

Supplementary Table S3 Breakdown of core gene cluster among TAO100 and 3 other *Nitrosococcus* species

no.	cluster ID	gene annotation of <i>Ca. N. terrae</i>	TAO100 <i>Ca. N. terrae</i>	<i>N. halophilus</i>	<i>N. Oceani</i>	<i>N. watsonii</i>	annotation of orthologous group	core cluster	universal core cluster	1 vs 1 cluster
1	2193	-	-	NHAL_2177	NOC_1945	NWAT_1747	hypothetical protein	*		
2	2212	-	-	NHAL_2176	NOC_1944	NWAT_1746	hypothetical protein	*		
3	2188	-	-	NHAL_2188	NOC_1943	NWAT_1745	hypothetical protein	*		
4	683	polysaccharide biosynthesis protein	TAO_1215	NHAL_2193	NOC_1942	NWAT_1744	polysaccharide biosynthesis protein	*	*	*
5	2172	-	-	NHAL_2194	NOC_1941	NWAT_1740	hypothetical protein	*		
6	2058	-	-	NHAL_2195	NOC_1940	NWAT_1739	hypothetical protein	*		
7	2232	-	-	NHAL_2196	NOC_1939	NWAT_1738	hypothetical protein	*		
8	2467	-	-	-	NOC_1938	NWAT_1737(3)	Ig family protein	*		
9	935	VanZ family protein	TAO_1197	NHAL_2198	NOC_1937	NWAT_1736	VanZ family protein	*	*	*
10	693	peptidase S1 and S6 chymotrypsin/Hap	TAO_1196	NHAL_2200	NOC_1936	NWAT_1735	peptidase S1 and S6 chymotrypsin/Hap	*	*	*
11	793	RNA polymerase sigma factor RpoH	TAO_1195	NHAL_2201	NOC_1935	NWAT_1734	RNA polymerase sigma factor RpoH	*	*	*
12	930	signal recognition particle-docking protein FtsY	TAO_1572	NHAL_2202	NOC_1934	NWAT_1733	signal recognition particle-docking protein FtsY	*	*	*
13	1236	peptidase M16	TAO_1571	NHAL_2203	NOC_1933	NWAT_1732	peptidase M16 domain-containing protein	*	*	*
14	1147	peptidase M16-like zinc dependent peptidase	TAO_1570	NHAL_2204	NOC_1932	NWAT_1731	peptidase M16 domain-containing protein	*	*	*
15	386	methyltransferase	TAO_1569	NHAL_2205	NOC_1931	NWAT_1730	methyltransferase	*	*	*
16	449	phosphopantetheine adenyltransferase	TAO_1568	NHAL_2206	NOC_1930	NWAT_1729	pantetheine-phosphate adenyltransferase	*	*	*
17	2692	aldo/keto reductase	TAO_1566	NHAL_2208	-	-	aldo/keto reductase	*		
18	1313	gamma-glutamyltransferase	TAO_1565	NHAL_2210	NOC_0769	NWAT_2340	γ-glutamyltransferase	*	*	*
19	2682	initiation factor 2B-like protein	TAO_1563	NHAL_2211	-	-	initiation factor 2B-like protein	*		
20	1448	phosphoenolpyruvate carboxylase	TAO_1559	NHAL_2213	NOC_0770	NWAT_2339	phosphoenolpyruvate carboxylase	*	*	*
21	1285	glycogen/starch synthase	TAO_1558	NHAL_2214	NOC_0771	NWAT_2338	glycogen/starch synthase	*	*	*
22	1305	glucose-6-phosphate 1-dehydrogenase	TAO_1557	NHAL_2215	NOC_0772	NWAT_2337	glucose-6-phosphate 1-dehydrogenase	*	*	*
23	1029	dTDP-glucose 4,6-dehydratase	TAO_1556	NHAL_2216	NOC_0773	NWAT_2336	DTDP-glucose 4,6-dehydratase	*	*	*
24	971	glucose-1-phosphate thymidyltransferase	TAO_1555	NHAL_2217	NOC_0774	NWAT_2335	glucose-1-phosphate thymidyltransferase	*	*	*
25	529	dTDP-4-dehydrorhamnose 3,5-epimerase	TAO_1554	NHAL_2218	NOC_0775	NWAT_2334	DTDP-4-dehydrorhamnose 3,5-epimerase	*	*	*
26	801	dTDP-4-dehydrorhamnose reductase	TAO_1553	NHAL_2219	NOC_0776	NWAT_2333	DTDP-4-dehydrorhamnose reductase	*	*	*
27	2255	-	-	NHAL_2220	NOC_0777	NWAT_2332	asparagine synthase	*		
28	2056	-	-	NHAL_2221	NOC_0778	NWAT_2331	aspartate/ornithine carbamoyltransferase carbamoyl-P binding domain-containing protein	*		
29	2376	-	-	NHAL_2222	-	NWAT_2330	hypothetical protein	*		
30	2199	-	-	NHAL_2223	NOC_0779	NWAT_2329	Na <sup>+</sup> /solute symporter	*		
31	115	isochorismatase	TAO_0297	NHAL_2224	NOC_0780	NWAT_2328	isochorismatase hydrolase	*	*	*
32	2105	-	-	NHAL_2225	NOC_0781	NWAT_2327	hydantoinase/carbamoylase family amidase	*		
33	1680	-	-	NHAL_2226	NOC_0782	NWAT_2326	hypothetical protein	*		
34	2132	-	-	NHAL_2227	NOC_0783	NWAT_2325	integral membrane sensor signal transduction histidine kinase	*		
35	1830	-	-	NHAL_2228	NOC_0784	NWAT_2324	hypothetical protein	*		
36	2119	-	-	NHAL_2229	NOC_0785	NWAT_2323	putative two component sigma54 specific transcriptional regulator	*		
37	133	peptidase S8	TAO_0903(2)	NHAL_2234	NOC_0787	NWAT_1010(2)	peptidase S8 and S53 subtilisin kexin sedolisin	*	*	*
38	1744	-	-	NHAL_2506	NOC_2202	NWAT_0890	hypothetical protein	*		
39	2231	-	-	NHAL_2507	NOC_2201	NWAT_0891	hypothetical protein	*		
40	1963	-	-	NHAL_2508	NOC_2200	NWAT_0892	alpha/beta hydrolase fold protein	*		
41	2751	-	-	-	NOC_2195	NWAT_0893	hypothetical protein	*		
42	462	ErfK/YbiS/Ycfs/YnhG family protein	TAO_0454	NHAL_2855	NOC_2186	NWAT_0900	ErfK/YbiS/Ycfs/YnhG family protein	*	*	*
43	2005	-	-	NHAL_2856	NOC_2185	NWAT_0901	binding-protein-dependent transport system inner membrane protein	*		
44	1968	-	-	NHAL_2857	NOC_2184	NWAT_0902	binding-protein-dependent transporters inner membrane component	*		
45	894	glycoside hydrolase	TAO_0455	NHAL_2858	NOC_2183	NWAT_0903	glycoside hydrolase	*	*	*
46	1353	peptidase M61 domain-containing protein	TAO_0860	NHAL_2617	NOC_1493	NWAT_1620	peptidase M61 domain-containing protein	*	*	*
47	2173	-	-	NHAL_2616	NOC_1492	NWAT_1621	NhaD family Na <sup>(+)</sup> /H <sup>(+)</sup> antiporter	*		

48	1040	phospho-2-dehydro-3-deoxyheptonate aldolase	TAO_0858	NHAL_2615	NOC_1491	NWAT_1622	phospho-2-dehydro-3-deoxyheptonate aldolase	*	*	*
49	715	TonB-dependent receptor	TAO_0250	NHAL_2614	NOC_1489	NWAT_1623	TonB-dependent receptor	*	*	*
50	1663	-	-	NHAL_2891	NOC_1488	NWAT_1624	roadblock/LC7 domain-contain protein	*		
51	968	NnrS family protein	TAO_0748	NHAL_2888	NOC_1485	NWAT_1626	NnrS family protein	*	*	*
52	247	hypothetical conserved protein	TAO_0747	NHAL_2887	NOC_1484	NWAT_1628	hypothetical protein	*	*	*
53	1622	hypothetical conserved protein	TAO_0854	-	NOC_1482	NWAT_1631	hypothetical conserved protein	*		
54	983	hypothetical conserved protein	TAO_0745	NHAL_2880	NOC_1481	NWAT_1635	hypothetical protein	*	*	*
55	2683	-	-	-	NOC_1479	NWAT_1636	hypothetical protein	*		
56	2777	-	-	-	NOC_1478	NWAT_1637	hypothetical protein	*		
57	1762	-	-	NHAL_2875	NOC_1477	NWAT_1638	hypothetical protein	*		
58	2582	-	-	-	NOC_1476	NWAT_1639	hypothetical protein	*		
59	2336	-	-	-	NOC_1475	NWAT_1640	hypothetical protein	*		
60	2329	-	-	-	NOC_1473	NWAT_1641	hypothetical protein	*		
61	1854	-	-	NHAL_1765	NOC_1470	NWAT_1642	hypothetical protein	*		
62	1895	glutathione S-transferase	TAO_1353	-	NOC_1469	NWAT_1643	glutathione S-transferase	*		
63	1608	pirin	TAO_1259	-	NOC_1468	NWAT_1644	pirin domain-containing protein	*		
64	2470	-	-	-	NOC_1462	NWAT_1647	hypothetical protein	*		
65	2616	-	-	-	NOC_1460	NWAT_1649(1)	DNA methylase N-4/N-6 domain-containing protein	*		
66	1454	peptidase M28	TAO_0742	NHAL_2872	NOC_1459	NWAT_1650	peptidase M28	*	*	*
67	1076	WD40 domain-containing protein	TAO_0743	NHAL_2871	NOC_1458	NWAT_1651	WD-40-like beta propeller repeat-containing protein	*	*	*
68	1993	-	-	NHAL_2474	NOC_1457	NWAT_1652	40-residue YVTN family beta-propeller repeat-containing protein	*		
69	2827	-	-	-	NOC_1456	NWAT_1653	major facilitator superfamily protein	*		
70	1920	-	-	NHAL_1571	NOC_1455	NWAT_1654	diacylglycerol kinase catalytic subunit	*		
71	1605	-	-	NHAL_1570	NOC_1454	NWAT_1655	hypothetical protein	*		
72	2516	-	-	-	NOC_1453	NWAT_1656	hypothetical protein	*		
73	2489	-	-	-	NOC_1452	NWAT_1657	hypothetical protein	*		
74	2269	-	-	NHAL_1563	NOC_1446	NWAT_1658	phosphoenolpyruvate synthase	*		
75	1551	-	-	NHAL_1572	NOC_1445	NWAT_1659	hypothetical protein	*		
76	2589	-	-	-	NOC_1444	NWAT_1660	hypothetical protein	*		
77	1588	-	-	NHAL_2613	NOC_1443	NWAT_1661	hypothetical protein	*		
78	1817	-	-	NHAL_1199	NOC_2755	NWAT_2886	Csy4 family CRISPR-associated protein	*		
79	2034	-	-	NHAL_1198	NOC_2754	NWAT_2885	CRISPR-associated protein, Csy3 family	*		
80	1997	-	-	NHAL_1197	NOC_2753	NWAT_2884	CRISPR-associated protein Csy2	*		
81	2116	-	-	NHAL_1196	NOC_2752	NWAT_2883	hypothetical protein	*		
82	64	CRISPR-associated protein cas1	TAO_1710	NHAL_1195	NOC_2751	NWAT_2882	CRISPR-associated protein cas1	*	*	*
83	879	NUDIX hydrolase	TAO_1171	NHAL_1193	NOC_2749	NWAT_2880	NUDIX hydrolase	*	*	*
84	2494	-	-	-	NOC_2744	NWAT_2870	hypothetical protein	*		
85	2568	-	-	-	NOC_2743	NWAT_2869	hypothetical protein	*		
86	12	hypothetical protein	TAO_1424	NHAL_2523	NOC_2738	NWAT_2861	XRE family transcriptional regulator	*	*	*
87	2639	-	-	-	NOC_2737	NWAT_2860	hypothetical protein	*		
88	2771	-	-	-	NOC_2736	NWAT_2859	hypothetical protein	*		
89	2131	-	-	NHAL_2543	NOC_2734	NWAT_2858	family 57 glycoside hydrolase	*		
90	1036	hypothetical conserved protein	TAO_0768	NHAL_2544	NOC_2733	NWAT_2857	hypothetical protein	*	*	*
91	2700	-	-	-	NOC_2732	NWAT_2856	hypothetical protein	*		
92	1792	-	-	NHAL_2549	NOC_2731	NWAT_2824	heat shock protein Hsp20	*		
93	371	heat shock protein Hsp20	TAO_0772	NHAL_2550	NOC_2730	NWAT_2823	heat shock protein Hsp20	*	*	*
94	1355	glutathione ABC transporter ATP-binding protein	TAO_0773	NHAL_2552	NOC_2729	NWAT_2822	ABC transporter protein	*	*	*
95	388	methionine-R-sulfoxide reductase	TAO_0774	NHAL_2553	NOC_2728	NWAT_2816	methionine-R-sulfoxide reductase	*	*	*
96	808	thiamine biosynthesis lipoprotein ApbE	TAO_0775	NHAL_2554	NOC_2727	NWAT_2815	ApbE family lipoprotein	*	*	*
97	1647	-	-	NHAL_2556	NOC_2724	NWAT_2814	hypothetical protein	*		

98	108	hypothetical conserved protein	TAO_0209	NHAL_0466	NOC_2723	NWAT_2813	hypothetical protein	*	*	*
99	2860	-	-	-	NOC_2722	NWAT_2812	mammalian cell entry related domain-containing protein	*		
100	2823	-	-	-	NOC_2721	NWAT_2811	PqiA family integral membrane protein	*		
101	1982	-	-	NHAL_2557	NOC_2719	NWAT_2810	ribonuclease BN	*		
102	2063	-	-	NHAL_2558	NOC_2718	NWAT_2809	HAD-superfamily hydrolase	*		
103	129	d-xylulose 5-phosphate/d-fructose 6-phosphate phosphoketolase	TAO_1345	NHAL_0746	NOC_2717	NWAT_2808	phosphoketolase	*	*	*
104	362	acetate kinase	TAO_1344	NHAL_3094	NOC_2716	NWAT_2807	acetate kinase	*	*	*
105	2767	-	-	-	NOC_2715	NWAT_2806	zinc metalloprotease	*		
106	2542	-	-	-	NOC_2713	NWAT_2803	hypothetical protein	*		
107	1500	-	-	NHAL_3130	NOC_2712	NWAT_2802	AIG2 family protein	*		
108	2850	-	-	-	NOC_2711	NWAT_2801	amino acid carrier protein	*		
109	2524	-	-	-	NOC_2710	NWAT_2800	hypothetical protein	*		
110	2278	-	-	NHAL_1477	NOC_2709	NWAT_2799	ATPase-like protein	*		
111	1846	-	-	NHAL_1478	NOC_2708	NWAT_2798	hypothetical protein	*		
112	2240	-	-	NHAL_1482	NOC_2707	NWAT_2797	aconitate hydratase	*		
113	2379	-	-	NHAL_1495	-	NWAT_2796	hypothetical protein	*		
114	2237	-	-	NHAL_1498	NOC_2706	NWAT_2795	hypothetical protein	*		
115	1535	hypothetical conserved protein	TAO_1188	NHAL_1500	-	NWAT_2794	hypothetical conserved protein	*		
116	650	Sell domain-containing protein repeat-containing protein	TAO_1186	NHAL_1505	NOC_2705	NWAT_2792	Sell domain-containing protein repeat-containing protein	*	*	*
117	2001	-	-	NHAL_1506	NOC_2704	NWAT_2791	metallo-β-lactamase superfamily protein	*		
118	1121	homoserine O-succinyltransferase	TAO_1185	NHAL_1512	NOC_2703	NWAT_2790	homoserine O-succinyltransferase	*	*	*
119	924	hypothetical conserved protein	TAO_1184	NHAL_1513	NOC_2702	NWAT_2789	hypothetical protein	*	*	*
120	35	hypothetical conserved protein	TAO_1350	NHAL_2113	NOC_2700	NWAT_2787	hypothetical protein	*		
121	2196	-	-	NHAL_2116	NOC_2699	NWAT_2786	FAD dependent oxidoreductase	*		
122	2185	-	-	NHAL_2117	NOC_2698	NWAT_2785	glycerol kinase	*		
123	1797	-	-	NHAL_2121	NOC_2696	NWAT_2784	hypothetical protein	*		
124	2606	-	-	NHAL_2122	NOC_2695	-	NADH:ubiquinone oxidoreductase complex 1 intermediate-associated protein 2a	*		
125	1555	-	-	NHAL_2123	NOC_2694	NWAT_0417	hypothetical protein	*		
126	1096	hypothetical conserved protein	TAO_1348	NHAL_2127	NOC_2693	NWAT_0424	hypothetical protein	*	*	*
127	2733	-	-	-	NOC_2692	NWAT_0425	DNA polymerase beta domain-containing protein	*		
128	2502	-	-	-	NOC_2691	NWAT_0426	hypothetical protein	*		
129	661	short-chain dehydrogenase/reductase SDR	TAO_0284	NHAL_3361	NOC_2690	NWAT_0427	short-chain dehydrogenase/reductase SDR	*	*	*
130	1694	-	-	NHAL_0752	NOC_2688	NWAT_0429	restriction modification system DNA specificity domain-containing protein	*		
131	788	-	-	NHAL_0751	NOC_2687	NWAT_0430	N-6 DNA methylase	*		
132	1700	-	-	NHAL_0515	NOC_2685	NWAT_0431	FlgN family protein	*		
133	128	anti-sigma-28 factor FlgM	TAO_0512	NHAL_0516	NOC_2684	NWAT_0432	anti-sigma-28 factor FlgM	*	*	*
134	1841	-	-	NHAL_0517	NOC_2683	NWAT_0433	flagella basal body P-ring formation protein FlgA	*		
135	2204	-	-	NHAL_0521	NOC_2682	NWAT_0434	PAS/PAC sensor(s)-containing diguanylate cyclase/phosphodiesterase	*		
136	1692	lactoylglutathione lyase	TAO_0513	-	NOC_2681	NWAT_0435	lactoylglutathione lyase	*		
137	895	5,10-methylenetetrahydrofolate reductase	TAO_0514	NHAL_0522	NOC_2680	NWAT_0436	5,10-methylenetetrahydrofolate reductase	*	*	*
138	1295	adenosylhomocysteinase	TAO_0515	NHAL_0523	NOC_2679	NWAT_0437	S-adenosyl-L-homocysteine hydrolase	*	*	*
139	1185	S-adenosylmethionine synthetase	TAO_0516	NHAL_0524	NOC_2678	NWAT_0438	S-adenosylmethionine synthetase	*	*	*
140	169	hypothetical conserved protein	TAO_0519	NHAL_0525	NOC_2677	NWAT_0439	hypothetical protein	*	*	*
141	962	tetraacyldisaccharide 4'-kinase	TAO_0520	NHAL_0526	NOC_2676	NWAT_0440	tetraacyldisaccharide 4'-kinase	*	*	*
142	1307	lipid A export ATP-binding/permease MsbA	TAO_0521	NHAL_0527	NOC_2675	NWAT_0441	lipid A export ATP-binding/permease MsbA	*	*	*
143	1668	-	-	NHAL_0528	NOC_2674	NWAT_0442	biopolymer transport protein exbD/TolR	*		
144	1858	-	-	NHAL_0529	NOC_2673	NWAT_0443	MotA/TolQ/exbB proton channel	*		
145	1417	DNA internalization-related competence protein comEC/Rec2	TAO_0523	NHAL_0530	NOC_2672	NWAT_0444	DNA internalization-related competence protein comEC/Rec2	*	*	*
146	459	ATP-binding protein	TAO_0524	NHAL_0531	NOC_2671	NWAT_0445	ATP-binding protein	*	*	*

147	639	lipoprotein releasing system, ATP-binding protein	TAO_0525	NHAL_0532	NOC_2670	NWAT_0446	lipoprotein releasing system, ATP-binding protein	*	*	*
148	1177	lipoprotein releasing system transmembrane protein LolC	TAO_0527	NHAL_0533	NOC_2669	NWAT_0447	LolC/E family lipoprotein releasing system, transmembrane protein	*	*	*
149	1570	-	-	NHAL_0534	NOC_2668	NWAT_0448	<b>type IV pilus assembly pilZ</b>	*	*	*
150	688	ribose 5-phosphate isomerase	TAO_0528	NHAL_0535	NOC_2667	NWAT_0449	ribose 5-phosphate isomerase	*	*	*
151	1303	threonine dehydratase, biosynthetic	TAO_0529	NHAL_0536	NOC_2666	NWAT_0450	threonine dehydratase, biosynthetic	*	*	*
152	1439	leucyl-tRNA synthetase	TAO_0530	NHAL_0537	NOC_2665	NWAT_0451	leucyl-tRNA synthetase	*	*	*
153	337	rare lipoprotein B	TAO_0531	NHAL_0538	NOC_2664	NWAT_0452	rare lipoprotein B	*	*	*
154	871	DNA polymerase III subunit delta	TAO_0532	NHAL_0539	NOC_2663	NWAT_0453	DNA polymerase III subunit delta	*	*	*
155	1164	gamma-glutamyl phosphate reductase	TAO_0533	NHAL_0540	NOC_2662	NWAT_0454	γ-glutamyl phosphate reductase	*	*	*
156	617	nicotinic acid mononucleotide adenyltransferase	TAO_0534	NHAL_0541	NOC_2661	NWAT_0455	nicotinic acid mononucleotide adenyltransferase	*	*	*
157	290	iojap-like protein	TAO_0535	NHAL_0542	NOC_2660	NWAT_0456	iojap-like protein	*	*	*
158	452	50S rRNA methyltransferase	TAO_0536	NHAL_0543	NOC_2659	NWAT_0457	50S rRNA methyltransferase	*	*	*
159	397	Maf protein	TAO_0537	NHAL_0544	NOC_2658	NWAT_0458	Maf protein	*	*	*
160	1302	Rne/Rng family ribonuclease	TAO_0538	NHAL_0545	NOC_2657	NWAT_0459	Rne/Rng family ribonuclease	*	*	*
161	1436	hypothetical conserved protein	TAO_0539	NHAL_0546	NOC_2656	NWAT_0460	hypothetical protein	*	*	*
162	899	nitrilase/cyanide hydratase and apolipoprotein N-acyltransferase	TAO_0540	NHAL_0547	NOC_2655	NWAT_0461	nitrilase/cyanide hydratase and apolipoprotein N-acyltransferase	*	*	*
163	1085	tRNA (5-methylaminomethyl-2-thiouridylate)-methyltransferase	TAO_0541	NHAL_0549	NOC_2654	NWAT_0463	tRNA (5-methylaminomethyl-2-thiouridylate)-methyltransferase	*	*	*
164	185	sirA family protein	TAO_0542	NHAL_0550	NOC_2653	NWAT_0464	SirA family protein	*	*	*
165	1317	glutamine synthetase	TAO_0543	NHAL_0551	NOC_2652	NWAT_0465	glutamine synthetase	*	*	*
166	1658	hypothetical conserved protein	TAO_1414	-	NOC_2651	NWAT_0466	hypothetical conserved protein	*	*	*
167	390	hypothetical conserved protein	TAO_0545	NHAL_0552	NOC_2650	NWAT_0467	hypothetical protein	*	*	*
168	1529	-	-	NHAL_0553	NOC_2649	NWAT_0468	<b>hypothetical protein</b>	*	*	*
169	797	formamidopyrimidine-DNA glycosylase	TAO_0546	NHAL_0554	NOC_2648	NWAT_0469	formamidopyrimidine-DNA glycosylase	*	*	*
170	632	hypothetical conserved protein	TAO_0547	NHAL_0555	NOC_2647	NWAT_0470	hypothetical protein	*	*	*
171	1151	ABC transporter	TAO_0548	NHAL_0556	NOC_2646	NWAT_0471	ABC transporter	*	*	*
172	809	ABC transporter permease	TAO_0549	NHAL_0557	NOC_2645	NWAT_0472	ABC transporter permease	*	*	*
173	936	ABC transporter ATP-binding protein	TAO_0550	NHAL_0558	NOC_2644	NWAT_0473	ABC transporter protein	*	*	*
174	1740	-	-	NHAL_0559	NOC_2643	NWAT_0474	<b>NUDIX hydrolase</b>	*	*	*
175	150	-	-	NHAL_0561	NOC_2641	NWAT_0476	50S ribosomal protein L33	*	*	*
176	219	-	-	NHAL_0562	NOC_2640	NWAT_0477	50S ribosomal protein L28	*	*	*
177	732	-	-	NHAL_0563	NOC_2639	NWAT_0478	endonuclease/exonuclease/phosphatase	*	*	*
178	1087	-	-	NHAL_0564	NOC_2638	NWAT_0479	NAD-dependent epimerase/dehydratase	*	*	*
179	1221	UDP-glucose/GDP-mannose dehydrogenase family protein	TAO_0555	NHAL_0565	NOC_2637	NWAT_0480	UDP-glucose/GDP-mannose dehydrogenase	*	*	*
180	1298	glutamyl-tRNA(Gln) amidotransferase subunit A	TAO_0556	NHAL_0566	NOC_2636	NWAT_0481	glutamyl-tRNA(Gln) amidotransferase subunit A	*	*	*
181	218	glutamyl-tRNA(Gln) amidotransferase subunit C	TAO_0557	NHAL_0567	NOC_2635	NWAT_0482	glutamyl-tRNA(Gln) amidotransferase subunit C	*	*	*
182	921	lytic murein transglycosylase B	TAO_0558	NHAL_0573	NOC_2634	NWAT_0483	lytic murein transglycosylase B	*	*	*
183	545	lipoprotein A	TAO_0559	NHAL_0574	NOC_2633	NWAT_0484	rare lipoprotein A	*	*	*
184	1049	D-alanyl-D-alanine carboxypeptidase	TAO_0560	NHAL_0575	NOC_2632	NWAT_0485	serine-type D-Ala-D-Ala carboxypeptidase	*	*	*
185	822	D-amino acid aminotransferase	TAO_0561	NHAL_0576	NOC_2631	NWAT_0486	D-amino acid aminotransferase	*	*	*
186	563	lipoate-protein ligase B	TAO_0562	NHAL_0577	NOC_2630	NWAT_0487	lipoate-protein ligase B	*	*	*
187	1035	lipoyl synthase	TAO_0563	NHAL_0579	NOC_2629	NWAT_0488	lipoic acid synthetase	*	*	*
188	1171	2-methylcitrate synthase/citrate synthase II	TAO_0564	NHAL_0580	NOC_2628	NWAT_0489	2-methylcitrate synthase/citrate synthase II	*	*	*
189	985	lysine 2,3-aminomutase YodO family protein	TAO_0565	NHAL_0581	NOC_2627	NWAT_0490	lysine 2,3-aminomutase YodO family protein	*	*	*
190	620	elongation factor P	TAO_0566	NHAL_0582	NOC_2626	NWAT_0491	translation elongation factor P	*	*	*
191	906	lysyl-tRNA synthetase-related protein	TAO_0567	NHAL_0583	NOC_2625	NWAT_0492	lysyl-tRNA synthetase-like protein GenX	*	*	*
192	136	hypothetical conserved protein	TAO_0348	NHAL_3516	NOC_2624	NWAT_0493	hypothetical protein	*	*	*
193	2095	-	-	NHAL_3513	NOC_2623	NWAT_0494	<b>coenzyme PQQ biosynthesis protein E</b>	*	*	*
194	1593	-	-	NHAL_3512	NOC_2622	NWAT_0495	<b>coenzyme PQQ synthesis D</b>	*	*	*
195	1946	-	-	NHAL_3511	NOC_2621	NWAT_0496	<b>coenzyme PQQ biosynthesis protein C</b>	*	*	*
196	2009	-	-	NHAL_3510	NOC_2620	NWAT_0497	<b>coenzyme PQQ biosynthesis protein B</b>	*	*	*

197	2328	-	-	NHAL_3509	NWAT_0498	<b>coenzyme PQQ biosynthesis protein A</b>	*			
198	1176	<b>peptidase M48, Ste24p</b>	TAO_0349	NHAL_3508	NOC_2619	NWAT_0499	peptidase M48 Ste24p	*	*	*
199	182	<b>sirA family protein</b>	TAO_0350	NHAL_3507	NOC_2618	NWAT_0500	SirA family protein	*	*	*
200	607	<b>protein-L-isoaspartate(D-aspartate) O-methyltransferase</b>	TAO_0351	NHAL_3506	NOC_2617	NWAT_0501	protein-L-isoaspartate(D-aspartate) O-methyltransferase	*	*	*
201	1047	<b>TolC family type I secretion outer membrane protein</b>	TAO_0352	NHAL_3505	NOC_2616	NWAT_0502	TolC family type I secretion outer membrane protein	*	*	*
202	1110	<b>3-deoxy-D-manno-octulosonic-acid transferase domain-containing protein</b>	TAO_0353	NHAL_3504	NOC_2615	NWAT_0503	3-deoxy-D-manno-octulosonic-acid transferase domain-containing protein	*	*	*
203	977	<b>ADP-L-glycero-D-manno-heptose-6-epimerase</b>	TAO_0354	NHAL_3503	NOC_2614	NWAT_0504	ADP-L-glycero-D-manno-heptose-6-epimerase	*	*	*
204	1130	<b>bifunctional heptose 7-phosphate kinase/heptose 1-phosphate adenylyltransferase</b>	TAO_0355	NHAL_3502	NOC_2613	NWAT_0505	bifunctional heptose 7-phosphate kinase/heptose 1-phosphate adenylyltransferase	*	*	*
205	957	<b>multicopper oxidase</b>	TAO_0356	NHAL_3501	NOC_2612	NWAT_0506	ferroxidase	*	*	*
206	1232	<b>DEAD/DEAH box helicase</b>	TAO_0357	NHAL_3500	NOC_2611	NWAT_0507	DEAD/DEAH box helicase	*	*	*
207	237	<b>RNA-binding protein, RNP-1</b>	TAO_0358	NHAL_3499	NOC_2610	NWAT_0508	RNP-1 like RNA-binding protein	*	*	*
208	202	<b>cold-shock DNA-binding domain-containing protein</b>	TAO_0359	NHAL_3498	NOC_2609	NWAT_0509	cold-shock DNA-binding domain-containing protein	*	*	*
209	2149	-	-	NHAL_3495	NOC_2608	NWAT_0510	<b>peptidase M24</b>	*		
210	342	<b>acetylornithine deacetylase</b>	TAO_1580	NHAL_3494	NOC_2607	NWAT_0511	acetylornithine deacetylase argE	*	*	*
211	2022	-	-	NHAL_3493	NOC_2606	NWAT_0512	<b>threonine aldolase</b>	*		
212	2187	-	-	NHAL_3492	NOC_2605	NWAT_0513	<b>retinal dehydrogenase</b>	*		
213	857	<b>pyridoxal-5'-phosphate-dependent protein subunit beta</b>	TAO_0139	NHAL_3487	NOC_2604	NWAT_0514	pyridoxal-5'-phosphate-dependent protein subunit beta	*	*	*
214	399	<b>cytidine/deoxycytidylate deaminase</b>	TAO_1685	NHAL_3743	NOC_2603	NWAT_0516	CMP/dCMP deaminase zinc-binding protein	*	*	*
215	1046	<b>hypothetical conserved protein</b>	TAO_1684	NHAL_3741	NOC_2601	NWAT_0517	hypothetical protein	*	*	*
216	1798	-	-	NHAL_3740	NOC_2600	NWAT_0518	<b>hypothetical protein</b>	*		
217	1815	-	-	NHAL_3739	NOC_2599	NWAT_0519	<b>disulfide bond formation protein DsbB</b>	*		
218	193	<b>translation initiation factor IF-1</b>	TAO_1683	NHAL_3737	NOC_2598	NWAT_0520	translation initiation factor IF-1	*	*	*
219	1892	-	-	NHAL_3736	NOC_2597	NWAT_0521	<b>arginyl-tRNA-protein transferase</b>	*		
220	714	<b>leucyl/phenylalanyl-tRNA/protein transferase</b>	TAO_1682	NHAL_3735	NOC_2596	NWAT_0522	leucyl/phenylalanyl-tRNA--protein transferase	*	*	*
221	600	<b>recombination protein RecR</b>	TAO_1681	NHAL_3733	NOC_2595	NWAT_0523	recombination protein RecR	*	*	*
222	314	<b>hypothetical conserved protein</b>	TAO_1680	NHAL_3732	NOC_2594	NWAT_0524	hypothetical protein	*	*	*
223	1258	<b>DNA polymerase III subunits gamma and tau</b>	TAO_1679	NHAL_3731	NOC_2593	NWAT_0525	DNA polymerase III subunits gamma and tau	*	*	*
224	1240	<b>transcription termination factor rho</b>	TAO_1678	NHAL_3730	NOC_2592	NWAT_0527	transcription termination factor rho	*	*	*
225	860	<b>tRNA delta(2)-isopentenylpyrophosphate transferase</b>	TAO_1677	NHAL_3729	NOC_2591	NWAT_0528	tRNA delta(2)-isopentenylpyrophosphate transferase	*	*	*
226	217	<b>RNA chaperone Hfq</b>	TAO_1676	NHAL_3728	NOC_2590	NWAT_0529	RNA chaperone Hfq	*	*	*
227	1053	<b>GTP-binding protein HflX</b>	TAO_1675	NHAL_3727	NOC_2589	NWAT_0530	GTP-binding protein HflX	*	*	*
228	1084	<b>HflK protein</b>	TAO_1674	NHAL_3726	NOC_2588	NWAT_0531	HflK protein	*	*	*
229	872	<b>HflC protein</b>	TAO_1673	NHAL_3725	NOC_2587	NWAT_0532	HflC protein	*	*	*
230	1075	<b>ATP phosphoribosyltransferase regulatory subunit</b>	TAO_1672	NHAL_3724	NOC_2586	NWAT_0533	histidyl-tRNA synthetase 2	*	*	*
231	1195	<b>adenylosuccinate synthetase</b>	TAO_1671	NHAL_3723	NOC_2585	NWAT_0534	adenylosuccinate synthetase	*	*	*
232	1730	-	-	NHAL_3721	NOC_2584	NWAT_0535	<b>17 kDa surface antigen</b>	*		
233	294	<b>thioredoxin</b>	TAO_1720	NHAL_3720	NOC_2583	NWAT_0536	thioredoxin	*	*	*
234	2085	-	-	NHAL_3719	NOC_2582	NWAT_0537	<b>DEAD/DEAH box helicase</b>	*		
235	992	<b>ubiquinone biosynthesis hydroxylase, UbiH/UbiF/VisC/COQ6</b>	TAO_0391	NHAL_3718	NOC_2581	NWAT_0538	ubiquinone biosynthesis hydroxylase, UbiH/UbiF/VisC/COQ6 family	*	*	*
236	1056	<b>2-polyprenyl-6-methoxyphenol 4-hydroxylase UbiH</b>	TAO_0392	NHAL_3717	NOC_2580	NWAT_0539	2-polyprenyl-6-methoxyphenol 4-hydroxylase UbiH	*	*	*
237	1233	<b>peptidase M24</b>	TAO_0393	NHAL_3716	NOC_2579	NWAT_0540	peptidase M24	*	*	*
238	1755	-	-	NHAL_3715	NOC_2578	NWAT_0541	<b>hypothetical protein</b>	*		
239	137	<b>hypothetical conserved protein</b>	TAO_0394	NHAL_3714	NOC_2577	NWAT_0542	hypothetical protein	*	*	*
240	255	<b>hypothetical conserved protein</b>	TAO_0395	NHAL_3713	NOC_2576	NWAT_0543	hypothetical protein	*	*	*
241	754	<b>shikimate 5-dehydrogenase</b>	TAO_0396	NHAL_3712	NOC_2575	NWAT_0544	shikimate 5-dehydrogenase	*	*	*
242	1012	<b>delta-aminolevulinic acid dehydratase</b>	TAO_0397	NHAL_3711	NOC_2574	NWAT_0545	delta-aminolevulinic acid dehydratase	*	*	*
243	1081	<b>carbamoyl-phosphate synthase small subunit</b>	TAO_0398	NHAL_3710	NOC_2573	NWAT_0546	carbamoyl-phosphate synthase, small subunit	*	*	*
244	1457	<b>carbamoyl-phosphate synthase, large subunit</b>	TAO_0399	NHAL_3709	NOC_2572	NWAT_0547	carbamoyl-phosphate synthase large subunit	*	*	*
245	438	<b>transcription elongation factor GreA</b>	TAO_0400	NHAL_3708	NOC_2571	NWAT_0548	transcription elongation factor GreA	*	*	*

246	588	ribosomal RNA methyltransferase RrmJ/FtsJ	TAO_0401	NHAL_3707	NOC_2570	NWAT_0550	ribosomal RNA methyltransferase RrmJ/FtsJ	*	*	*
247	1391	ATP-dependent metalloprotease	TAO_0402	NHAL_3706	NOC_2569	NWAT_0551	ATP-dependent metalloprotease FtsH	*	*	*
248	734	dihydropteroate synthase	TAO_0403	NHAL_3704	NOC_2568	NWAT_0552	dihydropteroate synthase	*	*	*
249	1205	phosphoglucosamine mutase	TAO_0404	NHAL_3703	NOC_2567	NWAT_0553	phosphoglucosamine mutase	*	*	*
250	598	triosephosphate isomerase	TAO_0405	NHAL_3702	NOC_2566	NWAT_0554	triosephosphate isomerase	*	*	*
251	1615	preprotein translocase subunit SecG	TAO_0406	NHAL_3701		NWAT_0555	preprotein translocase subunit SecG	*		
252	425	NADH-ubiquinone/plastoquinone oxidoreductase subunit 3	TAO_0407	NHAL_3700	NOC_2565	NWAT_0556	NADH-ubiquinone/plastoquinone oxidoreductase chain 3	*	*	*
253	572	NADH dehydrogenase subunit B	TAO_0408	NHAL_3699	NOC_2564	NWAT_0557	NADH-quinone oxidoreductase subunit B	*	*	*
254	690	NADH (or F420H2) dehydrogenase subunit C	TAO_0409	NHAL_3698	NOC_2563	NWAT_0558	NADH dehydrogenase subunit C	*	*	*
255	1289	NADH dehydrogenase I subunit D	TAO_0410	NHAL_3697	NOC_2562	NWAT_0559	NADH dehydrogenase I subunit D	*	*	*
256	471	NADH-quinone oxidoreductase subunit E	TAO_0411	NHAL_3696	NOC_2561	NWAT_0560	NADH-quinone oxidoreductase subunit E	*	*	*
257	1275	NADH-quinone oxidoreductase subunit F	TAO_0412	NHAL_3695	NOC_2560	NWAT_0561	NADH-quinone oxidoreductase subunit F	*	*	*
258	1422	NADH-quinone oxidoreductase subunit G	TAO_0413	NHAL_3694	NOC_2559	NWAT_0562	NADH-quinone oxidoreductase subunit G	*	*	*
259	1140	NADH:ubiquinone oxidoreductase subunit H	TAO_0414	NHAL_3693	NOC_2558	NWAT_0563	NADH dehydrogenase	*	*	*
260	601	NADH-quinone oxidoreductase subunit I	TAO_0415	NHAL_3692	NOC_2557	NWAT_0564	NADH-quinone oxidoreductase subunit I	*	*	*
261	584	NADH-ubiquinone/plastoquinone oxidoreductase chain 6	TAO_0416	NHAL_3691	NOC_2556	NWAT_0565	NADH-ubiquinone/plastoquinone oxidoreductase chain 6	*	*	*
262	242	NADH-quinone oxidoreductase subunit K	TAO_0417	NHAL_3690	NOC_2555	NWAT_0566	NADH-ubiquinone oxidoreductase subunit 4l	*	*	*
263	1398	NADH:ubiquinone oxidoreductase subunit L	TAO_0418	NHAL_3689	NOC_2554	NWAT_0567	proton-translocating NADH-quinone oxidoreductase subunit l	*	*	*
264	1325	proton-translocating NADH-quinone oxidoreductase, chain M	TAO_0419	NHAL_3688	NOC_2553	NWAT_0568	proton-translocating NADH-quinone oxidoreductase, chain M	*	*	*
265	1290	NADH:ubiquinone oxidoreductase subunit N	TAO_0420	NHAL_3687	NOC_2552	NWAT_0569	proton-translocating NADH-quinone oxidoreductase subunit N	*	*	*
266	163	NADPH:quinone oxidoreductase	TAO_1034	NHAL_3686	NOC_2551	NWAT_0570	alcohol dehydrogenase zinc-binding domain-containing protein	*	*	*
267	886	pseudouridine synthase RluD	TAO_0421	NHAL_3685	NOC_2550	NWAT_0571	pseudouridine synthase	*	*	*
268	1392	thioredoxin	TAO_0422	NHAL_3684	NOC_2549	NWAT_0572	thioredoxin	*	*	*
269	973	PfkB domain-containing protein	TAO_0423	NHAL_3683	NOC_2548	NWAT_0573	PfkB domain-containing protein	*	*	*
270	1312	glycine dehydrogenase subunit 2	TAO_0424	NHAL_3681	NOC_2547	NWAT_0574	glycine dehydrogenase subunit 2	*	*	*
271	41	-	-	NHAL_0601	NOC_2546	NWAT_0575	hypothetical protein	*		
272	1734	-	-	NHAL_0638	NOC_2534	NWAT_0598	hypothetical protein	*		
273	2138	-	-	NHAL_0640	NOC_2533	NWAT_0599	multi anti extrusion protein MatE	*		
274	523	OmpA/MotB domain-containing protein	TAO_1539	NHAL_0641	NOC_2532	NWAT_0600	OmpA/MotB domain-containing protein	*	*	*
275	1691	-	-	NHAL_0642	NOC_2531	NWAT_0601	hypothetical protein	*		
276	2198	-	-	NHAL_0643	NOC_2530	NWAT_0602	hypothetical protein	*		
277	1643	-	-	NHAL_0644	NOC_2529	NWAT_0603	hypothetical protein	*		
278	1190	ribonucleotide-diphosphate reductase subunit beta	TAO_1538	NHAL_0646	NOC_2528	NWAT_0605	ribonucleotide-diphosphate reductase subunit beta	*	*	*
279	1426	ribonucleoside-diphosphate reductase	TAO_1537	NHAL_0647	NOC_2527	NWAT_0606	ribonucleoside-diphosphate reductase	*	*	*
280	447	alkyl hydroperoxide reductase/ thiol specific antioxidant/ mal allergen	TAO_1536	NHAL_0649	NOC_2526	NWAT_0608	alkyl hydroperoxide reductase/thiol specific antioxidant/ mal allergen	*	*	*
281	431	glycine cleavage system transcriptional repressor	TAO_1535	NHAL_0650	NOC_2525	NWAT_0609	glycine cleavage system transcriptional repressor	*	*	*
282	875	dihydrodipicolinate synthase	TAO_1534	NHAL_0651	NOC_2524	NWAT_0610	dihydrodipicolinate synthase	*	*	*
283	863	NlpB/DapX lipoprotein	TAO_1533	NHAL_0652	NOC_2523	NWAT_0611	NlpB/DapX lipoprotein	*	*	*
284	807	phosphoribosylaminoimidazole-succinocarboxamide synthase	TAO_1532	NHAL_0653	NOC_2522	NWAT_0612	phosphoribosylaminoimidazole-succinocarboxamide synthase	*	*	*
285	1027	dihydroorotase	TAO_1531	NHAL_0654	NOC_2521	NWAT_0613	dihydroorotase	*	*	*
286	1374	acetolactate synthase large subunit	TAO_1530	NHAL_0655	NOC_2520	NWAT_0614	acetolactate synthase large subunit biosynthetic type	*	*	*
287	424	acetolactate synthase small subunit	TAO_1529	NHAL_0656	NOC_2519	NWAT_0615	acetolactate synthase small subunit	*	*	*
288	1050	ketol-acid reductoisomerase	TAO_1528	NHAL_0657	NOC_2518	NWAT_0616	ketol-acid reductoisomerase	*	*	*
289	778	CDP-diacylglycerol/serine O-phosphatidyltransferase	TAO_1527	NHAL_0658	NOC_2517	NWAT_0617	CDP-diacylglycerol/serine O-phosphatidyltransferase	*	*	*
290	1311	2-isopropylmalate synthase	TAO_1526	NHAL_0659	NOC_2516	NWAT_0618	2-isopropylmalate synthase	*	*	*
291	573	phage SPO1 DNA polymerase-like protein	TAO_1525	NHAL_0660	NOC_2515	NWAT_0619	phage SPO1 DNA polymerase-like protein	*	*	*
292	445	ribosomal-protein-alanine acetyltransferase	TAO_1524	NHAL_0661	NOC_2514	NWAT_0620	ribosomal-protein-alanine acetyltransferase	*	*	*
293	2118	-	-	NHAL_0662	NOC_2513	NWAT_0621	MgtC/SapB transporter	*		
294	1794	-	-	NHAL_0663	NOC_2512	NWAT_0622	NUDIX hydrolase	*		

