

**TABLE S1** RNA-seq analysis in the *orn* mutant relative to wild-type

Locus Tag	Locus Tag	Name	Product	Fold Change <i>orn</i> vs. PA14	<i>P</i> value
PA14_00230	PA0021		conserved hypothetical protein	5.101	1.648E-04
PA14_01250	PA0103		probable sulfate transporter	2.361	4.682E-03
PA14_01290	PA0105	<i>coxB</i>	cytochrome c oxidase, subunit II	2.472	3.448E-02
PA14_02060	PA0165		hypothetical protein	2.506	9.258E-08
PA14_02110	PA0169		SiaD	5.309	1.999E-20
PA14_02130	PA0170		hypothetical protein	9.237	1.812E-25
PA14_02140	PA0171		hypothetical protein	9.757	7.436E-26
PA14_02150	PA0172		SiaA	14.947	1.155E-44
PA14_02550	PA0208	<i>mdcA</i>	malonate decarboxylase alpha subunit	5.456	1.343E-14
PA14_04060	PA0311		hypothetical protein	3.893	8.430E-06
PA14_04610	PA0352		probable transporter	3.341	2.725E-09
PA14_05080	PA0390	<i>metX</i>	homoserine O-acetyltransferase	3.207	8.977E-14
PA14_06180	PA0472		FiuI	7.702	9.145E-03
PA14_07550	PA0578		conserved hypothetical protein	9.839	7.675E-13
PA14_07560	PA0579	<i>rpsU</i>	30S ribosomal protein S21	6.303	2.384E-04
PA14_07860	PA0603		AgtA	5.188	1.135E-06
PA14_07870	PA0604		AgtB	4.283	6.158E-06
PA14_07970	PA0612		repressor, PtrB	3.053	1.892E-03
PA14_07980	PA0613		hypothetical protein	3.238	6.263E-11
PA14_07980	PA0615		hypothetical protein	3.585	2.459E-12

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08000				
PA14_08010	PA0616	hypothetical protein	3.695	1.222E-08
PA14_08020	PA0617	probable bacteriophage protein	3.709	2.966E-09
PA14_08030	PA0618	probable bacteriophage protein	3.664	1.997E-08
PA14_08040	PA0619	probable bacteriophage protein	3.626	3.419E-13
PA14_08050	PA0620	probable bacteriophage protein	2.924	2.020E-10
PA14_08060	PA0621	conserved hypothetical protein	2.376	4.971E-05
PA14_08070	PA0622	probable bacteriophage protein	3.234	5.329E-12
PA14_08090	PA0623	probable bacteriophage protein	2.999	1.919E-10
PA14_08100	PA0624	hypothetical protein	3.342	8.559E-11
PA14_08120	PA0625	hypothetical protein	3.299	8.352E-09
PA14_08130	PA0626	hypothetical protein	3.377	3.302E-05
PA14_08140	PA0627	conserved hypothetical protein	3.108	3.297E-08
PA14_08150	PA0628	conserved hypothetical protein	3.385	5.495E-08
PA14_08160	PA0629	conserved hypothetical protein	3.689	6.944E-07
PA14_08180	PA0630	hypothetical protein	4.223	2.695E-07
PA14_08200	PA0632	hypothetical protein	3.000	4.495E-06
PA14_08210	PA0633	hypothetical protein	2.824	4.475E-09
PA14_08220	PA0634	hypothetical protein	2.740	1.271E-08
PA14_08230	PA0635	hypothetical protein	2.783	3.407E-06
PA14_08240	PA0636	hypothetical protein	3.454	8.654E-11
PA14_08250	PA0637	conserved hypothetical protein	3.444	2.532E-07
PA14_08250	PA0638	probable bacteriophage protein	3.536	3.414E-12

