

TABLE 2: Changes in gene expression upon treatment with 0.12 mM AgNO<sub>3</sub>

ORF and functional category	Gene	Annotation	Fold change	
			30 min	90 min
<b>Respiratory Chain</b>				
SERP0672	cydA	cytochrome d ubiquinol oxidase, subunit I	2.10	2.24
SERP0673	cydB	cytochrome d ubiquinol oxidase, subunit II	6.54	4.72
SERP0644	qoxC	quinol oxidase, subunit III	-	2.03
SERP0643	qoxD	quinol oxidase, subunit IV	4.07	4.95
SERP1708	atpC	ATP synthase F1, epsilon subunit	2.04	2.81
SERP1709	atpD	F0F1 ATP synthase subunit beta	-	2.65
SERP1710	atpG	F0F1 ATP synthase subunit gamma	-	2.02
SERP0084	nuoF	NADH dehydrogenase subunit 5	-	2.45
SERP0731	sdhA	succinate dehydrogenase flavoprotein subunit	-	-3.29
SERP0732	sdhB	succinate dehydrogenase iron-sulfur subunit	2.73	-2.22
SERP0730	sdhC	succinate dehydrogenase, cytochrome b558 subunit	-6.32	-43.87
<b>Glycolysis</b>				
SERP1494	-	fructokinase, putative	2.81	5.56
SERP0358	fruK	1-phosphofructokinase	-	8.09
SERP1261	pyk	pyruvate kinase	-	3.21
SERP0680	pdhA	pyruvate dehydrogenase complex E1 component, alpha subunit	-	-2.26
SERP0442	gapA-1	glyceraldehyde 3-phosphate dehydrogenase 1	-	2.48
SERP1250	gapA-2	glyceraldehyde 3-phosphate dehydrogenase 2	-7.05	-101.20
SERP2087	-	D-lactate dehydrogenase	-2.44	-2.53
<b>TCA cycle</b>				
SERP1258	gltA	citrate synthase	-	-2.34
SERP1387	fumC	fumarate hydratase	-	-3.46
SERP0921	acnA	aconitate hydratase	-	-3.86
SERP0985	sucB	dihydrolipoamide acetyltransferase	-	-4.30
SERP0813	sucC	succinyl-CoA synthetase subunit beta	-	-4.88
<b>Iron homeostasis</b>				
SERP1120	fur	transcriptional regulator, Fur family	7.87	9.69
SERP0522	-	NifU domain protein	11.82	3.19
SERP0499	-	NifU domain protein	2.20	2.75
SERP1431	ftnA	ferritin family protein	2.25	2.22
SERP1366	hemG	protoporphyrinogen oxidase	2.71	4.44
SERP1231	hemL-1	glutamate-1-semialdehyde aminotransferase	2.10	2.57
SERP1368	hemE	uroporphyrinogen decarboxylase	-2.61	-
SERP2189	-	uroporphyrin-III C-methyltransferase, putative	-	4.47
SERP2188	-	precorrin-2 dehydrogenase	-	2.22
SERP2127	feoA	FeoA family protein	-6.45	-4.15
SERP2126	feoB	ferrous iron transport protein B	-6.85	-6.18
SERP0292	sitA	Possible iron transporter	-42.56	-72.04
SERP0291	sitB	Possible iron transporter	-10.92	-14.28
SERP0290	sitC	Possible iron transporter	-12.44	-16.47
SERP0293	sirR	iron-dependent repressor	-6.68	-6.45
<b>Oxidative stress response</b>				
SERP2194	gpxA-2	glutathione peroxidase	3.95	4.26
SERP0500	sufB	FeS assembly protein SufB	3.30	3.84
SERP0151	hsI0	chaperonin, 33 kDa	3.24	-
SERP0728	trxA	thioredoxin	2.09	2.48
SERP0432	trxB	thioredoxin-disulfide reductase	2.66	2.71
SERP0059	ahpF	alkyl hydroperoxide reductase, F subunit	2.52	2.52
SERP0060	ahpC	alkyl hydroperoxide reductase, C subunit	2.27	2.26