295	1948	-	-	NHAL_0664	NOC_2511	NWAT_0623	hypothetical protein	*		
296	2249	-	-	NHAL_0667	NOC_2509	NWAT_0624	putative serine protein kinase prkA	*		
297	2115	-	-	NHAL_0668	NOC_2508	NWAT_0625	hypothetical protein	*		
298	2192	-	-	NHAL_0669	NOC_2507	NWAT_0626	stage V sporulation-like protein, spoVR	*		
299	2377	-	-	NHAL_0670	-	NWAT_0627	hypothetical protein	*		
300	2216	-	-	NHAL_0671	NOC_2506	NWAT_0628	multicopper oxidase, type 3	*		
301	1970	-	-	NHAL_0672	NOC_2505	NWAT_0629	hypothetical protein	*		
302	691	phosphoserine phosphatase SerB	TAO_1523	NHAL_0674	NOC_2504	NWAT_0630	phosphoserine phosphatase SerB	*	*	*
303	964	methane monooxygenase/ammonia monooxygenase subunit C	TAO_1522	NHAL_0675	NOC_2503	NWAT_0631	methane monooxygenase/ammonia monooxygenase subunit C	*	*	*
304	829	methane monooxygenase/ammonia monooxygenase subunit A	TAO_1521	NHAL_0676	NOC_2502	NWAT_0632	methane monooxygenase/ammonia monooxygenase subunit A	*	*	*
305	1109	methane monooxygenase/ammonia monooxygenase subunit B	TAO_1520	NHAL_0677	NOC_2501	NWAT_0633	methane monooxygenase/ammonia monooxygenase subunit B	*	*	*
306	249	hypothetical conserved protein	TAO_1519	NHAL_0678	NOC_2500	NWAT_0634	hypothetical protein	*	*	*
307	303	hypothetical conserved protein	TAO_1518	NHAL_0679	NOC_2499	NWAT_0635	hypothetical protein	*	*	*
308	245	hypothetical conserved protein	TAO_1517	NHAL_0680	NOC_2498	NWAT_0636	hypothetical protein	*	*	*
309	730	indole-3-glycerol-phosphate synthase	TAO_1516	NHAL_0681	NOC_2497	NWAT_0637	indole-3-glycerol phosphate synthase	*	*	*
310	923	anthranilate phosphoribosyltransferase	TAO_1515	NHAL_0682	NOC_2496	NWAT_0638	anthranilate phosphoribosyltransferase	*	*	*
311	614	anthranilate synthase subunit II	TAO_1514	NHAL_0683	NOC_2495	NWAT_0639	glutamine amidotransferase of anthranilate synthase	*	*	*
312	1299	anthranilate synthase subunit I	TAO_1512	NHAL_0684	NOC_2494	NWAT_0640	anthranilate synthase component I	*	*	*
313	713	phosphoglycolate phosphatase	TAO_1511	NHAL_0685	NOC_2493	NWAT_0641	phosphoglycolate phosphatase	*	*	*
314	738	ribulose-phosphate 3-epimerase	TAO_1510	NHAL_0686	NOC_2492	NWAT_0642	ribulose-phosphate 3-epimerase	*	*	*
315	394	iron sulfur cluster assemblytranscriptional regulator SufA	TAO_1509	NHAL_0687	NOC_2491	NWAT_0643	iron sulfur cluster assemblytranscriptional regulator SufA	*	*	*
316	1331	FeS assembly protein SufB	TAO_1508	NHAL_0688	NOC_2490	NWAT_0644	FeS assembly protein SufB	*	*	*
317	803	iron-sulfur cluster assembly ATPase protein SufC	TAO_1507	NHAL_0689	NOC_2489	NWAT_0645	FeS assembly ATPase SufC	*	*	*
318	1124	FeS assembly protein SufD	TAO_1506	NHAL_0690	NOC_2488	NWAT_0646	FeS assembly protein SufD	*	*	*
319	1189	SufS subfamily cysteine desulfurase	TAO_1505	NHAL_0691	NOC_2487	NWAT_0647	SufS subfamily cysteine desulfurase	*	*	*
320	400	iron sulfur cluster assembly protein SufU	TAO_1504	NHAL_0692	NOC_2486	NWAT_0648	SUF system FeS assembly protein	*	*	*
321	560	FeS assembly SUF system protein SufT	TAO_1503	NHAL_0693	NOC_2485	NWAT_0649	FeS assembly SUF system protein SufT	*	*	*
322	1782	-	-	NHAL_0694	NOC_2484	NWAT_0650	transcriptional activator RfaH	*		
323	1249	mannose-1-phosphate guanylyltransferase/mannose-6-phosphate isomerase	TAO_1502	NHAL_0695	NOC_2483	NWAT_0651	mannose-1-phosphate guanylyltransferase/mannose-6-phosphate isomerase	*	*	*
324	645	adenylylsulfate kinase	TAO_1501	NHAL_0696	NOC_2482	NWAT_0652	adenylylsulfate kinase	*	*	*
325	2179	-	-	NHAL_0698	NOC_2481	NWAT_0653	polysaccharide biosynthesis protein	*		
326	2018	-	-	NHAL_0699	NOC_2480	NWAT_0654	group 1 glycosyl transferase	*		
327	2043	-	-	NHAL_0700	NOC_2479	NWAT_0655	group 1 glycosyl transferase	*		
328	2247	-	-	NHAL_0701	NOC_2478	NWAT_0656	asparagine synthase	*		
329	1999	-	-	NHAL_0702	NOC_2477	NWAT_0657	group 1 glycosyl transferase	*		
330	743	glycosyl transferase family protein	TAO_1499	NHAL_0703	NOC_2476	NWAT_0658	glycosyl transferase family protein	*	*	*
331	194	histone family protein DNA-binding protein	TAO_1497	NHAL_0704	NOC_2475	NWAT_0659	histone family protein DNA-binding protein	*	*	*
332	904	glycine cleavage system protein T	TAO_1496	NHAL_0705	NOC_2474	NWAT_0660	glycine cleavage T protein (aminomethyl transferase)	*	*	*
333	272	succinate dehydrogenase cytochrome b556 subunit	TAO_1495	NHAL_0706	NOC_2473	NWAT_0661	succinate dehydrogenase cytochrome b556 subunit	*	*	*
334	268	succinate dehydrogenase, hydrophobic membrane anchor protein	TAO_1494	NHAL_0707	NOC_2472	NWAT_0662	succinate dehydrogenase hydrophobic membrane anchor protein	*	*	*
335	1383	succinate dehydrogenase/fumarate reductase, flavoprotein subunit	TAO_1493	NHAL_0708	NOC_2471	NWAT_0663	succinate dehydrogenase or fumarate reductase, flavoprotein subunit	*	*	*
336	849	succinate dehydrogenase/fumarate reductase iron-sulfur protein	TAO_1492	NHAL_0709	NOC_2470	NWAT_0664	succinate dehydrogenase and fumarate reductase iron-sulfur protein	*	*	*
337	188	hypothetical conserved protein	TAO_1491	NHAL_0710	NOC_2469	NWAT_0665	hypothetical protein	*	*	*
338	259	hypothetical conserved protein	TAO_1490	NHAL_0711	NOC_2468	NWAT_0666	hypothetical protein	*	*	*
339	1322	L-aspartate oxidase	TAO_1489	NHAL_0712	NOC_2467	NWAT_0667	L-aspartate oxidase	*	*	*
340	586	RNA polymerase sigma factor RpoE	TAO_1488	NHAL_0713	NOC_2466	NWAT_0668	RNA polymerase sigma factor RpoE	*	*	*
341	352	anti sigma-E protein RseA family protein	TAO_1487	NHAL_0714	NOC_2465	NWAT_0669	anti sigma-E protein RseA family protein	*	*	*
342	786	sigma E regulatory protein MucB/RseB	TAO_1486	NHAL_0715	NOC_2464	NWAT_0670	sigma E regulatory protein MucB/RseB	*	*	*
343	256	positive regulator of sigma E, RseC/MucC	TAO_1485	NHAL_0716	NOC_2463	NWAT_0671	positive regulator of sigma(E) RseC/MucC	*	*	*

344	1207	protease Do	TAO_1484	NHAL_0717	NOC_2462	NWAT_0672	protease Do	*	*	*
345	1382	GTP-binding protein LepA	TAO_1483	NHAL_0718	NOC_2461	NWAT_0673	GTP-binding protein LepA	*	*	*
346	852	signal peptidase I	TAO_1482	NHAL_0719	NOC_2460	NWAT_0674	signal peptidase I	*	*	*
347	1653	-	-	NHAL_0720	NOC_2459	NWAT_0675	hypothetical protein	*		
348	604	ribonuclease III	TAO_1481	NHAL_0721	NOC_2458	NWAT_0676	ribonuclease III	*	*	*
349	910	GTP-binding protein Era	TAO_1480	NHAL_0722	NOC_2457	NWAT_0677	GTP-binding protein Era	*	*	*
350	1936	-	-	NHAL_0723	NOC_2456	NWAT_0678	metal-dependent hydrolase HDOD	*		
351	1235	aminotransferase	TAO_1479	NHAL_0724	NOC_2455	NWAT_0679	class I/II aminotransferase	*	*	*
352	1193	homoserine dehydrogenase	TAO_1478	NHAL_0725	NOC_2454	NWAT_0680	homoserine dehydrogenase	*	*	*
353	1108	threonine synthase	TAO_1477	NHAL_0726	NOC_2453	NWAT_0681	threonine synthase	*	*	*
354	2121	-	-	NHAL_0727	NOC_2452	NWAT_0682	multi-sensor signal transduction histidine kinase	*		
355	1758	-	-	NHAL_0728	NOC_2451	NWAT_0683	response regulator receiver protein	*		
356	1859	-	-	NHAL_0729	NOC_2450	NWAT_0684	PAS/PAC sensor signal transduction histidine kinase	*		
357	952	nitrilase/cyanide hydratase and apolipoprotein N-acyltransferase	TAO_1476	NHAL_0730	NOC_2448	NWAT_0685	nitrilase/cyanide hydratase and apolipoprotein N-acyltransferase	*	*	*
358	1015	agmatine deiminase	TAO_1475	NHAL_0731	NOC_2447	NWAT_0686	agmatine deiminase	*	*	*
359	2169	-	-	NHAL_0732	NOC_2446	NWAT_0687	anion transporter	*		
360	1811	-	-	NHAL_0735	NOC_2445	NWAT_0688	LuxR family two component transcriptional regulator	*		
361	1107	oxygen-independent coproporphyrinogen III oxidase	TAO_1474	NHAL_0737	NOC_2444	NWAT_0689	oxygen-independent coproporphyrinogen III oxidase	*	*	*
362	516	non-canonical purine NTP pyrophosphatase	TAO_1473	NHAL_0738	NOC_2443	NWAT_0690	RdgB/HAM1 family non-canonical purine NTP pyrophosphatase	*	*	*
363	726	ribonuclease PH	TAO_1472	NHAL_0739	NOC_2442	NWAT_0691	ribonuclease PH	*	*	*
364	1598	-	-	NHAL_0740	NOC_2441	NWAT_0692	hypothetical protein	*		
365	225	2,3-diketo-5-methylthio-1-phosphopentane phosphatase	TAO_1469	NHAL_0743	NOC_2439	NWAT_0696	2,3-diketo-5-methylthio-1-phosphopentane phosphatase	*	*	*
366	1821	-	-	NHAL_2244	NOC_2438	NWAT_0698	sigma 54 modulation protein/ribosomal protein S30EA	*		
367	241	hypothetical conserved protein	TAO_0611	NHAL_2248	NOC_2437	NWAT_0699	hypothetical protein	*	*	*
368	658	peptidase M23B	TAO_0612	NHAL_2251	NOC_2436	NWAT_0700	peptidase M23B	*	*	*
369	305	hypothetical conserved protein	TAO_0587	NHAL_2252	NOC_2435	NWAT_0701	hypothetical protein	*	*	*
370	508	hypothetical conserved protein	TAO_0591	NHAL_2259	NOC_2433	NWAT_0703	hypothetical protein	*	*	*
371	881	aminoglycoside phosphotransferase	TAO_1551	NHAL_2268	NOC_2432	NWAT_0705	aminoglycoside phosphotransferase	*	*	*
372	621	nucleotidyl transferase	TAO_1550	NHAL_2269	NOC_2431	NWAT_0706	nucleotidyl transferase	*	*	*
373	937	ornithine carbamoyltransferase	TAO_1549	NHAL_2270	NOC_2430	NWAT_0707	ornithine carbamoyltransferase	*	*	*
374	1157	acetylornithine aminotransferase	TAO_1548	NHAL_2271(2)	NOC_2429	NWAT_0708	acetylornithine and succinylornithine aminotransferase	*	*	*
375	656	superoxide dismutase	TAO_1547	NHAL_2272	NOC_2428	NWAT_0709	superoxide dismutase	*	*	*
376	299	glutaredoxin-like protein	TAO_1546	NHAL_2273	NOC_2427	NWAT_0710	glutaredoxin-like protein	*	*	*
377	300	ATP-dependent Clp protease adaptor protein ClpS	TAO_1545	NHAL_2274	NOC_2426	NWAT_0711	ATP-dependent Clp protease adaptor protein ClpS	*	*	*
378	1421	ATP-dependent Clp protease ATP-binding subunit clpA	TAO_1544	NHAL_2275	NOC_2425	NWAT_0712	ATP-dependent Clp protease ATP-binding subunit ClpA	*	*	*
379	495	ferric uptake regulator, Fur family	TAO_1543	NHAL_2276	NOC_2424	NWAT_0713	ferric uptake regulator, Fur family	*	*	*
380	757	ABC transporter substrate-binding protein	TAO_1542	NHAL_2277	NOC_2423	NWAT_0714	periplasmic solute binding protein	*	*	*
381	735	metal ABC transporter, ATP-binding protein	TAO_1541	NHAL_2278	NOC_2422	NWAT_0715	ABC transporter protein	*	*	*
382	902	ABC Mn2+/Zn2+ transporter,inner membrane subunit	TAO_1540	NHAL_2279	NOC_2421	NWAT_0716	ABC Mn2+/Zn2+ transporter,inner membrane subunit	*	*	*
383	491	ADP-ribose diphosphatase NudeE	TAO_0613	NHAL_2282	NOC_2420	NWAT_0720	ADP-ribose diphosphatase NudeE	*	*	*
384	716	3'(2'),5'-bisphosphate nucleotidase	TAO_0614	NHAL_2283	NOC_2419	NWAT_0721	3'(2'),5'-bisphosphate nucleotidase	*	*	*
385	53	phosphate-selective porin O and P	TAO_0616	NHAL_2285	NOC_2417	NWAT_0723	phosphate-selective porin O and P	*	*	
386	1894	-	-	NHAL_2287	NOC_2401	NWAT_0724	phosphate regulon transcriptional regulatory protein phoB	*		
387	2123	-	-	NHAL_2288	NOC_2400	NWAT_0725	signal transduction histidine kinase, phoR	*		
388	917	phosphate binding protein	TAO_0617	NHAL_2289	NOC_2399	NWAT_0726	phosphate-binding protein	*	*	*
389	1393	phosphate ABC transporter permease	TAO_0618	NHAL_2290	NOC_2398	NWAT_0727	binding-protein-dependent transporters inner membrane component	*	*	*
390	1315	phosphate ABC transporter permease	TAO_0619	NHAL_2291	NOC_2397	NWAT_0728	phosphate ABC transporter permease	*	*	*
391	866	phosphate ABC transporter ATPase	TAO_0620	NHAL_2292	NOC_2396	NWAT_0729	phosphate ABC transporter ATPase	*	*	*
392	678	phosphate transporter regulatory protein phoU	TAO_0621	NHAL_2293	NOC_2395	NWAT_0730	phosphate transporter regulatory protein phoU	*	*	*



393	2174	-	-	NHAL_2294	NOC_2394	NWAT_0731	guanosine-5'-triphosphate,3'-diphosphate diphosphatase	*		
394	1962	-	-	NHAL_2295	NOC_2393	NWAT_0732	adenylate cyclase	*		
395	2257	-	-	NHAL_2311	NOC_2388	NWAT_2234	polyphosphate kinase	*		
396	215	<b>BolA family protein</b>	TAO_0622	NHAL_2312	NOC_2387	NWAT_2233	BolA family protein	*	*	*
397	277	<b>hypothetical conserved protein</b>	TAO_0623	NHAL_2313	NOC_2386	NWAT_2232	YCII-like protein	*	*	*
398	675	<b>intracellular septation protein A</b>	TAO_0624	NHAL_2314	NOC_2385	NWAT_2231	intracellular septation protein A	*	*	*
399	785	<b>PHP domain-containing protein</b>	TAO_0625	NHAL_2315	NOC_2384	NWAT_2230	PHP domain-containing protein	*	*	*
400	628	<b>translation factor, Sua5/YciO/YrdC/YwIC</b>	TAO_0626	NHAL_2316	NOC_2383	NWAT_2229	Sua5/YciO/YrdC/YwIC family protein	*	*	*
401	685	<b>phospholipid/glycerol acyltransferase</b>	TAO_0627	NHAL_2317	NOC_2382	NWAT_2228	phospholipid/glycerol acyltransferase	*	*	*
402	1440	<b>ATP-dependent chaperone ClpB</b>	TAO_0628	NHAL_2318	NOC_2381	NWAT_2227	ATP-dependent chaperone ClpB	*	*	*
403	1370	<b>AMP-dependent synthetase and ligase</b>	TAO_0629	NHAL_2321	NOC_2380	NWAT_2226	AMP-dependent synthetase and ligase	*	*	*
404	338	<b>invasion gene expression up-regulator sirB</b>	TAO_0630	NHAL_2322	NOC_2379	NWAT_2225	invasion gene expression up-regulator, sirB	*	*	*
405	1652	-	-	NHAL_2324	NOC_2378	NWAT_2224	flagellar basal-body rod protein FlgB	*		
406	1684	-	-	NHAL_2325	NOC_2377	NWAT_2223	flagellar basal body rod protein FlgC	*		
407	1842	-	-	NHAL_2326	NOC_2376	NWAT_2222	flagellar hook capping protein	*		
408	2054	-	-	NHAL_2327	NOC_2375	NWAT_2221	flagellar basal body flaE domain-containing protein	*		
409	1870	-	-	NHAL_2328	NOC_2374	NWAT_2220	flagellar basal-body rod protein FlgF	*		
410	1914	-	-	NHAL_2329	NOC_2373	NWAT_2219	flagellar basal-body rod protein FlgG	*		
411	1848	-	-	NHAL_2330	NOC_2372	NWAT_2218	flagellar l-ring protein	*		
412	2028	-	-	NHAL_2331	NOC_2371	NWAT_2217	flagellar basal body P-ring biosynthesis protein FlgA	*		
413	1857	-	-	NHAL_2332	NOC_2370	NWAT_2216	flagellar rod assembly protein/muramidase FlgJ	*		
414	2183	-	-	NHAL_2333	NOC_2369	NWAT_2215	flagellar hook-associated protein FlgK	*		
415	2012	-	-	NHAL_2334	NOC_2368	NWAT_2214	flagellar hook-associated protein 3	*		
416	1864	-	-	NHAL_2336	NOC_2367	NWAT_2213	flagellin domain-containing protein	*		
417	1612	-	-	NHAL_2337	NOC_2366	NWAT_2212	flagellar protein flaG protein	*		
418	2184	-	-	NHAL_2338	NOC_2365	NWAT_2211	flagellar hook-associated 2 domain-containing protein	*		
419	1645	-	-	NHAL_2339	NOC_2364	NWAT_2210	flagellar protein FliS	*		
420	1594	-	-	NHAL_2340	NOC_2363	NWAT_2209	hypothetical protein	*		
421	1213	<b>sigma-54 dependent transcriptional regulator</b>	TAO_0631	NHAL_2342	NOC_2362	NWAT_2208	Fis family sigma-54 transcriptional regulator	*	*	*
422	1965	-	-	NHAL_2343	NOC_2361	NWAT_2207	Fis family two component sigma54 specific transcriptional regulator	*		
423	1591	-	-	NHAL_2344	NOC_2360	NWAT_2206	flagellar hook-basal body complex subunit FliE	*		
424	2154	-	-	NHAL_2345	NOC_2359	NWAT_2205	flagellar M-ring protein FliF	*		
425	1979	-	-	NHAL_2346	NOC_2358	NWAT_2204	flagellar motor switch protein FliG	*		
426	1826	-	-	NHAL_2347	NOC_2357	NWAT_2203	flagellar assembly protein fliH/type III secretion system HrpE	*		
427	2144	-	-	NHAL_2348	NOC_2356	NWAT_2202	flagellar biosynthesis/type III secretory pathway ATPase, FliI/YscN	*		
428	1685	-	-	NHAL_2349	NOC_2355	NWAT_2201	flagellar biosynthesis chaperone FliJ-like protein	*		
429	1839	-	-	NHAL_2350	NOC_2354	NWAT_2200	flagellar hook-length control protein	*		
430	580	<b>orotidine 5'-phosphate decarboxylase</b>	TAO_0632	NHAL_2351	NOC_2353	NWAT_2199	orotidine 5'-phosphate decarboxylase	*	*	*
431	1126	<b>queuine tRNA-ribosyltransferase</b>	TAO_0633	NHAL_2357	NOC_2352	NWAT_2198	queuine tRNA-ribosyltransferase	*	*	*
432	291	<b>preprotein translocase subunit YajC</b>	TAO_0634	NHAL_2358	NOC_2351	NWAT_2197	preprotein translocase subunit YajC	*	*	*
433	1345	<b>protein-export membrane protein SecD</b>	TAO_0635	NHAL_2359	NOC_2350	NWAT_2196	protein-export membrane protein SecD	*	*	*
434	733	<b>preprotein translocase subunit SecF</b>	TAO_0112	NHAL_2360	NOC_2349	NWAT_2195	protein-export membrane protein SecF	*	*	*
435	144	<b>hypothetical conserved protein (divided, N-term side)</b>	TAO_0636	NHAL_2361	NOC_2348	NWAT_2194	hypothetical protein	*	*	*
436	1194	<b>UDP-N-acetylmuramate L-alanyl-gamma-D-glutamyl-meso-diaminopimelate ligase</b>	TAO_0637	NHAL_2362	NOC_2347	NWAT_2193	UDP-N-acetylmuramate L-alanyl-gamma-D-glutamyl-meso-diaminopimelate ligase	*	*	*
437	662	<b>aromatic acid decarboxylase</b>	TAO_0638	NHAL_2363	NOC_2346	NWAT_2192	3-octaprenyl-4-hydroxybenzoate carboxy-lyase	*	*	*
438	1349	<b>2-polyprenylphenol 6-hydroxylase UbiB</b>	TAO_0639	NHAL_2364	NOC_2345	NWAT_2191	2-polyprenylphenol 6-hydroxylase	*	*	*
439	361	<b>sterol-binding domain-containing protein</b>	TAO_0640	NHAL_2365	NOC_2344	NWAT_2190	sterol-binding domain-containing protein	*	*	*
440	800	<b>ubiquinone/menaquinone biosynthesis methyltransferase</b>	TAO_0641	NHAL_2366	NOC_2343	NWAT_2189	ubiquinone/menaquinone biosynthesis methyltransferase	*	*	*
441	353	<b>hypothetical conserved protein</b>	TAO_0642	NHAL_2367	NOC_2342	NWAT_2188	hypothetical protein	*	*	*

442	1231	ATP-dependent protease ATP-binding subunit HslU	TAO_0643	NHAL_2368	NOC_2341	NWAT_2187	heat shock protein HslVU, ATPase subunit HslU	*	*	*
443	539	20S proteasome A and B subunits	TAO_0644	NHAL_2369	NOC_2340	NWAT_2186	20S proteasome A and B subunits	*	*	*
444	2019	-	-	NHAL_2370	NOC_2339	NWAT_2185	<b>UDP-glucose 4-epimerase</b>	*		
445	82	preprotein translocase subunit SecE	TAO_0646	NHAL_2372	NOC_2337	NWAT_2171 NWAT_2183	preprotein translocase subunit SecE	*	*	
446	93	transcription termination/antitermination factor NusG	TAO_0647	NHAL_2373	NOC_2336	NWAT_2170 NWAT_2182	transcription termination/antitermination factor NusG	*	*	
447	85	50S ribosomal protein L11	TAO_0648	NHAL_2374	NOC_2335	NWAT_2169 NWAT_2181	50S ribosomal protein L11	*	*	
448	95	50S ribosomal protein L1	TAO_0649	NHAL_2375	NOC_2334	NWAT_2168 NWAT_2180	50S ribosomal protein L1	*	*	
449	88	50S ribosomal protein L10	TAO_0650	NHAL_2376	NOC_2333	NWAT_2167 NWAT_2179	50S ribosomal protein L10	*	*	
450	81	50S ribosomal protein L7/L12	TAO_0651	NHAL_2377	NOC_2332	NWAT_2166 NWAT_2178	50S ribosomal protein L7/L12	*	*	
451	101	DNA-directed RNA polymerase subunit beta	TAO_0652	NHAL_2378	NOC_2331	NWAT_2165 NWAT_2177	DNA-directed RNA polymerase subunit beta	*	*	
452	102	DNA-directed RNA polymerase subunit beta'	TAO_0653	NHAL_2379	NOC_2330	NWAT_2164 NWAT_2176	DNA-directed RNA polymerase subunit beta'	*	*	
453	84	30S ribosomal protein S12	TAO_0654	NHAL_2380	NOC_2329	NWAT_2163 NWAT_2175	30S ribosomal protein S12	*	*	
454	91	30S ribosomal protein S7	TAO_0655	NHAL_2381	NOC_2328	NWAT_2162 NWAT_2174	30S ribosomal protein S7	*	*	
455	100	translation elongation factor G	TAO_0656	NHAL_2382	NOC_2327	NWAT_2161 NWAT_2173	translation elongation factor G	*	*	
456	306	30S ribosomal protein S10	TAO_0658	NHAL_2384	NOC_2325	NWAT_2159	30S ribosomal protein S10	*	*	*
457	540	50S ribosomal protein L3	TAO_0659	NHAL_2385	NOC_2324	NWAT_2158	50S ribosomal protein L3	*	*	*
458	517	50S ribosomal protein L4/L1e	TAO_0660	NHAL_2386	NOC_2323	NWAT_2157	50S ribosomal protein L4/L1e	*	*	*
459	244	50S ribosomal protein L23	TAO_0661	NHAL_2387	NOC_2322	NWAT_2156	50S ribosomal protein L25/L23	*	*	*
460	768	50S ribosomal protein L2	TAO_0662	NHAL_2388	NOC_2321	NWAT_2155	50S ribosomal protein L2	*	*	*
461	252	30S ribosomal protein S19	TAO_0663	NHAL_2389	NOC_2320	NWAT_2154	30S ribosomal protein S19	*	*	*
462	257	50S ribosomal protein L22	TAO_0664	NHAL_2390	NOC_2319	NWAT_2153	50S ribosomal protein L22	*	*	*
463	720	30S ribosomal protein S3	TAO_0665	NHAL_2391	NOC_2318	NWAT_2152	30S ribosomal protein S3	*	*	*
464	441	50S ribosomal protein L16	TAO_0666	NHAL_2392	NOC_2317	NWAT_2151	50S ribosomal protein L16	*	*	*
465	141	50S ribosomal protein L29	TAO_0667	NHAL_2393	NOC_2316	NWAT_2150	50S ribosomal protein L29	*	*	*
466	213	30S ribosomal protein S17	TAO_0668	NHAL_2394	NOC_2315	NWAT_2149	30S ribosomal protein S17	*	*	*
467	355	50S ribosomal protein L14	TAO_0669	NHAL_2395	NOC_2314	NWAT_2148	50S ribosomal protein L14	*	*	*
468	261	50S ribosomal protein L24	TAO_0670	NHAL_2396	NOC_2313	NWAT_2147	50S ribosomal protein L24	*	*	*
469	564	50S ribosomal protein L5	TAO_0671	NHAL_2397	NOC_2312	NWAT_2146	50S ribosomal protein L5	*	*	*
470	251	30S ribosomal protein S14	TAO_0672	NHAL_2398	NOC_2311	NWAT_2145	30S ribosomal protein S14	*	*	*
471	276	30S ribosomal protein S8	TAO_0673	NHAL_2399	NOC_2310	NWAT_2144	30S ribosomal protein S8	*	*	*
472	433	50S ribosomal protein L6	TAO_0674	NHAL_2400	NOC_2309	NWAT_2143	50S ribosomal protein L6	*	*	*
473	270	50S ribosomal protein L18	TAO_0675	NHAL_2401	NOC_2308	NWAT_2142	50S ribosomal protein L18	*	*	*
474	483	30S ribosomal protein S5	TAO_0676	NHAL_2402	NOC_2307	NWAT_2141	30S ribosomal protein S5	*	*	*
475	1532	50S ribosomal protein L30	TAO_0677	NHAL_2403		NWAT_2140	50S ribosomal protein L30	*		
476	332	50S ribosomal protein L15	TAO_0678	NHAL_2404	NOC_2306	NWAT_2139	50S ribosomal protein L15	*	*	*
477	1283	preprotein translocase subunit SecY	TAO_0679	NHAL_2405	NOC_2305	NWAT_2138	preprotein translocase subunit SecY	*	*	*
478	1486	-	-	NHAL_2406	NOC_2304	NWAT_2137	<b>50S ribosomal protein L36</b>	*		
479	327	30S ribosomal protein S13	TAO_0680	NHAL_2407	NOC_2303	NWAT_2136	30S ribosomal protein S13	*	*	*
480	369	30S ribosomal protein S11	TAO_0681	NHAL_2408	NOC_2302	NWAT_2135	30S ribosomal protein S11	*	*	*
481	677	30S ribosomal protein S4	TAO_0682	NHAL_2409	NOC_2301	NWAT_2134	30S ribosomal protein S4	*	*	*
482	954	DNA-directed RNA polymerase subunit alpha	TAO_0683	NHAL_2410	NOC_2300	NWAT_2133	DNA-directed RNA polymerase subunit alpha	*	*	*
483	340	50S ribosomal protein L17	TAO_0684	NHAL_2411	NOC_2299	NWAT_2132	50S ribosomal protein L17	*	*	*
484	1884	-	-	NHAL_2412	NOC_2298	NWAT_2131	<b>hypothetical protein</b>	*		

485	739	ubiquinone biosynthesis O-methyltransferase	TAO_0685	NHAL_2413	NOC_2296	NWAT_2129	ubiquinone biosynthesis O-methyltransferase	*	*	*
486	1203	N-ethylammelline chlorohydrolase	TAO_0686	NHAL_2414	NOC_2295	NWAT_2128	N-ethylammelline chlorohydrolase	*	*	*
487	1805	-	-	NHAL_2415	NOC_2294	NWAT_2127	hypothetical protein	*	*	*
488	966	methylthioribose-1-phosphate isomerase	TAO_0687	NHAL_2416	NOC_2293	NWAT_2126	translation initiation factor, aIF-2BI family	*	*	*
489	944	cysB family transcriptional regulator	TAO_0688	NHAL_2417	NOC_2292	NWAT_2125	cysB family transcriptional regulator	*	*	*
490	805	hypothetical conserved protein	TAO_0689	NHAL_2418	NOC_2291	NWAT_2124	hypothetical protein	*	*	*
491	790	phosphoadenosine phosphosulfate reductase	TAO_0690	NHAL_2419	NOC_2290	NWAT_2123	thioredoxin dependent adenylsulfate reductase	*	*	*
492	989	sulfate adenyltransferase subunit 2	TAO_0691	NHAL_2420	NOC_2289	NWAT_2122	sulfate adenyltransferase subunit 2	*	*	*
493	1238	sulfate adenyltransferase, large subunit	TAO_0692	NHAL_2421	NOC_2288	NWAT_2121	sulfate adenyltransferase, large subunit	*	*	*
494	2040	-	-	NHAL_2422	NOC_2287	NWAT_2119	hypothetical protein	*	*	*
495	2161	-	-	NHAL_2423	NOC_2286	NWAT_2118	hypothetical protein	*	*	*
496	1702	-	-	NHAL_2424	NOC_2285	NWAT_2117	camphor resistance crcB protein	*	*	*
497	1657	-	-	NHAL_2425	NOC_2284	NWAT_2116	hypothetical protein	*	*	*
498	2238	-	-	NHAL_2426	NOC_2283	NWAT_2115	DNA topoisomerase IV subunit B	*	*	*
499	2256	-	-	NHAL_2427	NOC_2282	NWAT_2114	DNA topoisomerase IV subunit A	*	*	*
500	1364	polysaccharide biosynthesis protein capD	TAO_0694	NHAL_2428	NOC_2281	NWAT_2113	polysaccharide biosynthesis protein capD	*	*	*
501	783	stationary-phase survival protein surE	TAO_0696	NHAL_2432	NOC_0789	NWAT_2322	stationary phase survival protein surE	*	*	*
502	590	protein-L-isoaspartate O-methyltransferase	TAO_0697	NHAL_2433	NOC_0790	NWAT_2321	protein-L-isoaspartate O-methyltransferase	*	*	*
503	1856	-	-	NHAL_2434	NOC_0791	NWAT_2320	hypothetical protein	*	*	*
504	520	peptidase M23	TAO_0698	NHAL_2435	NOC_0792	NWAT_2319	peptidase M23	*	*	*
505	999	peptide chain release factor 2	TAO_0699	NHAL_2436	NOC_0793	NWAT_2318	peptide chain release factor 2	*	*	*
506	2845	lysyl-tRNA synthetase	TAO_0700	NHAL_2437			lysyl-tRNA synthetase	*	*	*
507	676	DNA repair protein RecO	TAO_0701	NHAL_2438	NOC_0794	NWAT_2316	DNA repair protein RecO	*	*	*
508	704	pyridoxal phosphate biosynthetic protein PdxJ	TAO_0702	NHAL_2439	NOC_0795	NWAT_2315	pyridoxal phosphate biosynthetic protein PdxJ	*	*	*
509	330	holo-acyl-carrier-protein synthase	TAO_0703	NHAL_2440	NOC_0796	NWAT_2314	holo-acyl carrier protein synthase	*	*	*
510	889	cysteine synthase B	TAO_0704	NHAL_2441	NOC_0797	NWAT_2313	cysteine synthase B	*	*	*
511	2217	-	-	NHAL_2442	NOC_0798	NWAT_2312	hypothetical protein	*	*	*
512	1825	-	-	NHAL_2443	NOC_0799	NWAT_2311	hypothetical protein	*	*	*
513	1950	-	-	NHAL_2444	NOC_0800	NWAT_2310	3'-5' exonuclease	*	*	*
514	2122	-	-	NHAL_2445	NOC_0801	NWAT_2309	TrmA family RNA methyltransferase	*	*	*
515	440	6,7-dimethyl-8-ribityllumazine synthase	TAO_0705	NHAL_2446	NOC_0802	NWAT_2308	6,7-dimethyl-8-ribityllumazine synthase	*	*	*
516	364	transcription antitermination factor NusB	TAO_0706	NHAL_2447	NOC_0803	NWAT_2307	transcription antitermination factor NusB	*	*	*
517	853	thiamine-monophosphate kinase	TAO_0707	NHAL_2448	NOC_0804	NWAT_2306	thiamine-monophosphate kinase	*	*	*
518	504	phosphatidylglycerophosphatase A	TAO_0708	NHAL_2449	NOC_0805	NWAT_2305	phosphatidylglycerophosphatase A	*	*	*
519	1429	protein-P-II uridylyltransferase	TAO_0709	NHAL_2450	NOC_0806	NWAT_2304	protein-P-II uridylyltransferase	*	*	*
520	867	methionine aminopeptidase	TAO_0710	NHAL_2451	NOC_0807	NWAT_2303	methionine aminopeptidase, type I	*	*	*
521	810	30S ribosomal protein S2	TAO_0711	NHAL_2452	NOC_0808	NWAT_2302	30S ribosomal protein S2	*	*	*
522	828	translation elongation factor Ts	TAO_0712	NHAL_2453	NOC_0809	NWAT_2301	translation elongation factor Ts	*	*	*
523	758	uridylylate kinase	TAO_0713	NHAL_2454	NOC_0810	NWAT_2300	uridylylate kinase	*	*	*
524	511	ribosome recycling factor	TAO_0714	NHAL_2455	NOC_0811	NWAT_2299	ribosome recycling factor	*	*	*
525	729	UDP diphosphate synthase	TAO_0715	NHAL_2456	NOC_0812	NWAT_2298	UDP diphosphate synthase	*	*	*
526	756	phosphatidate cytidyltransferase	TAO_0716	NHAL_2457	NOC_0813	NWAT_2297	phosphatidate cytidyltransferase	*	*	*
527	1133	1-deoxy-D-xylulose 5-phosphate reductoisomerase	TAO_0717	NHAL_2458	NOC_0814	NWAT_2296	1-deoxy-D-xylulose 5-phosphate reductoisomerase	*	*	*
528	1222	membrane-associated zinc protein metalloprotease	TAO_0718	NHAL_2459	NOC_0815	NWAT_2295	membrane-associated zinc protein metalloprotease	*	*	*
529	1413	outer membrane protein assembly factor YaeT precursor	TAO_0719	NHAL_2460	NOC_0816	NWAT_2294	outer membrane protein assembly complex, YaeT protein	*	*	*
530	418	outer membrane chaperone Skp	TAO_0720	NHAL_2461	NOC_0817	NWAT_2293	outer membrane chaperone Skp	*	*	*
531	446	3-hydroxyacyl-ACP dehydratase	TAO_0721	NHAL_2462	NOC_0818	NWAT_2292	3-hydroxyacyl-ACP dehydratase	*	*	*
532	821	acyl-(acyl-carrier-protein)--UDP-N-acetylglucosamine O-acyltransferase	TAO_0722	NHAL_2463	NOC_0819	NWAT_2291	acyl-(acyl-carrier-protein)--UDP-N-acetylglucosamine O-acyltransferase	*	*	*
533	466	hypothetical conserved protein	TAO_0723	NHAL_2464	NOC_0820	NWAT_2290	hypothetical protein	*	*	*

