Supplemental material for "Potential of needle trap microextraction – portable gas chromatography – mass spectrometry for measurement of atmospheric volatile compounds"

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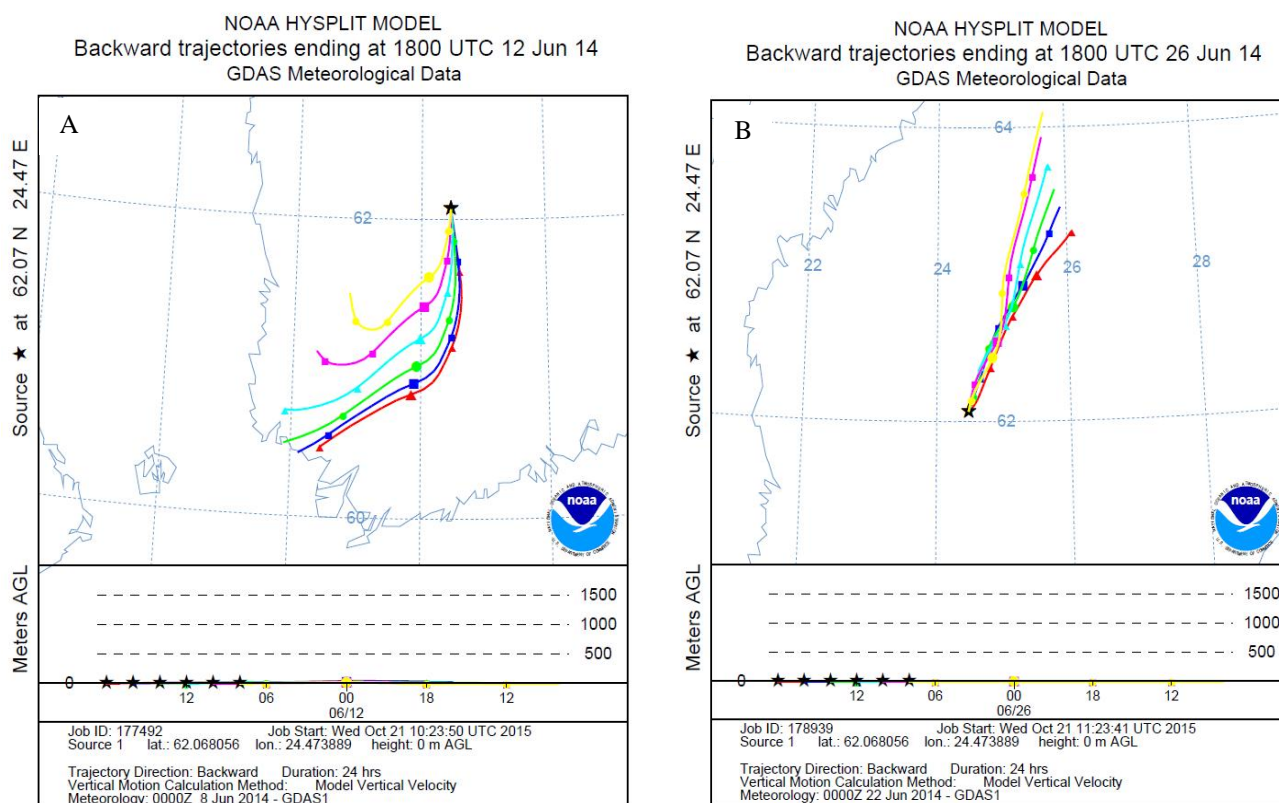
Figure S1: Back trajectories observed during the sampling period, on 12th (A) and 26th (B) of June, 2014.

Table S1: Peak area / Vcollected [mL^{-1}] obtained for the identified monoterpenes, pinonaldehyde, ethylbenzene and p/m-xylene during the summer campaign, 2014.

