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Supplementary Information for

A complete arsenic-based respiratory cycle in the marine microbial communities of pelagic oxygen deficient zones

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References for SI citations

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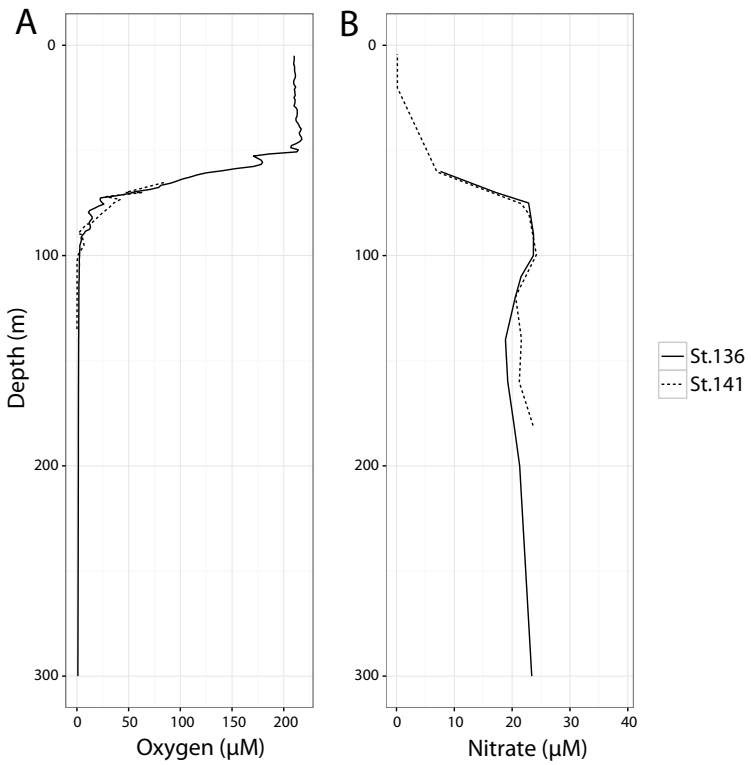

Fig. S1. Ancillary data from depth profiles taken at Stations 136 (solid line) & 141 (dashed line) where metagenomic samples were collected. (A) Oxygen concentration. Oxygen decreases sharply from the surface becoming functionally anoxic by 100 m depth. Station 141 oxygen data is from STOX sensor (1); Station 136 oxygen data is from CTD sensor corrected with Winkler Titration. (B) Nitrate concentration (2). Nitrate is depleted in the surface waters, increases to a peak in the oxycline, and decreases where the water column becomes functionally anoxic.

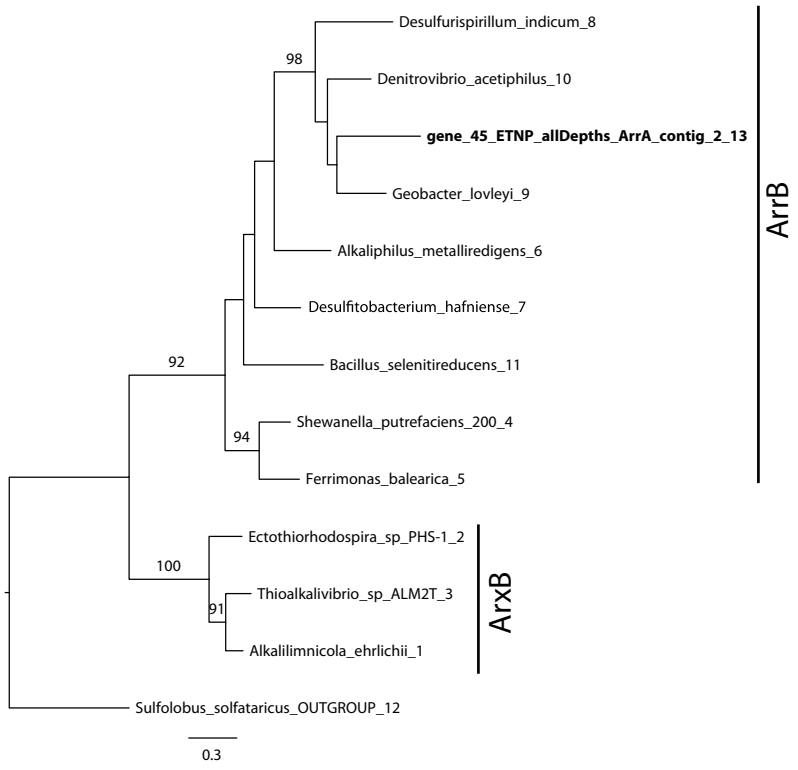

Fig. S2. A maximum likelihood tree of the dissimilatory arsenate reductase beta subunit (ArrB) and the closely related arsenite oxidase (ArxB), including a full *de novo* assembled environmental ArrB sequence from the ETNP ODZ metagenome in bold. Bootstrap values >= 70 are shown. The ETNP ODZ sequence, gene_45_ETNP_allDepths_ArrA_contig_2, is more closely related to the known dissimilatory arsenate reductase ArrB sequences. The terminal number on sequence identifiers of the extant nodes of the tree are referred to as tree reference numbers which can be used to find sequence accession numbers in Table S5.

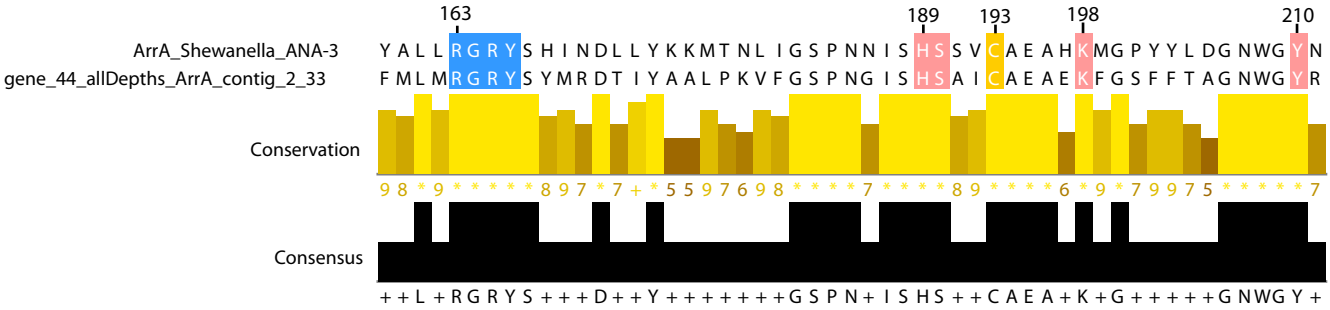

Fig. S3. A pairwise alignment of the amino acid sequence of *arrA* from contig gene_44_allDepths_ArrA_contig_2 with the functional dissimilatory arsenate reductase *arrA* from Shewanella ANA-3 with integral active site binding motifs and residues highlighted (3).

Fig. S4. A maximum likelihood tree of the DMSO reductase family constructed with representatives of the major groups within the superfamily including ArrA, ArxA (Fig. 2), AioA, and AioA-Like (Fig. 3). The tree is rooted by a NarH outgroup sequence. Bootstrap values >= 70 are shown. The terminal number on sequence identifiers of the extant nodes of the tree are referred to as tree reference numbers which can be used to find major clade groupings (Fig. 5) and sequence accession numbers from the lookup table (Table S6).

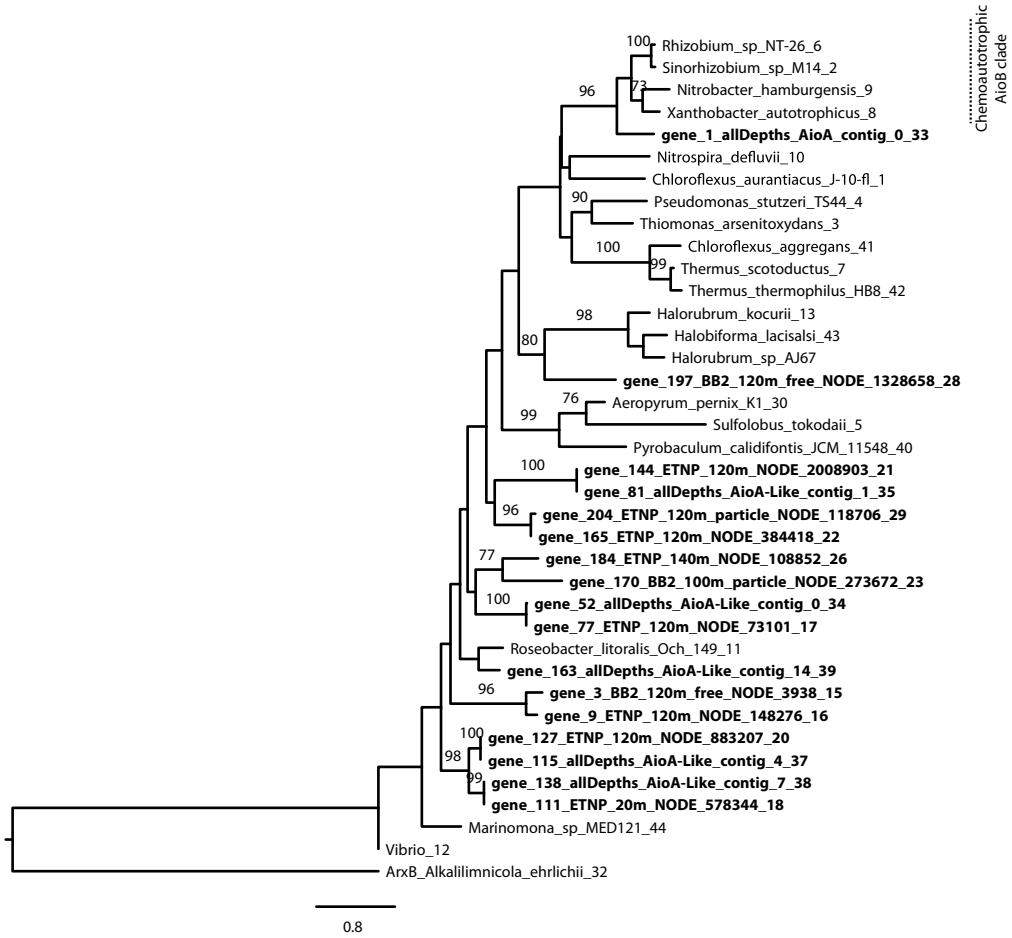

Fig. S5. A maximum likelihood tree of the arsenite oxidase beta subunit sequence (AioB) and the closely related arsenite oxidase-like (AioB-Like). Full length *de novo* assembled environmental sequences from the ETNP are denoted by bold text. The clade which contains the AioB sequences associated with chemoautotrophic activity is designated with a dashed bar. ETNP ODZ gene_1_ETNP_allDepths_AioA_contig_0 is most closely related to known dissimilatory arsenite oxidase AioB sequences, and numerous other ETNP metagenomic sequences appear to be AioB-like. Bootstrap values >= 70 are shown. The terminal number on sequence identifiers of the extant nodes of the tree are referred to as tree reference numbers which can be used to find sequence accession numbers from Table S7.

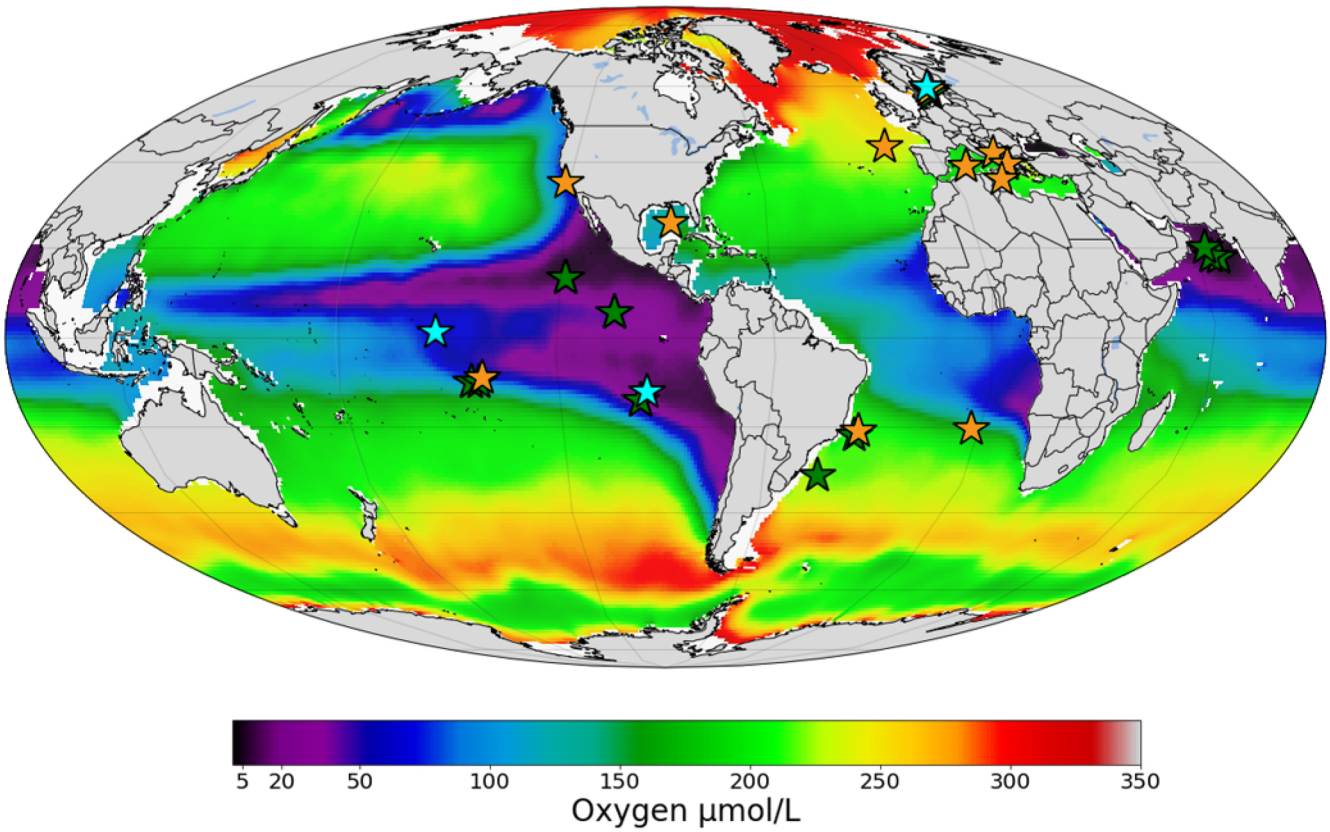

Fig. S6. An enlarged map displayed in Fig. 1A showing interpolated oxygen concentrations at 300 m depth from the World Ocean Atlas (4). Stars on the map represent metagenome assemblies where arsenotrophy related genes were identified. Orange stars represent contigs containing *aioA*, green stars represent contigs containing *aioA-like genes*, and cyan stars represent contigs containing *arrA* genes. Green (*aioA-like*) and cyan (*arrA*) are offset by 1 degree above and below the actual locations of the metagenomes, respectively, in order to show the presence of multiple genes at one location (Table S2).