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08260			protein		
PA14_08270	PA0639		conserved hypothetical protein	3.671	1.092E-05
PA14_08280	PA0640		probable bacteriophage protein	3.381	1.612E-08
PA14_08300	PA0641		probable bacteriophage protein	3.265	7.846E-09
PA14_08310	PA0646		hypothetical protein	2.102	3.484E-06
PA14_08320	PA0647		hypothetical protein	2.249	1.848E-05
PA14_08330	PA0648		hypothetical protein	2.002	5.818E-05
PA14_08390	PA0654	<i>speD</i>	S-adenosylmethionine decarboxylase proenzyme	3.524	7.411E-11
PA14_54740	PA0737		hypothetical protein	9.442	7.727E-03
PA14_54260	PA0775		conserved hypothetical protein	4.251	1.402E-16
PA14_54030	PA0790		hypothetical protein	2.875	3.866E-02
PA14_53090	PA0864		probable transcriptional regulator	2.355	2.813E-03
PA14_53050	PA0866	<i>aroP2</i>	aromatic amino acid transport protein AroP2	2.013	4.447E-02
PA14_52510	PA0908		hypothetical protein	4.708	2.558E-12
PA14_52500	PA0909		hypothetical protein	3.955	4.211E-02
PA14_52480	PA0911		hypothetical protein	2.696	5.779E-07
PA14_52440	PA0914		hypothetical protein	6.584	1.097E-10
PA14_52430	PA0915		conserved hypothetical protein	8.199	4.295E-14
PA14_52420	PA0916	<i>rimO</i>	conserved hypothetical protein	5.841	3.361E-25
PA14_52250	PA0929		two-component response regulator	4.352	3.696E-08
PA14_52010	PA0947		conserved hypothetical protein	3.775	3.767E-14
PA14_51680	PA0975		probable radical activating enzyme	7.416	2.445E-07

PA14_59220	PA0985		pyocin S5	2.337	6.858E-07
PA14_50100	PA1104	<i>fliI</i>	flagellum-specific ATP synthase FliI	2.476	8.511E-09
PA14_48850	PA1194		probable amino acid permease	2.024	8.398E-03
PA14_48410	PA1227		hypothetical protein	4.226	8.372E-13
PA14_48400	PA1228		hypothetical protein	5.543	1.968E-10
PA14_47410	PA1299		conserved hypothetical protein	4.877	9.689E-07
PA14_47400	PA1300		ECF sigma factor	17.351	4.531E-02
PA14_46250	PA1407		hypothetical protein	5.989	2.395E-18
PA14_46120	PA1417		probable decarboxylase	4.070	1.441E-03
PA14_46080	PA1420		hypothetical protein	3.698	2.781E-05
PA14_46070	PA1421	<i>gbuA</i>	guanidinobutyrase	4.105	3.624E-03
PA14_44520	PA1541		probable drug efflux transporter	4.555	1.190E-03
PA14_43730	PA1606		hypothetical protein	2.446	3.608E-02
PA14_43405	PA1632	<i>kdbF</i>	KdpF protein	77.446	3.276E-04
PA14_43400	PA1633	<i>kdpA</i>	potassium-transporting ATPase, A chain	17.827	8.614E-03
PA14_43380	PA1634	<i>kdpB</i>	potassium-transporting ATPase, B chain	9.506	8.172E-03
PA14_43370	PA1635	<i>kdpC</i>	potassium-transporting ATPase, C chain	11.240	6.157E-03
PA14_42660	PA1690	<i>pscU</i>	translocation protein in type III secretion	2.342	5.296E-06
PA14_42640	PA1691	<i>pscT</i>	translocation protein in type III secretion	3.324	8.139E-07
PA14_42580	PA1696	<i>pscO</i>	translocation protein in type III secretion	2.244	5.274E-03
PA14_42550	PA1698	<i>popN</i>	Type III secretion outer membrane protein PopN precursor	3.691	4.085E-07
PA14_42550	PA1699		Pcr1	2.533	2.056E-05

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42540					
PA14_42530	PA1700		Pcr2	2.748	2.813E-03
PA14_42520	PA1701		Pcr3	4.077	4.617E-07
PA14_42510	PA1702		Pcr4	2.559	2.308E-02
PA14_42500	PA1703	<i>pcrD</i>	type III secretory apparatus protein PcrD	2.219	1.344E-06
PA14_42480	PA1705	<i>pcrG</i>	regulator in type III secretion	3.484	1.456E-03
PA14_42400	PA1712	<i>exsB</i>	exoenzyme S synthesis protein B	2.345	3.921E-05
PA14_42390	PA1713	<i>exsA</i>	transcriptional regulator ExsA	3.093	1.289E-11
PA14_42380	PA1714		ExsD	2.345	3.234E-04
PA14_42360	PA1715	<i>pscB</i>	type III export apparatus protein	3.581	1.959E-08
PA14_42350	PA1716	<i>pscC</i>	Type III secretion outer membrane protein PscC precursor	2.292	4.198E-07
PA14_42340	PA1717	<i>pscD</i>	type III export protein PscD	2.278	1.625E-03
PA14_42270	PA1723	<i>pscJ</i>	type III export protein PscJ	2.090	1.810E-05
PA14_42260	PA1724	<i>pscK</i>	type III export protein PscK	3.598	1.779E-09
PA14_42250	PA1725	<i>pscL</i>	type III export protein PscL	2.801	2.644E-09
PA14_41650	PA1771		EstX	2.079	2.334E-04
PA14_41563	PA1778	<i>cobA</i>	uroporphyrin-III C-methyltransferase	2.309	4.991E-04
PA14_41430	PA1790		hypothetical protein	2.311	3.229E-06
PA14_40540	PA1854		conserved hypothetical protein	4.041	8.204E-09
PA14_40520	PA1855		hypothetical protein	4.618	7.524E-03
PA14_39360	PA1945		probable transcriptional regulator	2.718	1.519E-04
PA14_39190	PA1959	<i>bacA</i>	bacitracin resistance protein	2.577	2.166E-05

