

**TABLE S2.** A recommended, recently published (32, 103, 130) primer set for the amplification of archaeal *amoA*-like gene sequences. Together, these primers target the full diversity of *amoA*-like sequences in public databases.

Primer name	Sequence 5'-3'	Annealing Temp.	Amplicon length	Specificity	References
<b>CamoA-19f</b>	ATG GTC TGG YTW AGA CG	50 °C	~629 bp	most <i>amoA</i> -like sequences affiliated to groups I.1a, I.1a-associated and I.1b	103, 130
<b>CamoA-616r</b>	GCC ATC CAB CKR TAN GTC CA				
<b>DegAamoA-F</b>	ATH AAY GCN GGN GAY TA	~57-58 °C	~450 bp <sup>a</sup>	<i>amoA</i> -like sequences of “ <i>Ca. N. yellowstonii</i> ”-related archaea (ThAOA)	32
<b>DegAamoA-R</b>	ACY TGN GGY TCD ATN GG				

<sup>a</sup> expect additional non-specific bands (Dodsworth, pers. comm.)