

Supplement of Biogeosciences Discuss., 12, 16019–16048, 2015
<http://www.biogeosciences-discuss.net/12/16019/2015/>
doi:10.5194/bgd-12-16019-2015-supplement
© Author(s) 2015. CC Attribution 3.0 License.



Supplement of

Technical Note: Semi-rigid chambers for methane gas flux measurements on tree-stems

A. Siegenthaler et al.

Correspondence to: A. Siegenthaler (andy.siegenthaler@alumni.epfl.ch)

The copyright of individual parts of the supplement might differ from the CC-BY 3.0 licence.

S1. Chamber dimensions and permeabilities (P) determined for all replicates (n = 3), calculated from the methane decline slope (Slope), the total chamber volume (V_{tot}), the initial concentration gradient between outside and inside ($C_0 - C_{atm}$) and the gas exchange surface (S_c). D = metallic cylinder diameter, L = length, H = height, T = thickness, C_0 = initial chamber concentration, C_{atm} = 1.8951 ppmv, R^2 = coefficient of determination of the decline regression, V_c = volume of the chamber, $V_{tot} = V_c + V_{dead}$, V_{dead} = dead volume to the analyser plus the tubes = 416 cm³. The precision was calculated from the relative standard error (RSE) of C_0 . The accuracy was determined from the mean of the absolute value of the difference between V_{tot} (predicted) and V'_{tot} , divided by V_{tot} (observed).

Enclosure	Type	D	L	H	T	V_c	S_c	V_{dead}	V_{tot}	t_0	t_1	t_2	C_0	C_1	C_2	Slope	R^2	J	P	C_{atm}	V'_{tot}
		(cm)	(cm)	(cm)	(cm)	(cm ³)	(cm ²)	(cm ³)	(cm ³)	(min)	(min)	(min)	(ppmv)	(ppmv)	(ppmv)	(mg m ⁻³ s ⁻¹)	(n.a.)	(mg m ⁻² s ⁻¹)	(m ³ m ⁻² s ⁻¹)	C_{atm}	(cm ³)
Semi-rigid	1-Small sleeve	15	25	16	1.5	550	330	416	966	0	10	20	109.1	106.4	106.1	-1.73E-03	0.804	-5.06E-05	6.69E-07	1.8951	933
Semi-rigid	1-Small sleeve	15	25	16	1.5	550	330	416	966	0	10	20	105.7	103.4	101.6	-2.40E-03	0.994	-7.03E-05	9.59E-07	1.8951	963
Semi-rigid	1-Small sleeve	15	25	16	1.5	550	330	416	966	0	10	20	112.6	110.3	108.7	-2.30E-03	0.992	-6.73E-05	8.61E-07	1.8951	903
Semi-rigid	2-Large sleeve	15	30	24	1.5	990	594	416	1406	0	10	20	73.5	72.3	72.0	-9.05E-04	0.914	-2.14E-05	4.24E-07	1.8951	1397
Semi-rigid	2-Large sleeve	15	30	24	1.5	990	594	416	1406	0	10	20	71.2	70.0	69.8	-8.36E-04	0.858	-1.98E-05	4.04E-07	1.8951	1442
Semi-rigid	2-Large sleeve	15	30	24	1.5	990	594	416	1406	0	10	20	69.6	68.4	67.5	-1.22E-03	0.993	-2.88E-05	6.04E-07	1.8951	1478
Rigid	3-Acrylic chamber	15	28	28	6.5	12287	1319	416	12703	0	10	20	9.3	9.2	9.1	-8.98E-05	0.950	-8.65E-06	1.66E-06	1.8951	13535
Rigid	3-Acrylic chamber	15	28	28	6.5	12287	1319	416	12703	0	10	20	9.8	9.8	9.7	-6.36E-05	0.880	-6.13E-06	1.09E-06	1.8951	12591
Rigid	3-Acrylic chamber	15	28	28	6.5	12287	1319	416	12703	0	10	20	9.6	9.5	9.5	-9.31E-05	0.963	-8.96E-06	1.64E-06	1.8951	12952

Enclosure type	Precision (%)	Accuracy (%)
1-Small sleeve	1.82	3.39
2-Large sleeve	1.59	2.35
3-Acrylic chamber	1.68	2.55

S2. Calculation of the contact distance-to-exchange surface ratio (see text) for the two enclosure types: semi-rigid and rigid; D = stem diameter, L = peripheral length of the chamber or sleeve, H = height of the chamber or sleeve, T = thickness of the chamber or sleeve, Opening = central cylinder diameter, Frame = size of the frame at the edge of the rigid chamber, V_c = chamber volume, ES = gas exchange surface, CD = air contact distance of the mobile lines.

Chamber type	D (cm)	L (cm)	H (cm)	T (cm)	Opening (cm)	Frame (cm)	V _c (cm ³)	ES (cm ²)	CD (cm)	CD/ES (m ⁻¹)
Semi-rigid	15	47	28	1.5	n.a	n.a	1978	1319	150	0.114
Rigid cylinder	15	28	28	6.5	18.0	5.0	12287	1319	329	0.250

S3. Methane concentration developments (ppmv) from tree-stems measured in the manual mode (syringe) as a function of the closure time and species of tree. Full data for plots collected in tropical lowlands of Gigante, Republic of Panama.

#	Run	Tree species	Closure time (minutes)	CH ₄ concentration (ppmv)
1	1	<i>Heisteria concinna</i>	0	3.8005
2	1	<i>Heisteria concinna</i>	5	5.0608
3	1	<i>Heisteria concinna</i>	10	6.4977
4	1	<i>Heisteria concinna</i>	15	8.1324
5	2	<i>Heisteria concinna</i>	0	6.0144
6	2	<i>Heisteria concinna</i>	5	20.0046
7	2	<i>Heisteria concinna</i>	10	27.0951
8	2	<i>Heisteria concinna</i>	15	34.0723
9	3	<i>Heisteria concinna</i>	0	3.2066
10	3	<i>Heisteria concinna</i>	5	6.3326
11	3	<i>Heisteria concinna</i>	10	8.9470
12	3	<i>Heisteria concinna</i>	15	9.4321
13	4	<i>Heisteria concinna</i>	0	2.4527
14	4	<i>Heisteria concinna</i>	5	3.6731
15	4	<i>Heisteria concinna</i>	10	5.0027
16	4	<i>Heisteria concinna</i>	15	6.0129
17	5	<i>Heisteria concinna</i>	0	2.9245
18	5	<i>Heisteria concinna</i>	5	6.6789
19	5	<i>Heisteria concinna</i>	10	9.6737
20	5	<i>Heisteria concinna</i>	15	12.0823
21	6	<i>Heisteria concinna</i>	0	5.2829
22	6	<i>Heisteria concinna</i>	5	9.3913
23	6	<i>Heisteria concinna</i>	10	14.1636
24	6	<i>Heisteria concinna</i>	15	21.5350

S4. Methane concentration developments from tree-stems measured in the continuous mode as a function of the closure time and species of tree. Full data for plots collected from the northern boreal zone in Sweden.