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PA14_37990	PA2050		probable sigma-70 factor, ECF subfamily	11.533	4.702E-02
PA14_36680	PA2156		conserved hypothetical protein	4.911	2.013E-02
PA14_36150	PA2208		hypothetical protein	18.154	5.043E-02
PA14_35590	PA2243	<i>pslM</i>	hypothetical protein	4.905	2.597E-05
PA14_35460	PA2252		probable AGCS sodium/alanine/glycine symporter	7.640	3.958E-24
PA14_34730	PA2312		probable transcriptional regulator	7.433	2.855E-02
PA14_33680	PA2398	<i>fpvA</i>	ferripyoverdine receptor	5.544	1.320E-04
PA14_33600	PA2403		hypothetical protein	4.875	2.831E-04
PA14_33590	PA2404		hypothetical protein	10.421	3.925E-10
PA14_33580	PA2405		hypothetical protein	7.315	1.502E-04
PA14_33570	PA2406		hypothetical protein	8.390	4.476E-04
PA14_33560	PA2407		probable adhesion protein	11.858	4.209E-16
PA14_33550	PA2408		probable ATP-binding component of ABC transporter	14.889	3.291E-09
PA14_33540	PA2409		probable permease of ABC transporter	8.351	5.755E-09
PA14_33530	PA2410		hypothetical protein	6.664	3.661E-08
PA14_33380	PA2421		hypothetical protein	5.249	3.061E-05
PA14_32780	PA2463		hypothetical protein	2.155	4.607E-05
PA14_32470	PA2487		hypothetical protein	3.718	1.668E-02
PA14_32400	PA2493	<i>mexE</i>	Resistance-Nodulation-Cell Division (RND) multidrug efflux membrane fusion protein MexE precursor	4.007	1.286E-03
PA14_	PA2593		quorum threshold	2.629	1.773E-05

30560			expression element, QteE		
PA14_30430	PA2603		probable thiosulfate sulfurtransferase	4.033	1.404E-14
PA14_30240	PA2619	<i>infA</i>	initiation factor	2.396	1.825E-03
PA14_30030	PA2636		hypothetical protein	2.723	1.107E-02
PA14_29800	PA2652		methyl-accepting chemotaxis protein	2.393	7.536E-07
PA14_29770	PA2653		probable transporter	8.117	3.276E-18
PA14_29690	PA2660		hypothetical protein	2.955	9.786E-08
PA14_27370	PA2840		probable ATP- dependent RNA helicase	6.599	1.327E-17
PA14_25630	PA2970	<i>rpmF</i>	50S ribosomal protein L32	2.448	1.234E-08
PA14_25620	PA2971		conserved hypothetical protein	4.235	7.892E-09
PA14_25270	PA3000	<i>aroP1</i>	aromatic amino acid transport protein AroP1	2.410	8.833E-08
PA14_24860	PA3032	<i>snr1</i>	cytochrome c Snr1	3.979	1.763E-02
PA14_23610	PA3132		probable hydrolase	2.542	2.928E-02
PA14_23590	PA3133		probable transcriptional regulator	3.999	1.329E-08
PA14_23110	PA3179		conserved hypothetical protein	3.860	1.457E-15
PA14_22700	PA3209		conserved hypothetical protein	3.099	2.649E-02
PA14_21230	PA3308	<i>hepA</i>	RNA helicase HepA	2.044	2.461E-05
PA14_20470	PA3370		hypothetical protein	2.416	2.541E-02
PA14_19470	PA3452	<i>mgoA</i>	malate:quinone oxidoreductase	2.767	2.073E-05
PA14_18150	PA3568		probable acetyl-coa synthetase	2.087	1.573E-03
PA14_17910	PA3586		probable hydrolase	2.058	4.658E-03
PA14_	PA3607	<i>potA</i>	polyamine transport	16.369	4.187E-21

