Transport of small molecules
PA2030	hypothetical protein	Hypothetical, unclassified, unknown
PA2031	hypothetical protein	Hypothetical, unclassified, unknown
PA2041	probable amino acid permease	Transport of small molecules
PA2060	probable permease of ABC transporter	Transport of small molecules
PA2066	hypothetical protein	Hypothetical, unclassified, unknown
PA2067	probable hydrolase	Putative enzymes
PA2068	probable major facilitator superfamily (MFS) transporter	Membrane proteins
PA2069	probable carbamoyl transferase	Putative enzymes
PA2079	probable amino acid permease	Transport of small molecules
PA2091	hypothetical protein	Membrane proteins
PA2109	hypothetical protein	Hypothetical, unclassified, unknown
PA2110	hypothetical protein	Hypothetical, unclassified, unknown
PA2116	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA2119	alcohol dehydrogenase (Zn-dependent)	Putative enzymes
PA2122	hypothetical protein	Hypothetical, unclassified, unknown
PA2129	chaperone CupA2	Motility & Attachment
PA2134	hypothetical protein	Hypothetical, unclassified, unknown
PA2160	probable glycosyl hydrolase	Putative enzymes
PA2161	hypothetical protein	Hypothetical, unclassified, unknown
PA2169	hypothetical protein	Hypothetical, unclassified, unknown
PA2172	hypothetical protein	Hypothetical, unclassified, unknown
PA2185	non-heme catalase KatN	Adaptation, Protection
PA2198	hypothetical protein	Hypothetical, unclassified, unknown
PA2201	hypothetical protein	Hypothetical, unclassified, unknown
PA2209	hypothetical protein	Hypothetical, unclassified, unknown
PA2210	probable major facilitator superfamily (MFS) transporter	Membrane proteins
PA2211	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA2212	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA2213	probable porin	Membrane proteins
PA2214	probable major facilitator superfamily (MFS) transporter	Membrane proteins
PA2217	probable aldehyde dehydrogenase	Putative enzymes
PA2225	hypothetical protein	Hypothetical, unclassified, unknown
PA2228	hypothetical protein	Hypothetical, unclassified, unknown
PA2249	branched-chain alpha-keto acid dehydrogenase (lipoamide component)	Amino acid biosynthesis and metabolism
PA2250	lipoamide dehydrogenase-Val	Amino acid biosynthesis and metabolism
PA2258	transcriptional regulator PtxR	Secreted Factors (toxins, enzymes, alginate)
PA2274	hypothetical protein	Hypothetical, unclassified, unknown
PA2300	chitinase	Carbon compound catabolism
PA2303	hypothetical protein	Hypothetical, unclassified, unknown
PA2313	hypothetical protein	Membrane proteins
PA2322	gluconate permease	Transport of small molecules
PA2328	hypothetical protein	Hypothetical, unclassified, unknown
PA2329	probable ATP-binding component of ABC transporter	Transport of small molecules
PA2330	hypothetical protein	Hypothetical, unclassified, unknown
PA2334	probable transcriptional regulator	Transcriptional regulators
PA2359	probable transcriptional regulator	Transcriptional regulators
PA2423	hypothetical protein	Hypothetical, unclassified, unknown
PA2439	hypothetical protein	Membrane proteins
PA2453	hypothetical protein	Hypothetical, unclassified, unknown
PA2474	hypothetical protein	Hypothetical, unclassified, unknown
PA2499	probable deaminase	Putative enzymes
PA2507	catechol 1,2-dioxygenase	Carbon compound catabolism
PA2508	muconolactone delta-isomerase	Carbon compound catabolism
PA2509	muconate cycloisomerase I	Carbon compound catabolism
PA2511	probable transcriptional regulator	Transcriptional regulators
PA2512	anthranilate dioxygenase large subunit	Carbon compound catabolism
PA2513	anthranilate dioxygenase small subunit	Carbon compound catabolism
PA2514	anthranilate dioxygenase reductase	Carbon compound catabolism
PA2515	cis-1,2-dihydroxycyclohexa-3,4-diene carboxylate dehydrogenase	Carbon compound catabolism

Supplementary Table 3

ORF	Product name	Function class
PA2516	toluate 1,2-dioxygenase electron transfer component	Energy metabolism
PA2517	toluate 1,2-dioxygenase beta subunit	Carbon compound catabolism
PA2518	toluate 1,2-dioxygenase alpha subunit	Carbon compound catabolism
PA2519	transcriptional regulator XylS	Transcriptional regulators
PA2529	hypothetical protein	Hypothetical, unclassified, unknown
PA2554	probable short-chain dehydrogenase	Putative enzymes
PA2555	probable AMP-binding enzyme	Putative enzymes
PA2557	probable AMP-binding enzyme	Fatty acid and phospholipid metabolism
PA2564	hypothetical protein	Hypothetical, unclassified, unknown
PA2566	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA2567	hypothetical protein	Hypothetical, unclassified, unknown
PA2570	LecA	Adaptation, Protection
PA2587	probable FAD-dependent monooxygenase	Biosynthesis of cofactors, prosthetic groups and carriers
PA2591	probable transcriptional regulator	Transcriptional regulators
PA2595	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA2625	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA2629	adenylosuccinate lyase	Amino acid biosynthesis and metabolism
PA2654	probable chemotaxis transducer	Adaptation, Protection
PA2660	hypothetical protein	Hypothetical, unclassified, unknown
PA2667	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA2682	conserved hypothetical protein	Putative enzymes
PA2711	probable periplasmic spermidine/putrescine-binding protein	Transport of small molecules
PA2717	chloroperoxidase precursor	Central intermediary metabolism
PA2719	hypothetical protein	Hypothetical, unclassified, unknown
PA2753	hypothetical protein	Hypothetical, unclassified, unknown
PA2754	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA2769	hypothetical protein	Hypothetical, unclassified, unknown
PA2776	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA2778	hypothetical protein	Hypothetical, unclassified, unknown
PA2779	hypothetical protein	Hypothetical, unclassified, unknown
PA2780	hypothetical protein	Hypothetical, unclassified, unknown
PA2781	hypothetical protein	Hypothetical, unclassified, unknown
PA2801	hypothetical protein	Hypothetical, unclassified, unknown
PA2805	hypothetical protein	Hypothetical, unclassified, unknown
PA2819	hypothetical protein	Hypothetical, unclassified, unknown
PA2838	probable transcriptional regulator	Transcriptional regulators
PA2847	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA2851	translation elongation factor P	Translation, post-translational modification, degradation
PA2876	orotidine 5'-phosphate decarboxylase	Nucleotide biosynthesis and metabolism
PA2892	GCase, alpha-subunit (biotin-containing)	Putative enzymes
PA2905	precorrin isomerase CobH	Biosynthesis of cofactors, prosthetic groups and carriers
PA2915	hypothetical protein	Hypothetical, unclassified, unknown
PA2922	probable hydrolase	Putative enzymes
PA2924	histidine transport system permease HisQ	Membrane proteins
PA2927	hypothetical protein	Hypothetical, unclassified, unknown
PA2938	probable transporter	Membrane proteins
PA2939	probable aminopeptidase	Secreted Factors (toxins, enzymes, alginate)
PA2942	probable magnesium chelatase	Biosynthesis of cofactors, prosthetic groups and carriers
PA2950	hypothetical protein	Hypothetical, unclassified, unknown
PA2960	type 4 fimbrial biogenesis protein PilZ	Motility & Attachment
PA2966	acyl carrier protein	Fatty acid and phospholipid metabolism
PA2967	3-oxoacyl-[acyl-carrier-protein] reductase	Fatty acid and phospholipid metabolism
PA2968	malonyl-CoA-[acyl-carrier-protein] transacylase	Fatty acid and phospholipid metabolism
PA3032	cytochrome c Snr1	Energy metabolism
PA3035	probable glutathione S-transferase	Putative enzymes
PA3036	hypothetical protein	Hypothetical, unclassified, unknown
PA3062	PeIC	Cell wall / LPS / capsule
PA3066	hypothetical protein	Hypothetical, unclassified, unknown
PA3079	hypothetical protein	Membrane proteins
PA3131	probable aldolase	Central intermediary metabolism
PA3139	probable amino acid aminotransferase	Amino acid biosynthesis and metabolism
PA3186	Glucose/carbohydrate outer membrane porin OprB precursor	Transport of small molecules
PA3188	probable permease of ABC sugar transporter	Transport of small molecules
PA3189	probable permease of ABC sugar transporter	Transport of small molecules
PA3208	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA3209	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA3213	hypothetical protein	Hypothetical, unclassified, unknown
PA3221	CsaA protein	Protein secretion/export apparatus

Supplementary Table 3

ORF	Product name	Function class
PA3234	probable sodium:solute symporter	Membrane proteins
PA3236	probable glycine betaine-binding protein precursor	Adaptation, Protection
PA3237	hypothetical protein	Hypothetical, unclassified, unknown
PA3249	probable transcriptional regulator	Transcriptional regulators
PA3270	hypothetical protein	Hypothetical, unclassified, unknown
PA3283	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA3295	probable HIT family protein	Putative enzymes
PA3301	hypothetical protein	Putative enzymes
PA3309	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA3313	hypothetical protein	Transport of small molecules
PA3326	probable Clp-family ATP-dependent protease	Translation, post-translational modification, degradation
PA3329	hypothetical protein	Hypothetical, unclassified, unknown
PA3330	probable short chain dehydrogenase	Putative enzymes
PA3331	cytochrome P450	Adaptation, Protection
PA3332	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA3333	3-oxoacyl-[acyl-carrier-protein] synthase III	Fatty acid and phospholipid metabolism
PA3334	probable acyl carrier protein	Fatty acid and phospholipid metabolism
PA3335	hypothetical protein	Hypothetical, unclassified, unknown
PA3336	probable major facilitator superfamily (MFS) transporter	Membrane proteins
PA3337	ADP-L-glycero-D-mannoheptose 6-epimerase	Cell wall / LPS / capsule
PA3361	fucose-binding lectin PA-III	Motility & Attachment
PA3362	hypothetical protein	Membrane proteins
PA3363	aliphatic amidase regulator	Carbon compound catabolism
PA3364	aliphatic amidase expression-regulating protein	Transcriptional regulators
PA3365	probable chaperone	Chaperones & heat shock proteins
PA3366	aliphatic amidase	Carbon compound catabolism
PA3394	NosF protein	Energy metabolism
PA3422	hypothetical protein	Hypothetical, unclassified, unknown
PA3431	conserved hypothetical protein	Membrane proteins
PA3432	hypothetical protein	Membrane proteins
PA3458	probable transcriptional regulator	Transcriptional regulators
PA3466	probable ATP-dependent RNA helicase	Transcription, RNA processing and degradation
PA3467	probable major facilitator superfamily (MFS) transporter	Membrane proteins
PA3478	rhamnosyltransferase chain B	Secreted Factors (toxins, enzymes, alginate)
PA3479	rhamnosyltransferase chain A	Secreted Factors (toxins, enzymes, alginate)
PA3480	probable deoxycytidine triphosphate deaminase	Nucleotide biosynthesis and metabolism
PA3507	probable short-chain dehydrogenase	Putative enzymes
PA3524	lactoylglutathione lyase	Central intermediary metabolism
PA3529	probable peroxidase	Adaptation, Protection
PA3535	probable serine protease	Putative enzymes
PA3542	alginate biosynthesis protein Alg44	Cell wall / LPS / capsule
PA3555	ArnD	Adaptation, Protection
PA3559	probable nucleotide sugar dehydrogenase	Putative enzymes
PA3560	phosphotransferase system, fructose-specific IIBC component	Carbon compound catabolism
PA3562	probable phosphotransferase system enzyme I	Central intermediary metabolism
PA3564	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA3565	probable transcriptional regulator	Transcriptional regulators
PA3568	probable acetyl-coa synthetase	Putative enzymes
PA3569	3-hydroxyisobutyrate dehydrogenase	Carbon compound catabolism
PA3570	methyilmalonate-semialdehyde dehydrogenase	Amino acid biosynthesis and metabolism
PA3572	hypothetical protein	Hypothetical, unclassified, unknown
PA3581	glycerol uptake facilitator protein	Transport of small molecules
PA3582	glycerol kinase	Central intermediary metabolism
PA3586	probable hydrolase	Putative enzymes
PA3595	probable major facilitator superfamily (MFS) transporter	Membrane proteins
PA3608	polyamine transport protein PotB	Membrane proteins
PA3613	hypothetical protein	Hypothetical, unclassified, unknown
PA3614	hypothetical protein	Hypothetical, unclassified, unknown
PA3618	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA3621	ferredoxin I	Energy metabolism
PA3661	hypothetical protein	Hypothetical, unclassified, unknown
PA3662	hypothetical protein	Hypothetical, unclassified, unknown
PA3674	hypothetical protein	Hypothetical, unclassified, unknown
PA3682	hypothetical protein	Hypothetical, unclassified, unknown
PA3686	adenylate kinase	Nucleotide biosynthesis and metabolism
PA3692	probable outer membrane protein precursor	Membrane proteins
PA3699	probable transcriptional regulator	Transcriptional regulators
PA3710	probable GMC-type oxidoreductase	Carbon compound catabolism

