

Table S1 – PCR and qPCR primers

Primer name	Sequence	Application	Amplicon length (bp)	Primers final concentration (uM)	Positive control	qPCR efficiency (%)
ORNL-HgcAB-uni-F 1	5' – AAYGTCTGGTGYGCNGCVGG - 3'	PCR	~950	0.5	Geobacter sulfurreducens (DSMZ 12127)	-
ORNL-HgcAB-uni-32R2	5'-CAGGCNCCGCAYTCSATRCA -3'	PCR		0.5		
Desulfobacterota						
ORNL-Delta-HgcA-F1	5'-GCCAACTACAAGMTGASCTWC-3'	qPCR	107	0.3	Geobacter sulfurreducens (DSMZ 12127)	77.5
ORNL -Delta-HgcA-R1	5'-CCSGCNGCRCACCAGACRTT-3'	qPCR		0.3		
Firmicutes						
ORNL -SRB-Firm-HgcA-F1	5'-TGGDCCGGTDARAGCWAARGATA-3'	qPCR	167	0.25	Dethiobacter alkaliphilus (DSMZ 19026)	77.7
ORNL -SRB-Firm-HgcA-R1	5'-AAAAGAGHAYBCCAAAAATCA-3'	qPCR		0.25		
Archaea						
ORNL – Archaea – HgcA-F1	5'-AAYTAYWCNCTSAGYTTYTGAYGC-3'	qPCR	125	0.5	Methanomethylovorans hollandica (DSMZ 15978)	105.9
ORNL - Archaea – HgcA-R1	5'-TCDGTCCCRAABGTSCCYTT-3'	qPCR		0.25		

1 Christensen et al. 2016

2 Gionfriddo et al. 2020