SERP2265	-	organic hydroperoxide resistance protein, putative	-	4.48

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<b>Cell Wall / Biofilm</b>				
SERP0518	dltA	D-alanine--D-alanyl carrier protein ligase	2.60	7.82
SERP0519	dltB	dltB protein	2.88	11.64
SERP0520	dltC	D-alanine--poly(phosphoribitol) ligase subunit 2	2.54	9.68
SERP0521	dltD	dltD protein	4.78	18.31
SERP2293	icaA	N-glycosyltransferase PgaC	2.36	8.85
SERP2295	icaB	intercellular adhesion protein B	2.51	8.23
SERP2296	icaC	intercellular adhesion protein C	3.29	9.74
SERP2294	icaD	intercellular adhesion protein D	2.10	8.24
SERP2292	icaR	intercellular adhesion regulator	-2.61	-9.37
SERP1731	murA2	UDP-N-acetylglucosamine 1-carboxyvinyltransferase	-3.02	-5.33
SERP0405	murB	UDP-N-acetylenolpyruvoylglucosamine reductase	-3.62	-4.21
SERP0993	murG	N-acetylglucosaminyl transferase	-4.00	-2.38
SERP0607	murE	UDP-N-acetylmuramoylalanyl-D-glutamate-2,6-diaminopimelate ligase	-6.25	-2.97
SERP0746	pbp1	penicillin-binding protein 1	-10.59	-9.71
SERP1117	pbp3	penicillin-binding protein 3	-13.49	-9.36
SERP0747	mraY	phospho-N-acetylmuramoyl-pentapeptide-transferase	-5.17	-6.41
SERP2533	yycG	sensory box histidine kinase YycG	-5.18	-8.32
SERP1844	femX	femX protein	-5.89	-8.31
SERP0946	femA	femA protein	-7.34	-6.55
SERP0827	uppS	undecaprenyl diphosphate synthase	-12.36	-7.17
SERP2024	lytS	sensor histidine kinase LytS	-2.43	-2.81
SERP2025	lytR	response regulator LytR	-9.01	-6.23
SERP2027	lrgB	antiholin-like protein LrgB	-2.97	-26.02
SERP2026	lrgA	murein hydrolase regulator LrgA	-3.86	-71.30
<b>DNA repair / protection</b>				
SERP0166	radA	DNA repair protein RadA	7.44	13.26
SERP0935	-	ImpB/MucB/SamB family protein	4.43	4.94
SERP1442	ligA	DNA ligase, NAD-dependent	2.14	2.39
SERP0727	mutS2	recombination and DNA strand exchange inhibitor protein	3.29	5.01
SERP0427	uvrA	excinuclease ABC, A subunit	2.84	3.15
SERP0426	uvrB	excinuclease ABC subunit B	-3.12	-3.22
SERP0729	uvrC	excinuclease ABC subunit C	3.26	2.65
SERP1041	hup	DNA-binding protein HU	3.26	3.97
SERP0045	ssb	single-stranded DNA-binding protein	2.20	2.69
SERP1199	recJ	single-stranded-DNA-specific exonuclease RecJ	-4.82	-2.73
SERP0793	recG	ATP-dependent DNA helicase RecG	-3.45	-7.73
SERP1080	recN	DNA repair protein RecN	2.72	2.41
SERP1019	recU	Holliday junction-specific endonuclease	-4.09	-2.01
SERP1411	recX	recombination regulator RecX	-28.52	-21.39
SERP0555	rexA	exonuclease RexA	-2.48	-2.30
SERP0141	mfd	transcription-repair coupling factor	-2.48	-
SERP0909	lexA	LexA repressor	-3.69	-5.22
SERP1253	fpg	formamidopyrimidine-DNA glycosylase	-8.58	-7.50
SERP1660	-	MutS family protein	-53.21	-19.13
<b>Replication / Cell division</b>				
SERP0124	-	DNA replication initiation control protein YabA	3.86	7.24
