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Supplement of

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

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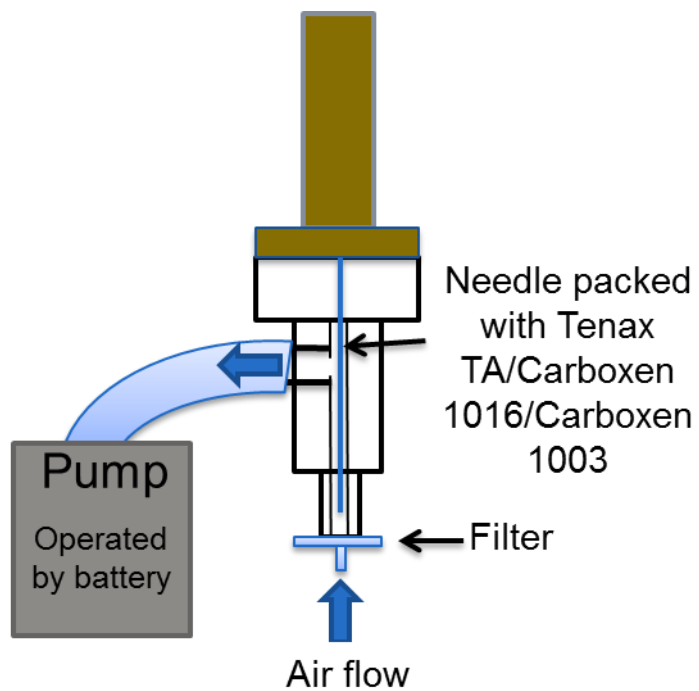


Figure S1: Schematic representation of collection system used for needle trap microextraction device.

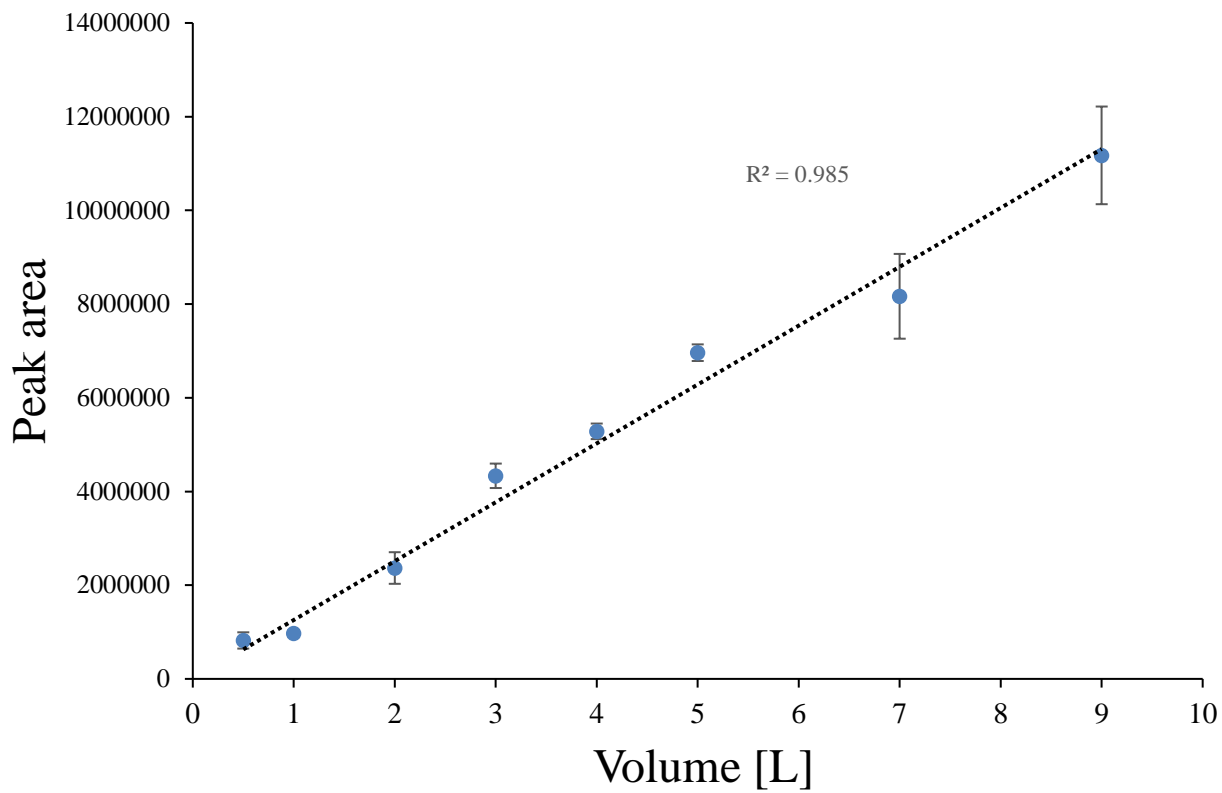
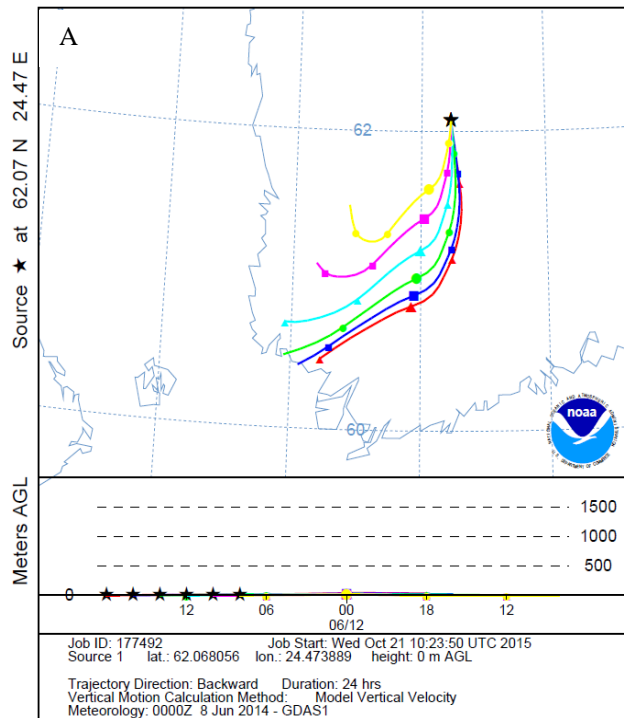