Supplementary Table 3

ORF	Product name	Function class
PA3718	probable major facilitator superfamily (MFS) transporter	Membrane proteins
PA3724	elastase LasB	Secreted Factors (toxins, enzymes, alginate)
PA3737	thiol:disulfide interchange protein DsbC	Translation, post-translational modification, degradation
PA3779	hypothetical protein	Hypothetical, unclassified, unknown
PA3780	hypothetical protein	Membrane proteins
PA3781	probable transporter	Membrane proteins
PA3789	hypothetical protein	Membrane proteins
PA3795	probable oxidoreductase	Putative enzymes
PA3836	hypothetical protein	Hypothetical, unclassified, unknown
PA3837	probable permease of ABC transporter	Membrane proteins
PA3838	probable ATP-binding component of ABC transporter	Transport of small molecules
PA3839	probable sodium:sulfate symporter	Membrane proteins
PA3840	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA3865	probable amino acid binding protein	Transport of small molecules
PA3880	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA3887	Na ⁺ /H ⁺ antiporter NhaP	Membrane proteins
PA3906	hypothetical protein	Hypothetical, unclassified, unknown
PA3908	hypothetical protein	Hypothetical, unclassified, unknown
PA3913	probable protease	Putative enzymes
PA3940	probable DNA binding protein	DNA replication, recombination, modification and repair
PA3959	hypothetical protein	Hypothetical, unclassified, unknown
PA3960	hypothetical protein	Hypothetical, unclassified, unknown
PA3966	hypothetical protein	Membrane proteins
PA3967	hypothetical protein	Hypothetical, unclassified, unknown
PA3984	apolipoprotein N-acyltransferase	Cell wall / LPS / capsule
PA4021	probable transcriptional regulator	Transcriptional regulators
PA4023	probable transport protein	Transport of small molecules
PA4024	ethanolamine ammonia-lyase large subunit	Central intermediary metabolism
PA4025	probable ethanolamine ammonia-lyase light chain	Carbon compound catabolism
PA4031	inorganic pyrophosphatase	Central intermediary metabolism
PA4055	riboflavin synthase alpha chain	Biosynthesis of cofactors, prosthetic groups and carriers
PA4057	NrdR	Nucleotide biosynthesis and metabolism
PA4058	hypothetical protein	Hypothetical, unclassified, unknown
PA4070	probable transcriptional regulator	Transcriptional regulators
PA4072	probable amino acid permease	Transport of small molecules
PA4073	probable aldehyde dehydrogenase	Putative enzymes
PA4078	probable nonribosomal peptide synthetase	Adaptation, Protection
PA4079	probable dehydrogenase	Putative enzymes
PA4091	4-hydroxyphenylacetate 3-monooxygenase large chain	Carbon compound catabolism
PA4092	4-hydroxyphenylacetate 3-monooxygenase small chain	Carbon compound catabolism
PA4093	hypothetical protein	Hypothetical, unclassified, unknown
PA4094	probable transcriptional regulator	Transcriptional regulators
PA4120	probable transcriptional regulator	Transcriptional regulators
PA4121	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA4122	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA4123	5-carboxy-2-hydroxymuconate semialdehyde dehydrogenase	Carbon compound catabolism
PA4124	homoprotocatechuate 2,3-dioxygenase	Carbon compound catabolism
PA4125	5-carboxymethyl-2-hydroxymuconate isomerase	Carbon compound catabolism
PA4126	probable major facilitator superfamily (MFS) transporter	Membrane proteins
PA4127	2-oxo-hept-3-ene-1,7-dioate hydratase	Carbon compound catabolism
PA4128	conserved hypothetical protein	Putative enzymes
PA4129	hypothetical protein	Hypothetical, unclassified, unknown
PA4130	probable sulfite or nitrite reductase	Central intermediary metabolism
PA4131	probable iron-sulfur protein	Putative enzymes
PA4132	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA4133	cytochrome c oxidase subunit (cbb3-type)	Energy metabolism
PA4134	hypothetical protein	Hypothetical, unclassified, unknown
PA4136	probable major facilitator superfamily (MFS) transporter	Membrane proteins
PA4137	probable porin	Transport of small molecules
PA4140	hypothetical protein	Hypothetical, unclassified, unknown
PA4141	hypothetical protein	Hypothetical, unclassified, unknown
PA4142	probable secretion protein	Protein secretion/export apparatus
PA4147	transcriptional regulator AcoR	Transcriptional regulators
PA4148	probable short-chain dehydrogenase	Putative enzymes
PA4150	probable dehydrogenase E1 component	Carbon compound catabolism
PA4151	acetoin catabolism protein AcoB	Carbon compound catabolism
PA4152	probable hydrolase	Carbon compound catabolism
PA4153	2,3-butanediol dehydrogenase	Carbon compound catabolism

Supplementary Table 3

ORF	Product name	Function class
PA4175	protease IV	Secreted Factors (toxins, enzymes, alginate)
PA4180	probable acetolactate synthase large subunit	Amino acid biosynthesis and metabolism
PA4205	hypothetical protein	Membrane proteins
PA4206	probable Resistance-Nodulation-Cell Division (RND) efflux membrane fusion protein	Transport of small molecules
PA4207	probable Resistance-Nodulation-Cell Division (RND) efflux transporter	Membrane proteins
PA4208	probable outer membrane protein precursor	Membrane proteins
PA4209	probable phenazine-specific methyltransferase	Putative enzymes
PA4210	probable phenazine biosynthesis protein	Secreted Factors (toxins, enzymes, alginate)
PA4211	probable phenazine biosynthesis protein	Secreted Factors (toxins, enzymes, alginate)
PA4288	probable transcriptional regulator	Transcriptional regulators
PA4293	two-component sensor PprA	Two-component regulatory systems
PA4294	hypothetical protein	Hypothetical, unclassified, unknown
PA4297	TadG	Membrane proteins
PA4298	hypothetical protein	Hypothetical, unclassified, unknown
PA4316	exodeoxyribonuclease I	DNA replication, recombination, modification and repair
PA4324	hypothetical protein	Hypothetical, unclassified, unknown
PA4328	hypothetical protein	Hypothetical, unclassified, unknown
PA4329	pyruvate kinase II	Energy metabolism
PA4348	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA4351	probable acyltransferase	Fatty acid and phospholipid metabolism
PA4352	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA4357	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA4358	probable ferrous iron transport protein	Membrane proteins
PA4377	hypothetical protein	Hypothetical, unclassified, unknown
PA4394	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA4433	50S ribosomal protein L13	Translation, post-translational modification, degradation
PA4436	probable transcriptional regulator	Transcriptional regulators
PA4496	probable binding protein component of ABC transporter	Transport of small molecules
PA4497	probable binding protein component of ABC transporter	Transport of small molecules
PA4498	probable metallopeptidase	Translation, post-translational modification, degradation
PA4500	probable binding protein component of ABC transporter	Transport of small molecules
PA4502	probable binding protein component of ABC transporter	Transport of small molecules
PA4503	probable permease of ABC transporter	Membrane proteins
PA4504	probable permease of ABC transporter	Membrane proteins
PA4505	probable ATP-binding component of ABC transporter	Transport of small molecules
PA4506	probable ATP-binding component of ABC dipeptide transporter	Transport of small molecules
PA4520	probable chemotaxis transducer	Adaptation, Protection
PA4569	octaprenyl-diphosphate synthase	Energy metabolism
PA4577	hypothetical protein	Hypothetical, unclassified, unknown
PA4588	glutamate dehydrogenase	Amino acid biosynthesis and metabolism
PA4596	probable transcriptional regulator	Transcriptional regulators
PA4606	conserved hypothetical protein	Adaptation, Protection
PA4611	hypothetical protein	Hypothetical, unclassified, unknown
PA4632	hypothetical protein	Hypothetical, unclassified, unknown
PA4633	probable chemotaxis transducer	Adaptation, Protection
PA4654	probable major facilitator superfamily (MFS) transporter	Membrane proteins
PA4676	probable carbonic anhydrase	Putative enzymes
PA4677	hypothetical protein	Hypothetical, unclassified, unknown
PA4681	hypothetical protein	Hypothetical, unclassified, unknown
PA4682	hypothetical protein	Hypothetical, unclassified, unknown
PA4683	hypothetical protein	Hypothetical, unclassified, unknown
PA4695	acetolactate synthase isozyme III small subunit	Biosynthesis of cofactors, prosthetic groups and carriers
PA4715	probable aminotransferase	Putative enzymes
PA4733	acetyl-coenzyme A synthetase	Carbon compound catabolism
PA4757	conserved hypothetical protein	Membrane proteins
PA4758	carbamoyl-phosphate synthase small chain	Amino acid biosynthesis and metabolism
PA4759	dihydrodipicolinate reductase	Amino acid biosynthesis and metabolism
PA4770	L-lactate permease	Transport of small molecules
PA4773	hypothetical protein	Hypothetical, unclassified, unknown
PA4779	hypothetical protein	Membrane proteins
PA4782	hypothetical protein	Hypothetical, unclassified, unknown
PA4808	L-seryl-tRNA(ser) selenium transferase	Translation, post-translational modification, degradation
PA4817	hypothetical protein	Hypothetical, unclassified, unknown
PA4851	hypothetical protein	Hypothetical, unclassified, unknown
PA4852	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA4860	probable permease of ABC transporter	Membrane proteins
PA4862	probable ATP-binding component of ABC transporter	Transport of small molecules
PA4867	urease beta subunit	Central intermediary metabolism

ORF	Product name	Function class
PA4884	hypothetical protein	Hypothetical, unclassified, unknown
PA4893	urease accessory protein UreG	Biosynthesis of cofactors, prosthetic groups and carriers
PA4894	hypothetical protein	Membrane proteins
PA4899	probable aldehyde dehydrogenase	Putative enzymes
PA4901	benzoylformate decarboxylase	Carbon compound catabolism
PA4908	hypothetical protein	Hypothetical, unclassified, unknown
PA4910	probable ATP-binding component of ABC transporter	Transport of small molecules
PA4911	probable permease of ABC branched-chain amino acid transporter	Membrane proteins
PA4912	probable permease of ABC branched chain amino acid transporter	Membrane proteins
PA4913	probable binding protein component of ABC transporter	Transport of small molecules
PA4943	probable GTP-binding protein	Putative enzymes
PA4979	probable acyl-CoA dehydrogenase	Putative enzymes
PA4983	probable two-component response regulator	Transcriptional regulators
PA4984	probable transcriptional regulator	Transcriptional regulators
PA4985	hypothetical protein	Hypothetical, unclassified, unknown
PA4986	probable oxidoreductase	Putative enzymes
PA4997	transport protein MsbA	Fatty acid and phospholipid metabolism
PA5020	probable acyl-CoA dehydrogenase	Putative enzymes
PA5025	homocysteine synthase	Amino acid biosynthesis and metabolism
PA5027	hypothetical protein	Hypothetical, unclassified, unknown
PA5028	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA5030	probable major facilitator superfamily (MFS) transporter	Membrane proteins
PA5051	arginyl-tRNA synthetase	Translation, post-translational modification, degradation
PA5059	probable transcriptional regulator	Transcriptional regulators
PA5082	probable binding protein component of ABC transporter	Transport of small molecules
PA5096	probable binding protein component of ABC transporter	Transport of small molecules
PA5097	probable amino acid permease	Membrane proteins
PA5098	histidine ammonia-lyase	Amino acid biosynthesis and metabolism
PA5106	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA5112	esterase EstA	Secreted Factors (toxins, enzymes, alginate)
PA5129	glutaredoxin	Energy metabolism
PA5130	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA5137	hypothetical protein	Hypothetical, unclassified, unknown
PA5149	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA5152	probable ATP-binding component of ABC transporter	Transport of small molecules
PA5153	probable periplasmic binding protein	Transport of small molecules
PA5154	probable permease of ABC transporter	Membrane proteins
PA5155	probable permease of ABC transporter	Membrane proteins
PA5161	dTDP-D-glucose 4,6-dehydratase	Carbon compound catabolism
PA5162	dTDP-4-dehydrorhamnose reductase	Cell wall / LPS / capsule
PA5163	glucose-1-phosphate thymidyltransferase	Cell wall / LPS / capsule
PA5164	dTDP-4-dehydrorhamnose 3,5-epimerase	Cell wall / LPS / capsule
PA5168	probable dicarboxylate transporter	Membrane proteins
PA5169	probable C4-dicarboxylate transporter	Membrane proteins
PA5174	probable beta-ketoacyl synthase	Fatty acid and phospholipid metabolism
PA5180	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA5220	hypothetical protein	Hypothetical, unclassified, unknown
PA5237	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA5240	thioredoxin	Translation, post-translational modification, degradation
PA5249	hypothetical protein	Membrane proteins
PA5275	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA5285	hypothetical protein	Hypothetical, unclassified, unknown
PA5286	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA5288	nitrogen regulatory protein P-II 2	Central intermediary metabolism
PA5289	hypothetical protein	Hypothetical, unclassified, unknown
PA5297	pyruvate dehydrogenase (cytochrome)	Central intermediary metabolism
PA5303	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA5309	probable oxidoreductase	Putative enzymes
PA5324	probable transcriptional regulator	Transcriptional regulators
PA5325	hypothetical protein	Hypothetical, unclassified, unknown
PA5328	probable cytochrome c (mono-heme type)	Energy metabolism
PA5329	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA5338	guanosine-3',5'-bis(diphosphate) 3'-pyrophosphohydrolase	Nucleotide biosynthesis and metabolism
PA5344	probable transcriptional regulator	Transcriptional regulators
PA5348	probable DNA-binding protein	DNA replication, recombination, modification and repair
PA5351	Rubredoxin 1	Carbon compound catabolism
PA5353	glycolate oxidase subunit GlcF	Central intermediary metabolism
PA5355	glycolate oxidase subunit GlcD	Central intermediary metabolism