date	sampling time	Volume [mL]	α-pinene	Δ^3-carene	pinonaldehyde	ethylbenzene	p/m-xylene	temperature (4.2m) [°C]	particle number concentration [#/cm^3]
12.6.2014	9:29-11:09	2513	n.d.	n.d.	n.d.	0.132	0.674	13	1825
12.6.2014	11:11-12:48	2446	0.131	0.034	n.d.	0.173	0.584	13	1788
12.6.2014	12:49-14:27	2456	0.030	n.d.	n.d.	0.075	0.391	12	1902
12.6.2014	14:29-16:19	2750	0.080	0.106	n.d.	0.153	0.785	11	1433
12.6.2014	16:20-17:51	2286	0.413	0.122	n.d.	0.141	0.872	11	1245
13.6.2014	9:23-11:07	2613	0.216	0.016	n.d.	0.551	2.560	11	905
13.6.2014	11:08-12:48	2473	n.d.	n.d.	n.d.	0.125	0.822	12	1014
13.6.2014	12:49-14:30	2526	0.207	0.026	n.d.	0.079	0.576	14	1055
13.6.2014	14:32-16:07	2397	0.140	n.d.	n.d.	0.112	0.827	15	1099
13.6.2014	16:08-17:44	2404	0.026	0.007	n.d.	0.072	0.580	13	1067
14.6.2014	9:21-11:04	2599	0.086	n.d.	n.d.	0.173	0.965	9	566
14.6.2014	11:05-12:43	2457	0.096	n.d.	n.d.	0.304	1.417	11	1006
14.6.2014	12:44-14:27	2569	n.d.	n.d.	n.d.	0.134	0.886	12	1121
14.6.2014	14:28-16:03	2358	n.d.	n.d.	n.d.	0.053	0.598	12	1501
14.6.2014	16:04-17:46	2573	0.011	n.d.	n.d.	0.133	0.897	12	1640
15.6.2014	9:00-10:37	2446	n.d.	n.d.	n.d.	0.089	0.856	14	2609
15.6.2014	10:38-12:15	2396	n.d.	n.d.	n.d.	0.028	0.378	16	2082
15.6.2014	12:16-14:02	2654	0.006	n.d.	n.d.	0.108	0.686	17	2261
15.6.2014	14:02-15:39	2402	n.d.	n.d.	n.d.	0.014	0.298	16	2265
15.6.2014	15:40-17:24	2624	n.d.	n.d.	n.d.	0.004	0.174	17	2072
16.6.2014	8:55-10:35	2502	0.164	0.023	n.d.	0.269	1.129	11	2225
16.6.2014	10:36-12:14	2471	n.d.	n.d.	n.d.	0.041	0.468	10	2060
16.6.2014	12:15-13:59	2593	0.034	n.d.	n.d.	n.d.	0.171	9	1341
16.6.2014	14:00-15:39	2461	0.046	n.d.	n.d.	0.012	0.267	9	1932
16.6.2014	15:40-17:19	2492	0.042	n.d.	n.d.	n.d.	0.108	8	3176
17.6.2014	8:56-10:32	2427	n.d.	n.d.	n.d.	0.007	0.287	5	4883
17.6.2014	10:33-12:18	2634	n.d.	n.d.	n.d.	0.013	0.215	7	8375
17.6.2014	12:19-13:59	2504	n.d.	n.d.	n.d.	n.d.	0.070	7	13259
17.6.2014	14:00-15:39	2464	n.d.	n.d.	n.d.	n.d.	0.108	7	14454
17.6.2014	15:40-17:21	2549	n.d.	n.d.	n.d.	n.d.	0.190	9	14179
18.6.2014	8:48-10:28	2500	0.003	0.023	n.d.	0.024	0.406	11	1657
18.6.2014	10:29-12:08	2479	n.d.	n.d.	n.d.	0.016	0.276	12	2394

Table S1: Peak area / Vcollected [mL^{-1}] obtained for the identified monoterpenes, pinonaldehyde, ethylbenzene and p/m-xylene during the summer campaign, 2014. (cont.)