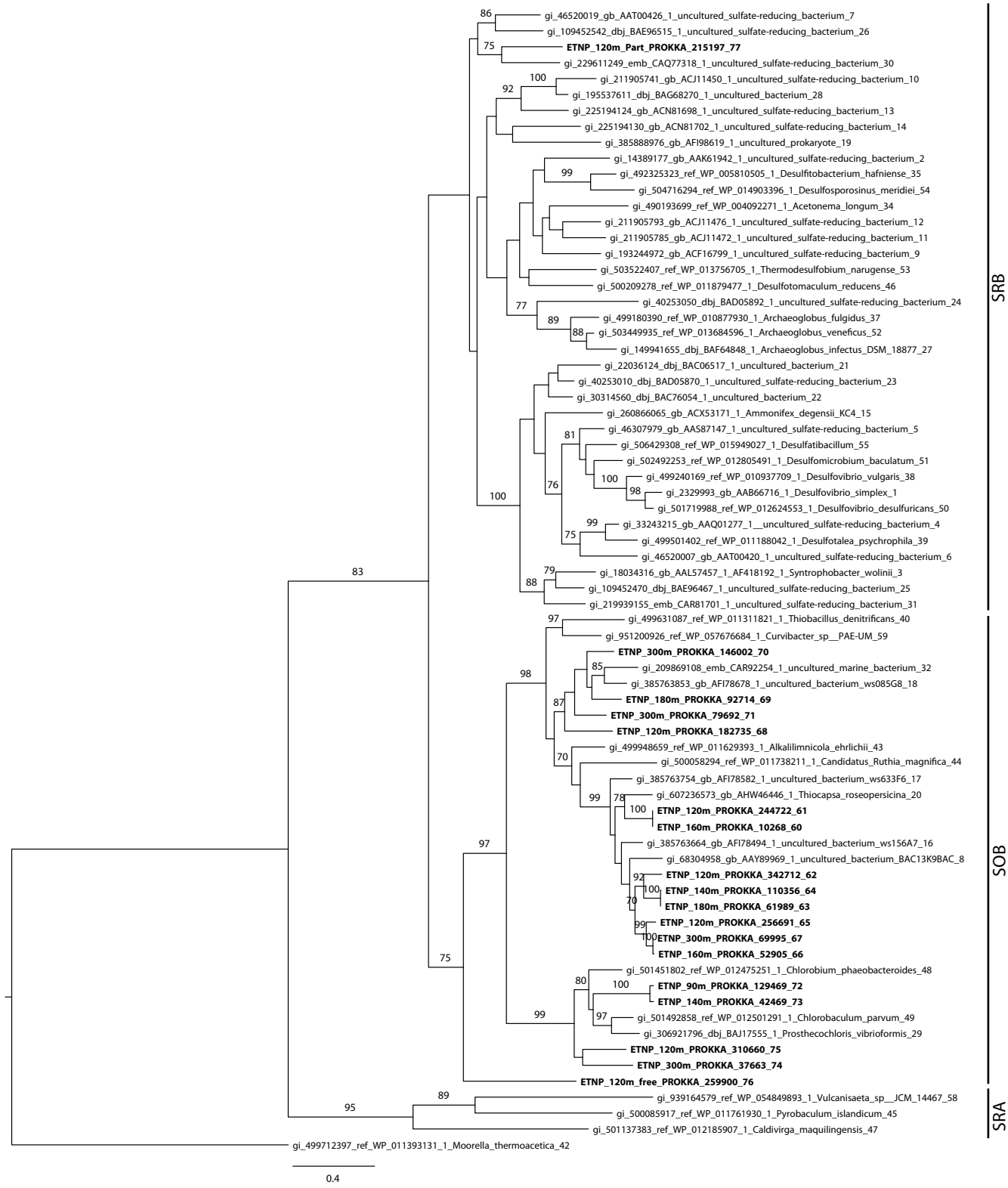

Fig. S7. A maximum likelihood tree of dissimilatory sulfite reductase, DsrA. This tree includes both the forward reductase bacterial form of DsrA (SRB), the reverse oxidase bacterial form (SOB), as well as the forward reductase archaeal form (SRA). *De novo* assembled environmental sequences from the ETNP ODZ metagenome are depicted in bold. Bootstrap values >= 70 are shown The terminal number on sequence identifiers of the extant nodes of the tree are referred to as tree reference numbers which can be used to find sequence accession numbers from Table S8.

Supplemental Tables

Table S1. Gene annotations of contigs containing *arrA* (ETNP_allDepths_ArrA_contig_2) *aioA* (ETNP_allDepths_AioA_contig_0), and *aioA-like* (ETNP_120m_NODE_73101). Sequences in bold are arsenotrophy and arsenotrophy-related sequences, fumarate reductase, and the nitrate reductase sequence (*napA*).

	Gene_ID	Start	Stop	Strand	Length	Description
ArrA_ETNP_allDepths_contig_2	**44**	**38**	**2569**	**+**	**2532**	**Arsenate respiratory reductase, alpha subunit**
	45	**2588**	**3442**	**+**	**855**	**Arsenate respiratory reductase, beta subunit**
AioA_ETNP_allDepths_contig_0	**1**	**127**	**639**	**+**	**513**	**Arsenite Oxidase, beta subunit**
	2	**652**	**3066**	**+**	**2415**	**Arsenite Oxidase, alpha subunit**
	3	3144	3278	+	135	hypothetical protein
	4	3335	3451	+	117	Cytochrome C
ETNP_120m_NODE_73101	19	110	1231	+	1122	Mrp/NBP35 ATP-binding protein, Domain of unknown function DUF59
	20	1228	2178	-	951	Thymidylate synthase ThyX
	21	2565	3023	+	459	Stringent starvation protein B
	22	3072	4694	+	1623	Fumarate lyase, FumAB
	23	4709	4924	+	216	Ribbon-helix-helix domain
	24	4933	9021	-	4089	AsmA-like, C-terminal
	25	9245	9580	+	336	Thiamine pyrophosphate enzyme, N-terminal TPP binding domain
	26	9581	10513	-	933	Xaa-Pro dipeptidyl-peptidase-like domain
	27	10603	11100	+	498	Thioesterase-like superfamily
	28	11479	11856	+	378	Protein of unknown function DUF4389
	29	12141	13022	+	882	Voltage gated chloride channel
	30	12973	13890	+	918	Voltage gated chloride channel

31	14459	15130	+	672	NapC/NirT cytochrome c family, N-terminal region
32	15143	15796	+	654	Cytochrome C oxidase, cbb3-type, subunit III
33	**15812**	**18520**	**+**	**2709**	**NapA/NarB nitrate reductase catalytic subunit**
34	18558	19148	+	591	NapG, 4Fe-4S dicluster domain
35	19149	20144	+	996	NapH, 4Fe-4S binding domain
36	20141	20734	+	594	4Fe-4S dicluster domain
37	20738	21334	+	597	hypothetical protein
38	21315	21926	+	612	4Fe-4S dicluster domain
39	21923	24013	+	2091	Protein of unknown function, DUF255
40	24105	24893	-	789	Enoyl-(Acyl carrier protein) reductase
41	25190	26104	-	915	Pyruvate carboxyltransferase
42	26108	28153	-	2046	Biotin carboxylase, carbamoyl-phosphate synthase
43	28219	28584	-	366	Potassium ion channel
44	28597	29388	-	792	Enoyl-CoA hydratase/isomerase
45	29393	31000	-	1608	Acetyl-coenzyme A carboxyltransferase, C-terminal
46	30997	31833	-	837	Amidohydrolase-related
47	31830	32678	-	849	Amidohydrolase-related
48	32763	33962	+	1200	CoA-transferase family III
49	34074	34979	+	906	Xylose isomerase-like TIM barrel
50	**34982**	**36475**	**+**	**1494**	**Succinate dehydrogenase/fumarate reductase flavoprotein, catalytic domain**
51	36692	37411	+	720	Short-chain dehydrogenase/reductase SDR
52	37481	38314	+	834	Phytanoyl-CoA dioxygenase (PhyH)
53	38395	39414	+	1020	TRAP transporter solute receptor DctP/TeaA
54	39428	40447	+	1020	TRAP transporter solute receptor DctP/TeaA
55	40457	40975	+	519	Tripartite ATP-independent periplasmic transporter, DctQ component
56	40999	42288	+	1290	TRAP C4-dicarboxylate transport system permease DctM subunit
57	42510	43625	-	1116	Putative bacterial porin
58	44066	45493	-	1428	Protoporphyrinogen oxidase

59	45469	46734	-	1266	Coenzyme PQQ synthesis protein E
60	46727	48376	-	1650	Universal stress protein A, UspA
61	48379	48558	-	180	hypothetical protein
62	48575	50119	-	1545	Cytochrome c-552/DMSO reductase-like, haem-binding domain
63	50112	50879	-	768	Cytochrome C oxidase, cbb3-type, subunit III
64	50876	51709	-	834	Cytochrome c
65	51706	53496	-	1791	Cytochrome bd terminal oxidase subunit I
66	53515	53676	-	162	hypothetical protein
67	53823	53927	+	105	hypothetical protein
68	53934	54290	-	357	Cytochrome C oxidase, cbb3-type, subunit III
69	54304	54963	-	660	Cytochrome c
70	54960	56621	-	1662	Cytochrome c-552/DMSO reductase-like, haem-binding domain
71	56621	57619	-	999	Cytochrome C oxidase, cbb3-type, subunit III
72	57603	58586	-	984	Cytochrome c
73	58586	60766	-	2181	Cytochrome bd terminal oxidase subunit I
74	60767	61183	-	417	Cytochrome C oxidase, cbb3-type, subunit III
75	61192	63342	-	2151	Hypothetical HEAT repeat protein
76	**63445**	**66138**	**-**	**2694**	**Arsenite Oxidase Like, alpha subunit**
77	**66154**	**66726**	**-**	**573**	**Arsenite Oxidase Like, beta subunt**
78	66737	67015	-	279	Cytochrome c
79	66987	68108	-	1122	Di-haem cytochrome c peroxidase
80	68124	69209	-	1086	Di-haem cytochrome c peroxidase
81	69523	70251	-	729	Polysaccharide lyase family 4, domain II
82	70897	71154	-	258	ThiamineS/Molybdopterin converting factor subunit 1
83	71164	73437	-	2274	Aldehyde oxidase/xanthine dehydrogenase, a/b hammerhead
84	73440	73916	-	477	2Fe-2S iron-sulfur cluster binding domain
85	73920	74960	-	1041	CO dehydrogenase flavoprotein-like, FAD-binding
86	75205	75324	-	120	hypothetical protein

87	75361	76152	+	792	Luciferase-like monooxygenase
88	76143	76412	+	270	Hypothetical
89	76432	76953	-	522	AMP-dependent synthetase/ligase
90	76995	77996	-	1002	AMP-dependent synthetase/ligase
91	77924	79816	-	1893	Thiamine pyrophosphate enzyme
92	79813	80808	-	996	Oxidoreductase family, NAD-binding Rossmann fold
93	80818	81645	-	828	Xylose isomerase-like TIM barrel
94	81945	82532	-	588	L-2-amino-thiazoline-4-carboxylic acid hydrolase

Table S2. Arsenotrophy related genes identified on contigs in the NCBI WGS repository with associated locations of metagenomes and references.