534	1034	outer membrane assembly lipoprotein Yfgl	TAO_0724	NHAL_2465	NOC_0821	NWAT_2289	outer membrane assembly lipoprotein Yfgl	*	*	*
535	1196	small GTP-binding protein	TAO_0725	NHAL_2467	NOC_0822	NWAT_2288	small GTP-binding protein domain-containing protein	*	*	*
536	1886	-	-	NHAL_2476	NOC_0823	NWAT_2287	<b>OmpA/MotB domain-containing protein</b>	*		
537	1693	-	-	NHAL_2477	NOC_0824	NWAT_2286	<b>thioesterase superfamily protein</b>	*		
538	78	AMP-dependent synthetase and ligase	TAO_1063	NHAL_2478	NOC_0825	NWAT_2285	AMP-dependent synthetase and ligase	*	*	*
539	2242	-	-	NHAL_2479	NOC_0826	NWAT_2284	<b>3-hydroxyacyl-coA dehydrogenase NAD-binding protein</b>	*		
540	2146	-	-	NHAL_2480	NOC_0827	NWAT_2283	<b>acetyl-coA acetyltransferase</b>	*		
541	719	glutamine cyclotransferase	TAO_0852	NHAL_2482	NOC_0828	NWAT_2281	glutamine cyclotransferase	*	*	*
542	1408	$\alpha$ -1,4-glucan:maltose-1-phosphate maltosyltransferase	TAO_0758	NHAL_2490	NOC_0829	NWAT_2280	$\alpha$ -1,4-glucan:maltose-1-phosphate maltosyltransferase	*	*	*
543	1458	trehalose synthase/amylase treS	TAO_0759	NHAL_2491	NOC_0830	NWAT_2279	trehalose synthase/amylase treS	*	*	*
544	1649	-	-	NHAL_2492	NOC_0831	NWAT_2278	<b>cupin</b>	*		
545	222	hypothetical conserved protein	TAO_0761	NHAL_2494	NOC_0832	NWAT_2276	hypothetical protein	*	*	*
546	1929	-	-	NHAL_2656	NOC_0833	NWAT_2275	<b>MotA/TolQ/exbB proton channel</b>	*		
547	1921	-	-	NHAL_2657	NOC_0834	NWAT_2274	<b>OmpA/MotB domain-containing protein</b>	*		
548	571	anaerobic dehydrogenase cluster protein	TAO_0885	NHAL_2658	NOC_0835	NWAT_2273	anaerobic dehydrogenase cluster protein	*	*	*
549	1540	hypothetical conserved protein	TAO_0886	NHAL_2661		NWAT_2272	hypothetical conserved protein	*		
550	748	oxidoreductase FAD/NAD(P)-binding domain-containing protein	TAO_0887	NHAL_2662	NOC_0836	NWAT_2271	oxidoreductase FAD/NAD(P)-binding domain-containing protein	*	*	*
551	1627	-	-	NHAL_2663	NOC_0837	NWAT_2270	<b>hypothetical protein</b>	*		
552	2014	-	-	NHAL_2664	NOC_0838	NWAT_2269	<b>transport system permease</b>	*		
553	1897	-	-	NHAL_2665	NOC_0839	NWAT_2268	<b>ABC transporter-like protein</b>	*		
554	1923	-	-	NHAL_2666	NOC_0840	NWAT_2267	<b>periplasmic binding protein</b>	*		
555	1179	glycolate oxidase iron-sulfur subunit	TAO_0891	NHAL_2667	NOC_0841	NWAT_2266	glycolate oxidase iron-sulfur subunit	*	*	*
556	2091	-	-	NHAL_2668	NOC_0842	NWAT_2265	<b>cystathionine gamma-lyase</b>	*		
557	892	peptidase S49 domain-containing protein	TAO_0906	NHAL_2669	NOC_0843	NWAT_2264	peptidase S49 domain-containing protein	*	*	*
558	987	glycolate oxidase FAD binding subunit	TAO_0908	NHAL_2670	NOC_0844	NWAT_2263	glycolate oxidase FAD binding subunit	*	*	*
559	74	hypothetical conserved protein	TAO_0911	NHAL_2672	NOC_0845	NWAT_2262	hypothetical conserved protein	*	*	*
560	1459	DNA polymerase III subunit alpha	TAO_0912	NHAL_2673	NOC_0846	NWAT_2261	DNA polymerase III subunit alpha	*	*	*
561	1990	-	-	NHAL_2674	NOC_0847	NWAT_2260	<b>response regulator receiver modulated diguanylate cyclase</b>	*		
562	1041	acetyl-coA carboxylase, carboxyl transferase subunit alpha	TAO_0913	NHAL_2675	NOC_0848	NWAT_2259	acetyl-coA carboxylase, carboxyl transferase subunit alpha	*	*	*
563	1119	tRNA(Ile)-lysidine synthetase	TAO_0914	NHAL_2676	NOC_0849	NWAT_2258	tRNA(Ile)-lysidine synthetase	*	*	*
564	1323	CTP synthase	TAO_0915	NHAL_2677	NOC_0850	NWAT_2257	CTP synthase	*	*	*
565	891	2-dehydro-3-deoxyphosphoactonate aldolase	TAO_0916	NHAL_2678	NOC_0851	NWAT_2256	2-dehydro-3-deoxyphosphoactonate aldolase	*	*	*
566	1160	enolase	TAO_0917	NHAL_2679	NOC_0852	NWAT_2255	enolase	*	*	*
567	186	cell division protein FtsB	TAO_0918	NHAL_2680	NOC_0853	NWAT_2254	septum formation initiator	*	*	*
568	641	2-C-methyl-D-erythritol 4-phosphate cytidyltransferase	TAO_0919	NHAL_2681	NOC_0854	NWAT_2253	2-C-methyl-D-erythritol 4-phosphate cytidyltransferase	*	*	*
569	411	2C-methyl-D-erythritol 2,4-cyclodiphosphate synthase	TAO_0920	NHAL_2682	NOC_0855	NWAT_2252	2-C-methyl-D-erythritol 2,4-cyclodiphosphate synthase	*	*	*
570	175	hypothetical protein	TAO_0921	NHAL_2683	NOC_0856	NWAT_2251	tRNA pseudouridine synthase D TruD	*	*	*
571	2166	-	-	NHAL_1802	NOC_0857	NWAT_2249	<b>hypothetical protein</b>	*		
572	1549	-	-	NHAL_1803	NOC_0858	NWAT_2248	<b>hypothetical protein</b>	*		
573	2163	-	-	NHAL_2684	NOC_0862	NWAT_2246	<b>diguanylate cyclase/phosphodiesterase</b>	*		
574	1228	uroporphyrin-III C-methyltransferase	TAO_0922	NHAL_2685	NOC_0863	NWAT_2245	uroporphyrin-III C-methyltransferase	*	*	*
575	2127	glutamate dehydrogenase	TAO_0447		NOC_0864	NWAT_2244	Glu/Leu/phe/Val dehydrogenase	*		
576	750	nicotinate-nucleotide pyrophosphorylase	TAO_0923	NHAL_2686	NOC_0865	NWAT_2243	nicotinate-nucleotide pyrophosphorylase	*	*	*
577	435	N-acetyl-anhydromuranmyl-L-alanine amidase	TAO_0924	NHAL_2687	NOC_0866	NWAT_2242	N-acetyl-anhydromuranmyl-L-alanine amidase	*	*	*
578	1790	-	-	NHAL_2689	NOC_0867	NWAT_2241	<b>ATP/cobalamin adenosyltransferase</b>	*		
579	1656	-	-	NHAL_2690	NOC_0868	NWAT_2240	<b>hemimethylated DNA-binding region</b>	*		
580	1851	-	-	NHAL_1052	NOC_1928	NWAT_1727	<b><math>\alpha</math>-ribazole phosphatase</b>	*		
581	1917	-	-	NHAL_1053	NOC_1927	NWAT_1726	<b>hypothetical protein</b>	*		
582	1924	-	-	NHAL_3079	NOC_1926	NWAT_1725	<b>hypothetical protein</b>	*		
583	2275	-	-	NHAL_1411	NOC_1924	NWAT_1723	<b>FAD linked oxidase domain-containing protein</b>	*		

584	616	abortive infection protein	TAO_0947	NHAL_1412	NOC_1923	NWAT_1722	abortive infection protein	*	*	*
585	366	thiol-disulfide oxidoreductase DCC	TAO_1354	NHAL_2103	NOC_1922	NWAT_1721	putative thiol-disulfide oxidoreductase DCC	*	*	*
586	57	glutathione-dependent formaldehyde-activating protein	TAO_0435	NHAL_2104	NOC_1921	NWAT_1720	glutathione-dependent formaldehyde-activating protein	*	*	*
587	1998	-	-	NHAL_1613	NOC_1919	NWAT_1719	<b>LysR family transcriptional regulator</b>	*		
588	1606	-	-	NHAL_3360	NOC_1918	NWAT_1718	<b>GreA/GreB family elongation factor</b>	*		
589	1534	-	-	NHAL_0108	NOC_1917	NWAT_1717	<b>hypothetical protein</b>	*		
590	1007	hypothetical conserved protein	TAO_1270	NHAL_1614	NOC_1915	NWAT_1716	hypothetical protein	*	*	*
591	1521	-	-	NHAL_2561	NOC_1914	NWAT_1715	<b>mechanosensitive ion channel protein MscS</b>	*		
592	2057	-	-	NHAL_1634	NOC_1913	NWAT_1714	<b>hypothetical protein</b>	*		
593	2243	-	-	NHAL_1635	NOC_1912	NWAT_1713	<b>phospholipase D/transphosphatidylase</b>	*		
594	2130	-	-	NHAL_1636	NOC_1911	NWAT_1712	<b>Fis family sigma-54 specific transcriptional regulator</b>	*		
595	1063	YjgP/YjgQ family permease	TAO_1084	NHAL_3014	NOC_1910	NWAT_1711	YjgP/YjgQ family permease	*	*	*
596	1059	YjgP/YjgQ family permease	TAO_1083	NHAL_3015	NOC_1909	NWAT_1710	YjgP/YjgQ family permease	*	*	*
597	444	RDD domain-containing protein	TAO_1082	NHAL_3016	NOC_1908	NWAT_1709	RDD domain-containing protein	*	*	*
598	1462	phosphoribosylformylglycinamide synthase	TAO_1081	NHAL_3017	NOC_1907	NWAT_1708	phosphoribosylformylglycinamide synthase	*	*	*
599	451	Smr protein/MutS2	TAO_1080	NHAL_3018	NOC_1906	NWAT_1707	Smr protein/MutS2	*	*	*
600	2810	-	-	-	NOC_1905	NWAT_1706	<b>hypothetical protein</b>	*		
601	2882	-	-	-	NOC_1903	NWAT_1705	<b>ATP-dependent metalloprotease FtsH</b>	*		
602	1400	V-type H(+)-translocating pyrophosphatase	TAO_1079	NHAL_3019	NOC_1901	NWAT_1703	V-type H(+)-translocating pyrophosphatase	*	*	*
603	982	hopanoid-associated sugar epimerase	TAO_1098	NHAL_2984	NOC_0999	NWAT_2036	hopanoid-associated sugar epimerase	*	*	*
604	348	lipid A 3-O-deacylase-like protein	TAO_1097	NHAL_2985	NOC_1000	NWAT_2035	lipid A 3-O-deacylase-like protein	*	*	*
605	430	tellurite resistance terB	TAO_1096	NHAL_2986	NOC_1001	NWAT_2034	tellurite resistance terB	*	*	*
606	619	stress response terD-like protein	TAO_1095	NHAL_2987	NOC_1002	NWAT_2033	stress protein	*	*	*
607	949	hypothetical conserved protein	TAO_1094	NHAL_2988	NOC_1003	NWAT_2032	hypothetical protein	*	*	*
608	1910	-	-	NHAL_2989	NOC_1004	NWAT_2031	<b>hypothetical protein</b>	*		
609	980	hypothetical conserved protein	TAO_1093	NHAL_2990	NOC_1005	NWAT_2030	hypothetical protein	*	*	*
610	884	ATP/GTP-binding protein	TAO_1092	NHAL_2991	NOC_1006	NWAT_2029	ATP/GTP-binding protein	*	*	*
611	1014	hypothetical conserved protein	TAO_1091	NHAL_2992	NOC_1007	NWAT_2028	hypothetical protein	*	*	*
612	609	stress response terD-like protein	TAO_1090	NHAL_2993	NOC_1008	NWAT_2027	stress protein	*	*	*
613	2126	-	-	NHAL_2995	NOC_1009	NWAT_2025	<b>nicotinate phosphoribosyltransferase</b>	*		
614	1215	major facilitator superfamily protein	TAO_1386	NHAL_1954	NOC_1010	NWAT_2024	major facilitator superfamily protein	*	*	*
615	2088	-	-	NHAL_1955	NOC_1011	NWAT_2023	<b>peptidase M50</b>	*		
616	1711	hypothetical conserved protein	TAO_1588	-	NOC_1012	NWAT_2021	hypothetical conserved protein	*		
617	669	3-isopropylmalate dehydratase, small subunit	TAO_1385	NHAL_1961	NOC_1013	NWAT_2020	3-isopropylmalate dehydratase small subunit	*	*	*
618	1062	3-isopropylmalate dehydrogenase	TAO_1384	NHAL_1962	NOC_1014	NWAT_2019	3-isopropylmalate dehydrogenase	*	*	*
619	1644	hypothetical protein	TAO_1383	-	NOC_1015	NWAT_2018	sulfatase	*		
620	1031	aspartate-semialdehyde dehydrogenase	TAO_1380	NHAL_1963	NOC_1016	NWAT_2017	aspartate-semialdehyde dehydrogenase	*	*	*
621	512	hypothetical conserved protein	TAO_1378	NHAL_1964	NOC_1017	NWAT_2016	FimV N-terminal domain-containing protein	*	*	*
622	774	tRNA pseudouridine synthase A	TAO_1377	NHAL_1967	NOC_1018	NWAT_2013	tRNA pseudouridine synthase A	*	*	*
623	589	N-(5'-phosphoribosyl)anthranilate isomerase	TAO_1376	NHAL_1968	NOC_1019	NWAT_2012	N-(5'-phosphoribosyl)anthranilate isomerase	*	*	*
624	1191	tryptophan synthase subunit alpha	TAO_1375	NHAL_1969	NOC_1020	NWAT_2011	tryptophan synthase subunit beta	*	*	*
625	749	tryptophan synthase subunit alpha	TAO_1374	NHAL_1970	NOC_1021	NWAT_2010	tryptophan synthase subunit alpha	*	*	*
626	919	acetyl-coA carboxylase, carboxyl transferase subunit beta	TAO_1373	NHAL_1971	NOC_1022	NWAT_2009	acetyl-coA carboxylase carboxyl transferase subunit beta	*	*	*
627	1145	folylpolyglutamate synthase/dihydrofolate synthase	TAO_1372	NHAL_1972	NOC_1023	NWAT_2008	bifunctional folylpolyglutamate synthase/ dihydrofolate synthase	*	*	*
628	2622	-	-	-	NOC_1024	NWAT_2007	<b>hypothetical protein</b>	*		
629	2846	-	-	-	NOC_1025	NWAT_2006	<b>patatin</b>	*		
630	597	tRNA (guanine-N(7)-)-methyltransferase	TAO_1371	NHAL_1973	NOC_1026	NWAT_2005	tRNA (guanine-N(7)-)-methyltransferase	*	*	*
631	1747	-	-	NHAL_1974	NOC_1027	NWAT_2004	<b>MarR family transcriptional regulator</b>	*		
632	1742	-	-	NHAL_1975	NOC_1028	NWAT_2003	<b>L-ectoine synthase</b>	*		
633	2155	-	-	NHAL_1976	NOC_1029	NWAT_2002	<b>amino acid-binding ACT domain-containing protein</b>	*		

634	2829	-	-	NOC_1030	NWAT_2001	<b>mechanosensitive ion channel protein MscS</b>	*			
635	2648	-	-	NOC_1031	NWAT_2000(2)	<b>hypothetical protein</b>	*			
636	2723	-	-	NOC_1032	NWAT_2000(1)	<b>hypothetical protein</b>	*			
637	1509	-	-	NHAL_3578	NOC_1035	NWAT_1997	<b>hypothetical protein</b>	*		
638	1187	<b>seryl-tRNA synthetase</b>	TAO_0115	NHAL_3577	NOC_1036	NWAT_1996	seryl-tRNA synthetase	*	*	*
639	709	<b>peptidase M50</b>	TAO_0116	NHAL_3576	NOC_1037	NWAT_1995	peptidase M50	*	*	*
640	1208	<b>tryptophanyl-tRNA synthetase</b>	TAO_0117	NHAL_3575	NOC_1038	NWAT_1994	tryptophanyl-tRNA synthetase	*	*	*
641	760	<b>chromosome segregation and condensation protein ScpA</b>	TAO_0118	NHAL_3574	NOC_1039	NWAT_1993	chromosome segregation and condensation protein ScpA	*	*	*
642	530	<b>segregation and condensation protein B</b>	TAO_0119	NHAL_3573	NOC_1040	NWAT_1992	chromosome segregation and condensation protein ScpB	*	*	*
643	759	<b>ribosomal large subunit pseudouridine synthase B</b>	TAO_0120	NHAL_3572	NOC_1041	NWAT_1991	RNA-binding S4 domain-containing protein	*	*	*
644	782	<b>squalene/phytoene synthase</b>	TAO_0121	NHAL_3571	NOC_1042	NWAT_1990	squalene/phytoene synthase	*	*	*
645	321	<b>Fe2-S2-type ferredoxin</b>	TAO_0122	NHAL_3570	NOC_1043	NWAT_1989	Fe2-S2-type ferredoxin	*	*	*
646	310	<b>iron-sulfur cluster insertion protein ErpA</b>	TAO_0123	NHAL_3569	NOC_1044	NWAT_1988	iron-sulfur cluster assembly accessory protein	*	*	*
647	307	<b>integral membrane protein ccmA involved in cell shape</b>	TAO_0124	NHAL_3568	NOC_1045	NWAT_1987	integral membrane protein ccmA involved in cell shape determination	*	*	*
648	548	<b>hypothetical conserved protein</b>	TAO_0125	NHAL_3567	NOC_1046	NWAT_1986	hypothetical protein	*	*	*
649	1002	<b>N-acetyl-gamma-glutamyl-phosphate reductase</b>	TAO_0126	NHAL_3566	NOC_1047	NWAT_1985	N-acetyl-gamma-glutamyl-phosphate reductase	*	*	*
650	1250	<b>phosphoribosylaminoimidazolecarboxamide formyltransferase/IMP cyclohydrolase</b>	TAO_0127	NHAL_3564	NOC_1048	NWAT_1984	phosphoribosylaminoimidazolecarboxamide formyltransferase/IMP cyclohydrolase	*	*	*
651	227	<b>Fis family transcriptional regulator</b>	TAO_0128	NHAL_3563	NOC_1049	NWAT_1983	Fis family transcriptional regulator	*	*	*
652	824	<b>50S ribosomal protein L11 methyltransferase</b>	TAO_0129	NHAL_3562	NOC_1050	NWAT_1981	50S ribosomal protein L11 methyltransferase	*	*	*
653	1270	<b>acetyl-coA carboxylase biotin carboxylase subunit</b>	TAO_0130	NHAL_3561	NOC_1051	NWAT_1980	acetyl-coA carboxylase, biotin carboxylase	*	*	*
654	360	<b>acetyl-coA carboxylase biotin carboxyl carrier protein</b>	TAO_0131	NHAL_3560	NOC_1052	NWAT_1979	acetyl-coA carboxylase, biotin carboxyl carrier protein	*	*	*
655	377	<b>3-dehydroquinate dehydratase</b>	TAO_0132	NHAL_3559	NOC_1053	NWAT_1978	3-dehydroquinate dehydratase	*	*	*
656	473	<b>thioredoxin</b>	TAO_0133	NHAL_3558	NOC_1054	NWAT_1977	alkyl hydroperoxide reductase/thiol specific antioxidant/ mal allergen	*	*	*
657	1354	<b>thiol:disulfide interchange protein</b>	TAO_0134	NHAL_3557	NOC_1055	NWAT_1976	cytochrome c biogenesis protein transmembrane region	*	*	*
658	267	<b>divalent ion tolerance protein CutA</b>	TAO_0135	NHAL_3556	NOC_1056	NWAT_1975	CutA1 divalent ion tolerance protein	*	*	*
659	288	<b>hypothetical conserved protein</b>	TAO_0136	NHAL_3555	NOC_1057	NWAT_1974	hypothetical protein	*	*	*
660	525	<b>SAM-dependent methyltransferase family protein</b>	TAO_0137	NHAL_3554	NOC_1058	NWAT_1973	SAM-dependent methyltransferase family protein	*	*	*
661	1673	-	-	NHAL_3551	NOC_1059	NWAT_1972	<b>hypothetical protein</b>	*		
662	359	<b>pentapeptide repeat-containing protein</b>	TAO_0138	NHAL_3550	NOC_1060	NWAT_1971	pentapeptide repeat-containing protein	*	*	*
663	1860	-	-	NHAL_3549	NOC_1061	NWAT_1970	<b>Crp/Fnr family transcriptional regulator</b>	*		
664	2246	-	-	NHAL_3548	NOC_1062	NWAT_1969	<b>adenylyl cyclase class-3/4/guanylyl cyclase</b>	*		
665	1538	-	-	NHAL_3546	NOC_1063	NWAT_1968	<b>TPR repeat-containing protein</b>	*		
666	2699	-	-	-	NOC_1065	NWAT_1964	<b>hypothetical protein</b>	*		
667	2595	-	-	-	NOC_1068	NWAT_1957	<b>hypothetical protein</b>	*		
668	2605	-	-	-	NOC_1069	NWAT_1956	<b>hypothetical protein</b>	*		
669	2784	-	-	-	NOC_1073	NWAT_1955	<b>ribonuclease BN</b>	*		
670	1609	-	-	NHAL_2917	NOC_1074	NWAT_1954	<b>hypothetical protein</b>	*		
671	1619	-	-	NHAL_2918	NOC_1075	NWAT_1953	<b>hypothetical protein</b>	*		
672	1969	-	-	NHAL_2051	NOC_1076	NWAT_1952	<b>group 1 glycosyl transferase</b>	*		
673	1703	-	-	NHAL_2052	NOC_1077	NWAT_1951	<b>bifunctional 6-pyruvoyl tetrahydropterin synthase/hypothetical protein</b>	*		
674	2017	-	-	NHAL_2053	NOC_1078	NWAT_1950	<b>putative dehydrogenase</b>	*		
675	2048	-	-	NHAL_2054	NOC_1079	NWAT_1949	<b>bifunctional deaminase-reductase domain-containing protein</b>	*		
676	1873	-	-	NHAL_2055	NOC_1080	NWAT_1948	<b>hypothetical protein</b>	*		
677	1807	-	-	NHAL_2056	NOC_1081	NWAT_1947	<b>S-isoprenylcysteine methyltransferase-like protein</b>	*		
678	1779	-	-	NHAL_2057	NOC_1082	NWAT_1946	<b>hypothetical protein</b>	*		
679	1273	<b>hypothetical conserved protein</b>	TAO_0933	NHAL_2058	NOC_1083	NWAT_1945	hypothetical protein	*	*	*
680	981	<b><math>\alpha</math>-L-glutamate ligase</b>	TAO_0934	NHAL_2059	NOC_1084	NWAT_1944	$\alpha$ -L-glutamate ligase-like protein	*	*	*
681	1789	-	-	NHAL_2061	NOC_1085	NWAT_1943	<b>phage SPO1 DNA polymerase-like protein</b>	*		
682	1759	-	-	NHAL_2062	NOC_1086	NWAT_1942	<b>FKBP-type peptidylprolyl isomerase</b>	*		
683	2049	-	-	NHAL_2064	NOC_1087	NWAT_1941	<b>peptidase M42 family protein</b>	*		

684	502	<b>MarR family transcriptional regulator</b>	TAO_1179	NHAL_2066	NOC_1088	NWAT_1940	MarR family transcriptional regulator	*	*	*
685	1882	-	-	NHAL_2068	NOC_1089	NWAT_1939	<b>hypothetical protein</b>	*		
686	323	<b>chain A, red copper protein nitrosocyanin</b>	TAO_1178	NHAL_2069	NOC_1090	NWAT_1938	A, red copper protein nitrosocyanin	*	*	*
687	1453	<b>valyl-tRNA synthetase</b>	TAO_1177	NHAL_2070	NOC_1091	NWAT_1937	Valyl-tRNA synthetase	*	*	*
688	1629	-	-	NHAL_1999	NOC_1092	NWAT_1936	<b>SelT/selW/selH selenoprotein</b>	*		
689	233	<b>hypothetical conserved protein</b>	TAO_1089	NHAL_3008	NOC_1094	NWAT_1935	hypothetical protein	*	*	*
690	31	-	-	NHAL_1266	NOC_1098	NWAT_1928	<b>hypothetical protein</b>	*		
691	121	-	-	NHAL_1269	NOC_1105			*		
692	347	<b>isoprenylcysteine carboxyl methyltransferase</b>	TAO_1352	NHAL_2105	NOC_1112	NWAT_1916	isoprenylcysteine carboxyl methyltransferase	*	*	*
693	1676	-	-	NHAL_2107	NOC_1113	NWAT_1915	<b>hypothetical protein</b>	*		
694	2087	-	-	NHAL_2108	NOC_1114	NWAT_1914	<b>glycerophosphoryl diester phosphodiesterase</b>	*		
695	2128	-	-	NHAL_2129	NOC_1115	NWAT_1913	<b>proton-translocating NADH-quinone oxidoreductase, chain N</b>	*		
696	2168	-	-	NHAL_2130	NOC_1116	NWAT_1912	<b>proton-translocating NADH-quinone oxidoreductase, chain M</b>	*		
697	2219	-	-	NHAL_2131	NOC_1117	NWAT_1911	<b>proton-translocating NADH-quinone oxidoreductase subunit L</b>	*		
698	1637	-	-	NHAL_2132	NOC_1118	NWAT_1910	<b>NADH-ubiquinone oxidoreductase chain 4L</b>	*		
699	1771	-	-	NHAL_2133	NOC_1119	NWAT_1909	<b>NADH-ubiquinone/plastoquinone oxidoreductase chain 6</b>	*		
700	1862	-	-	NHAL_2134	NOC_1120	NWAT_1908	<b>NADH-quinone oxidoreductase subunit I</b>	*		
701	2052	-	-	NHAL_2135	NOC_1121	NWAT_1907	<b>NADH dehydrogenase subunit H</b>	*		
702	2264	-	-	NHAL_2136	NOC_1122	NWAT_1906	<b>NADH-quinone oxidoreductase subunit G</b>	*		
703	2113	-	-	NHAL_2137	NOC_1123	NWAT_1905	<b>NADH-quinone oxidoreductase subunit F</b>	*		
704	1719	-	-	NHAL_2138	NOC_1124	NWAT_1904	<b>NADH-quinone oxidoreductase subunit E</b>	*		
705	2234	-	-	NHAL_2140	NOC_1125	NWAT_1903	<b>NADH dehydrogenase I subunit D</b>	*		
706	1899	-	-	NHAL_2141	NOC_1126	NWAT_1902	<b>NADH-quinone oxidoreductase subunit B</b>	*		
707	1725	-	-	NHAL_2142	NOC_1127	NWAT_1901	<b>NADH-ubiquinone/plastoquinone oxidoreductase chain 3</b>	*		
708	1785	-	-	NHAL_1755	NOC_1129	NWAT_1897	<b>RND family efflux transporter MFP subunit</b>	*		
709	1934	-	-	NHAL_2145	NOC_1131	NWAT_1895	<b>hypothetical protein</b>	*		
710	1646	-	-	NHAL_2156	NOC_1133	NWAT_1893	<b>hypothetical protein</b>	*		
711	570	<b>inorganic pyrophosphatase</b>	TAO_1347	NHAL_2158	NOC_1134	NWAT_1892	inorganic pyrophosphatase	*	*	*
712	1141	<b>class I and II aminotransferase</b>	TAO_1337	NHAL_3210	NOC_1138	NWAT_1881	class I and II aminotransferase	*	*	*
713	1386	<b>excinuclease ABC subunit B</b>	TAO_1336	NHAL_3209	NOC_1139	NWAT_1880	excinuclease ABC subunit B	*	*	*
714	1404	<b>threonyl-tRNA synthetase</b>	TAO_1335	NHAL_3208	NOC_1140	NWAT_1879	threonyl-tRNA synthetase	*	*	*
715	334	<b>translation initiation factor IF-3</b>	TAO_1334	NHAL_3207	NOC_1141	NWAT_1878	translation initiation factor IF-3	*	*	*
716	155	<b>50S ribosomal protein L35</b>	TAO_1333	NHAL_3206	NOC_1142	NWAT_1877	50S ribosomal protein L35	*	*	*
717	351	<b>50S ribosomal protein L20</b>	TAO_1332	NHAL_3205	NOC_1143	NWAT_1876	50S ribosomal protein L20	*	*	*
718	1083	<b>phenylalanyl-tRNA synthetase subunit alpha</b>	TAO_1331	NHAL_3204	NOC_1144	NWAT_1875	phenylalanyl-tRNA synthetase subunit alpha	*	*	*
719	1407	<b>phenylalanyl-tRNA synthetase subunit beta</b>	TAO_1330	NHAL_3203	NOC_1145	NWAT_1874	phenylalanyl-tRNA synthetase subunit beta	*	*	*
720	286	<b>integration host factor subunit alpha</b>	TAO_1329	NHAL_3202	NOC_1146	NWAT_1873	integration host factor subunit alpha	*	*	*
721	357	<b>MerR family transcriptional regulator</b>	TAO_1328	NHAL_3201	NOC_1147	NWAT_1872	MerR family transcriptional regulator	*	*	*
722	1876	-	-	NHAL_3198	NOC_1148	NWAT_1870	<b>hypothetical protein</b>	*		
723	1720	-	-	NHAL_3197	NOC_1149	NWAT_1869	<b>hypothetical protein</b>	*		
724	2067	-	-	NHAL_3196	NOC_1150	NWAT_1868	<b>hypothetical protein</b>	*		
725	1162	<b>O-succinylhomoserine sulfhydrylase</b>	TAO_1327	NHAL_3194	NOC_1151	NWAT_1867	O-succinylhomoserine sulfhydrylase	*	*	*
726	1764	-	-	NHAL_3192	NOC_1152	NWAT_1866	<b>hypothetical protein</b>	*		
727	1983	-	-	NHAL_3189	NOC_1153	NWAT_1865	<b>alpha/beta hydrolase fold protein</b>	*		
728	1791	-	-	NHAL_3188	NOC_1154	NWAT_1864	<b>G-D-S-L family lipolytic protein</b>	*		
729	415	<b>A32 family peptidase</b>	TAO_0848	NHAL_3187	NOC_1155	NWAT_1863	A32 family peptidase	*	*	*
730	1362	<b>peptidase S9 prolyl oligopeptidase active site domain-containing protein</b>	TAO_0849	NHAL_3185	NOC_1156	NWAT_1862	peptidase S9 prolyl oligopeptidase active site domain-containing protein	*	*	*
731	651	-	-	NHAL_1142	NOC_1165	NWAT_1860	<b>catalase</b>	*		
732	72	<b>cytosine/adenosine deaminase</b>	TAO_0890	NHAL_1410	NOC_1166	NWAT_1859	CMP/dCMP deaminase zinc-binding protein	*	*	*

733	2813	-	-	NOC_1167	NWAT_1858	signal transduction histidine kinase	*		
734	1732	-	-	NHAL_2743	NOC_1168	NWAT_1857	hypothetical protein	*	
735	606	endonuclease III	TAO_0987	NHAL_2744	NOC_1169	NWAT_1856	endonuclease III	*	*
736	655	electron transport complex protein RxsE	TAO_0988	NHAL_2745	NOC_1170	NWAT_1855	RnfABCDGE type electron transport complex subunit E	*	*
737	509	RnfABCDGE type electron transport complex subunit G	TAO_0989	NHAL_2746	NOC_1171	NWAT_1854	electron transport complex, RnfABCDGE type, G subunit	*	*
738	1005	RnfABCDGE type electron transport complex subunit D	TAO_0990	NHAL_2747	NOC_1172	NWAT_1853	RnfABCDGE type electron transport complex subunit D	*	*
739	1253	RnfABCDGE type electron transport complex subunit C	TAO_0991	NHAL_2748	NOC_1173	NWAT_1852	RnfABCDGE type electron transport complex subunit C	*	*
740	569	RnfABCDGE type electron transport complex subunit B	TAO_0992	NHAL_2749	NOC_1174	NWAT_1851	electron transport complex, RnfABCDGE type, B subunit	*	*
741	2218	-	-	NHAL_0864	NOC_1175	NWAT_1848	TrkA-C, di- and tricarboxylate transporters	*	
742	1574	-	-	NHAL_0865	NOC_1176	NWAT_1847	hypothetical protein	*	
743	22	family 2 glycosyl transferase	TAO_0693	NHAL_0867	NOC_0588	NWAT_1846	family 2 glycosyl transferase	*	*
744	1580	-	-	NHAL_0868	NOC_0587	NWAT_1845	hypothetical protein	*	
745	273	hypothetical conserved protein	TAO_1444	NHAL_0869	NOC_1178	NWAT_1844	hypothetical protein	*	*
746	271	preprotein translocase subunit YajC	TAO_1443	NHAL_0870	NOC_1179	NWAT_1843	preprotein translocase subunit YajC	*	*
747	625	deoxycytidine triphosphate deaminase	TAO_1442	NHAL_0871	NOC_1180	NWAT_1842	deoxycytidine triphosphate deaminase	*	*
748	533	phosphoribosylglycinamide formyltransferase	TAO_1441	NHAL_0872	NOC_1181	NWAT_1841	phosphoribosylglycinamide formyltransferase	*	*
749	1025	phosphoribosylaminoimidazole synthetase	TAO_1440	NHAL_0873	NOC_1182	NWAT_1840	phosphoribosylformylglycinamide cyclo-ligase	*	*
750	846	hypothetical conserved protein	TAO_1439	NHAL_0874	NOC_1185	NWAT_1839	hypothetical protein	*	*
751	577	CDP-alcohol phosphatidyltransferase	TAO_1438	NHAL_0875	NOC_1186	NWAT_1838	CDP-alcohol phosphatidyltransferase	*	*
752	644	DnaA regulatory inactivator Hda	TAO_1437	NHAL_0876	NOC_1187	NWAT_1837	DnaA regulatory inactivator Hda	*	*
753	870	hypothetical conserved protein	TAO_1436	NHAL_0877	NOC_1188	NWAT_1836	2,3-bisphosphoglycerate-independent phosphoglycerate mutase	*	*
754	1334	single-stranded-DNA-specific exonuclease RecJ	TAO_1435	NHAL_0878	NOC_1189	NWAT_1835	single-stranded-DNA-specific exonuclease RecJ	*	*
755	856	ATP-NAD/acoX kinase	TAO_1434	NHAL_0879	NOC_1190	NWAT_1834	ATP-NAD/acoX kinase	*	*
756	1260	DNA repair protein RecN	TAO_1433	NHAL_0880	NOC_1191	NWAT_1833	DNA repair protein RecN	*	*
757	2594	-	-		NOC_1192(1)	NWAT_1832	multiple antibiotic resistance (MarC)-like proteins	*	
758	2506	-	-		NOC_1192(2)	NWAT_1831	multiple antibiotic resistance (MarC)-like proteins	*	
759	503	abortive infection protein	TAO_1432	NHAL_0881	NOC_1193	NWAT_1830	abortive infection protein	*	*
760	463	ferric-uptake regulator	TAO_1431	NHAL_0882	NOC_1194	NWAT_1829	ferric-uptake regulator	*	*
761	379	SmpA/OmlA domain-containing protein	TAO_1430	NHAL_0883	NOC_1195	NWAT_1828	SmpA/OmlA domain-containing protein	*	*
762	201	hypothetical conserved protein	TAO_1429	NHAL_0884	NOC_1196	NWAT_1827	hypothetical protein	*	*
763	434	cyclase/dehydrase	TAO_1428	NHAL_0885	NOC_1197	NWAT_1826	cyclase/dehydrase	*	*
764	522	SsrA-binding protein	TAO_1427	NHAL_0887	NOC_1198	NWAT_1824	SsrA-binding protein	*	*
765	79	DNA methyltransferase	TAO_0754	NHAL_3964	NOC_1201	NWAT_1822	N-6 DNA methylase	*	*
766	1630	-	-	NHAL_3911	NOC_1203	NWAT_1821	DNA polymerase beta domain-containing protein	*	
767	1633	type I restriction modification DNA specificity domain protein	TAO_0753		NOC_1204	NWAT_1820	type I restriction modification DNA specificity domain protein	*	
768	2136	type III restriction endonuclease subunit R	TAO_0752		NOC_1205	NWAT_1819	type III restriction endonuclease subunit R	*	
769	44	-	-	NHAL_1469	NOC_0096	NWAT_0080	hypothetical protein	*	
770	2680	-	-		NOC_0097	NWAT_0081	hypothetical protein	*	
771	1787	-	-	NHAL_0097	NOC_0098	NWAT_0083	hypothetical protein	*	
772	2215	-	-	NHAL_0095	NOC_0100	NWAT_0085	glycogen/starch synthase, ADP-glucose type	*	
773	2657	-	-		NOC_0102	NWAT_0087	putative signal transduction protein with CBS domains	*	
774	2631	-	-		NOC_0103	NWAT_0088	hypothetical protein	*	
775	2023	-	-	NHAL_0110	NOC_0104	NWAT_0089	membrane-bound metal-dependent hydrolase	*	
776	701	hypothetical conserved protein	TAO_1656	NHAL_0111	NOC_0105	NWAT_0090	hypothetical protein	*	*
777	2660	-	-		NOC_0106	NWAT_0091	hypothetical protein	*	
778	1931	-	-	NHAL_0113	NOC_0107	NWAT_0092	NAD-dependent epimerase/dehydratase	*	
779	2760	-	-		NOC_0108	NWAT_0093	mechanosensitive ion channel protein MscS	*	
780	885	formate/nitrite transporter	TAO_0113	NHAL_0354	NOC_0109	NWAT_0094	formate/nitrite transporter	*	*
781	1442	2-oxoglutarate dehydrogenase, E1 subunit	TAO_1664	NHAL_0099	NOC_0111	NWAT_0095	2-oxoglutarate dehydrogenase, E1 subunit	*	*



782	1068	2-oxoglutarate dehydrogenase, E2 subunit, dihydrolipoamide succinyltransferase	TAO_1663	NHAL_0100	NOC_0112	NWAT_0096	2-oxoglutarate dehydrogenase, E2 subunit, dihydrolipoamide succinyltransferase	*	*	*
783	2143	-	-	NHAL_0101	NOC_0113	NWAT_0097	dihydrolipoamide dehydrogenase	*		
784	2207	-	-	NHAL_1798	NOC_0115	NWAT_0099	ABC transporter transmembrane region	*		
785	2726	-	-		NOC_0116	NWAT_0101	hypothetical protein	*		
786	1139	hypothetical conserved protein	TAO_1661	NHAL_0104	NOC_0117	NWAT_0102	hypothetical protein	*	*	*
787	1154	hypothetical conserved protein	TAO_1660	NHAL_0105	NOC_0118	NWAT_0103	hypothetical protein	*	*	*
788	345	hypothetical conserved protein	TAO_1659	NHAL_0106	NOC_0119	NWAT_0104	hypothetical protein	*	*	*
789	279	hypothetical conserved protein	TAO_1658	NHAL_0107	NOC_0120	NWAT_0105	hypothetical protein	*	*	*
790	1584	hypothetical conserved protein	TAO_1657		NOC_0121	NWAT_0109	hypothetical conserved protein	*		
791	1296	adenosylmethionine-8-amino-7-oxononanoate aminotransferase	TAO_1590	NHAL_3353	NOC_0122	NWAT_0110	adenosylmethionine-8-amino-7-oxononanoate aminotransferase	*	*	*
792	638	ribosomal RNA small subunit methyltransferase E	TAO_1589	NHAL_3352	NOC_0123	NWAT_0111	ribosomal RNA small subunit methyltransferase E	*	*	*
793	1736	-	-	NHAL_3351	NOC_0124	NWAT_0112	chemotaxis protein cheW	*		
794	1947	-	-	NHAL_3350	NOC_0125	NWAT_0113	cheB methyltransferase	*		
795	2291	-	-	NHAL_3349	NOC_0126	NWAT_0114	cheA signal transduction histidine kinase	*		
796	1919	-	-	NHAL_3348	NOC_0127	NWAT_0115	chemotaxis protein cheR	*		
797	2142	-	-	NHAL_3347	NOC_0128	NWAT_0116	methyl-accepting chemotaxis sensory transducer	*		
798	1812	-	-	NHAL_3346	NOC_0129	NWAT_0117	chemotaxis protein cheW	*		
799	1674	-	-	NHAL_3345	NOC_0130	NWAT_0118	response regulator receiver protein	*		
800	1724	-	-	NHAL_3344	NOC_0131	NWAT_0119	response regulator receiver protein	*		
801	2007	-	-	NHAL_3342	NOC_0132	NWAT_0121	hypothetical protein	*		
802	1806	-	-	NHAL_3341	NOC_0133	NWAT_0122	ATP-binding protein	*		
803	1443	glutamate-ammonia-ligase adenylyltransferase	TAO_0091	NHAL_0173	NOC_0135	NWAT_0124	(glutamate--ammonia-ligase) adenylyltransferase	*	*	*
804	1013	branched-chain amino acid aminotransferase	TAO_0092	NHAL_0174	NOC_0136	NWAT_0125	branched-chain amino acid aminotransferase	*	*	*
805	741	hypothetical conserved protein	TAO_0093	NHAL_0175	NOC_0137	NWAT_0126	hypothetical protein	*	*	*
806	497	crossover junction endodeoxyribonuclease RuvC	TAO_0094	NHAL_0176	NOC_0138	NWAT_0127	crossover junction endodeoxyribonuclease RuvC	*	*	*
807	486	holliday junction DNA helicase RuvA	TAO_0095	NHAL_0177	NOC_0139	NWAT_0128	holliday junction DNA helicase RuvA	*	*	*
808	994	holliday junction DNA helicase RuvB	TAO_0096	NHAL_0178	NOC_0140	NWAT_0129	holliday junction DNA helicase RuvB	*	*	*
809	375	4-hydroxybenzoyl-coA thioesterase	TAO_0097	NHAL_0179	NOC_0141	NWAT_0130	Tol-pal system-associated acyl-coA thioesterase	*	*	*
810	679	MotA/TolQ/exbB proton channel family protein	TAO_0098	NHAL_0180	NOC_0142	NWAT_0131	MotA/TolQ/exbB proton channel protein	*	*	*
811	376	biopolymer transport protein exbD/TolR	TAO_0099	NHAL_0181	NOC_0143	NWAT_0132	biopolymer transport protein exbD/TolR	*	*	*
812	426	TonB family protein	TAO_0100	NHAL_0182	NOC_0144	NWAT_0133	TonB family protein	*	*	*
813	1142	Tol-Pal system beta propeller repeat-containing protein TolB	TAO_0101	NHAL_0183	NOC_0145	NWAT_0134	Tol-Pal system beta propeller repeat-containing protein TolB	*	*	*
814	420	peptidoglycan-associated lipoprotein	TAO_0102	NHAL_0184	NOC_0146	NWAT_0135	peptidoglycan-associated lipoprotein	*	*	*
815	549	Tol-Pal system protein YbgF	TAO_0103	NHAL_0185	NOC_0147	NWAT_0136	Tol-pal system protein YbgF	*	*	*
816	681	radical SAM domain-containing protein	TAO_0104	NHAL_0186	NOC_0148	NWAT_0138	radical SAM domain-containing protein	*	*	*
817	618	exsB protein	TAO_0105	NHAL_0187	NOC_0149	NWAT_0139	exoenzyme S synthesis protein B	*	*	*
818	1583	outer membrane efflux protein	TAO_1107		NOC_0150	NWAT_0140	outer membrane efflux protein	*		
819	2787	-	-		NOC_0152	NWAT_0141	RND family efflux transporter MFP subunit	*		
820	2175	metal transporter CzcA	TAO_1109		NOC_0153	NWAT_0142	CzcA family heavy metal efflux pump	*		
821	2734	-	-		NOC_0154	NWAT_0143	methyltransferase type 11	*		
822	161	hypothetical conserved protein	TAO_1634	NHAL_0302	NOC_0155	NWAT_0144	hypothetical protein	*	*	*
823	1125	hypothetical conserved protein	TAO_1635	NHAL_0301	NOC_0156	NWAT_0145	hypothetical protein	*	*	*
824	1861	-	-	NHAL_0300	NOC_0157	NWAT_0146	hemolysin III family channel protein	*		
825	1777	-	-	NHAL_0280	NOC_0158	NWAT_0148	CHRD domain-containing protein	*		
826	1123	sodium/hydrogen exchanger	TAO_0086	NHAL_3786	NOC_0159	NWAT_0150	sodium/hydrogen exchanger	*	*	*
827	2044	-	-	NHAL_3781	NOC_0161	NWAT_0152	succinylglutamate desuccinylase/aspartoacylase	*		
828	1705	-	-	NHAL_1776	NOC_0162	NWAT_0158	membrane-flanked domain-containing protein	*		
829	1326	iron permease FTR1	TAO_1251	NHAL_1782	NOC_0164	NWAT_0159	iron permease FTR1	*	*	*
830	1525	-	-	NHAL_3024	NOC_0168	NWAT_0167	hypothetical protein	*		