Supplementary Table 3

ORF	Product name	Function class
PA5380	GbdR	Transcriptional regulators
PA5381	hypothetical protein	Hypothetical, unclassified, unknown
PA5400	probable electron transfer flavoprotein alpha subunit	Energy metabolism
PA5409	hypothetical protein	Membrane proteins
PA5427	alcohol dehydrogenase	Energy metabolism
PA5434	tryptophan permease	Membrane proteins
PA5435	probable transcarboxylase subunit	Central intermediary metabolism
PA5436	probable biotin carboxylase subunit of a transcarboxylase	Central intermediary metabolism
PA5442	conserved hypothetical protein	Membrane proteins
PA5445	probable coenzyme A transferase	Putative enzymes
PA5451	membrane subunit of A-band LPS efflux transporter	Cell wall / LPS / capsule
PA5452	phosphomannose isomerase/GDP-mannose WbpW	Cell wall / LPS / capsule
PA5461	hypothetical protein	Hypothetical, unclassified, unknown
PA5475	hypothetical protein	Hypothetical, unclassified, unknown
PA5491	probable cytochrome	Energy metabolism
PA5506	hypothetical protein	Hypothetical, unclassified, unknown
PA5507	hypothetical protein	Hypothetical, unclassified, unknown
PA5508	probable glutamine synthetase	Putative enzymes
PA5509	hypothetical protein	Hypothetical, unclassified, unknown
PA5510	probable transporter	Membrane proteins
PA5522	probable glutamine synthetase	Putative enzymes
PA5523	probable aminotransferase	Putative enzymes
PA5533	hypothetical protein	Hypothetical, unclassified, unknown
PA5536	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA5542	hypothetical protein	Putative enzymes
PA5543	hypothetical protein	Hypothetical, unclassified, unknown
PA5544	conserved hypothetical protein	Membrane proteins
PA5545	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA5546	conserved hypothetical protein	Putative enzymes

ORF	Product name	Function class
Oxidative stress		
PA0007	hypothetical protein	Membrane proteins
PA0069	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA0105	cytochrome c oxidase, subunit II	Energy metabolism
PA0106	cytochrome c oxidase, subunit I	Energy metabolism
PA0107	conserved hypothetical protein	Energy metabolism
PA0109	hypothetical protein	Membrane proteins
PA0122	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA0128	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA0158	RND; triclosan efflux transporter, TriC	Antibiotic resistance and susceptibility
PA0171	hypothetical protein	Motility & Attachment
PA0173	probable methyltransferase	Adaptation, Protection
PA0174	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA0176	aerotaxis transducer Aer2	Adaptation, Protection
PA0177	probable purine-binding chemotaxis protein	Adaptation, Protection
PA0178	probable two-component sensor	Chemotaxis
PA0179	probable two-component response regulator	Chemotaxis
PA0182	probable short-chain dehydrogenase	Putative enzymes
PA0250	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA0280	sulfate transport protein CysA	Transport of small molecules
PA0281	sulfate transport protein CysW	Membrane proteins
PA0282	sulfate transport protein CysT	Membrane proteins
PA0283	sulfate-binding protein precursor	Transport of small molecules
PA0335	hypothetical protein	Hypothetical, unclassified, unknown
PA0337	phosphoenolpyruvate-protein phosphotransferase PtsP	Transport of small molecules
PA0352	probable transporter	Membrane proteins
PA0382	DNA mismatch repair protein MicA	DNA replication, recombination, modification and repair
PA0385	hypothetical protein	Hypothetical, unclassified, unknown
PA0459	probable ClpA/B protease ATP binding subunit	Translation, post-translational modification, degradation
PA0492	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA0493	probable biotin-requiring enzyme	Putative enzymes
PA0494	probable acyl-CoA carboxylase subunit	Putative enzymes
PA0495	hypothetical protein	Hypothetical, unclassified, unknown
PA0555	fructose-1,6-bisphosphate aldolase	Central intermediary metabolism
PA0582	dihydroneopterin aldolase	Biosynthesis of cofactors, prosthetic groups and carriers
PA0586	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA0587	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA0612	repressor, PtrB	Transcriptional regulators
PA0613	hypothetical protein	Hypothetical, unclassified, unknown
PA0614	hypothetical protein	Hypothetical, unclassified, unknown
PA0615	hypothetical protein	Hypothetical, unclassified, unknown
PA0616	hypothetical protein	Related to phage, transposon, or plasmid
PA0617	probable bacteriophage protein	Related to phage, transposon, or plasmid
PA0618	probable bacteriophage protein	Related to phage, transposon, or plasmid
PA0619	probable bacteriophage protein	Related to phage, transposon, or plasmid
PA0620	probable bacteriophage protein	Related to phage, transposon, or plasmid
PA0621	conserved hypothetical protein	Related to phage, transposon, or plasmid
PA0622	probable bacteriophage protein	Related to phage, transposon, or plasmid
PA0623	probable bacteriophage protein	Related to phage, transposon, or plasmid
PA0624	hypothetical protein	Related to phage, transposon, or plasmid
PA0625	hypothetical protein	Related to phage, transposon, or plasmid
PA0626	hypothetical protein	Related to phage, transposon, or plasmid
PA0627	conserved hypothetical protein	Related to phage, transposon, or plasmid
PA0628	conserved hypothetical protein	Related to phage, transposon, or plasmid
PA0629	conserved hypothetical protein	Related to phage, transposon, or plasmid
PA0630	hypothetical protein	Related to phage, transposon, or plasmid
PA0631	hypothetical protein	Related to phage, transposon, or plasmid
PA0634	hypothetical protein	Related to phage, transposon, or plasmid
PA0635	hypothetical protein	Related to phage, transposon, or plasmid
PA0636	hypothetical protein	Related to phage, transposon, or plasmid
PA0637	conserved hypothetical protein	Related to phage, transposon, or plasmid
PA0638	probable bacteriophage protein	Related to phage, transposon, or plasmid
PA0639	conserved hypothetical protein	Related to phage, transposon, or plasmid
PA0640	probable bacteriophage protein	Related to phage, transposon, or plasmid
PA0641	probable bacteriophage protein	Related to phage, transposon, or plasmid
PA0642	hypothetical protein	Related to phage, transposon, or plasmid
PA0643	hypothetical protein	Related to phage, transposon, or plasmid

Supplementary Table 3

ORF	Product name	Function class
PA0645	hypothetical protein	Related to phage, transposon, or plasmid
PA0646	hypothetical protein	Related to phage, transposon, or plasmid
PA0669	probable DNA polymerase alpha chain	Putative enzymes
PA0670	hypothetical protein	Hypothetical, unclassified, unknown
PA0671	hypothetical protein	Hypothetical, unclassified, unknown
PA0743	probable 3-hydroxyisobutyrate dehydrogenase	Carbon compound catabolism
PA0745	probable enoyl-CoA hydratase/isomerase	Putative enzymes
PA0746	probable acyl-CoA dehydrogenase	Putative enzymes
PA0747	probable aldehyde dehydrogenase	Putative enzymes
PA0873	transcriptional regulator PhhR	Transcriptional regulators
PA0887	acetyl-coenzyme A synthetase	Carbon compound catabolism
PA0887.1	aaa	Non-coding RNA gene
PA0889	arginine/ornithine transport protein AotQ	Membrane proteins
PA0905	RsmA, regulator of secondary metabolites	Translation, post-translational modification, degradation
PA0915	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA0916	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA0922	hypothetical protein	Hypothetical, unclassified, unknown
PA0975	probable radical activating enzyme	Putative enzymes
PA0976	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA0983	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA0996	probable coenzyme A ligase	Biosynthesis of cofactors, prosthetic groups and carriers
PA1000	Quinolone signal response protein	Biosynthesis of cofactors, prosthetic groups and carriers
PA1001	anthranilate synthase component I	Adaptation, Protection
PA1002	anthranilate synthase component II	Amino acid biosynthesis and metabolism
PA1041	probable outer membrane protein precursor	Membrane proteins
PA1112	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA1150	pyocin S2	Adaptation, Protection
PA1151	pyocin S2 immunity protein	Adaptation, Protection
PA1172	cytochrome c-type protein NapC	Energy metabolism
PA1173	cytochrome c-type protein NapB precursor	Energy metabolism
PA1174	periplasmic nitrate reductase protein NapA	Energy metabolism
PA1175	NapD protein of periplasmic nitrate reductase	Energy metabolism
PA1176	ferredoxin protein NapF	Energy metabolism
PA1177	periplasmic nitrate reductase protein NapE	Energy metabolism
PA1228	hypothetical protein	Hypothetical, unclassified, unknown
PA1320	cytochrome o ubiquinol oxidase subunit IV	Energy metabolism
PA1321	cytochrome o ubiquinol oxidase protein CyoE	Energy metabolism
PA1372	hypothetical protein	Hypothetical, unclassified, unknown
PA1432	autoinducer synthesis protein LasI	Adaptation, Protection
PA1466	hypothetical protein	Hypothetical, unclassified, unknown
PA1552	probable cytochrome c	Energy metabolism
PA1553	probable cytochrome c oxidase subunit	Energy metabolism
PA1554	probable cytochrome oxidase subunit (cbb3-type)	Energy metabolism
PA1574	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA1581	succinate dehydrogenase (C subunit)	Energy metabolism
PA1582	succinate dehydrogenase (D subunit)	Energy metabolism
PA1583	succinate dehydrogenase (A subunit)	Energy metabolism
PA1584	succinate dehydrogenase (B subunit)	Energy metabolism
PA1634	potassium-transporting ATPase, B chain	Transport of small molecules
PA1687	spermidine synthase	Amino acid biosynthesis and metabolism
PA1759	probable transcriptional regulator	Transcriptional regulators
PA1760	probable transcriptional regulator	Transcriptional regulators
PA1776	ECF sigma factor SigX	Transcriptional regulators
PA1837	hypothetical protein	Hypothetical, unclassified, unknown
PA1845	hypothetical protein	Hypothetical, unclassified, unknown
PA1852	hypothetical protein	Hypothetical, unclassified, unknown
PA1865	hypothetical protein	Hypothetical, unclassified, unknown
PA1930	probable chemotaxis transducer	Adaptation, Protection
PA1946	binding protein component precursor of ABC ribose transporter	Transport of small molecules
PA1951	hypothetical protein	Hypothetical, unclassified, unknown
PA2006	probable major facilitator superfamily (MFS) transporter	Membrane proteins
PA2007	maleylacetoacetate isomerase	Carbon compound catabolism
PA2008	fumarylacetoacetase	Carbon compound catabolism
PA2009	homogentisate 1,2-dioxygenase	Carbon compound catabolism
PA2012	methylcrotonyl-CoA carboxylase, alpha-subunit (biotin-containing)	Carbon compound catabolism
PA2288	hypothetical protein	Hypothetical, unclassified, unknown
PA2290	glucose dehydrogenase	Carbon compound catabolism
PA2321	gluconokinase	Energy metabolism