Gene	Accession	Lat	Lon E	Metagenome ID	Reference	Depth (m)	O2 (µmol/kg)
ArrA	CESR01313627	-12.9794	-96.0232	TARA 100	(5)	177	0.71
ArrA	FLOH01000039	58.581234	18.232801	GOS - GS678	(6)	74	8.2
ArrA	CEWJ01138853	0.0222	-153.6858	TARA 128	(5)	40	176.98
AioA	AACY020562416	35	-120.9	GOS - GS264	(7)	N/A	N/A
AioA	CEQZ01017993	-20.4075	-3.1641	TARA 70	(5)	800	161.73
AioA	CENN01183657	42.2038	17.715	TARA 023	(5)	5	221.46
AioA	CEQG01031482	-20.9315	-35.1794	TARA 076	(5)	800	192.17
AioA	CEVX01167425	43.6792	-16.8344	TARA 152	(5)	5	243.15
AioA	CEVN01081717	25.5264	-88.394	TARA 142	(5)	5	194.27
AioA	CENZ01201832	39.3888	19.3905	TARA 025	(5)	50	229.55
AioA	CENU01204471	39.3888	19.3905	TARA 025	(5)	5	218.02
AioA	CEOF01053259	35.759	14.2574	TARA 18	(5)	5	207.79
AioA	CEOP01145755	39.0609	5.9422	TARA 09	(5)	55	N/A
AioA	CEUY01205663	-8.9109	-140.2845	TARA 123	(5)	150	161.32
AioA	FLOH01000367	58.581234	18.232801	GOS - GS678	(6)	74	8.2
AioA	FLOH01000261	58.581234	18.232801	GOS - GS678	(6)	74	8.2
AioA	FLOH01000179	58.581234	18.232801	GOS - GS678	(6)	74	8.2
AioA-Like	FLOH01000904	58.581234	18.232801	GOS - GS678	(6)	74	8.2
AioA-Like	CETX01297340	6.3559	-103.0598	TARA 138	(5)	450	0.78
AioA-Like	CETX01146491	6.3559	-103.0598	TARA 138	(5)	450	0.78
AioA-Like	CETX01130833	6.3559	-103.0598	TARA 138	(5)	450	0.78
AioA-Like	CETX01082600	6.3559	-103.0598	TARA 138	(5)	450	0.78
AioA-Like	CETX01081115	6.3559	-103.0598	TARA 138	(5)	450	0.78

AioA-Like	CEUC01150928	14.2075	-116.6468	TARA 137	(5)	40	N/A
AioA-Like	CEUC01150512	14.2075	-116.6468	TARA 137	(5)	40	N/A
AioA-Like	CEUC01148148	14.2075	-116.6468	TARA 137	(5)	40	N/A
AioA-Like	CEUC01132218	14.2075	-116.6468	TARA 137	(5)	40	N/A
AioA-Like	CEUC01099154	14.2075	-116.6468	TARA 137	(5)	40	N/A
AioA-Like	CESR01336801	-12.9794	-96.0232	TARA 100	(5)	177	0.71
AioA-Like	CESR01308561	-12.9794	-96.0232	TARA 100	(5)	177	0.71
AioA-Like	CESR01164964	-12.9794	-96.0232	TARA 100	(5)	177	0.71
AioA-Like	CESR01052301	-12.9794	-96.0232	TARA 100	(5)	177	0.71
AioA-Like	CESR01027707	-12.9794	-96.0232	TARA 100	(5)	177	0.71
AioA-Like	CESR01009492	-12.9794	-96.0232	TARA 100	(5)	177	0.71
AioA-Like	CEUD01063954	14.2025	-116.6433	TARA 137	(5)	375	0.63
AioA-Like	CEUD01047464	14.2025	-116.6433	TARA 137	(5)	375	0.63
AioA-Like	CEUD01022744	14.2025	-116.6433	TARA 137	(5)	375	0.63
AioA-Like	CEUK01352792	-8.8999	-142.5461	TARA 125	(5)	140	160.49
AioA-Like	CEUK01093660	-8.8999	-142.5461	TARA 125	(5)	140	160.49
AioA-Like	CEUY01205454	-8.9109	-140.2845	TARA 123	(5)	150	161.32
AioA-Like	CESC01087940	-30.1471	-43.2915	TARA 078	(5)	800	214.84
AioA-Like	CEPV01090141	18.7341	66.3896	TARA 039	(5)	270	2.3
AioA-Like	CEPV01017105	18.7341	66.3896	TARA 039	(5)	270	2.3
AioA-Like	CEPV01009366	18.7341	66.3896	TARA 039	(5)	270	2.3
AioA-Like	CEPS01046010	19.0351	64.5638	TARA 038	(5)	340	2.37
AioA-Like	CEPS01021636	19.0351	64.5638	TARA 038	(5)	340	2.37
AioA-Like	CEQG01120352	-20.9315	-35.1794	TARA 076	(5)	800	192.17
AioA-Like	CEQE01082710	20.8457	63.5851	TARA 037	(5)	600	1.64
AioA-Like	CEQE01005538	20.8457	63.5851	TARA 037	(5)	600	1.64

Table S3. Short metatranscriptomic read identifiers for reads placed to respective clades on Fig. 5 of the main text.

Clade	Metatranscriptome	Short Read(s) placed to Clade
AioA	ETNP Metatranscriptome (8)	SRR1824292_1332265_1_1332265_length_245
AioA	ETNP Metatranscriptome (8)	SRR1824292_1797719_1_1797719_length_210, SRR1824292_1797719_2_1797719_length_251
AioA	ETSP Metatranscriptome (9)	SRR064451_179135_2_FYBUZCR01BOHYC_length_197
AioA	ETSP Metatranscriptome (9)	SRR064451_301398_2_FYBUZCR02F0CM8_length_122
AioA	ETSP Metatranscriptome (9)	SRR064449_328481_2_FYSIMWX02JIR0K_length_260
AioA	ETSP Metatranscriptome (9)	SRR064451_383970_2_FYBUZCR02FHSRD_length_122
AioA	ETSP Metatranscriptome (9)	SRR064451_326615_2_FYBUZCR02IXCWO_length_169
AioA	ETSP Metatranscriptome (9)	SRR064449_446454_2_FYSIMWX02JSX01_length_198
AioA-Like	ETNP Metatranscriptome (8)	SRR1824292_1352027_1_1352027_length_125
AioA-Like	ETNP Metatranscriptome (8)	SRR1824292_1385587_1_1385587_length_195
AioA-Like	ETNP Metatranscriptome (8)	SRR1824292_1854946_1_1854946_length_251
AioA-Like	ETNP Metatranscriptome (8)	SRR1824293_1092788_1_1092788_length_238
AioA-Like	ETNP Metatranscriptome (8)	SRR1824293_1113546_1_1113546_length_176
AioA-Like	ETNP Metatranscriptome (8)	SRR1824293_1177306_1_1177306_length_223
AioA-Like	ETNP Metatranscriptome (8)	SRR1824293_417623_1_417623_length_194
AioA-Like	ETNP Metatranscriptome (8)	SRR1824293_551967_1_551967_length_128
AioA-Like	ETNP Metatranscriptome (8)	SRR1824293_684854_1_684854_length_251
AioA-Like	ETNP Metatranscriptome (8)	SRR1824293_711876_2_711876_length_248
AioA-Like	ETNP Metatranscriptome (8)	SRR1824293_790420_1_790420_length_141
AioA-Like	ETNP Metatranscriptome (8)	SRR1824293_876665_1_876665_length_124
AioA-Like	ETNP Metatranscriptome (8)	SRR1824293_937316_1_937316_length_249
AioA-Like	ETNP Metatranscriptome (8)	SRR1824293_973656_1_973656_length_231
AioA-Like	ETNP Metatranscriptome (8)	SRR1824294_1272699_1_1272699_length_161
AioA-Like	ETNP Metatranscriptome (8)	SRR1824294_1457318_1_1457318_length_109

AioA-Like	ETNP Metatranscriptome (8)	SRR1824294_1624413_1_1624413_length_110
AioA-Like	ETNP Metatranscriptome (8)	SRR1824294_1667542_1_1667542_length_148
AioA-Like	ETNP Metatranscriptome (8)	SRR1824294_1689113_1_1689113_length_150
AioA-Like	ETNP Metatranscriptome (8)	SRR1824294_1720524_1_1720524_length_198
AioA-Like	ETNP Metatranscriptome (8)	SRR1824294_334487_1_334487_length_250
AioA-Like	ETNP Metatranscriptome (8)	SRR1824294_62547_1_62547_length_166
AioA-Like	ETNP Metatranscriptome (8)	SRR1824294_862819_1_862819_length_149
AioA-Like	ETNP Metatranscriptome (8)	SRR1824296_823718_1_823718_length_178
AioA-Like	ETNP Metatranscriptome (8)	SRR1824298_866734_1_866734_length_251
AioA-Like	ETNP Metatranscriptome (8)	SRR1824300_754100_1_754100_length_132
AioA-Like	ETSP Metatranscriptome (9)	SRR064449_263268_2_FYSIMWX01BLS0F_length_240
AioA-Like	ETSP Metatranscriptome (9)	SRR064451_104475_2_FYBUZCR01A817B_length_141
AioA-Like	ETSP Metatranscriptome (9)	SRR064451_137020_2_FYBUZCR01BD5NK_length_287
AioA-Like	ETSP Metatranscriptome (9)	SRR064451_156479_2_FYBUZCR01A3MJG_length_170
AioA-Like	ETSP Metatranscriptome (9)	SRR064451_163179_2_FYBUZCR01BJJEE_length_281
AioA-Like	ETSP Metatranscriptome (9)	SRR064451_261335_2_FYBUZCR02JAKL3_length_141
AioA-Like	ETSP Metatranscriptome (9)	SRR064451_267221_2_FYBUZCR02IOUJK_length_248
AioA-Like	ETSP Metatranscriptome (9)	SRR064451_296472_2_FYBUZCR02HOG7U_length_123
AioA-Like	ETSP Metatranscriptome (9)	SRR064451_307022_2_FYBUZCR02GFXWW_length_122
AioA-Like	ETSP Metatranscriptome (9)	SRR064451_316620_2_FYBUZCR02HXLZZ_length_231
AioA-Like	ETSP Metatranscriptome (9)	SRR064451_322487_2_FYBUZCR02H668N_length_162
AioA-Like	ETSP Metatranscriptome (9)	SRR064451_329301_2_FYBUZCR02H8KF1_length_250
AioA-Like	ETSP Metatranscriptome (9)	SRR064451_338803_2_FYBUZCR02ICR4V_length_141
AioA-Like	ETSP Metatranscriptome (9)	SRR064451_40320_2_FYBUZCR01C4K1X_length_250
AioA-Like	ETSP Metatranscriptome (9)	SRR064451_406559_2_FYBUZCR02IAW7Z_length_271
AioA-Like	ETSP Metatranscriptome (9)	SRR064451_407733_2_FYBUZCR02JK9UT_length_271
AioA-Like	ETSP Metatranscriptome (9)	SRR064451_412492_2_FYBUZCR02I0JLJ_length_265

AioA-Like	ETSP Sulfide Plume (10)	G0K4BGD04JTT53_length_367_xy_3913_1129_region_4_run_R_2011_04_06_07_55_54_0
AioA-Like	ETSP Sulfide Plume (10)	GPIPG5Q04JUZPK_length_147_xy_3926_1718_region_4_run_R_2010_10_15_04_30_31_0
AioA-Like	ETSP Sulfide Plume (10)	GZ2L4FS04IGEY8_length_456_xy_3350_1346_region_4_run_R_2011_03_28_08_06_05_0
AioA-Like	ETSP Sulfide Plume (10)	GZ2L4FS04JF077_length_496_xy_3756_0165_region_4_run_R_2011_03_28_08_06_05_0
ArrA	ETSP Metatranscriptome (9)	SRR064451_376977_2_FYBUZCR02HQWFX_length_260
ArrA	ETSP Sulfide Plume (10)	G0K4BGD04JQZB5_length_384_xy_3880_3027_region_4_run_R_2011_04_06_07_55_54
ArrA	ETSP Sulfide Plume (10)	GPIPG5Q04HXZA9_length_450_xy_3140_1395_region_4_run_R_2010_10_15_04_30_31
ArrA	ETSP Sulfide Plume (10)	GPIPG5Q04IVYIW_length_393_xy_3527_1526_region_4_run_R_2010_10_15_04_30_31
ArrA	ETSP Sulfide Plume (10)	GPIPG5Q04IZ6RE_length_509_xy_3575_2216_region_4_run_R_2010_10_15_04_30_31
ArrA	ETSP Sulfide Plume (10)	GPIPG5Q04JUXS9_length_341_xy_3925_3355_region_4_run_R_2010_10_15_04_30_31
ArrA	ETSP Sulfide Plume (10)	GZ2L4FS04IH2V0_length_490_xy_3369_1166_region_4_run_R_2011_03_28_08_06_05
DsrA-SRB	ETSP Sulfide Plume (10)	GPIPG5Q03FLKHB_length_521_xy_2178_3421_region_3_run_R_2010_10_15_04_30_31_0
DsrA-SRB	ETSP Sulfide Plume (10)	G0K4BGD04IPJ1M_length_558_xy_3454_1832_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SRB	ETSP Sulfide Plume (10)	G0K4BGD04JW2OC_length_536_xy_3950_0570_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SRB	ETSP Sulfide Plume (10)	GPIPG5Q04IATXX_length_447_xy_3286_2947_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SRB	ETSP Sulfide Plume (10)	GZ2L4FS04I43V2_length_384_xy_3631_2400_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SRB	ETSP Sulfide Plume (10)	G0K4BGD04IH6LS_length_380_xy_3370_1886_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SRB	ETSP Sulfide Plume (10)	GZ2L4FS04IZNML_length_491_xy_3569_1995_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SRB	ETSP Sulfide Plume (10)	G0K4BGD04JJN5J_length_428_xy_3797_1909_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SRB	ETSP Sulfide Plume (10)	GPIPG5Q04IAFPV_length_383_xy_3282_0897_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SRB	ETSP Sulfide Plume (10)	G0K4BGD04IEQP3_length_489_xy_3331_1081_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SRB	ETSP Sulfide Plume (10)	GPIPG5Q04I5Z86_length_422_xy_3641_3384_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SRB	ETSP Sulfide Plume (10)	GZ2L4FS04IRHI1_length_521_xy_3476_1771_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SRB	ETSP Sulfide Plume (10)	G0K4BGD04ILOFN_length_274_xy_3410_1121_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SRB	ETSP Sulfide Plume (10)	GPIPG5Q03F9464_length_511_xy_2458_3134_region_3_run_R_2010_10_15_04_30_31_0
DsrA-SRB	ETSP Sulfide Plume (10)	G0K4BGD04IN48R_length_435_xy_3438_1529_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SRB	ETSP Sulfide Plume (10)	G0K4BGD04IKP75_length_301_xy_3399_1843_region_4_run_R_2011_04_06_07_55_54_0