831	496	adenine phosphoribosyltransferase	TAO_0861	NHAL_2625	NOC_0169	NWAT_0168	adenine phosphoribosyltransferase	*	*	*
832	487	ABC transporter	TAO_0862	NHAL_2627	NOC_0170	NWAT_0170	ABC transporter	*	*	*
833	1433	DNA gyrase subunit A	TAO_0863	NHAL_2628	NOC_0171	NWAT_0171	DNA gyrase subunit A	*	*	*
834	1099	phosphoserine aminotransferase	TAO_0864	NHAL_2629	NOC_0172	NWAT_0172	phosphoserine aminotransferase	*	*	*
835	1089	D-isomer specific 2-hydroxyacid dehydrogenase NAD-binding protein	TAO_0865	NHAL_2630	NOC_0173	NWAT_0173	D-isomer specific 2-hydroxyacid dehydrogenase NAD-binding protein	*	*	*
836	1028	chorismate mutase	TAO_0866	NHAL_2631	NOC_0174	NWAT_0174	chorismate mutase	*	*	*
837	1022	histidinol-phosphate aminotransferase	TAO_0867	NHAL_2632	NOC_0175	NWAT_0175	histidinol-phosphate aminotransferase	*	*	*
838	798	prephenate dehydrogenase	TAO_0868	NHAL_2633	NOC_0176	NWAT_0176	prephenate dehydrogenase	*	*	*
839	1161	3-phosphoshikimate 1-carboxyvinyltransferase	TAO_0869	NHAL_2634	NOC_0177	NWAT_0177	3-phosphoshikimate 1-carboxyvinyltransferase	*	*	*
840	623	HAD-superfamily hydrolase	TAO_0870	NHAL_2635	NOC_0178	NWAT_0178	HAD-superfamily hydrolase	*	*	*
841	567	cytidylate kinase	TAO_0871	NHAL_2636	NOC_0179	NWAT_0179	cytidylate kinase	*	*	*
842	1348	30S ribosomal protein S1	TAO_0872	NHAL_2637	NOC_0180	NWAT_0180	30S ribosomal protein S1	*	*	*
843	253	integration host factor subunit beta	TAO_0873	NHAL_2638	NOC_0181	NWAT_0181	integration host factor subunit beta	*	*	*
844	298	hypothetical conserved protein	TAO_0874	NHAL_2639	NOC_0182	NWAT_0182	hypothetical protein	*	*	*
845	931	RNA polymerase sigma factor	TAO_0875	NHAL_2640	NOC_0183	NWAT_0183	RpoD subfamily RNA polymerase sigma 70 subunit	*	*	*
846	382	4Fe-4S ferredoxin	TAO_0876	NHAL_2641	NOC_0184	NWAT_0184	4Fe-4S ferredoxin	*	*	*
847	1610	hypothetical conserved protein	TAO_0877	NHAL_2642		NWAT_0185	hypothetical conserved protein	*		
848	1074	tetratricopeptide repeat protein	TAO_0878	NHAL_2643	NOC_0185	NWAT_0186	tetratricopeptide repeat protein	*	*	*
849	297	arsenate reductase	TAO_0879	NHAL_2644	NOC_0186	NWAT_0187	arsenate reductase	*	*	*
850	585	NAD(P)H quinone oxidoreductase	TAO_0880	NHAL_2645	NOC_0187	NWAT_0188	flavoprotein WrbA	*	*	*
851	710	biotin/acetyl-coA-carboxylase ligase	TAO_0881	NHAL_2646	NOC_0188	NWAT_0189	biotin/acetyl-coA-carboxylase ligase	*	*	*
852	721	pantothenate kinase type III, coaX-like protein	TAO_0882	NHAL_2647	NOC_0189	NWAT_0190	pantothenate kinase type III, coaX-like protein	*	*	*
853	1114	permease	TAO_0883	NHAL_2648	NOC_0190	NWAT_0191	permease	*	*	*
854	781	thiosulfate sulfurtransferase	TAO_0884	NHAL_2649	NOC_0191	NWAT_0192	rhodanese domain-containing protein	*	*	*
855	1909	-	-	NHAL_2650	NOC_0192	NWAT_0193	calcineurin phosphoesterase domain-containing protein	*		
856	1695	-	-	NHAL_2651	NOC_0193	NWAT_0194	NUDIX hydrolase	*		
857	1799	-	-	NHAL_0745	NOC_0955	NWAT_2078	hypothetical protein	*		
858	813	YicC domain-containing protein	TAO_0592	NHAL_0748	NOC_0956	NWAT_2077	YicC domain-containing protein	*	*	*
859	2084	-	-	NHAL_1536	NOC_0960	NWAT_2075	sodium/hydrogen exchanger	*		
860	2277	-	-	NHAL_1535	NOC_0961	NWAT_2074	hypothetical protein	*		
861	2016	-	-	NHAL_1532	NOC_0962	NWAT_2073	histone deacetylase superfamily protein	*		
862	1869	-	-	NHAL_2654	NOC_0964	NWAT_2072	stage II sporulation E family protein	*		
863	2141	-	-	NHAL_2948	NOC_0965	NWAT_2071	FAD-dependent pyridine nucleotide-disulfide oxidoreductase	*		
864	2709	-	-		NOC_0968	NWAT_2069	hypothetical protein	*		
865	2637	-	-		NOC_0969	NWAT_2068	hypothetical protein	*		
866	637	RnfABCDGE type electron transport complex subunit A	TAO_0993	NHAL_2750	NOC_0970	NWAT_2067	RnfABCDGE type electron transport complex subunit A	*	*	*
867	1411	methionyl-tRNA synthetase	TAO_0994	NHAL_2751	NOC_0971	NWAT_2066	methionyl-tRNA synthetase	*	*	*
868	1071	ATP-binding protein	TAO_0997	NHAL_2752	NOC_0972	NWAT_2065	ATPase-like protein	*	*	*
869	172	hypothetical conserved protein	TAO_1258	NHAL_2757	NOC_0975	NWAT_2060	hypothetical protein	*	*	*
870	1666	-	-	NHAL_2759	NOC_0976	NWAT_2059	hypothetical protein	*		
871	1881	-	-	NHAL_1518	NOC_0977	NWAT_2058	VacJ-like lipoprotein	*		
872	2114	-	-	NHAL_1519	NOC_0978	NWAT_2057	hypothetical protein	*		
873	1528	-	-	NHAL_3542	NOC_0979	NWAT_2056	hypothetical protein	*		
874	1587	-	-	NHAL_1597	NOC_0980	NWAT_2055	hypothetical protein	*		
875	2069	-	-	NHAL_2960	NOC_0982	NWAT_2054	geranylgeranyl reductase	*		
876	1995	-	-	NHAL_2962	NOC_0983	NWAT_2053	ribose-phosphate pyrophosphokinase	*		
877	1875	-	-	NHAL_2963	NOC_0984	NWAT_2052	hypothetical protein	*		
878	1800	-	-	NHAL_2965	NOC_0985	NWAT_2051	methionine-R-sulfoxide reductase	*		
879	1722	-	-	NHAL_2966	NOC_0986	NWAT_2050	hypothetical protein	*		
880	1412	DNA repair protein	TAO_0980	NHAL_2968	NOC_0987	NWAT_2049	putative DNA repair protein	*	*	*

881	1451	UvrD/REP helicase	TAO_0981	NHAL_2969	NOC_0988	NWAT_2048	UvrD/REP helicase	*	*	*
882	1550	hypothetical conserved protein	TAO_0982	NHAL_2970		NWAT_2047	hypothetical conserved protein	*		
883	547	alkyl hydroperoxide reductase/ thiol specific antioxidant/ mal allergen	TAO_0983	NHAL_2971	NOC_0989	NWAT_2046	alkyl hydroperoxide reductase/thiol specific antioxidant/ mal allergen	*	*	*
884	1175	pyruvate kinase	TAO_0985	NHAL_2972	NOC_0990	NWAT_2045	pyruvate kinase	*	*	*
885	896	alpha/beta hydrolase fold protein	TAO_0986	NHAL_2973	NOC_0991	NWAT_2044	alpha/beta hydrolase fold protein	*	*	*
886	2038	-	-	NHAL_2974	NOC_0992	NWAT_2043	hypothetical protein	*		
887	1697	-	-	NHAL_2975	NOC_0993	NWAT_2042	hypothetical protein	*		
888	1941	-	-	NHAL_2976	NOC_0994	NWAT_2041	type 11 methyltransferase	*		
889	2251	-	-	NHAL_2977	NOC_0995	NWAT_2040	helicase, RecD/TraA family	*		
890	755	endonuclease/exonuclease/phosphatase	TAO_1099	NHAL_2983	NOC_0998	NWAT_2037	endonuclease/exonuclease/phosphatase	*	*	*
891	2770	-	-	NHAL_2175	NOC_1947		hypothetical protein	*		
892	1953	UbiA prenyltransferase	TAO_1198	NHAL_2174	NOC_1948		UbiA prenyltransferase	*		
893	1823	HAD-superfamily hydrolase	TAO_1199	NHAL_2173	NOC_1949		HAD-superfamily hydrolase	*		
894	1885	short-chain dehydrogenase/reductase SDR	TAO_1200	NHAL_2172	NOC_1950		short-chain dehydrogenase/reductase SDR	*		
895	2090	FAD linked oxidase domain-containing protein	TAO_1201	NHAL_2171	NOC_1951		FAD linked oxidase domain-containing protein	*		
896	2614	-	-	NHAL_2170	NOC_1952		hypothetical protein	*		
897	2825	-	-	NHAL_2169	NOC_1953		hypothetical protein	*		
898	1872	-	-	NHAL_2168	NOC_1954	NWAT_1751	hypothetical protein	*		
899	769	O-antigen polymerase	TAO_1204	NHAL_2167	NOC_1955	NWAT_1752	O-antigen polymerase	*	*	*
900	2178	-	-	NHAL_2166	NOC_1956	NWAT_1753	acyl-coA ligase (AMP-forming), exosortase system type 1 associated	*		
901	2097	-	-	NHAL_2165	NOC_1957	NWAT_1754	pyridoxal-dependent decarboxylase, exosortase system type 1 associated	*		
902	2081	-	-	NHAL_2164	NOC_1958	NWAT_1755	hypothetical protein	*		
903	1960	-	-	NHAL_2163	NOC_1959	NWAT_1756	hydrolase, exosortase system type 1 associated	*		
904	1888	-	-	NHAL_3215	NOC_1962	NWAT_1757	hydrolase, exosortase system type 1 associated	*		
905	1578	-	-	NHAL_3216	NOC_1963	NWAT_1758	hypothetical protein	*		
906	2691	-	-	NHAL_3217		NWAT_1759	hypothetical protein	*		
907	2386	-	-	NHAL_3218		NWAT_1760	hypothetical protein	*		
908	979	asparagine synthase	TAO_1210	NHAL_3222	NOC_1965	NWAT_1762	asparagine synthase	*	*	*
909	164	hypothetical conserved protein	TAO_1208	NHAL_3223	NOC_1966	NWAT_1763	TPR repeat-containing protein	*	*	*
910	552	polysaccharide deacetylase	TAO_1212	NHAL_3226	NOC_1967	NWAT_1764	polysaccharide deacetylase	*	*	*
911	2235	-	-	NHAL_3227	NOC_1968	NWAT_1765	methyltransferase type 11	*		
912	2248	-	-	NHAL_3229	NOC_1969	NWAT_1766	heparinase II/III family protein	*		
913	2037	-	-	NHAL_3230	NOC_1970	NWAT_1767	kelch repeat-containing protein	*		
914	1149	capsular polysaccharide biosynthesis protein capK	TAO_1216	NHAL_3231	NOC_1971	NWAT_1768	capsular polysaccharide biosynthesis protein capK	*	*	*
915	2102	-	-	NHAL_3232	NOC_1972	NWAT_1769	group 1 glycosyl transferase	*		
916	883	group 1 glycosyl transferase	TAO_1218	NHAL_3233	NOC_1973	NWAT_1770	group 1 glycosyl transferase	*	*	*
917	2268	-	-	NHAL_3234	NOC_1974	NWAT_1771	hypothetical protein	*		
918	1394	exosortase 1 system-associated amidotransferase 1	TAO_1219	NHAL_3235	NOC_1975	NWAT_1772	exosortase 1 system-associated amidotransferase 1	*	*	*
919	1094	UDP-N-acetylglucosamine 2-epimerase	TAO_1220	NHAL_3236	NOC_1976	NWAT_1773	UDP-N-acetylglucosamine 2-epimerase	*	*	*
920	1037	sugar transferase	TAO_1221	NHAL_3237	NOC_1977	NWAT_1774	sugar transferase	*	*	*
921	1224	exosortase 1	TAO_1222	NHAL_3238	NOC_1978	NWAT_1775	exosortase 1	*	*	*
922	1103	sugar transferase	TAO_1223	NHAL_3239	NOC_1979	NWAT_1776	sugar transferase	*	*	*
923	1101	peptidoglycan bridge formation protein FemAB	TAO_1224	NHAL_3240	NOC_1980	NWAT_1777	peptidoglycan bridge formation protein FemAB	*	*	*
924	900	polysaccharide deacetylase	TAO_1225	NHAL_3241	NOC_1981	NWAT_1778	polysaccharide deacetylase family protein	*	*	*
925	947	hypothetical conserved protein	TAO_1226	NHAL_3242	NOC_1982	NWAT_1779	PEP-CTERM system associated protein	*	*	*
926	594	protein-tyrosine kinase	TAO_1227	NHAL_3243	NOC_1983	NWAT_1780	protein-tyrosine kinase	*	*	*
927	1188	polysaccharide chain length determinant protein	TAO_1228	NHAL_3244	NOC_1984	NWAT_1781	polysaccharide chain length determinant protein	*	*	*
928	541	sugar ABC transporter substrate-binding protein	TAO_1229	NHAL_3245	NOC_1985	NWAT_1782	polysaccharide export protein	*	*	*
929	1389	PEP-CTERM system TPR-repeat lipoprotein	TAO_1231	NHAL_3247	NOC_1987	NWAT_1783	PEP-CTERM system TPR-repeat lipoprotein	*	*	*

930	2725	-	-	NHAL_3254	NOC_1992		<b>RND family efflux transporter MFP subunit</b>	*		
931	2897	-	-	NHAL_3255	NOC_1993		<b>acriflavin resistance protein</b>	*		
932	1498	<b>nitroreductase family protein</b>	TAO_1232 TAO_1234	NHAL_3256	NOC_1994		UBA/THIF-type NAD/FAD binding protein	*		
933	1847	-	-	NHAL_3258	NOC_1995	NWAT_1790	<b>hypothetical protein</b>	*		
934	531	<b>hypothetical conserved protein</b>	TAO_1237	NHAL_3259	NOC_1996	NWAT_1791	hypothetical protein	*	*	*
935	1218	<b>Fis family two component sigma54 specific transcriptional</b>	TAO_1238	NHAL_3269	NOC_1997	NWAT_1794	Fis family two component sigma54 specific transcriptional regulator	*	*	*
936	1376	<b>PEP-CTERM system histidine kinase</b>	TAO_1239	NHAL_3270	NOC_1998	NWAT_1795	PEP-CTERM system histidine kinase	*	*	*
937	1248	<b>sugar transferase</b>	TAO_1240	NHAL_3271	NOC_1999	NWAT_1796	sugar transferase	*	*	*
938	1721	-	-	NHAL_3272	NOC_2000	NWAT_1798	<b>cytochrome C class I</b>	*		
939	1385	<b>dihydroxy-acid dehydratase</b>	TAO_1573	NHAL_3274	NOC_2001	NWAT_1799	dihydroxy-acid dehydratase	*	*	*
940	1390	<b>ATP-dependent DNA helicase Rep</b>	TAO_1574	NHAL_3275	NOC_2002	NWAT_1800	ATP-dependent DNA helicase Rep	*	*	*
941	1286	<b>magnesium chelatase, competence related protein (comM)</b>	TAO_1575	NHAL_3276	NOC_2003	NWAT_1801	Mg chelatase subunit chlI	*	*	*
942	206	<b>hypothetical conserved protein</b>	TAO_1576	NHAL_3277	NOC_2004	NWAT_1802	hypothetical protein	*	*	*
943	96	<b>hypothetical conserved protein</b>	TAO_1577	NHAL_3279	NOC_2005	NWAT_1803	hypothetical protein	*	*	*
944	1172	<b>amino-acid N-acetyltransferase</b>	TAO_1581	NHAL_3281	NOC_2013	NWAT_1088	amino-acid N-acetyltransferase	*	*	*
945	1293	<b>aspartyl/glutamyl-tRNA(Asn/Gln) amidotransferase subunit B</b>	TAO_1587	NHAL_3282	NOC_2014	NWAT_1087	glutamyl-tRNA(Gln) amidotransferase subunit B	*	*	*
946	1255	<b>UDP-glucose 6-dehydrogenase</b>	TAO_1586	NHAL_3283	NOC_2015	NWAT_1086	UDP-glucose 6-dehydrogenase	*	*	*
947	911	<b>secretion ATPase</b>	TAO_1585	NHAL_3284	NOC_2016	NWAT_1082	secretion ATPase	*	*	*
948	654	<b>haloacid dehalogenase-like (HAD) superfamily protein</b>	TAO_1584	NHAL_3285	NOC_2017	NWAT_1081	HAD-superfamily hydrolase	*	*	*
949	94	<b>diadenosine tetraphosphate (Ap4A) hydrolase</b>	TAO_1583	NHAL_3286 NHAL_3289	NOC_2018	NWAT_1080	NUDIX hydrolase	*	*	
950	1347	<b>peptide chain release factor 3</b>	TAO_0741	NHAL_2825	NOC_2019	NWAT_1079	peptide chain release factor 3	*	*	*
951	118	-	-	NHAL_2824	NOC_2020	NWAT_1078	<b>hypothetical protein</b>	*		
952	2893	-	-	-	NOC_2021	NWAT_1077	<b>PAS/PAC sensor(s)-containing diguanylate cyclase/phosphodiesterase</b>	*		
953	518	<b>ribonuclease H</b>	TAO_0739	NHAL_2814	NOC_2022	NWAT_1076	ribonuclease H	*	*	*
954	1098	<b>3,4-dihydroxy-2-butanone 4-phosphate synthase</b>	TAO_0738	NHAL_2813	NOC_2023	NWAT_1075	3,4-dihydroxy-2-butanone 4-phosphate synthase	*	*	*
955	479	<b>riboflavin synthase subunit alpha</b>	TAO_0737	NHAL_2812	NOC_2024	NWAT_1074	riboflavin synthase subunit alpha	*	*	*
956	1057	<b>riboflavin biosynthesis protein ribD</b>	TAO_0736	NHAL_2811	NOC_2025	NWAT_1073	riboflavin biosynthesis protein ribD	*	*	*
957	1793	-	-	NHAL_2810	NOC_2026	NWAT_1072	<b>ATP-cone domain-containing protein</b>	*		
958	1212	<b>glycine hydroxymethyltransferase</b>	TAO_0735	NHAL_2809	NOC_2027	NWAT_1071	glycine hydroxymethyltransferase	*	*	*
959	960	<b>methyltransferase</b>	TAO_0734	NHAL_2808	NOC_2028	NWAT_1070	methyltransferase	*	*	*
960	1234	<b>formylglycine-generating sulfatase enzyme</b>	TAO_0733	NHAL_2807	NOC_2029	NWAT_1069	formylglycine-generating sulfatase enzyme	*	*	*
961	329	<b>hypothetical conserved protein</b>	TAO_0732	NHAL_2803	NOC_2030	NWAT_1068	hypothetical protein	*	*	*
962	926	<b>D-isomer specific 2-hydroxyacid dehydrogenase NAD-binding protein</b>	TAO_0731	NHAL_2802	NOC_2032	NWAT_1067	D-isomer specific 2-hydroxyacid dehydrogenase NAD-binding protein	*	*	*
963	2547	-	-	-	NOC_2033	NWAT_1066(3)	<b>hypothetical protein</b>	*		
964	2527	-	-	-	NOC_2034	NWAT_1066(1)	<b>hypothetical protein</b>	*		
965	845	<b>riboflavin biosynthesis protein ribF</b>	TAO_0730	NHAL_2800	NOC_2035	NWAT_1064	riboflavin biosynthesis protein ribF	*	*	*
966	198	<b>exodeoxyribonuclease VII small subunit</b>	TAO_0729	NHAL_2799	NOC_2036	NWAT_1063	exodeoxyribonuclease VII small subunit	*	*	*
967	831	<b>polyprenyl synthetase</b>	TAO_0728	NHAL_2798	NOC_2037	NWAT_1062	polyprenyl synthetase	*	*	*
968	296	<b>6-pyruvoyl tetrahydrobiopterin synthase</b>	TAO_0727	NHAL_2797	NOC_2038	NWAT_1061	bifunctional 6-pyruvoyl tetrahydropterin synthase/hypothetical protein	*	*	*
969	818	<b>GTP cyclohydrolase</b>	TAO_0726	NHAL_2796	NOC_2039	NWAT_1060	GTP cyclohydrolase	*	*	*
970	1104	<b>tRNA (5-methylaminomethyl-2-thiouridylate)-methyltransferase</b>	TAO_0949	NHAL_2793	NOC_2040	NWAT_1059	tRNA (5-methylaminomethyl-2-thiouridylate)-methyltransferase	*	*	*
971	537	<b>High frequency lysogenization protein hflD</b>	TAO_0948	NHAL_2792	NOC_2041	NWAT_1058	high frequency lysogenization protein hflD	*	*	*
972	1939	-	-	NHAL_2791	NOC_2042	NWAT_1057	<b>OmpA/MotB domain-containing protein</b>	*		
973	1662	-	-	NHAL_2790	NOC_2043	NWAT_1056	<b>hypothetical protein</b>	*		
974	2030	-	-	NHAL_1062	NOC_1548	NWAT_1587	<b>succinylglutamate desuccinylase/aspartoacylase</b>	*		
975	1996	-	-	NHAL_1063	NOC_1549	NWAT_1586	<b>RimK family alpha-L-glutamate ligase</b>	*		
976	1765	-	-	NHAL_1064	NOC_1550	NWAT_1585	<b>hypothetical protein</b>	*		
977	2892	-	-	-	NOC_1553	NWAT_1579	<b>amylo-alpha-1,6-glucosidase</b>	*		
978	1503	-	-	NHAL_0665	NOC_1554	NWAT_1578	<b>group 1 glycosyl transferase</b>	*		

979	1698	-	-	NHAL_1068	NOC_1557	NWAT_1575	zinc finger DksA/TraR C4-type	*		
980	1484	major facilitator superfamily transporter	TAO_0460	-	NOC_1559	NWAT_1574	major facilitator superfamily transporter	*		
981	2003	-	-	NHAL_2706	NOC_1560	NWAT_1573	Ectoine hydroxylase	*		
982	2133	-	-	NHAL_2707	NOC_1561	NWAT_1572	diaminobutyrate--2-oxoglutarate aminotransferase	*		
983	1763	-	-	NHAL_2708	NOC_1562	NWAT_1571	L-2,4-diaminobutyric acid acetyltransferase	*		
984	1699	-	-	NHAL_2115	NOC_1573	NWAT_1567	heat shock protein Hsp20	*		
985	2357	-	-	-	NOC_1574	NWAT_1566	hypothetical protein	*		
986	2171	-	-	NHAL_2710	NOC_1575	NWAT_1565	sodium/proline symporter	*		
987	2651	-	-	-	NOC_1577	NWAT_1558	hypothetical protein	*		
988	2848	-	-	-	NOC_1578	NWAT_1557	L-lactate permease	*		
989	2703	-	-	-	NOC_1580	NWAT_1554	hypothetical protein	*		
990	2679	-	-	-	NOC_1581	NWAT_1553	hypothetical protein	*		
991	2262	-	-	NHAL_1352	NOC_1582	NWAT_1551	malate dehydrogenase	*		
992	1460	pyridine nucleotide-disulfide oxidoreductase	TAO_1119	NHAL_1366	NOC_1583	NWAT_1541	pyridine nucleotide-disulfide oxidoreductase	*	*	*
993	1893	-	-	NHAL_1368	NOC_1584	NWAT_1540	hypothetical protein	*		
994	2197	-	-	NHAL_1369	NOC_1585	NWAT_1539	DNA mismatch repair protein MutS domain-containing protein	*		
995	702	oxidoreductase FAD/NAD(P)-binding domain-containing protein	TAO_1118	NHAL_1370	NOC_1586	NWAT_1538	oxidoreductase FAD/NAD(P)-binding domain-containing protein	*	*	*
996	2460	-	-	-	NOC_1588	NWAT_1536	hypothetical protein	*		
997	2626	-	-	-	NOC_1589	NWAT_1535	hypothetical protein	*		
998	2627	-	-	-	NOC_1590	NWAT_1534	hypothetical protein	*		
999	2597	-	-	-	NOC_1591	NWAT_1533	hypothetical protein	*		
1000	2755	-	-	-	NOC_1592	NWAT_1532	hypothetical protein	*		
1001	1669	-	-	NHAL_0811	NOC_1595	NWAT_1529	hypothetical protein	*		
1002	869	tRNA 2-thiocytidine biosynthesis protein TtcA	TAO_1143	NHAL_2912	NOC_1596	NWAT_1528	PP-loop domain-containing protein	*	*	*
1003	2120	-	-	NHAL_1891	NOC_1601	NWAT_1526	PAS/PAC sensor-containing diguanylate cyclase	*		
1004	207	-	-	NHAL_3179	NOC_1602	NWAT_1525	hypothetical protein	*		
1005	2180	-	-	NHAL_3178	NOC_1603	NWAT_1524	glutamate synthase, NADH/NADPH, small subunit	*		
1006	2294	-	-	NHAL_3177	NOC_1604	NWAT_1523	glutamate synthase (ferredoxin)	*		
1007	470	PEBP family protein	TAO_0965	NHAL_3176	NOC_1605	NWAT_1520	PEBP family protein	*	*	*
1008	1309	glutamate/cysteine ligase	TAO_0967	NHAL_3173	NOC_1606	NWAT_1519	glutamate/cysteine ligase	*	*	*
1009	1752	-	-	NHAL_3172	NOC_1607	NWAT_1518	sulfate transporter/antisigma-factor antagonist STAS	*		
1010	1575	hypothetical conserved protein	TAO_0968	NHAL_3171	-	NWAT_1517	hypothetical conserved protein	*		
1011	1186	glutathione-disulfide reductase	TAO_0969	NHAL_3170	NOC_1608	NWAT_1516	glutathione-disulfide reductase	*	*	*
1012	2273	-	-	NHAL_3169	NOC_1609	NWAT_1515	GAF/PAS/PAC sensor(s)-containing diguanylate cyclase/phosphodiesterase	*		
1013	2104	hypothetical conserved protein	TAO_0970	-	NOC_1610	NWAT_1514	hypothetical conserved protein	*		
1014	578	hypothetical conserved protein	TAO_0971	NHAL_3168	NOC_1611	NWAT_1513	hypothetical protein	*	*	*
1015	1557	-	-	NHAL_3036	NOC_1614	NWAT_1511	hypothetical protein	*		
1016	1577	-	-	NHAL_3038	NOC_1616	NWAT_1510	2-methylcitrate dehydratase	*		
1017	2884	-	-	-	NOC_1617	NWAT_1509	glycoside hydrolase 15-like protein	*		
1018	2885	-	-	-	NOC_1618	NWAT_1508	lysine--tRNA ligase	*		
1019	961	ATPase AAA	TAO_1064	NHAL_3077	NOC_1621	NWAT_1505	ATPase AAA	*	*	*
1020	1277	Fis family transcriptional regulator	TAO_1029	NHAL_3135	NOC_1623	NWAT_1504	Fis family transcriptional regulator	*	*	*
1021	1166	ATP-binding region ATPase domain-containing protein	TAO_1030	NHAL_3134	NOC_1624	NWAT_1503	ATP-binding region ATPase domain-containing protein	*	*	*
1022	315	hypothetical conserved protein	TAO_1031	NHAL_3133	NOC_1625	NWAT_1502	lipoprotein	*	*	*
1023	67	sulfate permease and related transporter	TAO_0789	NHAL_3132	NOC_1626	NWAT_1501	sulfate transporter	*	*	*
1024	1239	fumarate hydratase	TAO_1032	NHAL_3131	NOC_1627	NWAT_1500	fumarate hydratase, class II	*	*	*
1025	2711	-	-	-	NOC_1631	NWAT_1498	putative Crp/Fnr family transcriptional regulator	*		
1026	2613	-	-	-	NOC_1632	NWAT_1497	LuxR family two component transcriptional regulator	*		
1027	816	thiazole synthase	TAO_1025	NHAL_3159	NOC_1633(2)	NWAT_1496(2)	bifunctional sulfur carrier protein/thiazole synthase	*	*	*
1028	395	hypothetical conserved protein	TAO_0004	NHAL_0008	NOC_0020	NWAT_0015	hypothetical protein	*	*	*

1029	1424	DNA gyrase subunit B	TAO_0003	NHAL_0004	NOC_0019	NWAT_0014	DNA gyrase subunit B	*	*	*
1030	2025	-	-	NHAL_0003	NOC_0018	NWAT_0013	<b>DNA replication and repair protein RecF</b>	*		
1031	970	DNA polymerase III subunit beta	TAO_0002	NHAL_0002	NOC_0002	NWAT_0002	DNA polymerase III subunit beta	*	*	*
1032	1225	chromosomal replication initiator protein, DnaA	TAO_0001	NHAL_0001	NOC_0001	NWAT_0001	chromosomal replication initiator protein DnaA	*	*	*
1033	2390	-	-	NHAL_3961	NOC_3089		<b>50S ribosomal protein L34</b>	*		
1034	240	ribonuclease P protein component	TAO_1839	NHAL_3960	NOC_3088	NWAT_3143	ribonuclease P protein component	*	*	*
1035	1274	membrane protein insertase	TAO_1838	NHAL_3959	NOC_3087	NWAT_3142	membrane protein insertase	*	*	*
1036	1135	tRNA modification GTPase TrmE	TAO_1837	NHAL_3958	NOC_3086	NWAT_3141	tRNA modification GTPase TrmE	*	*	*
1037	1373	tRNA uridine 5-carboxymethylaminomethyl modification protein GidA	TAO_1836	NHAL_3957	NOC_3085	NWAT_3140	tRNA uridine 5-carboxymethylaminomethyl modification protein GidA	*	*	*
1038	492	rRNA small subunit methyltransferase GidB	TAO_1835	NHAL_3956	NOC_3084	NWAT_3139	RRNA small subunit methyltransferase GidB	*	*	*
1039	775	chromosome partitioning protein ParA	TAO_1834	NHAL_3955	NOC_3083	NWAT_3138	cobyrinic acid a,c-diamide synthase	*	*	*
1040	780	chromosome partitioning protein ParB	TAO_1833	NHAL_3954	NOC_3082	NWAT_3137	ParB-like partition protein	*	*	*
1041	229	ATP synthase I chain	TAO_1832	NHAL_3953	NOC_3081	NWAT_3136	ATP synthase I chain	*	*	*
1042	903	F0F1 ATP synthase subunit A	TAO_1831	NHAL_3952	NOC_3080	NWAT_3135	F0F1 ATP synthase subunit A	*	*	*
1043	292	F0F1 ATP synthase subunit C	TAO_1830	NHAL_3951	NOC_3079	NWAT_3134	ATP synthase F0 subunit C	*	*	*
1044	419	F0F1 ATP synthase subunit B	TAO_1829	NHAL_3950	NOC_3078	NWAT_3133	F0F1 ATP synthase subunit B	*	*	*
1045	427	F0F1 ATP synthase subunit delta	TAO_1828	NHAL_3949	NOC_3077	NWAT_3132	F0F1 ATP synthase subunit delta	*	*	*
1046	1329	F0F1 ATP synthase subunit alpha	TAO_1827	NHAL_3948	NOC_3076	NWAT_3131	ATP synthase F0F1 subunit alpha	*	*	*
1047	912	F0F1 ATP synthase subunit gamma	TAO_1826	NHAL_3947	NOC_3075	NWAT_3130	ATP synthase F1 subunit gamma	*	*	*
1048	1304	F0F1 ATP synthase subunit beta	TAO_1825	NHAL_3946	NOC_3074	NWAT_3129	F0F1 ATP synthase subunit beta	*	*	*
1049	391	F0F1 ATP synthase subunit epsilon	TAO_1824	NHAL_3945	NOC_3073	NWAT_3128	ATP synthase F1 subunit epsilon	*	*	*
1050	1183	UDP-N-acetylglucosamine pyrophosphorylase	TAO_1823	NHAL_3944	NOC_3072	NWAT_3127	UDP-N-acetylglucosamine pyrophosphorylase	*	*	*
1051	1038	glycine cleavage system aminomethyltransferase T	TAO_1819	NHAL_3938	NOC_0500	NWAT_2590	glycine cleavage system T protein	*	*	*
1052	1257	argininosuccinate lyase	TAO_1818	NHAL_3937	NOC_0501	NWAT_2589	argininosuccinate lyase	*	*	*
1053	934	porphobilinogen deaminase	TAO_1817	NHAL_3936	NOC_0502	NWAT_2588	porphobilinogen deaminase	*	*	*
1054	687	uroporphyrinogen III synthase HEM4	TAO_1816	NHAL_3935	NOC_0503	NWAT_2587	uroporphyrinogen III synthase HEM4	*	*	*
1055	728	hypothetical conserved protein	TAO_1815	NHAL_3934	NOC_0504	NWAT_2586	hypothetical protein	*	*	*
1056	1117	HemY domain-containing protein	TAO_1814	NHAL_3933	NOC_0505	NWAT_2585	hemY domain-containing protein	*	*	*
1057	231	cell division topological specificity factor MinE	TAO_1813	NHAL_3931	NOC_0506	NWAT_2584	cell division topological specificity factor MinE	*	*	*
1058	834	septum site-determining protein MinD	TAO_1812	NHAL_3930	NOC_0507	NWAT_2583	septum site-determining protein MinD	*	*	*
1059	591	septum site-determining protein MinC	TAO_1811	NHAL_3929	NOC_0508	NWAT_2582	septum site-determining protein MinC	*	*	*
1060	1090	peptide chain release factor 1	TAO_1810	NHAL_3928	NOC_0509	NWAT_2581	peptide chain release factor 1	*	*	*
1061	1202	glutamyl-tRNA reductase	TAO_1809	NHAL_3927	NOC_0510	NWAT_2580	glutamyl-tRNA reductase	*	*	*
1062	1279	hypothetical conserved protein	TAO_1808	NHAL_3926	NOC_0511	NWAT_2579	TPR repeat-containing protein	*	*	*
1063	526	outer membrane lipoprotein LolB	TAO_1807	NHAL_3925	NOC_0512	NWAT_2578	outer membrane lipoprotein LolB	*	*	*
1064	832	4-diphosphocytidyl-2C-methyl-D-erythritol kinase	TAO_1806	NHAL_3924	NOC_0513	NWAT_2577	4-diphosphocytidyl-2-C-methyl-D-erythritol kinase	*	*	*
1065	988	ribose-phosphate pyrophosphokinase	TAO_1805	NHAL_3923	NOC_0514	NWAT_2576	ribose-phosphate pyrophosphokinase	*	*	*
1066	599	50S ribosomal protein L25	TAO_1804	NHAL_3922	NOC_0515	NWAT_2575	ribosomal 5S rRNA E-loop binding protein Ctc/L25/TL5	*	*	*
1067	568	peptidyl-tRNA hydrolase	TAO_1803	NHAL_3921	NOC_0516	NWAT_2574	peptidyl-tRNA hydrolase	*	*	*
1068	1106	GTP-binding protein YchF	TAO_1802	NHAL_3920	NOC_0517	NWAT_2573	GTP-binding protein YchF	*	*	*
1069	2222	-	-	NHAL_3486	NOC_0521	NWAT_2569	<b>sodium/hydrogen exchanger</b>	*		
1070	1686	-	-	NHAL_3483	NOC_0522	NWAT_2568	<b>hypothetical protein</b>	*		
1071	2661	-	-		NOC_0531	NWAT_2555	<b>NnrU-like protein</b>	*		
1072	468	metal-binding protein	TAO_0777	NHAL_2564	NOC_0535	NWAT_2552	metal-binding protein	*	*	*
1073	2094	-	-	NHAL_2565	NOC_0536	NWAT_2551	<b>TraB family protein</b>	*		
1074	967	sigma-54 specific transcriptional regulator, Fis-type	TAO_0778	NHAL_2566	NOC_0537	NWAT_2550	Fis family-54 specific transcriptional regulator	*	*	*
1075	718	hypothetical conserved protein	TAO_0779	NHAL_2567	NOC_0538	NWAT_2549	hypothetical protein	*	*	*
1076	1418	hypothetical conserved protein	TAO_0790	NHAL_2578	NOC_0427	NWAT_2674	hypothetical protein	*	*	*
1077	624	ABC transporter ATP-binding protein	TAO_0791	NHAL_2579	NOC_0428	NWAT_2673	ABC transporter protein	*	*	*

1078	494	arylesterase	TAO_0792	NHAL_2580	NOC_0429	NWAT_2672	arylesterase	*	*	*
1079	89	hypothetical conserved protein	TAO_0796 TAO_0797	NHAL_2586	NOC_1220	NWAT_1107	hypothetical conserved protein	*	*	*
1080	410	hypothetical conserved protein	TAO_0798	NHAL_2587	NOC_1221	NWAT_1108	hypothetical protein	*	*	*
1081	76	hypothetical conserved protein	TAO_0799 TAO_0800	NHAL_2588	NOC_1222	NWAT_1109	hypothetical conserved protein	*	*	*
1082	380	redoxin domain-containing protein	TAO_0801	NHAL_2589	NOC_1223	NWAT_1110	redoxin domain-containing protein	*	*	*
1083	1514	arginine decarboxylase	TAO_0802	NHAL_2590		NWAT_1111	arginine decarboxylase	*		
1084	1375	hypothetical conserved protein	TAO_0803	NHAL_2591	NOC_1224	NWAT_1112	hypothetical protein	*	*	*
1085	913	ApbE family lipoprotein	TAO_0804	NHAL_2592	NOC_1225	NWAT_1113	ApbE family lipoprotein	*	*	*
1086	2129	SAM-dependent methyltransferase	TAO_0805		NOC_1226	NWAT_1114	SAM-dependent methyltransferase	*		
1087	862	ABC-type polysaccharide/polyol phosphate export systems permease	TAO_0806	NHAL_2593	NOC_1227	NWAT_1115	ABC-type polysaccharide/polyol phosphate export systems permease	*	*	*
1088	1129	ABC transporter ATP-binding protein	TAO_0807	NHAL_2594	NOC_1228	NWAT_1116	ABC transporter protein	*	*	*
1089	649	hypothetical conserved protein	TAO_0808	NHAL_2595	NOC_1229	NWAT_1117	hypothetical protein	*	*	*
1090	534	hypothetical conserved protein	TAO_0809	NHAL_2596	NOC_1230	NWAT_1118	hypothetical protein	*	*	*
1091	689	hypothetical conserved protein	TAO_0810	NHAL_2597	NOC_1231	NWAT_1119	hypothetical protein	*	*	*
1092	1444	family 2 glycosyl transferase	TAO_0811	NHAL_2598	NOC_1232	NWAT_1120	family 2 glycosyl transferase	*	*	*
1093	859	glycosyltransferase involved in cell wall bioproteinsis	TAO_0812	NHAL_2599	NOC_1233	NWAT_1121	family 2 glycosyl transferase	*	*	*
1094	727	NAD-dependent epimerase/dehydratase	TAO_0813	NHAL_1333	NOC_1234	NWAT_1122	NAD-dependent epimerase/dehydratase	*	*	*
1095	817	family 2 glycosyl transferase	TAO_0814	NHAL_2600	NOC_1235	NWAT_1123	family 2 glycosyl transferase	*	*	*
1096	1091	group 1 glycosyl transferase	TAO_0815	NHAL_2601	NOC_1236	NWAT_1124	group 1 glycosyl transferase	*	*	*
1097	1887	-	-	NHAL_2602	NOC_1237	NWAT_1125	chaperone protein HtpG	*		
1098	2282	-	-	NHAL_2603	NOC_1238	NWAT_1126	molybdopterin oxidoreductase, iron-sulfur binding subunit	*		
1099	2145	-	-	NHAL_2604	NOC_1239	NWAT_1127	polysulfide reductase NrfD	*		
1100	1753	-	-	NHAL_2605	NOC_1240	NWAT_1128	transmembrane prediction	*		
1101	1748	-	-	NHAL_2606	NOC_1241	NWAT_1129	hypothetical protein	*		
1102	2004	-	-	NHAL_2607	NOC_1242	NWAT_1130	hypothetical protein	*		
1103	1561	-	-	NHAL_2608	NOC_1243	NWAT_1131	hypothetical protein	*		
1104	1835	-	-	NHAL_2609	NOC_1244	NWAT_1132	cytochrome C oxidase subunit II	*		
1105	2213	-	-	NHAL_2610	NOC_1245	NWAT_1133	cytochrome c oxidase subunit I	*		
1106	1831	-	-	NHAL_2611	NOC_1246	NWAT_1134	cytochrome C oxidase subunit III	*		
1107	1607	-	-	NHAL_2612	NOC_1247	NWAT_1135	Caa(3)-type oxidase subunit IV	*		
1108	2181	-	-	NHAL_2893	NOC_1248	NWAT_1136	proton-translocating NADH-quinone oxidoreductase subunit M	*		
1109	2177	-	-	NHAL_2894	NOC_1249	NWAT_1137	proton-translocating NADH-quinone oxidoreductase subunit M	*		
1110	2165	-	-	NHAL_2895	NOC_1250	NWAT_1138	NADH/ubiquinone/plastoquinone (complex I)	*		
1111	2274	-	-	NHAL_2896	NOC_1251	NWAT_1139	hypothetical protein	*		
1112	2156	-	-	NHAL_2897	NOC_1252	NWAT_1140	proton-translocating NADH-quinone oxidoreductase subunit M	*		
1113	498	methylase	TAO_0857	NHAL_2898	NOC_1253	NWAT_1141	methylase	*	*	*
1114	2281	-	-	NHAL_2900	NOC_1254	NWAT_1142	2-oxo-acid dehydrogenase E1 subunit, homodimeric type	*		
1115	2071	-	-	NHAL_2901	NOC_1255	NWAT_1143	branched-chain $\alpha$ -keto acid dehydrogenase subunit E2	*		
1116	1265	dihydroliipoamide dehydrogenase	TAO_1319	NHAL_2902	NOC_1256	NWAT_1144	dihydroliipoamide dehydrogenase	*	*	*
1117	1852	-	-	NHAL_2903	NOC_1257	NWAT_1146	HNH endonuclease	*		
1118	2000	-	-	NHAL_2904	NOC_1258	NWAT_1147	UspA domain-containing protein	*		
1119	2261	-	-	NHAL_2907	NOC_1259	NWAT_1148	hypothetical protein	*		
1120	1954	-	-	NHAL_2909	NOC_1260	NWAT_1149	metallophosphoesterase	*		
1121	1878	methyltransferase domin containing protein	TAO_1464		NOC_1261	NWAT_1150	methyltransferase domin containing protein	*		
1122	1337	ABC transporter ATP-binding protein	TAO_1463	NHAL_0813	NOC_1262	NWAT_1151	ABC transporter protein	*	*	*
1123	1020	cytochrome-c peroxidase	TAO_1462	NHAL_0820	NOC_1263	NWAT_1152	cytochrome-c peroxidase	*	*	*
1124	696	O-methyltransferase	TAO_0937	NHAL_1398	NOC_1264	NWAT_1153	O-methyltransferase family	*	*	*
1125	682	phosphomethylpyrimidine kinase	TAO_0938	NHAL_1399	NOC_1265	NWAT_1154	phosphomethylpyrimidine kinase	*	*	*

