

Figure S1. Phylogenetic tree comparing *c*-type cytochrome proteins from *Ferroglobus placidus* to *c*-type cytochromes from other bacterial and archaeal species.



Figure S2. “Alternative complex III” operons found in *Ferroglobus placidus* (locus id: Ferp), *Geobacter bemidjiensis* (Gbem), *G. metallireducens* (Gmet), *G. daltonii* (Geob), *G. sulfurreducens* (GSU), *G. uraniireducens* (Gura), *G. bremsensis* (K419DRAFT), strain M18 (GM18), strain M21 (GM21), *Geopsychrobacter electrodiphilus* (D888DRAFT), *Anaeromyxobacter* sp. FW109-5 (Anae109), *A. dehalogenans* (Adeh), *Desulfocapsa sulfexigens* (UWK), and *Desulfobacula toluolica* (TOL2).

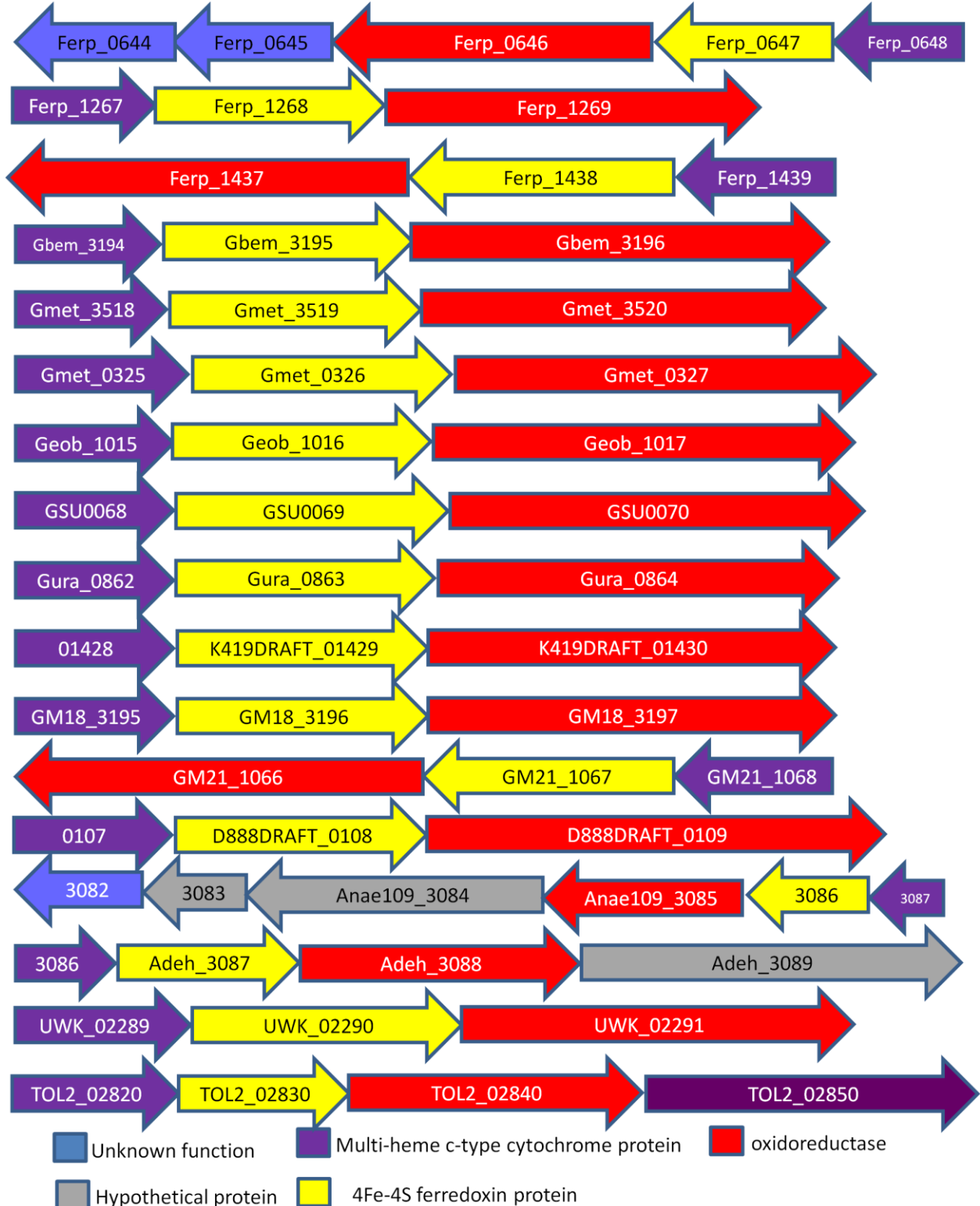


Table S1. Primers used to quantify different mRNA transcripts from *F. placidus* by quantitative RT-PCR.