date	sampling time	Volume [mL]	α-pinene	Δ^3-carene	pinonaldehyde	ethylbenzene	p/m-xylene	temperature (4.2m) [°C]	particle number concentation [#/cm^3]
18.6.2014	12:09-13:53	2585	n.d.	n.d.	n.d.	0.030	0.361	13	3676
18.6.2014	13:54-15:33	2478	n.d.	n.d.	n.d.	0.004	0.169	14	6108
18.6.2014	15:34-17:24	2792	n.d.	n.d.	n.d.	0.005	0.191	14	4764
24.6.2014	8:46-10:24	2453	0.015	0.063	0.002	0.131	1.095	14	1336
24.6.2014	10:25-12:21	2901	0.413	0.124	0.002	0.048	0.427	13	1932
24.6.2014	12:22-14:09	2638	0.201	0.039	0.012	0.096	0.503	16	2722
24.6.2014	14:10-15:51	2501	n.d.	n.d.	0.016	0.009	0.244	13	1302
24.6.2014	15:52-17:41	2695	0.274	0.076	n.d.	n.d.	0.137	13	1890
25.6.2014	8:45-10:26	2525	0.100	0.004	n.d.	0.011	0.352	11	1591
25.6.2014	10:27-12:07	2502	n.d.	0.005	n.d.	n.d.	0.140	11	1193
25.6.2014	12:08-13:55	2656	n.d.	n.d.	n.d.	0.001	0.117	12	993
25.6.2014	13:56-15:38	2552	0.005	n.d.	n.d.	n.d.	0.127	13	991
25.6.2014	15:39-17:38	2971	n.d.	n.d.	n.d.	n.d.	0.036	13	765
26.6.2014	8:45-10:36	2777	n.d.	n.d.	n.d.	n.d.	0.071	13	3505
26.6.2014	10:37-12:22	2620	n.d.	n.d.	n.d.	n.d.	0.034	13	3108
26.6.2014	12:23-14:07	2589	n.d.	n.d.	n.d.	n.d.	n.d.	15	2585
26.6.2014	14:08-15:54	2649	n.d.	n.d.	n.d.	n.d.	n.d.	15	2364
26.6.2014	15:55-17:44	2743	n.d.	n.d.	n.d.	n.d.	0.009	14	2354
27.6.2014	8:46-10:28	2528	n.d.	n.d.	n.d.	n.d.	0.026	14	2081
27.6.2014	10:29-12:09	2507	n.d.	n.d.	n.d.	n.d.	n.d.	15	2144
27.6.2014	12:10-14:07	2910	n.d.	n.d.	n.d.	n.d.	0.036	15	2113
27.6.2014	14:08-15:49	2515	n.d.	n.d.	n.d.	n.d.	0.008	14	2162
27.6.2014	15:50-17:42	2792	n.d.	n.d.	n.d.	n.d.	0.009	14	2049
28.6.2014	8:52-10:37	2617	n.d.	n.d.	n.d.	n.d.	0.067	14	2509
28.6.2014	10:38-12:28	2735	n.d.	n.d.	n.d.	n.d.	0.011	16	2766
28.6.2014	12:29-14:09	2487	n.d.	n.d.	n.d.	n.d.	n.d.	16	3402
28.6.2014	14:10-15:50	2508	n.d.	n.d.	n.d.	n.d.	0.010	17	1936
28.6.2014	15:51-17:37	2665	n.d.	n.d.	n.d.	n.d.	n.d.	17	3043
29.6.2014	9:04-10:41	2412	0.025	n.d.	n.d.	n.d.	0.058	15	2127
29.6.2014	10:42-12:43	2995	0.028	n.d.	n.d.	n.d.	0.027	13	1590
29.6.2014	12:44-14:19	2390	n.d.	n.d.	n.d.	n.d.	0.009	13	1131
29.6.2014	14:20-16:30	3247	0.025	n.d.	n.d.	n.d.	n.d.	13	859

Table S1: Peak area / Vcollected [mL⁻¹] obtained for the identified monoterpenes, pinonaldehyde, ethylbenzene and p/m-xylene during the summer campaign, 2014. (cont.)