1126	1316	acetolactate synthase	TAO_0939	NHAL_1401	NOC_1266	NWAT_1155	thiamine pyrophosphate TPP binding domain-containing protein	*	*	*
1127	826	citrate synthase	TAO_0940	NHAL_1402	NOC_1267	NWAT_1156	citrate synthase	*	*	*
1128	761	hypothetical conserved protein	TAO_0941	NHAL_1403	NOC_1268	NWAT_1157	hypothetical protein	*	*	*
1129	1336	TonB-dependent receptor plug	TAO_0942	NHAL_1404	NOC_1269	NWAT_1158	TonB-dependent receptor plug	*	*	*
1130	666	hypothetical conserved protein	TAO_0943	NHAL_1406	NOC_1270	NWAT_1159	hypothetical protein	*	*	*
1131	1461	diguanylate phosphodiesterase	TAO_0944	NHAL_1407	NOC_1271	NWAT_1160	diguanylate cyclase/phosphodiesterase	*	*	*
1132	1415	ABC transporter permease	TAO_0945	NHAL_1408	NOC_1272	NWAT_1161	ABC transporter permease	*	*	*
1133	627	ABC transporter ATP-binding protein	TAO_0946	NHAL_1409	NOC_1273	NWAT_1162	ABC transporter protein	*	*	*
1134	75	efflux system outer membrane lipoprotein	TAO_0449 TAO_0450	NHAL_0837	NOC_1275	NWAT_1164	NodT family RND efflux system outer membrane lipoprotein	*	*	
1135	2861	-	-	-	NOC_1276	NWAT_1165	RND family efflux transporter MFP subunit	*		
1136	2901	-	-	-	NOC_1277	NWAT_1166	Acriflavin resistance protein	*		
1137	2649	-	-	-	NOC_1278	NWAT_1167	hypothetical protein	*		
1138	2195	-	-	NHAL_1813	NOC_1279	NWAT_1168	NADH/ubiquinone/plastoquinone (complex I)	*		
1139	2190	-	-	NHAL_1814	NOC_1280	NWAT_1169	NADH/ubiquinone/plastoquinone (complex I)	*		
1140	2157	-	-	NHAL_1815	NOC_1281	NWAT_1170	NADH/ubiquinone/plastoquinone complex I	*		
1141	1625	-	-	NHAL_1816	NOC_1282	NWAT_1171	NADH-ubiquinone oxidoreductase, chain 4L	*		
1142	1838	-	-	NHAL_1817	NOC_1283	NWAT_1172	hypothetical protein	*		
1143	1595	-	-	NHAL_1818	NOC_1284	NWAT_1173	hypothetical protein	*		
1144	1621	-	-	NHAL_1819	NOC_1285	NWAT_1174	Monovalent cation/proton antiporter subunit MnhG/phaG	*		
1145	1563	-	-	NHAL_1820	NOC_1286	NWAT_1175	multiple resistance and pH regulation protein F	*		
1146	1727	-	-	NHAL_1821	NOC_1287	NWAT_1177	cation antiporter	*		
1147	1987	-	-	NHAL_1823	NOC_1288	NWAT_1178	UspA domain-containing protein	*		
1148	2816	-	-	-	NOC_1296	NWAT_1180	hypothetical protein	*		
1149	2837	-	-	-	NOC_1297	NWAT_1181	hypothetical protein	*		
1150	318	HNH endonuclease	TAO_1317	NHAL_2512	NOC_1298	NWAT_1182	HNH endonuclease	*	*	*
1151	381	zinc chelation protein SecC	TAO_1315	NHAL_2513	NOC_1299	NWAT_1183	SEC-C motif domain-containing protein	*	*	*
1152	1335	(p)ppGpp synthetase, RelA/spoT family	TAO_1314	NHAL_1289	NOC_1300	NWAT_1184	(p)ppGpp synthetase, RelA/spoT family	*	*	*
1153	1463	ATP-dependent helicase HrpA	TAO_1313	NHAL_1290	NOC_1301	NWAT_1185	ATP-dependent helicase HrpA	*	*	*
1154	139	hypothetical conserved protein	TAO_1312	NHAL_1292	NOC_1302	NWAT_1186	hypothetical protein	*	*	*
1155	2250	-	-	NHAL_1294	NOC_1303	NWAT_1187	RNA binding S1 domain-containing protein	*		
1156	263	hypothetical conserved protein	TAO_1309	NHAL_1295	NOC_1304	NWAT_1188	hypothetical protein	*	*	*
1157	1358	sulfite reductase (NADPH) flavoprotein subunit alpha	TAO_1308	NHAL_1296	NOC_1305	NWAT_1189	sulfite reductase flavoprotein subunit alpha	*	*	*
1158	1367	sulfite reductase (NADPH) hemoprotein subunit beta	TAO_1307	NHAL_1297	NOC_1306	NWAT_1190	sulfite reductase hemoprotein subunit beta	*	*	*
1159	177	hypothetical protein	TAO_1305	NHAL_1298	NOC_1307	NWAT_1191	peroxidase	*	*	*
1160	660	peptidase M48 Ste24p	TAO_1304	NHAL_1301	NOC_1308	NWAT_1192	peptidase M48, Ste24p	*	*	*
1161	2548	-	-	-	NOC_1311	NWAT_1194	hypothetical protein	*		
1162	2833	-	-	-	NOC_1312	NWAT_1195(1)	nucleic acid-binding OB-fold tRNA/helicase-type	*		
1163	2447	-	-	-	NOC_1313	NWAT_1195(2)	nucleic acid-binding OB-fold tRNA/helicase-type	*		
1164	1435	aminopeptidase N	TAO_1303	NHAL_1302	NOC_1314	NWAT_1196	aminopeptidase N	*	*	*
1165	2024	-	-	NHAL_1304	NOC_1315	NWAT_1197	2-aminoethylphosphonate aminotransferase	*		
1166	1024	phosphonopyruvate decarboxylase	TAO_1302	NHAL_1305	NOC_1316	NWAT_1198	phosphonopyruvate decarboxylase	*	*	*
1167	2206	-	-	NHAL_1306	NOC_1317	NWAT_1199	phosphoenolpyruvate phosphomutase	*		
1168	1928	-	-	NHAL_1307	NOC_1318	NWAT_1200	hypothetical protein	*		
1169	527	hopanoid-associated phosphorylase	TAO_1299	NHAL_1308	NOC_1319	NWAT_1201	hopanoid-associated phosphorylase	*	*	*
1170	1406	squalene-hopene cyclase	TAO_1298	NHAL_1309	NOC_1320	NWAT_1202	squalene-hopene cyclase	*	*	*
1171	1066	squalene/phytoene synthase	TAO_1297	NHAL_1310	NOC_1321	NWAT_1203	squalene/phytoene synthase	*	*	*
1172	2406	-	-	-	NOC_1322	NWAT_1204	hypothetical protein	*		
1173	707	hypothetical conserved protein	TAO_0998	NHAL_1311	NOC_1323	NWAT_1205	hypothetical protein	*	*	*
1174	2672	-	-	-	NOC_1324	NWAT_1206	alkyl hydroperoxide reductase	*		
1175	1618	-	-	NHAL_0195	NOC_1325	NWAT_1207	Slp family outer membrane lipoprotein	*		



1176	1986	-	-	NHAL_1671	NOC_1326	NWAT_1208	<b>fatty acid hydroxylase</b>	*		
1177	1696	-	-	NHAL_1682	NOC_1338	NWAT_1211	<b>hypothetical protein</b>	*		
1178	868	<b>RND family efflux transporter MFP subunit</b>	<b>TAO_1254</b>	NHAL_1683	NOC_1339	NWAT_1212	RND family efflux transporter MFP subunit	*	*	*
1179	1447	<b>CzcA family heavy metal efflux pump</b>	<b>TAO_1255</b>	NHAL_1684	NOC_1340	NWAT_1213	CzcA family heavy metal efflux pump	*	*	*
1180	595	<b>carbonic anhydrase</b>	<b>TAO_1070</b>	NHAL_3058	NOC_1341	NWAT_1214	carbonic anhydrase	*	*	*
1181	30	-	-	NHAL_0428	NOC_1342(1)	NWAT_1215(1)	<b>peptidoglycan-binding lysin domain-containing protein</b>	*		
1182	1546	-	-	NHAL_1696(2)	NOC_1342(2)	NWAT_1215(2)	<b>peptidoglycan-binding lysin domain-containing protein</b>	*		
1183	1489	<b>hypothetical conserved protein</b>	<b>TAO_0085</b>	-	NOC_1343	NWAT_1216	hypothetical conserved protein	*		
1184	2167	-	-	NHAL_3055	NOC_1344	NWAT_1217	<b>family 5 extracellular solute-binding protein</b>	*		
1185	877	<b>bis(5'-nucleosyl)-tetrphosphatase (symmetrical)</b>	<b>TAO_1071</b>	NHAL_3054	NOC_1345	NWAT_1218	bis(5'-nucleosyl)-tetrphosphatase (symmetrical)	*	*	*
1186	367	<b>magnesium transporter ApaG</b>	<b>TAO_1072</b>	NHAL_3053	NOC_1346	NWAT_1219	ApaG domain-containing protein	*	*	*
1187	839	<b>glucokinase</b>	<b>TAO_1073</b>	NHAL_3052	NOC_1347	NWAT_1220	glucokinase	*	*	*
1188	697	<b>6-phosphogluconolactonase</b>	<b>TAO_1074</b>	NHAL_3051	NOC_1348	NWAT_1221	6-phosphogluconolactonase	*	*	*
1189	179	<b>hypothetical conserved protein</b>	<b>TAO_1075</b>	NHAL_3050	NOC_1349	NWAT_1222	hypothetical protein	*	*	*
1190	1769	<b>hypothetical conserved protein</b>	<b>TAO_0282</b>	-	NOC_1350	NWAT_1223	hypothetical conserved protein	*		
1191	68	<b>peptidase</b>	<b>TAO_0280</b>	NHAL_3049	NOC_1351	NWAT_1224	propeptide PepSY amd peptidase M4	*	*	
1192	153	<b>peptidase</b>	<b>TAO_0279</b>	NHAL_3048	NOC_1353	NWAT_1226	propeptide PepSY amd peptidase M4	*	*	*
1193	725	<b>response regulator receiver</b>	<b>TAO_0278</b>	NHAL_3047	NOC_1354	NWAT_1227	response regulator receiver	*	*	*
1194	1148	<b>ATP-binding region ATPase domain-containing protein</b>	<b>TAO_0277</b>	NHAL_3046	NOC_1355	NWAT_1228	ATP-binding region ATPase domain-containing protein	*	*	*
1195	2135	-	-	NHAL_2006	NOC_1356	NWAT_1229	<b>phoPQ-activated pathogenicity-like protein PqaA type</b>	*		
1196	1006	<b>hypothetical conserved protein</b>	<b>TAO_1131</b>	NHAL_2007	NOC_1357	NWAT_1230	hypothetical protein	*	*	*
1197	476	<b>hypothetical conserved protein</b>	<b>TAO_1129</b>	NHAL_2011	NOC_1358	NWAT_1231	hypothetical protein	*	*	*
1198	208	<b>hypothetical conserved protein</b>	<b>TAO_1128</b>	NHAL_2014	NOC_1360	NWAT_1232	hypothetical protein	*	*	*
1199	1039	<b>twitching motility protein pilT</b>	<b>TAO_1126</b>	NHAL_2016	NOC_1361	NWAT_1233	twitching motility protein pilT	*	*	*
1200	1956	-	-	NHAL_2017	NOC_1362	NWAT_1234	<b>auxin efflux carrier</b>	*		
1201	747	<b>molybdopterin-binding domain-containing protein</b>	<b>TAO_1125</b>	NHAL_2018	NOC_1363	NWAT_1235	molybdopterin binding domain-containing protein	*	*	*
1202	1357	<b>helicase c2</b>	<b>TAO_0963</b>	NHAL_2019	NOC_1364	NWAT_1236	helicase c2	*	*	*
1203	2026	-	-	NHAL_2020	NOC_1365	NWAT_1237	<b>bile acid:sodium symporter</b>	*		
1204	532	<b>LmbE family protein</b>	<b>TAO_1016</b>	NHAL_2025	NOC_1370	NWAT_1239	LmbE family protein	*	*	*
1205	409	<b>hypothetical conserved protein</b>	<b>TAO_1015</b>	NHAL_2026	NOC_1371	NWAT_1240	hypothetical protein	*	*	*
1206	538	<b>hypothetical conserved protein</b>	<b>TAO_1014</b>	NHAL_2028	NOC_1372	NWAT_1241	hypothetical protein	*	*	*
1207	2316	-	-	NHAL_2029	-	NWAT_1242	<b>hypothetical protein</b>	*		
1208	2013	-	-	NHAL_2030	NOC_1373	NWAT_1243	<b>SCP-like extracellular protein</b>	*		
1209	2164	-	-	NHAL_2032	NOC_1374	NWAT_1244	<b>ATPase AAA</b>	*		
1210	1985	-	-	NHAL_2033	NOC_1375	NWAT_1245	<b>alpha/beta hydrolase fold protein</b>	*		
1211	524	<b>alkyl hydroperoxide reductase/ thiol specific antioxidant/ mal allergen</b>	<b>TAO_1024</b>	NHAL_2034	NOC_1376	NWAT_1246	alkyl hydroperoxide reductase/thiol specific antioxidant/ mal allergen	*	*	*
1212	1197	<b>isocitrate dehydrogenase, NADP-dependent</b>	<b>TAO_0765</b>	NHAL_2539	NOC_1378	NWAT_1248	isocitrate dehydrogenase NADP-dependent	*	*	*
1213	2068	-	-	NHAL_2540	NOC_1379	NWAT_1249	<b>type 12 methyltransferase</b>	*		
1214	2797	-	-	-	NOC_1380	NWAT_1250	<b>endonuclease/exonuclease/phosphatase</b>	*		
1215	2800	-	-	-	NOC_1381	NWAT_1251	<b>hypothetical protein</b>	*		
1216	1906	-	-	NHAL_3149	NOC_1382	NWAT_1252	<b>chaperone DnaJ domain-containing protein</b>	*		
1217	1548	-	-	NHAL_3148	NOC_1383	NWAT_1253	<b>MerR family transcriptional regulator</b>	*		
1218	2047	-	-	NHAL_3097	NOC_1651	NWAT_1477	<b>hypothetical protein</b>	*		
1219	293	<b>iron-sulfur cluster assembly accessory protein</b>	<b>TAO_1006</b>	NHAL_1931	NOC_1650	NWAT_1478	iron-sulfur cluster assembly accessory protein	*	*	*
1220	1011	<b>cysteine desulfurase</b>	<b>TAO_1005</b>	NHAL_1930	NOC_1649	NWAT_1479	cysteine desulfurase	*	*	*
1221	1751	-	-	NHAL_1929	NOC_1648	NWAT_1480	<b>iron-sulfur cluster assembly transcription factor iscR</b>	*		
1222	659	<b>serine O-acetyltransferase</b>	<b>TAO_1004</b>	NHAL_1928	NOC_1647	NWAT_1481	serine O-acetyltransferase	*	*	*
1223	550	<b>RNA methyl transferase TrmH</b>	<b>TAO_1003</b>	NHAL_1927	NOC_1646	NWAT_1482	RNA methyl transferase TrmH	*	*	*
1224	969	<b>S-adenosylmethionine/tRNA-ribosyltransferase-isomerase</b>	<b>TAO_1002</b>	NHAL_1926	NOC_1645	NWAT_1483	S-adenosylmethionine/tRNA-ribosyltransferase- isomerase	*	*	*

1225	1314	excinuclease ABC subunit C	TAO_1062	NHAL_3086	NOC_1644	NWAT_1484	excinuclease ABC subunit C	*	*	*
1226	1352	malto-oligosyltrehalose trehalohydrolase	TAO_1060	NHAL_3101	NOC_1681	NWAT_1476	malto-oligosyltrehalose trehalohydrolase	*	*	*
1227	1437	malto-oligosyltrehalose synthase	TAO_1059	NHAL_3102	NOC_1680	NWAT_1475	malto-oligosyltrehalose synthase	*	*	*
1228	284	hypothetical conserved protein	TAO_1058	NHAL_3103	NOC_1679	NWAT_1474	hypothetical protein	*	*	*
1229	1654	-	-	NHAL_3104	NOC_1678	NWAT_1473	<b>hypothetical protein</b>	*	*	*
1230	1052	trigger factor	TAO_1057	NHAL_3105	NOC_1677	NWAT_1472	trigger factor	*	*	*
1231	668	ATP-dependent Clp protease proteolytic subunit	TAO_1056	NHAL_3106	NOC_1676	NWAT_1471	ATP-dependent Clp protease proteolytic subunit ClpP	*	*	*
1232	1244	ATP-dependent Clp protease ATP-binding subunit ClpX	TAO_1055	NHAL_3107	NOC_1675	NWAT_1470	ATP-dependent Clp protease ATP-binding subunit ClpX	*	*	*
1233	1430	ATP-dependent protease La	TAO_1054	NHAL_3108	NOC_1674	NWAT_1469	ATP-dependent protease La	*	*	*
1234	159	sporulation domain-containing protein	TAO_1053	NHAL_3109	NOC_1673	NWAT_1468	sporulation domain-containing protein	*	*	*
1235	408	colicin V production protein	TAO_1052	NHAL_3110	NOC_1672	NWAT_1467	colicin V production protein	*	*	*
1236	1321	amidophosphoribosyltransferase	TAO_1051	NHAL_3111	NOC_1671	NWAT_1466	amidophosphoribosyltransferase	*	*	*
1237	254	hypothetical conserved protein	TAO_1050	NHAL_3112	NOC_1670	NWAT_1465	hypothetical protein	*	*	*
1238	157	50S ribosomal protein L32	TAO_1049	NHAL_3113	NOC_1669	NWAT_1464	50S ribosomal protein L32	*	*	*
1239	1000	fatty acid/phospholipid synthesis protein plsX	TAO_1048	NHAL_3114	NOC_1668	NWAT_1463	fatty acid/phospholipid synthesis protein plsX	*	*	*
1240	975	3-oxoacyl-ACP synthase	TAO_1047	NHAL_3115	NOC_1667	NWAT_1462	3-oxoacyl-ACP synthase III	*	*	*
1241	830	malonyl coA-acyl carrier protein transacylase	TAO_1046	NHAL_3116	NOC_1666	NWAT_1461	malonyl coA-acyl carrier protein transacylase	*	*	*
1242	663	3-oxoacyl-ACP reductase	TAO_1045	NHAL_3117	NOC_1665	NWAT_1460	3-oxoacyl-ACP reductase	*	*	*
1243	211	acyl carrier protein	TAO_1044	NHAL_3118	NOC_1664	NWAT_1459	acyl carrier protein	*	*	*
1244	1167	3-oxoacyl-ACP synthase	TAO_1043	NHAL_3119	NOC_1663	NWAT_1458	3-oxoacyl-ACP synthase	*	*	*
1245	723	4-amino-4-deoxychorismate lyase	TAO_1042	NHAL_3120	NOC_1662	NWAT_1457	4-amino-4-deoxychorismate lyase	*	*	*
1246	878	aminodeoxychorismate lyase	TAO_1041	NHAL_3121	NOC_1661	NWAT_1456	aminodeoxychorismate lyase	*	*	*
1247	542	thymidylate kinase	TAO_1040	NHAL_3122	NOC_1660	NWAT_1455	thymidylate kinase	*	*	*
1248	779	DNA polymerase III subunit delta'	TAO_1039	NHAL_3123	NOC_1659	NWAT_1454	DNA polymerase III subunit delta'	*	*	*
1249	250	type IV pilus assembly pilZ	TAO_1038	NHAL_3124	NOC_1658	NWAT_1453	type IV pilus assembly pilZ	*	*	*
1250	767	TatD-related DNAase	TAO_1037	NHAL_3125	NOC_1657	NWAT_1452	hydrolase, TatD family	*	*	*
1251	2335	-	-	NHAL_3126		NWAT_1451	<b>hypothetical protein</b>	*	*	*
1252	1060	class V aminotransferase	TAO_1036	NHAL_3127	NOC_1656	NWAT_1450	class V aminotransferase	*	*	*
1253	789	DNA replication terminus site-binding family protein	TAO_1033	NHAL_3129	NOC_1655	NWAT_1449	DNA replication terminus site-binding family protein	*	*	*
1254	652	HflBKC-binding inner membrane protein	TAO_1007	NHAL_1933	NOC_1654	NWAT_1448	HflBKC-binding inner membrane protein	*	*	*
1255	1456	transcription-repair coupling factor	TAO_1028	NHAL_3142	NOC_1642	NWAT_1486	transcription-repair coupling factor	*	*	*
1256	1667	-	-	NHAL_3143	NOC_1641	NWAT_1487	<b>hypothetical protein</b>	*	*	*
1257	2674	-	-	NHAL_3150	NOC_1640		<b>K+ transport systems NAD-binding component, TrkA-N</b>	*	*	*
1258	2832	-	-	NHAL_3151	NOC_1639		<b>cation transporter</b>	*	*	*
1259	275	hypothetical conserved protein	TAO_1027	NHAL_3152	NOC_1638	NWAT_1491	hypothetical protein	*	*	*
1260	1604	-	-	NHAL_3154	NOC_1637	NWAT_1492	<b>hypothetical protein</b>	*	*	*
1261	2117	-	-	NHAL_3155	NOC_1636	NWAT_1493	<b>ribonuclease BN</b>	*	*	*
1262	238	SPFH domain-containing protein family protein	TAO_0333	NHAL_3156	NOC_1635	NWAT_1494	SPFH domain-containing protein family protein	*	*	*
1263	2083	-	-	NHAL_3157	NOC_1634	NWAT_1495	<b>hypothetical protein</b>	*	*	*
1264	146	hypothetical protein	TAO_1026	NHAL_3158	NOC_1633(1)	NWAT_1496(1)	thiamine biosynthesis protein thiS	*	*	*
1265	1932	-	-	NHAL_3659	NOC_0750	NWAT_2363	<b>group 1 glycosyl transferase</b>	*	*	*
1266	210	cytochrome C class I	TAO_0154	NHAL_3658	NOC_0751	NWAT_2362	cytochrome c, class I	*	*	*
1267	13	dolichol-phosphate mannosyltransferase	TAO_1730	NHAL_3657	NOC_0752	NWAT_2361	family 2 glycosyl transferase	*	*	*
1268	1689	-	-	NHAL_3656	NOC_0753	NWAT_2360	<b>hypothetical protein</b>	*	*	*
1269	2153	-	-	NHAL_3655	NOC_0754	NWAT_2357	<b>hypothetical protein</b>	*	*	*
1270	1360	hypothetical conserved protein	TAO_0155	NHAL_3654	NOC_0755	NWAT_2356	hypothetical protein	*	*	*
1271	455	general secretion pathway protein J	TAO_0156	NHAL_3653	NOC_0756	NWAT_2355	general secretion pathway protein J	*	*	*
1272	706	general secretion pathway protein K	TAO_0157	NHAL_3652	NOC_0757	NWAT_2354	general secretion pathway protein K	*	*	*
1273	933	fimbrial assembly family protein	TAO_0158	NHAL_3651	NOC_0758	NWAT_2353	fimbrial assembly family protein	*	*	*
1274	493	general secretion pathway protein M	TAO_0159	NHAL_3650	NOC_0759	NWAT_2352	general secretion pathway protein M	*	*	*

1275	304	hypothetical conserved protein	TAO_0160	NHAL_3649	NOC_0760	NWAT_2351	hypothetical protein	*	*	*
1276	1300	general secretion pathway protein D	TAO_0161	NHAL_3648	NOC_0761	NWAT_2350	general secretion pathway protein D	*	*	*
1277	264	hypothetical conserved protein	TAO_0162	NHAL_3647	NOC_0763	NWAT_2346	hypothetical protein	*	*	*
1278	51	hypothetical conserved protein	TAO_0163 TAO_0165	NHAL_3646	NOC_0764	NWAT_2345	hypothetical conserved protein	*	*	*
1279	634	PpiC-type peptidyl-prolyl cis-trans isomerase	TAO_0164	NHAL_3644	NOC_0767	NWAT_2342	PpiC-type peptidyl-prolyl cis-trans isomerase	*	*	*
1280	1088	ABC transporter ATP-binding protein	TAO_0167	NHAL_3634	NOC_2181	NWAT_0905	ABC transporter protein	*	*	*
1281	1991	-	-	NHAL_3633	NOC_2180	NWAT_0906	hypothetical protein	*	*	*
1282	143	acetyltransferase	TAO_0169	NHAL_3307	NOC_2179	NWAT_0907	acetyltransferase (isoleucine patch superfamily)-like protein	*	*	*
1283	1069	glycosyl transferase family protein (divided, N-term side )	TAO_0170	NHAL_3631	NOC_2178	NWAT_0908	family 2 glycosyl transferase	*	*	*
1284	1981	-	-	NHAL_3630	NOC_2177	NWAT_0909	rhamnosyltransferase	*	*	*
1285	2039	-	-	NHAL_3629	NOC_2176	NWAT_0910	family 2 glycosyl transferase	*	*	*
1286	2724	-	-	NHAL_3628	NOC_2175	-	hypothetical protein	*	*	*
1287	2096	-	-	NHAL_3627	NOC_2174	NWAT_0912	hypothetical protein	*	*	*
1288	1865	-	-	NHAL_3626	NOC_2172 NOC_2173	NWAT_0913	haloacid dehalogenase domain-containing protein hydrolase	*	*	*
1289	2170	-	-	NHAL_3625	NOC_2171	NWAT_0914	group 1 glycosyl transferase	*	*	*
1290	2210	-	-	NHAL_3624	NOC_2170	NWAT_0915	hypothetical protein	*	*	*
1291	2254	-	-	NHAL_3623	NOC_2169	NWAT_0916	peptidase S8 and S53 subtilisin kexin sedolisin	*	*	*
1292	958	family 2 glycosyl transferase	TAO_0172	NHAL_3622	NOC_2168	NWAT_0917	family 2 glycosyl transferase	*	*	*
1293	916	NAD-dependent epimerase/dehydratase	TAO_0173	NHAL_3621	NOC_2167	NWAT_0918	NAD-dependent epimerase/dehydratase	*	*	*
1294	1701	-	-	NHAL_3620	NOC_2166	NWAT_0919	flagellar basal body-associated protein FliL	*	*	*
1295	1958	-	-	NHAL_3619	NOC_2165	NWAT_0920	flagellar motor switch protein FliM	*	*	*
1296	1655	-	-	NHAL_3618	NOC_2164	NWAT_0921	flagellar motor switch protein FliN	*	*	*
1297	1648	-	-	NHAL_3617	NOC_2163	NWAT_0922	flagellar biosynthesis protein, FliO	*	*	*
1298	1908	-	-	NHAL_3616	NOC_2162	NWAT_0923	flagellar biosynthetic protein FliP	*	*	*
1299	1592	-	-	NHAL_3615	NOC_2161	NWAT_0924	flagellar biosynthetic protein FliQ	*	*	*
1300	1883	-	-	NHAL_3614	NOC_2160	NWAT_0925	flagellar biosynthetic protein FliR	*	*	*
1301	2051	-	-	NHAL_3613	NOC_2159	NWAT_0926	flagellar biosynthetic protein FliB	*	*	*
1302	2244	-	-	NHAL_3612	NOC_2158	NWAT_0927	flagellar biosynthesis protein FliA	*	*	*
1303	2031	-	-	NHAL_3611	NOC_2157	NWAT_0928	GTP-binding signal recognition particle SRP54 G- domain-containing protein	*	*	*
1304	1957	-	-	NHAL_3610	NOC_2156	NWAT_0929	cobyrinic acid a,c-diamide synthase	*	*	*
1305	646	FliA/WhiG family RNA polymerase sigma factor	TAO_0174	NHAL_3609	NOC_2155	NWAT_0930	FliA/WhiG subfamily RNA polymerase sigma 28 subunit	*	*	*
1306	1661	-	-	NHAL_3606	NOC_2154	NWAT_0931	hypothetical protein	*	*	*
1307	147	hypothetical protein	TAO_0175	NHAL_3605	NOC_2153	NWAT_0932	pentapeptide repeat-containing protein	*	*	*
1308	1032	integral membrane protein terC	TAO_0176	NHAL_3601	NOC_2152	NWAT_0934	integral membrane protein terC	*	*	*
1309	1450	mechanosensitive ion channel protein MscS	TAO_0177	NHAL_3600	NOC_2151	NWAT_0935	mechanosensitive ion channel protein MscS	*	*	*
1310	1922	-	-	NHAL_2042	NOC_2150	NWAT_0936	hypothetical protein	*	*	*
1311	1907	-	-	NHAL_2041	NOC_2149	NWAT_0937	hypothetical protein	*	*	*
1312	1896	-	-	NHAL_2040	NOC_2148	NWAT_0938	heat shock protein DnaJ domain-containing protein	*	*	*
1313	1750	-	-	NHAL_2038	NOC_2147	NWAT_0939	hypothetical protein	*	*	*
1314	1709	-	-	NHAL_2037	NOC_2146	NWAT_0940	polyketide cyclase/dehydrase	*	*	*
1315	2103	-	-	NHAL_2036	NOC_2145	NWAT_0941	L-sorbose dehydrogenase	*	*	*
1316	2233	-	-	NHAL_2035	NOC_2144	NWAT_0943	hypothetical protein	*	*	*
1317	1976	-	-	NHAL_1153	NOC_2142	NWAT_0945	ABC transporter-like protein	*	*	*
1318	2280	-	-	NHAL_1154	NOC_2141	NWAT_0946	ABC transporter inner membrane protein	*	*	*
1319	1977	-	-	NHAL_1155	NOC_2140	NWAT_0947	hypothetical protein	*	*	*
1320	2124	-	-	NHAL_1160	NOC_2139	NWAT_0948	protease Do	*	*	*
1321	1596	-	-	NHAL_1172	NOC_2138	NWAT_0949	hypothetical protein	*	*	*
1322	2041	-	-	NHAL_1175	NOC_2137	NWAT_0950	hypothetical protein	*	*	*
1323	1371	thiol-disulfide oxidoreductase DCC	TAO_1175	NHAL_1176	NOC_2136	NWAT_0952	putative thiol-disulfide oxidoreductase DCC	*	*	*

1324	335	hypothetical conserved protein	TAO_1174	NHAL_1177	NOC_2135	NWAT_0953	hypothetical protein	*	*	*
1325	2139	-	-	NHAL_1178	NOC_2134	NWAT_0954	Na+/H+ antiporter NhaC-like protein	*		
1326	2667	-	-	NHAL_1183	NOC_2133		transmembrane phospholipase	*		
1327	1879	-	-	NHAL_1184	NOC_2132	NWAT_0956	endonuclease/exonuclease/phosphatase	*		
1328	711	pyrimidine reductase, riboflavin biosynthesis, ribD	TAO_1173	NHAL_1185	NOC_2131	NWAT_0957	bifunctional deaminase-reductase domain-containing protein	*	*	*
1329	2271	-	-	NHAL_1189	NOC_2130	NWAT_0959	cation transporting ATPase, E1-E2 type	*		
1330	1170	alanine--glyoxylate aminotransferase	TAO_1292	NHAL_2764	NOC_2128	NWAT_0960	class V aminotransferase	*	*	*
1331	914	hypothetical conserved protein	TAO_1291	NHAL_2765	NOC_2127	NWAT_0961	hypothetical protein	*	*	*
1332	1078	succinyl-diaminopimelate desuccinylase	TAO_1290	NHAL_2766	NOC_2126	NWAT_0962	succinyl-diaminopimelate desuccinylase	*	*	*
1333	901	2,3,4,5-tetrahydropyridine-2,6-carboxylate N-succinyltransferase	TAO_1289	NHAL_2767	NOC_2125	NWAT_0963	2,3,4,5-tetrahydropyridine-2,6-dicarboxylate N-succinyltransferase	*	*	*
1334	2101	-	-	NHAL_2768	NOC_2124	NWAT_0964	class I and II aminotransferase	*		
1335	1964	ATPase AAA superfamily	TAO_1287		NOC_2123	NWAT_0965	ATPase AAA superfamily	*		
1336	387	ribosome maturation protein rimP	TAO_1286	NHAL_2769	NOC_2122	NWAT_0966	ribosome maturation protein rimP	*	*	*
1337	1284	transcription elongation factor NusA	TAO_1285	NHAL_2770	NOC_2121	NWAT_0967	transcription termination factor NusA	*	*	*
1338	1410	translation initiation factor IF-2	TAO_1284	NHAL_2771	NOC_2120	NWAT_0968	translation initiation factor IF-2	*	*	*
1339	287	ribosome-binding factor A	TAO_1283	NHAL_2772	NOC_2119	NWAT_0969	ribosome-binding factor A	*	*	*
1340	865	tRNA pseudouridine synthase B	TAO_1282	NHAL_2773	NOC_2118	NWAT_0970	tRNA pseudouridine synthase B	*	*	*
1341	236	30S ribosomal protein S15	TAO_1281	NHAL_2774	NOC_2117	NWAT_0971	30S ribosomal protein S15	*	*	*
1342	1403	polyribonucleotide nucleotidyltransferase	TAO_1280	NHAL_2775	NOC_2116	NWAT_0972	polyribonucleotide nucleotidyltransferase	*	*	*
1343	1434	glycogen/starch/alpha-glucan phosphorylase	TAO_1279	NHAL_2776	NOC_2115	NWAT_0973	glycogen/starch/alpha-glucan phosphorylase	*	*	*
1344	2226	-	-	NHAL_2777	NOC_2114	NWAT_0974	hypothetical protein	*		
1345	1843	-	-	NHAL_2778	NOC_2113	NWAT_0976	β-hydroxyacyl-(acyl-carrier-protein) dehydratase fabA	*		
1346	806	hypothetical conserved protein	TAO_1278	NHAL_2779	NOC_2112	NWAT_0977	hypothetical protein	*	*	*
1347	1100	pyruvate dehydrogenase (acetyl-transferring) E1 component subunit alpha	TAO_1277	NHAL_2780	NOC_2111	NWAT_0978	pyruvate dehydrogenase E1 component subunit alpha	*	*	*
1348	1061	pyruvate/2-oxoglutarate dehydrogenase complex dehydrogenase (E1) component	TAO_1276	NHAL_2781	NOC_2110	NWAT_0979	pyruvate/2-oxoglutarate dehydrogenase complex dehydrogenase component	*	*	*
1349	1427	pyruvate/2-oxoglutarate dehydrogenase complex dihydrolipoamide dehydrogenase (E3) component and related	TAO_1275	NHAL_2782	NOC_2109	NWAT_0980	pyruvate/2-oxoglutarate dehydrogenase complex dihydrolipoamide dehydrogenase component and related enzyme	*	*	*
1350	1214	argininosuccinate synthase	TAO_1274	NHAL_2783	NOC_2108	NWAT_0981	argininosuccinate synthase	*	*	*
1351	1850	-	-	NHAL_2784	NOC_2107	NWAT_0982	NolW domain-containing protein	*		
1352	1256	adenylosuccinate lyase	TAO_1271	NHAL_2785	NOC_2106	NWAT_0983	adenylosuccinate lyase	*	*	*
1353	1933	-	-	NHAL_2786	NOC_2105	NWAT_0984	hypothetical protein	*		
1354	629	competence protein F	TAO_0600	NHAL_0763	NOC_2102	NWAT_0986	competence protein F	*	*	*
1355	1001	biotin synthase	TAO_0601	NHAL_0764	NOC_2101	NWAT_0987	biotin synthase	*	*	*
1356	1070	8-amino-7-oxononanoate synthase	TAO_0602	NHAL_0765	NOC_2100	NWAT_0988	8-amino-7-oxononanoate synthase	*	*	*
1357	480	carboxylesterase of pimeloyl-coA synthesis, bioH	TAO_0603	NHAL_0766	NOC_2099	NWAT_0989	carboxylesterase of pimeloyl-coA synthesis, bioH	*	*	*
1358	804	biotin biosynthesis protein BioC	TAO_0604	NHAL_0767	NOC_2098	NWAT_0990	biotin biosynthesis protein bioC	*	*	*
1359	559	dethiobiotin synthase	TAO_0605	NHAL_0768	NOC_2097	NWAT_0991	dethiobiotin synthase	*	*	*
1360	1828	-	-	NHAL_0769	NOC_2096	NWAT_0992	toluene tolerance family protein	*		
1361	1381	NAD+ synthetase	TAO_0607	NHAL_0770	NOC_2095	NWAT_0993	NAD+ synthetase	*	*	*
1362	2803	-	-		NOC_2091	NWAT_0997	hypothetical protein	*		
1363	1659	-	-	NHAL_0774	NOC_2090	NWAT_0998	hypothetical protein	*		
1364	1620	-	-	NHAL_0777	NOC_2089	NWAT_0999	H+-ATPase subunit H	*		
1365	2008	-	-	NHAL_0778	NOC_2088	NWAT_1000	H+-transporting two-sector ATPase C subunit	*		
1366	2220	-	-	NHAL_0779	NOC_2087	NWAT_1001	V-type ATPase, 116 kDa subunit	*		
1367	1688	-	-	NHAL_0780	NOC_2086	NWAT_1002	H+-transporting two-sector ATPase subunit C	*		
1368	1660	-	-	NHAL_0781	NOC_2085	NWAT_1003	hypothetical protein	*		
1369	1818	-	-	NHAL_0782	NOC_2084	NWAT_1004	H+-transporting two-sector ATPase subunit E	*		
1370	2223	-	-	NHAL_0783	NOC_2083	NWAT_1005	H(+)-transporting two-sector ATPase	*		
1371	2158	-	-	NHAL_0784	NOC_2082	NWAT_1006	H(+)-transporting two-sector ATPase	*		

1372	1845	-	-	NHAL_0785	NOC_2081	NWAT_1007	<b>V-type ATPase subunit D</b>	*		
1373	576	<b>methionine sulfoxide reductase A</b>	<b>TAO_1140</b>	NHAL_2915	NOC_2080	NWAT_1017	peptide methionine sulfoxide reductase	*	*	*
1374	328	<b>hypothetical conserved protein</b>	<b>TAO_1139</b>	NHAL_2916	NOC_2079	NWAT_1018	hypothetical protein	*	*	*
1375	1808	<b>phosphoesterase, PA-phosphatase related</b>	<b>TAO_1136</b>	-	NOC_2078	NWAT_1019	phosphoesterase, PA-phosphatase related	*		
1376	765	<b>6-phosphogluconate dehydrogenase</b>	<b>TAO_1135</b>	NHAL_1873	NOC_2077	NWAT_1020	6-phosphogluconate dehydrogenase	*	*	*
1377	1452	<b>peptidase M16C associated domain-containing protein</b>	<b>TAO_1134</b>	NHAL_1875	NOC_2076	NWAT_1021	peptidase M16C associated domain-containing protein	*	*	*
1378	635	<b>HAD-superfamily hydrolase</b>	<b>TAO_1133</b>	NHAL_1876	NOC_2075	NWAT_1022	HAD-superfamily hydrolase	*	*	*
1379	861	<b>Hsp33 chaperonin</b>	<b>TAO_1132</b>	NHAL_1877	NOC_2074	NWAT_1023	Hsp33 chaperonin	*	*	*
1380	138	-	-	NHAL_1993	NOC_2071	NWAT_1029	<b>plasmid stabilization system protein</b>	*		
1381	2186	-	-	NHAL_1880	NOC_2066	NWAT_1034	<b>RNA polymerase sigma 70 subunit RpoD</b>	*		
1382	1543	<b>fatty acyltransferase-like protein</b>	<b>TAO_1742</b>	-	NOC_2065	NWAT_1035	G-D-S-I family lipolytic protein	*		
1383	1708	-	-	NHAL_0201	NOC_2063	NWAT_1036	<b>hypothetical protein</b>	*		
1384	1308	<b>glucose-6-phosphate 1-dehydrogenase</b>	<b>TAO_1321</b>	NHAL_2848	NOC_2062	NWAT_1038	glucose-6-phosphate 1-dehydrogenase	*	*	*
1385	1223	<b>6-phosphogluconate dehydrogenase</b>	<b>TAO_1320</b>	NHAL_2849	NOC_2061	NWAT_1039	6-phosphogluconate dehydrogenase	*	*	*
1386	2698	-	-	-	NOC_2060	NWAT_1040	<b>MarR family transcriptional regulator</b>	*		
1387	2619	-	-	-	NOC_2059	NWAT_1041	<b>hypothetical protein</b>	*		
1388	2567	-	-	-	NOC_2058	NWAT_1042	<b>hypothetical protein</b>	*		
1389	2046	-	-	NHAL_2853	NOC_2057	NWAT_1043	<b>transaldolase</b>	*		
1390	2676	-	-	-	NOC_2056	NWAT_1045	<b>hypothetical protein</b>	*		
1391	2082	-	-	NHAL_2852	NOC_2055	NWAT_1046	<b>hypothetical protein</b>	*		
1392	2078	-	-	NHAL_2851	NOC_2054	NWAT_1051	<b>Glu/Leu/phe/Val dehydrogenase</b>	*		
1393	920	<b>glucoamylase</b>	<b>TAO_0755</b>	NHAL_2850	NOC_2053	NWAT_1053	glycoside hydrolase 15-like protein	*	*	*
1394	2011	<b>HigA family addiction module antidote protein</b>	<b>TAO_1701(2)</b>	-	NOC_0681	NWAT_2457	HigA family addiction module antidote protein	*		
1395	1318	<b>GMP synthase, large subunit</b>	<b>TAO_1702</b>	NHAL_3752	NOC_0614	NWAT_2480	GMP synthase, large subunit	*	*	*
1396	1280	<b>inosine-5'-monophosphate dehydrogenase</b>	<b>TAO_1703</b>	NHAL_3753	NOC_0613	NWAT_2481	inosine-5'-monophosphate dehydrogenase	*	*	*
1397	1105	<b>exodeoxyribonuclease VII large subunit</b>	<b>TAO_1704</b>	NHAL_3754	NOC_0612	NWAT_2482	exodeoxyribonuclease VII large subunit	*	*	*
1398	2350	-	-	NHAL_3755	-	NWAT_2483	<b>hypothetical protein</b>	*		
1399	993	<b>hypothetical conserved protein</b>	<b>TAO_0313</b>	NHAL_3756	NOC_0611	NWAT_2484	hypothetical protein	*	*	*
1400	484	<b>TonB-like protein</b>	<b>TAO_0312</b>	NHAL_3757	NOC_0610	NWAT_2485	TonB-like protein	*	*	*
1401	312	<b>biopolymertransporter exbD/TolR</b>	<b>TAO_0311</b>	NHAL_3758	NOC_0609	NWAT_2486	biopolymer transport protein exbD/TolR	*	*	*
1402	469	<b>MotA/TolQ/exbB proton channel</b>	<b>TAO_0310</b>	NHAL_3759	NOC_0608	NWAT_2487	MotA/TolQ/exbB proton channel	*	*	*
1403	1112	<b>MotA/TolQ/exbB proton channel</b>	<b>TAO_0309</b>	NHAL_3760	NOC_0607	NWAT_2488	MotA/TolQ/exbB proton channel	*	*	*
1404	745	<b>hypothetical conserved protein</b>	<b>TAO_0308</b>	NHAL_3761	NOC_0606	NWAT_2489	hypothetical protein	*	*	*
1405	200	<b>rubredoxin-type Fe(cys)4 protein</b>	<b>TAO_0307</b>	NHAL_3763	NOC_0605	NWAT_2490	rubredoxin-type Fe(cys)4 protein	*	*	*
1406	528	<b>thiamine-phosphate pyrophosphorylase</b>	<b>TAO_0306</b>	NHAL_3764	NOC_0604	NWAT_2491	thiamine-phosphate pyrophosphorylase	*	*	*
1407	771	<b>thioredoxin</b>	<b>TAO_0305</b>	NHAL_3765	NOC_0603	NWAT_2492	thioredoxin	*	*	*
1408	1138	<b>mechanosensitive ion channel MscS</b>	<b>TAO_0304</b>	NHAL_3766	NOC_0602	NWAT_2493	mechanosensitive ion channel MscS	*	*	*
1409	2544	-	-	-	NOC_0601	NWAT_2494	<b>small multidrug resistance protein</b>	*		
1410	1211	<b>glutamate-1-semialdehyde-2,1-aminomutase</b>	<b>TAO_0288</b>	NHAL_3767	NOC_0600	NWAT_2495	glutamate-1-semialdehyde-2,1-aminomutase	*	*	*
1411	1388	<b>DNA helicase II / ATP-dependent DNA helicase PcrA</b>	<b>TAO_0287</b>	NHAL_3769	NOC_0599	NWAT_2496	DNA-dependent helicase II	*	*	*
1412	2073	-	-	NHAL_3770	NOC_0598	NWAT_2497	<b>TRAP dicarboxylate transporter subunit DctP</b>	*		
1413	1834	-	-	NHAL_3771	NOC_0597	NWAT_2498	<b>Sel1 domain-containing protein repeat-containing protein</b>	*		
1414	1935	-	-	NHAL_3773	NOC_0596	NWAT_2499	<b>hypothetical protein</b>	*		
1415	429	<b>cation diffusion facilitator family transporter</b>	<b>TAO_0851</b>	NHAL_3774	NOC_0595	NWAT_2500	cation diffusion facilitator family transporter	*	*	*
1416	1877	-	-	NHAL_3776	NOC_0594	NWAT_2501	<b>metallophosphoesterase</b>	*		
1417	1967	-	-	NHAL_3777	NOC_0593	NWAT_2502	<b>rhodanese domain-containing protein</b>	*		
1418	374	<b>zinc dependent protease family protein</b>	<b>TAO_0286</b>	NHAL_3779	NOC_0580	NWAT_2503	zinc dependent protease family protein	*	*	*
1419	653	<b>hypothetical conserved protein</b>	<b>TAO_1593</b>	NHAL_3384	NOC_0579	NWAT_2504	hypothetical protein	*	*	*
1420	833	<b>glycosyl transferase family protein</b>	<b>TAO_1594</b>	NHAL_3385	NOC_0578	NWAT_2505	glycosyl transferase family protein	*	*	*
1421	248	<b>glycosyl transferase family protein</b>	<b>TAO_1595</b>	NHAL_3386	NOC_0577	NWAT_2506	group 1 glycosyl transferase	*	*	*