17640			protein PotA		
PA14_17630	PA3608	<i>potB</i>	polyamine transport protein PotB	8.161	1.033E-25
PA14_17620	PA3609	<i>potC</i>	polyamine transport protein PotC	6.534	3.667E-07
PA14_17610	PA3610	<i>potD</i>	polyamine transport protein PotD	6.329	1.253E-09
PA14_17280	PA3638		conserved hypothetical protein	2.421	2.353E-05
PA14_17250	PA3641		probable amino acid permease	2.019	8.521E-05
PA14_16210	PA3726		conserved hypothetical protein	3.786	2.779E-11
PA14_16010	PA3741		hypothetical protein	4.642	1.576E-15
PA14_15990	PA3743	<i>trmD</i>	tRNA (guanine-N1)-methyltransferase	3.426	2.286E-05
PA14_15970	PA3745	<i>rpsP</i>	30S ribosomal protein S16	3.840	2.019E-08
PA14_15700	PA3766		probable aromatic amino acid transporter	2.406	5.628E-04
PA14_14680	PA3818		extragenic suppressor protein SuhB	4.241	2.395E-18
PA14_14610	PA3822	<i>yajC</i>	conserved hypothetical protein	2.528	2.135E-10
PA14_14330	PA3842		specific Pseudomonas chaperone for ExoS, SpcS	2.016	1.609E-02
PA14_12550	PA3967		hypothetical protein	4.786	1.695E-11
PA14_12360	PA3979		hypothetical protein	6.770	1.897E-25
PA14_12180	PA3990		conserved hypothetical protein	3.491	6.320E-04
PA14_12170	PA3991		hypothetical protein	3.315	4.195E-03
PA14_11580	PA4041		hypothetical protein	5.610	1.732E-17
PA14_11530	PA4045		conserved hypothetical protein	2.700	1.412E-06
PA14_09880	PA4177		hypothetical protein	4.337	1.011E-02
PA14_09880	PA4179		probable porin	5.604	3.424E-18



09850					
PA14_09680	PA4197		BfiS	4.014	1.843E-13
PA14_09660	PA4198		probable AMP-binding enzyme	17.466	6.603E-06
PA14_09630	PA4199		probable acyl-CoA dehydrogenase	6.505	2.398E-09
PA14_56040	PA4312		conserved hypothetical protein	2.053	1.139E-03
PA14_56480	PA4344		probable hydrolase	3.211	1.523E-06
PA14_57650	PA4438		conserved hypothetical protein	2.732	4.348E-05
PA14_58150	PA4481	<i>mreB</i>	rod shape-determining protein MreB	2.098	2.165E-05
PA14_58580	PA4515		conserved hypothetical protein	3.790	5.833E-06
PA14_58600	PA4516		hypothetical protein	2.426	2.094E-03
PA14_60400	PA4563	<i>rpsT</i>	30S ribosomal protein S20	2.890	1.176E-03
PA14_60520	PA4573		hypothetical protein	3.098	1.396E-04
PA14_60530	PA4574		conserved hypothetical protein	4.488	1.822E-05
PA14_61190	PA4624		cyclic diguanylate-regulated TPS partner B, CdrB	2.573	5.575E-07
PA14_61200	PA4625		cyclic diguanylate-regulated TPS partner A, CdrA	3.808	8.672E-16
PA14_61260	PA4629		hypothetical protein	3.676	3.760E-03
PA14_61370	PA4637		hypothetical protein	2.497	3.984E-02
PA14_61460	PA4645		probable purine/pyrimidine phosphoribosyl transferase	3.758	6.037E-06
PA14_61750	PA4669	<i>ipk</i>	isopentenyl monophosphate kinase	4.360	1.383E-04
PA14_61770	PA4670	<i>prs</i>	ribose-phosphate pyrophosphokinase	2.432	1.894E-06
PA14_61770	PA4684		hypothetical protein	2.136	1.483E-05

