

# 1 **Community composition and seasonal changes of archaea in** 2 **coarse and fine air particulate matter**

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## 14 **Supplementary material.**

15 **Table S1: List of air filter samples analysed for archaea presence. While the air masses collected on MZ 11, MZ 15, and**  
16 **MZ 31 were sampled over 1, 5, and 5 days, respectively, all other air filter samples were taken over a 7-day period**  
17 **corresponding to ~3000 m<sup>3</sup> of sampled air. The sequences gained with the Sanger sequencing method are analysed and**  
18 **published in Fröhlich-Nowoisky et al (2014), n.a. = not available as these air masses were not sequenced with Illumina but**  
19 **exclusively via Sanger sequencing.**

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Sample ID	Sampling period	Number of sequences 16S Sanger (coarse, fine)	Number of sequences 16S Illumina (coarse, fine)
MZ 1	24.03.2006 - 31.03.2006	5	n.a.
MZ 2	31.03.2006 - 07.04.2006	8	n.a.
MZ 4	07.04.2006 - 12.04.2006	11	n.a.
MZ 6	15.04.2006 - 18.04.2006	4	n.a.
MZ 9	20.04.2006 - 27.04.2006	5	n.a.

MZ 10	27.04.2006 - 02.05.2006	5	n.a.
MZ 11	02.05.2006 - 03.05.2006	7	3,80
MZ 15	04.05.2006 - 09.05.2006	9, 6	195,81
MZ 18	12.05.2006 - 15.05.2006	7	n.a.
MZ 19	15.05.2006 - 16.05.2006	7	n.a.
MZ 21	17.05.2006 - 18.05.2006	4	n.a.
MZ 24	18.05.2006 - 22.05.2006	13	n.a.
MZ 25	22.05.2006 - 23.05.2006	12	n.a.
MZ 26	23.05.2006 - 30.05.2006	12, 6	301,103
MZ 31	01.06.2006 - 06.06.2006	8	208,5
MZ 33	08.06.2006 - 13.06.2006	10	n.a.
MZ 35	14.06.2006 - 21.06.2006	5, 1	n.a.
MZ 36	21.06.2006 - 22.06.2006	10	n.a.
MZ 40	27.06.2006 - 04.07.2006	9	n.a.
MZ 41	04.07.2006 - 11.07.2006	5	19,284
MZ 45	19.07.2006 - 21.07.2006	14, 4	n.a.
MZ 47	26.07.2006 - 02.08.2006	5	32,23
MZ 50	02.08.2006 - 09.08.2006	9	196,132
MZ 51	09.08.2006 - 16.08.2006	5	n.a.
MZ 52	16.08.2006 - 23.08.2006	9	234,2
MZ 54	30.08.2006 - 06.09.2006	4, 15	183,574

MZ 59	11.09.2006 - 18.09.2006	11	597,3
MZ 60	18.09.2006 - 25.09.2006	5	n.a.
MZ 62	02.10.2006 - 09.10.2006	6	318,351
MZ 63	09.10.2006 - 16.10.2006	12	n.a.
MZ 66	16.10.2006 - 23.10.2006	4	n.a.
MZ 67	23.10.2006 - 30.10.2006	12	29,321
MZ 69	02.11.2006 - 09.11.2006	20	n.a.
MZ 71	16.11.2006 - 23.11.2006	1	n.a.
MZ 74	23.11.2006 - 30.11.2006	8	797,2
MZ 75	30.11.2006 - 07.12.2006	11, 7	n.a.
MZ 77	14.12.2006 - 21.12.2006	5	n.a.
MZ 81	28.12.2006 - 04.01.2007	5	5,0
MZ 82	04.01.2007 - 11.01.2007	8	202,21
MZ 84	18.01.2007 - 25.01.2007	5, 4	n.a.
MZ 88	01.02.2007 - 08.02.2007	3	93,2
MZ 90	15.02.2007 - 22.02.2007	9	122,485
MZ 93	22.02.2007 - 01.03.2007	15, 6	597,2
MZ 95	08.03.2007 - 15.03.2007	9	n.a.
MZ 97	22.03.2007 - 29.03.2007	5	n.a.
MZ 101	05.04.2007 - 12.04.2007	11, 4	36,4
MZ 103	19.04.2007 – 26.04.2007	10, 4	109,5

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$\Sigma$ (+contaminants)	4285,2507
$\Sigma$ (-contaminants)	2180, 161

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**Table S2: Air filter blank samples analyzed for archaeal contamination. All families found on mounting blank filters comprise together 410 sequences: families were discarded from the data if present in more than 1% of all detected archaeal sequences on the mounting blanks, i.e., the Methanoregulaceae (8.54%), Methanomassiliicoccaceae (17.56%), and the Methanobacteriaceae (72.44%).**

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	MZ 23		MZ 73		$\Sigma$	%
	coarse	fine	coarse	fine		
Cenarchaeaceae	0	0	1	1	2	0,49
Methanobacteriaceae	0	0	297	0	297	72,44
Methanoregulaceae	0	0	0	35	35	8,54
Methanosaetaceae	0	2	1	1	4	0,98
Methanomassiliicoccaceae	0	0	72	0	72	17,56

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