1422	939	glycosyl transferase family protein	TAO_1596	NHAL_3387	NOC_0576	NWAT_2513	glycosyl transferase family protein	*	*	*
1423	2092	-	-	NHAL_3388	NOC_0562	NWAT_0595	<b>O-antigen polymerase</b>	*		
1424	972	glycosyl transferase family protein	TAO_0267	NHAL_3389	NOC_0561	NWAT_0594	glycosyl transferase family protein	*	*	*
1425	1033	group 1 glycosyl transferase	TAO_0266	NHAL_3390	NOC_0560	NWAT_0593	group 1 glycosyl transferase	*	*	*
1426	124	hypothetical conserved protein	TAO_0749	NHAL_3391	NOC_0559	NWAT_0592	hypothetical protein	*	*	*
1427	909	spermidine synthase	TAO_0265	NHAL_3392	NOC_0558	NWAT_0591	spermidine synthase	*	*	*
1428	1377	arginine decarboxylase	TAO_0264	NHAL_3394	NOC_0557	NWAT_0590	arginine decarboxylase	*	*	*
1429	223	hypothetical conserved protein	TAO_0263	NHAL_3395	NOC_0556	NWAT_0589	hypothetical protein	*	*	*
1430	83	hypothetical conserved protein	TAO_1351	NHAL_3396	NOC_0555	NWAT_0588	hypothetical protein	*	*	*
1431	1432	DNA polymerase I	TAO_0262	NHAL_3397	NOC_0554	NWAT_0587	DNA polymerase I	*	*	*
1432	574	GTP-binding protein HSR1-related	TAO_0261	NHAL_3399	NOC_0553	NWAT_0586	GTP-binding protein HSR1 protein	*	*	*
1433	521	cytochrome C class I	TAO_0260	NHAL_3400	NOC_0552	NWAT_0585	cytochrome c class I	*	*	*
1434	554	DSBA oxidoreductase	TAO_0259	NHAL_3401	NOC_0551	NWAT_0584	DSBA oxidoreductase	*	*	*
1435	2880	-	-	NHAL_3590	NOC_2225		<b>small GTP-binding protein</b>	*		
1436	309	pterin-4-alpha-carbinolamine dehydratase	TAO_0181	NHAL_3591	NOC_2226	NWAT_0862	pterin-4-alpha-carbinolamine dehydratase	*	*	*
1437	698	membrane-bound metal-dependent hydrolase	TAO_0180	NHAL_3592	NOC_2227	NWAT_0861	membrane-bound metal-dependent hydrolase	*	*	*
1438	1900	-	-	NHAL_3593	NOC_2228	NWAT_0860	<b>hypothetical protein</b>	*		
1439	2284	-	-	NHAL_3594	NOC_2229	NWAT_0859	<b>diguanylate cyclase/phosphodiesterase</b>	*		
1440	1926	-	-	NHAL_3595	NOC_2230	NWAT_0858	<b>hypothetical protein</b>	*		
1441	1966	-	-	NHAL_3596	NOC_2231	NWAT_0857	<b>polyprenyl synthetase</b>	*		
1442	1918	-	-	NHAL_3597	NOC_2232	NWAT_0856	<b>methyltransferase type 11</b>	*		
1443	209	hypothetical conserved protein	TAO_0178	NHAL_3598	NOC_2233	NWAT_0855	hypothetical protein	*	*	*
1444	1898	-	-	NHAL_3599	NOC_2234	NWAT_0854	<b>integral membrane protein terC</b>	*		
1445	302	small multidrug resistance protein	TAO_0183	NHAL_3581	NOC_2235	NWAT_0853	small multidrug resistance protein	*	*	*
1446	657	glutamine amidotransferase	TAO_0182	NHAL_3583	NOC_2237	NWAT_0851	glutamine amidotransferase	*	*	*
1447	1589	-	-	NHAL_0940	NOC_2241	NWAT_0832	<b>hypothetical protein</b>	*		
1448	1566	-	-	NHAL_0941	NOC_2242	NWAT_0831	<b>hypothetical protein</b>	*		
1449	1499	hypothetical conserved protein	TAO_PL_0006	NHAL_0978(1)	NOC_2243		hypothetical conserved protein	*		
1450	2010	-	-	NHAL_2574	NOC_0403	NWAT_2706	<b>metallophosphoesterase</b>	*		
1451	168	peptidase M48 family protein	TAO_1636	NHAL_2573	NOC_0402	NWAT_2707	peptidase M48, Ste24p	*	*	*
1452	1506	-	-	NHAL_3262	NOC_0399	NWAT_2712	<b>hypothetical protein</b>	*		
1453	1526	-	-	NHAL_3263	NOC_0398	NWAT_2713	<b>hypothetical protein</b>	*		
1454	2598	-	-		NOC_0396	NWAT_2716	<b>excalibur domain-containing protein</b>	*		
1455	2021	-	-	NHAL_0236	NOC_0394	NWAT_2718	<b>hypothetical protein</b>	*		
1456	717	modification methylase HemK	TAO_1668	NHAL_0235	NOC_0393	NWAT_2719	hemK family modification methylase	*	*	*
1457	1901	-	-	NHAL_0234	NOC_0392	NWAT_2720	<b>response regulator receiver protein</b>	*		
1458	2150	-	-	NHAL_0232	NOC_0391	NWAT_2721	<b>aldehyde dehydrogenase</b>	*		
1459	922	NAD-dependent epimerase/dehydratase	TAO_1669	NHAL_0231	NOC_0390	NWAT_2722	NAD-dependent epimerase/dehydratase	*	*	*
1460	1137	polynucleotide adenyltransferase/metal dependent phosphohydrolase	TAO_1670	NHAL_0230	NOC_0389	NWAT_2723	polynucleotide adenyltransferase/metal dependent phosphohydrolase	*	*	*
1461	2160	-	-	NHAL_0229	NOC_0379	NWAT_2724	<b>aminoglycoside phosphotransferase</b>	*		
1462	2276	-	-	NHAL_0422	NOC_0378	NWAT_2725	<b>5-oxoprolinase</b>	*		
1463	1545	-	-	NHAL_0225	NOC_0377	NWAT_2726	<b>peptidase M48 Ste24p</b>	*		
1464	2236	-	-	NHAL_0222	NOC_0376	NWAT_2727	<b>response regulator receiver modulated diguanylate cyclase/phosphodiesterase</b>	*		
1465	784	1-acyl-sn-glycerol-3-phosphate acyltransferase	TAO_0152	NHAL_0221	NOC_0375	NWAT_2728	phospholipid/glycerol acyltransferase	*	*	*
1466	490	histidinol-phosphate phosphatase	TAO_0151	NHAL_0220	NOC_0374	NWAT_2729	histidinol-phosphate phosphatase	*	*	*
1467	1372	glycyl-tRNA synthetase subunit beta	TAO_0150	NHAL_0219	NOC_0373	NWAT_2730	glycyl-tRNA synthetase subunit beta	*	*	*
1468	1054	glycyl-tRNA synthetase subunit alpha	TAO_0149	NHAL_0218	NOC_0372	NWAT_2731	glycyl-tRNA synthetase subunit alpha	*	*	*
1469	2288	-	-	NHAL_0217	NOC_0371	NWAT_2732	<b>hypothetical protein</b>	*		
1470	2176	-	-	NHAL_0216	NOC_0370	NWAT_2733	<b>surface antigen (D15)</b>	*		
1471	405	TonB family protein	TAO_0146	NHAL_0214	NOC_0369	NWAT_2734	TonB family protein	*	*	*

1472	1822	-	-	NHAL_0212	NOC_0368	NWAT_2735	<b>hypothetical protein</b>	*		
1473	389	<b>holliday junction resolvase YqgF</b>	<b>TAO_0145</b>	NHAL_0211	NOC_0367	NWAT_2736	holliday junction resolvase YqgF	*	*	*
1474	478	<b>uracil phosphoribosyltransferase</b>	<b>TAO_0144</b>	NHAL_0210	NOC_0366	NWAT_2737	uracil phosphoribosyltransferase	*	*	*
1475	974	<b>aspartate carbamoyltransferase</b>	<b>TAO_0143</b>	NHAL_0209	NOC_0365	NWAT_2738	aspartate carbamoyltransferase	*	*	*
1476	1180	<b>dihydroorotase</b>	<b>TAO_0142</b>	NHAL_0208	NOC_0364	NWAT_2739	dihydroorotase	*	*	*
1477	978	<b>oxidoreductase FAD/NAD(P)-binding protein</b>	<b>TAO_0141</b>	NHAL_0207	NOC_0363	NWAT_2740	oxidoreductase FAD/NAD(P)-binding domain-containing protein	*	*	*
1478	731	<b>molybdopterin biosynthesis protein MoeB</b>	<b>TAO_1666</b>	NHAL_0256	NOC_0362	NWAT_2741	UBA/THIF-type NAD/FAD-binding protein	*	*	*
1479	356	<b>Mov34/MPN/PAD-1 family protein</b>	<b>TAO_1665</b>	NHAL_0257	NOC_0361	NWAT_2742	Mov34/MPN/PAD-1 family protein	*	*	*
1480	1903	-	-	NHAL_0259	NOC_0360	NWAT_2743	<b>hypothetical protein</b>	*		
1481	544	<b>hypothetical conserved protein</b>	<b>TAO_0184</b>	NHAL_0260	NOC_0359	NWAT_2744	hypothetical protein	*	*	*
1482	2205	-	-	NHAL_0265	NOC_0358	NWAT_2745	<b>Cl- channel voltage-gated family protein</b>	*		
1483	794	<b>ribosomal RNA small subunit methyltransferase I</b>	<b>TAO_0217</b>	NHAL_0476	NOC_0357	NWAT_2746	uroporphyrin-III C/tetrapyrrole methyltransferase	*	*	*
1484	1226	<b>LppC family lipoprotein</b>	<b>TAO_0216</b>	NHAL_0475	NOC_0356	NWAT_2747	LppC family lipoprotein	*	*	*
1485	285	<b>hypothetical conserved protein</b>	<b>TAO_0215</b>	NHAL_0474	NOC_0355	NWAT_2748	hypothetical protein	*	*	*
1486	514	<b>phosphoheptose isomerase</b>	<b>TAO_0214</b>	NHAL_0473	NOC_0354	NWAT_2749	phosphoheptose isomerase	*	*	*
1487	1804	-	-	NHAL_0472	NOC_0353	NWAT_2750	<b>periplasmic or secreted lipoprotein</b>	*		
1488	1246	<b>FAD linked oxidase domain-containing protein</b>	<b>TAO_0213</b>	NHAL_0471	NOC_0352	NWAT_2751	FAD linked oxidase domain-containing protein	*	*	*
1489	1635	-	-	NHAL_0470	NOC_0351	NWAT_2752	<b>hypothetical protein</b>	*		
1490	2831	-	-	-	NOC_0350	NWAT_2753	<b>metal-dependent phosphohydrolase</b>	*		
1491	2834	-	-	-	NOC_0349	NWAT_2754	<b>diguanylate cyclase/phosphodiesterase</b>	*		
1492	535	<b>outer membrane lipoprotein carrier protein LolA</b>	<b>TAO_0207</b>	NHAL_3419	NOC_0348	NWAT_2755	outer membrane lipoprotein carrier protein LolA	*	*	*
1493	1387	<b>cell division FtsK/spoIIIE</b>	<b>TAO_0206</b>	NHAL_3420	NOC_0347	NWAT_2756	cell division FtsK/spoIIIE	*	*	*
1494	2029	-	-	NHAL_3421	NOC_0346	NWAT_2757	<b>alanine dehydrogenase</b>	*		
1495	990	<b>thioredoxin reductase</b>	<b>TAO_0205</b>	NHAL_3422	NOC_0345	NWAT_2758	thioredoxin reductase	*	*	*
1496	258	<b>DNA adenine methylase</b>	<b>TAO_0847</b>	NHAL_3423	NOC_0344	NWAT_2759	DNA adenine methylase	*	*	*
1497	1200	<b>Ste24 endopeptidase</b>	<b>TAO_0203</b>	NHAL_3425	NOC_0342	NWAT_2763	Ste24 endopeptidase	*	*	*
1498	551	<b>oligoribonuclease</b>	<b>TAO_0202</b>	NHAL_3426	NOC_0341	NWAT_2764	exonuclease RNase T and DNA polymerase III	*	*	*
1499	2072	-	-	NHAL_3427	NOC_0340	NWAT_2765	<b>iron-sulfur cluster binding protein</b>	*		
1500	1278	<b>carbohydrate kinase</b>	<b>TAO_0201</b>	NHAL_3428	NOC_0339	NWAT_2766	carbohydrate kinase	*	*	*
1501	336	<b>ATPase YjeE</b>	<b>TAO_0200</b>	NHAL_3429	NOC_0338	NWAT_2767	ATPase YjeE	*	*	*
1502	1016	<b>N-acetylmuramoyl-L-alanine amidase</b>	<b>TAO_0199</b>	NHAL_3430	NOC_0337	NWAT_2768	N-acetylmuramoyl-L-alanine amidase	*	*	*
1503	1220	<b>DNA mismatch repair protein MutL</b>	<b>TAO_1705</b>	NHAL_3431	NOC_0336	NWAT_2769	DNA mismatch repair protein MutL	*	*	*
1504	120	<b>PAS/PAC sensor(s)-containing diguanylate cyclase/phosphodiesterase</b>	<b>TAO_1717</b>	NHAL_3432 NHAL_3433	NOC_0335	NWAT_2770	PAS/PAC sensor(s)-containing diguanylate cyclase/phosphodiesterase	*	*	
1505	766	<b>lysR family transcriptional regulator</b>	<b>TAO_1719</b>	NHAL_3434	NOC_0334	NWAT_2771	LysR family transcriptional regulator	*	*	*
1506	546	<b>hypothetical conserved protein</b>	<b>TAO_1721</b>	NHAL_3842	NOC_0317	NWAT_0411	hypothetical protein	*	*	*
1507	848	<b>diaminopimelate epimerase</b>	<b>TAO_1722</b>	NHAL_3843	NOC_0316	NWAT_0410	diaminopimelate epimerase	*	*	*
1508	1867	-	-	NHAL_3844	NOC_0315	NWAT_0409	<b>methyltransferase type 11</b>	*		
1509	1201	<b>diaminopimelate decarboxylase</b>	<b>TAO_1723</b>	NHAL_3845	NOC_0314	NWAT_0408	diaminopimelate decarboxylase	*	*	*
1510	1324	<b>type II secretion system protein E</b>	<b>TAO_1724</b>	NHAL_3847	NOC_0312	NWAT_0407	type IV-A pilus assembly ATPase pilB	*	*	*
1511	1174	<b>type II secretion system protein F</b>	<b>TAO_1725</b>	NHAL_3848	NOC_0311	NWAT_0406	type II secretion system protein F	*	*	*
1512	946	<b>leader peptidase (prepilin peptidase) / N-methyltransferase</b>	<b>TAO_1726</b>	NHAL_3849	NOC_0310	NWAT_0405	prepilin peptidase	*	*	*
1513	458	<b>dephospho-coA kinase</b>	<b>TAO_1727(1)</b>	NHAL_3850	NOC_0309	NWAT_0404	dephospho-coA kinase	*	*	*
1514	154	<b>dephospho-coA kinase</b>	<b>TAO_1727(2)</b>	NHAL_3852	NOC_0308	NWAT_0403	dephospho-coA kinase	*	*	*
1515	837	<b>mutator MutT protein</b>	<b>TAO_1728</b>	NHAL_3853	NOC_0306	NWAT_0402	mutator MutT protein	*	*	*
1516	195	<b>hypothetical conserved protein</b>	<b>TAO_1729</b>	NHAL_3854	NOC_0305	NWAT_0401	hypothetical protein	*	*	*
1517	174	<b>hypothetical conserved protein</b>	<b>TAO_1737</b>	NHAL_3855	NOC_0304	NWAT_0400	zinc finger protein	*	*	*
1518	1128	<b>quinolinate synthetase</b>	<b>TAO_1738</b>	NHAL_3856	NOC_0303	NWAT_0399	quinolinate synthetase complex subunit	*	*	*
1519	1369	<b>aspartyl-tRNA synthetase</b>	<b>TAO_1740</b>	NHAL_3857	NOC_0302	NWAT_0398	aspartyl-tRNA synthetase	*	*	*
1520	216	<b>FmdB family transcriptional regulator</b>	<b>TAO_1741</b>	NHAL_3858	NOC_0301	NWAT_0397	FmdB family transcriptional regulator	*	*	*

1521	581	ubiquinol-cytochrome C reductase, iron-sulfur subunit	TAO_1745	NHAL_3860	NOC_0299	NWAT_0395	ubiquinol-cytochrome c reductase, iron-sulfur subunit	*	*	*
1522	1264	cytochrome b/b6 domain-containing protein	TAO_1746	NHAL_3861	NOC_0298	NWAT_0394	cytochrome b/b6 domain-containing protein	*	*	*
1523	724	cytochrome c1	TAO_1747	NHAL_3862	NOC_0297	NWAT_0393	cytochrome c1	*	*	*
1524	566	glutathione S-transferase	TAO_1748	NHAL_3863	NOC_0296	NWAT_0392	glutathione S-transferase protein	*	*	*
1525	317	stringent starvation protein B	TAO_1749	NHAL_3864	NOC_0295	NWAT_0391	stringent starvation protein B	*	*	*
1526	1252	NAD(P)(+) transhydrogenase	TAO_1752	NHAL_3871	NOC_0261	NWAT_0362	NAD(P)(+) transhydrogenase	*	*	*
1527	753	hypothetical conserved protein	TAO_1753	NHAL_3875	NOC_0260	NWAT_0361	hypothetical protein	*	*	*
1528	827	rimK family alpha-L-glutamate ligase	TAO_1754	NHAL_3877	NOC_0259	NWAT_0360	RimK family alpha-L-glutamate ligase	*	*	*
1529	561	histidine biosynthesis protein	TAO_1756	NHAL_3880	NOC_0258	NWAT_0356	histidine biosynthesis protein	*	*	*
1530	764	hypothetical conserved protein	TAO_1759	NHAL_3881	NOC_0257	NWAT_0355	hypothetical protein	*	*	*
1531	942	H4MPT-linked C1 transfer pathway protein	TAO_1760	NHAL_3882	NOC_0256	NWAT_0354	H4MPT-linked C1 transfer pathway protein	*	*	*
1532	1217	para-aminobenzoate synthase subunit I	TAO_1761	NHAL_3883	NOC_0255	NWAT_0353	para-aminobenzoate synthase subunit I	*	*	*
1533	461	aspartate/glutamate/uridylyate kinase	TAO_1762	NHAL_3884	NOC_0254	NWAT_0352	aspartate/glutamate/uridylyate kinase	*	*	*
1534	1058	3-dehydroquinate synthase	TAO_1764	NHAL_3885	NOC_0253	NWAT_0351	3-dehydroquinate synthase	*	*	*
1535	460	shikimate kinase	TAO_1765	NHAL_3886	NOC_0252	NWAT_0350	shikimate kinase	*	*	*
1536	1301	type IV pilus secretin pilQ subfamily	TAO_1766	NHAL_3887	NOC_0251	NWAT_0349	type IV pilus secretin pilQ	*	*	*
1537	370	pilus assembly protein pilP	TAO_1767	NHAL_3888	NOC_0250	NWAT_0348	pilus assembly protein pilP	*	*	*
1538	507	pilus assembly protein pilO	TAO_1768	NHAL_3889	NOC_0249	NWAT_0347	pilus assembly protein, pilO	*	*	*
1539	421	pilus biogenesis protein pilN	TAO_1769	NHAL_3890	NOC_0248	NWAT_0346	type 4 fimbrial biogenesis protein pilN	*	*	*
1540	873	type IV pilus assembly protein pilM	TAO_1770	NHAL_3891	NOC_0247	NWAT_0345	type IV pilus assembly protein pilM	*	*	*
1541	1419	penicillin-binding protein, 1A family	TAO_1771	NHAL_3892	NOC_0246	NWAT_0344	penicillin-binding protein, 1A family	*	*	*
1542	500	hypothetical conserved protein	TAO_1772	NHAL_3893	NOC_0245	NWAT_0343	hypothetical protein	*	*	*
1543	2076	-	-	NHAL_3894	NOC_0244	NWAT_0342	malate dehydrogenase	*	*	*
1544	187	50S ribosomal protein L31	TAO_1773	NHAL_3895	NOC_0243	NWAT_0341	50S ribosomal protein L31	*	*	*
1545	1281	potassium uptake protein, TrkH family	TAO_1774	NHAL_3896	NOC_0242	NWAT_0340	potassium uptake protein, TrkH family	*	*	*
1546	1292	apolipoprotein N-acyltransferase	TAO_1775	NHAL_3897	NOC_0241	NWAT_0339	apolipoprotein N-acyltransferase	*	*	*
1547	811	Mg2+/co2+ transporter-like protein	TAO_1776	NHAL_3898	NOC_0240	NWAT_0338	Mg2+/co2+ transporter-like protein	*	*	*
1548	354	hypothetical conserved protein	TAO_1777	NHAL_3899	NOC_0239	NWAT_0337	hypothetical protein	*	*	*
1549	928	phosphate starvation-inducible protein phoH	TAO_1778	NHAL_3900	NOC_0238	NWAT_0336	phoH family protein	*	*	*
1550	1262	(dimethylallyl)adenosine tRNA methyltransferase	TAO_1779	NHAL_3901	NOC_0237	NWAT_0335	tRNA-i(6)A37 thiotransferase MiaB	*	*	*
1551	694	DNA repair protein radC	TAO_1780	NHAL_3902	NOC_0236	NWAT_0334	DNA repair protein radC	*	*	*
1552	406	dihydrofolate reductase	TAO_1781	NHAL_3903	NOC_0235	NWAT_0333	dihydrofolate reductase	*	*	*
1553	905	thymidylate synthase	TAO_1782	NHAL_3904	NOC_0234	NWAT_0332	thymidylate synthase	*	*	*
1554	927	prolipoprotein diacylglyceryl transferase	TAO_1783	NHAL_3905	NOC_0233	NWAT_0331	prolipoprotein diacylglyceryl transferase	*	*	*
1555	2066	-	-	NHAL_3906	NOC_0232	NWAT_0330	hypothetical protein	*	*	*
1556	640	hypothetical conserved protein	TAO_1786	NHAL_3909	NOC_0231	NWAT_0329	hypothetical protein	*	*	*
1557	2106	-	-	NHAL_3967	NOC_A0032	NWAT_3168	membrane-bound metal-dependent hydrolase	*	*	*
1558	1632	-	-	NHAL_0320	NOC_A0033	NWAT_3167	MazE/toxin transcriptional modulator MazF	*	*	*
1559	1562	-	-	NHAL_0321	NOC_A0034	NWAT_3166	hypothetical protein	*	*	*
1560	1927	-	-	NHAL_3970	NOC_A0035	NWAT_3165	hypothetical protein	*	*	*
1561	1911	-	-	NHAL_3971	NOC_A0036	NWAT_3164	hypothetical protein	*	*	*
1562	1600	-	-	NHAL_3972	NOC_A0037	NWAT_3163	hypothetical protein	*	*	*
1563	2706	-	-	NHAL_3975	NOC_A0039		hypothetical protein	*	*	*
1564	2458	-	-	NHAL_3976	NOC_A0040		hypothetical protein	*	*	*
1565	165	-	-	NHAL_3977	NOC_A0041	NWAT_3153	XRE family transcriptional regulator	*	*	*
1566	1746	-	-	NHAL_3987	NOC_A0042	NWAT_3152	Gp157 family protein	*	*	*
1567	1942	-	-	NHAL_3989	NOC_A0001	NWAT_3150	hypothetical protein	*	*	*
1568	1731	-	-	NHAL_3990	NOC_A0002	NWAT_3149	hypothetical protein	*	*	*
1569	1683	-	-	NHAL_3992	NOC_A0003	NWAT_3147	HicB family protein	*	*	*
1570	2658	-	-	NHAL_3994	NOC_A0005		hypothetical protein	*	*	*



1571	1539	-	-	NHAL_3996	NOC_A0006	NWAT_3187	hypothetical protein	*		
1572	2079	-	-	NHAL_3999	NOC_A0008	NWAT_3185	endonuclease/exonuclease/phosphatase	*		
1573	1715	-	-	NHAL_4000	NOC_A0009	NWAT_3184	hypothetical protein	*		
1574	1971	-	-	NHAL_4001	NOC_A0010	NWAT_3183	restriction endonuclease	*		
1575	2694	-	-	-	NOC_A0012	NWAT_3181	hypothetical protein	*		
1576	1940	-	-	NHAL_4004	NOC_A0013	NWAT_3180	cobyrinic acid ac-diamide synthase	*		
1577	1930	-	-	NHAL_4005	NOC_A0014	NWAT_3179	ParB-like partition protein	*		
1578	1079	-	-	NHAL_4007	NOC_A0015	NWAT_3178	integrase family protein	*		
1579	1638	-	-	NHAL_4008	NOC_A0016	NWAT_3177	hypothetical protein	*		
1580	1978	-	-	NHAL_3942	NOC_3070	NWAT_3125	PfkB domain-containing protein	*		
1581	2260	-	-	NHAL_3941	NOC_3069	NWAT_3124	sucrose-phosphate synthase	*		
1582	2272	-	-	NHAL_3940	NOC_3068	NWAT_3123	sucrose synthase	*		
1583	744	transfer origin protein, TraL	TAO_1022	NHAL_0248	NOC_3067	NWAT_3120	transfer origin protein TraL	*	*	*
1584	178	hypothetical conserved protein	TAO_1021	NHAL_0249	NOC_3066	NWAT_3119	hypothetical protein	*	*	*
1585	1268	amino acid permease-associated protein	TAO_0031	NHAL_0043	NOC_3063	NWAT_3116	amino acid permease-associated protein	*	*	*
1586	1571	-	-	NHAL_0045	NOC_3062	NWAT_3115	hypothetical protein	*		
1587	1671	-	-	NHAL_0046	NOC_3061	NWAT_3114	pentapeptide repeat-containing protein	*		
1588	1019	inositol phosphatase/fructose-16-bisphosphatase	TAO_0005	NHAL_0011	NOC_0021	NWAT_0019	inositol phosphatase/fructose-16-bisphosphatase	*	*	*
1589	736	formylmethanofuran dehydrogenase subunit C	TAO_0007	NHAL_0012	NOC_0022	NWAT_0020	formylmethanofuran dehydrogenase subunit C	*	*	*
1590	855	formylmethanofuran--tetrahydropterin formyltransferase	TAO_0008	NHAL_0013	NOC_0023	NWAT_0021	formylmethanofuran--tetrahydropterin formyltransferase	*	*	*
1591	1341	formylmethanofuran dehydrogenase subunit A	TAO_0009	NHAL_0014	NOC_0024	NWAT_0022	formylmethanofuran dehydrogenase subunit A	*	*	*
1592	1116	formylmethanofuran dehydrogenase subunit B	TAO_0010	NHAL_0015	NOC_0025	NWAT_0023	formylmethanofuran dehydrogenase subunit B	*	*	*
1593	212	sporulation domain-containing protein	TAO_0011	NHAL_0017	NOC_0026	NWAT_0024	sporulation domain-containing protein	*	*	*
1594	1342	arginyl-tRNA synthetase	TAO_0012	NHAL_0018	NOC_0027	NWAT_0025	arginyl-tRNA synthetase	*	*	*
1595	1395	primosome assembly protein priA	TAO_0013	NHAL_0019	NOC_0028	NWAT_0026	primosome assembly protein priA	*	*	*
1596	499	DJ-1 family protein	TAO_0014	NHAL_0020	NOC_0029	NWAT_0027	DJ-1 family protein	*	*	*
1597	1159	carboxyl-terminal protease	TAO_0016	NHAL_0021	NOC_0030	NWAT_0028	carboxyl-terminal protease	*	*	*
1598	2194	-	-	NHAL_0023	NOC_0031	NWAT_0029	phosphoglycerate mutase	*		
1599	385	rhodanese-like protein	TAO_0017	NHAL_0024	NOC_0032	NWAT_0030	rhodanese-like protein	*	*	*
1600	203	glutaredoxin GrxC	TAO_0018	NHAL_0025	NOC_0033	NWAT_0031	glutaredoxin GrxC	*	*	*
1601	403	preprotein translocase subunit SecB	TAO_0019	NHAL_0026	NOC_0034	NWAT_0032	preprotein translocase subunit SecB	*	*	*
1602	940	NAD(P)H-dependent glycerol-3-phosphate dehydrogenase	TAO_0020	NHAL_0027	NOC_0035	NWAT_0033	NAD(P)H-dependent glycerol-3-phosphate dehydrogenase	*	*	*
1603	680	hypothetical conserved protein	TAO_0021	NHAL_0028	NOC_0036	NWAT_0034	hypothetical protein	*	*	*
1604	1120	hypothetical conserved protein	TAO_0022	NHAL_0029	NOC_0037	NWAT_0035	hypothetical protein	*	*	*
1605	432	2-amino-4-hydroxy-6-hydroxymethylidihydropteridine pyrophosphokinase	TAO_0023	NHAL_0030	NOC_0038	NWAT_0036	2-amino-4-hydroxy-6-hydroxymethylidihydropteridine pyrophosphokinase	*	*	*
1606	324	dihydroneopterin aldolase	TAO_0024	NHAL_0031	NOC_0039	NWAT_0037	dihydroneopterin aldolase	*	*	*
1607	513	glycerol-3-phosphate acyltransferase	TAO_0025	NHAL_0032	NOC_0040	NWAT_0038	glycerol-3-phosphate acyltransferase	*	*	*
1608	996	UGMP family protein	TAO_0026	NHAL_0033	NOC_0041	NWAT_0039	metalloendopeptidase, glycoprotease family	*	*	*
1609	191	30S ribosomal protein S21	TAO_0027	NHAL_0034	NOC_0042	NWAT_0040	30S ribosomal protein S21	*	*	*
1610	365	Yqey domain containing protein	TAO_0028	NHAL_0035	NOC_0043	NWAT_0041	Yqey domain containing protein	*	*	*
1611	1291	DNA primase	TAO_0029	NHAL_0036	NOC_0044	NWAT_0042	DNA primase	*	*	*
1612	197	twin-arginine translocation protein TatB	TAO_0034	NHAL_0048	NOC_3059	NWAT_3112	twin-arginine translocation protein TatB	*	*	*
1613	160	twin-arginine translocation protein, TatA/E family subunit	TAO_0035	NHAL_0049	NOC_3058	NWAT_3111	twin-arginine translocation protein, TatA/E family subunit	*	*	*
1614	311	histidine triad (HIT) protein	TAO_0036	NHAL_0050	NOC_3057	NWAT_3110	histidine triad protein	*	*	*
1615	280	phosphoribosyl-ATP diphosphatase	TAO_0037	NHAL_0051	NOC_3056	NWAT_3109	phosphoribosyl-ATP diphosphatase	*	*	*
1616	363	phosphoribosyl-AMp cyclohydrolase	TAO_0038	NHAL_0052	NOC_3055	NWAT_3108	phosphoribosyl-AMp cyclohydrolase	*	*	*
1617	792	imidazole glycerol phosphate synthase subunit hisF	TAO_0039	NHAL_0053	NOC_3054	NWAT_3107	imidazole glycerol phosphate synthase subunit hisF	*	*	*
1618	787	phosphoribosylformimino-5-aminoimidazole carboxamide ribotide isomerase	TAO_0040	NHAL_0054	NOC_3053	NWAT_3106	phosphoribosylformimino-5-aminoimidazole carboxamide ribotide isomerase	*	*	*

1619	633	imidazole glycerol phosphate synthase glutamine amidotransferase subunit	TAO_0041	NHAL_0055	NOC_3052	NWAT_3105	imidazole glycerol phosphate synthase, glutamine amidotransferase subunit	*	*	*
1620	579	imidazoleglycerol-phosphate dehydratase	TAO_0042	NHAL_0056	NOC_3051	NWAT_3104	imidazoleglycerol-phosphate dehydratase	*	*	*
1621	2392	-	-	NHAL_0057	-	NWAT_3103	<b>hypothetical protein</b>	*		
1622	232	cytochrome c class I	TAO_0043	NHAL_0058	NOC_3050	NWAT_3102	cytochrome c, class I	*	*	*
1623	281	cytochrome c class I	TAO_0044	NHAL_0059	NOC_3049	NWAT_3101	cytochrome c, class I	*	*	*
1624	319	hypothetical conserved protein	TAO_0045	NHAL_0060	NOC_3048	NWAT_3100	hypothetical protein	*	*	*
1625	843	cytochrome c oxidase subunit II	TAO_0046	NHAL_0061	NOC_3047	NWAT_3099	cytochrome c oxidase, subunit II	*	*	*
1626	1356	cytochrome c oxidase subunit I	TAO_0047	NHAL_0062	NOC_3046	NWAT_3098	cytochrome c oxidase subunit I	*	*	*
1627	412	cytochrome c oxidase assembly protein CtaG/cox11	TAO_0048	NHAL_0063	NOC_3045	NWAT_3096	cytochrome C oxidase assembly protein CtaG/cox11	*	*	*
1628	984	cytochrome c oxidase	TAO_0049	NHAL_0064	NOC_3044	NWAT_3095	cytochrome c oxidase	*	*	*
1629	145	hypothetical conserved protein	TAO_0050	NHAL_0065	NOC_3043	NWAT_3094	hypothetical protein	*	*	*
1630	464	hypothetical conserved protein	TAO_0051	NHAL_0066	NOC_3042	NWAT_3093	hypothetical protein	*	*	*
1631	453	hypothetical conserved protein	TAO_0052	NHAL_0067	NOC_3041	NWAT_3092	hypothetical protein	*	*	*
1632	1030	cytochrome oxidase assembly	TAO_0053	NHAL_0068	NOC_3040	NWAT_3091	cytochrome oxidase assembly	*	*	*
1633	1008	protoheme IX farnesyltransferase	TAO_0054	NHAL_0069	NOC_3039	NWAT_3090	protoheme IX farnesyltransferase	*	*	*
1634	1297	integral membrane protein MviN	TAO_0055	NHAL_0070	NOC_3038	NWAT_3089	integral membrane protein MviN	*	*	*
1635	180	30S ribosomal protein S20	TAO_0056	NHAL_0071	NOC_3037	NWAT_3088	30S ribosomal protein S20	*	*	*
1636	1018	glutamate 5-kinase	TAO_0057	NHAL_0072	NOC_3036	NWAT_3087	glutamate 5-kinase	*	*	*
1637	995	GTP-binding protein Obg/CgtA	TAO_0058	NHAL_0073	NOC_3035	NWAT_3086	GTP-binding protein Obg/CgtA	*	*	*
1638	220	50S ribosomal protein L27	TAO_0059	NHAL_0074	NOC_3034	NWAT_3085	50S ribosomal protein L27	*	*	*
1639	289	50S ribosomal protein L21	TAO_0060	NHAL_0075	NOC_3033	NWAT_3084	50S ribosomal protein L21	*	*	*
1640	929	octaprenyl diphosphate synthase	TAO_0061	NHAL_0076	NOC_3032	NWAT_3083	trans-hexaprenyltransferase	*	*	*
1641	443	single-stranded DNA-binding protein	TAO_1654	NHAL_3825	NOC_3023	NWAT_3081	single-strand binding protein	*	*	*
1642	1276	major facilitator superfamily protein	TAO_1653	NHAL_3824	NOC_3022	NWAT_3080	major facilitator superfamily protein	*	*	*
1643	1438	excinuclease ABC subunit A	TAO_1652	NHAL_3823	NOC_3021	NWAT_3078	excinuclease ABC subunit A	*	*	*
1644	1229	potassium transporter peripheral membrane protein	TAO_1649	NHAL_3822	NOC_3020	NWAT_3077	potassium transporter peripheral membrane protein	*	*	*
1645	2098	-	-	NHAL_3821	NOC_3019	NWAT_3076	<b>Fis family two component sigma54 specific transcriptional regulator</b>	*		
1646	2252	-	-	NHAL_3820	NOC_3018	NWAT_3075	<b>integral membrane sensor signal transduction histidine kinase</b>	*		
1647	1824	-	-	NHAL_3819	NOC_3017	NWAT_3074	<b>hypothetical protein</b>	*		
1648	1182	rRNA SAM-dependent methyltransferase	TAO_1648	NHAL_3818	NOC_3016	NWAT_3073	RRNA SAM-dependent methyltransferase	*	*	*
1649	854	methionyl-tRNA formyltransferase	TAO_1647	NHAL_3817	NOC_3015	NWAT_3072	methionyl-tRNA formyltransferase	*	*	*
1650	482	peptide deformylase	TAO_1646	NHAL_3816	NOC_3014	NWAT_3071	peptide deformylase	*	*	*
1651	611	peptidoglycan-binding LysM protein	TAO_1645	NHAL_3815	NOC_3013	NWAT_3070	peptidoglycan-binding LysM protein	*	*	*
1652	1055	DNA protecting protein DprA	TAO_1644	NHAL_3814	NOC_3012	NWAT_3069	DNA protecting protein DprA	*	*	*
1653	515	hypothetical conserved protein	TAO_1643	NHAL_3813	NOC_3011	NWAT_3068	hypothetical protein	*	*	*
1654	1423	DNA topoisomerase I	TAO_1642	NHAL_3812	NOC_3010	NWAT_3067	DNA topoisomerase I	*	*	*
1655	448	phosphoribosylaminoimidazole carboxylase, catalytic subunit	TAO_1641	NHAL_3811	NOC_3009	NWAT_3066	phosphoribosylaminoimidazole carboxylase catalytic subunit	*	*	*
1656	1118	uroporphyrinogen decarboxylase	TAO_1639	NHAL_3810	NOC_3008	NWAT_3065	uroporphyrinogen decarboxylase	*	*	*
1657	1710	-	-	NHAL_3788	NOC_3007	NWAT_3064	<b>hypothetical protein</b>	*		
1658	467	hypothetical conserved protein	TAO_0080	NHAL_3789	NOC_3006	NWAT_3063	hypothetical protein	*	*	*
1659	1043	twitching motility protein pilT	TAO_0077	NHAL_3792	NOC_3004	NWAT_3060	twitching motility protein pilT	*	*	*
1660	642	alanine racemase domain-containing protein	TAO_0076	NHAL_3793	NOC_3003	NWAT_3059	alanine racemase domain-containing protein	*	*	*
1661	708	pyrroline-5-carboxylate reductase	TAO_0075	NHAL_3794	NOC_3002	NWAT_3058	pyrroline-5-carboxylate reductase	*	*	*
1662	485	hypothetical conserved protein	TAO_0074	NHAL_3795	NOC_3001	NWAT_3057	hypothetical protein	*	*	*
1663	205	hypothetical conserved protein	TAO_0073	NHAL_3796	NOC_3000	NWAT_3056	hypothetical protein	*	*	*
1664	1144	major facilitator family transporter	TAO_0072	NHAL_3797	NOC_2999	NWAT_3055	major facilitator superfamily protein	*	*	*
1665	582	orotate phosphoribosyltransferase	TAO_0069	NHAL_3798	NOC_2998	NWAT_3054	orotate phosphoribosyltransferase	*	*	*
1666	838	sulfite exporter TauE/SafE-like protein	TAO_0068	NHAL_3799	NOC_2997	NWAT_3053	sulfite exporter TauE/SafE-like protein	*	*	*
1667	1802	-	-	NHAL_3800	NOC_2996	NWAT_3052	<b>hypothetical protein</b>	*		