#	Run	Tree species	Closure time (s)	CH ₄ concentration (ppmv)
1	1	<i>Betula pendula</i>	0	2.0043
2	1	<i>Betula pendula</i>	3	2.0206
3	1	<i>Betula pendula</i>	6	2.0322
4	1	<i>Betula pendula</i>	9	2.0432
5	1	<i>Betula pendula</i>	12	2.0519
6	1	<i>Betula pendula</i>	15	2.0580
7	1	<i>Betula pendula</i>	18	2.0648
8	1	<i>Betula pendula</i>	21	2.0694
9	1	<i>Betula pendula</i>	24	2.0724
10	1	<i>Betula pendula</i>	27	2.0784
11	1	<i>Betula pendula</i>	30	2.0814
12	1	<i>Betula pendula</i>	33	2.0879
13	1	<i>Betula pendula</i>	36	2.0937
14	1	<i>Betula pendula</i>	39	2.0985
15	1	<i>Betula pendula</i>	42	2.0996
16	1	<i>Betula pendula</i>	45	2.1045
17	1	<i>Betula pendula</i>	48	2.1063
18	1	<i>Betula pendula</i>	51	2.1109
19	1	<i>Betula pendula</i>	54	2.1161
20	1	<i>Betula pendula</i>	57	2.1219
21	1	<i>Betula pendula</i>	60	2.1259
22	1	<i>Betula pendula</i>	63	2.1289
23	1	<i>Betula pendula</i>	66	2.1317
24	1	<i>Betula pendula</i>	69	2.1364
25	1	<i>Betula pendula</i>	72	2.1428
26	1	<i>Betula pendula</i>	75	2.1467
27	1	<i>Betula pendula</i>	78	2.1522
28	1	<i>Betula pendula</i>	81	2.1587
29	1	<i>Betula pendula</i>	84	2.1639
30	1	<i>Betula pendula</i>	87	2.1682
31	1	<i>Betula pendula</i>	90	2.1738
32	1	<i>Betula pendula</i>	93	2.1791
33	1	<i>Betula pendula</i>	96	2.1831
34	1	<i>Betula pendula</i>	99	2.1913
35	1	<i>Betula pendula</i>	102	2.1962
36	1	<i>Betula pendula</i>	105	2.2009
37	1	<i>Betula pendula</i>	108	2.2013
38	1	<i>Betula pendula</i>	111	2.2071
39	1	<i>Betula pendula</i>	114	2.2104
40	1	<i>Betula pendula</i>	117	2.2127
41	1	<i>Betula pendula</i>	120	2.2157

S4. Methane concentration developments from tree-stems measured in the continuous mode as a function of the closure time and species of tree. Full data for plots collected from the northern boreal zone in Sweden.

#	Run	Tree species	Closure time (s)	CH ₄ concentration (ppmv)
42	1	<i>Betula pendula</i>	123	2.2238
43	1	<i>Betula pendula</i>	126	2.2279
44	1	<i>Betula pendula</i>	129	2.2323
45	1	<i>Betula pendula</i>	132	2.2372
46	1	<i>Betula pendula</i>	135	2.2408
47	1	<i>Betula pendula</i>	138	2.2477
48	1	<i>Betula pendula</i>	141	2.2507
49	1	<i>Betula pendula</i>	144	2.2554
50	1	<i>Betula pendula</i>	147	2.2623
51	1	<i>Betula pendula</i>	150	2.2645
52	1	<i>Betula pendula</i>	153	2.2706
53	1	<i>Betula pendula</i>	156	2.2763
54	1	<i>Betula pendula</i>	159	2.2795
55	1	<i>Betula pendula</i>	162	2.2836
56	1	<i>Betula pendula</i>	165	2.2857
57	1	<i>Betula pendula</i>	168	2.2911
58	1	<i>Betula pendula</i>	171	2.2937
59	1	<i>Betula pendula</i>	174	2.2975
60	1	<i>Betula pendula</i>	177	2.3010
61	1	<i>Betula pendula</i>	180	2.3067
62	1	<i>Betula pendula</i>	183	2.3119
63	1	<i>Betula pendula</i>	186	2.3151
64	1	<i>Betula pendula</i>	189	2.3163
65	1	<i>Betula pendula</i>	192	2.3203
66	1	<i>Betula pendula</i>	195	2.3225
67	1	<i>Betula pendula</i>	198	2.3252
68	1	<i>Betula pendula</i>	201	2.3264
69	1	<i>Betula pendula</i>	204	2.3295
70	1	<i>Betula pendula</i>	207	2.3364
71	1	<i>Betula pendula</i>	210	2.3439
72	1	<i>Betula pendula</i>	213	2.3464
73	1	<i>Betula pendula</i>	216	2.3545
74	1	<i>Betula pendula</i>	219	2.3569
75	1	<i>Betula pendula</i>	222	2.3601
76	1	<i>Betula pendula</i>	225	2.3630
77	1	<i>Betula pendula</i>	228	2.3640
78	1	<i>Betula pendula</i>	231	2.3714
79	1	<i>Betula pendula</i>	234	2.3716
80	1	<i>Betula pendula</i>	237	2.3738
81	1	<i>Betula pendula</i>	240	2.3745
82	1	<i>Betula pendula</i>	243	2.3883

S4. Methane concentration developments from tree-stems measured in the continuous mode as a function of the closure time and species of tree. Full data for plots collected from the northern boreal zone in Sweden.

#	Run	Tree species	Closure time (s)	CH ₄ concentration (ppmv)
83	1	<i>Betula pendula</i>	246	2.3813
84	1	<i>Betula pendula</i>	249	2.3872
85	1	<i>Betula pendula</i>	252	2.3926
86	1	<i>Betula pendula</i>	255	2.3944
87	1	<i>Betula pendula</i>	258	2.3957
88	1	<i>Betula pendula</i>	261	2.4004
89	1	<i>Betula pendula</i>	264	2.4060
90	1	<i>Betula pendula</i>	267	2.4100
91	1	<i>Betula pendula</i>	270	2.4136
92	1	<i>Betula pendula</i>	273	2.4169
93	1	<i>Betula pendula</i>	276	2.4197
94	1	<i>Betula pendula</i>	279	2.4220
95	1	<i>Betula pendula</i>	282	2.4247
96	1	<i>Betula pendula</i>	285	2.4252
97	1	<i>Betula pendula</i>	288	2.4283
98	1	<i>Betula pendula</i>	291	2.4289
99	1	<i>Betula pendula</i>	294	2.4308
100	1	<i>Betula pendula</i>	297	2.4331
101	1	<i>Betula pendula</i>	300	2.4342
102	1	<i>Betula pendula</i>	303	2.4386
103	1	<i>Betula pendula</i>	306	2.4427
104	1	<i>Betula pendula</i>	309	2.4467
105	1	<i>Betula pendula</i>	312	2.4527
106	1	<i>Betula pendula</i>	315	2.4564
107	1	<i>Betula pendula</i>	318	2.4603
108	1	<i>Betula pendula</i>	321	2.4641
109	1	<i>Betula pendula</i>	324	2.4671
110	1	<i>Betula pendula</i>	327	2.4695
111	1	<i>Betula pendula</i>	330	2.4746
112	1	<i>Betula pendula</i>	333	2.4799
113	1	<i>Betula pendula</i>	336	2.4842
114	1	<i>Betula pendula</i>	339	2.4906
115	1	<i>Betula pendula</i>	342	2.4952
116	1	<i>Betula pendula</i>	345	2.4970
117	1	<i>Betula pendula</i>	348	2.4980
118	1	<i>Betula pendula</i>	351	2.4980
119	1	<i>Betula pendula</i>	354	2.5004
120	1	<i>Betula pendula</i>	357	2.5015
121	1	<i>Betula pendula</i>	360	2.5001
122	1	<i>Betula pendula</i>	363	2.5003
123	1	<i>Betula pendula</i>	366	2.5030

S4. Methane concentration developments from tree-stems measured in the continuous mode as a function of the closure time and species of tree. Full data for plots collected from the northern boreal zone in Sweden.