date	sampling time	Volume [mL]	α-pinene	Δ³-carene	pinonaldehyde	ethylbenzene	p/m-xylene	temperature (4.2m) [°C]	particle number concentation [#/cm³]
29.6.2014	16:31-18:21	2765	n.d.	n.d.	n.d.	n.d.	n.d.	10	931
30.6.2014	8:41-10:18	2417	0.031	0.014	n.d.	n.d.	0.012	11	838
30.6.2014	10:19-11:57	2432	0.047	0.006	n.d.	n.d.	n.d.	11	750
30.6.2014	11:58-13:40	2560	0.034	n.d.	n.d.	n.d.	0.005	12	729
30.6.2014	13:41-15:18	2378	n.d.	n.d.	n.d.	n.d.	n.d.	12	650
30.6.2014	15:19-16:55	2379	0.032	n.d.	n.d.	n.d.	n.d.	12	536
1.7.2014	8:57-10:35	2446	0.038	n.d.	n.d.	n.d.	0.038	14	811
1.7.2014	10:36-12:12	2390	n.d.	n.d.	n.d.	n.d.	n.d.	14	675
1.7.2014	12:13-13:51	2458	0.031	n.d.	n.d.	n.d.	n.d.	15	594
2.7.2014	8:55-10:37	2560	0.171	0.215	n.d.	n.d.	0.068	11	591
2.7.2014	10:40-12:22	2561	n.d.	0.093	n.d.	n.d.	0.009	12	769
2.7.2014	12:25-14:05	2510	0.060	0.058	n.d.	n.d.	n.d.	12	649
2.7.2014	14:07-15:47	2514	0.045	0.014	n.d.	n.d.	0.007	11	736
2.7.2014	15:49-17:29	2507	n.d.	n.d.	n.d.	n.d.	n.d.	10	905
3.7.2014	9:07-10:47	2506	0.065	n.d.	n.d.	n.d.	n.d.	16	2572
3.7.2014	10:48-12:28	2503	0.112	0.004	n.d.	n.d.	n.d.	18	2811
3.7.2014	12:30-14:10	2502	n.d.	n.d.	n.d.	n.d.	n.d.	20	1882
3.7.2014	14:11-15:51	2500	0.016	n.d.	n.d.	n.d.	n.d.	20	3556
3.7.2014	15:52-17:32	2503	0.033	n.d.	n.d.	n.d.	n.d.	19	1941
4.7.2014	10:06-11:46	2502	0.083	0.008	n.d.	n.d.	n.d.	16	1007
4.7.2014	11:47-13:27	2523	0.027	n.d.	n.d.	n.d.	n.d.	18	1085
4.7.2014	13:29-15:09	2500	n.d.	n.d.	n.d.	n.d.	n.d.	20	1213
4.7.2014	15:10-16:50	2501	0.023	n.d.	n.d.	n.d.	n.d.	19	2246
5.7.2014	8:04-9:46	2566	0.409	0.114	n.d.	n.d.	n.d.	15	1962
5.7.2014	9:48-11:28	2000	n.d.	n.d.	0.003	n.d.	n.d.	17	1468
5.7.2014	11:30-13:10	2519	n.d.	n.d.	n.d.	n.d.	n.d.	19	1588
5.7.2014	13:13-14:58	2631	0.048	n.d.	0.004	n.d.	n.d.	21	2989
5.7.2014	14:59-16:40	2537	n.d.	n.d.	n.d.	n.d.	n.d.	22	3063
6.7.2014	9:14-10:54	2528	0.116	0.014	0.002	n.d.	n.d.	21	1413
6.7.2014	10:55-12:35	2502	0.075	n.d.	0.004	n.d.	n.d.	22	1678
6.7.2014	12:36-14:20	2615	0.008	n.d.	n.d.	n.d.	n.d.	23	1862
6.7.2014	14:22-16:01	2496	0.055	n.d.	n.d.	n.d.	n.d.	22	2165

Table S1: Peak area / Vcollected [mL^{-1}] obtained for the identified monoterpenes, pinonaldehyde, ethylbenzene and p/m-xylene during the summer campaign, 2014. (cont.)

date	sampling time	Volume [mL]	α-pinene	Δ^3-carene	pinonaldehyde	ethylbenzene	p/m-xylene	temperature (4.2m) [°C]	particle number concentation [#/cm^3]
6.7.2014	16:02-17:42	2517	0.202	0.061	0.013	n.d.	n.d.	23	1587
7.7.2014	8:40-10:00	2000	0.030	0.024	0.002	n.d.	n.d.	22	2906
7.7.2014	10:01-11:41	2500	0.035	n.d.	0.003	n.d.	n.d.	23	2554
7.7.2014	11:41-13:22	2542	0.052	0.003	0.004	n.d.	n.d.	24	2255
7.7.2014	13:24-15:04	2500	n.d.	n.d.	n.d.	n.d.	n.d.	24	2054
7.7.2014	15:05-16:45	2500	0.019	0.004	n.d.	n.d.	n.d.	24	2605
8.7.2014	8:42-10:25	2595	1.140	0.485	0.020	n.d.	n.d.	23	2966
8.7.2014	10:26-12:06	2500	0.003	n.d.	0.003	n.d.	n.d.	24	2527
8.7.2014	12:08-13:47	2500	1.019	0.344	0.013	n.d.	n.d.	24	2207
8.7.2014	13:48-15:28	2514	0.052	0.013	0.016	n.d.	n.d.	26	1871
8.7.2014	15:29-17:09	2501	0.008	n.d.	n.d.	n.d.	n.d.	26	1554
9.7.2014	8:28-10:09	2548	0.124	0.058	0.003	n.d.	n.d.	24	1182
9.7.2014	10:40-12:20	2507	0.137	0.045	0.002	n.d.	n.d.	25	1189
9.7.2014	12:44-14:24	2501	0.077	0.009	n.d.	n.d.	n.d.	26	1247
9.7.2014	14:47-16:27	2502	1.047	0.309	0.003	n.d.	n.d.	25	1229
9.7.2014	16:51-18:31	2500	0.180	0.064	0.010	n.d.	n.d.	27	1200
10.7.2014	8:34-10:14	2500	0.020	0.080	n.d.	n.d.	n.d.	16	1146
10.7.2014	10:40-12:20	2508	0.285	0.098	n.d.	n.d.	n.d.	15	1207
10.7.2014	12:43-14:23	2524	0.032	n.d.	n.d.	n.d.	n.d.	18	1482
10.7.2014	14:45-16:25	2500	n.d.	n.d.	n.d.	n.d.	n.d.	19	5270
10.7.2014	16:47-18:27	2500	n.d.	n.d.	n.d.	n.d.	n.d.	19	5696