SERP2553	dnaA	chromosomal replication initiation protein	-7.77	-3.68
SERP2537	dnaB	replicative DNA helicase	-	2.30
SERP1266	dnaE	DNA polymerase III, alpha subunit	-10.23	-8.24
SERP2552	dnaN	DNA polymerase III subunit beta	-2.10	-3.24
SERP2548	gyrA	DNA gyrase, A subunit	-3.17	-3.01
SERP2549	gyrB	DNA gyrase, B subunit	-8.04	-5.75
SERP1060	xerD	tyrosine recombinase XerD	-3.35	-6.23
SERP2550	recF	recombination protein F	-8.27	-7.08
SERP1049	recQ-2	ATP-dependent DNA helicase RecQ	-15.21	-29.34
SERP1254	polA	DNA polymerase I	-7.88	-6.30

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SERP0925	parE	DNA topoisomerase IV subunit B	-3.85	-2.20
SERP1025	-	DNA polymerase III, epsilon subunit/ATP-dependent helicase DinG	-11.20	-12.48
SERP0917	sbcD	exonuclease SbcD	-12.34	-8.74
SERP0745	ftsL	cell division protein FtsL	-11.13	-10.02
SERP1691	-	cell division protein, FtsW/RodA/SpoVE family	-19.75	-15.45
SERP1058	scpA	segregation and condensation protein A	-21.30	-8.82
SERP1057	scpB	segregation and condensation protein B	-38.19	-14.97
<b>Ribosome constituents</b>				
SERP1825	rpsC	30S ribosomal protein S3	2.65	3.48
SERP1814	rpsE	30S ribosomal protein S5	2.37	2.64
SERP0044	rpsF	30S ribosomal protein S6	2.27	2.86
SERP0187	rpsG	30S ribosomal protein S7	2.75	2.75
SERP1817	rpsH	30S ribosomal protein S8	2.52	3.71
SERP1806	rpsK	30S ribosomal protein S11	2.16	2.64
SERP0186	rpsL	30S ribosomal protein S12	2.09	2.47
SERP1807	rpsM	30S ribosomal protein S13	2.37	2.74
SERP0905	rpsN	30S ribosomal protein S14	34.76	13.11
SERP0804	rpsP	30S ribosomal protein S16	3.53	4.67
SERP0046	rpsR	30S ribosomal protein S18	4.61	6.00
SERP1827	rpsS	30S ribosomal protein S19	2.12	2.34
SERP1153	rpsT	30S ribosomal protein S20	3.91	7.50
SERP0179	rplA	50S ribosomal protein L1	4.09	5.48
SERP1828	rplB	50S ribosomal protein L2	2.07	2.26
SERP1819	rplE	50S ribosomal protein L5	2.35	3.16
SERP1816	rplF	50S ribosomal protein L6	2.36	3.16
SERP0178	rplK	50S ribosomal protein L11	2.81	2.61
SERP0181	rplL	50S ribosomal protein L7/L12	2.05	3.48
SERP1812	rplO	50S ribosomal protein L15	3.18	5.05
SERP1824	rplP	50S ribosomal protein L16	2.05	2.65
SERP1804	rplQ	50S ribosomal protein L17	2.44	2.63
SERP1815	rplR	50S ribosomal protein L18	2.36	3.53
SERP0807	rplS	50S ribosomal protein L19	7.12	4.91
SERP1242	rplT	50S ribosomal protein L20	3.38	4.19
SERP1826	rplV	50S ribosomal protein L22	2.95	4.16
SERP1820	rplX	50S ribosomal protein L24	2.30	4.10
SERP1146	prmA	ribosomal protein L11 methyltransferase	12.38	9.70
SERP0790	rpmB	50S ribosomal protein L28	2.84	2.76
SERP1823	rpmC	50S ribosomal protein L29	2.15	3.19
SERP1813	rpmD	50S ribosomal protein L30	2.21	2.21
SERP1727	rpmE2	50S ribosomal protein L31 type B	2.21	2.31
SERP1116	rpmG	50S ribosomal protein L33	9.82	16.19