#	Run	Tree species	Closure time (s)	CH ₄ concentration (ppmv)
124	1	<i>Betula pendula</i>	369	2.5084
125	1	<i>Betula pendula</i>	372	2.5102
126	1	<i>Betula pendula</i>	375	2.5128
127	1	<i>Betula pendula</i>	378	2.5170
128	1	<i>Betula pendula</i>	381	2.5201
129	1	<i>Betula pendula</i>	384	2.5234
130	1	<i>Betula pendula</i>	387	2.5287
131	1	<i>Betula pendula</i>	390	2.5354
132	1	<i>Betula pendula</i>	393	2.5411
133	1	<i>Betula pendula</i>	396	2.5430
134	1	<i>Betula pendula</i>	399	2.5454
135	1	<i>Betula pendula</i>	402	2.5488
136	1	<i>Betula pendula</i>	405	2.5516
137	1	<i>Betula pendula</i>	408	2.5521
138	1	<i>Betula pendula</i>	411	2.5561
139	1	<i>Betula pendula</i>	414	2.5569
140	1	<i>Betula pendula</i>	417	2.5577
141	1	<i>Betula pendula</i>	420	2.5572
142	1	<i>Betula pendula</i>	423	2.5593
143	1	<i>Betula pendula</i>	426	2.5622
144	1	<i>Betula pendula</i>	429	2.5633
145	1	<i>Betula pendula</i>	432	2.5675
146	1	<i>Betula pendula</i>	435	2.5706
147	1	<i>Betula pendula</i>	438	2.5720
148	2	<i>Betula pendula</i>	0	2.1569
149	2	<i>Betula pendula</i>	3	2.1977
150	2	<i>Betula pendula</i>	6	2.2295
151	2	<i>Betula pendula</i>	9	2.2556
152	2	<i>Betula pendula</i>	12	2.2764
153	2	<i>Betula pendula</i>	15	2.2971
154	2	<i>Betula pendula</i>	18	2.3080
155	2	<i>Betula pendula</i>	21	2.3219
156	2	<i>Betula pendula</i>	24	2.3326
157	2	<i>Betula pendula</i>	27	2.3473
158	2	<i>Betula pendula</i>	30	2.3552
159	2	<i>Betula pendula</i>	33	2.3667
160	2	<i>Betula pendula</i>	36	2.3719
161	2	<i>Betula pendula</i>	39	2.3843
162	2	<i>Betula pendula</i>	42	2.3926
163	2	<i>Betula pendula</i>	45	2.3970
164	2	<i>Betula pendula</i>	48	2.4087

S4. Methane concentration developments from tree-stems measured in the continuous mode as a function of the closure time and species of tree. Full data for plots collected from the northern boreal zone in Sweden.

#	Run	Tree species	Closure time (s)	CH ₄ concentration (ppmv)
165	2	<i>Betula pendula</i>	51	2.4140
166	2	<i>Betula pendula</i>	54	2.4298
167	2	<i>Betula pendula</i>	57	2.4422
168	2	<i>Betula pendula</i>	60	2.4598
169	2	<i>Betula pendula</i>	63	2.4777
170	2	<i>Betula pendula</i>	66	2.4961
171	2	<i>Betula pendula</i>	69	2.5147
172	2	<i>Betula pendula</i>	72	2.5316
173	2	<i>Betula pendula</i>	75	2.5546
174	2	<i>Betula pendula</i>	78	2.5686
175	2	<i>Betula pendula</i>	81	2.5863
176	2	<i>Betula pendula</i>	84	2.6013
177	2	<i>Betula pendula</i>	87	2.6170
178	2	<i>Betula pendula</i>	90	2.6328
179	2	<i>Betula pendula</i>	93	2.6459
180	2	<i>Betula pendula</i>	96	2.6606
181	2	<i>Betula pendula</i>	99	2.6720
182	2	<i>Betula pendula</i>	102	2.6835
183	2	<i>Betula pendula</i>	105	2.6944
184	2	<i>Betula pendula</i>	108	2.7061
185	2	<i>Betula pendula</i>	111	2.7180
186	2	<i>Betula pendula</i>	114	2.7302
187	2	<i>Betula pendula</i>	117	2.7404
188	2	<i>Betula pendula</i>	120	2.7541
189	2	<i>Betula pendula</i>	123	2.7644
190	2	<i>Betula pendula</i>	126	2.7745
191	2	<i>Betula pendula</i>	129	2.7871
192	2	<i>Betula pendula</i>	132	2.7970
193	2	<i>Betula pendula</i>	135	2.8139
194	2	<i>Betula pendula</i>	138	2.8236
195	2	<i>Betula pendula</i>	141	2.8368
196	2	<i>Betula pendula</i>	144	2.8496
197	2	<i>Betula pendula</i>	147	2.8660
198	2	<i>Betula pendula</i>	150	2.8804
199	2	<i>Betula pendula</i>	153	2.8891
200	2	<i>Betula pendula</i>	156	2.9056
201	2	<i>Betula pendula</i>	159	2.9219
202	2	<i>Betula pendula</i>	162	2.9386
203	2	<i>Betula pendula</i>	165	2.9532
204	2	<i>Betula pendula</i>	168	2.9692
205	2	<i>Betula pendula</i>	171	2.9797

S4. Methane concentration developments from tree-stems measured in the continuous mode as a function of the closure time and species of tree. Full data for plots collected from the northern boreal zone in Sweden.

#	Run	Tree species	Closure time (s)	CH ₄ concentration (ppmv)
206	2	<i>Betula pendula</i>	174	2.9927
207	2	<i>Betula pendula</i>	177	3.0096
208	2	<i>Betula pendula</i>	180	3.0177
209	2	<i>Betula pendula</i>	183	3.0313
210	2	<i>Betula pendula</i>	186	3.0409
211	2	<i>Betula pendula</i>	189	3.0541
212	2	<i>Betula pendula</i>	192	3.0669
213	2	<i>Betula pendula</i>	195	3.0779
214	2	<i>Betula pendula</i>	198	3.0916
215	2	<i>Betula pendula</i>	201	3.1065
216	2	<i>Betula pendula</i>	204	3.1189
217	2	<i>Betula pendula</i>	207	3.1305
218	2	<i>Betula pendula</i>	210	3.1428
219	2	<i>Betula pendula</i>	213	3.1539
220	2	<i>Betula pendula</i>	216	3.1673
221	2	<i>Betula pendula</i>	219	3.1824
222	2	<i>Betula pendula</i>	222	3.1956
223	2	<i>Betula pendula</i>	225	3.2076
224	2	<i>Betula pendula</i>	228	3.2210
225	2	<i>Betula pendula</i>	231	3.2344
226	2	<i>Betula pendula</i>	234	3.2492
227	2	<i>Betula pendula</i>	237	3.2614
228	2	<i>Betula pendula</i>	240	3.2753
229	2	<i>Betula pendula</i>	243	3.2858
230	2	<i>Betula pendula</i>	246	3.2989
231	2	<i>Betula pendula</i>	249	3.3147
232	2	<i>Betula pendula</i>	252	3.3251
233	2	<i>Betula pendula</i>	255	3.3369
234	2	<i>Betula pendula</i>	258	3.3474
235	2	<i>Betula pendula</i>	261	3.3620
236	2	<i>Betula pendula</i>	264	3.3765
237	2	<i>Betula pendula</i>	267	3.3866
238	2	<i>Betula pendula</i>	270	3.4017
239	2	<i>Betula pendula</i>	273	3.4117
240	2	<i>Betula pendula</i>	276	3.4222
241	2	<i>Betula pendula</i>	279	3.4349
242	2	<i>Betula pendula</i>	282	3.4463
243	2	<i>Betula pendula</i>	285	3.4576
244	2	<i>Betula pendula</i>	288	3.4724
245	2	<i>Betula pendula</i>	291	3.4836
246	2	<i>Betula pendula</i>	294	3.4972

S4. Methane concentration developments from tree-stems measured in the continuous mode as a function of the closure time and species of tree. Full data for plots collected from the northern boreal zone in Sweden.

#	Run	Tree species	Closure time (s)	CH ₄ concentration (ppmv)
247	2	<i>Betula pendula</i>	297	3.5101
248	2	<i>Betula pendula</i>	300	3.5238
249	2	<i>Betula pendula</i>	303	3.5377
250	2	<i>Betula pendula</i>	306	3.5537
251	2	<i>Betula pendula</i>	309	3.5616
252	2	<i>Betula pendula</i>	312	3.5738
253	2	<i>Betula pendula</i>	315	3.5832
254	2	<i>Betula pendula</i>	318	3.5945
255	2	<i>Betula pendula</i>	321	3.6097
256	2	<i>Betula pendula</i>	324	3.6258
257	2	<i>Betula pendula</i>	327	3.6368
258	2	<i>Betula pendula</i>	330	3.6480
259	2	<i>Betula pendula</i>	333	3.6636
260	2	<i>Betula pendula</i>	336	3.6711
261	2	<i>Betula pendula</i>	339	3.6840
262	2	<i>Betula pendula</i>	342	3.6976
263	2	<i>Betula pendula</i>	345	3.7141
264	2	<i>Betula pendula</i>	348	3.7245
265	2	<i>Betula pendula</i>	351	3.7373
266	2	<i>Betula pendula</i>	354	3.7475
267	2	<i>Betula pendula</i>	357	3.7595
268	2	<i>Betula pendula</i>	360	3.7720
269	2	<i>Betula pendula</i>	363	3.7855
270	2	<i>Betula pendula</i>	366	3.8018
271	2	<i>Betula pendula</i>	369	3.8174
272	2	<i>Betula pendula</i>	372	3.8254
273	2	<i>Betula pendula</i>	375	3.8391
274	2	<i>Betula pendula</i>	378	3.8491
275	2	<i>Betula pendula</i>	381	3.8598
276	2	<i>Betula pendula</i>	384	3.8719
277	2	<i>Betula pendula</i>	387	3.8813
278	2	<i>Betula pendula</i>	390	3.8962
279	2	<i>Betula pendula</i>	393	3.9078
280	2	<i>Betula pendula</i>	396	3.9160
281	2	<i>Betula pendula</i>	399	3.9320
282	2	<i>Betula pendula</i>	402	3.9395
283	2	<i>Betula pendula</i>	405	3.9526
284	2	<i>Betula pendula</i>	408	3.9609
285	2	<i>Betula pendula</i>	411	3.9792
286	2	<i>Betula pendula</i>	414	3.9846
287	2	<i>Betula pendula</i>	417	3.9971