1668	882	acetylglutamate kinase	TAO_0067	NHAL_3801	NOC_2995	NWAT_3051	acetylglutamate kinase	*	*	*
1669	1259	phosphomannomutase	TAO_0066	NHAL_3802	NOC_2994	NWAT_3050	phosphomannomutase	*	*	*
1670	436	deoxyuridine 5'-triphosphate nucleotidohydrolase Dut	TAO_0065	NHAL_3803	NOC_2993	NWAT_3049	deoxyuridine 5'-triphosphate nucleotidohydrolase Dut	*	*	*
1671	1048	phosphopantothenoylcysteine decarboxylase/phosphopantothenate/cysteine ligase	TAO_0064	NHAL_3804	NOC_2992	NWAT_3048	phosphopantothenoylcysteine decarboxylase/phosphopantothenate/cysteine ligase	*	*	*
1672	442	hypothetical conserved protein	TAO_0063	NHAL_3807	NOC_2991	NWAT_3047	hypothetical protein	*	*	*
1673	1938	-	-	NHAL_3805	NOC_2989	NWAT_3044	heat shock protein DnaJ domain-containing protein	*	*	*
1674	1192	lytic transglycosylase	TAO_0197	NHAL_0363	NOC_2988	NWAT_3043	lytic transglycosylase	*	*	*
1675	454	-	-	NHAL_0364	NOC_2987	NWAT_3042	polyketide cyclase/dehydrase	*	*	*
1676	1756	-	-	NHAL_0365	NOC_2986	NWAT_3041	putative PAS/PAC sensor protein	*	*	*
1677	1855	-	-	NHAL_0366	NOC_2985	NWAT_3040	hypothetical protein	*	*	*
1678	1868	-	-	NHAL_0367	NOC_2984	NWAT_3039	hypothetical protein	*	*	*
1679	950	pyridoxal-dependent decarboxylase	TAO_0198	NHAL_0369	NOC_2983	NWAT_3038	pyridoxal-dependent decarboxylase	*	*	*
1680	1814	-	-	NHAL_0370	NOC_2982	NWAT_3037	CDP-alcohol phosphatidyltransferase	*	*	*
1681	2089	-	-	NHAL_0372	NOC_2981	NWAT_3036	Myo-inositol-1-phosphate synthase	*	*	*
1682	2074	-	-	NHAL_0373	NOC_2980	NWAT_3035	oxidoreductase	*	*	*
1683	2228	-	-	NHAL_0374	NOC_2979	NWAT_3034	PAS sensor, serine phosphatase RsbU regulator of sigma subunit	*	*	*
1684	2293	-	-	NHAL_0405	NOC_2978	NWAT_3033	NAD-glutamate dehydrogenase	*	*	*
1685	1739	-	-	NHAL_0406	NOC_2977	NWAT_3032	putative anti-sigma regulatory factor	*	*	*
1686	1626	-	-	NHAL_0407	NOC_2976	NWAT_3031	anti-sigma factor antagonist	*	*	*
1687	2134	-	-	NHAL_0408	NOC_2975	NWAT_3030	single-stranded nucleic acid binding R3H domain-containing protein	*	*	*
1688	1712	-	-	NHAL_0409	NOC_2974	NWAT_3029	DoxX family protein	*	*	*
1689	2137	-	-	NHAL_0414	NOC_2973	NWAT_3028	hypothetical protein	*	*	*
1690	1783	-	-	NHAL_0415	NOC_2972	NWAT_3027	FMN-binding domain-containing protein	*	*	*
1691	488	cytochrome c oxidase subunit II	TAO_0314	NHAL_0417	NOC_2971	NWAT_3026	cytochrome c oxidase subunit II	*	*	*
1692	1306	cytochrome c oxidase subunit I	TAO_0315	NHAL_0418	NOC_2970	NWAT_3025	cytochrome c oxidase subunit I	*	*	*
1693	605	electron transport protein SCO1/SenC	TAO_0316	NHAL_0419	NOC_2969	NWAT_3024	electron transport protein SCO1/SenC	*	*	*
1694	631	transmembrane protein	TAO_0317	NHAL_0420	NOC_2968	NWAT_3023	transmembrane protein	*	*	*
1695	414	Rrf2 family transcriptional regulator	TAO_0318	NHAL_0421	NOC_2967	NWAT_3022	BadM/Rrf2 family transcriptional regulator	*	*	*
1696	199	histone family protein DNA-binding protein	TAO_0319	NHAL_0424	NOC_2966	NWAT_3021	histone family protein DNA-binding protein	*	*	*
1697	2623	-	-	-	NOC_2965	NWAT_3020	hypothetical protein	*	*	*
1698	2064	-	-	NHAL_0361	NOC_2964	NWAT_3019	ATPase AAA	*	*	*
1699	2099	-	-	NHAL_0360	NOC_2963	NWAT_3018	hypothetical protein	*	*	*
1700	932	tRNA-dihydrouridine synthase A	TAO_0195	NHAL_0359	NOC_2960	NWAT_3016	tRNA-dihydrouridine synthase A	*	*	*
1701	2508	-	-	-	NOC_2888	NWAT_0202	hypothetical protein	*	*	*
1702	2820	-	-	-	NOC_2887	NWAT_0203	hypothetical protein	*	*	*
1703	2507	-	-	-	NOC_2886	NWAT_0204	transmembrane prediction	*	*	*
1704	2452	-	-	-	NOC_2885	NWAT_0205	metallothionein family 14	*	*	*
1705	2807	-	-	-	NOC_2884	NWAT_0206	urea transporter	*	*	*
1706	1904	urease accessory protein UreD	TAO_0780	-	NOC_2883	NWAT_0207	urease accessory protein UreD	*	*	*
1707	1631	urease subunit gamma	TAO_0781	-	NOC_2882	NWAT_0208	urease subunit gamma	*	*	*
1708	1614	urease subunit beta	TAO_0782	-	NOC_2881	NWAT_0209	urease subunit beta	*	*	*
1709	2201	urease subunit alpha	TAO_0783	-	NOC_2880	NWAT_0210	urease subunit alpha	*	*	*
1710	1743	urease accessory protein UreE	TAO_0784	-	NOC_2879	NWAT_0211	UreE urease accessory domain-containing protein	*	*	*
1711	1849	urease accessory protein UreF	TAO_0785	-	NOC_2878	NWAT_0212	urease accessory protein UreF	*	*	*
1712	110	urease accessory protein UreG	TAO_0786	NHAL_1356	NOC_2877	NWAT_0213	urease accessory protein UreG	*	*	*
1713	1772	HupE/UreJ protein	TAO_0787	-	NOC_2876	NWAT_0214	HupE/UreJ protein	*	*	*
1714	2055	hypothetical conserved protein	TAO_0788	-	NOC_2875	NWAT_0215	hypothetical conserved protein	*	*	*
1715	1961	-	-	NHAL_0480	NOC_2871	NWAT_0217	cation diffusion facilitator family transporter	*	*	*
1716	1749	-	-	NHAL_0481	NOC_2870	NWAT_0218	MraZ protein	*	*	*

1717	844	S-adenosyl-methyltransferase MraW	TAO_0218	NHAL_0482	NOC_2869	NWAT_0219	S-adenosyl-methyltransferase MraW	*	*	*
1718	226	cell division protein FtsI	TAO_0219	NHAL_0483	NOC_2868	NWAT_0220	cell division protein FtsI	*	*	*
1719	1328	cell division protein FtsI/penicillin-binding protein	TAO_0220	NHAL_0484	NOC_2867	NWAT_0221	peptidoglycan glycosyltransferase	*	*	*
1720	1209	UDP-N-acetylmuramyl tripeptide synthetase	TAO_0221	NHAL_0485	NOC_2866	NWAT_0222	UDP-N-acetylmuramyl-tripeptide synthetase	*	*	*
1721	1102	UDP-N-acetylmuramoylalananyl-D-glutamyl-2,6-diaminopimelate/D-alanyl-D-alanyl ligase	TAO_0222	NHAL_0486	NOC_2865	NWAT_0223	UDP-N-acetylmuramoylalananyl-D-glutamyl-2, 6-diaminopimelate/D-alanyl-D-alanyl ligase	*	*	*
1722	1153	phospho-N-acetylmuramoyl-pentapeptide-transferase	TAO_0223	NHAL_0487	NOC_2864	NWAT_0224	phospho-N-acetylmuramoyl-pentapeptide- transferase	*	*	*
1723	1146	UDP-N-acetylmuramoylalanine/D-glutamate ligase	TAO_0224	NHAL_0488	NOC_2863	NWAT_0225	UDP-N-acetylmuramoylalanine/D-glutamate ligase	*	*	*
1724	1150	cell division protein FtsW	TAO_0225	NHAL_0489	NOC_2862	NWAT_0226	cell division protein FtsW	*	*	*
1725	959	UDP-N-acetylglucosamine--N-acetylmuramyl-(pentapeptide) pyrophosphoryl-undecaprenol N-acetylglucosamine transferase	TAO_0226	NHAL_0490	NOC_2861	NWAT_0227	UDP-N-acetylglucosamine--N-acetylmuramyl- pyrophosphoryl-undecaprenol N-acetylglucosamine transferase	*	*	*
1726	1210	UDP-N-acetylmuramate--L-alanine ligase	TAO_0227	NHAL_0491	NOC_2860	NWAT_0228	UDP-N-acetylmuramate--L-alanine ligase	*	*	*
1727	841	UDP-N-acetylenolpyruvoylglucosamine reductase	TAO_0228	NHAL_0492	NOC_2859	NWAT_0229	UDP-N-acetylenolpyruvoylglucosamine reductase	*	*	*
1728	864	D-alanine--D-alanine ligase	TAO_0229	NHAL_0493	NOC_2858	NWAT_0230	D-alanine--D-alanine ligase	*	*	*
1729	699	cell division protein FtsQ	TAO_0230	NHAL_0494	NOC_2857	NWAT_0231	cell division protein FtsQ	*	*	*
1730	1169	cell division protein FtsA	TAO_0231	NHAL_0495	NOC_2856	NWAT_0232	cell division protein FtsA	*	*	*
1731	1086	cell division protein FtsZ	TAO_0232	NHAL_0496	NOC_2855	NWAT_0233	cell division protein FtsZ	*	*	*
1732	976	UDP-3-0-acyl N-acetylglucosamine deacetylase	TAO_0233	NHAL_0497	NOC_2854	NWAT_0234	UDP-3-0-acyl N-acetylglucosamine deacetylase	*	*	*
1733	235	hypothetical conserved protein	TAO_0234	NHAL_0498	NOC_2853	NWAT_0235	hypothetical protein	*	*	*
1734	722	peptidase M23	TAO_0235	NHAL_0499	NOC_2852	NWAT_0236	peptidase M23	*	*	*
1735	1445	preprotein translocase subunit SecA	TAO_0236	NHAL_0500	NOC_2851	NWAT_0237	preprotein translocase subunit SecA	*	*	*
1736	1064	arginine biosynthesis bifunctional protein ArgJ	TAO_0238	NHAL_0502	NOC_2850	NWAT_0238	arginine biosynthesis bifunctional protein argJ	*	*	*
1737	278	rieske (2Fe-2S) domain-containing protein	TAO_0240	NHAL_0503	NOC_2849	NWAT_0239	rieske domain-containing protein	*	*	*
1738	799	ketohexokinase	TAO_0241	NHAL_0504	NOC_2848	NWAT_0240	PfkB domain-containing protein	*	*	*
1739	615	adenylate kinase	TAO_0242	NHAL_0505	NOC_2847	NWAT_0241	adenylate kinase	*	*	*
1740	1199	6-phosphofructokinase	TAO_0243	NHAL_0506	NOC_2846	NWAT_0242	6-phosphofructokinase	*	*	*
1741	898	peptidase S49, SppA	TAO_0244	NHAL_0507	NOC_2845	NWAT_0243	signal peptide peptidase SppA, 36K type	*	*	*
1742	876	23S rRNA pseudouridylate synthase C	TAO_0245	NHAL_0508	NOC_2844	NWAT_0244	pseudouridine synthase	*	*	*
1743	1338	Rne/Rng family ribonuclease	TAO_0246	NHAL_3417	NOC_2843	NWAT_0245	Rne/Rng family ribonuclease	*	*	*
1744	1788	-	-	NHAL_3416	NOC_2842	NWAT_0246	<b>protein-tyrosine phosphatase, low molecular weight</b>	*	*	*
1745	1597	-	-	NHAL_3415	NOC_2841	NWAT_0247	<b>hypothetical protein</b>	*	*	*
1746	1974	-	-	NHAL_3413	NOC_2839	NWAT_0249	<b>hypothetical protein</b>	*	*	*
1747	2664	-	-	-	NOC_2838	NWAT_0250	<b>nitroreductase</b>	*	*	*
1748	368	30S ribosomal protein S9	TAO_0360	NHAL_3475	NOC_2837	NWAT_0251	30S ribosomal protein S9	*	*	*
1749	422	50S ribosomal protein L13	TAO_0361	NHAL_3474	NOC_2836	NWAT_0252	50S ribosomal protein L13	*	*	*
1750	802	undecaprenyl pyrophosphate phosphatase	TAO_0362	NHAL_3473	NOC_2835	NWAT_0253	undecaprenyl pyrophosphate phosphatase	*	*	*
1751	1973	-	-	NHAL_3472	NOC_2834	NWAT_0254	<b>hypothetical protein</b>	*	*	*
1752	840	multidrug ABC transporter permease	TAO_0363	NHAL_3471	NOC_2833	NWAT_0255	ABC transporter permease	*	*	*
1753	953	ABC transporter	TAO_0364	NHAL_3470	NOC_2832	NWAT_0256	ABC transporter	*	*	*
1754	647	DNA mismatch repair endonuclease mutH	TAO_0365	NHAL_3469	NOC_2831	NWAT_0257	DNA mismatch repair endonuclease mutH	*	*	*
1755	295	hypothetical conserved protein	TAO_0367	NHAL_3468	NOC_2830	NWAT_0258	hypothetical protein	*	*	*
1756	1396	phosphomethylpyrimidine synthase thiC	TAO_0370	NHAL_3467	NOC_2828	NWAT_0260	thiamine biosynthesis protein thiC	*	*	*
1757	1181	phosphoribosylamine/glycine ligase	TAO_0371	NHAL_3466	NOC_2827	NWAT_0261	phosphoribosylamine--glycine ligase	*	*	*
1758	986	phosphoribulokinase	TAO_0372	NHAL_3465	NOC_2826	NWAT_0262	phosphoribulokinase	*	*	*
1759	477	SUA5/yciO/yrdC domain-containing protein	TAO_0373	NHAL_3464	NOC_2825	NWAT_0263	SUA5/yciO/yrdC domain-containing protein	*	*	*
1760	1065	coproporphyrinogen III oxidase	TAO_0374	NHAL_3463	NOC_2824	NWAT_0264	coproporphyrinogen III oxidase	*	*	*
1761	428	TrmH family RNA methyltransferase	TAO_0375	NHAL_3462	NOC_2823	NWAT_0265	TrmH family RNA methyltransferase	*	*	*
1762	998	dihydroorotate dehydrogenase	TAO_0376	NHAL_3461	NOC_2822	NWAT_0266	dihydroorotate dehydrogenase	*	*	*
1763	2053	-	-	NHAL_3460	NOC_2821	NWAT_0267	<b>membrane-bound metal-dependent hydrolase</b>	*	*	*
1764	1840	-	-	NHAL_3459	NOC_2820	NWAT_0268	<b>putative tetR family transcriptional regulator</b>	*	*	*
1765	2826	-	-	-	NOC_2819	NWAT_0269	<b>hypothetical protein</b>	*	*	*

1766	1902	SAM-dependent methyltransferase	TAO_1101	NOC_2818	NWAT_0270	SAM-dependent methyltransferase	*		
1767	1880	S-isoprenylcysteine methyltransferase-like protein	TAO_1100	NOC_2817	NWAT_0271	S-isoprenylcysteine methyltransferase-like protein	*		
1768	737	methyltransferase type 11	TAO_0377	NHAL_3458	NOC_2816	NWAT_0272	methyltransferase type 11	*	*
1769	407	ribonuclease H	TAO_0378	NHAL_3457	NOC_2815	NWAT_0273	ribonuclease H	*	*
1770	557	DNA polymerase III subunit epsilon	TAO_0379	NHAL_3456	NOC_2814	NWAT_0274	DNA polymerase III subunit epsilon	*	*
1771	1021	heat-inducible transcription repressor HrcA	TAO_0380	NHAL_3455	NOC_2813	NWAT_0275	heat-inducible transcription repressor HrcA	*	*
1772	501	GrpE protein HSP-70 cofactor	TAO_0381	NHAL_3454	NOC_2812	NWAT_0276	GrpE protein HSP-70 cofactor	*	*
1773	1378	molecular chaperone DnaK	TAO_0382	NHAL_3453	NOC_2811	NWAT_0277	molecular chaperone DnaK	*	*
1774	1165	molecular chaperone DnaJ	TAO_0383	NHAL_3452	NOC_2810	NWAT_0278	molecular chaperone DnaJ	*	*
1775	712	dihydrodipicolinate reductase	TAO_0384	NHAL_3451	NOC_2809	NWAT_0279	dihydrodipicolinate reductase	*	*
1776	1397	transketolase	TAO_0385	NHAL_3450	NOC_2808	NWAT_0280	transketolase	*	*
1777	1045	glyceraldehyde-3-phosphate dehydrogenase	TAO_0386	NHAL_3449	NOC_2807	NWAT_0281	glyceraldehyde-3-phosphate dehydrogenase	*	*
1778	1134	phosphoglycerate kinase	TAO_0387	NHAL_3448	NOC_2806	NWAT_0282	phosphoglycerate kinase	*	*
1779	1271	pyruvate kinase	TAO_0388	NHAL_3447	NOC_2805	NWAT_0283	pyruvate kinase	*	*
1780	1115	fructose-bisphosphate aldolase class II	TAO_0389	NHAL_3446	NOC_2804	NWAT_0284	fructose-bisphosphate aldolase class II	*	*
1781	907	major facilitator superfamily nucleoside/H(+) symporter	TAO_1632	NHAL_0322	NOC_2803	NWAT_0285	major facilitator superfamily nucleoside/H(+) symporter	*	*
1782	2006	-	-	NHAL_0324	NOC_2802	NWAT_0286	<b>malate dehydrogenase, NAD-dependent</b>	*	
1783	2125	-	-	NHAL_0326	NOC_2801	NWAT_0287	<b>divalent cation transporter</b>	*	
1784	1330	phosphoenolpyruvate-protein phosphotransferase	TAO_1629	NHAL_0327	NOC_2800	NWAT_0288	phosphoenolpyruvate-protein phosphotransferase	*	*
1785	196	phosphocarrier protein Hpr	TAO_1628	NHAL_0328	NOC_2799	NWAT_0289	system, phosphocarrier protein Hpr	*	*
1786	333	PTS system fructose subfamily IIA component	TAO_1627	NHAL_0329	NOC_2798	NWAT_0290	PTS system fructose subfamily transporter subunit IIA	*	*
1787	897	glmZ(sRNA)-inactivating NTPase	TAO_1626	NHAL_0330	NOC_2797	NWAT_0291	GlmZ(sRNA)-inactivating NTPase	*	*
1788	450	Hpr serine kinase domain-containing protein	TAO_1625	NHAL_0331	NOC_2796	NWAT_0292	Hpr serine kinase domain-containing protein	*	*
1789	373	PTS IIA-like nitrogen-regulatory protein PtsN	TAO_1624	NHAL_0332	NOC_2795	NWAT_0293	putative PTS IIA-like nitrogen-regulatory protein PtsN	*	*
1790	262	ribosomal subunit interface protein	TAO_1623	NHAL_0333	NOC_2794	NWAT_0294	ribosomal subunit interface protein	*	*
1791	1152	RNA polymerase sigma 54 subunit RpoN	TAO_1622	NHAL_0334	NOC_2793	NWAT_0295	RNA polymerase sigma 54 subunit RpoN	*	*
1792	776	ABC transporter ATP-binding protein	TAO_1621	NHAL_0335	NOC_2792	NWAT_0296	ABC transporter protein	*	*
1793	608	lipopolysaccharide transport periplasmic protein LptA	TAO_1620	NHAL_0336	NOC_2791	NWAT_0297	lipopolysaccharide transport periplasmic protein LptA	*	*
1794	378	hypothetical conserved protein	TAO_1619	NHAL_0337	NOC_2790	NWAT_0298	hypothetical protein	*	*
1795	506	3-deoxy-D-manno-octulosonate 8-phosphate phosphatase	TAO_1618	NHAL_0338	NOC_2789	NWAT_0299	3-deoxy-D-manno-octulosonate 8-phosphate phosphatase	*	*
1796	963	sugar phosphate isomerase	TAO_1617	NHAL_0339	NOC_2788	NWAT_0300	sugar phosphate isomerase	*	*
1797	622	VacJ family lipoprotein	TAO_1616	NHAL_0340	NOC_2787	NWAT_0301	VacJ family lipoprotein	*	*
1798	842	ABC transporter ATP-binding protein YrbF	TAO_1615	NHAL_0341	NOC_2786	NWAT_0302	ABC transporter protein	*	*
1799	814	ABC transporter permease	TAO_1614	NHAL_0342	NOC_2785	NWAT_0303	ABC transporter permease	*	*
1800	402	ABC transporter substrate-binding protein	TAO_1613	NHAL_0343	NOC_2784	NWAT_0304	ABC-type transport system involved in resistance to organic solvents periplasmic component	*	*
1801	90	toluene tolerance protein	TAO_1612	NHAL_0344	NOC_2782	NWAT_0306	toluene tolerance protein	*	*
1802	190	sulfate transporter/antisigma-factor antagonist STAS	TAO_1611	NHAL_0345	NOC_2783	NWAT_0305	sulfate transporter/antisigma-factor antagonist STAS	*	*
1803	176	BolA family protein	TAO_1610	NHAL_0348	NOC_2781	NWAT_0307	BolA family protein	*	*
1804	1204	UDP-N-acetylglucosamine 1-carboxyvinyltransferase	TAO_1609	NHAL_0349	NOC_2780	NWAT_0308	UDP-N-acetylglucosamine 1-carboxyvinyltransferase	*	*
1805	630	ATP phosphoribosyltransferase	TAO_1608	NHAL_0350	NOC_2779	NWAT_0309	ATP phosphoribosyltransferase	*	*
1806	1198	histidinol dehydrogenase	TAO_1607	NHAL_0351	NOC_2778	NWAT_0310	histidinol dehydrogenase	*	*
1807	1026	histidinol-phosphate aminotransferase	TAO_1606	NHAL_0352	NOC_2777	NWAT_0311	histidinol-phosphate aminotransferase	*	*
1808	1949	-	-	NHAL_0142	NOC_2776	NWAT_0312	<b>NAD-dependent epimerase/dehydratase</b>	*	
1809	2214	-	-	NHAL_0146	NOC_2774	NWAT_0314	<b>nitrilase/cyanide hydratase and apolipoprotein N-acyltransferase</b>	*	
1810	1319	ABC transporter ATP-binding protein	TAO_0107	NHAL_0149	NOC_2773	NWAT_0315	ABC transporter protein	*	*
1811	1163	ABC transporter permease	TAO_0108	NHAL_0150	NOC_2772	NWAT_0316	binding-protein-dependent transport system inner membrane protein	*	*
1812	1245	ABC transporter permease	TAO_0109	NHAL_0151	NOC_2771	NWAT_0317	binding-protein-dependent transport system inner membrane protein	*	*
1813	1365	ABC transporter substrate-binding protein	TAO_0110	NHAL_0152	NOC_2770	NWAT_0318	extracellular solute-binding protein	*	*
1814	239	RNP-1 like RNA-binding protein	TAO_0111	NHAL_0153	NOC_2769	NWAT_0327	RNP-1 like RNA-binding protein	*	*
1815	2305	-	-	NHAL_0155(1)	NOC_2740		<b>ATP-dependent endonuclease of the OLD family-like protein</b>	*	

1816	1716	-	-	NOC_2920	NWAT_3009	hypothetical protein	*		
1817	2463	-	-	NOC_2919	NWAT_3007	hypothetical protein	*		
1818	2867	-	-	NOC_2916	NWAT_3005	aldehyde dehydrogenase	*		
1819	2592	-	-	NOC_2915	NWAT_3004	hypothetical protein	*		
1820	2200	-	-	NHAL_0093	NWAT_3001	hypothetical protein	*		
1821	1613	-	-	NHAL_3409	NWAT_2999	hypothetical protein	*		
1822	130	-	-	NHAL_3000	NWAT_2995	hypothetical protein	*		
1823	1623	-	-	NHAL_2355	NWAT_2993	nucleotidyltransferase substrate binding protein	*		
1824	1796	-	-	NHAL_3141	NWAT_2989	hypothetical protein	*		
1825	1781	-	-	NHAL_3140	NWAT_2988	electron transport protein SCO1/SenC	*		
1826	2147	-	-	NHAL_3139	NWAT_2987	hypothetical protein	*		
1827	1414	ribonuclease R	TAO_0324	NHAL_0436	NWAT_2986	ribonuclease R	*	*	*
1828	835	phosphatidylserine decarboxylase	TAO_0325	NHAL_0438	NWAT_2984	phosphatidylserine decarboxylase	*	*	*
1829	1339	general secretory pathway protein E	TAO_0326	NHAL_0439	NWAT_2983	general secretory pathway protein E	*	*	*
1830	1173	type II secretion system protein	TAO_0327	NHAL_0440	NWAT_2982	type II secretion system F protein	*	*	*
1831	439	general secretion pathway protein G	TAO_0328	NHAL_0441	NWAT_2981	general secretion pathway protein G	*	*	*
1832	350	general secretion pathway protein H	TAO_0329	NHAL_0442	NWAT_2980	general secretion pathway protein H	*	*	*
1833	221	general secretion pathway protein H	TAO_0330	NHAL_0443	NWAT_2979	general secretion pathway protein H	*	*	*
1834	2035	-	-	NHAL_0444	NWAT_2978	hypothetical protein	*		
1835	2080	-	-	NHAL_0445	NWAT_2977	group 1 glycosyl transferase	*		
1836	2152	-	-	NHAL_0584	NWAT_2403	TRAP dicarboxylate transporter subunit DctM	*		
1837	1819	-	-	NHAL_0585	NWAT_2402	tripartite ATP-independent periplasmic transporter DctQ component	*		
1838	358	D-tyrosyl-tRNA( Tyr) deacylase	TAO_0568	NHAL_0586	NWAT_2401	D-tyrosyl-tRNA( Tyr) deacylase	*	*	*
1839	918	proline iminopeptidase	TAO_0569	NHAL_0587	NWAT_2400	proline iminopeptidase	*	*	*
1840	1044	succinyl-coA synthetase subunit beta	TAO_0570	NHAL_0588	NWAT_2399	succinyl-coA synthetase subunit beta	*	*	*
1841	908	succinyl-coA synthetase subunit alpha	TAO_0571	NHAL_0589	NWAT_2398	succinyl-coA synthetase subunit alpha	*	*	*
1842	341	nitrogen regulatory protein P-II	TAO_0572	NHAL_0590	NWAT_2397	nitrogen regulatory protein P-II	*	*	*
1843	742	outer membrane assembly lipoprotein YfiO	TAO_0573	NHAL_0591	NWAT_2396	outer membrane assembly lipoprotein YfiO	*	*	*
1844	135	hypothetical conserved protein (divided, N-term side)	TAO_0574	NHAL_0592	NWAT_2395	ErfK/YbiS/YcfS/YnhG family protein	*	*	*
1845	140	lipoprotein	TAO_0575	NHAL_0593	NWAT_2394	lipoprotein	*	*	*
1846	820	inositol monophosphatase	TAO_0576	NHAL_0594	NWAT_2393	inositol monophosphatase	*	*	*
1847	1384	GTP-binding protein typA	TAO_0577	NHAL_0595	NWAT_2392	GTP-binding protein typA	*	*	*
1848	151	hypothetical conserved protein	TAO_0578	NHAL_0596	NWAT_2391	hypothetical protein	*	*	*
1849	1023	UDP-3-O-(3-hydroxymyristoyl) glucosamine N-acyltransferase	TAO_0347	NHAL_3519	NWAT_2888	UDP-3-O-(3-hydroxymyristoyl) glucosamine N-acyltransferase	*	*	*
1850	474	hypothetical conserved protein	TAO_0346	NHAL_3520	NWAT_2891	hypothetical protein	*	*	*
1851	2822	-	-	NOC_0227	NWAT_2894(1)	PAS/PAC sensor(s)-containing diguanylate cyclase/phosphodiesterase	*		
1852	2874	-	-	NOC_0226	NWAT_2894(2)	PAS/PAC sensor(s)-containing diguanylate cyclase/phosphodiesterase	*		
1853	1237	DNA repair protein radA	TAO_0345	NHAL_3524	NWAT_2895	DNA repair protein radA	*	*	*
1854	956	alanine racemase	TAO_0344	NHAL_3525	NWAT_2896	alanine racemase	*	*	*
1855	1266	replicative DNA helicase	TAO_0343	NHAL_3526	NWAT_2897	replicative DNA helicase	*	*	*
1856	372	50S ribosomal protein L9	TAO_0342	NHAL_3527	NWAT_2898	50S ribosomal protein L9	*	*	*
1857	234	30S ribosomal protein S18	TAO_0341	NHAL_3528	NWAT_2899	30S ribosomal protein S18	*	*	*
1858	346	30S ribosomal protein S6	TAO_0340	NHAL_3529	NWAT_2900	30S ribosomal protein S6	*	*	*
1859	665	RNA methyltransferase TrmH	TAO_0339	NHAL_3530	NWAT_2901	TrmH family RNA methyltransferase	*	*	*
1860	2258	-	-	NHAL_3534	NWAT_2902	$\alpha$ -amylase catalytic subunit	*		
1861	612	endonuclease V	TAO_0337	NHAL_3538	NWAT_2903	deoxyribonuclease V	*	*	*
1862	184	glutaredoxin	TAO_0336	NHAL_3540	NWAT_2904	glutaredoxin	*	*	*
1863	170	hypothetical conserved protein	TAO_0511	NHAL_0462	NWAT_2905	hypothetical protein	*	*	*
1864	181	type IV pilus assembly pilZ	TAO_0510	NHAL_0461	NWAT_2906	type IV pilus assembly pilZ	*	*	*
1865	1871	-	-	NHAL_0460	NWAT_2907	CDP-alcohol phosphatidyltransferase	*		

1866	1346	<b>3-polyprenyl-4-hydroxybenzoate decarboxylase</b>	TAO_0509	NHAL_0458	NOC_0211	NWAT_2908	3-polyprenyl-4-hydroxybenzoate decarboxylase	*	*	*
1867	751	<b>hypothetical conserved protein</b>	TAO_0508	NHAL_0457	NOC_0210	NWAT_2909	hypothetical protein	*	*	*
1868	772	<b>exodeoxyribonuclease III</b>	TAO_0506	NHAL_0456	NOC_0209	NWAT_2910	exodeoxyribonuclease III	*	*	*
1869	2253	-	-	NHAL_0455	NOC_0208	NWAT_2911	<b>oligopeptidase A</b>	*		
1870	2239	-	-	NHAL_0454	NOC_0207	NWAT_2912	<b>putative PAS/PAC sensor protein</b>	*		
1871	1641	-	-	NHAL_1223	NOC_0206	NWAT_2913	<b>stage II sporulation E family protein</b>	*		
1872	1399	<b>heavy metal translocating P-type ATPase</b>	TAO_0089	NHAL_0168	NOC_0205	NWAT_2914	heavy metal translocating P-type ATPase	*	*	*
1873	162	<b>heavy metal transport/detoxification protein</b>	TAO_0088	NHAL_0167	NOC_0204	NWAT_2915	heavy metal transport/detoxification protein	*	*	*
1874	1670	-	-	NHAL_0166	NOC_0203	NWAT_2916	<b>Cu(I)-responsive transcriptional regulator</b>	*		
1875	1332	<b>chaperonin GroEL</b>	TAO_1792	NHAL_0165	NOC_2921	NWAT_2918	chaperonin GroEL	*	*	*
1876	269	<b>molecular chaperone GroES</b>	TAO_1793	NHAL_0164	NOC_2922	NWAT_2919	co-chaperonin GroES	*	*	*
1877	339	<b>FxsA cytoplasmic membrane protein</b>	TAO_1794	NHAL_0163	NOC_2923	NWAT_2920	FxsA cytoplasmic membrane protein	*	*	*
1878	265	<b>hypothetical conserved protein</b>	TAO_1189	NHAL_1775	NOC_2925	NWAT_2924	hypothetical protein	*	*	*
1879	192	<b>methyltransferase (divided, N-term side)</b>	TAO_1190	NHAL_1774	NOC_2926	NWAT_2925	type 11 methyltransferase	*	*	*
1880	592	<b>type III restriction endonuclease StyLTI</b>	TAO_1688	NHAL_3377	NOC_2928	NWAT_2929	site-specific DNA-methyltransferase (adenine-specific)	*	*	*
1881	2558	-	-	-	NOC_2929	NWAT_2930	<b>hypothetical protein</b>	*		
1882	700	<b>hemin-degrading family protein</b>	TAO_1191	NHAL_1773	NOC_2932	NWAT_2932	hemin-degrading family protein	*	*	*
1883	1829	-	-	NHAL_1772	NOC_2933	NWAT_2933	<b>hypothetical protein</b>	*		
1884	850	<b>N5-glutamine S-adenosyl-L-methionine-dependent methyltransferase</b>	TAO_0193	NHAL_0269	NOC_2934	NWAT_2934	N5-glutamine S-adenosyl-L-methionine-dependent methyltransferase	*	*	*
1885	1282	<b>3-isopropylmalate dehydratase large subunit</b>	TAO_0194	NHAL_0270	NOC_2935	NWAT_2935	3-isopropylmalate dehydratase large subunit	*	*	*
1886	2283	-	-	NHAL_0271	NOC_2936	NWAT_2936	<b>Acriflavin resistance protein</b>	*		
1887	46	<b>secretion protein HlyD</b>	TAO_0448	NHAL_0272	NOC_2937	NWAT_2937	RND family efflux transporter MFP subunit	*	*	
1888	1113	<b>chorismate synthase</b>	TAO_1145	NHAL_0274	NOC_2938	NWAT_2939	chorismate synthase	*	*	*
1889	1677	-	-	NHAL_3092	NOC_2940	NWAT_2942	<b>hypothetical protein</b>	*		
1890	2561	-	-	-	NOC_2941	NWAT_2946	<b>hypothetical protein</b>	*		
1891	2485	-	-	-	NOC_2942	NWAT_2947	<b>hypothetical protein</b>	*		
1892	2781	-	-	-	NOC_2943	NWAT_2949	<b>choloylglycine hydrolase</b>	*		
1893	1477	-	-	NHAL_2577	NOC_2944	NWAT_2951	<b>XRE family transcriptional regulator</b>	*		
1894	2534	-	-	-	NOC_2945	NWAT_2952	<b>hypothetical protein</b>	*		
1895	2618	-	-	-	NOC_2949	NWAT_2955	<b>hypothetical protein</b>	*		
1896	2877	-	-	-	NOC_2950	NWAT_2956	<b>ABC efflux pump, fused ATPase and inner membrane subunits</b>	*		
1897	2750	-	-	-	NOC_2951	NWAT_2957	<b>universal stress protein UspA</b>	*		
1898	2584	-	-	-	NOC_2954	NWAT_2961	<b>hypothetical protein</b>	*		
1899	1552	-	-	NHAL_1681	NOC_2955	NWAT_2962	<b>hypothetical protein</b>	*		
1900	308	-	-	NHAL_0094	NOC_2957(2)	NWAT_2963(2)	<b>ferredoxin-dependent glutamate synthase</b>	*		
1901	1542	-	-	NHAL_2660	NOC_2957(1)	NWAT_2963(1)	<b>ferredoxin-dependent glutamate synthase</b>	*		
1902	2290	-	-	NHAL_2538	NOC_1206	NWAT_1090	<b>B12-dependent methionine synthase</b>	*		
1903	2801	-	-	-	NOC_1207	NWAT_1091	<b>hypothetical protein</b>	*		
1904	2743	-	-	-	NOC_1208	NWAT_1092	<b>hypothetical protein</b>	*		
1905	2844	-	-	-	NOC_1209	NWAT_1093	<b>hypothetical protein</b>	*		
1906	1263	<b>phosphate starvation protein phoH</b>	TAO_0763	NHAL_2537	NOC_1210	NWAT_1094	phoH family protein	*	*	*
1907	1519	<b>hypothetical protein</b>	TAO_1564	-	NOC_1211	NWAT_1095	CMP/dCMP deaminase zinc-binding protein	*		
1908	519	<b>guanylate kinase</b>	TAO_0593	NHAL_0755	NOC_1212	NWAT_1096	guanylate kinase	*	*	*
1909	166	<b>DNA-directed RNA polymerase subunit omega</b>	TAO_0594	NHAL_0757	NOC_1213	NWAT_1097	DNA-directed RNA polymerase subunit omega	*	*	*
1910	1380	<b>bifunctional (p)ppGpp synthetase II/ guanosine-3',5'-bis pyrophosphate 3'-pyrophosphohydrolase</b>	TAO_0595	NHAL_0758	NOC_1214	NWAT_1098	bifunctional (p)ppGpp synthetase II/ guanosine-3',5'-bis pyrophosphate 3'-pyrophosphohydrolase	*	*	*
1911	325	<b>endoribonuclease L-PSP</b>	TAO_0596	NHAL_0759	NOC_1215	NWAT_1099	endoribonuclease L-PSP	*	*	*
1912	1366	<b>ATP-dependent DNA helicase RecG</b>	TAO_0597	NHAL_0760	NOC_1216	NWAT_1100	ATP-dependent DNA helicase RecG	*	*	*
1913	890	<b>4-hydroxybenzoate octaprenyltransferase</b>	TAO_0598	NHAL_0761	NOC_1217	NWAT_1101	4-hydroxybenzoate octaprenyltransferase	*	*	*

1914	705	nuclease	TAO_0599	NHAL_0762	NOC_1218	NWAT_1102	nuclease	*	*	*
1915	613	sugar fermentation stimulation protein	TAO_0816	NHAL_0899	NOC_2279	NWAT_2111	sugar fermentation stimulation protein	*	*	*
1916	246	hypothetical conserved protein	TAO_0817	NHAL_0902	NOC_2278	NWAT_2110	hypothetical protein	*	*	*
1917	1455	isoleucyl-tRNA synthetase	TAO_0818	NHAL_0903	NOC_2277	NWAT_2109	isoleucyl-tRNA synthetase	*	*	*
1918	481	lipoprotein signal peptidase	TAO_0819	NHAL_0905	NOC_2276	NWAT_2108	lipoprotein signal peptidase	*	*	*
1919	114	pilus assembly protein	TAO_0820	NHAL_0906	NOC_2275	NWAT_2107	general secretion pathway protein H	*	*	*
1920	2292	-	-	NHAL_0907	NOC_2274	NWAT_2106	<b>fimbrial assembly family protein</b>	*		
1921	1766	-	-	NHAL_0909	NOC_2273	NWAT_2105	<b>type IV pilus assembly protein pilX</b>	*		
				NHAL_0908						
1922	63	hypothetical conserved protein	TAO_0822	NHAL_0910	NOC_2272	NWAT_2104	type IV pilus assembly protein pilW	*	*	
				NHAL_0911						
1923	1681	-	-	NHAL_0911	NOC_2271	NWAT_2103	<b>type IV pilus modification protein pilV</b>	*		
1924	938	glycine oxidase thiO	TAO_0825	NHAL_0915	NOC_2269	NWAT_2101	glycine oxidase thiO	*	*	*
1925	283	Fe(II) trafficking protein YggX	TAO_0826	NHAL_0917	NOC_2268	NWAT_2100	Fe(II) trafficking protein YggX	*	*	*
1926	1051	A/G-specific adenine glycosylase	TAO_0827	NHAL_0918	NOC_2267	NWAT_2099	A/G-specific adenine glycosylase	*	*	*
1927	1733	-	-	NHAL_0919	NOC_2266	NWAT_2098	<b>hypothetical protein</b>	*		
1928	1272	AsmA family protein	TAO_0828	NHAL_0920	NOC_2265	NWAT_2097	AsmA family protein	*	*	*
1929	1952	-	-	NHAL_0921	NOC_2264	NWAT_2096	<b>hypothetical protein</b>	*		
1930	2112	-	-	NHAL_0922	NOC_2263	NWAT_2095	<b>hypothetical protein</b>	*		
1931	796	cytochrome C assembly protein	TAO_0829	NHAL_0923	NOC_2262	NWAT_2094	cytochrome c assembly protein	*	*	*
1932	1230	signal recognition particle protein	TAO_0830	NHAL_0924	NOC_2261	NWAT_2093	signal recognition particle protein	*	*	*
1933	228	30S ribosomal protein S16	TAO_0831	NHAL_0925	NOC_2260	NWAT_2092	30S ribosomal protein S16	*	*	*
1934	456	16S rRNA processing protein rimM	TAO_0832	NHAL_0926	NOC_2259	NWAT_2091	16S rRNA-processing protein rimM	*	*	*
1935	763	tRNA (guanine-N(1)-)-methyltransferase	TAO_0833	NHAL_0927	NOC_2258	NWAT_2090	tRNA (guanine-N(1)-)-methyltransferase	*	*	*
1936	322	50S ribosomal protein L19	TAO_0834	NHAL_0928	NOC_2257	NWAT_2089	50S ribosomal protein L19	*	*	*
1937	392	methylated-DNA--protein-cysteine methyltransferase	TAO_0835	NHAL_0929	NOC_2256	NWAT_2088	methylated-DNA--protein-cysteine methyltransferase	*	*	*
1938	880	tyrosine recombinase XerD	TAO_0836	NHAL_0930	NOC_2255	NWAT_2087	tyrosine recombinase XerD	*	*	*
1939	472	nucleotide-binding protein	TAO_0837	NHAL_0931	NOC_2254	NWAT_2086	nucleotide-binding protein	*	*	*
1940	671	thiol-disulfide interchange protein DsbC	TAO_0838	NHAL_0932	NOC_2253	NWAT_2085	thiol-disulfide interchange protein DsbC	*	*	*
1941	686	UDP-2,3-diacetylglucosamine hydrolase	TAO_0839	NHAL_0933	NOC_2252	NWAT_2084	UDP-2,3-diacetylglucosamine hydrolase	*	*	*
1942	510	cyclophilin type peptidyl-prolyl cis-trans isomerase	TAO_0840	NHAL_0934	NOC_2251	NWAT_2083	cyclophilin type peptidyl-prolyl cis-trans isomerase	*	*	*
1943	1247	glutamyl-tRNA synthetase	TAO_0841	NHAL_0935	NOC_2250	NWAT_2082	glutamyl-tRNA synthetase	*	*	*
1944	1251	cysteinyl-tRNA synthetase	TAO_0842	NHAL_0936	NOC_2249	NWAT_2081	cysteinyl-tRNA synthetase	*	*	*
1945	893	methylenetetrahydrofolate dehydrogenase	TAO_0843	NHAL_0937	NOC_2248	NWAT_2080	methylenetetrahydrofolate dehydrogenase	*	*	*
1946	97	NnrS family protein	TAO_1103	NHAL_1832 NHAL_1851	NOC_1410	NWAT_1679	NnrS family protein	*	*	
				NHAL_1833 NHAL_1852						
1947	92	bacterioferritin	TAO_1102	NHAL_1833 NHAL_1852	NOC_1411	NWAT_1678	bacterioferritin	*	*	
1948	555	hypothetical conserved protein	TAO_1264	NHAL_1641	NOC_1412	NWAT_1677	hypothetical protein	*	*	*
1949	1004	magnesium and cobalt transporter corA	TAO_1257	NHAL_1648	NOC_1416	NWAT_1676	magnesium and cobalt transporter corA	*	*	*
1950	684	hypothetical conserved protein	TAO_1256	NHAL_1649	NOC_1417	NWAT_1675	hypothetical protein	*	*	*
1951	2287	-	-	NHAL_1650	NOC_1418	NWAT_1674	<b>CzcA family heavy metal efflux pump</b>	*		
1952	2027	-	-	NHAL_1651	NOC_1419	NWAT_1673	<b>RND family efflux transporter MFP subunit</b>	*		
1953	943	outer membrane efflux protein	TAO_1253	NHAL_1652	NOC_1420	NWAT_1672	outer membrane efflux protein	*	*	*
1954	243	hypothetical conserved protein	TAO_1252	NHAL_1653	NOC_1421	NWAT_1671	hypothetical protein	*	*	*
1955	1073	RND family efflux transporter MFP subunit	TAO_1247	NHAL_1673	NOC_1536	NWAT_1601	RND family efflux transporter MFP subunit	*	*	*
1956	1017	outer membrane efflux protein	TAO_1246	NHAL_1674	NOC_1537	NWAT_1600	outer membrane efflux protein	*	*	*
1957	266	hypothetical conserved protein	TAO_1245	NHAL_1675	NOC_1538	NWAT_1599	hypothetical protein	*	*	*
1958	1624	-	-	NHAL_1698	NOC_1539	NWAT_1598	<b>hypothetical protein</b>	*		
1959	2484	-	-	-	NOC_1540	NWAT_1597	<b>hypothetical protein</b>	*		
1960	2855	-	-	-	NOC_1541	NWAT_1596	<b>outer membrane efflux protein</b>	*		
1961	2863	-	-	-	NOC_1542	NWAT_1595	<b>multicopper oxidase type 3</b>	*		