DsrA-SRB	ETSP Sulfide Plume (10)	GPIPG5Q04I2YFJ_length_459_xy_3607_0317_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SRB	ETSP Sulfide Plume (10)	G0K4BGD04JZ6X5_length_485_xy_3985_2715_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SRB	ETSP Sulfide Plume (10)	G0K4BGD04IFDQY_length_488_xy_3338_2248_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SRB	ETSP Sulfide Plume (10)	GPIPG5Q04JJ5VJ_length_418_xy_3803_0301_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SRB	ETSP Sulfide Plume (10)	G0K4BGD04JGR2H_length_489_xy_3764_2183_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SRB	ETSP Sulfide Plume (10)	G0K4BGD04JQ15O_length_469_xy_3881_2586_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SRB	ETSP Sulfide Plume (10)	G0K4BGD04JDGA8_length_385_xy_3726_2626_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SRB	ETSP Sulfide Plume (10)	GPIPG5Q03FZHXP_length_331_xy_2337_2043_region_3_run_R_2010_10_15_04_30_31_0
DsrA-SRB	ETSP Sulfide Plume (10)	GPIPG5Q03GNPGG_length_464_xy_2613_1038_region_3_run_R_2010_10_15_04_30_31_0
DsrA-SRB	ETSP Sulfide Plume (10)	G0K4BGD04IOUCN_length_444_xy_3446_1301_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SRB	ETSP Sulfide Plume (10)	GPIPG5Q04ISF3C_length_138_xy_3487_1510_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SRB	ETSP Sulfide Plume (10)	G0K4BGD04IDHZZ_length_505_xy_3317_0461_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SRB	ETSP Sulfide Plume (10)	GPIPG5Q04ILEVD_length_439_xy_3407_1015_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SRB	ETSP Sulfide Plume (10)	G0K4BGD04ICQOE_length_466_xy_3308_1916_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SRB	ETSP Sulfide Plume (10)	G0K4BGD04IIX48_length_458_xy_3379_0714_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SRB	ETSP Sulfide Plume (10)	G0K4BGD04IL433_length_435_xy_3415_2257_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SRB	ETSP Sulfide Plume (10)	G0K4BGD04H3CY4_length_469_xy_3201_2526_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SRB	ETSP Sulfide Plume (10)	G0K4BGD04H7WO2_length_459_xy_3253_1716_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SRB	ETSP Sulfide Plume (10)	G0K4BGD04ITZ20_length_325_xy_3505_0346_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SRB	ETSP Sulfide Plume (10)	GPIPG5Q04ITY1G_length_408_xy_3504_3090_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SRB	ETSP Sulfide Plume (10)	G0K4BGD04IXD2M_length_391_xy_3543_2796_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SRB	ETSP Sulfide Plume (10)	GPIPG5Q04IJGYO_length_350_xy_3385_0526_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SRB	ETSP Sulfide Plume (10)	G0K4BGD04IVL6W_length_415_xy_3523_1926_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SRB	ETSP Sulfide Plume (10)	GPIPG5Q04IND6W_length_183_xy_3429_3334_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SRB	ETSP Sulfide Plume (10)	GZ2L4FS04JR3BU_length_477_xy_3893_1608_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SRB	ETSP Sulfide Plume (10)	G0K4BGD04JXPPO_length_370_xy_3957_1754_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SRB	ETSP Sulfide Plume (10)	G0K4BGD04JOO3I_length_309_xy_3854_2940_region_4_run_R_2011_04_06_07_55_54_0

DsrA-SRB	ETSP Sulfide Plume (10)	G0K4BGD04JOH4T_length_443_xy_3852_2107_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SRB	ETSP Sulfide Plume (10)	G0K4BGD04JOTFE_length_392_xy_3856_0360_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SRB	ETSP Sulfide Plume (10)	G0K4BGD04IWCJH_length_442_xy_3531_3307_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SRB	ETSP Sulfide Plume (10)	GPIPG5Q03GRSSN_length_417_xy_2659_3573_region_3_run_R_2010_10_15_04_30_31_0
DsrA-SRB	ETSP Sulfide Plume (10)	GPIPG5Q02ECKUX_length_499_xy_1666_1543_region_2_run_R_2010_10_15_04_30_31_0
DsrA-SRB	ETSP Sulfide Plume (10)	G0K4BGD04JXKCZ_length_508_xy_3955_3009_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SRB	ETSP Sulfide Plume (10)	G0K4BGD04I1OWA_length_460_xy_3592_2744_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SRB	ETSP Sulfide Plume (10)	G0K4BGD04H8NB9_length_189_xy_3261_3479_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SRB	ETSP Sulfide Plume (10)	GZ2L4FS04ICB6Q_length_393_xy_3303_3616_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETNP Metatranscriptome (8)	SRR1824291_1177691_2_1177691_length_248_2
DsrA-SOB	ETNP Metatranscriptome (8)	SRR1824291_952073_2_952073_length_251_2
DsrA-SOB	ETNP Metatranscriptome (8)	SRR1824296_229493_2_229493_length_251_2
DsrA-SOB	ETNP Metatranscriptome (8)	SRR1824291_1331456_1_1331456_length_205_1/SRR1824291_1331456_2_1331456_length_251_2
DsrA-SOB	ETNP Metatranscriptome (8)	SRR1824291_153331_1_153331_length_228_1/SRR1824291_153331_2_153331_length_251_2
DsrA-SOB	ETNP Metatranscriptome (8)	SRR1824291_605794_1_605794_length_199_1/SRR1824291_605794_2_605794_length_250_2
DsrA-SOB	ETNP Metatranscriptome (8)	SRR1824292_1379907_1_1379907_length_251_1/SRR1824292_1379907_2_1379907_length_251_2
DsrA-SOB	ETNP Metatranscriptome (8)	SRR1824292_474600_1_474600_length_107_1/SRR1824292_474600_2_474600_length_250_2
DsrA-SOB	ETNP Metatranscriptome (8)	SRR1824292_637084_1_637084_length_201_1/SRR1824292_637084_2_637084_length_251_2
DsrA-SOB	ETNP Metatranscriptome (8)	SRR1824292_638321_1_638321_length_204_1/SRR1824292_638321_2_638321_length_251_2
DsrA-SOB	ETNP Metatranscriptome (8)	SRR1824294_1268313_1_1268313_length_251_1/SRR1824294_1268313_2_1268313_length_251_2
DsrA-SOB	ETNP Metatranscriptome (8)	SRR1824294_2007021_1_2007021_length_124_1/SRR1824294_2007021_2_2007021_length_251_2
DsrA-SOB	ETNP Metatranscriptome (8)	SRR1824296_429484_1_429484_length_251_1/SRR1824296_429484_2_429484_length_250_2
DsrA-SOB	ETSP Metatranscriptome (9)	SRR064445_173737_2_FX4HCEY01ELJMC_length_132_0
DsrA-SOB	ETSP Metatranscriptome (9)	SRR064445_226792_2_FX4HCEY02HTXD6_length_123_0
DsrA-SOB	ETSP Metatranscriptome (9)	SRR064449_102388_2_FYSIMWX01A43XZ_length_133_0
DsrA-SOB	ETSP Metatranscriptome (9)	SRR064449_144673_2_FYSIMWX01BVIVE_length_236_0
DsrA-SOB	ETSP Metatranscriptome (9)	SRR064449_187893_2_FYSIMWX01A9JL6_length_236_0

DsrA-SOB	ETSP Metatranscriptome (9)	SRR064449_257646_2_FYSIMWX01BVLCI_length_263_0
DsrA-SOB	ETSP Metatranscriptome (9)	SRR064449_269724_2_FYSIMWX01AP39C_length_245_0
DsrA-SOB	ETSP Metatranscriptome (9)	SRR064449_389722_2_FYSIMWX02GO71O_length_127_0
DsrA-SOB	ETSP Metatranscriptome (9)	SRR064451_145281_2_FYBUZCR01CK2Z6_length_246_0
DsrA-SOB	ETSP Metatranscriptome (9)	SRR064451_157290_2_FYBUZCR01A2Z9L_length_171_0
DsrA-SOB	ETSP Metatranscriptome (9)	SRR064451_158716_2_FYBUZCR01BPAUH_length_235_0
DsrA-SOB	ETSP Metatranscriptome (9)	SRR064451_208875_2_FYBUZCR01C4NNH_length_178_0
DsrA-SOB	ETSP Metatranscriptome (9)	SRR064451_21893_2_FYBUZCR01CGCZY_length_117_0
DsrA-SOB	ETSP Metatranscriptome (9)	SRR064451_241474_2_FYBUZCR02G3XGS_length_251_0
DsrA-SOB	ETSP Metatranscriptome (9)	SRR064451_281036_2_FYBUZCR02GR3KL_length_257_0
DsrA-SOB	ETSP Metatranscriptome (9)	SRR064451_289176_2_FYBUZCR02GQFV9_length_233_0
DsrA-SOB	ETSP Metatranscriptome (9)	SRR064451_294810_2_FYBUZCR02H7RLT_length_108_0
DsrA-SOB	ETSP Metatranscriptome (9)	SRR064451_31795_2_FYBUZCR01DQ9DF_length_249_0
DsrA-SOB	ETSP Metatranscriptome (9)	SRR064451_335126_2_FYBUZCR02IMISQ_length_151_0
DsrA-SOB	ETSP Metatranscriptome (9)	SRR064451_379731_2_FYBUZCR02JSPDC_length_193_0
DsrA-SOB	ETSP Metatranscriptome (9)	SRR064451_385062_2_FYBUZCR02HXWSK_length_142_0
DsrA-SOB	ETSP Metatranscriptome (9)	SRR064451_390968_2_FYBUZCR02IF4NG_length_216_0
DsrA-SOB	ETSP Metatranscriptome (9)	SRR064451_46889_2_FYBUZCR01C4HBV_length_214_0
DsrA-SOB	ETSP Metatranscriptome (9)	SRR064451_58261_2_FYBUZCR01CAEAX_length_163_0
DsrA-SOB	ETSP Metatranscriptome (9)	SRR064451_91375_2_FYBUZCR01D875P_length_198_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04H0RKS_length_325_xy_3172_0266_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04H1QL3_length_495_xy_3183_0617_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04H210L_length_169_xy_3198_0611_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04H2NAL_length_433_xy_3193_2011_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04H3Y5P_length_419_xy_3208_2603_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04H45Z7_length_472_xy_3222_0789_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04H47Z5_length_477_xy_3222_3379_region_4_run_R_2011_04_06_07_55_54_0

DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04H5OKU_length_241_xy_3228_0284_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04H5V0S_length_172_xy_3230_1738_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04H718O_length_488_xy_3255_0710_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04H7RKN_length_470_xy_3251_3269_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04H7SHD_length_498_xy_3252_0351_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04H9GZK_length_446_xy_3271_0942_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04HZ2UL_length_345_xy_3164_0987_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04I0ENW_length_429_xy_3578_0170_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04I1ICZ_length_499_xy_3590_2465_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04I1N9G_length_457_xy_3592_1922_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04I22JA_length_482_xy_3608_1540_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04I4NTF_length_447_xy_3626_2049_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04I580E_length_434_xy_3644_2444_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04I6DZ6_length_468_xy_3646_0724_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04I7BU9_length_499_xy_3656_3651_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04I7XRA_length_154_xy_3663_3348_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04I8FBA_length_490_xy_3669_1524_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04I8LC5_length_372_xy_3671_1175_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04I8PGQ_length_448_xy_3672_2392_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04I926H_length_495_xy_3688_1287_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04I989F_length_311_xy_3690_0977_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IACHG_length_381_xy_3281_0802_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IB1K3_length_479_xy_3300_2165_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IB38F_length_276_xy_3301_1501_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IB9P1_length_503_xy_3303_0423_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04ICG2H_length_486_xy_3305_1751_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04ICMIW_length_480_xy_3307_0630_region_4_run_R_2011_04_06_07_55_54_0

DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IE0D3_length_450_xy_3334_1321_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IE85H_length_484_xy_3337_0387_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IEL8U_length_325_xy_3329_3468_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IF5H1_length_493_xy_3347_1351_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IF705_length_495_xy_3348_0535_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IFDRU_length_406_xy_3338_2280_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IG9YO_length_431_xy_3360_0542_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IGN9N_length_497_xy_3353_1097_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IGSCM_length_423_xy_3354_2292_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IHG5M_length_494_xy_3362_1672_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IHHJ6_length_539_xy_3362_2196_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04II1DV_length_497_xy_3380_0817_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IIQD4_length_289_xy_3376_2954_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IJ7T3_length_502_xy_3393_2585_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IKJWH_length_450_xy_3397_1839_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IKR9Q_length_501_xy_3400_0396_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IL8O3_length_476_xy_3416_2805_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IMTRK_length_495_xy_3423_1438_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04INLGJ_length_503_xy_3432_0465_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IOVDH_length_480_xy_3446_2627_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IQ2TG_length_464_xy_3471_3186_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IQLDG_length_474_xy_3466_1058_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IQXT2_length_497_xy_3470_0824_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IQYT3_length_431_xy_3470_2121_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IR6VS_length_422_xy_3484_1862_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IRA8V_length_439_xy_3474_1821_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IRGGN_length_485_xy_3476_0389_region_4_run_R_2011_04_06_07_55_54_0

DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IRKMJ_length_482_xy_3477_1689_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IRN70_length_465_xy_3478_2254_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IRNSW_length_405_xy_3478_1710_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IS6WS_length_429_xy_3495_3498_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IS8YP_length_278_xy_3496_2063_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04ISAY2_length_166_xy_3485_3068_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IT7VZ_length_464_xy_3507_2269_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04ITPUW_length_464_xy_3501_3478_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04ITSRT_length_193_xy_3502_3159_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IU7EB_length_500_xy_3518_3233_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IURIQ_length_515_xy_3513_3136_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IVN8R_length_487_xy_3524_0489_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IW5ZR_length_490_xy_3541_0517_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IWO43_length_426_xy_3535_3253_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IWZ08_length_441_xy_3539_0986_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IXQL0_length_493_xy_3547_2662_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IXQLK_length_453_xy_3547_2646_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IYESO_length_499_xy_3555_1238_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IYFE3_length_514_xy_3555_2045_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IZKPM_length_491_xy_3568_2312_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04IZOD8_length_435_xy_3569_2990_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04JA3LE_length_489_xy_3699_3424_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04JA75A_length_475_xy_3701_1132_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04JAFTJ_length_504_xy_3692_1285_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04JAHRO_length_250_xy_3692_3810_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04JANC3_length_397_xy_3694_2869_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04JC5HL_length_478_xy_3723_0887_region_4_run_R_2011_04_06_07_55_54_0

DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04JCIY7_length_489_xy_3716_0385_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04JCJBJ_length_495_xy_3716_0829_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04JDSV4_length_263_xy_3730_2546_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04JF8TC_length_386_xy_3758_1806_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04JH3GG_length_498_xy_3779_2158_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04JHI3P_length_493_xy_3773_0355_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04JHOIS_length_436_xy_3774_3282_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04JI3GI_length_498_xy_3790_3760_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04JI840_length_460_xy_3792_2930_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04JIVMO_length_394_xy_3788_1806_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04JK0JB_length_443_xy_3812_3173_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04JKUBT_length_466_xy_3810_3319_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04JKWED_length_337_xy_3811_1907_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04JL057_length_487_xy_3824_1501_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04JLW6Q_length_504_xy_3823_0432_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04JM7PM_length_428_xy_3837_3384_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04JMM2P_length_394_xy_3831_1215_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04JN494_length_504_xy_3848_1834_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04JN4LP_length_452_xy_3848_0955_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04JNI7P_length_427_xy_3841_1907_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04JNPBC_length_406_xy_3843_1622_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04JO169_length_402_xy_3858_3539_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04JOLF7_length_483_xy_3853_2309_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04JOVZB_length_476_xy_3856_3669_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04JPHCA_length_347_xy_3863_2680_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04JQ8GK_length_507_xy_3883_2562_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04JQIG7_length_407_xy_3875_1657_region_4_run_R_2011_04_06_07_55_54_0

DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04JRJCK_length_444_xy_3887_0290_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04JROFO_length_437_xy_3888_2786_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04JSXZU_length_383_xy_3903_0392_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04JU0TG_length_495_xy_3926_3154_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04JUWAE_length_472_xy_3925_1380_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04JV09X_length_504_xy_3938_1251_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04JX59T_length_411_xy_3962_2735_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04JXHPQ_length_466_xy_3954_3676_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04JXPFS_length_289_xy_3957_1398_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04JYHRU_length_388_xy_3966_1256_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04JYKSY_length_496_xy_3967_1088_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	G0K4BGD04JZ20P_length_393_xy_3984_1719_region_4_run_R_2011_04_06_07_55_54_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q02C3PA6_length_501_xy_1155_0848_region_2_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q02CXM75_length_373_xy_1086_0835_region_2_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q02DLXPV_length_499_xy_1362_3681_region_2_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q02DY77G_length_229_xy_1514_1210_region_2_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q02EC1DU_length_338_xy_1671_2480_region_2_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q02ECGQU_length_377_xy_1665_0308_region_2_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q02EECU0_length_414_xy_1686_2570_region_2_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q02EFILF_length_420_xy_1699_3409_region_2_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q03F0S9R_length_479_xy_2352_1949_region_3_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q03F66Q7_length_447_xy_2425_0353_region_3_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q03F7U5I_length_430_xy_2432_3300_region_3_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q03F8UTG_length_499_xy_2444_0370_region_3_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q03F99KF_length_477_xy_2460_0605_region_3_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q03FHGY0_length_295_xy_2132_0666_region_3_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q03FJUHO_length_502_xy_2159_0906_region_3_run_R_2010_10_15_04_30_31_0

DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q03FM7C3_length_406_xy_2197_1909_region_3_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q03FMUO0_length_513_xy_2193_1874_region_3_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q03FN56L_length_461_xy_2208_1979_region_3_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q03FNG65_length_205_xy_2200_2367_region_3_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q03FOBHO_length_311_xy_2210_0666_region_3_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q03FP1RI_length_218_xy_2229_3548_region_3_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q03FPDR4_length_418_xy_2222_1138_region_3_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q03FQ166_length_261_xy_2241_1616_region_3_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q03FQIJD_length_340_xy_2235_0711_region_3_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q03FS7HZ_length_463_xy_2265_3493_region_3_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q03FUDEM_length_489_xy_2279_0460_region_3_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q03FUUX1_length_495_xy_2284_2711_region_3_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q03FVMUY_length_466_xy_2293_2024_region_3_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q03FYNAR_length_331_xy_2327_3297_region_3_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q03FYRIC_length_497_xy_2329_0562_region_3_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q03FZ18N_length_298_xy_2343_3781_region_3_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q03G0T0R_length_517_xy_2762_3177_region_3_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q03G2PK3_length_511_xy_2784_0629_region_3_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q03G3F67_length_466_xy_2792_2353_region_3_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q03G3FU1_length_509_xy_2792_1915_region_3_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q03G4350_length_186_xy_2811_2246_region_3_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q03G7EAP_length_491_xy_2837_2191_region_3_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q03GCC61_length_337_xy_2484_0315_region_3_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q03GE1O6_length_405_xy_2514_2504_region_3_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q03GF43E_length_490_xy_2527_0312_region_3_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q03GGRGH_length_459_xy_2534_0623_region_3_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q03GINJU_length_415_xy_2555_2856_region_3_run_R_2010_10_15_04_30_31_0

DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q03GJK8N_length_469_xy_2566_1461_region_3_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q03GN62K_length_324_xy_2618_3386_region_3_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q03GPDA9_length_477_xy_2632_0787_region_3_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q03GQSTV_length_463_xy_2648_2017_region_3_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q03GR7EK_length_492_xy_2664_2026_region_3_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q03GTVZ8_length_432_xy_2683_2742_region_3_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q03GVI5Z_length_440_xy_2702_1589_region_3_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q03GZ2YS_length_405_xy_2754_0882_region_3_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04H04ZB_length_456_xy_3176_1253_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04H0JKO_length_225_xy_3169_2182_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04H2LFO_length_264_xy_3192_3698_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04H2NDB_length_305_xy_3193_2109_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04H2ZUZ_length_378_xy_3197_1913_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04H3HWO_length_198_xy_3203_0726_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04H4EVC_length_394_xy_3213_2486_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04H7J7Q_length_370_xy_3249_1924_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04HWIBF_length_457_xy_3123_2345_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04I1RJE_length_438_xy_3593_2072_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04I3LP3_length_423_xy_3614_1833_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04I7Z6L_length_330_xy_3664_2395_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04IAO3Q_length_367_xy_3285_0772_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04IBYNR_length_413_xy_3299_2469_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04IEACG_length_446_xy_3326_0334_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04IEQAD_length_245_xy_3331_0515_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04IF10P_length_494_xy_3346_0935_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04IFNUL_length_465_xy_3341_3051_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04II2S3_length_502_xy_3380_2661_region_4_run_R_2010_10_15_04_30_31_0

DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04IJ9SA_length_491_xy_3394_1016_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04IJIJH_length_427_xy_3385_2571_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04IJY47_length_504_xy_3390_3609_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04IL42R_length_410_xy_3415_2209_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04ILOEG_length_411_xy_3410_1078_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04ILRLV_length_248_xy_3411_1137_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04IP3IU_length_500_xy_3460_2500_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04IPDQB_length_409_xy_3452_1841_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04IPZVE_length_484_xy_3459_1864_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04IR4H6_length_424_xy_3483_2876_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04ISWRY_length_484_xy_3492_2652_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04IUQSQ_length_210_xy_3513_2200_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04IV3XX_length_414_xy_3529_0355_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04IVL5J_length_474_xy_3523_1877_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04IWIAP_length_424_xy_3533_2575_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04IYAAS_length_378_xy_3553_3602_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04IYB1X_length_358_xy_3554_1779_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04JABBE_length_337_xy_3690_3640_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04JCC0E_length_328_xy_3714_0844_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04JEN6Z_length_304_xy_3740_2153_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04JFHNG_length_382_xy_3749_3466_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04JG19T_length_430_xy_3767_3119_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04JG6F2_length_494_xy_3769_0336_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04JICMW_length_426_xy_3782_1766_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04JKXAW_length_320_xy_3811_3078_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04JL3C9_length_403_xy_3825_0251_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04JLEM8_length_328_xy_3817_0978_region_4_run_R_2010_10_15_04_30_31_0

DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04JLOZJ_length_481_xy_3820_2093_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04JNH8O_length_432_xy_3841_0646_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04JO1M6_length_445_xy_3858_2816_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04JQFYR_length_403_xy_3874_2497_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04JRR1N_length_229_xy_3889_3369_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04JS9ZQ_length_467_xy_3906_3652_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04JT5CE_length_444_xy_3916_3324_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04JTV5E_length_429_xy_3913_3696_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04JU2CN_length_254_xy_3927_1045_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04JVYIE_length_482_xy_3937_1764_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04JXWQO_length_457_xy_3959_2670_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GPIPG5Q04JYKHX_length_374_xy_3967_0691_region_4_run_R_2010_10_15_04_30_31_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS02D4VAS_length_233_xy_1578_2274_region_2_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04H0DQL_length_503_xy_3167_2811_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04H0O5F_length_497_xy_3171_1217_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04H147B_length_459_xy_3187_3141_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04H15IC_length_493_xy_3187_3538_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04H17T3_length_479_xy_3188_2457_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04H19VN_length_180_xy_3189_1009_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04H1I0L_length_457_xy_3180_3059_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04H1UWR_length_467_xy_3184_2089_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04H1XP6_length_455_xy_3185_1644_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04H2BF0_length_301_xy_3189_3038_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04H2SB0_length_501_xy_3195_0350_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04H30Z2_length_211_xy_3209_0896_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04H3F1J_length_479_xy_3202_2405_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04H3JR3_length_465_xy_3203_3153_region_4_run_R_2011_03_28_08_06_05_0

DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04H3OJX_length_477_xy_3205_1147_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04H3TNU_length_405_xy_3206_3672_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04H4IJE_length_362_xy_3214_3144_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04H5830_length_434_xy_3234_2318_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04H5XLZ_length_160_xy_3230_3797_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04H6K57_length_492_xy_3238_1565_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04H6KDF_length_221_xy_3238_0529_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04H7821_length_492_xy_3257_1387_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04H7SL6_length_493_xy_3252_0524_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04H8L4V_length_226_xy_3261_1917_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04H93LW_length_463_xy_3278_1586_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04HYU3M_length_337_xy_3150_1632_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04HZBTP_length_380_xy_3155_2827_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04HZGKJ_length_501_xy_3157_0785_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04I2DIX_length_483_xy_3600_1895_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04I345T_length_462_xy_3620_2447_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04I3Q9Q_length_484_xy_3616_0828_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04I3VB1_length_481_xy_3617_1999_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04I4284_length_466_xy_3631_1574_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04I4J1S_length_364_xy_3625_1262_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04I5LNG_length_103_xy_3637_0842_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04I6AQG_length_439_xy_3645_0582_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04I6CRI_length_476_xy_3645_3212_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04I6QDJ_length_472_xy_3650_0373_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04I7XSS_length_197_xy_3663_3402_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04I8886_length_378_xy_3678_3464_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04I8FOL_length_131_xy_3669_2003_region_4_run_R_2011_03_28_08_06_05_0

DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04I8JW7_length_189_xy_3670_3401_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04I8PTL_length_259_xy_3672_2855_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04I9O01_length_465_xy_3683_3427_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04IAI0H_length_241_xy_3283_1071_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04IB72Y_length_242_xy_3302_2392_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04IBHBZ_length_375_xy_3294_0493_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04IBWXE_length_498_xy_3299_0224_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04ICF6G_length_495_xy_3305_0598_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04IDGDX_length_494_xy_3316_2467_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04IG60X_length_142_xy_3359_0831_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04IG7CY_length_494_xy_3359_1264_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04IIXR4_length_477_xy_3379_0242_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04IJ5I4_length_476_xy_3392_3694_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04IL4MG_length_507_xy_3415_1622_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04ILU5F_length_472_xy_3412_1633_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04IMLLK_length_498_xy_3420_3142_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04IMS37_length_381_xy_3423_0597_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04INX66_length_328_xy_3436_0592_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04IPQSQ_length_310_xy_3456_2392_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04IQ1WB_length_475_xy_3471_1993_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04IQ79G_length_270_xy_3473_2050_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04IQ7XA_length_362_xy_3473_1612_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04IUDG5_length_323_xy_3509_1319_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04IUL2J_length_495_xy_3512_0169_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04IURH8_length_457_xy_3513_3118_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04IVMM8_length_173_xy_3523_2514_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04IW0EN_length_260_xy_3539_1469_region_4_run_R_2011_03_28_08_06_05_0

DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04IW2ZI_length_461_xy_3540_0716_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04IWA62_length_473_xy_3531_1564_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04IWNI8_length_513_xy_3535_1170_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04IYIPX_length_502_xy_3556_2227_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04IYY93_length_396_xy_3561_3209_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04IYYG3_length_485_xy_3561_2165_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04IZWD3_length_483_xy_3572_1065_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04JAHFJ_length_376_xy_3692_3373_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04JBZYL_length_515_xy_3710_0315_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04JC9GA_length_464_xy_3724_1928_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04JCL9Q_length_483_xy_3717_0556_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04JDKTM_length_374_xy_3728_0280_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04JFONT_length_468_xy_3752_0263_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04JFTJ2_length_229_xy_3753_2512_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04JG0VD_length_457_xy_3767_1303_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04JG2N6_length_460_xy_3767_3636_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04JG6M0_length_493_xy_3769_0586_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04JGHSW_length_108_xy_3761_1166_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04JIC04_length_197_xy_3782_2278_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04JIMJV_length_488_xy_3785_2329_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04JJ1W4_length_441_xy_3801_3366_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04JJMS7_length_263_xy_3797_0169_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04JLMAM_length_386_xy_3819_2700_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04JQ559_length_477_xy_3882_3695_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04JR3MY_length_509_xy_3893_2008_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04JR6JN_length_450_xy_3894_1681_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04JTHIM_length_209_xy_3909_1116_region_4_run_R_2011_03_28_08_06_05_0

DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04JTJ4K_length_477_xy_3910_0402_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04JTMKG_length_357_xy_3910_3566_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04JUCI7_length_474_xy_3919_0353_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04JUCP4_length_210_xy_3919_0602_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04JV62J_length_497_xy_3940_0569_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04JW9VJ_length_457_xy_3952_1709_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04JWDV8_length_457_xy_3942_1222_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04JYFGB_length_250_xy_3965_2345_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04JYHP2_length_483_xy_3966_1192_region_4_run_R_2011_03_28_08_06_05_0
DsrA-SOB	ETSP Sulfide Plume (10)	GZ2L4FS04JYZ4B_length_469_xy_3972_0457_region_4_run_R_2011_03_28_08_06_05_0

Table S4. Accession identifiers for version 1 assemblies used in this work under NCBI BioProject PRJNA350692.