S4. Methane concentration developments from tree-stems measured in the continuous mode as a function of the closure time and species of tree. Full data for plots collected from the northern boreal zone in Sweden.

#	Run	Tree species	Closure time (s)	CH ₄ concentration (ppmv)
288	2	<i>Betula pendula</i>	420	4.0058
289	2	<i>Betula pendula</i>	423	4.0214
290	2	<i>Betula pendula</i>	426	4.0353
291	2	<i>Betula pendula</i>	429	4.0410
292	3	<i>Betula pendula</i>	0	1.9360
293	3	<i>Betula pendula</i>	2	1.9297
294	3	<i>Betula pendula</i>	4	1.9453
295	3	<i>Betula pendula</i>	6	1.9589
296	3	<i>Betula pendula</i>	8	1.9777
297	3	<i>Betula pendula</i>	10	2.0008
298	3	<i>Betula pendula</i>	12	2.0214
299	3	<i>Betula pendula</i>	14	2.0397
300	3	<i>Betula pendula</i>	16	2.0540
301	3	<i>Betula pendula</i>	18	2.0654
302	3	<i>Betula pendula</i>	20	2.0728
303	3	<i>Betula pendula</i>	22	2.0818
304	3	<i>Betula pendula</i>	24	2.0884
305	3	<i>Betula pendula</i>	26	2.0957
306	3	<i>Betula pendula</i>	28	2.1042
307	3	<i>Betula pendula</i>	30	2.1104
308	3	<i>Betula pendula</i>	32	2.1124
309	3	<i>Betula pendula</i>	34	2.1111
310	3	<i>Betula pendula</i>	36	2.1135
311	3	<i>Betula pendula</i>	38	2.1189
312	3	<i>Betula pendula</i>	40	2.1302
313	3	<i>Betula pendula</i>	42	2.1406
314	3	<i>Betula pendula</i>	44	2.1535
315	3	<i>Betula pendula</i>	46	2.1621
316	3	<i>Betula pendula</i>	48	2.1777
317	3	<i>Betula pendula</i>	50	2.2033
318	3	<i>Betula pendula</i>	52	2.2255
319	3	<i>Betula pendula</i>	54	2.2456
320	3	<i>Betula pendula</i>	56	2.2721
321	3	<i>Betula pendula</i>	58	2.3044
322	3	<i>Betula pendula</i>	60	2.3370
323	3	<i>Betula pendula</i>	62	2.3551
324	3	<i>Betula pendula</i>	64	2.3740
325	3	<i>Betula pendula</i>	66	2.3882
326	3	<i>Betula pendula</i>	68	2.4003
327	3	<i>Betula pendula</i>	70	2.4081
328	3	<i>Betula pendula</i>	72	2.4157

S4. Methane concentration developments from tree-stems measured in the continuous mode as a function of the closure time and species of tree. Full data for plots collected from the northern boreal zone in Sweden.

#	Run	Tree species	Closure time (s)	CH ₄ concentration (ppmv)
329	3	<i>Betula pendula</i>	74	2.4251
330	3	<i>Betula pendula</i>	76	2.4303
331	3	<i>Betula pendula</i>	78	2.4370
332	3	<i>Betula pendula</i>	80	2.4395
333	3	<i>Betula pendula</i>	82	2.4389
334	3	<i>Betula pendula</i>	84	2.4395
335	3	<i>Betula pendula</i>	86	2.4413
336	3	<i>Betula pendula</i>	88	2.4453
337	3	<i>Betula pendula</i>	90	2.4473
338	3	<i>Betula pendula</i>	92	2.4484
339	3	<i>Betula pendula</i>	94	2.4466
340	3	<i>Betula pendula</i>	96	2.4520
341	3	<i>Betula pendula</i>	98	2.4629
342	3	<i>Betula pendula</i>	100	2.4768
343	3	<i>Betula pendula</i>	102	2.4939
344	3	<i>Betula pendula</i>	104	2.5161
345	3	<i>Betula pendula</i>	106	2.5398
346	3	<i>Betula pendula</i>	108	2.5633
347	3	<i>Betula pendula</i>	110	2.5851
348	3	<i>Betula pendula</i>	112	2.6028
349	3	<i>Betula pendula</i>	114	2.6178
350	3	<i>Betula pendula</i>	116	2.6269
351	3	<i>Betula pendula</i>	118	2.6334
352	3	<i>Betula pendula</i>	120	2.6435
353	3	<i>Betula pendula</i>	122	2.6450
354	3	<i>Betula pendula</i>	124	2.6407
355	3	<i>Betula pendula</i>	126	2.6429
356	3	<i>Betula pendula</i>	128	2.6486
357	3	<i>Betula pendula</i>	130	2.6486
358	3	<i>Betula pendula</i>	132	2.6420
359	3	<i>Betula pendula</i>	134	2.6325
360	3	<i>Betula pendula</i>	136	2.6355
361	3	<i>Betula pendula</i>	138	2.6475
362	3	<i>Betula pendula</i>	140	2.6429
363	3	<i>Betula pendula</i>	142	2.6335
364	3	<i>Betula pendula</i>	144	2.6295
365	3	<i>Betula pendula</i>	146	2.6373
366	3	<i>Betula pendula</i>	148	2.6404
367	3	<i>Betula pendula</i>	150	2.6348
368	3	<i>Betula pendula</i>	152	2.6264
369	3	<i>Betula pendula</i>	154	2.6215

S4. Methane concentration developments from tree-stems measured in the continuous mode as a function of the closure time and species of tree. Full data for plots collected from the northern boreal zone in Sweden.

#	Run	Tree species	Closure time (s)	CH ₄ concentration (ppmv)
370	3	<i>Betula pendula</i>	156	2.6287
371	3	<i>Betula pendula</i>	158	2.6456
372	3	<i>Betula pendula</i>	160	2.6573
373	3	<i>Betula pendula</i>	162	2.6749
374	3	<i>Betula pendula</i>	164	2.6879
375	3	<i>Betula pendula</i>	166	2.6881
376	3	<i>Betula pendula</i>	168	2.6972
377	3	<i>Betula pendula</i>	170	2.7054
378	3	<i>Betula pendula</i>	172	2.7243
379	3	<i>Betula pendula</i>	174	2.7178
380	3	<i>Betula pendula</i>	176	2.7146
381	3	<i>Betula pendula</i>	178	2.6979
382	3	<i>Betula pendula</i>	180	2.6719
383	3	<i>Betula pendula</i>	182	2.6480
384	3	<i>Betula pendula</i>	184	2.6308
385	3	<i>Betula pendula</i>	186	2.6206
386	3	<i>Betula pendula</i>	188	2.6214
387	3	<i>Betula pendula</i>	190	2.6225
388	3	<i>Betula pendula</i>	192	2.6355
389	3	<i>Betula pendula</i>	194	2.6411
390	3	<i>Betula pendula</i>	196	2.6224
391	3	<i>Betula pendula</i>	198	2.6082
392	3	<i>Betula pendula</i>	200	2.6075
393	3	<i>Betula pendula</i>	202	2.6216
394	3	<i>Betula pendula</i>	204	2.6390
395	3	<i>Betula pendula</i>	206	2.6500
396	3	<i>Betula pendula</i>	208	2.6619
397	3	<i>Betula pendula</i>	210	2.6700
398	3	<i>Betula pendula</i>	212	2.6773
399	3	<i>Betula pendula</i>	214	2.6864
400	3	<i>Betula pendula</i>	216	2.6962
401	3	<i>Betula pendula</i>	218	2.7031
402	3	<i>Betula pendula</i>	220	2.7164
403	3	<i>Betula pendula</i>	222	2.7298
404	3	<i>Betula pendula</i>	224	2.7411
405	3	<i>Betula pendula</i>	226	2.7500
406	3	<i>Betula pendula</i>	228	2.7600
407	3	<i>Betula pendula</i>	230	2.7703
408	3	<i>Betula pendula</i>	232	2.7769
409	3	<i>Betula pendula</i>	234	2.7807
410	3	<i>Betula pendula</i>	236	2.7906

