

Table S5. Cytochrome *c* biogenesis gene clusters of *G. sulfurreducens* and *G. metallireducens*, and associated *c*-type cytochromes.

<i>G. metallireducens</i> gene/feature	<i>G. sulfurreducens</i> gene/feature	Functional annotation
Gene cluster #1		
Gmet_3231	GSU3282	siroheme synthase N-terminal domain protein
Gmet_3232	GSU3283	ResC/HemX-like cytochrome <i>c</i> biogenesis membrane protein
Gmet_3233	GSU3284	<i>hemA</i> ; glutamyl-tRNA reductase
Gmet_3234	GSU3285	<i>hemC</i> ; porphobilinogen deaminase
Gmet_3235	GSU3286	uroporphyrinogen III synthase/methyltransferase
Gmet_3236	GSU3287	<i>tatD</i> ; magnesium-dependent DNase TatD
Gmet_I216A	none	integration host factor binding site, putative
Gmet_I216B	none	integration host factor binding site, putative
Gmet_3237	GSU3288	YgdL family protein
Gmet_3238	GSU3289	ferritin-like domain protein
Gene cluster #2		
Gmet_2902	GSU0612	<i>ppcA</i> ; cytochrome <i>c</i> , 3 heme-binding sites
Gmet_2901	GSU0613	ResB-like family protein (cytochrome <i>c</i> biogenesis)
Gmet_2900	GSU0614	ResC/HemX-like cytochrome <i>c</i> biogenesis membrane protein
Gmet_2899	GSU0615	cytochrome <i>c</i> , 10-11 heme-binding sites
Gmet_2898	GSU0616	cytochrome <i>c</i> , 8 heme-binding sites
Gmet_H438	none	four heptanucleotide repeats
Gmet_2897	GSU0617	NHL repeat domain protein
none	GSU0617.3	conserved nucleotide sequence
none	GSU0617.1	hypothetical protein
Gmet_3625	none	hypothetical protein
none	GSU0617.2	hypothetical protein
Gmet_3624	none	hypothetical protein
Gmet_2896	GSU0618	<i>omcE</i> ; cytochrome <i>c</i> , 4 heme-binding sites
Gene cluster #3¹		
Gmet_0571	GSU2899? GSU0702?	cytochrome <i>c</i> , 26 heme-binding sites
Gmet_0572	GSU2891? GSU0704? GSU2881.1?	ResB-like family protein (cytochrome <i>c</i> biogenesis)
Gmet_0573	GSU2890? GSU0705? GSU2880?	ResC/HemX-like cytochrome <i>c</i> biogenesis membrane protein
Gmet_0574	GSU0703	conserved hypothetical protein

Gmet_0575	none	cytochrome <i>c</i> , 18 heme-binding sites
Gmet_0576	none	cytochrome <i>c</i> , 13 heme-binding sites
Gmet_0577	none	conserved hypothetical protein
Gmet_0578	none	ResB-like family protein (cytochrome <i>c</i> biogenesis)
Gmet_0579	none	ResC/HemX-like cytochrome <i>c</i> biogenesis membrane protein
Gmet_0580	none	cytochrome <i>c</i> , 14 heme-binding sites
Gmet_0581	GSU2898	<i>omcN</i> ; cytochrome <i>c</i> , 27-34 heme-binding sites
Gmet_3649	GSU2897	conserved hypothetical protein
Gmet_0582	GSU2896	ankyrin-related protein
none	GSU2895	hypothetical protein
Gmet_0583	none	spermine/spermidine synthase-related protein
Gmet_0584	none	conserved hypothetical protein
Gmet_0585	none	glycosyl transferase, family 9 (heptosyltransferase)
Gmet_0586	none	iron-sulfur oxidoreductase
Gmet_0587	none	radical SAM iron-sulfur oxidoreductase
Gmet_0588	none	conserved hypothetical protein
Gmet_0589	none	glycosyl transferase, family 2
Gmet_0590	none	conserved hypothetical protein
Gmet_0591	none	conserved hypothetical protein
none	GSU2893.1	hypothetical protein
Gmet_0595 (rearranged)	GSU2893	acyl-protein synthetase
none	GSU2892	hypothetical protein
Gmet_0592	GSU2891	ResB-like family protein (cytochrome <i>c</i> biogenesis)
Gmet_0593	GSU0703	conserved hypothetical protein
Gmet_0594	GSU2890	ResC/HemX-like cytochrome <i>c</i> biogenesis membrane protein
Gmet_0595	GSU2893 (rearranged)	acyl-protein synthetase
Gmet_0596	GSU2889	conserved hypothetical protein
Gmet_0597	GSU2888	radical SAM iron-sulfur oxidoreductase
none	GSU2887.1	hypothetical protein
none	GSU2887	cytochrome <i>c</i> , 27 heme-binding sites
Gmet_0598	none	cytochrome <i>c</i> , 23 heme-binding sites
Gmet_3587	GSU2886.1	cytochrome <i>c</i> , 7 heme-binding sites
none	GSU2885.2	conserved nucleotide sequence (Gmet_R3### family)
none	GSU2885.1	conserved nucleotide sequence (Gmet_R3### family)
none	GSU2885	NHL repeat domain protein

none	GSU2884	<i>omcA</i> ; cytochrome <i>c</i> , 24-27 heme-binding sites
Gmet_0600	none	cytochrome <i>c</i> , 19 heme-binding sites
none	GSU2883	<i>omcH</i> ; cytochrome <i>c</i> , 19-24 heme-binding sites
Gmet_0601	none	cytochrome <i>c</i> , 7 heme-binding sites
none	GSU2882	<i>omcG</i> ; cytochrome <i>c</i> , 14-18 heme-binding sites
Gmet_0592? Gmet_0572?	GSU2881.1	ResB-like family protein (cytochrome <i>c</i> biogenesis)
Gmet_0594? Gmet_0573?	GSU2880	ResC/HemX-like cytochrome <i>c</i> biogenesis membrane protein
Gene cluster 4		
none	GSU0701	<i>omcJ</i> ; cytochrome <i>c</i> , 6 heme-binding sites
Gmet_0571? Gmet_0575? Gmet_0580?	GSU0702	cytochrome <i>c</i> , 26-35 heme-binding sites
Gmet_0574? Gmet_0593?	GSU0703	conserved hypothetical protein
Gmet_0573? Gmet_0594?	GSU0704	ResB-like family protein (cytochrome <i>c</i> biogenesis)
Gmet_0572? Gmet_0592?	GSU0705	ResC/HemX-like cytochrome <i>c</i> biogenesis membrane protein

¹Gene cluster 3 in *G. metallireducens* (Gmet_0571 to Gmet_0601) roughly corresponds to two clusters in *G. sulfurreducens* (GSU2899 to GSU2895 and GSU2893.1 to GSU2880), interrupted by GSU2894 with the opposite coding strand. The correspondence is complicated by the rearrangement of GSU2893/Gmet_0595, acquisition/loss of the GSU0703 homologs Gmet_0574 and Gmet_0593, and presence of extra pairs of *c*-type cytochrome biogenesis genes (GSU2881.1-GSU2880; Gmet_0572-Gmet_0573 and Gmet_0578-Gmet_0579) and several other genes in one cluster or the other.