Table S2: Peak area / Vcollected [mL^{-1}] obtained for the identified aldehydes during the summer campaign, 2014.

date	sampling time	Volume [mL]	hexanal	benzaldehyde	heptanal	octanal	nonanal	decanal	temperature (4.2m) [°C]	particle number concentration [#/cm^3]
12.6.2014	9:29-11:09	2513	n.d.	0.193	0.005	0.060	0.437	0.057	13	1825
12.6.2014	11:11-12:48	2446	n.d.	0.093	n.d.	0.024	0.250	0.055	13	1788
12.6.2014	12:49-14:27	2456	0.013	0.063	0.005	0.051	0.210	0.007	12	1902
12.6.2014	14:29-16:19	2750	n.d.	0.353	0.042	0.171	1.024	0.569	11	1433
12.6.2014	16:20-17:51	2286	0.007	0.360	0.010	0.110	0.801	0.354	11	1245
13.6.2014	9:23-11:07	2613	0.103	0.882	0.051	0.149	0.761	0.207	11	905
13.6.2014	11:08-12:48	2473	0.024	0.465	0.028	0.154	0.656	0.147	12	1014
13.6.2014	12:49-14:30	2526	n.d.	0.184	n.d.	0.009	0.351	0.081	14	1055
13.6.2014	14:32-16:07	2397	0.008	0.289	0.007	0.096	0.556	0.043	15	1099
13.6.2014	16:08-17:44	2404	0.013	0.266	0.010	0.045	0.332	0.023	13	1067
14.6.2014	9:21-11:04	2599	n.d.	0.239	n.d.	0.042	0.410	0.105	9	566
14.6.2014	11:05-12:43	2457	0.059	0.549	0.017	0.102	0.634	0.067	11	1006
14.6.2014	12:44-14:27	2569	0.079	0.487	0.059	0.120	0.538	n.d.	12	1121
14.6.2014	14:28-16:03	2358	0.019	0.216	0.011	0.082	0.480	0.094	12	1501
14.6.2014	16:04-17:46	2573	0.042	0.414	0.025	0.112	0.505	0.024	12	1640
15.6.2014	9:00-10:37	2446	0.068	0.357	0.029	0.167	0.303	0.043	14	2609
15.6.2014	10:38-12:15	2396	0.009	0.188	n.d.	0.075	0.329	0.016	16	2082
15.6.2014	12:16-14:02	2654	0.046	0.329	0.010	0.096	0.113	0.018	17	2261
15.6.2014	14:02-15:39	2402	0.010	0.155	0.013	0.098	0.316	0.019	16	2265
15.6.2014	15:40-17:24	2624	n.d.	0.108	n.d.	0.045	0.254	0.014	17	2072
16.6.2014	8:55-10:35	2502	0.054	0.336	0.003	0.084	0.292	0.029	11	2225
16.6.2014	10:36-12:14	2471	0.031	0.255	0.017	0.072	0.270	0.032	10	2060
16.6.2014	12:15-13:59	2593	n.d.	0.075	n.d.	0.005	0.154	0.057	9	1341
16.6.2014	14:00-15:39	2461	0.007	0.135	n.d.	0.038	0.274	0.007	9	1932
16.6.2014	15:40-17:19	2492	n.d.	0.035	n.d.	0.019	0.164	0.083	8	3176
17.6.2014	8:56-10:32	2427	n.d.	0.049	n.d.	0.003	0.139	0.077	5	4883
17.6.2014	10:33-12:18	2634	n.d.	0.068	n.d.	0.011	0.229	0.055	7	8375
17.6.2014	12:19-13:59	2504	0.011	0.032	0.003	0.038	0.221	0.044	7	13259
17.6.2014	14:00-15:39	2464	n.d.	0.044	n.d.	0.013	0.220	0.064	7	14454
17.6.2014	15:40-17:21	2549	n.d.	0.082	n.d.	0.010	0.222	0.026	9	14179
18.6.2014	8:48-10:28	2500	n.d.	0.193	0.016	0.105	0.311	0.029	11	1657
18.6.2014	10:29-12:08	2479	n.d.	0.165	0.006	0.028	0.271	0.026	12	2394