Assembly	Level	WGS	BioSample	Taxonomy
GCA_002896075.1	Contig	MPLT00000000.1	SAMN05944800	marine metagenome
GCA_002896175.1	Contig	MPLU00000000.1	SAMN05944801	marine metagenome
GCA_002896135.1	Contig	MPMB00000000.1	SAMN05944808	marine metagenome
GCA_002896295.1	Contig	MPMA00000000.1	SAMN05944807	marine metagenome
GCA_002896095.1	Contig	MPLW00000000.1	SAMN05944803	marine metagenome
GCA_002896195.1	Contig	MPLX00000000.1	SAMN05944804	marine metagenome
GCA_002896035.1	Contig	MPLV00000000.1	SAMN05944802	marine metagenome
GCA_002896055.1	Contig	MOXS00000000.1	SAMN05944799	marine metagenome
GCA_002896275.1	Contig	MPLZ00000000.1	SAMN05944806	marine metagenome
GCA_002896255.1	Contig	MPLY00000000.1	SAMN05944805	marine metagenome
GCA_002896315.1	Contig	MPMD00000000.1	SAMN05944810	marine metagenome
GCA_002896115.1	Contig	MPMC00000000.1	SAMN05944809	marine metagenome
GCA_002896335.1	Contig	MPMF00000000.1	SAMN05944812	marine metagenome
GCA_002896155.1	Contig	MPME00000000.1	SAMN05944811	marine metagenome

Table S5. Additional information for sequences used to construct the ArrB tree (Fig. S2). The terminal number on sequence identifiers of the extant nodes of the tree are referred to as tree reference numbers. Accession & gi number correspond to the NCBI RefSeq database.

Tree reference number	Organism	Clade	Accession
1	Alkalilimnicola_ehrlichii	ArxB	WP_041717854.1
2	Ectothiorhodospira_sp_PHS_1	ArxB	WP_008932022.1
3	Thioalkalivibrio_sp_ALM2T	ArxB	WP_019593328.1
4	Shewanella_putrefaciens_200	ArrB	WP_014610143.1
5	Ferrimonas_balearica	ArrB	WP_013345578.1
6	Alkaliphilus_metalliredigens	ArrB	WP_012062250.1
7	Desulfitobacterium_hafniense	ArrB	WP_015943298.1
8	Desulfurispirillum_indicum	ArrB	WP_013505024.1
9	Geobacter_lovleyi	ArrB	WP_012469219.1
10	Denitrovibrio_acetiphilus	ArrB	WP_013011387.1
11	Bacillus_selenitireducens	ArrB	WP_013173527.1
12	Sulfolobus solfataricus	Outgroup	WP_009991948.1
13	gene_45_ArrA_ETNP_allDepths_contig_2	ArrB	KY305110

Table S6. Additional information for sequences used to construct the DMSO reductase family tree (Fig. 5A and Fig. S4), including the sequences used to construct the AioA, AioA-Like, and ArrA trees (Fig. 2A and 3A). The terminal number on sequence identifiers of the extant nodes of the tree are referred to as tree reference numbers. Accession & gi number correspond to the NCBI RefSeq database.

Tree reference number	Organism	Group on Tree	Accession
229	Pelobacter_acetylenicus	Ahy	AAQ08379.1
231	Bordetella_bronchiseptica_RB50	Ahy	CAE30967.1
232	Photorhabdus_luminescens_subsp_laumondii_TTO1	Ahy	CAE14555.1
276	Aromatoleum_aromaticum	Ahy	WP_011239635.1
280	Cupriavidus_pinatubonensis	Ahy	WP_011301866.1
294	Magnetococcus_marinus	Ahy	WP_011713239.1
299	Desulfitobacterium_hafniense	Ahy	WP_015943995.1
75	Achromobacter_arsenitoxydans_SY8	AioA	WP_008163524.1
76	Herminiimonas_arsenicoxydans	AioA	WP_011870033.1
77	Acidovorax_sp_NO_1	AioA	ADO32566.1
78	Rhodoferax_ferrireducens	AioA	WP_011465357.1
79	Alcaligenes_faecalis	AioA	WP_003804071.1
80	Thiomonas_arsenitoxydans	AioA	WP_013107016.1
81	Ralstonia_sp_22	AioA	ACX69823.1
82	Ochrobactrum_tritici	AioA	ACK38267.1
83	Sinorhizobium_sp_M14	AioA	WP_015647692.1
84	Xanthobacter_autotrophicus	AioA	WP_012115922.1
85	Nitrobacter_hamburgensis	AioA	WP_011505135.1
86	Pseudomonas_sp_S11	AioA	CBX43995.1

87	Pseudomonas_stutzeri_TS44	AioA	WP_003291052.1
88	Halomonas_sp_HAL1	AioA	ACF77048.1
89	Nitrospira_defluvii	AioA	WP_013250203.1
90	Chloroflexus_aggregans	AioA	WP_012615689.1
91	Thermus_thermophilus_HB8	AioA	WP_011229171.1
92	Thermus_scotoductus	AioA	WP_015717354.1
93	Thermus_sp_BXW	AioA	ACI95250.1
94	Thermus_sp_BXR	AioA	ACI95251.1
95	Thermus_sp_MKB	AioA	ACI95253.1
96	Thermus_sp_MKW	AioA	ACI95252.1
97	Pyrobaculum_calidifontis_JCM_11548	AioA	ABO08790.1
98	Aeropyrum_pernix_K1	AioA	BAA81573.2
99	Sulfolobus_tokodaii_str_7	AioA	WP_010980475.1
233	Rhizobium_sp_NT-26	AioA	AAR05656.1
297	Chloroflexus	AioA	WP_012257094.1
339	gene_2_ETNP_allDepths_AioA_contig_0	AioA	KY305109
193	Roseobacter_litoralis	AioA-Like	WP_013962104.1
194	Marinomonas_sp_MED121	AioA-Like	WP_009833997.1
195	Vibrio_sp_MED222	AioA-Like	EAQ53648.1
196	Moritella_sp_PE36	AioA-Like	WP_006033605.1
305	Halorubrum_sp_AJ67	AioA-like	CDK40392.1
306	Halorubrum_kocurii	AioA-like	WP_008847153.1
307	Halorubrum_tebenquichense	AioA-like	WP_006630729.1
308	Halobiforma_lacisalsi	AioA-like	WP_007141861.1
317	gene_188_ETNP_BB2_100m_particle_NODE_258917	AioA-Like	GCA_002896115.1
318	gene_169_ETNP_BB2_100m_particle_NODE_273672	AioA-Like	GCA_002896115.1
319	gene_194_ETNP_BB2_120m_free_NODE_1224959	AioA-Like	GCA_002896335.1

320	gene_198_ETNP_BB2_120m_free_NODE_1328658	AioA-Like	GCA_002896335.1
321	gene_117_ETNP_BB2_120m_free_NODE_367591	AioA-Like	GCA_002896335.1
322	gene_2_ETNP_BB2_120m_free_NODE_3938	AioA-Like	GCA_002896335.1
324	gene_13_ETNP_BB2_120m_free_NODE_652617	AioA-Like	GCA_002896335.1
325	gene_8_ETNP_120m_NODE_148276	AioA-Like	GCA_002896195.1
326	gene_143_ETNP_120m_NODE_2008903	AioA-Like	GCA_002896195.1
328	gene_166_ETNP_120m_NODE_384418	AioA-Like	GCA_002896195.1
329	gene_110_ETNP_120m_NODE_578344	AioA-Like	GCA_002896195.1
330	gene_76_ETNP_120m_NODE_73101	AioA-Like	GCA_002896195.1
331	gene_126_ETNP_120m_NODE_883207	AioA-Like	GCA_002896195.1
332	gene_205_ETNP_BB2_120m_particle_NODE_118706	AioA-Like	GCA_002896315.1
333	gene_173_ETNP_BB2_120m_particle_NODE_380285	AioA-Like	GCA_002896315.1
334	gene_183_ETNP_140m_NODE_108852	AioA-Like	GCA_002896255.1
335	gene_17_ETNP_140m_NODE_57921	AioA-Like	GCA_002896255.1
336	Labrenzia alba	AioA-Like	WP_055674781.1
340	gene_51_ETNP_allDepths_AioA-Like_contig_0	AioA-Like	KY400105
343	gene_116_ETNP_allDepths_AioA-Like_contig_4	AioA-Like	KY400106
345	gene_139_ETNP_allDepths_AioA-Like_contig_7	AioA-Like	KY400107
346	gene_165_ETNP_allDepths_AioA-Like_contig_14	AioA-Like	KY400108
347	gene_234_ETNP_allDepths_AioA-Like_contig_48	AioA-Like	KY400109
105	Shewanella_sp_W3_18_1	ArrA	WP_011790217.1
106	Shewanella_putrefaciens_200	ArrA	WP_014610142.1
107	Ferrimonas_balearica	ArrA	WP_013345579.1
108	Alkaliphilus_oremlandii	ArrA	WP_012158954.1
109	Alkaliphilus_metalliredigens	ArrA	WP_012062249.1
110	Halarsenatibacter_silvermanii	ArrA	ACF74513.1
111	Natranaerobius_thermophilus	ArrA	WP_012447122.1

112	Desulfitobacterium_hafniense	ArrA	WP_015943299.1
113	Wolinella_succinogenes	ArrA	WP_011138677.1
114	Sulfurospirillum_barnesii_SES_3	ArrA	AAU11840.2
115	Desulfurispirillum_indicum	ArrA	WP_013505023.1
116	Chrysiogenes_arsenatis_DSM_11915	ArrA	AAU11839.1
117	Geobacter_lovleyi	ArrA	WP_012469220.1
118	Denitrovibrio_acetiphilus	ArrA	WP_013011386.1
119	Bacillus_selenitireducens	ArrA	WP_013173528.1
120	Anaerobacillus_arseniciselenatis	ArrA	AAU11841.2
309	Halobiforma_nitratireducens	ArrA	WP_006671188.1
310	Natronobacterium_gregoryi	ArrA	WP_005576997.1
338	gene_44_ETNP_allDepths_ArrA_contig_2	ArrA	KY305110
100	Alkalilimnicola_ehrlichii	ArxA	WP_011627967.1
101	Halorhodospira_halophila	ArxA	WP_011813170.1
102	Ectothiorhodospira_sp_PHS_1	ArxA	WP_008932021.1
103	Thioalkalivibrio_sp_ALM2T	ArxA	WP_019593327.1
104	Halomonas_chromatireducens	ArxA	AMD01645.1
16	Shewanella sp MR-7	DmsA/TorA	WP_011624830.1
19	Roseobacter denitrificans OCh 114	DmsA/TorA	WP_011569751.1
22	Escherichia coli str. K-12 substr. DH10B	DmsA/TorA	WP_000850303.1
23	Escherichia coli str. K-12 substr. DH10B	DmsA/TorA	WP_001062091.1
28	Escherichia coli str. K-12 substr. DH10B	DmsA/TorA	WP_001311208.1
32	Shewanella oneidensis MR-1	DmsA/TorA	NP_717049.1
33	Salmonella typhimurium LT2	DmsA/TorA	NP_459940.1
39	Salmonella typhimurium LT2	DmsA/TorA	NP_462545.1
40	Salmonella typhimurium LT2	DmsA/TorA	NP_462722.1
48	Bordetella petrii DSM 12804	DmsA/TorA	WP_012251054.1