S4. Methane concentration developments from tree-stems measured in the continuous mode as a function of the closure time and species of tree. Full data for plots collected from the northern boreal zone in Sweden.

#	Run	Tree species	Closure time (s)	CH ₄ concentration (ppmv)
411	3	<i>Betula pendula</i>	238	2.7997
412	3	<i>Betula pendula</i>	240	2.8076
413	3	<i>Betula pendula</i>	242	2.8170
414	3	<i>Betula pendula</i>	244	2.8210
415	3	<i>Betula pendula</i>	246	2.8194
416	3	<i>Betula pendula</i>	248	2.8155
417	3	<i>Betula pendula</i>	250	2.8085
418	3	<i>Betula pendula</i>	252	2.7968
419	3	<i>Betula pendula</i>	254	2.7878
420	3	<i>Betula pendula</i>	256	2.7832
421	3	<i>Betula pendula</i>	258	2.7863
422	3	<i>Betula pendula</i>	260	2.7942
423	3	<i>Betula pendula</i>	262	2.8025
424	3	<i>Betula pendula</i>	264	2.8204
425	3	<i>Betula pendula</i>	266	2.8335
426	3	<i>Betula pendula</i>	268	2.8475
427	3	<i>Betula pendula</i>	270	2.8535
428	3	<i>Betula pendula</i>	272	2.8600
429	3	<i>Betula pendula</i>	274	2.8646
430	3	<i>Betula pendula</i>	276	2.8743
431	3	<i>Betula pendula</i>	278	2.8874
432	3	<i>Betula pendula</i>	280	2.8954
433	3	<i>Betula pendula</i>	282	2.9044
434	3	<i>Betula pendula</i>	284	2.9201
435	3	<i>Betula pendula</i>	286	2.9372
436	3	<i>Betula pendula</i>	288	2.9812
437	3	<i>Betula pendula</i>	290	3.0019
438	3	<i>Betula pendula</i>	292	2.9564
439	3	<i>Betula pendula</i>	294	2.9113
440	3	<i>Betula pendula</i>	296	2.8870
441	3	<i>Betula pendula</i>	298	2.8817
442	3	<i>Betula pendula</i>	300	2.8857
443	3	<i>Betula pendula</i>	302	2.8999
444	3	<i>Betula pendula</i>	304	2.9083
445	3	<i>Betula pendula</i>	306	2.9153
446	3	<i>Betula pendula</i>	308	2.9174
447	3	<i>Betula pendula</i>	310	2.9194
448	3	<i>Betula pendula</i>	312	2.9212
449	3	<i>Betula pendula</i>	314	2.9265
450	3	<i>Betula pendula</i>	316	2.9451
451	3	<i>Betula pendula</i>	318	2.9598

S4. Methane concentration developments from tree-stems measured in the continuous mode as a function of the closure time and species of tree. Full data for plots collected from the northern boreal zone in Sweden.

#	Run	Tree species	Closure time (s)	CH ₄ concentration (ppmv)
452	3	<i>Betula pendula</i>	320	2.9762
453	3	<i>Betula pendula</i>	322	2.9953
454	3	<i>Betula pendula</i>	324	3.0225
455	3	<i>Betula pendula</i>	326	3.0466
456	3	<i>Betula pendula</i>	328	3.0618
457	3	<i>Betula pendula</i>	330	3.0830
458	3	<i>Betula pendula</i>	332	3.0924
459	3	<i>Betula pendula</i>	334	3.0939
460	3	<i>Betula pendula</i>	336	3.0845
461	3	<i>Betula pendula</i>	338	3.0639
462	3	<i>Betula pendula</i>	340	3.0486
463	3	<i>Betula pendula</i>	342	3.0491
464	3	<i>Betula pendula</i>	344	3.0378
465	3	<i>Betula pendula</i>	346	3.0244
466	3	<i>Betula pendula</i>	348	3.0170
467	3	<i>Betula pendula</i>	350	3.0191
468	3	<i>Betula pendula</i>	352	3.0283
469	3	<i>Betula pendula</i>	354	3.0416
470	3	<i>Betula pendula</i>	356	3.0438
471	3	<i>Betula pendula</i>	358	3.0467
472	3	<i>Betula pendula</i>	360	3.0439
473	3	<i>Betula pendula</i>	362	3.0378
474	3	<i>Betula pendula</i>	364	3.0339
475	3	<i>Betula pendula</i>	366	3.0295
476	3	<i>Betula pendula</i>	368	3.0261
477	3	<i>Betula pendula</i>	370	3.0274
478	3	<i>Betula pendula</i>	372	3.0304
479	3	<i>Betula pendula</i>	374	3.0380
480	3	<i>Betula pendula</i>	376	3.0479
481	3	<i>Betula pendula</i>	378	3.0635
482	3	<i>Betula pendula</i>	380	3.0761
483	3	<i>Betula pendula</i>	382	3.0800
484	3	<i>Betula pendula</i>	384	3.0791
485	3	<i>Betula pendula</i>	386	3.0750
486	3	<i>Betula pendula</i>	388	3.0683
487	3	<i>Betula pendula</i>	390	3.0594
488	3	<i>Betula pendula</i>	392	3.0418
489	3	<i>Betula pendula</i>	394	3.0287
490	3	<i>Betula pendula</i>	396	3.0212
491	3	<i>Betula pendula</i>	398	3.0438
492	3	<i>Betula pendula</i>	400	3.0688

S4. Methane concentration developments from tree-stems measured in the continuous mode as a function of the closure time and species of tree. Full data for plots collected from the northern boreal zone in Sweden.

#	Run	Tree species	Closure time (s)	CH ₄ concentration (ppmv)
493	3	<i>Betula pendula</i>	402	3.0902
494	3	<i>Betula pendula</i>	404	3.0489
495	3	<i>Betula pendula</i>	406	3.0455
496	3	<i>Betula pendula</i>	408	3.0664
497	3	<i>Betula pendula</i>	410	3.0882
498	3	<i>Betula pendula</i>	412	3.0964
499	3	<i>Betula pendula</i>	414	3.0986
500	3	<i>Betula pendula</i>	416	3.0939
501	3	<i>Betula pendula</i>	418	3.0849
502	3	<i>Betula pendula</i>	420	3.0855
503	3	<i>Betula pendula</i>	422	3.0903
504	3	<i>Betula pendula</i>	424	3.0955
505	3	<i>Betula pendula</i>	426	3.1035
506	3	<i>Betula pendula</i>	428	3.1134
507	3	<i>Betula pendula</i>	430	3.1211
508	3	<i>Betula pendula</i>	432	3.1261
509	3	<i>Betula pendula</i>	434	3.1231
510	3	<i>Betula pendula</i>	436	3.1280
511	3	<i>Betula pendula</i>	438	3.1401
512	3	<i>Betula pendula</i>	440	3.1601
513	3	<i>Betula pendula</i>	442	3.1733
514	3	<i>Betula pendula</i>	444	3.1743
515	3	<i>Betula pendula</i>	446	3.1700
516	3	<i>Betula pendula</i>	448	3.1577
517	3	<i>Betula pendula</i>	450	3.1484
518	4	<i>Bad Pinus sylvestris</i>	0	2.2088
519	4	<i>Bad Pinus sylvestris</i>	4	2.2123
520	4	<i>Bad Pinus sylvestris</i>	8	2.2125
521	4	<i>Bad Pinus sylvestris</i>	12	2.2162
522	4	<i>Bad Pinus sylvestris</i>	16	2.2161
523	4	<i>Bad Pinus sylvestris</i>	20	2.2198
524	4	<i>Bad Pinus sylvestris</i>	24	2.2228
525	4	<i>Bad Pinus sylvestris</i>	28	2.2232
526	4	<i>Bad Pinus sylvestris</i>	32	2.2267
527	4	<i>Bad Pinus sylvestris</i>	36	2.2306
528	4	<i>Bad Pinus sylvestris</i>	40	2.2318
529	4	<i>Bad Pinus sylvestris</i>	44	2.2336
530	4	<i>Bad Pinus sylvestris</i>	48	2.2348
531	4	<i>Bad Pinus sylvestris</i>	52	2.2355
532	4	<i>Bad Pinus sylvestris</i>	56	2.2365
533	4	<i>Bad Pinus sylvestris</i>	60	2.2381

