

Table S1. The target genes, primer sets and thermocycle conditions used for real-time qPCR reactions.

Target gene	Primer set	Sequence (5'–3')	Product size (bp)	Annealing temperature, time	Elongation temperature, time	Reference
Archaeal	Arch-amoAF	STAATGGTCTGGCTTAGACG	635	55°C, 30s	72°C, 30s	Francis et al. [62]
<i>amoA</i>	Arch-amoAR	GCG GCCATCCATCTGTATGT				
Bacterial	amoA1F	GGGGTT TCTACTGGTGGT	491	56°C, 30s	72°C, 30s	Rotthauwe et al. [63]
<i>amoA</i>	amoA2R	CCCCTC KGSAAAGCCTTCTTC				
<i>Nitrobacter</i>	F1 nxrA	CAGACCGACGTGTGCGAAAG	322	58°C, 30s	72°C, 30s	Wertz et al. [64]
-like <i>nxrA</i>	R2 nxrA	TCCACAAGGAACGGAAGGTC				
<i>narG</i>	narGG-F	TCGCCSATYCCGGCSATGTC	173	55°C, 30s	72°C, 30s	Bru et al. [65]
	narGG-R	GAGTTGTACCAGTCRGCSGAYTCSG				
<i>nirS</i>	nirS4QF	GTSAACGYSAAGGARACSGG	465	60°C, 30s	72°C, 30s	Throback et al. [66]
	nirS6QR	GASTTCGGRTGSGTCTTSAYGAA				
<i>nirK</i>	FlaCu	ATCATGGTSCGTGCCGCG	474	63°C, 30s	72°C, 30s	Throback et al. [66]
	R3Cu	GCCTCGATCAGRTTGTGGTT				
<i>nosZ</i>	nosZF	CGYTGTTCMTCGACAGCCG	453	61°C, 30s	72°C, 35s	Scala and Kerkh [67]
	nosZ-1622R	CGSACCTTSTTGCCSTYGCG				