Supplementary Table 3

ORF	Product name	Function class
PA2322	gluconate permease	Transport of small molecules
PA2338	probable binding protein component of ABC maltose/mannitol transporter	Transport of small molecules
PA2339	probable binding-protein-dependent maltose/mannitol transport protein	Transport of small molecules
PA2340	probable binding-protein-dependent maltose/mannitol transport protein	Transport of small molecules
PA2341	probable ATP-binding component of ABC maltose/mannitol transporter	Transport of small molecules
PA2342	mannitol dehydrogenase	Carbon compound catabolism
PA2344	fructokinase	Carbon compound catabolism
PA2453	hypothetical protein	Hypothetical, unclassified, unknown
PA2552	probable acyl-CoA dehydrogenase	Putative enzymes
PA2553	probable acyl-CoA thiolase	Putative enzymes
PA2555	probable AMP-binding enzyme	Putative enzymes
PA2557	probable AMP-binding enzyme	Fatty acid and phospholipid metabolism
PA2573	probable chemotaxis transducer	Adaptation, Protection
PA2579	hypothetical protein	Putative enzymes
PA2619	initiation factor	Translation, post-translational modification, degradation
PA2637	NADH dehydrogenase I chain A	Energy metabolism
PA2638	NADH dehydrogenase I chain B	Energy metabolism
PA2639	NADH dehydrogenase I chain C,D	Energy metabolism
PA2640	NADH dehydrogenase I chain E	Energy metabolism
PA2641	NADH dehydrogenase I chain F	Energy metabolism
PA2642	NADH dehydrogenase I chain G	Energy metabolism
PA2643	NADH dehydrogenase I chain H	Energy metabolism
PA2644	NADH Dehydrogenase I chain I	Energy metabolism
PA2645	NADH dehydrogenase I chain J	Energy metabolism
PA2646	NADH dehydrogenase I chain K	Energy metabolism
PA2647	NADH dehydrogenase I chain L	Energy metabolism
PA2648	NADH dehydrogenase I chain M	Energy metabolism
PA2649	NADH dehydrogenase I chain N	Energy metabolism
PA2653	probable transporter	Membrane proteins
PA2667	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA2730	hypothetical protein	Hypothetical, unclassified, unknown
PA2746	hypothetical protein	Membrane proteins
PA2911	probable TonB-dependent receptor	Membrane proteins
PA2937	hypothetical protein	Hypothetical, unclassified, unknown
PA3007	repressor protein LexA	Adaptation, Protection
PA3008	hypothetical protein	Hypothetical, unclassified, unknown
PA3009	hypothetical protein	Hypothetical, unclassified, unknown
PA3080	hypothetical protein	Hypothetical, unclassified, unknown
PA3147	probable glycosyl transferase WbpJ	Putative enzymes
PA3149	probable glycosyltransferase WbpH	Putative enzymes
PA3150	LPS biosynthesis protein WbpG	Cell wall / LPS / capsule
PA3181	2-keto-3-deoxy-6-phosphogluconate aldolase	Central intermediary metabolism
PA3183	glucose-6-phosphate 1-dehydrogenase	Energy metabolism
PA3186	Glucose/carbohydrate outer membrane porin OprB precursor	Transport of small molecules
PA3187	probable ATP-binding component of ABC transporter	Transport of small molecules
PA3188	probable permease of ABC sugar transporter	Transport of small molecules
PA3189	probable permease of ABC sugar transporter	Transport of small molecules
PA3190	probable binding protein component of ABC sugar transporter	Transport of small molecules
PA3194	phosphogluconate dehydratase	Energy metabolism
PA3237	hypothetical protein	Hypothetical, unclassified, unknown
PA3282	hypothetical protein	Hypothetical, unclassified, unknown
PA3311	conserved hypothetical protein	Membrane proteins
PA3404	probable outer membrane protein precursor	Protein secretion/export apparatus
PA3415	probable dihydrolipoamide acetyltransferase	Energy metabolism
PA3417	probable pyruvate dehydrogenase E1 component, alpha subunit	Energy metabolism
PA3418	leucine dehydrogenase	Amino acid biosynthesis and metabolism
PA3441	probable molybdopterin-binding protein	Transport of small molecules
PA3442	probable ATP-binding component of ABC transporter	Transport of small molecules
PA3443	probable permease of ABC transporter	Membrane proteins
PA3444	conserved hypothetical protein	Putative enzymes
PA3445	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA3446	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA3449	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA3496	hypothetical protein	Hypothetical, unclassified, unknown
PA3561	1-phosphofructokinase	Central intermediary metabolism
PA3574	probable transcriptional regulator	Transcriptional regulators
PA3581	glycerol uptake facilitator protein	Transport of small molecules
PA3582	glycerol kinase	Central intermediary metabolism

ORF	Product name	Function class
PA3584	glycerol-3-phosphate dehydrogenase	Central intermediary metabolism
PA3600	conserved hypothetical protein	Translation, post-translational modification, degradation
PA3607	polyamine transport protein PotA	Transport of small molecules
PA3608	polyamine transport protein PotB	Membrane proteins
PA3609	polyamine transport protein PotC	Membrane proteins
PA3610	polyamine transport protein PotD	Transport of small molecules
PA3616	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA3617	RecA protein	DNA replication, recombination, modification and repair
PA3621	ferredoxin I	Energy metabolism
PA3672	probable ATP-binding component of ABC transporter	Transport of small molecules
PA3712	hypothetical protein	Hypothetical, unclassified, unknown
PA3713	spermidine dehydrogenase, SpdH	Hypothetical, unclassified, unknown
PA3723	probable FMN oxidoreductase	Putative enzymes
PA3753	conserved hypothetical protein	Transport of small molecules
PA3767	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA3787	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA3808	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA3870	molybdopterin biosynthetic protein A1	Biosynthesis of cofactors, prosthetic groups and carriers
PA3871	probable peptidyl-prolyl cis-trans isomerase, PpiC-type	Translation, post-translational modification, degradation
PA3872	respiratory nitrate reductase gamma chain	Energy metabolism
PA3873	respiratory nitrate reductase delta chain	Energy metabolism
PA3874	respiratory nitrate reductase beta chain	Energy metabolism
PA3875	respiratory nitrate reductase alpha chain	Energy metabolism
PA3876	nitrite extrusion protein 2	Membrane proteins
PA3877	nitrite extrusion protein 1	Membrane proteins
PA3901	Fe(III) dicitrate transport protein FecA	Membrane proteins
PA3913	probable protease	Putative enzymes
PA3922	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA3935	taurine dioxygenase	Carbon compound catabolism
PA3967	hypothetical protein	Hypothetical, unclassified, unknown
PA3986	hypothetical protein	Hypothetical, unclassified, unknown
PA4055	riboflavin synthase alpha chain	Biosynthesis of cofactors, prosthetic groups and carriers
PA4131	probable iron-sulfur protein	Putative enzymes
PA4132	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA4133	cytochrome c oxidase subunit (ccb3-type)	Energy metabolism
PA4141	hypothetical protein	Hypothetical, unclassified, unknown
PA4199	probable acyl-CoA dehydrogenase	Putative enzymes
PA4236	catalase	Adaptation, Protection
PA4390	hypothetical protein	Hypothetical, unclassified, unknown
PA4427	stringent starvation protein B	Adaptation, Protection
PA4432	30S ribosomal protein S9	Translation, post-translational modification, degradation
PA4496	probable binding protein component of ABC transporter	Transport of small molecules
PA4553	type 4 fimbrial biogenesis protein PilX	Motility & Attachment
PA4563	30S ribosomal protein S20	Central intermediary metabolism
PA4573	hypothetical protein	Hypothetical, unclassified, unknown
PA4582	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA4583	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA4584	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA4585	RNA 3'-terminal phosphate cyclase	Transcription, RNA processing and degradation
PA4607	hypothetical protein	Hypothetical, unclassified, unknown
PA4612	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA4642	hypothetical protein	Hypothetical, unclassified, unknown
PA4645	probable purine/pyrimidine phosphoribosyl transferase	Nucleotide biosynthesis and metabolism
PA4648	hypothetical protein	Hypothetical, unclassified, unknown
PA4651	probable pili assembly chaperone	Motility & Attachment
PA4672	peptidyl-tRNA hydrolase	Translation, post-translational modification, degradation
PA4687	ferric iron-binding periplasmic protein HitA	Transport of small molecules
PA4688	iron (III)-transport system permease HitB	Membrane proteins
PA4702	hypothetical protein	Hypothetical, unclassified, unknown
PA4703	hypothetical protein	Hypothetical, unclassified, unknown
PA4732	glucose-6-phosphate isomerase	Carbon compound catabolism
PA4746	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA4747	secretion protein SecG	Membrane proteins
PA4748	triosephosphate isomerase	Central intermediary metabolism
PA4753	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA4759	dihydrodipicolinate reductase	Amino acid biosynthesis and metabolism
PA4763	DNA repair protein RecN	DNA replication, recombination, modification and repair
PA4839	biosynthetic arginine decarboxylase	Amino acid biosynthesis and metabolism

Supplementary Table 3

ORF	Product name	Function class
PA4840	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA4843	probable two-component response regulator	Transcriptional regulators
PA5024	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA5049	50S ribosomal protein L31	Translation, post-translational modification, degradation
PA5074	probable ATP-binding component of ABC transporter	Transport of small molecules
PA5167	probable c4-dicarboxylate-binding protein	Membrane proteins
PA5235	glycerol-3-phosphate transporter	Membrane proteins
PA5351	Rubredoxin 1	Carbon compound catabolism
PA5380	GbdR	Transcriptional regulators
PA5401	hypothetical protein	Hypothetical, unclassified, unknown
PA5436	probable biotin carboxylase subunit of a transcarboxylase	Central intermediary metabolism
PA5446	hypothetical protein	Hypothetical, unclassified, unknown
PA5452	phosphomannose isomerase/GDP-mannose WbpW	Cell wall / LPS / capsule
PA5453	GDP-mannose 4,6-dehydratase	Cell wall / LPS / capsule
PA5465	hypothetical protein	Hypothetical, unclassified, unknown
PA5470	probable peptide chain release factor	Translation, post-translational modification, degradation
PA5471	hypothetical protein	Hypothetical, unclassified, unknown
PA5479	proton-glutamate symporter	Membrane proteins

