

Table S1. qPCR primers used in this study. F: forward primers. R: reverse primers.

Gene name		Primer sequences
mam/mms	mamY	F: GAGGAGCCCGCATCGTAT R: AGAGCAATCGGAAGTGAAATGG
	mamA	F: GCCTATCCGTGGCGAAGAA R: TCGGCATCGTAAACCTGCT
	mamB	F: AGGTTCGTGTGGTGGGCAT R: CGCTCATCCGCAGGCTTA
	mamH	F: GCAGTCAATGCCAATGTGC R: CCAACCCAGGGACTTAGCG
	mamF	F: GCTATCTGGGCATCCTCTGC R: CGACCACGGACAGCATCA
	mms6	F: GGTTGGCGTTGGGAAGGT R: CATCGCTCTGTGCCGCTT
	mamP	F: TTGTCATTGGGCGGCAG R: ATTGGGCAAGGGCGACT
	mamO	F: TTCCGTGGTAGCGACGATAT R: CAGGGTCGTAATGACATAGCCA
	mamT	F: CGCTGGAGCATCTCATTGA R: ATAGGGCGTCTTGAACCTGTGAT
	mamS	F: TCGGCAATGATGTGGGC R: CCAGAACGGACTTGGCGTA
	mamE	F: CGCAATAGCGTGGTTAGCG R: TGAAGCCGTCATTGCGG
	mamX	F: AATGCCAATCCGTGGGAA R: TTCCCTCAACGATGGGCAG
	mmsF	F: TCGGGACGACGAGTTTGTC R: GGAACACCACGGAGACCAA
iron utilization and storage genes	feoB1	F: GAGGTTCGCCTTTGCCAA R: ATCCAGTCGGTGGGAATGG
	tolQ	F: GCTTTACGACCGCATCGG R: GCTCCAGCGTGTCCATCTC
	tolR	F: GGTGGATTTGCCCAAGACC R: GGATGAAGATGCGGGTATCG
	tonB	F: CGTATCGTCGTGGCAAAGC R: CGGACGAGGTGTTGATTGC
	exbD	F: GTCTTCGTCACCATCCGC R: CCATCACCTCCATAAGCCG
	bfr1	F: AAGCCCGAAAGTGATAAGCG R: GGCACGCCTTCCAAGAAC
	brf2	F: ATGAAAGCCAACCGCACC R: TTCCAGCAGCAAGATGCG

terminal oxidase genes	ctaG	F: GCCTATCATCGTCCGTTTCG R: TGGTCCGACAGATTGGTGG
	ctaC	F: TTGGCGACATTCGTGGC R: TTGCGGTTGGCGTTGTAG
	ccoQ	F: CCGACCACCAGCGATTACA R: TGGCGTAGTTCAGCAGGGT
	ccoN	F: ATGCTCCACCTGGGCAA R: CGCTTGGGCACGAAATAGT
	cydB	F: ATCTGGTGGCTGTTCTCTCG R: ACCTGATTGCCGTCCCA
	cydA	F: TGTTCGGCATCAACTTCGC R: TTGCTCATAACGGTCCCAGC
dissimilatory denitrification pathway genes	napF	F: TGATGTTCGCACAGCCTTAG R: TGATGTTCGCACAGCCTTAG
	nirT	F: CCATTCACTACACCAACCGTTC R: ATGGCAGTTGCGGCATTC
	norC	F: CGGTGTTTCGTTGCCTTGA R: CAGACATTGCCCAGTTCCG
	nosZ	F: TCGCCACGGTGTCTTTT R: ATCACCTGACCGCTTTGGC