

**Table S2:** Accession number of the archaeal amoA gene sequences found in this study and contained in the OTUs of Fig. 5 and S1.

<b>AmoA OTU</b>	<b>Member's accession number</b>	<b>Number of sequences</b>
PyrSF1-OTU1	HE598669	1
PyrSF1-OTU2	HE598680, HE598570, HE598566, HE598579, HE598691, HE598660, HE598648, HE598694, HE598677, HE598592, HE598685, HE598679, HE598580, HE598696, HE598688, HE598641, HE598689, HE598667, HE598587, HE598676, HE598591, HE598606, HE598604, HE598567, HE598686, HE598589, HE598588, HE598627, HE598575, HE598661, HE598603, HE598602, HE598663, HE598571, HE598569, HE598645, HE598601, HE598695, HE598607, HE598600, HE598647, HE598609, HE598593, HE598656, HE598692, HE598659, HE598693, HE598650, HE598658, HE598657, HE598649, HE598666, HE598599, HE598682, HE598585, HE598664, HE598672, HE598608, HE598670	59
PyrSF1-OTU3	HE598597	1
PyrSF1-OTU4	HE598687, HE598642, HE598633, HE598654, HE598596, HE598640, HE598576, HE598653, HE598665, HE598652, HE598651, HE598675, HE598683, HE598594	2
PyrSF1-OTU5	HE598605, HE598598	2
PyrSF1-OTU6	HE598655, HE598646	2
PyrSF1-OTU7	HE598630	1
PyrSF1-OTU8	HE598635, HE598573, HE598634, HE598636, HE598674, HE598574, HE598678, HE598662, HE598643, HE598590, HE598625, HE598671	12
PyrSF1-OTU9	HE598681, HE598578, HE598582, HE598581, HE598572, HE598637, HE598631, HE598568, HE598644, HE598583, HE598684, HE598620, HE598610, HE598595, HE598586, HE598584	16
PyrSF1-OTU10	HE598612	1
OTU11	HE598616, HE598613	2
PyrFLS-OTU12	HE598614, HE598623, HE598619, HE598617, HE598629, HE598618, HE598624, HE598632, HE598615, HE598621, HE598628, HE598622, HE598639, HE598611	14
PyrF5-OTU13	HE598626	1
PyrSF1-OTU14	HE598668	1
PyrSF1-OTU15	HE598638	1
OTU16	HE598673	1
OTU17	HE598577, HE598690	2