ORF	Product name	Function class
PCP		
PA0224	probable aldolase	Putative enzymes
PA0246	probable major facilitator superfamily (MFS) transporter	Membrane proteins
PA0263	secreted protein Hcp	Secreted Factors (toxins, enzymes, alginate)
PA0355	protease PfpI	Translation, post-translational modification, degradation
PA0417	probable chemotaxis protein	Chemotaxis
PA0425	RND multidrug efflux membrane fusion protein MexA precursor	Transport of small molecules
PA0426	RND multidrug efflux transporter MexB	Transport of small molecules
PA0427	Major intrinsic multiple antibiotic resistance efflux outer membrane protein OprM pre	Antibiotic resistance and susceptibility
PA0445	probable transposase	Related to phage, transposon, or plasmid
PA0526	hypothetical protein	Hypothetical, unclassified, unknown
PA0579	30S ribosomal protein S21	Translation, post-translational modification, degradation
PA0726	hypothetical protein of bacteriophage Pf1	Hypothetical, unclassified, unknown
PA0868	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA1178	PhoP/Q and low Mg ²⁺ inducible outer membrane protein HI precursor	Membrane proteins
PA1198	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA1281	cobalamin (5'-phosphate) synthase	Biosynthesis of cofactors, prosthetic groups and carriers
PA1393	adenosine 5'-phosphosulfate (APS) kinase	Amino acid biosynthesis and metabolism
PA1493	sulfate-binding protein of ABC transporter	Transport of small molecules
PA1588	succinyl-CoA synthetase beta chain	Energy metabolism
PA1656	hypothetical protein	Hypothetical, unclassified, unknown
PA1658	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA1660	hypothetical protein	Hypothetical, unclassified, unknown
PA1664	hypothetical protein	Hypothetical, unclassified, unknown
PA1780	assimilatory nitrite reductase small subunit	Central intermediary metabolism
PA2062	probable pyridoxal-phosphate dependent enzyme	Putative enzymes
PA2562	hypothetical protein	Hypothetical, unclassified, unknown
PA2658	hypothetical protein	Hypothetical, unclassified, unknown
PA2669	hypothetical protein	Hypothetical, unclassified, unknown
PA2906	probable oxidoreductase	Putative enzymes
PA2941	hypothetical protein	Hypothetical, unclassified, unknown
PA2951	electron transfer flavoprotein alpha-subunit	Energy metabolism
PA3136	probable secretion protein	Transport of small molecules
PA3137	probable major facilitator superfamily (MFS) transporter	Membrane proteins
PA3159	probable UDP-glucose/GDP-mannose dehydrogenase WbpA	Putative enzymes
PA3162	30S ribosomal protein S1	Translation, post-translational modification, degradation
PA3266	cold acclimation protein B	Transcriptional regulators
PA3547	poly(beta-d-mannuronate) lyase precursor AlgL	Cell wall / LPS / capsule
PA3552	ArnB	Cell wall / LPS / capsule
PA3676	probable Resistance-Nodulation-Cell Division (RND) efflux transporter	Membrane proteins
PA3677	probable RND efflux membrane fusion protein precursor	Transport of small molecules
PA3678	probable transcriptional regulator	Transcriptional regulators
PA3679	hypothetical protein	Hypothetical, unclassified, unknown
PA3719	hypothetical protein	Hypothetical, unclassified, unknown
PA3720	hypothetical protein	Hypothetical, unclassified, unknown
PA3721	probable transcriptional regulator	Transcriptional regulators
PA3814	L-cysteine desulfurase (pyridoxal phosphate-dependent)	Amino acid biosynthesis and metabolism
PA3815	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA3819	conserved hypothetical protein	Membrane proteins
PA3905	hypothetical protein	Hypothetical, unclassified, unknown
PA4033	hypothetical protein	Hypothetical, unclassified, unknown
PA4037	probable ATP-binding component of ABC transporter	Transport of small molecules
PA4053	6,7-dimethyl-8-ribityllumazine synthase	Biosynthesis of cofactors, prosthetic groups and carriers
PA4178	hypothetical protein	Hypothetical, unclassified, unknown
PA4344	probable hydrolase	Putative enzymes
PA4386	GroES protein	Chaperones & heat shock proteins
PA4443	ATP sulfurylase small subunit	Central intermediary metabolism
PA4568	50S ribosomal protein L21	Translation, post-translational modification, degradation
PA4816	hypothetical protein	Hypothetical, unclassified, unknown
PA4847	biotin carboxyl carrier protein (BCCP)	Fatty acid and phospholipid metabolism
PA5013	branched-chain amino acid transferase	Amino acid biosynthesis and metabolism
PA5157	probable transcriptional regulator	Transcriptional regulators
PA5158	probable outer membrane protein precursor	Transport of small molecules
PA5159	multidrug resistance protein	Transport of small molecules
PA5160	drug efflux transporter	Membrane proteins
PA5182	hypothetical protein	Membrane proteins

ORF	Product name	Function class
PA5212	hypothetical protein	Hypothetical, unclassified, unknown
PA5216	probable permease of ABC iron transporter	Membrane proteins
PA5253	alginate regulatory protein AlgP	Transcriptional regulators
PA5312	probable aldehyde dehydrogenase	Putative enzymes
PA5326	hypothetical protein	Hypothetical, unclassified, unknown
PA5369	phosphate ABC transporter, periplasmic phosphate-binding protein, PstS	Transport of small molecules
PA5390	probable peptidic bond hydrolase	Putative enzymes
PA5481	hypothetical protein	Hypothetical, unclassified, unknown
PA5570	50S ribosomal protein L34	Central intermediary metabolism

ORF	Product name	Function class
Copper		
PA0149	probable sigma-70 factor, ECF subfamily	Transcriptional regulators
PA0150	probable transmembrane sensor	Membrane proteins
PA0397	probable cation efflux system protein	Transport of small molecules
PA0423	PasP	Secreted Factors (toxins, enzymes, alginate)
PA0450	probable phosphate transporter	Membrane proteins
PA0802	hypothetical protein	Membrane proteins
PA0913	probable Mg transporter MgtE	Transport of small molecules
PA0918	cytochrome b561	Energy metabolism
PA0931	ferric enterobactin receptor PirA	Transport of small molecules
PA1134	hypothetical protein	Hypothetical, unclassified, unknown
PA1286	probable major facilitator superfamily (MFS) transporter	Membrane proteins
PA1297	probable metal transporter	Membrane proteins
PA1301	probable transmembrane sensor	Membrane proteins
PA1302	probable heme utilization protein precursor	Membrane proteins
PA1363	probable sigma-70 factor, ECF subfamily	Transcriptional regulators
PA1364	probable transmembrane sensor	Membrane proteins
PA1365	probable siderophore receptor	Transport of small molecules
PA1390	probable glycosyl transferase	Putative enzymes
PA1435	RND efflux membrane fusion protein precursor	Transport of small molecules
PA1436	probable RND efflux transporter	Membrane proteins
PA1437	probable two-component response regulator	Transcriptional regulators
PA1438	probable two-component sensor	Two-component regulatory systems
PA1562	aconitate hydratase 1	Energy metabolism
PA1909	hypothetical protein	Hypothetical, unclassified, unknown
PA1910	probable tonB-dependent receptor protein	Transport of small molecules
PA1911	probable transmembrane sensor	Membrane proteins
PA1912	probable sigma-70 factor, ECF subfamily	Transcriptional regulators
PA2064	copper resistance protein B precursor	Adaptation, Protection
PA2065	copper resistance protein A precursor	Adaptation, Protection
PA2277	ArsR protein	Transcriptional regulators
PA2278	ArsB protein	Membrane proteins
PA2279	ArsC protein	Adaptation, Protection
PA2384	hypothetical protein	Hypothetical, unclassified, unknown
PA2390	probable ATP-binding/permease fusion ABC transporter	Membrane proteins
PA2391	probable outer membrane protein precursor	Membrane proteins
PA2395	PvdO	Adaptation, Protection
PA2406	hypothetical protein	Hypothetical, unclassified, unknown
PA2451	hypothetical protein	Hypothetical, unclassified, unknown
PA2466	Ferrioxamine receptor FoxA	Transport of small molecules
PA2467	Anti-sigma factor FoxR	Membrane proteins
PA2476	thiol:disulfide interchange protein DsbG	Translation, post-translational modification, degradation
PA2477	probable thiol:disulfide interchange protein	Membrane proteins
PA2478	probable thiol:disulfide interchange protein	Membrane proteins
PA2479	probable two-component response regulator	Transcriptional regulators
PA2480	probable two-component sensor	Two-component regulatory systems
PA2520	RND divalent metal cation efflux transporter CzcA	Membrane proteins
PA2521	RND divalent metal cation efflux membrane fusion protein CzcB precursor	Membrane proteins
PA2522	outer membrane protein precursor CzcC	Membrane proteins
PA2524	probable two-component sensor	Two-component regulatory systems
PA2664	flavo-hemoprotein	Energy metabolism
PA2686	two-component response regulator PfeR	Transcriptional regulators
PA2688	Ferric enterobactin receptor, outer membrane protein PfeA precursor	Membrane proteins
PA2807	hypothetical protein	Hypothetical, unclassified, unknown
PA2809	two-component response regulator, CopR	Transcriptional regulators
PA2810	two-component sensor, CopS	Two-component regulatory systems
PA2826	probable glutathione peroxidase	Adaptation, Protection
PA2953	electron transfer flavoprotein-ubiquinone oxidoreductase	Energy metabolism
PA3392	nitrous-oxide reductase precursor	Energy metabolism
PA3407	heme acquisition protein HasAp	Transport of small molecules
PA3408	Haem uptake outer membrane receptor HasR precursor	Transport of small molecules
PA3409	probable transmembrane sensor	Membrane proteins
PA3410	probable sigma-70 factor, ECF subfamily	Transcriptional regulators
PA3411	hypothetical protein	Hypothetical, unclassified, unknown
PA3412	hypothetical protein	Hypothetical, unclassified, unknown
PA3521	probable outer membrane protein precursor	Membrane proteins

Supplementary Table 3

ORF	Product name	Function class
PA3522	probable Resistance-Nodulation-Cell Division (RND) efflux transporter	Membrane proteins
PA3530	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA3601	conserved hypothetical protein	Translation, post-translational modification, degradation
PA3602	conserved hypothetical protein	Membrane proteins
PA3749	probable major facilitator superfamily (MFS) transporter	Membrane proteins
PA3920	probable metal transporting P-type ATPase	Membrane proteins
PA3921	probable transcriptional regulator	Transcriptional regulators
PA4158	ferric enterobactin transport protein FepC	Transport of small molecules
PA4159	ferriterobactin-binding periplasmic protein precursor FepB	Transport of small molecules
PA4160	ferric enterobactin transport protein FepD	Membrane proteins
PA4192	probable ATP-binding component of ABC transporter	Transport of small molecules
PA4194	probable permease of ABC transporter	Membrane proteins
PA4195	probable binding protein component of ABC transporter	Transport of small molecules
PA4513	probable oxidoreductase	Putative enzymes
PA4514	probable outer membrane receptor for iron transport	Transport of small molecules
PA4515	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA4655	ferrochelatase	Biosynthesis of cofactors, prosthetic groups and carriers
PA4675	probable TonB-dependent receptor	Transport of small molecules
PA4705	hypothetical protein	Hypothetical, unclassified, unknown
PA4706	probable ATP-binding component of ABC transporter	Transport of small molecules
PA4707	probable permease of ABC transporter	Membrane proteins
PA4711	hypothetical protein	Hypothetical, unclassified, unknown
PA4818	conserved hypothetical protein	Membrane proteins
PA4819	probable glycosyl transferase	Putative enzymes
PA4820	hypothetical protein	Hypothetical, unclassified, unknown
PA4825	Mg(2+) transport ATPase, P-type 2	Transport of small molecules
PA5230	probable permease of ABC transporter	Membrane proteins
PA5231	probable ATP-binding/permease fusion ABC transporter	Membrane proteins
PA5300	cytochrome c5	Energy metabolism
PA5304	D-amino acid dehydrogenase, small subunit	Energy metabolism
PA5531	TonB protein	Transport of small molecules

ORF	Product name	Function class
Sulfate		
PA0192	probable TonB-dependent receptor	Membrane proteins
PA0193	hypothetical protein	Putative enzymes
PA0194	hypothetical protein	Putative enzymes
PA0197	hypothetical protein	Transport of small molecules
PA0198	transport protein ExbB	Transport of small molecules
PA0199	transport protein ExbD	Transport of small molecules
PA2085	probable ring-hydroxylating dioxygenase small subunit	Carbon compound catabolism
PA2086	probable epoxide hydrolase	Carbon compound catabolism
PA2092	probable major facilitator superfamily (MFS) transporter	Membrane proteins
PA2292	hypothetical protein	Hypothetical, unclassified, unknown
PA2293	hypothetical protein	Hypothetical, unclassified, unknown
PA2294	probable ATP-binding component of ABC transporter	Transport of small molecules
PA2295	probable permease of ABC transporter	Membrane proteins
PA2296	hypothetical protein	Hypothetical, unclassified, unknown
PA2297	probable ferredoxin	Energy metabolism
PA2298	probable oxidoreductase	Putative enzymes
PA2324	hypothetical protein	Putative enzymes
PA2325	hypothetical protein	Putative enzymes
PA2326	hypothetical protein	Putative enzymes
PA2346	conserved hypothetical protein	Putative enzymes
PA2347	hypothetical protein	Putative enzymes
PA2348	conserved hypothetical protein	Putative enzymes
PA2349	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA2350	probable ATP-binding component of ABC transporter	Transport of small molecules
PA2351	probable permease of ABC transporter	Membrane proteins
PA2354	probable transcriptional regulator	Transcriptional regulators
PA2355	probable FMNH ₂ -dependent monooxygenase	Putative enzymes
PA2356	methanesulfonate sulfonate MsuD	Carbon compound catabolism
PA2357	NADH-dependent FMN reductase MsuE	Carbon compound catabolism