1962	2689	-	-	NOC_1543	NWAT_1592	hypothetical protein	*			
1963	2609	-	-	NOC_1544	NWAT_1591	hypothetical protein	*			
1964	1092	ferrochelatase	TAO_0464	NHAL_1056	NOC_1545	NWAT_1590	ferrochelatase	*	*	*
1965	1803	-	-	NHAL_1059	NOC_1546	NWAT_1589	protein-L-isoaspartate(D-aspartate) O-methyltransferase	*		
1966	1127	poly(A) polymerase	TAO_0467	NHAL_1070	NOC_0883	NWAT_0750	poly(A) polymerase	*	*	*
1967	398	2-amino-4-hydroxy-6-hydroxymethylidihydropteridine pyrophosphokinase	TAO_0468	NHAL_1071	NOC_0884	NWAT_0751	2-amino-4-hydroxy-6- hydroxymethylidihydropteridine pyrophosphokinase	*	*	*
1968	791	3-methyl-2-oxobutanoate hydroxymethyltransferase	TAO_0469	NHAL_1072	NOC_0885	NWAT_0752	3-methyl-2-oxobutanoate hydroxymethyltransferase	*	*	*
1969	746	pantoate/beta-alanine ligase	TAO_0470	NHAL_1073	NOC_0886	NWAT_0753	pantoate/beta-alanine ligase	*	*	*
1970	1651	aspartate 1-decarboxylase	TAO_0471	NHAL_1074	NOC_0887		aspartate 1-decarboxylase	*		
1971	1617	-	-	NHAL_1075	NOC_0888	NWAT_0754	acylphosphatase	*		
1972	1665	-	-	NHAL_1078	NOC_0889	NWAT_0755	multicopper oxidase, type 3	*		
1973	543	cytochrome P460	TAO_0472	NHAL_1083	NOC_0890	NWAT_0756	cytochrome P460	*	*	*
1974	1310	GntR family transcriptional regulator	TAO_0473	NHAL_1084	NOC_0891	NWAT_0757	GntR family transcriptional regulator	*	*	*
1975	1359	hydroxylamine oxidase	TAO_0474	NHAL_1085	NOC_0892	NWAT_0758	hydroxylamine oxidase	*	*	*
1976	925	hypothetical conserved protein	TAO_0475	NHAL_1086	NOC_0893	NWAT_0759	hypothetical protein	*	*	*
1977	119	hypothetical protein	TAO_0477	NHAL_1087	NOC_0894	NWAT_0760	cytochrome c-554 precursor	*	*	*
1978	695	NapC/NirT cytochrome c domain-containing protein	TAO_0478	NHAL_1088	NOC_0895	NWAT_0761	NapC/NirT cytochrome c domain-containing protein	*	*	*
1979	1801	-	-	NHAL_1089	NOC_0896	NWAT_0762	lytic transglycosylase, catalytic	*		
1980	1344	prolyl-tRNA synthetase	TAO_0479	NHAL_1090	NOC_0897	NWAT_0763	prolyl-tRNA synthetase	*	*	*
1981	1483	-	-	NHAL_0413	NOC_0898	NWAT_0765	hypothetical protein	*		
1982	396	nucleoside-diphosphate kinase	TAO_1413	NHAL_1091	NOC_0899	NWAT_0766	nucleoside-diphosphate kinase	*	*	*
1983	1072	ribosomal RNA large subunit methyltransferase N	TAO_1412	NHAL_1092	NOC_0900	NWAT_0767	radical SAM enzyme, Cfr family	*	*	*
1984	596	type IV pilus biogenesis/stability protein pilW	TAO_1411	NHAL_1093	NOC_0901	NWAT_0768	type IV pilus biogenesis/stability protein pilW	*	*	*
1985	1184	histidyl-tRNA synthetase	TAO_1410	NHAL_1095	NOC_0902	NWAT_0769	histidyl-tRNA synthetase	*	*	*
1986	1327	glucose-6-phosphate isomerase	TAO_1409	NHAL_1096	NOC_0903	NWAT_0770	glucose-6-phosphate isomerase	*	*	*
1987	1428	1,4-alpha-glucan branching enzyme GlgB	TAO_1408	NHAL_1097	NOC_0904	NWAT_0771	1,4-alpha-glucan branching protein	*	*	*
1988	1261	glucose-1-phosphate adenyltransferase	TAO_1407	NHAL_1098	NOC_0905	NWAT_0772	glucose-1-phosphate adenyltransferase	*	*	*
1989	1267	4-alpha-glucanotransferase	TAO_1406	NHAL_1099	NOC_0906	NWAT_0773	4-alpha-glucanotransferase	*	*	*
1990	344	glycine cleavage system protein H	TAO_1405	NHAL_1100	NOC_0907	NWAT_0774	glycine cleavage system H protein	*	*	*
1991	1242	glycine dehydrogenase subunit I	TAO_1404	NHAL_1101	NOC_0908	NWAT_0775	glycine dehydrogenase subunit I	*	*	*
1992	1010	anhydro-N-acetylmuramic acid kinase	TAO_1403	NHAL_1102	NOC_0909	NWAT_0776	anhydro-N-acetylmuramic acid kinase	*	*	*
1993	1067	peptidase M23	TAO_1402	NHAL_1103	NOC_0910	NWAT_0777	peptidase M23	*	*	*
1994	1156	tyrosyl-tRNA synthetase	TAO_1401	NHAL_1104	NOC_0911	NWAT_0778	tyrosyl-tRNA synthetase	*	*	*
1995	1639	-	-	NHAL_1106	NOC_0912	NWAT_0779	hypothetical protein	*		
1996	740	phosphatidylethanolamine N-methyltransferase	TAO_1398	NHAL_1108	NOC_0914	NWAT_0780	phosphatidylethanolamine N-methyltransferase	*	*	*
1997	1786	-	-	NHAL_1109	NOC_0915	NWAT_0781	hypothetical protein	*		
1998	626	rhomboid family protein	TAO_1397	NHAL_1110	NOC_0916	NWAT_0783	rhomboid family protein	*	*	*
1999	583	peptidase M22 glycoprotease	TAO_1396	NHAL_1111	NOC_0917	NWAT_0784	peptidase M22, glycoprotease	*	*	*
2000	1937	-	-	NHAL_1112	NOC_0918	NWAT_0785	radical SAM domain-containing protein	*		
2001	173	arsenite S-adenosylmethyltransferase	TAO_0485	NHAL_1114	NOC_0586	NWAT_0786	type 11 methyltransferase	*	*	*
2002	1420	DNA mismatch repair protein MutS	TAO_1395	NHAL_1115	NOC_0919	NWAT_0787	DNA mismatch repair protein MutS	*	*	*
2003	413	damage inducible protein CinA	TAO_1394	NHAL_1116	NOC_0922	NWAT_0790	damage inducible protein CinA	*	*	*
2004	1774	-	-	NHAL_1117	NOC_0923	NWAT_0791	2'-5' RNA ligase	*		
2005	1042	DNA recombination protein RecA	TAO_1393	NHAL_1118	NOC_0924	NWAT_0792	DNA recombination protein RecA	*	*	*
2006	331	RecX family transcriptional regulator	TAO_1392	NHAL_1119	NOC_0925	NWAT_0793	RecX family transcriptional regulator	*	*	*
2007	1431	alanyl-tRNA synthetase	TAO_1391	NHAL_1120	NOC_0926	NWAT_0794	alanyl-tRNA synthetase	*	*	*
2008	1132	aspartate kinase	TAO_1390	NHAL_1121	NOC_0927	NWAT_0795	aspartate kinase	*	*	*
2009	183	carbon storage regulator	TAO_1389	NHAL_1122	NOC_0928	NWAT_0796	carbon storage regulator	*	*	*
2010	1178	alpha-amylase	TAO_1322	NHAL_2846	NOC_0930	NWAT_0797	alpha-amylase	*	*	*

2011	1912	-	-	NHAL_0839	NOC_0931	NWAT_0798	hypothetical protein	*		
2012	1636	-	-	NHAL_0840	NOC_0932	NWAT_0799	hypothetical protein	*		
2013	2045	-	-	NHAL_0841	NOC_0933	NWAT_0801	binding-protein-dependent transport system inner membrane protein	*		
2014	2148	-	-	NHAL_0842	NOC_0934	NWAT_0802	binding-protein-dependent transporters inner membrane component	*		
2015	2400	-	-	NHAL_0843	NOC_0935		ion transporter	*		
2016	2227	-	-	NHAL_0844	NOC_0936	NWAT_0804	oligopeptide/dipeptide ABC transporter ATPase	*		
2017	1111	hypothetical conserved protein	TAO_1461	NHAL_0846	NOC_0937	NWAT_0805	hypothetical protein	*	*	*
2018	602	2-nonaprenyl-3-methyl-6-methoxy-1,4-benzoquinol hydroxylase	TAO_1460	NHAL_0847	NOC_0938	NWAT_0806	2-nonaprenyl-3-methyl-6-methoxy-1,4-benzoquinol hydroxylase	*	*	*
2019	1003	cytochrome C biogenesis protein CcmI	TAO_1458	NHAL_0849	NOC_0940	NWAT_0808	cytochrome C biogenesis protein CcmI	*	*	*
2020	417	cytochrome C biogenesis protein	TAO_1457	NHAL_0850	NOC_0941	NWAT_0809	cytochrome C biogenesis protein	*	*	*
2021	556	periplasmic protein thiol/disulfide oxidoreductase DsbE	TAO_1456	NHAL_0851	NOC_0942	NWAT_0810	periplasmic protein thiol-disulfide oxidoreductase DsbE	*	*	*
2022	1401	cytochrome c-type biogenesis protein CcmF	TAO_1455	NHAL_0852	NOC_0943	NWAT_0811	cytochrome c-type biogenesis protein CcmF	*	*	*
2023	416	cytochrome c-type biogenesis protein CcmE	TAO_1454	NHAL_0853	NOC_0944	NWAT_0812	cytochrome c-type biogenesis protein CcmE	*	*	*
2024	2385	-	-	NHAL_0854		NWAT_0813	heme exporter protein CcmD	*		
2025	915	heme ABC transporter permease	TAO_1453	NHAL_0855	NOC_0946	NWAT_0814	heme exporter protein CcmC	*	*	*
2026	636	cytochrome c-type biogenesis protein CcmB	TAO_1452	NHAL_0856	NOC_0947	NWAT_0815	cytochrome c-type biogenesis protein CcmB	*	*	*
2027	610	heme exporter protein CcmA	TAO_1451	NHAL_0857	NOC_0948	NWAT_0816	heme exporter protein CcmA	*	*	*
2028	1243	hypothetical conserved protein	TAO_1450	NHAL_0858	NOC_0949	NWAT_0817	hypothetical protein	*	*	*
2029	1241	HSRI-like GTP-binding protein	TAO_1449	NHAL_0859	NOC_0950	NWAT_0818	HSRI-like GTP-binding protein	*	*	*
2030	851	S-adenosylmethionine decarboxylase	TAO_1448	NHAL_0860	NOC_0951	NWAT_0819	S-adenosylmethionine decarboxylase	*	*	*
2031	384	glyoxalase/bleomycin resistance protein/dioxygenase	TAO_1447	NHAL_0861	NOC_0952	NWAT_0820	glyoxalase/bleomycin resistance protein/dioxygenase	*	*	*
2032	401	OsmC family protein	TAO_1446	NHAL_0862	NOC_0953	NWAT_0821	OsmC family protein	*	*	*
2033	664	cyclic nucleotide-binding protein	TAO_1445	NHAL_0863	NOC_0954	NWAT_0822	cyclic nucleotide-binding protein	*	*	*
2034	1611	-	-	NHAL_0744	NOC_2224	NWAT_0869	hypothetical protein	*		
2035	1863	-	-	NHAL_3588	NOC_2223	NWAT_0870	hypothetical protein	*		
2036	2032	-	-	NHAL_3587	NOC_2222	NWAT_0871	D-alanine--D-alanine ligase	*		
2037	2263	-	-	NHAL_3586	NOC_2221	NWAT_0872	hydrolase cocE/NonD family protein	*		
2038	2059	-	-	NHAL_3585	NOC_2220	NWAT_0873	hypothetical protein	*		
2039	1080	ABC transporter permease	TAO_1168	NHAL_1200	NOC_2216	NWAT_0874	ABC transporter permease	*	*	*
2040	1122	ABC transporter ATP-binding protein	TAO_1167	NHAL_1201	NOC_2215	NWAT_0875	ABC transporter ATP-binding protein	*	*	*
2041	648	ABC transporter ATP-binding protein	TAO_1166	NHAL_1202	NOC_2214	NWAT_0876	ABC transporter protein	*	*	*
2042	948	RND family efflux transporter MFP subunit	TAO_1165	NHAL_1203	NOC_2213	NWAT_0877	RND family efflux transporter MFP subunit	*	*	*
2043	823	2-methylisocitrate lyase	TAO_1164	NHAL_1206	NOC_2209	NWAT_0880	2-methylisocitrate lyase	*	*	*
2044	1097	2-methylcitrate synthase/citrate synthase II	TAO_1163	NHAL_1207	NOC_2208	NWAT_0881	2-methylcitrate synthase/citrate synthase II	*	*	*
2045	1254	2-methylcitrate dehydratase	TAO_1162	NHAL_1208	NOC_2207	NWAT_0882	2-methylcitrate dehydratase	*	*	*
2046	2493	-	-	NHAL_1209	NOC_2206		AbrB family transcriptional regulator	*		
2047	2612	-	-	NHAL_1210	NOC_2205		twitching motility protein pilT	*		
2048	2505	-	-		NOC_1843	NWAT_1269	hypothetical protein	*		
2049	2714	-	-		NOC_1842	NWAT_1270	hypothetical protein	*		
2050	2107	-	-	NHAL_1248	NOC_1840	NWAT_1274	divalent cation transporter	*		
2051	815	inositol monophosphatase	TAO_0853	NHAL_1250	NOC_1838	NWAT_1275	inositol monophosphatase	*	*	*
2052	2015	-	-	NHAL_1251	NOC_1837	NWAT_1276	LysR family transcriptional regulator	*		
2053	489	ABC transporter ATP-binding protein	TAO_1193	NHAL_1735	NOC_1836	NWAT_1277	ABC transporter protein	*	*	*
2054	812	ABC transporter permease	TAO_1192	NHAL_1736	NOC_1835	NWAT_1278	ABC transporter permease	*	*	*
2055	825	DNA/RNA non-specific endonuclease	TAO_1067	NHAL_3061	NOC_1834	NWAT_1279	DNA/RNA non-specific endonuclease	*	*	*
2056	274	hypothetical protein	TAO_1066	NHAL_3067	NOC_1833	NWAT_1280	hypothetical protein	*	*	*
2057	148	hypothetical conserved protein	TAO_0186	NHAL_3070	NOC_1832	NWAT_1281	LemA family protein	*	*	*
2058	189	heat shock protein HtpX	TAO_0185	NHAL_3071	NOC_1831	NWAT_1282	peptidase M48 Ste24p	*	*	*
2059	1810	-	-	NHAL_3073	NOC_1830	NWAT_1284	Appr-I-p processing domain-containing protein	*		
2060	326	hypothetical conserved protein	TAO_1065	NHAL_3074	NOC_1829	NWAT_1285	hypothetical protein	*	*	*

2061	1706	<b>GntR family transcriptional regulator</b>	<b>TAO_0463</b>	NOC_1828	NWAT_1286	RND family efflux transporter MFP subunit	*			
2062	2891	-	-	NOC_1826	NWAT_1288	<b>amyl<math>\alpha</math>-1,6-glucosidase</b>	*			
2063	2899	-	-	NOC_1825	NWAT_1289	<b>hypothetical protein</b>	*			
2064	1723	-	NHAL_0448	NOC_1824	NWAT_1291	<b>hypothetical protein</b>	*			
2065	1773	-	NHAL_0449	NOC_1823	NWAT_1292	<b>hypothetical protein</b>	*			
2066	847	-	NHAL_1731	NOC_1820	NWAT_1293	<b>TonB-dependent receptor</b>	*			
2067	59	<b>hypothetical protein</b>	<b>TAO_1194</b>	NHAL_1793	NOC_1819	NWAT_1294	PepSY-associated TM helix domain-containing protein	*	*	*
2068	2876	-	-	NOC_1818	NWAT_1295	<b>type I secretion system ATPase, prtD</b>	*			
2069	1481	-	NHAL_0835	NOC_1817	NWAT_1296	<b>HlyD family type I secretion membrane fusion protein</b>	*			
2070	2717	-	-	NOC_1816	NWAT_1297	<b>hemolysin-type calcium-binding region</b>	*			
2071	2785	-	-	NOC_1815	NWAT_1298	<b>major facilitator superfamily protein</b>	*			
2072	2872	-	-	NOC_1814	NWAT_1299(1)	<b>siderophore synthetase component, lucA/lucC</b>	*			
2073	1704	-	NHAL_1788	NOC_1813	NWAT_1299(2)	<b>aerobactin siderophore biosynthesis protein lucB</b>	*			
2074	2875	-	-	NOC_1812	NWAT_1300	<b>siderophore synthetase component, lucA/lucC</b>	*			
2075	1599	-	NHAL_1789	NOC_1811	NWAT_1301	<b>L-lysine 6-monooxygenase (NADPH)</b>	*			
2076	945	<b>5'-nucleotidase</b>	<b>TAO_1295</b>	NHAL_2760	NOC_1810	NWAT_1302	5'-nucleotidase	*	*	*
2077	1945	-	NHAL_0897	NOC_1809	NWAT_1303	<b>adenine-specific DNA-methyltransferase</b>	*			
2078	117	<b>hypothetical protein</b>	<b>TAO_1415</b>	NHAL_0896	NOC_1808	NWAT_1304	restriction modification system DNA specificity domain-containing protein	*	*	*
2079	2732	-	-	NOC_1805	NWAT_1305	<b>filamentation induced by cAMP protein fic</b>	*			
2080	134	<b>hypothetical protein</b>	<b>TAO_1423</b>	NHAL_0892(2)	NOC_1804(2)	NWAT_1306(2)	HsdR family type I site-specific deoxyribonuclease	*	*	*
2081	2270	-	NHAL_1339	NOC_1802	NWAT_1308	<b>hypothetical protein</b>	*			
2082	2266	-	NHAL_1340	NOC_1800	NWAT_1309	<b>hypothetical protein</b>	*			
2083	73	<b>NADH-flavin oxidoreductase/NADH oxidase</b>	<b>TAO_1379</b>	NHAL_1341	NOC_1799	NWAT_1310	NADH-flavin oxidoreductase/NADH oxidase	*	*	*
2084	2368	-	NHAL_1342	-	NWAT_1311	<b>hypothetical protein</b>	*			
2085	2208	-	NHAL_1343	NOC_1798	NWAT_1312	<b>hypothetical protein</b>	*			
2086	1219	<b>cytochrome C</b>	<b>TAO_0996</b>	NHAL_1344	NOC_1797	NWAT_1314	cytochrome c class I	*	*	*
2087	282	<b>hypothetical conserved protein (divided, N-term side)</b>	<b>TAO_0771</b>	NHAL_1345	NOC_1795	NWAT_1316	hypothetical protein	*	*	*
2088	2745	-	-	NOC_1789	NWAT_1317	<b>formyltetrahydrofolate deformylase</b>	*			
2089	2211	<b>aconitate hydratase</b>	<b>TAO_1013</b>	NOC_1788	NWAT_1319	aconitate hydratase 1	*			
2090	2788	-	-	NOC_1786	NWAT_1322	<b>hypothetical protein</b>	*			
2091	1776	-	NHAL_2854	NOC_1785	NWAT_1323	<b>magnesium transporter</b>	*			
2092	2778	-	-	NOC_1782	NWAT_1327	<b>cation diffusion facilitator family transporter</b>	*			
2093	2061	-	NHAL_2711	NOC_1781	NWAT_1334	<b>ABC-2 type transporter</b>	*			
2094	2075	-	NHAL_2712	NOC_1780	NWAT_1335	<b>ABC-2 type transporter</b>	*			
2095	2189	-	NHAL_2714	NOC_1779	NWAT_1336	<b>ABC transporter-like protein</b>	*			
2096	1975	-	NHAL_2715	NOC_1778	NWAT_1337	<b>HlyD family secretion protein</b>	*			
2097	2093	-	NHAL_2719	NOC_1777	NWAT_1338	<b><math>\beta</math>-ketoacyl synthase</b>	*			
2098	1836	-	NHAL_3184	NOC_1776	NWAT_1339	<b>peptide methionine sulfoxide reductase</b>	*			
2099	1866	-	NHAL_0792	NOC_1774	NWAT_1341	<b>periplasmic or secreted lipoprotein</b>	*			
2100	214	<b>histone-like DNA-binding protein</b>	<b>TAO_1467</b>	NHAL_0794	NOC_1772	NWAT_1343	histone-like DNA-binding protein	*	*	*
2101	1320	<b>peptidyl-prolyl cis-trans isomerase ppiD</b>	<b>TAO_1466</b>	NHAL_0795	NOC_1771	NWAT_1344	PpiC-type peptidyl-prolyl cis-trans isomerase	*	*	*
2102	2110	-	NHAL_0796	NOC_1770	NWAT_1345	<b>sodium/dicarboxylate symporter</b>	*			
2103	819	<b>enoyl acyl carrier protein (ACP) reductase</b>	<b>TAO_1465</b>	NHAL_0797	NOC_1769	NWAT_1346	short-chain dehydrogenase/reductase SDR	*	*	*
2104	2259	-	NHAL_0798	NOC_1768	NWAT_1347	<b>family 5 extracellular solute-binding protein</b>	*			
2105	1988	-	NHAL_3041	NOC_1767	NWAT_1348	<b>cytochrome c oxidase subunit II</b>	*			
2106	2279	-	NHAL_3042	NOC_1766	NWAT_1349	<b>cytochrome c oxidase subunit I</b>	*			
2107	1687	-	NHAL_3043	NOC_1765	NWAT_1350	<b>transmembrane prediction</b>	*			
2108	1989	-	NHAL_3045	NOC_1764	NWAT_1351	<b>cytochrome c, class I</b>	*			
2109	2673	-	-	NOC_1763	NWAT_1352	<b>hypothetical protein</b>	*			
2110	2498	-	-	NOC_1761	NWAT_1355	<b>hypothetical protein</b>	*			

2111	1572	-	-	NHAL_0809	NOC_1760	NWAT_1356	hypothetical protein	*		
2112	674	alpha/beta hydrolase fold protein	TAO_1161	NHAL_1224	NOC_1759	NWAT_1357	alpha/beta hydrolase fold protein	*	*	*
2113	2225	-	-	NHAL_1225	NOC_1758	NWAT_1358	response regulator receiver modulated diguanylate cyclase/phosphodiesterase	*		
2114	2585	-	-	-	NOC_1757	NWAT_1359	response regulator receiver protein	*		
2115	1891	-	-	NHAL_1458	NOC_1756	NWAT_1360	PAS sensor signal transduction histidine kinase	*		
2116	887	Gfo1dh/MocA family oxidoreductase	TAO_1160	NHAL_1228	NOC_1755	NWAT_1361	oxidoreductase	*	*	*
2117	1077	degT/DnrJ/EryC1/strS aminotransferase	TAO_1159	NHAL_1229	NOC_1754	NWAT_1362	degT/DnrJ/EryC1/strS aminotransferase	*	*	*
2118	1082	lipid-A-disaccharide synthase	TAO_1158	NHAL_1230	NOC_1753	NWAT_1363	lipid-A-disaccharide synthase	*	*	*
2119	777	acyl-ACP--UDP-N- acetylglucosamine O-acyltransferase	TAO_1157	NHAL_1231	NOC_1752	NWAT_1364	acyl-ACP--UDP-N- acetylglucosamine O-acyltransferase	*	*	*
2120	1547	hypothetical conserved protein	TAO_1156	NHAL_1232	NOC_1751	-	hypothetical conserved protein	*		
2121	770	hydroxyacylglutathione hydrolase	TAO_1155	NHAL_1233	NOC_1750	NWAT_1366	hydroxyacylglutathione hydrolase	*	*	*
2122	1158	4-hydroxy-3-methylbut-2-en-1-yl diphosphate synthase	TAO_1154	NHAL_1234	NOC_1749	NWAT_1367	4-hydroxy-3-methylbut-2-en-1-yl diphosphate synthase	*	*	*
2123	475	hypothetical conserved protein	TAO_1017	NHAL_1235	NOC_1748	NWAT_1368	hypothetical protein	*	*	*
2124	1405	hopanoid biosynthesis associated RND transporter like protein	TAO_1153	NHAL_1236	NOC_1747	NWAT_1369	hopanoid biosynthesis associated RND transporter-like protein HpnN	*	*	*
2125	404	hopanoid biosynthesis associated membrane protein HpnM	TAO_1152	NHAL_1237	NOC_1746	NWAT_1370	hopanoid biosynthesis associated membrane protein HpnM	*	*	*
2126	1216	hopanoid biosynthesis associated radical SAM protein HpnH	TAO_1150	NHAL_1239	NOC_1745	NWAT_1371	hopanoid biosynthesis associated radical SAM protein HpnH	*	*	*
2127	965	4-hydroxy-3-methylbut-2-enyl diphosphate reductase	TAO_1149	NHAL_1240	NOC_1744	NWAT_1372	4-hydroxy-3-methylbut-2-enyl diphosphate reductase	*	*	*
2128	1379	1-deoxy-D-xylulose-5-phosphate synthase	TAO_1148	NHAL_1241	NOC_1743	NWAT_1373	1-deoxy-D-xylulose-5-phosphate synthase	*	*	*
2129	1634	-	-	NHAL_1242	NOC_1742	NWAT_1374	copper resistance protein copC	*		
2130	2191	-	-	NHAL_1243	NOC_1741	NWAT_1375	copper resistance D domain-containing protein	*		
2131	1416	glycogen debranching protein GlgX	TAO_1147	NHAL_1244	NOC_1740	NWAT_1376	glycogen debranching protein GlgX	*	*	*
2132	1425	5-methyltetrahydropteroyltrimethylglutamate--homocysteine methyltransferase	TAO_1146	NHAL_1245	NOC_1739	NWAT_1377	5-methyltetrahydropteroyltrimethylglutamate-- homocysteine S-methyltransferase	*	*	*
2133	126	radical SAM domain-containing protein	TAO_1019	NHAL_1246	NOC_1738	NWAT_1378	radical SAM domain-containing protein	*	*	*
2134	1874	-	-	NHAL_2073	NOC_1737	NWAT_1380	hypothetical protein	*		
2135	2265	-	-	NHAL_2075	NOC_1735	NWAT_1381	acyl-coA dehydrogenase	*		
2136	2108	-	-	NHAL_2076	NOC_1734	NWAT_1382	acetyl-coA acetyltransferase	*		
2137	2241	-	-	NHAL_2077	NOC_1733	NWAT_1383	3-hydroxyacyl-coA dehydrogenase NAD-binding protein	*		
2138	2740	-	-	NHAL_2078	NOC_1732	-	cytochrome B561	*		
2139	343	hypothetical conserved protein	TAO_0999	NHAL_2083	NOC_1731	NWAT_1405	hypothetical protein	*	*	*
2140	1368	organic solvent tolerance protein	TAO_1369	NHAL_2084	NOC_1724	NWAT_1394	organic solvent tolerance protein	*	*	*
2141	1131	peptidyl-prolyl cis-trans isomerase	TAO_1368	NHAL_2085	NOC_1723	NWAT_1393	PpiC-type peptidyl-prolyl cis-trans isomerase	*	*	*
2142	951	4-hydroxythreonine-4-phosphate dehydrogenase	TAO_1367	NHAL_2086	NOC_1722	NWAT_1392	4-hydroxythreonine-4-phosphate dehydrogenase	*	*	*
2143	762	16S rRNA methyltransferase	TAO_1366	NHAL_2087	NOC_1721	NWAT_1390	16S rRNA methyltransferase	*	*	*
2144	536	septum formation protein Maf	TAO_1365	NHAL_2088	NOC_1720	NWAT_1389	Maf protein	*	*	*
2145	1333	phosphoglucomutase/phosphomannomutase alpha/beta/alpha domain I	TAO_1363	NHAL_2091	NOC_1719	NWAT_1388	phosphoglucomutase/phosphomannomutase alpha/beta/alpha domain I	*	*	*
2146	2229	heat shock protein Hsp90	TAO_1362	NHAL_2092	NOC_1718	-	heat shock protein Hsp90	*		
2147	1827	-	-	NHAL_2093	NOC_1717	NWAT_1410	LuxR family two component transcriptional regulator	*		
2148	1717	-	-	NHAL_2095	NOC_1716	NWAT_1411	BadM/Rrf2 family transcriptional regulator	*		
2149	2077	-	-	NHAL_2096	NOC_1715	NWAT_1412	hypothetical protein	*		
2150	1833	-	-	NHAL_2097	NOC_1714	NWAT_1413	ErfK/YbiS/YcfS/YnhG family protein	*		
2151	692	β-lactamase hydrolase-like protein	TAO_1360	NHAL_2098	NOC_1713	NWAT_1414	metallo-β-lactamase protein	*	*	*
2152	2744	-	-	-	NOC_1712	NWAT_1416	arginase/agmatinase/formiminoglutamase	*		
2153	2109	-	-	NHAL_1430	NOC_1711	NWAT_1417	ornithine aminotransferase	*		
2154	1738	-	-	NHAL_1433	NOC_1708	NWAT_1418	water stress and hypersensitive response domain-containing protein	*		
2155	1569	-	-	NHAL_1434	NOC_1707	NWAT_1419	hypothetical protein	*		
2156	1768	-	-	NHAL_1435	NOC_1706	NWAT_1420	ferritin Dps family protein	*		
2157	2285	-	-	NHAL_1437	NOC_1705	NWAT_1421	δ-1-pyrroline-5-carboxylate dehydrogenase	*		
2158	1729	-	-	NHAL_1438	NOC_1704	NWAT_1422	response regulator receiver protein	*		
2159	2033	-	-	NHAL_1439	NOC_1703	NWAT_1423	PAS/PAC sensor signal transduction histidine kinase	*		

2160	1944	-	-	NHAL_1441	NOC_1702	NWAT_1424	RpoD subfamily RNA polymerase sigma 70 subunit	*		
2161	1784	-	-	NHAL_1442	NOC_1701	NWAT_1425	LuxR family two component transcriptional regulator	*		
2162	2151	-	-	NHAL_1443	NOC_1700	NWAT_1426	PAS sensor, signal transduction histidine kinase	*		
2163	1915	-	-	NHAL_1444	NOC_1699	NWAT_1427	hypothetical protein	*		
2164	888	integrase family protein	TAO_0274	NHAL_4009	NOC_1698	NWAT_1428	integrase family protein	*	*	*
2165	1095	carbohydrate kinase	TAO_0950	NHAL_1445	NOC_1697	NWAT_1429	carbohydrate kinase	*	*	*
2166	423	7-cyano-7-deazaguanine reductase	TAO_0951	NHAL_1446	NOC_1696	NWAT_1430	7-cyano-7-deazaguanine reductase	*	*	*
2167	1446	chromosome segregation protein SMC	TAO_0952	NHAL_1447	NOC_1695	NWAT_1431	chromosome segregation protein SMC	*	*	*
2168	643	cell division protein ZipA	TAO_0953	NHAL_1448	NOC_1694	NWAT_1432	cell division protein ZipA	*	*	*
2169	1351	DNA ligase, NAD-dependent	TAO_0954	NHAL_1449	NOC_1693	NWAT_1433	NAD-dependent DNA ligase	*	*	*
2170	149	BFD (2Fe-2S)-binding domain-containing protein	TAO_0955	NHAL_1450	NOC_1692	NWAT_1434	BFD (2Fe-2S)-binding domain-containing protein	*	*	*
2171	383	secondary thiamine-phosphate synthase enzyme	TAO_0956	NHAL_1451	NOC_1691	NWAT_1435	secondary thiamine-phosphate synthase enzyme	*	*	*
2172	553	lipase	TAO_0957	NHAL_1452	NOC_1690	NWAT_1436	lipase	*	*	*
2173	349	hypothetical conserved protein	TAO_0959	NHAL_1453	NOC_1689	NWAT_1437	hypothetical protein	*	*	*
2174	1728	hypothetical conserved protein	TAO_0961	NHAL_1455	NOC_1688		hypothetical conserved protein	*		
2175	1361	heme ABC transporter ATP-binding protein	TAO_0962	NHAL_1456	NOC_1687	NWAT_1438	ABC transporter ATP-binding protein	*	*	*
2176	1905	-	-	NHAL_1457	NOC_1686	NWAT_1439	glycerophosphoryl diester phosphodiesterase	*		
2177	1530	-	-	NHAL_1459	NOC_1685	NWAT_1440	hypothetical protein	*		
2178	1603	-	-	NHAL_1460	NOC_1684	NWAT_1441	hypothetical protein	*		
2179	2209	-	-	NHAL_1461	NOC_1683	NWAT_1442	hypothetical protein	*		
2180	2159	-	-	NHAL_1911	NOC_1682	NWAT_1443	phospholipase D/transphosphatidylase	*		
2181	2632	-	-	NHAL_1312	NOC_1494		response regulator receiver	*		
2182	2817	-	-	NHAL_1313	NOC_1495		PAS sensor signal transduction histidine kinase	*		
2183	2707	-	-	NHAL_1314	NOC_1496		capsular polysaccharide biosynthesis protein	*		
2184	1533	-	-	NHAL_1315	NOC_1497	NWAT_2858 NWAT_2851	chromosome partitioning ATPase-like protein	*		
2185	2783	-	-	NHAL_1316	NOC_1499		hypothetical protein	*		
2186	2841	-	-	NHAL_1319	NOC_1503		binding-protein-dependent transport system protein	*		
2187	1678	-	-	NHAL_1323	NOC_1513		polysaccharide biosynthesis protein	*		
2188	1155	GDP-mannose 4,6-dehydratase	TAO_0964	NHAL_1331	NOC_1523	NWAT_1618	GDP-mannose 4,6-dehydratase	*	*	*
2189	1522	-	-	NHAL_1332	NOC_1524	NWAT_1617	group 1 glycosyl transferase	*		
2190	2111	-	-	NHAL_1687	NOC_1528	NWAT_1614	outer membrane efflux protein	*		
2191	2140	-	-	NHAL_1688	NOC_1529	NWAT_1613	RND family efflux transporter MFP subunit	*		
2192	2289	-	-	NHAL_1689	NOC_1530	NWAT_1612	CzcA family heavy metal efflux pump	*		
2193	25	metallo-beta-lactamase family protein	TAO_0973	NHAL_2910 NHAL_3161	NOC_1532	NWAT_1610	metallo-β-lactamase protein	*	*	
2194	1294	copper-translocating P-type ATPase	TAO_0276	NHAL_1708	NOC_1533	NWAT_1608	heavy metal translocating P-type ATPase	*	*	*
2195	1837	-	-	NHAL_1685	NOC_1534	NWAT_1607	cation diffusion facilitator family transporter	*		
2196	2492	-	-		NOC_1899	NWAT_1254	hypothetical protein	*		
2197	61	-	-	NHAL_1470	NOC_1855	NWAT_1261	hypothetical protein	*		
2198	2747	-	-		NOC_1853	NWAT_1263	mechanosensitive ion channel protein MscS	*		
2199	2202	-	-	NHAL_1554	NOC_1851	NWAT_1264	TPR repeat-containing protein	*		
2200	1775	-	-	NHAL_1555	NOC_1850	NWAT_1265	nitric-oxide reductase	*		
2201	80	nitric-oxide reductase	TAO_0114	NHAL_1556	NOC_1849	NWAT_1266	nitric-oxide reductase subunit	*	*	*
2202	1959	-	-	NHAL_1557	NOC_1848	NWAT_1267	ATPase AAA	*		
2203	2230	-	-	NHAL_1558	NOC_1847	NWAT_1268	Von Willebrand factor type A	*		
2204	2896	-	-	NHAL_1559	NOC_1846		hypothetical protein	*		
2205	2449	-	-	NHAL_1560	NOC_1845		hypothetical protein	*		
2206	2766	-	-	NHAL_1562	NOC_1844		hypothetical protein	*		
2207	66	hypothetical conserved protein	TAO_1001	NHAL_1374	NOC_1385	NWAT_1701	hypothetical protein	*	*	*
2208	2650	-	-	NHAL_1375	NOC_1386		hypothetical protein	*		

2209	2267	-	-	NHAL_1379	NOC_1387	NWAT_1694	peptidase S16, ATP-dependent protease La	*		
2210	1679	-	-	NHAL_1380	NOC_1388	NWAT_1693	heat shock protein Hsp20	*		
2211	1951	-	-	NHAL_1381	NOC_1389	NWAT_1692	glutamine amidotransferase class-II	*		
2212	667	<b>GTP cyclohydrolase I</b>	<b>TAO_0936</b>	NHAL_1382	NOC_1390	NWAT_1691	GTP cyclohydrolase I	*	*	*
2213	1972	-	-	NHAL_1353	NOC_1391	NWAT_1690	phytanoyl-coA dioxygenase	*		
2214	2070	-	-	NHAL_1354	NOC_1392	NWAT_1689	patatin	*		
2215	1761	<b>S-formylglutathione hydrolase</b>	<b>TAO_1181</b>		NOC_1393	NWAT_1688	S-formylglutathione hydrolase	*		
2216	1980	<b>S-(hydroxymethyl)glutathione dehydrogenase/class III alcohol dehydrogenase</b>	<b>TAO_1182</b>		NOC_1394	NWAT_1687	S-(hydroxymethyl)glutathione dehydrogenase/class III alcohol dehydrogenase	*		
2217	752	<b>phosphoglycerate mutase 1 family</b>	<b>TAO_1124</b>	NHAL_1364	NOC_1395	NWAT_1686	phosphoglycerate mutase 1 family	*	*	*
2218	562	<b>trypsin-like serine protease</b>	<b>TAO_1120</b>	NHAL_1588	NOC_1396	NWAT_1685	peptidase S1 and S6 chymotrypsin/Hap	*	*	*
2219	2671	-	-		NOC_1403	NWAT_1684	hypothetical protein	*		
2220	99	<b>hypothetical conserved protein</b>	<b>TAO_1110</b>	NHAL_1825 NHAL_1844	NOC_1405	NWAT_1682	hypothetical protein	*	*	
2221	1449	-	-	NHAL_1826 NHAL_1845	NOC_1406	NWAT_1681	ATPase P	*		
2222	2086	-	-	NHAL_1828 NHAL_1847	NOC_1408		hypothetical protein	*		
2223	1707	-	-	NHAL_3868	NOC_0263	NWAT_0364	blue copper domain-containing protein	*		
2224	2669	-	-		NOC_0265	NWAT_0366	hypothetical protein	*		
2225	2654	-	-		NOC_0266	NWAT_0367	hypothetical protein	*		
2226	1628	-	-	NHAL_1584	NOC_0267	NWAT_0368	calcium-binding EF-hand protein-containing protein	*		
2227	2221	-	-	NHAL_1585(2)	NOC_0268	NWAT_0369(2)	transaldolase	*		
2228	991	<b>transaldolase</b>	<b>TAO_0974</b>	NHAL_1585(1)	NOC_0269	NWAT_0369(1)	transaldolase	*	*	*
2229	457	<b>PA-phosphatase-like phosphoesterase</b>	<b>TAO_0975</b>	NHAL_1586	NOC_0270	NWAT_0370	PA-phosphatase-like phosphoesterase	*	*	*
2230	1889	-	-	NHAL_1587	NOC_0271	NWAT_0371	nicotinamidase	*		
2231	2224	-	-	NHAL_1589	NOC_0272	NWAT_0372	ATP-dependent metalloprotease FtsH	*		
2232	1984	-	-	NHAL_1590	NOC_0273	NWAT_0373	Fis family sigma-54 specific transcriptional regulator	*		
2233	1564	-	-	NHAL_1592	NOC_0274	NWAT_0374	CsbD-like protein	*		
2234	1642	-	-	NHAL_1601	NOC_0275	NWAT_0375	hypothetical protein	*		
2235	1770	-	-	NHAL_1602	NOC_0276	NWAT_0376	LuxR family two component transcriptional regulator	*		
2236	1890	-	-	NHAL_3083	NOC_0277	NWAT_0377	SMP-30/gluconolactonase/IRE domain-containing protein	*		
2237	142	<b>transport-associated protein</b>	<b>TAO_0976</b>	NHAL_1607	NOC_0278	NWAT_0379	transport-associated protein	*	*	*
2238	2042	-	-	NHAL_1608	NOC_0279	NWAT_0380	ABC transporter-like protein	*		
2239	1992	-	-	NHAL_1609	NOC_0280	NWAT_0381	binding-protein-dependent transport system inner membrane protein	*		
2240	2002	-	-	NHAL_1610	NOC_0281	NWAT_0382	binding-protein-dependent transport system inner membrane protein	*		
2241	2065	-	-	NHAL_1611	NOC_0282	NWAT_0383	family 1 extracellular solute-binding protein	*		

Black bold characters show core genes conserved in the TAO100 genome and the blue bold characters show the missing genes in the genome. The parentheses mean part of domain-split gene.