S4. Methane concentration developments from tree-stems measured in the continuous mode as a function of the closure time and species of tree. Full data for plots collected from the northern boreal zone in Sweden.

#	Run	Tree species	Closure time (s)	CH ₄ concentration (ppmv)
534	4	<i>Bad Pinus sylvestris</i>	64	2.2387
535	4	<i>Bad Pinus sylvestris</i>	68	2.2402
536	4	<i>Bad Pinus sylvestris</i>	72	2.2404
537	4	<i>Bad Pinus sylvestris</i>	76	2.2429
538	4	<i>Bad Pinus sylvestris</i>	80	2.2453
539	4	<i>Bad Pinus sylvestris</i>	84	2.2456
540	4	<i>Bad Pinus sylvestris</i>	88	2.2458
541	4	<i>Bad Pinus sylvestris</i>	92	2.2464
542	4	<i>Bad Pinus sylvestris</i>	96	2.2466
543	4	<i>Bad Pinus sylvestris</i>	100	2.2506
544	4	<i>Bad Pinus sylvestris</i>	104	2.2517
545	4	<i>Bad Pinus sylvestris</i>	108	2.2527
546	4	<i>Bad Pinus sylvestris</i>	112	2.2557
547	4	<i>Bad Pinus sylvestris</i>	116	2.2562
548	4	<i>Bad Pinus sylvestris</i>	120	2.2589
549	4	<i>Bad Pinus sylvestris</i>	124	2.2615
550	4	<i>Bad Pinus sylvestris</i>	128	2.2626
551	4	<i>Bad Pinus sylvestris</i>	132	2.2632
552	4	<i>Bad Pinus sylvestris</i>	136	2.2656
553	4	<i>Bad Pinus sylvestris</i>	140	2.2665
554	4	<i>Bad Pinus sylvestris</i>	144	2.2705
555	4	<i>Bad Pinus sylvestris</i>	148	2.2713
556	4	<i>Bad Pinus sylvestris</i>	152	2.2726
557	4	<i>Bad Pinus sylvestris</i>	156	2.2741
558	4	<i>Bad Pinus sylvestris</i>	160	2.2744
559	4	<i>Bad Pinus sylvestris</i>	164	2.2758
560	4	<i>Bad Pinus sylvestris</i>	168	2.2791
561	4	<i>Bad Pinus sylvestris</i>	172	2.2791
562	4	<i>Bad Pinus sylvestris</i>	176	2.2806
563	4	<i>Bad Pinus sylvestris</i>	180	2.2824
564	4	<i>Bad Pinus sylvestris</i>	184	2.2822
565	4	<i>Bad Pinus sylvestris</i>	188	2.2836
566	4	<i>Bad Pinus sylvestris</i>	192	2.2861
567	4	<i>Bad Pinus sylvestris</i>	196	2.2878
568	4	<i>Bad Pinus sylvestris</i>	200	2.2899
569	4	<i>Bad Pinus sylvestris</i>	204	2.2909
570	4	<i>Bad Pinus sylvestris</i>	208	2.2933
571	4	<i>Bad Pinus sylvestris</i>	212	2.2937
572	4	<i>Bad Pinus sylvestris</i>	216	2.2933
573	4	<i>Bad Pinus sylvestris</i>	220	2.2967
574	4	<i>Bad Pinus sylvestris</i>	224	2.2981

S4. Methane concentration developments from tree-stems measured in the continuous mode as a function of the closure time and species of tree. Full data for plots collected from the northern boreal zone in Sweden.

#	Run	Tree species	Closure time (s)	CH ₄ concentration (ppmv)
575	4	<i>Bad Pinus sylvestris</i>	228	2.2992
576	4	<i>Bad Pinus sylvestris</i>	232	2.3003
577	4	<i>Bad Pinus sylvestris</i>	236	2.3008
578	4	<i>Bad Pinus sylvestris</i>	240	2.3028
579	4	<i>Bad Pinus sylvestris</i>	244	2.3036
580	4	<i>Bad Pinus sylvestris</i>	248	2.3054
581	4	<i>Bad Pinus sylvestris</i>	252	2.3064
582	4	<i>Bad Pinus sylvestris</i>	256	2.3073
583	4	<i>Bad Pinus sylvestris</i>	260	2.3115
584	4	<i>Bad Pinus sylvestris</i>	264	2.3112
585	4	<i>Bad Pinus sylvestris</i>	268	2.3120
586	4	<i>Bad Pinus sylvestris</i>	272	2.3142
587	4	<i>Bad Pinus sylvestris</i>	276	2.3129
588	4	<i>Bad Pinus sylvestris</i>	280	2.3155
589	4	<i>Bad Pinus sylvestris</i>	284	2.3164
590	4	<i>Bad Pinus sylvestris</i>	288	2.3194
591	4	<i>Bad Pinus sylvestris</i>	292	2.3211
592	4	<i>Bad Pinus sylvestris</i>	296	2.3216
593	4	<i>Bad Pinus sylvestris</i>	300	2.3244
594	4	<i>Bad Pinus sylvestris</i>	304	2.3235
595	4	<i>Bad Pinus sylvestris</i>	308	2.3270
596	4	<i>Bad Pinus sylvestris</i>	312	2.3293
597	4	<i>Bad Pinus sylvestris</i>	316	2.3316
598	4	<i>Bad Pinus sylvestris</i>	320	2.3349
599	4	<i>Bad Pinus sylvestris</i>	324	2.3366
600	4	<i>Bad Pinus sylvestris</i>	328	2.3365
601	4	<i>Bad Pinus sylvestris</i>	332	2.3372
602	4	<i>Bad Pinus sylvestris</i>	336	2.3376
603	4	<i>Bad Pinus sylvestris</i>	340	2.3404
604	4	<i>Bad Pinus sylvestris</i>	344	2.3423
605	4	<i>Bad Pinus sylvestris</i>	348	2.3425
606	4	<i>Bad Pinus sylvestris</i>	352	2.3433
607	4	<i>Bad Pinus sylvestris</i>	356	2.3453
608	4	<i>Bad Pinus sylvestris</i>	360	2.3469
609	4	<i>Bad Pinus sylvestris</i>	364	2.3507
610	4	<i>Bad Pinus sylvestris</i>	368	2.3506
611	4	<i>Bad Pinus sylvestris</i>	372	2.3502
612	4	<i>Bad Pinus sylvestris</i>	376	2.3517
613	4	<i>Bad Pinus sylvestris</i>	380	2.3495
614	4	<i>Bad Pinus sylvestris</i>	384	2.3519
615	4	<i>Bad Pinus sylvestris</i>	388	2.3509

S4. Methane concentration developments from tree-stems measured in the continuous mode as a function of the closure time and species of tree. Full data for plots collected from the northern boreal zone in Sweden.