ORF	Product name	Function class
Osmotic shock		
PA0236	probable transcriptional regulator	Transcriptional regulators
PA0448	probable transcriptional regulator	Transcriptional regulators
PA1159	probable cold-shock protein	Transcriptional regulators
PA1226	probable transcriptional regulator	Transcriptional regulators
PA1243	probable sensor/response regulator hybrid	Two-component regulatory systems
PA1690	translocation protein in type III secretion	Protein secretion/export apparatus
PA1692	probable translocation protein in type III secretion	Protein secretion/export apparatus
PA1693	translocation protein in type III secretion	Protein secretion/export apparatus
PA1694	translocation protein in type III secretion	Protein secretion/export apparatus
PA1695	translocation protein in type III secretion	Protein secretion/export apparatus
PA1697	ATP synthase in type III secretion system	Protein secretion/export apparatus
PA1702	conserved hypothetical protein in type III secretion	Protein secretion/export apparatus
PA1703	type III secretory apparatus protein PcrD	Protein secretion/export apparatus
PA1704	transcriptional regulator protein PcrR	Transcriptional regulators
PA1724	type III export protein PscK	Protein secretion/export apparatus
PA1725	type III export protein PscL	Protein secretion/export apparatus
PA2147	catalase HPII	Adaptation, Protection
PA2152	probable trehalose synthase	Putative enzymes
PA2417	probable transcriptional regulator	Transcriptional regulators
PA2665	probable transcriptional regulator	Transcriptional regulators
PA3049	ribosome modulation factor	Translation, post-translational modification, degradation
PA3459	probable glutamine amidotransferase	Amino acid biosynthesis and metabolism
PA3462	probable sensor/response regulator hybrid	Two-component regulatory systems
PA3689	probable transcriptional regulator	Transcriptional regulators
PA3831	leucine aminopeptidase	Transcription, RNA processing and degradation
PA3843	hypothetical protein	Hypothetical, unclassified, unknown
PA4135	probable transcriptional regulator	Transcriptional regulators
PA4581	transcriptional regulator RtcR	Transcriptional regulators
PA5483	two-component response regulator AlgB	Transcriptional regulators
PA5484	probable two-component sensor	Two-component regulatory systems

ORF	Product name	Function class
Biofilms		
PA0026	phospholipase C, PlcB	Hypothetical, unclassified, unknown
PA0027	hypothetical protein	Hypothetical, unclassified, unknown
PA0028	hypothetical protein	Hypothetical, unclassified, unknown
PA0038	hypothetical protein	Hypothetical, unclassified, unknown
PA0040	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA0046	hypothetical protein	Hypothetical, unclassified, unknown
PA0047	hypothetical protein	Hypothetical, unclassified, unknown
PA0061	hypothetical protein	Hypothetical, unclassified, unknown
PA0062	hypothetical protein	Hypothetical, unclassified, unknown
PA0074	serine/threonine protein kinase PpkA	Adaptation, Protection
PA0075	probable phosphoprotein phosphatase	Putative enzymes
PA0076	hypothetical protein	Hypothetical, unclassified, unknown
PA0083	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA0086	hypothetical protein	Hypothetical, unclassified, unknown
PA0087	hypothetical protein	Hypothetical, unclassified, unknown
PA0088	hypothetical protein	Hypothetical, unclassified, unknown
PA0089	hypothetical protein	Hypothetical, unclassified, unknown
PA0090	probable ClpA/B-type chaperone	Translation, post-translational modification, degradation
PA0091	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA0092	hypothetical protein	Hypothetical, unclassified, unknown
PA0094	hypothetical protein	Hypothetical, unclassified, unknown
PA0102	probable carbonic anhydrase	Central intermediary metabolism
PA0126	hypothetical protein	Hypothetical, unclassified, unknown
PA0134	probable guanine deaminase	Nucleotide biosynthesis and metabolism
PA0170	hypothetical protein	Hypothetical, unclassified, unknown
PA0224	probable aldolase	Putative enzymes
PA0237	probable oxidoreductase	Putative enzymes
PA0238	hypothetical protein	Hypothetical, unclassified, unknown
PA0252	hypothetical protein	Hypothetical, unclassified, unknown
PA0276	hypothetical protein	Membrane proteins
PA0320	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA0327	hypothetical protein	Hypothetical, unclassified, unknown
PA0346	hypothetical protein	Hypothetical, unclassified, unknown
PA0347	glycerophosphoryl diester phosphodiesterase, periplasmic	Fatty acid and phospholipid metabolism
PA0355	protease PfpI	Translation, post-translational modification, degradation
PA0376	sigma factor RpoH	Transcriptional regulators
PA0409	twitching motility protein PilH	Two-component regulatory systems
PA0410	twitching motility protein PilI	Chemotaxis
PA0411	twitching motility protein PilJ	Chemotaxis
PA0413	still frameshift probable component of chemotactic signal transduction system	Two-component regulatory systems
PA0414	probable methyltransferase	Chemotaxis
PA0430	5,10-methylenetetrahydrofolate reductase	Amino acid biosynthesis and metabolism
PA0431	hypothetical protein	Hypothetical, unclassified, unknown
PA0432	S-adenosyl-L-homocysteine hydrolase	Amino acid biosynthesis and metabolism
PA0446	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA0451	conserved hypothetical protein	Membrane proteins
PA0452	probable stomatin-like protein	Membrane proteins
PA0462	hypothetical protein	Hypothetical, unclassified, unknown
PA0464	two-component sensor CreC	Two-component regulatory systems
PA0465	inner membrane protein CreD	Membrane proteins
PA0466	hypothetical protein	Hypothetical, unclassified, unknown
PA0490	hypothetical protein	Hypothetical, unclassified, unknown
PA0515	probable transcriptional regulator	Biosynthesis of cofactors, prosthetic groups and carriers
PA0516	heme d1 biosynthesis protein NirF	Energy metabolism
PA0523	nitric-oxide reductase subunit C	Energy metabolism
PA0526	hypothetical protein	Hypothetical, unclassified, unknown
PA0529	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA0530	probable class III pyridoxal phosphate-dependent aminotransferase	Putative enzymes
PA0531	probable glutamine amidotransferase	Putative enzymes
PA0543	hypothetical protein	Hypothetical, unclassified, unknown
PA0547	probable transcriptional regulator	Transcriptional regulators
PA0557	hypothetical protein	Hypothetical, unclassified, unknown
PA0585	hypothetical protein	Hypothetical, unclassified, unknown
PA0588	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA0601	probable two-component response regulator	Transcriptional regulators

ORF	Product name	Function class
PA0603	probable ATP-binding component of ABC transporter	Transport of small molecules
PA0674	hypothetical protein	Hypothetical, unclassified, unknown
PA0675	probable sigma-70 factor, ECF subfamily	Transcriptional regulators
PA0676	probable transmembrane sensor	Membrane proteins
PA0693	transport protein ExbB2	Membrane proteins
PA0696	hypothetical protein	Hypothetical, unclassified, unknown
PA0697	hypothetical protein	Hypothetical, unclassified, unknown
PA0698	hypothetical protein	Hypothetical, unclassified, unknown
PA0699	probable peptidyl-prolyl cis-trans isomerase, PpiC-type	Translation, post-translational modification, degradation
PA0707	transcriptional regulator ToxR	Transcriptional regulators
PA0732	hypothetical protein	Hypothetical, unclassified, unknown
PA0737	hypothetical protein	Hypothetical, unclassified, unknown
PA0738	conserved hypothetical protein	Membrane proteins
PA0752	conserved hypothetical protein	Membrane proteins
PA0753	hypothetical protein	Membrane proteins
PA0755	cis-aconitate porin OpdH	Membrane proteins
PA0765	positive regulator for alginate biosynthesis MucC	Transcriptional regulators
PA0788	hypothetical protein	Hypothetical, unclassified, unknown
PA0842	probable glycosyl transferase	Putative enzymes
PA0853	probable oxidoreductase	Putative enzymes
PA0877	probable transcriptional regulator	Transcriptional regulators
PA0878	hypothetical protein	Hypothetical, unclassified, unknown
PA0879	probable acyl-CoA dehydrogenase	Putative enzymes
PA0880	probable ring-cleaving dioxygenase	Putative enzymes
PA0882	hypothetical protein	Putative enzymes
PA0884	probable C4-dicarboxylate-binding periplasmic protein	Transport of small molecules
PA0886	probable C4-dicarboxylate transporter	Transport of small molecules
PA0921	hypothetical protein	Membrane proteins
PA0952	hypothetical protein	Hypothetical, unclassified, unknown
PA0985	pyocin S5	Membrane proteins
PA1029	hypothetical protein	Hypothetical, unclassified, unknown
PA1065	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA1066	probable short-chain dehydrogenase	Putative enzymes
PA1078	flagellar basal-body rod protein FlgC	Cell wall / LPS / capsule
PA1079	flagellar basal-body rod modification protein FlgD	Cell wall / LPS / capsule
PA1080	flagellar hook protein FlgE	Cell wall / LPS / capsule
PA1081	flagellar basal-body rod protein FlgF	Cell wall / LPS / capsule
PA1084	flagellar P-ring protein precursor FlgI	Cell wall / LPS / capsule
PA1111	hypothetical protein	Hypothetical, unclassified, unknown
PA1114	hypothetical protein	Hypothetical, unclassified, unknown
PA1115	hypothetical protein	Membrane proteins
PA1118	hypothetical protein	Membrane proteins
PA1155	NrdB, tyrosyl radical-harboring component of class Ia ribonucleotide reductase	Nucleotide biosynthesis and metabolism
PA1168	hypothetical protein	Hypothetical, unclassified, unknown
PA1178	PhoP/Q and low Mg ²⁺ inducible outer membrane protein H1 precursor	Membrane proteins
PA1195	hypothetical protein	Hypothetical, unclassified, unknown
PA1216	hypothetical protein	Hypothetical, unclassified, unknown
PA1217	probable 2-isopropylmalate synthase	Amino acid biosynthesis and metabolism
PA1247	alkaline protease secretion protein AprE	Secreted Factors (toxins, enzymes, alginate)
PA1285	probable transcriptional regulator	Transcriptional regulators
PA1333	hypothetical protein	Hypothetical, unclassified, unknown
PA1345	hypothetical protein	Hypothetical, unclassified, unknown
PA1404	hypothetical protein	Hypothetical, unclassified, unknown
PA1470	probable short-chain dehydrogenase	Putative enzymes
PA1471	hypothetical protein	Hypothetical, unclassified, unknown
PA1514	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA1517	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA1518	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA1523	xanthine dehydrogenase	Nucleotide biosynthesis and metabolism
PA1524	xanthine dehydrogenase	Nucleotide biosynthesis and metabolism
PA1560	hypothetical protein	Hypothetical, unclassified, unknown
PA1600	probable cytochrome c	Energy metabolism
PA1601	probable aldehyde dehydrogenase	Putative enzymes
PA1602	probable oxidoreductase	Carbon compound catabolism
PA1603	probable transcriptional regulator	Transcriptional regulators
PA1606	hypothetical protein	Hypothetical, unclassified, unknown
PA1625	conserved hypothetical protein	Membrane proteins
PA1659	hypothetical protein	Hypothetical, unclassified, unknown