207	Escherichia_coli_O157-H7_str_Sakai	DmsA/TorA	BAB36807.1
222	Shewanella_oneidensis_MR-1	DmsA/TorA	AAN57326.1
274	Symbiobacterium_thermophilum	DmsA/TorA	WP_011194846.1
284	Moorella_thermoacetica	DmsA/TorA	WP_011392902.1
289	Desulfitobacterium_hafniense	DmsA/TorA	WP_011462161.1
300	Desulfitobacterium_hafniense	DmsA/TorA	WP_015945402.1
10	Alkalilimnicola ehrlichei MLHE-1	Fdh-H	WP_011630246.1
14	Oligotropha carboxidovorans OM5	Fdh-H	WP_012563839.1
15	Sulfolobus islandicus M.14.25	Fdh-H	WP_012712405.1
21	Roseobacter denitrificans OCh 114	Fdh-H	WP_011570280.1
30	Methylibium petroleiphilum PM1	Fdh-H	WP_011827938.1
42	Salmonella typhimurium LT2	Fdh-H	NP_463150.1
46	Bordetella petrii DSM 12804	Fdh-H	WP_012250584.1
63	Sinorhizobium meliloti 1021	Fdh-H	NP_387115.1
68	Rhizobium sp. NGR234	Fdh-H	YP_002827576.1
72	Burkholderia multivorans ATCC 17616	Fdh-H	WP_012213900.1
6	Herminiimonas arsenicoxydans	Fdh-N	WP_011870918.1
9	Bacillus selenitireducens MLS10	Fdh-N	WP_041581796.1
11	Pyrobaculum aerophilum str. IM2	Fdh-N	AAL64350.1
17	Roseobacter denitrificans OCh 114	Fdh-N	WP_011569037.1
25	Escherichia coli str. K-12 substr. DH10B	Fdh-N	WP_010723100.1
29	Escherichia coli str. K-12 substr. DH10B	Fdh-N	ACB03442.1
41	Salmonella typhimurium LT2	Fdh-N	NP_462917.1
49	Bordetella petrii DSM 12804	Fdh-N	WP_012251487.1
51	Chromobacterium violaceum ATCC 12472	Fdh-N	AAQ61501.1
70	Burkholderia multivorans ATCC 17616	Fdh-N	WP_012217280.1
209	Pseudomonas_aeruginosa_PAO1	MopB1	NP_251404.1

244	Burkholderia_mallei_ATCC_23344	MopB1	YP_103247.1
246	Nocardia_farcinica_IFM_10152	MopB1	BAD55042.1
251	Ruegeria_pomeroyi_DSS-3	MopB1	AAV95124.1
264	Mycobacterium_tuberculosis	MopB1	WP_010886070.1
271	Streptomyces_avermitilis	MopB1	WP_010987991.1
275	Nocardia_farcinica	MopB1	WP_011209478.1
277	Pseudomonas_syringae	MopB1	WP_011268725.1
286	Erythrobacter_litoralis	MopB1	WP_011414099.1
2	Veillonella parvula DSM 2008	MopB3	WP_012864832.1
61	Sinorhizobium meliloti 1021	MopB3	NP_385284.1
203	Deinococcus radiodurans R1	MopB3	AAF09974.1
215	Ralstonia_solanacearum_GMI1000	MopB3	CAD16566.1
243	Symbiobacterium_thermophilum_IAM_14863	MopB3	BAD39503.1
250	Aromatoleum_aromaticum_EbN1	MopB3	CAI08001.1
252	Ruegeria_pomeroyi_DSS-4	MopB3	AAV96418.1
257	Bacillus	MopB3	WP_003182502.1
283	Moorella_thermoacetica	MopB3	WP_011392757.1
3	Campylobacter concisus 13826	NapA	WP_012001481.1
4	Sulfurovum sp. NBC37-1	NapA	WP_011979992.1
5	Deferribacter desulfuricans SSM1	NapA	WP_013008520.1
20	Roseobacter denitrificans OCh 114	NapA	WP_011570215.1
31	Shewanella oneidensis MR-1	NapA	NP_716479.1
38	Salmonella typhimurium LT2	NapA	NP_461202.1
45	Bordetella petrii DSM 12804	NapA	CAP43981.1
47	Bordetella petrii DSM 12804	NapA	WP_012250968.1
50	Chromobacterium violaceum ATCC 12472	NapA	WP_011135776.1
52	Ralstonia solanacearum GMI1000	NapA	WP_011004503.1

64	Sinorhizobium meliloti 1021	NapA	NP_437651.1
65	Rhizobium sp. NGR234	NapA	YP_002823343.1
66	Rhizobium sp. NGR234	NapA	YP_002825545.1
69	Burkholderia multivorans ATCC 17616	NapA	WP_012216933.1
73	Hahella chejuensis KCTC 2396	NapA	WP_011397186.1
201	Clostridium_perfringens	NapA	BAA74791.1
225	Streptomyces_avermitilis_MA-4680	NapA	BAC70041.1
226	Rhodopirellula_baltica_SH_1	NapA	CAD71546.1
281	Pseudomonas_fluorescens_	NapA	WP_011333254.1
282	Burkholderia_lata	NapA	WP_011354950.1
26	Escherichia coli str. K-12 substr. DH10B	NapA	WP_000778061.1
59	Sinorhizobium meliloti 1021	NapA	NP_435920.1
204	Pseudomonas_putida	NapA	AAF74559.1
210	Aquifex_aeolicus_VF5	NapA	NP_213150.1
1	Veillonella parvula DSM 2008	NarG/SerA/EbdA/PcrA	WP_012863814.1
24	Escherichia coli str. K-12 substr. DH10B	NarG/SerA/EbdA/PcrA	WP_000040458.1
35	Salmonella typhimurium LT2	NarG/SerA/EbdA/PcrA	NP_460536.1
36	Salmonella typhimurium LT2	NarG/SerA/EbdA/PcrA	NP_460720.1
74	Hahella chejuensis KCTC 2396	NarG/SerA/EbdA/PcrA	WP_011397795.1
134	Roseobacter_denitrificans	NarG/SerA/EbdA/PcrA	WP_011568625.1
135	Oligotropha_carboxidovorans	NarG/SerA/EbdA/PcrA	WP_012562208.1
140	Ralstoni_ pickettii	NarG/SerA/EbdA/PcrA	WP_012436181.1
143	Rhodoferax_ferrireducens	NarG/SerA/EbdA/PcrA	WP_011465070.1
147	Herminiimonas_arsenicoxydans	NarG/SerA/EbdA/PcrA	WP_011871147.1
153	Shewanella_sp_MR_7	NarG/SerA/EbdA/PcrA	WP_011626416.1
156	Pseudomonas_stutzeri	NarG/SerA/EbdA/PcrA	WP_013981797.1
161	Geobacillus_sp_WCH70	NarG/SerA/EbdA/PcrA	WP_015863792.1

163	Staphylococcus_haemolyticus	NarG/SerA/EbdA/PcrA	WP_053027466.1
164	Staphylococcus_aureus	NarG/SerA/EbdA/PcrA	WP_000514391.1
166	Kribbella_flavida	NarG/SerA/EbdA/PcrA	WP_012921751.1
168	Mycobacterium_sp_JLS	NarG/SerA/EbdA/PcrA	WP_011854954.1
170	Pyrobaculum_arsenaticum_DSM_13514	NarG/SerA/EbdA/PcrA	ABP50094.1
171	Pyrobaculum_calidifontis_JCM_11548	NarG/SerA/EbdA/PcrA	ABO09323.1
172	Sulfolobus_islandicus_M1425	NarG/SerA/EbdA/PcrA	WP_012710902.1
174	Aeropyrum_pernix_K1	NarG/SerA/EbdA/PcrA	BAA80279.2
175	Thauera_selenatis	NarG/SerA/EbdA/PcrA	Q9S1H0.1
208	Azoarcus_sp_EB1	NarG/SerA/EbdA/PcrA	AAK76387.1
212	Mycobacterium_tuberculosis_H37Rv	NarG/SerA/EbdA/PcrA	NP_215677.1
224	Dechloromonas_agitata	NarG/SerA/EbdA/PcrA	AAO49008.1
234	Ideonella_dechloratans	NarG/SerA/EbdA/PcrA	CAD97447.1
254	Thermus_thermophilus_HB8	NarG/SerA/EbdA/PcrA	CAA71210.2
261	Archaeoglobus fulgidus	NarG/SerA/EbdA/PcrA	WP_010877688.1
285	Moorella_thermoacetica	NarG/SerA/EbdA/PcrA	WP_011393408.1
349	Carboxydothermus ferrireducens	NarG/SerA/EbdA/PcrA	WP_028051983.1
350	Geoglobus ahangari	NarG/SerA/EbdA/PcrA	WP_048095430.1
351	Sedimenticola selenatireducens	NarG/SerA/EbdA/PcrA	WP_029133571.1
352	Dechloromonas sp. A34	NarG/SerA/EbdA/PcrA	ACV70151.1
353	Azospira oryzae	NarG/SerA/EbdA/PcrA	WP_014235273.1
354	Dechlorosoma sp. KJ	NarG/SerA/EbdA/PcrA	ACB69917.1
7	Herminiimonas arsenicoxydans	NuoG/Nqo3	CAL61975.1
12	Phenylobacterium zucineum HLK1	NuoG/Nqo3	WP_012522351.1
13	Oligotropha carboxidovorans OM5	NuoG/Nqo3	WP_012563077.1
18	Roseobacter denitrificans OCh 114	NuoG/Nqo3	WP_011569395.1
43	Salmonella typhimurium LT2	NuoG/Nqo3	NP_461265.2

44	Bordetella petrii DSM 12804	NuoG/Nqo3	WP_012248606.1
60	Sinorhizobium meliloti 1021	NuoG/Nqo3	NP_436074.1
62	Sinorhizobium meliloti 1021	NuoG/Nqo3	NP_385378.1
67	Rhizobium sp. NGR234	NuoG/Nqo3	YP_002826719.1
71	Burkholderia multivorans ATCC 17616	NuoG/Nqo3	WP_012213012.1
206	Buchnera_aphidicola	NuoG/Nqo3	WP_010895977.1
223	Shewanella_oneidensis_MR-2	NuoG/Nqo3	NP_716644.1
235	Candidatus_Blochmannia_floridanus	NuoG/Nqo3	CAD83177.1
236	Pseudomonas_aeruginosa	NuoG/Nqo3	WP_003113377.1
239	uncultured_marine_bacterium_463	NuoG/Nqo3	AAS07949.1
245	Methylococcus_capsulatus_str_Bath	NuoG/Nqo3	AAU92580.1
258	Acinetobacter	NuoG/Nqo3	WP_004922513.1
278	Psychrobacter_arcticus	NuoG/Nqo3	WP_011279878.1
302	Escherichia_coli	NuoG/Nqo3	KGM70396.1
355	Roseobacter denitrificans NarH	Outgroup/NarH	WP_011568626.1
218	Azoarcus_evansii	PadB2	CAD21686.1
259	Magnetospirillum magnetotacticum	PadB2	WP_009869348.1
348	Aromatoleum_aromaticum	PadB2	WP_011238861.1
121	Acidiphilium_cryptum	PsrA	WP_011941465.1
123	Halorhodospira_halophila	PsrA	WP_011813964.1
124	Alkalilimnicola_ehrlichii	PsrA	WP_011628382.1
125	Wolinella_succinogenes	PsrA	WP_011138081.1
126	Campylobacter_concisus_13826	PsrA	WP_012140134.1
127	Desulfovibrio_alaskensis	PsrA	WP_011366771.1
128	Moorella_thermoacetica_ATCC_39073	PsrA	WP_011391988.1
129	Carboxydothermus_hydrogenoformans	PsrA	WP_011345440.1
130	Thermus_multispecies	PsrA	WP_011172610.1

131	Pyrobaculum_aerophilum_str_IM2	PsrA	AAL64489.1
132	Pyrobaculum_calidifontis_JCM_11548	PsrA	ABO08919.1
133	Archaeoglobus_fulgidus_DSM_4304	PsrA	WP_010879871.1
197	Wolinella_succinogenes	PsrA	CAA46176.1
220	Chlorobium_tepidum_TLS	PsrA	NP_661396.1
221	Acidianus_ambivalens	PsrA	CAC86937.1
267	Sulfolobus solfataricus	PsrA	WP_010923481.1
34	Salmonella typhimurium LT2	TtrA	NP_461010.1
176	Escherichia_coli	TtrA	WP_016236477.1
177	Wolinella_succinogenes	TtrA	WP_011138838.1
178	Dehalococcoides_mccartyi	TtrA	WP_011928749.1
179	Archaeoglobus_fulgidus_DSM_4304	TtrA	WP_010877671.1
180	Pyrobaculum_arsenaticum_DSM_13514	TtrA	ABP49991.1
181	Pyrobaculum_aerophilum_str_IM2	TtrA	AAL63359.1
202	Aeropyrum_pernix_K1	TtrA	BAA81628.1
211	Aquifex_aeolicus_VF5	TtrA	NP_213844.1
213	Salmonella_enterica_subsp_enterica_serovar_Typhi_str_CT18	TtrA	NP_456144.1
240	Photobacterium_profundum_SS9	TtrA	CAG21876.1
241	Photobacterium_profundum_SS9	TtrA	CAG23239.1
253	Ruegeria_pomeroyi_DSS-5	TtrA	AAV96784.1
260	Magnetospirillum magnetotacticum	TtrA	WP_009870642.1
266	Mesorhizobium_loti	TtrA	WP_010913367.1
268	Sulfolobus solfataricus	TtrA	WP_010923973.1
269	Bordetella_parapertussis	TtrA	WP_010927818.1
290	Burkholderia_xenovorans	TtrA	WP_011491566.1
298	Histophilus_somni	TtrA	WP_012340525.1
304	Thiobacillus_denitrificans	TtrA	WP_041432610.1

182	Nitratiruptor_sp_SB155_2	UnkA	WP_012081950.1
183	Sulfurimonas_denitrificans	UnkA	WP_011372134.1
184	Aromatoleum_aromaticum	UnkA	WP_011239455.1
185	Dechloromonas_aromatica	UnkA	WP_011288334.1
186	Pyrobaculum_islandicum_DSM_4184	UnkA	WP_011763710.1
187	Rubrobacter_xylanophilus	UnkA	WP_011564591.1
188	Rhodococcus_jostii	UnkA	WP_011600499.1
189	Nocardioides_sp_JS614	UnkA	WP_011756373.1
190	Pelodictyon_luteolum	UnkA	WP_011356795.1
191	Chlorobium_phaeobacteroides	UnkA	WP_011744030.1
192	Chlorobium_chlorochromatii	UnkA	WP_011362973.1
205	Bacillus_halodurans_C-125	YdeP	BAB06249.1
214	Nostoc_sp_PCC_7120	YdeP	BAB73018.1
217	YdeP_Multispecies_Proteobacteria	YdeP	WP_000726691.1
227	Rhodopirellula_baltica_SH_1	YdeP	CAD75819.1
248	Thermus_thermophilus_HB8_	YdeP	YP_145436.1
291	Burkholderia_xenovorans	YdeP	WP_011493270.1
293	Trichodesmium_erythraeum	YdeP	WP_011610265.1
296	Chloroflexus	YdeP	WP_012256094.1
303	Rubrobacter_xylanophilus	YdeP	WP_041328477.1

Table S7. Additional information for sequences used to construct the AioB tree (Fig. S5). The terminal number on sequence identifiers of the extant nodes of the tree are referred to as tree reference numbers. Accession & gi number correspond to the NCBI RefSeq database.