<b>Locus ID</b>	<b>Primer name</b>	<b>Forward primer (5' → 3')</b>	<b>Reverse primer (5' → 3')</b>
Ferp_0660	Ferp_0660-241f/336r	TTACACGGAGTCGACGTTTG	CAGCTTGTAGTGGGGATCGT
Ferp_0668	Ferp_0668-451f/550r	CACAGACCGTGGGTCTTTCA	CGTGGGTGTGACAGCCTATG
Ferp_0670	Ferp_0670-2061f/2184r	CATCAGGTTCGGAAGGGACATA	GGCATAGTGGGAGACCGTAGAG
Ferp_0672	Ferp_0672-4305f/4410r	CGCCGACAATCTTTCAATACTG	CCCGTTTACTGCCCTGTTCTC
Ferp_1255	Ferp_1255-196f/313r	GACGTTGGCAACAACACTACGA	AGAGGACGTCTTTGGCGTAA
Ferp_1267	Ferp_1267-333f/434r	ATTCTGCCTGAACTGCCACAA	CAAACCGTACAAGGCTTATCCG
Ferp_1336	Ferp_1336-503f/613r	CAAATACAAGCCGCCGAAA	CGGATGCTTTACACCAGTTGG
Ferp_1341	Ferp_1341-510f/619r	CGATTACAGTTTTGCGACGA	CGAGGAAGACCGTGAAGAAG
Ferp_1813	Ferp_1813-185f/309r	CGCCAACACCAAAACCTACT	GTTACCGCAGAGCTGTCCTC
Ferp_1814	Ferp_1814-177f/256r	CAACAATCCGAAGAGGCAAT	GGCAGGAAATGCAGTAATCG
Ferp_2064	Ferp_2064-435f/537r	ATGCCATAAACGGATTGAGACA	GGCGAAGCACCAGAAGTTG

Table S2. Evaluation of *c*-type cytochromes present in the genomes of hyperthermophilic archaea.

Hyperthermophilic archaeon	Temperature range or optimum (°C)	Total putative <i>cyt c</i> genes	Genes with 1 heme-binding motif	Genes with 2-5 heme-binding motifs	Genes with 6-19 heme-binding motifs	Genes with 20+ heme-binding motifs	Electron acceptors utilized
<i>Archaeoglobus fulgidus</i>	60-95	6	3	3	-	-	Fe(III), SO <sub>4</sub> <sup>2-</sup> , SO <sub>3</sub> <sup>2-</sup> , S <sub>2</sub> O <sub>3</sub> <sup>2-</sup> (1-3)
<i>Geoglobus acetivorans</i>	80	16	5		1	1	Fe(III) (4, 5)
<i>Caldivirga maquilingensis</i>	85	1	1	-	-	-	SO <sub>4</sub> <sup>2-</sup> , SO <sub>3</sub> <sup>2-</sup> , S <sub>2</sub> O <sub>3</sub> <sup>2-</sup> , NO <sub>3</sub> <sup>-</sup> , Fe(III) (6)
<i>Ferroglobus placidus</i>	85-90	30	5	13	9	3	Fe(III), S <sub>2</sub> O <sub>3</sub> <sup>2-</sup> , NO <sub>3</sub> <sup>-</sup> (7, 8)
<i>Methanopyrus kandleri</i>	80-101	2	2	-	-	-	Fe(III), CO <sub>2</sub> (3, 9)
<i>Pyrobaculum aerophilum</i>	100	2	2	-	-	-	O <sub>2</sub> , NO <sub>3</sub> <sup>-</sup> , NO <sub>2</sub> <sup>-</sup> , Fe(III) (10, 11)
<i>Pyrobaculum islandicum</i>	95	1	1	-	-	-	SO <sub>4</sub> <sup>2-</sup> , SO <sub>3</sub> <sup>2-</sup> , S <sub>2</sub> O <sub>3</sub> <sup>2-</sup> , Fe(III), Mn(IV), U(VI), Tc(VII), Cr(VI), Co(III) (12, 13)
<i>Pyrobaculum</i> sp. 1860	84	8	5	1	2	-	NO <sub>3</sub> <sup>-</sup> , AsO <sub>4</sub> <sup>3-</sup> , S <sub>2</sub> O <sub>3</sub> <sup>2-</sup> , Fe(III) (14)
<i>Pyrococcus abyssi</i>	96	1	1	-	-	-	fermentative, Fe(III) (3, 15)
<i>Pyrococcus furiosus</i>	70-103	0	-	-	-	-	fermentative, Fe(III) (3, 16, 17)

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