#	Run	Tree species	Closure time (s)	CH ₄ concentration (ppmv)
616	4	<i>Bad Pinus sylvestris</i>	392	2.3519
617	4	<i>Bad Pinus sylvestris</i>	396	2.3533
618	4	<i>Bad Pinus sylvestris</i>	400	2.3564
619	4	<i>Bad Pinus sylvestris</i>	404	2.3557
620	4	<i>Bad Pinus sylvestris</i>	408	2.3559
621	4	<i>Bad Pinus sylvestris</i>	412	2.3619
622	4	<i>Bad Pinus sylvestris</i>	416	2.3623
623	4	<i>Bad Pinus sylvestris</i>	420	2.3627
624	5	<i>Betula pendula</i>	0	2.1240
625	5	<i>Betula pendula</i>	4	2.1879
626	5	<i>Betula pendula</i>	8	2.2293
627	5	<i>Betula pendula</i>	12	2.2564
628	5	<i>Betula pendula</i>	16	2.2742
629	5	<i>Betula pendula</i>	20	2.2926
630	5	<i>Betula pendula</i>	24	2.3064
631	5	<i>Betula pendula</i>	28	2.3174
632	5	<i>Betula pendula</i>	32	2.3312
633	5	<i>Betula pendula</i>	36	2.3427
634	5	<i>Betula pendula</i>	40	2.3523
635	5	<i>Betula pendula</i>	44	2.3644
636	5	<i>Betula pendula</i>	48	2.3689
637	5	<i>Betula pendula</i>	52	2.3741
638	5	<i>Betula pendula</i>	56	2.3794
639	5	<i>Betula pendula</i>	60	2.3819
640	5	<i>Betula pendula</i>	64	2.3860
641	5	<i>Betula pendula</i>	68	2.3918
642	5	<i>Betula pendula</i>	72	2.4044
643	5	<i>Betula pendula</i>	76	2.4191
644	5	<i>Betula pendula</i>	80	2.4329
645	5	<i>Betula pendula</i>	84	2.4477
646	5	<i>Betula pendula</i>	88	2.4582
647	5	<i>Betula pendula</i>	92	2.4714
648	5	<i>Betula pendula</i>	96	2.4834
649	5	<i>Betula pendula</i>	100	2.5005
650	5	<i>Betula pendula</i>	104	2.5130
651	5	<i>Betula pendula</i>	108	2.5260
652	5	<i>Betula pendula</i>	112	2.5403
653	5	<i>Betula pendula</i>	116	2.5540
654	5	<i>Betula pendula</i>	120	2.5647
655	5	<i>Betula pendula</i>	124	2.5787
656	5	<i>Betula pendula</i>	128	2.5892

S4. Methane concentration developments from tree-stems measured in the continuous mode as a function of the closure time and species of tree. Full data for plots collected from the northern boreal zone in Sweden.

#	Run	Tree species	Closure time (s)	CH ₄ concentration (ppmv)
657	5	<i>Betula pendula</i>	132	2.6012
658	5	<i>Betula pendula</i>	136	2.6110
659	5	<i>Betula pendula</i>	140	2.6228
660	5	<i>Betula pendula</i>	144	2.6363
661	5	<i>Betula pendula</i>	148	2.6490
662	5	<i>Betula pendula</i>	152	2.6580
663	5	<i>Betula pendula</i>	156	2.6681
664	5	<i>Betula pendula</i>	160	2.6792
665	5	<i>Betula pendula</i>	164	2.6922
666	5	<i>Betula pendula</i>	168	2.7051
667	5	<i>Betula pendula</i>	172	2.7172
668	5	<i>Betula pendula</i>	176	2.7300
669	5	<i>Betula pendula</i>	180	2.7385
670	5	<i>Betula pendula</i>	184	2.7501
671	5	<i>Betula pendula</i>	188	2.7616
672	5	<i>Betula pendula</i>	192	2.7748
673	5	<i>Betula pendula</i>	196	2.7870
674	5	<i>Betula pendula</i>	200	2.7970
675	5	<i>Betula pendula</i>	204	2.8076
676	5	<i>Betula pendula</i>	208	2.8219
677	5	<i>Betula pendula</i>	212	2.8308
678	5	<i>Betula pendula</i>	216	2.8423
679	5	<i>Betula pendula</i>	220	2.8526
680	5	<i>Betula pendula</i>	224	2.8650
681	5	<i>Betula pendula</i>	228	2.8757
682	5	<i>Betula pendula</i>	232	2.8866
683	5	<i>Betula pendula</i>	236	2.8978
684	5	<i>Betula pendula</i>	240	2.9111
685	5	<i>Betula pendula</i>	244	2.9198
686	5	<i>Betula pendula</i>	248	2.9340
687	5	<i>Betula pendula</i>	252	2.9504
688	5	<i>Betula pendula</i>	256	2.9497
689	5	<i>Betula pendula</i>	260	2.9693
690	5	<i>Betula pendula</i>	264	2.9803
691	5	<i>Betula pendula</i>	268	2.9920
692	5	<i>Betula pendula</i>	272	3.0032
693	5	<i>Betula pendula</i>	276	3.0125
694	5	<i>Betula pendula</i>	280	3.0232
695	5	<i>Betula pendula</i>	284	3.0363
696	5	<i>Betula pendula</i>	288	3.0491
697	5	<i>Betula pendula</i>	292	3.0558

S4. Methane concentration developments from tree-stems measured in the continuous mode as a function of the closure time and species of tree. Full data for plots collected from the northern boreal zone in Sweden.

#	Run	Tree species	Closure time (s)	CH ₄ concentration (ppmv)
698	5	<i>Betula pendula</i>	296	3.0662
699	5	<i>Betula pendula</i>	300	3.0778
700	5	<i>Betula pendula</i>	304	3.0902
701	5	<i>Betula pendula</i>	308	3.1001
702	5	<i>Betula pendula</i>	312	3.1126
703	5	<i>Betula pendula</i>	316	3.1207
704	5	<i>Betula pendula</i>	320	3.1340
705	5	<i>Betula pendula</i>	324	3.1452
706	5	<i>Betula pendula</i>	328	3.1531
707	5	<i>Betula pendula</i>	332	3.1650
708	5	<i>Betula pendula</i>	336	3.1777
709	5	<i>Betula pendula</i>	340	3.1870
710	5	<i>Betula pendula</i>	344	3.2001
711	5	<i>Betula pendula</i>	348	3.2078
712	5	<i>Betula pendula</i>	352	3.2200
713	5	<i>Betula pendula</i>	356	3.2287
714	5	<i>Betula pendula</i>	360	3.2394
715	5	<i>Betula pendula</i>	364	3.2509
716	5	<i>Betula pendula</i>	368	3.2623
717	5	<i>Betula pendula</i>	372	3.2741
718	5	<i>Betula pendula</i>	376	3.2824
719	5	<i>Betula pendula</i>	380	3.2945
720	5	<i>Betula pendula</i>	384	3.3039
721	5	<i>Betula pendula</i>	388	3.3188
722	5	<i>Betula pendula</i>	392	3.3294
723	5	<i>Betula pendula</i>	396	3.3345
724	5	<i>Betula pendula</i>	400	3.3495
725	5	<i>Betula pendula</i>	404	3.3587
726	5	<i>Betula pendula</i>	408	3.3663
727	5	<i>Betula pendula</i>	412	3.3786
728	5	<i>Betula pendula</i>	416	3.3922
729	5	<i>Betula pendula</i>	420	3.3972
730	5	<i>Betula pendula</i>	424	3.4089
731	5	<i>Betula pendula</i>	428	3.4171
732	5	<i>Betula pendula</i>	432	3.4273
733	5	<i>Betula pendula</i>	436	3.4363
734	6	<i>Bad Pinus sylvestris</i>	0	2.9010
735	6	<i>Bad Pinus sylvestris</i>	5	2.9142
736	6	<i>Bad Pinus sylvestris</i>	8	2.9211
737	6	<i>Bad Pinus sylvestris</i>	12	2.9175
738	6	<i>Bad Pinus sylvestris</i>	16	2.9134

S4. Methane concentration developments from tree-stems measured in the continuous mode as a function of the closure time and species of tree. Full data for plots collected from the northern boreal zone in Sweden.