ORF	Product name	Function class
PA1730	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA1780	assimilatory nitrite reductase small subunit	Central intermediary metabolism
PA1786	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA1791	hypothetical protein	Hypothetical, unclassified, unknown
PA1847	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA1870	hypothetical protein	Hypothetical, unclassified, unknown
PA1889	hypothetical protein	Hypothetical, unclassified, unknown
PA1931	probable ferredoxin	Energy metabolism
PA1932	probable hydroxylase molybdopterin-containing subunit	Carbon compound catabolism
PA1933	probable hydroxylase large subunit	Carbon compound catabolism
PA2017	hypothetical protein	Hypothetical, unclassified, unknown
PA2021	hypothetical protein	Hypothetical, unclassified, unknown
PA2022	probable nucleotide sugar dehydrogenase	Putative enzymes
PA2024	probable ring-cleaving dioxygenase	Putative enzymes
PA2042	probable transporter (membrane subunit)	Transport of small molecules
PA2071	elongation factor G	Translation, post-translational modification, degradation
PA2076	probable transcriptional regulator	Transcriptional regulators
PA2107	hypothetical protein	Hypothetical, unclassified, unknown
PA2136	hypothetical protein	Hypothetical, unclassified, unknown
PA2140	probable metallothionein	Central intermediary metabolism
PA2149	hypothetical protein	Hypothetical, unclassified, unknown
PA2155	probable phospholipase	Putative enzymes
PA2167	hypothetical protein	Hypothetical, unclassified, unknown
PA2168	hypothetical protein	Hypothetical, unclassified, unknown
PA2170	hypothetical protein	Hypothetical, unclassified, unknown
PA2174	hypothetical protein	Hypothetical, unclassified, unknown
PA2175	hypothetical protein	Hypothetical, unclassified, unknown
PA2176	hypothetical protein	Hypothetical, unclassified, unknown
PA2178	hypothetical protein	Hypothetical, unclassified, unknown
PA2179	hypothetical protein	Hypothetical, unclassified, unknown
PA2181	hypothetical protein	Hypothetical, unclassified, unknown
PA2186	hypothetical protein	Hypothetical, unclassified, unknown
PA2188	probable alcohol dehydrogenase (Zn-dependent)	Putative enzymes
PA2243	hypothetical protein	Hypothetical, unclassified, unknown
PA2365	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA2366	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA2367	hypothetical protein	Hypothetical, unclassified, unknown
PA2369	hypothetical protein	Membrane proteins
PA2441	hypothetical protein	Hypothetical, unclassified, unknown
PA2444	serine hydroxymethyltransferase	Amino acid biosynthesis and metabolism
PA2445	glycine cleavage system protein P2	Central intermediary metabolism
PA2446	glycine cleavage system protein H2	Amino acid biosynthesis and metabolism
PA2459	hypothetical protein	Hypothetical, unclassified, unknown
PA2462	hypothetical protein	Hypothetical, unclassified, unknown
PA2485	hypothetical protein	Hypothetical, unclassified, unknown
PA2486	hypothetical protein	Hypothetical, unclassified, unknown
PA2491	probable oxidoreductase	Putative enzymes
PA2493	RND multidrug efflux membrane fusion protein MexE precursor	Transport of small molecules
PA2494	RND multidrug efflux transporter MexF	Transport of small molecules
PA2495	Multidrug efflux outer membrane protein OprN precursor	Membrane proteins
PA2533	probable sodium:alanine symporter	Membrane proteins
PA2536	probable phosphatidate cytidyllyltransferase	Fatty acid and phospholipid metabolism
PA2562	hypothetical protein	Hypothetical, unclassified, unknown
PA2569	hypothetical protein	Hypothetical, unclassified, unknown
PA2618	hypothetical protein	Translation, post-translational modification, degradation
PA2635	hypothetical protein	Hypothetical, unclassified, unknown
PA2658	hypothetical protein	Hypothetical, unclassified, unknown
PA2659	hypothetical protein	Hypothetical, unclassified, unknown
PA2708	hypothetical protein	Hypothetical, unclassified, unknown
PA2718	probable transcriptional regulator	Transcriptional regulators
PA2761	hypothetical protein	Membrane proteins
PA2777	conserved hypothetical protein	Membrane proteins
PA2782	hypothetical protein	Hypothetical, unclassified, unknown
PA2799	hypothetical protein	Hypothetical, unclassified, unknown
PA2803	hypothetical protein	Hypothetical, unclassified, unknown
PA2804	hypothetical protein	Hypothetical, unclassified, unknown
PA2815	probable acyl-CoA dehydrogenase	Putative enzymes
PA2816	hypothetical protein	Hypothetical, unclassified, unknown

ORF	Product name	Function class
PA2827	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA2880	hypothetical protein	Hypothetical, unclassified, unknown
PA2881	probable two-component response regulator	Transcriptional regulators
PA2882	probable two-component sensor	Two-component regulatory systems
PA2883	hypothetical protein	Hypothetical, unclassified, unknown
PA2895	hypothetical protein	Hypothetical, unclassified, unknown
PA2931	probable transcriptional regulator	Transcriptional regulators
PA2939	probable aminopeptidase	Secreted Factors (toxins, enzymes, alginate)
PA2969	fatty acid biosynthesis protein PlsX	Fatty acid and phospholipid metabolism
PA2970	50S ribosomal protein L32	Translation, post-translational modification, degradation
PA3023	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA3031	hypothetical protein	Hypothetical, unclassified, unknown
PA3079	hypothetical protein	Membrane proteins
PA3082	glycine betaine transmethylase	Amino acid biosynthesis and metabolism
PA3105	general secretion pathway protein D	Protein secretion/export apparatus
PA3121	3-isopropylmalate dehydratase large subunit	Amino acid biosynthesis and metabolism
PA3205	hypothetical protein	Hypothetical, unclassified, unknown
PA3218	hypothetical protein	Hypothetical, unclassified, unknown
PA3219	hypothetical protein	Hypothetical, unclassified, unknown
PA3221	CsaA protein	Protein secretion/export apparatus
PA3229	hypothetical protein	Hypothetical, unclassified, unknown
PA3249	probable transcriptional regulator	Transcriptional regulators
PA3273	hypothetical protein	Hypothetical, unclassified, unknown
PA3274	hypothetical protein	Hypothetical, unclassified, unknown
PA3280	Pyrophosphate-specific outer membrane porin OprO precursor	Transport of small molecules
PA3296	alkaline phosphatase	Central intermediary metabolism
PA3309	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA3319	non-hemolytic phospholipase C precursor	Secreted Factors (toxins, enzymes, alginate)
PA3326	probable Clp-family ATP-dependent protease	Translation, post-translational modification, degradation
PA3327	probable non-ribosomal peptide synthetase	Adaptation, Protection
PA3329	hypothetical protein	Hypothetical, unclassified, unknown
PA3330	probable short chain dehydrogenase	Putative enzymes
PA3331	cytochrome P450	Adaptation, Protection
PA3332	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA3333	3-oxoacyl-[acyl-carrier-protein] synthase III	Fatty acid and phospholipid metabolism
PA3334	probable acyl carrier protein	Fatty acid and phospholipid metabolism
PA3335	hypothetical protein	Hypothetical, unclassified, unknown
PA3336	probable major facilitator superfamily (MFS) transporter	Membrane proteins
PA3337	ADP-L-glycero-D-mannoheptose 6-epimerase	Cell wall / LPS / capsule
PA3368	probable acetyltransferase	Putative enzymes
PA3376	probable ATP-binding component of ABC transporter	Transport of small molecules
PA3377	conserved hypothetical protein	Transport of small molecules
PA3380	conserved hypothetical protein	Transport of small molecules
PA3381	probable transcriptional regulator	Transcriptional regulators
PA3382	phosphonate transport protein PhnE	Membrane proteins
PA3383	binding protein component of ABC phosphonate transporter	Transport of small molecules
PA3384	ATP-binding component of ABC phosphonate transporter	Transport of small molecules
PA3389	probable ring-cleaving dioxygenase	Putative enzymes
PA3397	ferredoxin--NADP+ reductase	Biosynthesis of cofactors, prosthetic groups and carriers
PA3431	conserved hypothetical protein	Membrane proteins
PA3432	hypothetical protein	Membrane proteins
PA3436	hypothetical protein	Hypothetical, unclassified, unknown
PA3476	autoinducer synthesis protein RhII	Adaptation, Protection
PA3478	rhamnosyltransferase chain B	Secreted Factors (toxins, enzymes, alginate)
PA3484	hypothetical protein	Hypothetical, unclassified, unknown
PA3540	GDP-mannose 6-dehydrogenase AlgD	Cell wall / LPS / capsule
PA3541	alginate biosynthesis protein Alg8	Cell wall / LPS / capsule
PA3542	alginate biosynthesis protein Alg44	Cell wall / LPS / capsule
PA3543	alginate biosynthetic protein AlgK precursor	Cell wall / LPS / capsule
PA3544	Alginate production outer membrane protein AlgE precursor	Membrane proteins
PA3545	alginate-c5-mannuronan-epimerase AlgG	Cell wall / LPS / capsule
PA3546	alginate biosynthesis protein AlgX	Cell wall / LPS / capsule
PA3547	poly(beta-d-mannuronate) lyase precursor AlgL	Cell wall / LPS / capsule
PA3548	alginate o-acetyltransferase AlgI	Cell wall / LPS / capsule
PA3549	alginate o-acetyltransferase AlgJ	Cell wall / LPS / capsule
PA3550	alginate o-acetyltransferase AlgF	Cell wall / LPS / capsule
PA3551	phosphomannose isomerase / guanosine 5'-diphospho-D-mannose pyrophosphorylase	Cell wall / LPS / capsule
PA3553	ArnC	Adaptation, Protection

Supplementary Table 3

ORF	Product name	Function class
PA3554	ArnA	Putative enzymes
PA3555	ArnD	Adaptation, Protection
PA3556	inner membrane L-Ara4N transferase ArnT	Adaptation, Protection
PA3557	ArnE	Adaptation, Protection
PA3559	probable nucleotide sugar dehydrogenase	Putative enzymes
PA3569	3-hydroxyisobutyrate dehydrogenase	Carbon compound catabolism
PA3577	hypothetical protein	Hypothetical, unclassified, unknown
PA3578	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA3598	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA3651	phosphatidate cytidylyltransferase	Fatty acid and phospholipid metabolism
PA3655	elongation factor Ts	Translation, post-translational modification, degradation
PA3688	hypothetical protein	Hypothetical, unclassified, unknown
PA3692	probable outer membrane protein precursor	Membrane proteins
PA3724	elastase LasB	Secreted Factors (toxins, enzymes, alginate)
PA3743	tRNA (guanine-N1)-methyltransferase	Transcription, RNA processing and degradation
PA3744	16S rRNA processing protein	Transcription, RNA processing and degradation
PA3819	conserved hypothetical protein	Membrane proteins
PA3820	secretion protein SecF	Protein secretion/export apparatus
PA3821	secretion protein SecD	Membrane proteins
PA3840	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA3890	probable permease of ABC transporter	Membrane proteins
PA3905	hypothetical protein	Hypothetical, unclassified, unknown
PA3906	hypothetical protein	Hypothetical, unclassified, unknown
PA3907	hypothetical protein	Hypothetical, unclassified, unknown
PA3908	hypothetical protein	Hypothetical, unclassified, unknown
PA3909	hypothetical protein	Hypothetical, unclassified, unknown
PA3910	hypothetical protein	Hypothetical, unclassified, unknown
PA3929	cyanide insensitive terminal oxidase	Energy metabolism
PA3944	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA3952	hypothetical protein	Hypothetical, unclassified, unknown
PA3957	probable short-chain dehydrogenase	Putative enzymes
PA3964	hypothetical protein	Hypothetical, unclassified, unknown
PA4017	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA4040	hypothetical protein	Hypothetical, unclassified, unknown
PA4063	hypothetical protein	Hypothetical, unclassified, unknown
PA4110	beta-lactamase precursor	Adaptation, Protection
PA4111	hypothetical protein	Hypothetical, unclassified, unknown
PA4112	probable sensor/response regulator hybrid	Two-component regulatory systems
PA4154	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA4155	hypothetical protein	Hypothetical, unclassified, unknown
PA4190	probable FAD-dependent monooxygenase	Putative enzymes
PA4238	DNA-directed RNA polymerase alpha chain	Transcription, RNA processing and degradation
PA4243	secretion protein SecY	Membrane proteins
PA4244	50S ribosomal protein L15	Translation, post-translational modification, degradation
PA4246	30S ribosomal protein S5	Translation, post-translational modification, degradation
PA4247	50S ribosomal protein L18	Translation, post-translational modification, degradation
PA4248	50S ribosomal protein L6	Translation, post-translational modification, degradation
PA4255	50S ribosomal protein L29	Translation, post-translational modification, degradation
PA4261	50S ribosomal protein L23	Translation, post-translational modification, degradation
PA4262	50S ribosomal protein L4	Translation, post-translational modification, degradation
PA4272	50S ribosomal protein L10	Translation, post-translational modification, degradation
PA4293	two-component sensor PprA	Two-component regulatory systems
PA4317	hypothetical protein	Membrane proteins
PA4344	probable hydrolase	Putative enzymes
PA4345	hypothetical protein	Hypothetical, unclassified, unknown
PA4348	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA4350	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA4351	probable acyltransferase	Fatty acid and phospholipid metabolism
PA4354	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA4355	probable major facilitator superfamily (MFS) transporter	Membrane proteins
PA4356	xenobiotic reductase	Adaptation, Protection
PA4357	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA4371	hypothetical protein	Hypothetical, unclassified, unknown
PA4407	cell division protein FtsZ	Cell division
PA4408	cell division protein FtsA	Cell division
PA4409	cell division protein FtsQ	Cell division
PA4410	D-alanine--D-alanine ligase	Cell wall / LPS / capsule
PA4411	UDP-N-acetylmuramate--alanine ligase	Cell wall / LPS / capsule