Table S2: Peak area / Vcollected [mL^{-1}] obtained for the identified aldehydes during the summer campaign, 2014. (cont.)

date	sampling time	Volume [mL]	hexanal	benzaldehyde	heptanal	octanal	nonanal	decanal	temperature (4.2m) [°C]	particle number concentation [#/cm^3]
18.6.2014	12:09-13:53	2585	0.018	0.244	0.005	0.073	0.270	0.008	13	3676
18.6.2014	13:54-15:33	2478	0.046	0.138	0.018	0.078	0.222	0.017	14	6108
18.6.2014	15:34-17:24	2792	n.d.	0.105	0.004	0.080	0.257	0.036	14	4764
24.6.2014	8:46-10:24	2453	0.164	0.976	0.147	0.452	1.264	0.648	14	1336
24.6.2014	10:25-12:21	2901	0.016	0.336	0.010	0.096	0.525	0.205	13	1932
24.6.2014	12:22-14:09	2638	0.060	0.561	0.069	0.162	0.354	n.d.	16	2722
24.6.2014	14:10-15:51	2501	0.018	0.492	0.062	0.200	0.465	0.033	13	1302
24.6.2014	15:52-17:41	2695	n.d.	0.188	0.006	0.043	0.310	0.046	13	1890
25.6.2014	8:45-10:26	2525	0.031	0.336	0.030	0.112	0.514	0.079	11	1591
25.6.2014	10:27-12:07	2502	0.014	0.275	0.031	0.136	0.419	0.026	11	1193
25.6.2014	12:08-13:55	2656	0.015	0.241	0.011	0.092	0.343	0.032	12	993
25.6.2014	13:56-15:38	2552	0.006	0.152	0.013	0.074	0.224	0.024	13	991
25.6.2014	15:39-17:38	2971	0.014	0.099	0.005	0.060	0.130	n.d.	13	765
26.6.2014	8:45-10:36	2777	n.d.	0.070	n.d.	0.044	0.069	0.006	13	3505
26.6.2014	10:37-12:22	2620	n.d.	0.086	n.d.	0.027	0.084	0.003	13	3108
26.6.2014	12:23-14:07	2589	n.d.	0.029	0.004	0.037	0.093	n.d.	15	2585
26.6.2014	14:08-15:54	2649	n.d.	0.039	n.d.	0.013	0.087	n.d.	15	2364
26.6.2014	15:55-17:44	2743	n.d.	0.074	n.d.	0.026	0.077	n.d.	14	2354
27.6.2014	8:46-10:28	2528	n.d.	0.069	0.007	0.054	0.130	0.004	14	2081
27.6.2014	10:29-12:09	2507	n.d.	0.028	n.d.	0.017	0.125	0.016	15	2144
27.6.2014	12:10-14:07	2910	n.d.	0.113	n.d.	0.041	0.096	n.d.	15	2113
27.6.2014	14:08-15:49	2515	0.004	0.094	0.010	0.057	0.112	0.009	14	2162
27.6.2014	15:50-17:42	2792	n.d.	0.092	n.d.	0.033	0.079	0.007	14	2049
28.6.2014	8:52-10:37	2617	n.d.	0.097	n.d.	0.029	0.122	0.008	14	2509
28.6.2014	10:38-12:28	2735	0.010	0.054	0.004	0.056	0.100	n.d.	16	2766
28.6.2014	12:29-14:09	2487	n.d.	0.029	n.d.	0.008	0.150	0.007	16	3402
28.6.2014	14:10-15:50	2508	n.d.	0.053	n.d.	0.032	0.080	0.008	17	1936
28.6.2014	15:51-17:37	2665	0.008	0.047	0.006	0.052	0.072	n.d.	17	3043
29.6.2014	9:04-10:41	2412	0.003	0.137	n.d.	0.048	0.144	0.005	15	2127
29.6.2014	10:42-12:43	2995	n.d.	0.134	0.006	0.060	0.085	0.005	13	1590
29.6.2014	12:44-14:19	2390	0.004	0.085	0.018	0.080	0.113	0.011	13	1131
29.6.2014	14:20-16:30	3247	n.d.	0.086	n.d.	0.015	0.117	n.d.	13	859