Tree reference number	Organism	Accession
1	Chloroflexus aurantiacus J-10-fl	YP_001634828.1
2	Sinorhizobium sp. M14	WP_015647693.1
3	Thiomonas arsenitoxydans	WP_013107017.1
4	Pseudomonas stutzeri TS44	EIK51545.1
5	Sulfolobus tokodaii	WP_010980476.1
6	Rhizobium sp. NT-26	WP_052642469.1
7	Thermus scotoductus	KPD32962.1
42	Thermus_thermophilus_HB8	WP_011229170.1
8	Xanthobacter autotrophicus	WP_012115921.1
9	Nitrobacter hamburgensis	WP_011505136.1
10	Nitrospira defluvii	WP_013250202.1
40	Pyrobaculum_calidifontis_JCM_11548_40	ABO08791.1
41	Chloroflexus_aggregans	WP_012615690.1
11	Roseobacter litoralis Och 149	AEI94179.1
12	Vibrio	WP_009845422.1
44	Marinomona_sp_MED121	EAQ65584.1
13	Halorubrum kocurii	WP_049911874.1
30	Aeropyrum_pernix_K1	BAA81580.1
31	Halorubrum_sp_AJ67	CDK40391.1
43	Halobiforma_lacisalsi	WP_007141862.1
14	gene_1_AioA_ETNP_allDepths_contig_0	KY305109

15	gene_3_ETNP_BB2_120m_free_NODE_3938	GCA_002896335.1
16	gene_9_ETNP_120m_NODE_148276	GCA_002896195.1
17	gene_77_ETNP_120m_NODE_73101	GCA_002896195.1
18	gene_111_ETNP_20m_NODE_578344	GCA_002896195.1
20	gene_127_ETNP_120m_NODE_883207	GCA_002896195.1
21	gene_144_ETNP_120m_NODE_2008903	GCA_002896195.1
22	gene_165_ETNP_120m_NODE_384418	GCA_002896195.1
23	gene_170_ETNP_BB2_100m_particle_NODE_273672	GCA_002896115.1
26	gene_184_ETNP_140m_NODE_108852	GCA_002896255.1
28	gene_197_ETNP_BB2_120m_free_NODE_1328658	GCA_002896335.1
29	gene_204_ETNP_BB2_120m_particle_NODE_118706	GCA_002896315.1
32	ArxB_Alkalilimnicola_ehrlichii	WP_041717854.1
34	gene_52_ETNP_allDepths_AioA-Like_contig_0	KY400105
39	gene_163_ETNP_allDepths_AioA-Like_contig_14	KY400108

Table S8. Additional information for sequences used to construct the DsrA tree (Fig. 5B and Fig. S7). The terminal number on sequence identifiers of the extant nodes of the tree are referred to as tree reference numbers. Accession & gi number correspond to the NCBI RefSeq database. Clade abbreviations: forward reductase bacterial DsrA = SRB; forward reductase archaeal DsrA = SRA; and reverse oxidizing bacterial DsrA = SOB.

Tree reference number	Organism	Clade	Accession
42	hydrogensulfite reductase [Moorella thermoacetica]	Moorella	WP_011393131.1
8	predicted siroheme sulfite reductase, alpha subunit [uncultured bacterium BAC13K9BAC]	SOB	AAY89969.1
16	reverse-type dissimilatory sulfite reductase (rDSR), alpha subunit (DsrA) [uncultured bacterium ws156A7]	SOB	AFI78494.1
17	reverse-type dissimilatory sulfite reductase (rDSR), alpha subunit (DsrA) [uncultured bacterium ws633F6]	SOB	AFI78582.1
18	reverse-type dissimilatory sulfite reductase (rDSR), alpha subunit (DsrA) [uncultured bacterium ws085G8]	SOB	AFI78678.1
20	DsrA [Thiocapsa roseopersicina]	SOB	AHW46446.1
29	dissimilatory sulfite reductase alpha subunit, partial [Prosthecochloris vibrioformis]	SOB	BAJ17555.1
32	reverse dissimilatory sulfite reductase alpha subunit, partial [uncultured marine bacterium]	SOB	CAR92254.1
40	sulfite reductase, dissimilatory-type subunit alpha [Thiobacillus denitrificans]	SOB	WP_011311821.1
43	sulfite reductase, dissimilatory-type subunit alpha [Alkalilimnicola ehrlichii]	SOB	WP_011629393.1
44	sulfite reductase, dissimilatory-type subunit alpha [Candidatus Ruthia magnifica]	SOB	WP_011738211.1
48	sulfite reductase, dissimilatory-type subunit alpha [Chlorobium phaeobacteroides]	SOB	WP_012475251.1
49	sulfite reductase, dissimilatory-type subunit alpha [Chlorobaculum parvum]	SOB	WP_012501291.1
59	sulfite reductase, dissimilatory-type subunit alpha [Curvibacter sp. PAE-UM]	SOB	WP_057676684.1
60	ETNP_120m_free_PROKKA_259900_Sulfite_reductase_dissimilatorytype_subunit_alpha	SOB	GCA_002896335.1
61	ETNP_120m_Part_PROKKA_215197_Sulfite_reductase_dissimilatorytype_subunit_alpha	SOB	GCA_002896315.1
62	ETNP_120m_PROKKA_182735_Sulfite_reductase_dissimilatorytype_subunit_alpha	SOB	GCA_002896195.1
63	ETNP_120m_PROKKA_244722_Sulfite_reductase_dissimilatorytype_subunit_alpha	SOB	GCA_002896195.1

64	ETNP_120m_PROKKA_256691_Sulfite_reductase_dissimilatorytype_subunit_alpha	SOB	GCA_002896195.1
65	ETNP_120m_PROKKA_310660_Sulfite_reductase_dissimilatorytype_subunit_alpha	SOB	GCA_002896195.1
66	ETNP_120m_PROKKA_342712_Sulfite_reductase_dissimilatorytype_subunit_alpha	SOB	GCA_002896195.1
67	ETNP_140m_PROKKA_110356_Sulfite_reductase_dissimilatorytype_subunit_alpha	SOB	GCA_002896255.1
68	ETNP_140m_PROKKA_42469_Sulfite_reductase_dissimilatorytype_subunit_alpha	SOB	GCA_002896255.1
69	ETNP_160m_PROKKA_10268_Sulfite_reductase_dissimilatorytype_subunit_alpha	SOB	GCA_002896275.1
70	ETNP_160m_PROKKA_52905_Sulfite_reductase_dissimilatorytype_subunit_alpha	SOB	GCA_002896275.1
71	ETNP_180m_PROKKA_61989_Sulfite_reductase_dissimilatorytype_subunit_alpha	SOB	GCA_002896295.1
72	ETNP_180m_PROKKA_92714_Sulfite_reductase_dissimilatorytype_subunit_alpha	SOB	GCA_002896295.1
73	ETNP_300m_PROKKA_146002_Sulfite_reductase_dissimilatorytype_subunit_alpha	SOB	GCA_002896135.1
74	ETNP_300m_PROKKA_37663_Sulfite_reductase_dissimilatorytype_subunit_alpha	SOB	GCA_002896135.1
75	ETNP_300m_PROKKA_69995_Sulfite_reductase_dissimilatorytype_subunit_alpha	SOB	GCA_002896135.1
76	ETNP_300m_PROKKA_79692_Sulfite_reductase_dissimilatorytype_subunit_alpha	SOB	GCA_002896135.1
45	sulfite reductase, dissimilatory-type subunit alpha [Pyrobaculum islandicum]	SRA	WP_011761930.1
47	hydrogensulfite reductase [Caldivirga maquilingensis]	SRA	WP_012185907.1
58	sulfite reductase, dissimilatory-type subunit alpha [Vulcanisaeta sp. JCM 14467]	SRA	WP_054849893.1
1	dissimilatory sulfite reductase alpha subunit, partial [Desulfovibrio simplex]	SRB	AAB66716.1
2	dissimilatory (bi-)sulfite reductase alpha subunit, partial [uncultured sulfate-reducing bacterium]	SRB	AAK61942.1
3	dissimilatory sulfite reductase alpha subunit, partial [Syntrophobacter wolinii]	SRB	AAL57457.1
4	dissimilatory (bi-)sulfite reductase subunit A, partial [uncultured sulfate-reducing bacterium]	SRB	AAQ01277.1
5	dissimilatory sulfite reductase subunit A, partial [uncultured sulfate-reducing bacterium]	SRB	AAS87147.1
6	dissimilatory sulfite reductase alpha subunit, partial [uncultured sulfate-reducing bacterium]	SRB	AAT00420.1
7	dissimilatory sulfite reductase alpha subunit, partial [uncultured sulfate-reducing bacterium]	SRB	AAT00426.1
9	DsrA, partial [uncultured sulfate-reducing bacterium]	SRB	ACF16799.1
10	dissimilatory sulfite reductase subunit A, partial [uncultured sulfate-reducing bacterium]	SRB	ACJ11450.1
11	dissimilatory sulfite reductase subunit A, partial [uncultured sulfate-reducing bacterium]	SRB	ACJ11472.1
12	dissimilatory sulfite reductase subunit A, partial [uncultured sulfate-reducing bacterium]	SRB	ACJ11476.1

13	dissimilatory sulfite reductase alpha subunit, partial [uncultured sulfate-reducing bacterium]	SRB	ACN81698.1
14	dissimilatory sulfite reductase alpha subunit, partial [uncultured sulfate-reducing bacterium]	SRB	ACN81702.1
15	sulfite reductase, dissimilatory-type alpha subunit [Ammonifex degensii KC4]	SRB	ACX53171.1
19	dissimilatory bisulfite reductase alpha subunit, partial [uncultured prokaryote]	SRB	AFI98619.1
21	dissimilatory sulfite reductase alpha subunit, partial [uncultured bacterium]	SRB	BAC06517.1
22	dissimilatory sulfite reductase A, partial [uncultured bacterium]	SRB	BAC76054.1
23	dissimilatory sulfite reductase alpha subunit, partial [uncultured sulfate-reducing bacterium]	SRB	BAD05870.1
24	dissimilatory sulfite reductase alpha subunit, partial [uncultured sulfate-reducing bacterium]	SRB	BAD05892.1
25	dissimilatory sulfite reductase alpha subunit, partial [uncultured sulfate-reducing bacterium]	SRB	BAE96467.1
26	dissimilatory sulfite reductase alpha subunit, partial [uncultured sulfate-reducing bacterium]	SRB	BAE96515.1
27	dissimilatory sulfite reductase alpha subunit, partial [Archaeoglobus infectus DSM 18877]	SRB	BAF64848.1
28	dissimilatory sulfite reductase subunit A, partial [uncultured bacterium]	SRB	BAG68270.1
30	dissimilatory sulfite reductase subunit A, partial [uncultured sulfate-reducing bacterium]	SRB	CAQ77318.1
31	dissimilatory sulfite reductase alpha subunit, partial [uncultured sulfate-reducing bacterium]	SRB	CAR81701.1
34	sulfite reductase, dissimilatory-type subunit alpha [Acetonema longum]	SRB	WP_004092271.1
35	sulfite reductase, dissimilatory-type subunit alpha [Desulfitobacterium hafniense]	SRB	WP_005810505.1
37	sulfite reductase [Archaeoglobus fulgidus]	SRB	WP_010877930.1
38	sulfite reductase subunit alpha [Desulfovibrio vulgaris]	SRB	WP_010937709.1
39	sulfite reductase, dissimilatory-type subunit alpha [Desulfotalea psychrophila]	SRB	WP_011188042.1
46	sulfite reductase, dissimilatory-type subunit alpha [Desulfotomaculum reducens]	SRB	WP_011879477.1
50	sulfite reductase, dissimilatory-type subunit alpha [Desulfovibrio desulfuricans]	SRB	WP_012624553.1
51	sulfite reductase, dissimilatory-type subunit alpha [Desulfomicrobium baculatum]	SRB	WP_012805491.1
52	sulfite reductase, dissimilatory-type subunit alpha [Archaeoglobus veneficus]	SRB	WP_013684596.1
53	sulfite reductase, dissimilatory-type subunit alpha [Thermodesulfobium narugense]	SRB	WP_013756705.1
54	sulfite reductase, dissimilatory-type subunit alpha [Desulfosporosinus meridiei]	SRB	WP_014903396.1
55	MULTISPECIES: sulfite reductase, dissimilatory-type subunit alpha [Desulfatibacillum]	SRB	WP_015949027.1
77	ETNP_90m_PROKKA_129469_Sulfite_reductase_dissimilatorytype_subunit_alpha	SRB	GCA_002896175.1

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