

**Table S1. ARDRA based OTU classification.**

Sample	# clones in library	ARDRA-based OTU (number of clones)								# clones sequenced
		<i>Methanoregulaceae</i>			<i>Methanospirillaceae</i>	<i>Methanosarcinaceae</i>	<i>Methanosaetaceae</i>		<i>Candidatus</i> 'Methanoflorentaceae'	
		OTU 1	OTU 2	OTU 3	OTU 4	OTU 5	OTU 6	OTU 7	OTU 8	
Sediment	89	5	9	4	0	8	34	25	4	22
Unamended 5°C	87	2	42	4	8	12	8	11	0	22
Acetate 5°C	82	5	43	5	4	4	9	12	0	16
H <sub>2</sub> /CO <sub>2</sub> 5°C	81*	2	41	0	3	5	14	15	1	16
Acetate 30°C	60	2	3	1	2	28	2	22	0	16
H <sub>2</sub> /CO <sub>2</sub> 30°C	90	2	45	0	0	30	3	10	0	17