SERP1243	rpmI	50S ribosomal protein L35	2.71	3.59
<b>Amino acid synthesis</b>				
SERP1673	ilvA	threonine dehydratase	14.56	17.94
SERP1666	ilvB	acetolactate synthase, large subunit, biosynthetic type	32.88	17.12
SERP1668	ilvC	ketol-acid reductoisomerase	46.56	31.07
SERP1665	ilvD	dihydroxy-acid dehydratase	12.69	6.79
SERP1669	leuA	2-isopropylmalate synthase	37.70	18.91
SERP1670	leuB	3-isopropylmalate dehydrogenase	23.99	10.51
SERP1671	leuC	isopropylmalate isomerase large subunit	5.41	2.67
SERP1672	leuD	3-isopropylmalate dehydratase, small subunit	12.02	10.07
SERP2185	cysC	adenylsulfate kinase	2.50	10.92
SERP0169	cysE	serine acetyltransferase	2.37	2.54
SERP2190	cysI	sulfite reductase (NADPH) hemoprotein beta-component	2.73	6.99
SERP2191	cysJ	sulfite reductase (NADPH) flavoprotein alpha-component	2.39	6.61
SERP2222	cadC	transcriptional regulator CadC	32.54	60.73

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ORF and functional category	Gene	Annotation	Fold change	
			30 min	90 min
SERP0938	trpG	anthranilate synthase component II	11.00	4.71
SERP0939	trpD	anthranilate phosphoribosyltransferase	5.51	3.76
SERP1667	-	acetolactate synthase, small subunit, truncation	78.15	35.85
SERP0109	gltD	glutamate synthase subunit beta	2.67	4.72
<b>Chaperones / Proteases</b>				
SERP0564	clpB	ATP-dependent Clp protease, ATP-binding subunit ClpB	7.03	4.37
SERP0165	clpC	ATP-dependent Clp protease, ATP-binding subunit ClpC	4.31	3.11
SERP0436	clpP	ATP-dependent Clp protease, proteolytic subunit ClpP	6.99	6.12
SERP1238	clpX	ATP-dependent protease ATP-binding subunit	2.67	3.38
SERP1484	groEL	chaperonin GroEL	4.46	4.14
SERP1485	groES	co-chaperonin GroES	3.02	3.49
SERP1149	grpE	heat shock protein GrpE	2.83	-
SERP1147	dnaJ	dnaJ protein	3.69	3.18
SERP1148	dnaK	dnaK protein	2.57	2.03
SERP0820	hslU	ATP-dependent protease ATP-binding subunit	2.28	2.83
SERP0819	hslV	ATP-dependent protease peptidase subunit	2.44	3.04
SERP0162	ctsR	transcriptional regulator CtsR	7.40	5.07
<b>Global regulators</b>				
SERP1493	agrA	accessory gene regulator protein A	-10.61	-9.30
SERP1492	agrC	accessory gene regulator protein C	-7.49	-7.13
SERP1680	rsbU	sigma factor B regulator protein	-15.23	-9.55
SERP1679	rsbV	anti-anti-sigma factor RsbV	-14.37	-12.57
SERP1678	rsbW	serine-protein kinase RsbW	-4.86	-5.90
SERP1657	rex	redox-sensing transcriptional repressor Rex	-32.71	-22.76
<b>Resistance proteins</b>				
SERP2221	-	cadmium resistance family protein	30.25	69.44
SERP2132	copZ	copper resistance family protein	4.37	6.46
SERP0353	norA	quinolone resistance protein NorA	2.82	4.12
SERP1110	-	metallo-beta-lactamase family protein	-11.26	-9.55
SERP2019	-	fmtA-like protein	-13.03	-9.91
SERP2349	fosB	fosfomycin resistance protein FosB	-13.20	-7.94