Figure S2: Extraction volume vs peak area of α -pinene obtained by NTME and GC-MS.

NOAA HYSPLIT MODEL
 Backward trajectories ending at 1800 UTC 12 Jun 14
 GDAS Meteorological Data



NOAA HYSPLIT MODEL
 Backward trajectories ending at 1800 UTC 26 Jun 14
 GDAS Meteorological Data

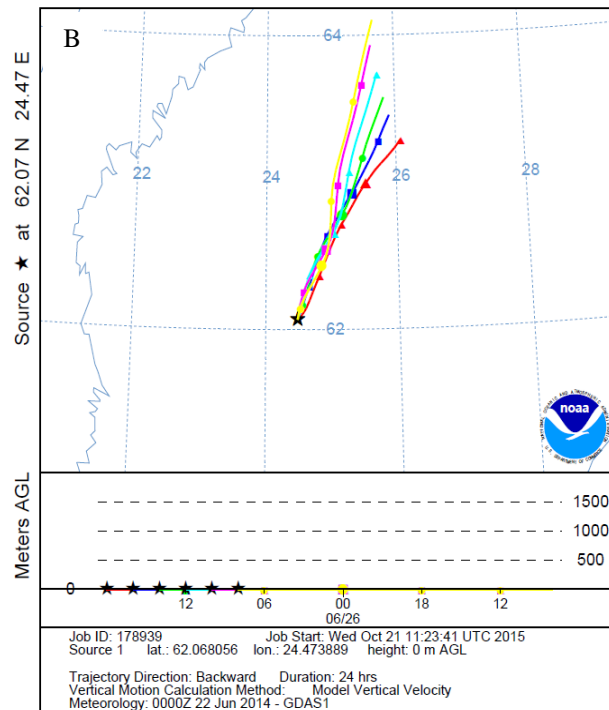


Figure S3: Back trajectories observed during the sampling period, on 12th (A) and 26th (B) of June, 2014.

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 concentration [#/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	Δ^3 -carene	pinonaldehyde	ethylbenzene	p/m-xylene	temperature (4.2m) [°C]	particle number concentration [#/cm ³]
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 concentration [#/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 concentration [# /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 concentration [# /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 concentration [# /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.

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