Table S2: Peak area / Vcollected [mL^{-1}] obtained for the identified aldehydes during the summer campaign, 2014. (cont.)

date	sampling time	Volume [mL]	hexanal	benzaldehyde	heptanal	octanal	nonanal	decanal	temperature (4.2m) [°C]	particle number concentation [#/cm^3]
29.6.2014	16:31-18:21	2765	n.d.	0.096	0.003	0.036	0.102	n.d.	10	931
30.6.2014	8:41-10:18	2417	0.002	0.027	n.d.	0.033	0.170	0.055	11	838
30.6.2014	10:19-11:57	2432	n.d.	0.023	n.d.	0.004	0.120	0.043	11	750
30.6.2014	11:58-13:40	2560	n.d.	0.076	0.002	0.026	0.135	0.007	12	729
30.6.2014	13:41-15:18	2378	n.d.	0.062	n.d.	0.038	0.155	0.017	12	650
30.6.2014	15:19-16:55	2379	n.d.	0.025	n.d.	n.d.	0.083	0.034	12	536
1.7.2014	8:57-10:35	2446	n.d.	0.141	0.004	0.073	0.143	0.012	14	811
1.7.2014	10:36-12:12	2390	n.d.	0.104	0.007	0.077	0.128	0.012	14	675
1.7.2014	12:13-13:51	2458	n.d.	0.108	n.d.	0.025	0.152	0.006	15	594
2.7.2014	8:55-10:37	2560	n.d.	0.049	n.d.	0.052	0.251	0.037	11	591
2.7.2014	10:40-12:22	2561	n.d.	0.077	n.d.	0.083	0.216	0.016	12	769
2.7.2014	12:25-14:05	2510	n.d.	0.022	n.d.	0.001	0.164	0.042	12	649
2.7.2014	14:07-15:47	2514	0.001	0.065	n.d.	0.049	0.215	0.015	11	736
2.7.2014	15:49-17:29	2507	n.d.	0.028	0.003	0.038	0.219	0.020	10	905
3.7.2014	9:07-10:47	2506	n.d.	0.078	n.d.	n.d.	0.180	0.067	16	2572
3.7.2014	10:48-12:28	2503	0.002	0.099	0.009	0.040	0.256	0.011	18	2811
3.7.2014	12:30-14:10	2502	0.003	0.063	0.023	0.032	0.242	0.019	20	1882
3.7.2014	14:11-15:51	2500	0.016	0.106	0.010	0.071	0.375	0.030	20	3556
3.7.2014	15:52-17:32	2503	n.d.	0.089	n.d.	0.004	0.129	0.009	19	1941
4.7.2014	10:06-11:46	2502	0.004	0.059	n.d.	n.d.	0.125	0.038	16	1007
4.7.2014	11:47-13:27	2523	0.011	0.108	0.017	0.012	0.187	0.016	18	1085
4.7.2014	13:29-15:09	2500	n.d.	0.049	n.d.	0.009	0.159	0.017	20	1213
4.7.2014	15:10-16:50	2501	n.d.	0.069	n.d.	n.d.	0.139	0.044	19	2246
5.7.2014	8:04-9:46	2566	n.d.	0.118	0.004	n.d.	0.167	0.075	15	1962
5.7.2014	9:48-11:28	2000	0.010	0.189	0.019	0.049	0.348	0.125	17	1468
5.7.2014	11:30-13:10	2519	n.d.	0.064	n.d.	0.015	0.275	0.150	19	1588
5.7.2014	13:13-14:58	2631	0.020	0.116	0.005	0.025	0.350	0.145	21	2989
5.7.2014	14:59-16:40	2537	0.016	0.058	0.007	0.012	0.283	0.111	22	3063
6.7.2014	9:14-10:54	2528	0.022	0.211	0.009	0.018	0.321	0.095	21	1413
6.7.2014	10:55-12:35	2502	0.012	0.111	0.008	0.025	0.329	0.162	22	1678
6.7.2014	12:36-14:20	2615	0.028	0.079	0.010	0.048	0.324	0.140	23	1862
6.7.2014	14:22-16:01	2496	n.d.	0.036	n.d.	0.002	0.220	0.129	22	2165