Supplementary Table 3

ORF	Product name	Function class
PA4412	UDP-N-acetylglucosamine--N-acetylmuramyl undecaprenol N-acetylglucosamine tra	Carbon compound catabolism
PA4413	cell division protein FtsW	Cell division
PA4414	UDP-N-acetylmuramoylalanine--D-glutamate ligase	Cell wall / LPS / capsule
PA4415	phospho-N-acetylmuramoyl-pentapeptide-transferase	Cell wall / LPS / capsule
PA4416	UDP-N-acetylmuramoylalanyl-D-glutamyl-2, 6-diaminopimelate--D-alanyl-D-alanyl	Cell wall / LPS / capsule
PA4419	cell division protein FtsL	Cell division
PA4421	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA4498	probable metallopeptidase	Translation, post-translational modification, degradation
PA4500	probable binding protein component of ABC transporter	Transport of small molecules
PA4502	probable binding protein component of ABC transporter	Transport of small molecules
PA4503	probable permease of ABC transporter	Membrane proteins
PA4504	probable permease of ABC transporter	Membrane proteins
PA4505	probable ATP-binding component of ABC transporter	Transport of small molecules
PA4506	probable ATP-binding component of ABC dipeptide transporter	Transport of small molecules
PA4507	hypothetical protein	Membrane proteins
PA4525	type 4 fimbrial precursor PilA	Motility & Attachment
PA4526	type 4 fimbrial biogenesis protein PilB	Motility & Attachment
PA4569	octaprenyl-diphosphate synthase	Energy metabolism
PA4575	hypothetical protein	Hypothetical, unclassified, unknown
PA4588	glutamate dehydrogenase	Amino acid biosynthesis and metabolism
PA4589	probable outer membrane protein precursor	Membrane proteins
PA4621	probable oxidoreductase	Putative enzymes
PA4623	hypothetical protein	Hypothetical, unclassified, unknown
PA4632	hypothetical protein	Hypothetical, unclassified, unknown
PA4657	hypothetical protein	Hypothetical, unclassified, unknown
PA4658	hypothetical protein	Hypothetical, unclassified, unknown
PA4671	probable ribosomal protein L25	Adaptation, Protection
PA4674	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA4691	hypothetical protein	Hypothetical, unclassified, unknown
PA4697	hypothetical protein	Hypothetical, unclassified, unknown
PA4713	hypothetical protein	Hypothetical, unclassified, unknown
PA4742	tRNA pseudouridine 55 synthase	Translation, post-translational modification, degradation
PA4743	ribosome-binding factor A	Translation, post-translational modification, degradation
PA4744	translation initiation factor IF-2	Translation, post-translational modification, degradation
PA4773	hypothetical protein	Hypothetical, unclassified, unknown
PA4781	probable two-component response regulator	Transcriptional regulators
PA4782	hypothetical protein	Hypothetical, unclassified, unknown
PA4785	probable acyl-CoA thiolase	Putative enzymes
PA4786	probable short-chain dehydrogenase	Putative enzymes
PA4811	nitrate-inducible formate dehydrogenase, beta subunit	Energy metabolism
PA4813	lipase LipC	Fatty acid and phospholipid metabolism
PA4844	probable chemotaxis transducer	Adaptation, Protection
PA4858	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA4862	probable ATP-binding component of ABC transporter	Transport of small molecules
PA4870	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA4877	hypothetical protein	Hypothetical, unclassified, unknown
PA4879	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA4881	hypothetical protein	Hypothetical, unclassified, unknown
PA4896	probable sigma-70 factor, ECF subfamily	Transcriptional regulators
PA4933	hypothetical protein	Membrane proteins
PA5033	hypothetical protein	Hypothetical, unclassified, unknown
PA5040	Type 4 fimbrial biogenesis outer membrane protein PilQ precursor	Motility & Attachment
PA5041	type 4 fimbrial biogenesis protein PilP	Motility & Attachment
PA5042	type 4 fimbrial biogenesis protein PilO	Motility & Attachment
PA5043	type 4 fimbrial biogenesis protein PilN	Motility & Attachment
PA5044	type 4 fimbrial biogenesis protein PilM	Motility & Attachment
PA5075	probable permease of ABC transporter	Membrane proteins
PA5097	probable amino acid permease	Membrane proteins
PA5099	probable transporter	Membrane proteins
PA5116	probable transcriptional regulator	Transcriptional regulators
PA5124	two-component sensor NtrB	Two-component regulatory systems
PA5125	two-component response regulator NtrC	Transcriptional regulators
PA5128	secretion protein SecB	Protein secretion/export apparatus
PA5129	glutaredoxin	Energy metabolism
PA5139	hypothetical protein	Hypothetical, unclassified, unknown
PA5169	probable C4-dicarboxylate transporter	Membrane proteins
PA5170	arginine/ornithine antiporter	Membrane proteins
PA5180	conserved hypothetical protein	Hypothetical, unclassified, unknown

Supplementary Table 3

ORF	Product name	Function class
PA5182	hypothetical protein	Membrane proteins
PA5183	hypothetical protein	Membrane proteins
PA5192	phosphoenolpyruvate carboxykinase	Carbon compound catabolism
PA5202	hypothetical protein	Hypothetical, unclassified, unknown
PA5209	hypothetical protein	Hypothetical, unclassified, unknown
PA5212	hypothetical protein	Hypothetical, unclassified, unknown
PA5220	hypothetical protein	Hypothetical, unclassified, unknown
PA5232	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA5262	alginate biosynthesis protein AlgZ/FimS	Secreted Factors (toxins, enzymes, alginate)
PA5275	conserved hypothetical protein	Hypothetical, unclassified, unknown
PA5287	ammonium transporter AmtB	Membrane proteins
PA5299	hypothetical protein	Hypothetical, unclassified, unknown
PA5322	phosphomannomutase AlgC	Cell wall / LPS / capsule
PA5360	two-component response regulator PhoB	Transcriptional regulators
PA5361	two-component sensor PhoR	Two-component regulatory systems
PA5366	ATP-binding component of ABC phosphate transporter	Membrane proteins
PA5367	membrane protein component of ABC phosphate transporter	Membrane proteins
PA5368	membrane protein component of ABC phosphate transporter	Membrane proteins
PA5415	serine hydroxymethyltransferase	Amino acid biosynthesis and metabolism
PA5422	hypothetical protein	Hypothetical, unclassified, unknown
PA5441	hypothetical protein	Hypothetical, unclassified, unknown
PA5460	hypothetical protein	Hypothetical, unclassified, unknown
PA5473	conserved hypothetical protein	Membrane proteins
PA5475	hypothetical protein	Hypothetical, unclassified, unknown
PA5476	citrate transporter	Membrane proteins
PA5498	probable adhesin	Motility & Attachment
PA5499	transcriptional regulator np20	Transcriptional regulators
PA5524	probable short-chain dehydrogenase	Putative enzymes
PA5525	probable transcriptional regulator	Transcriptional regulators
PA5526	hypothetical protein	Hypothetical, unclassified, unknown
PA5549	glucosamine--fructose-6-phosphate aminotransferase	Central intermediary metabolism
PA5555	ATP synthase gamma chain	Energy metabolism
PA5556	ATP synthase alpha chain	Energy metabolism
PA5557	ATP synthase delta chain	Energy metabolism
PA5558	ATP synthase B chain	Energy metabolism
PA5559	atp synthase C chain	Energy metabolism
PA5560	ATP synthase A chain	Energy metabolism
PA5568	conserved hypothetical protein	Membrane proteins

ORF	Product name	Function class
Alginate		
PA2867	probable chemotaxis transducer	Adaptation, Protection
PA3819	conserved hypothetical protein	Membrane proteins
PA5182	hypothetical protein	Membrane proteins
RsmA		
PA0105	cytochrome c oxidase, subunit II	Energy metabolism
PA0108	cytochrome c oxidase, subunit III	Energy metabolism
PA0129	gamma-aminobutyrate permease	Transport of small molecules
PA0173	probable methyltransferase	Adaptation, Protection
PA0210	malonate decarboxylase delta subunit	Carbon compound catabolism
PA0212	malonate decarboxylase gamma subunit	Carbon compound catabolism
PA0235	4-hydroxybenzoate transporter PcaK	Membrane proteins
PA0396	twitching motility protein PilU	Motility & Attachment
PA0652	transcriptional regulator Vfr	Transcriptional regulators
PA0673	hypothetical protein	Hypothetical, unclassified, unknown
PA0706	chloramphenicol acetyltransferase	Antibiotic resistance and susceptibility
PA0710	lactoylglutathione lyase	Central intermediary metabolism
PA0723	coat protein B of bacteriophage Pfl1	Related to phage, transposon, or plasmid
PA0843	phospholipase accessory protein PlcR precursor	Secreted Factors (toxins, enzymes, alginate)
PA0844	hemolytic phospholipase C precursor	Secreted Factors (toxins, enzymes, alginate)
PA0905	RsmA, regulator of secondary metabolites	Translation, post-translational modification, degradation
PA0994	usher CupC3	Motility & Attachment
PA1001	anthranilate synthase component I	Adaptation, Protection
PA1092	flagellin type B	Motility & Attachment
PA1148	exotoxin A precursor	Secreted Factors (toxins, enzymes, alginate)
PA1151	pyocin S2 immunity protein	Adaptation, Protection
PA1173	cytochrome c-type protein NapB precursor	Energy metabolism
PA1247	alkaline protease secretion protein AprE	Secreted Factors (toxins, enzymes, alginate)
PA1251	probable chemotaxis transducer	Adaptation, Protection
PA1338	gamma-glutamyltranspeptidase precursor	Amino acid biosynthesis and metabolism
PA1393	adenosine 5'-phosphosulfate (APS) kinase	Amino acid biosynthesis and metabolism
PA1409	acetylpolyamine aminohydrolase	Carbon compound catabolism
PA1635	potassium-transporting ATPase, C chain	Transport of small molecules
PA1695	translocation protein in type III secretion	Protein secretion/export apparatus
PA1758	para-aminobenzoate synthase component I	Biosynthesis of cofactors, prosthetic groups and carriers
PA1770	phosphoenolpyruvate synthase	Energy metabolism
PA1781	assimilatory nitrite reductase large subunit	Central intermediary metabolism
PA1947	ribose transport protein RbsA	Transport of small molecules
PA1949	ribose operon repressor RbsR	Carbon compound catabolism
PA1983	cytochrome c550	Energy metabolism
PA2007	maleylacetoacetate isomerase	Carbon compound catabolism
PA2009	homogentisate 1,2-dioxygenase	Carbon compound catabolism
PA2064	copper resistance protein B precursor	Adaptation, Protection
PA2129	chaperone CupA2	Motility & Attachment
PA2337	transcriptional regulator MtlR	Transcriptional regulators
PA2493	RND multidrug efflux membrane fusion protein MexE precursor	Transport of small molecules
PA2494	RND multidrug efflux transporter MexF	Transport of small molecules
PA2495	Multidrug efflux outer membrane protein OprN precursor	Membrane proteins
PA2509	muconate cycloisomerase I	Carbon compound catabolism
PA2926	histidine transport protein HisP	Amino acid biosynthesis and metabolism
PA3540	GDP-mannose 6-dehydrogenase AlgD	Cell wall / LPS / capsule
PA3543	alginate biosynthetic protein AlgK precursor	Cell wall / LPS / capsule
PA3544	Alginate production outer membrane protein AlgE precursor	Membrane proteins
PA3549	alginate o-acetyltransferase AlgJ	Cell wall / LPS / capsule
PA3603	diacylglycerol kinase	Fatty acid and phospholipid metabolism
PA4110	beta-lactamase precursor	Adaptation, Protection
PA4127	2-oxo-hept-3-ene-1,7-dioate hydratase	Carbon compound catabolism
PA4138	tyrosyl-tRNA synthetase	Amino acid biosynthesis and metabolism
PA4158	ferric enterobactin transport protein FepC	Transport of small molecules
PA4205	hypothetical protein	Membrane proteins
PA4210	probable phenazine biosynthesis protein	Secreted Factors (toxins, enzymes, alginate)
PA4307	chemotactic transducer PctC	Adaptation, Protection
PA4310	chemotactic transducer PctB	Adaptation, Protection
PA4356	xenobiotic reductase	Adaptation, Protection

ORF	Product name	Function class
PA4522	beta-lactamase expression regulator AmpD	Cell wall / LPS / capsule
PA4527	still frameshift type 4 fimbrial biogenesis protein PilC	Motility & Attachment
PA4855	phosphoribosylamine--glycine ligase	Nucleotide biosynthesis and metabolism
PA4953	chemotaxis protein MotB	Membrane proteins
PA4954	chemotaxis protein MotA	Adaptation, Protection
PA5041	type 4 fimbrial biogenesis protein PilP	Motility & Attachment
PA5042	type 4 fimbrial biogenesis protein PilO	Motility & Attachment
PA5043	type 4 fimbrial biogenesis protein PilN	Motility & Attachment
PA5044	type 4 fimbrial biogenesis protein PilM	Motility & Attachment
PA5243	delta-aminolevulinic acid dehydratase	Biosynthesis of cofactors, prosthetic groups and carriers
PA5355	glycolate oxidase subunit GlcD	Central intermediary metabolism
PA5361	two-component sensor PhoR	Two-component regulatory systems
PA5501	permease of ABC zinc transporter ZnuB	Membrane proteins