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61960					
PA14_62440	PA4719		probable transporter	2.769	9.458E-09
PA14_62510	PA4724		probable aminoacyl-transfer RNA synthetase (class I)	2.631	5.540E-07
PA14_62740	PA4743	<i>rbfA</i>	ribosome-binding factor A	2.372	6.394E-06
PA14_62780	PA4746		conserved hypothetical protein	5.094	2.672E-03
PA14_62830	PA4748	<i>tpiA</i>	triosephosphate isomerase	3.372	2.017E-03
PA14_63060	PA4768	<i>smpB</i>	SmpB protein	2.679	1.690E-09
PA14_63080	PA4770	<i>lldP</i>	L-lactate permease	9.218	5.879E-22
PA14_63090	PA4771	<i>lldD</i>	L-lactate dehydrogenase	7.641	3.066E-10
PA14_63100	PA4772		probable ferredoxin	6.952	5.458E-09
PA14_64000	PA4840		conserved hypothetical protein	6.257	5.591E-18
PA14_64450	PA4873		probable heat-shock protein	4.153	2.232E-14
PA14_65400	PA4950		conserved hypothetical protein	6.087	7.744E-24
PA14_67320	PA5098	<i>hutH</i>	histidine ammonia-lyase	2.677	3.275E-05
PA14_67350	PA5100	<i>hutU</i>	urocanase	3.346	5.654E-05
PA14_67370	PA5101		hypothetical protein	3.993	5.226E-04
PA14_67380	PA5102		hypothetical protein	5.000	2.382E-02
PA14_67400	PA5103		PuuR	6.182	1.204E-02
PA14_67580	PA5118	<i>thiI</i>	thiazole biosynthesis protein ThiI	4.451	6.957E-20
PA14_67750	PA5130		conserved hypothetical protein	2.869	2.053E-07
PA14_68440	PA5181		probable oxidoreductase	3.749	1.900E-08
PA14_69780	PA5286		conserved hypothetical protein	2.883	1.410E-03

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PA14_70170	PA5314		hypothetical protein	4.626	4.147E-12
PA14_70510	PA5341		hypothetical protein	4.243	5.545E-06
PA14_71750	PA5437		probable transcriptional regulator	3.049	1.652E-10
PA14_71890	PA5445		probable coenzyme A transferase	6.005	1.089E-17
PA14_72340	PA5479	<i>glpP</i>	proton-glutamate symporter	5.545	4.373E-26
PA14_72620	PA5503	<i>metN</i>	probable ATP-binding component of ABC transporter	5.999	3.904E-02
PA14_72650	PA5506		hypothetical protein	21.762	7.530E-17
PA14_72660	PA5507		hypothetical protein	7.856	1.807E-21
PA14_72690	PA5508		Glutamylpolyamine synthetase homologue	7.822	4.453E-24
PA14_72700	PA5509		hypothetical protein	6.148	2.881E-16
PA14_72710	PA5510		probable transporter	2.759	2.538E-08
PA14_72970	PA5531	<i>tonB</i>	TonB1	2.847	2.928E-02
PA14_27190			tRNA-Ser	26.828	1.707E-02
PA14_54840			tRNA-Gly	9.758	6.540E-12
PA14_60160			tRNA-Pro	9.338	1.182E-02
PA14_28750			hypothetical protein	9.071	1.654E-05
PA14_41290			hypothetical protein	7.188	1.582E-02
PA14_51650			integrase	7.153	5.929E-05
PA14_54850			hypothetical protein	6.875	1.633E-13
PA14_22160			hypothetical protein	5.973	1.203E-04
PA14_61760			tRNA-Gln	5.803	5.318E-06
PA14_			TrbI-like protein	5.210	2.222E-10

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30850				
PA14_14320		hypothetical protein	4.576	8.876E-05
PA14_27630		protein associated with synthesis and assembly of refractile inclusion bodies	4.470	2.353E-05
PA14_59510		hypothetical protein	4.311	2.198E-06
PA14_40340		hypothetical protein	4.304	4.927E-09
PA14_59520	Synonym: RL065	hypothetical protein	2.854	1.222E-05
PA14_22230		hypothetical protein	2.778	6.466E-04
PA14_59470		hypothetical protein	2.640	2.519E-06
PA14_22190		hypothetical protein	2.550	1.680E-07
PA14_55040		ferric enterobactin transporter ATP-binding protein	2.329	6.306E-03
PA14_59480		hypothetical protein	2.304	1.176E-03
PA14_28260		hypothetical protein	2.162	2.670E-03
PA14_71760		hypothetical protein	2.153	1.153E-02

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