#	Run	Tree species	Closure time (s)	CH ₄ concentration (ppmv)
739	6	<i>Bad Pinus sylvestris</i>	20	2.9057
740	6	<i>Bad Pinus sylvestris</i>	24	2.9022
741	6	<i>Bad Pinus sylvestris</i>	28	2.9015
742	6	<i>Bad Pinus sylvestris</i>	32	2.9032
743	6	<i>Bad Pinus sylvestris</i>	36	2.9074
744	6	<i>Bad Pinus sylvestris</i>	40	2.9092
745	6	<i>Bad Pinus sylvestris</i>	44	2.9114
746	6	<i>Bad Pinus sylvestris</i>	48	2.9114
747	6	<i>Bad Pinus sylvestris</i>	52	2.9063
748	6	<i>Bad Pinus sylvestris</i>	56	2.9002
749	6	<i>Bad Pinus sylvestris</i>	60	2.8964
750	6	<i>Bad Pinus sylvestris</i>	64	2.8928
751	6	<i>Bad Pinus sylvestris</i>	68	2.8890
752	6	<i>Bad Pinus sylvestris</i>	72	2.8912
753	6	<i>Bad Pinus sylvestris</i>	76	2.8884
754	6	<i>Bad Pinus sylvestris</i>	80	2.8902
755	6	<i>Bad Pinus sylvestris</i>	84	2.8893
756	6	<i>Bad Pinus sylvestris</i>	88	2.8919
757	6	<i>Bad Pinus sylvestris</i>	92	2.8932
758	6	<i>Bad Pinus sylvestris</i>	96	2.8939
759	6	<i>Bad Pinus sylvestris</i>	100	2.8972
760	6	<i>Bad Pinus sylvestris</i>	104	2.9058
761	6	<i>Bad Pinus sylvestris</i>	108	2.9151
762	6	<i>Bad Pinus sylvestris</i>	112	2.9251
763	6	<i>Bad Pinus sylvestris</i>	116	2.9356
764	6	<i>Bad Pinus sylvestris</i>	120	2.9483
765	6	<i>Bad Pinus sylvestris</i>	124	2.9578
766	6	<i>Bad Pinus sylvestris</i>	128	2.9710
767	6	<i>Bad Pinus sylvestris</i>	132	2.9814
768	6	<i>Bad Pinus sylvestris</i>	136	2.9848
769	6	<i>Bad Pinus sylvestris</i>	140	2.9920
770	6	<i>Bad Pinus sylvestris</i>	144	2.9946
771	6	<i>Bad Pinus sylvestris</i>	148	2.9965
772	6	<i>Bad Pinus sylvestris</i>	152	2.9986
773	6	<i>Bad Pinus sylvestris</i>	156	2.9986
774	6	<i>Bad Pinus sylvestris</i>	160	3.0025
775	6	<i>Bad Pinus sylvestris</i>	164	3.0031
776	6	<i>Bad Pinus sylvestris</i>	168	3.0066
777	6	<i>Bad Pinus sylvestris</i>	172	3.0066
778	6	<i>Bad Pinus sylvestris</i>	176	3.0138
779	6	<i>Bad Pinus sylvestris</i>	180	3.0216

S4. Methane concentration developments from tree-stems measured in the continuous mode as a function of the closure time and species of tree. Full data for plots collected from the northern boreal zone in Sweden.

#	Run	Tree species	Closure time (s)	CH ₄ concentration (ppmv)
780	6	<i>Bad Pinus sylvestris</i>	184	3.0310
781	6	<i>Bad Pinus sylvestris</i>	188	3.0467
782	6	<i>Bad Pinus sylvestris</i>	192	3.0657
783	6	<i>Bad Pinus sylvestris</i>	196	3.0808
784	6	<i>Bad Pinus sylvestris</i>	200	3.0962
785	6	<i>Bad Pinus sylvestris</i>	204	3.1032
786	6	<i>Bad Pinus sylvestris</i>	208	3.1119
787	6	<i>Bad Pinus sylvestris</i>	212	3.1187
788	6	<i>Bad Pinus sylvestris</i>	216	3.1237
789	6	<i>Bad Pinus sylvestris</i>	220	3.1283
790	6	<i>Bad Pinus sylvestris</i>	224	3.1255
791	6	<i>Bad Pinus sylvestris</i>	228	3.1241
792	6	<i>Bad Pinus sylvestris</i>	232	3.1182
793	6	<i>Bad Pinus sylvestris</i>	236	3.1070
794	6	<i>Bad Pinus sylvestris</i>	240	3.0997
795	6	<i>Bad Pinus sylvestris</i>	244	3.0975
796	6	<i>Bad Pinus sylvestris</i>	248	3.0977
797	6	<i>Bad Pinus sylvestris</i>	252	3.1054
798	6	<i>Bad Pinus sylvestris</i>	256	3.1174
799	6	<i>Bad Pinus sylvestris</i>	260	3.1194
800	6	<i>Bad Pinus sylvestris</i>	264	3.1153
801	6	<i>Bad Pinus sylvestris</i>	268	3.1208
802	6	<i>Bad Pinus sylvestris</i>	272	3.1225
803	6	<i>Bad Pinus sylvestris</i>	276	3.1234
804	6	<i>Bad Pinus sylvestris</i>	280	3.1235
805	6	<i>Bad Pinus sylvestris</i>	284	3.1282
806	6	<i>Bad Pinus sylvestris</i>	288	3.1304
807	6	<i>Bad Pinus sylvestris</i>	292	3.1345
808	6	<i>Bad Pinus sylvestris</i>	296	3.1329
809	6	<i>Bad Pinus sylvestris</i>	300	3.1345
810	6	<i>Bad Pinus sylvestris</i>	304	3.1402
811	6	<i>Bad Pinus sylvestris</i>	308	3.1467
812	6	<i>Bad Pinus sylvestris</i>	312	3.1527
813	6	<i>Bad Pinus sylvestris</i>	316	3.1605
814	6	<i>Bad Pinus sylvestris</i>	320	3.1659
815	6	<i>Bad Pinus sylvestris</i>	324	3.1755
816	6	<i>Bad Pinus sylvestris</i>	328	3.1844
817	6	<i>Bad Pinus sylvestris</i>	332	3.1981
818	6	<i>Bad Pinus sylvestris</i>	336	3.2175
819	6	<i>Bad Pinus sylvestris</i>	340	3.2432
820	6	<i>Bad Pinus sylvestris</i>	344	3.2651

S4. Methane concentration developments from tree-stems measured in the continuous mode as a function of the closure time and species of tree. Full data for plots collected from the northern boreal zone in Sweden.

#	Run	Tree species	Closure time (s)	CH ₄ concentration (ppmv)
821	6	<i>Bad Pinus sylvestris</i>	348	3.2816
822	6	<i>Bad Pinus sylvestris</i>	352	3.2887
823	6	<i>Bad Pinus sylvestris</i>	356	3.2940
824	6	<i>Bad Pinus sylvestris</i>	360	3.3014
825	6	<i>Bad Pinus sylvestris</i>	364	3.3086
826	6	<i>Bad Pinus sylvestris</i>	368	3.3189
827	6	<i>Bad Pinus sylvestris</i>	372	3.3282
828	6	<i>Bad Pinus sylvestris</i>	376	3.3390
829	6	<i>Bad Pinus sylvestris</i>	380	3.3501
830	6	<i>Bad Pinus sylvestris</i>	384	3.3536
831	6	<i>Bad Pinus sylvestris</i>	388	3.3630
832	6	<i>Bad Pinus sylvestris</i>	392	3.3668
833	6	<i>Bad Pinus sylvestris</i>	396	3.3703
834	6	<i>Bad Pinus sylvestris</i>	400	3.3759
835	6	<i>Bad Pinus sylvestris</i>	404	3.3802
836	6	<i>Bad Pinus sylvestris</i>	408	3.3799
837	6	<i>Bad Pinus sylvestris</i>	412	3.3862
838	6	<i>Bad Pinus sylvestris</i>	416	3.3860
839	6	<i>Bad Pinus sylvestris</i>	420	3.3907
840	6	<i>Bad Pinus sylvestris</i>	424	3.3975