Table S2: Peak area / Vcollected [mL^{-1}] obtained for the identified aldehydes during the summer campaign, 2014. (cont.)

date	sampling time	Volume [mL]	hexanal	benzaldehyde	heptanal	octanal	nonanal	decanal	temperature (4.2m) [°C]	particle number concentation [#/cm^3]
6.7.2014	16:02-17:42	2517	0.014	0.076	0.003	n.d.	0.243	0.125	23	1587
7.7.2014	8:40-10:00	2000	0.023	0.228	0.035	0.058	0.488	0.164	22	2906
7.7.2014	10:01-11:41	2500	n.d.	0.063	n.d.	n.d.	0.223	0.125	23	2554
7.7.2014	11:41-13:22	2542	0.018	0.105	0.006	0.008	0.277	0.093	24	2255
7.7.2014	13:24-15:04	2500	0.010	0.079	0.007	0.028	0.264	0.108	24	2054
7.7.2014	15:05-16:45	2500	n.d.	0.035	n.d.	n.d.	0.165	0.096	24	2605
8.7.2014	8:42-10:25	2595	0.029	0.153	0.002	0.012	0.256	0.109	23	2966
8.7.2014	10:26-12:06	2500	0.018	0.140	0.006	0.040	0.334	0.109	24	2527
8.7.2014	12:08-13:47	2500	n.d.	0.091	n.d.	n.d.	0.163	0.082	24	2207
8.7.2014	13:48-15:28	2514	0.003	0.072	n.d.	n.d.	0.239	0.099	26	1871
8.7.2014	15:29-17:09	2501	n.d.	0.059	0.003	0.026	0.252	0.103	26	1554
9.7.2014	8:28-10:09	2548	0.027	0.099	0.008	0.028	0.379	0.107	24	1182
9.7.2014	10:40-12:20	2507	0.024	0.147	0.003	0.036	0.345	0.078	25	1189
9.7.2014	12:44-14:24	2501	0.010	0.093	0.020	0.063	0.291	0.118	26	1247
9.7.2014	14:47-16:27	2502	0.009	0.146	0.010	0.019	0.262	0.088	25	1229
9.7.2014	16:51-18:31	2500	0.004	0.067	0.004	0.015	0.273	0.058	27	1200
10.7.2014	8:34-10:14	2500	n.d.	0.055	n.d.	n.d.	0.178	0.031	16	1146
10.7.2014	10:40-12:20	2508	n.d.	0.005	n.d.	n.d.	0.044	0.004	15	1207
10.7.2014	12:43-14:23	2524	0.002	0.040	n.d.	n.d.	0.110	0.047	18	1482
10.7.2014	14:45-16:25	2500	0.001	0.021	n.d.	n.d.	0.143	0.077	19	5270
10.7.2014	16:47-18:27	2500	n.d.	n.d.	n.d.	n.d.	0.071	0.019	19	5696

Table S3: Correlation coefficients between all measured aldehydes during the summer campaign.

compound	pinonaldehyde	hexanal	benzaldehyde	heptanal	octanal	nonanal	decanal
pinonaldehyde	1	0.11	0.12	0.17	0.02	0.09	0.12
hexanal	0.11	1	0.84	0.81	0.75	0.64	0.44
benzaldehyde	0.12	0.84	1	0.83	0.84	0.81	0.50
heptanal	0.17	0.81	0.83	1	0.88	0.72	0.55
octanal	0.02	0.75	0.84	0.88	1	0.75	0.51
nonanal	0.09	0.64	0.81	0.72	0.75	1	0.79
decanal	0.12	0.44	0.50	0.55	0.51	0.79	1