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Supplement of

Surface–atmosphere fluxes of volatile organic compounds in Beijing

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Table 1: PTR-ToF-MS Sensitivity

Compound	Average sensitivity (ncps/ppb) winter campaign	Average sensitivity (ncps/ppb) summer campaign
methanol	8.48	6.41
acetonitrile	18.69	19.01
ethanol	0.83	1.57
1,3-butadiene	9.98	9.86
acetone	21.67	24.78
isoprene	10.21	10.15
butenone	20.37	19.58
butan-2-one	20.85	22.97
benzene	14.99	15.35
toluene	15.83	17.10
m-xylene	18.01	19.91
1,2,4-trimethylbenzene	17.56	18.79

Table 2: Mass/charge ratio and likely chemical composition of the 64 masses showing a flux with a median relative random error of less than 150% in the summer campaign.

m/z [amu]	Chemical formula	m/z [amu]	Chemical formula
31.018	(CH ₂ O)H ⁺	87.052	(C ₄ H ₆ O ₂)H ⁺
33.033	(CH ₄ O)H ⁺	87.074	(C ₅ H ₁₀ O)H ⁺
40.974	Unassigned	89.048	(C ₄ H ₈ S)H ⁺
41.039	(C ₃ H ₅)H ⁺	92.953	Unassigned
42.034	(C ₂ H ₃ N)H ⁺	93.071	(C ₇ H ₈)H ⁺
43.018	(C ₂ H ₂ O)H ⁺	95.037	(C ₅ H ₄ NO)H ⁺
43.054	(C ₃ H ₆)H ⁺	96.979	Unassigned
45.033	(C ₂ H ₄ O)H ⁺	97.097	(C ₇ H ₁₂)H ⁺
46.030	(CH ₃ NO)H ⁺	99.073	(C ₆ H ₁₀ O)H ⁺
47.032	(CH ₂ O ₂)H ⁺ /(C ₂ H ₆ O)H ⁺	100.998	Unassigned
51.041	Unassigned	101.029	(C ₄ H ₄ O ₃)H ⁺
55.053	(C ₄ H ₆)H ⁺	101.071	(C ₅ H ₈ O ₂)H ⁺
57.044	(C ₃ H ₄ O)H ⁺	101.109	(C ₆ H ₁₂ O)H ⁺
57.081	(C ₄ H ₈)H ⁺	105.071	(C ₈ H ₈)H ⁺
59.064	(C ₃ H ₆ O)H ⁺	107.081	(C ₈ H ₁₀)H ⁺
61.030	(C ₂ H ₄ O ₂)H ⁺	107.949	Unassigned
63.022	(C ₂ H ₆ S)H ⁺	111.111	(C ₈ H ₁₅)H ⁺
67.066	(C ₅ H ₆)H ⁺	119.083	(C ₉ H ₁₀)H ⁺
69.078	(C ₅ H ₈)H ⁺	120.942	Unassigned
71.058	(C ₄ H ₆ O)H ⁺	121.090	(C ₉ H ₁₂)H ⁺
73.062	(C ₄ H ₈ O)H ⁺	123.110	(C ₉ H ₁₄)H ⁺
75.050	(C ₃ H ₆ O ₂)H ⁺	129.071	(C ₁₀ H ₈)H ⁺
78.991	Unassigned	129.111	(C ₇ H ₁₄ NO)H ⁺
79.061	(C ₆ H ₆)H ⁺	135.110	(C ₁₀ H ₁₄)H ⁺
80.974	Unassigned	137.014	(C ₈ H ₅ Cl)H ⁺
80.999	Unassigned	137.057	(C ₈ H ₈ O ₂)H ⁺
81.073	(C ₆ H ₈)H ⁺	137.134	(C ₁₀ H ₁₆)H ⁺
82.989	Unassigned	146.974	Unassigned
83.087	(C ₆ H ₁₀)H ⁺	147.109	(C ₁₁ H ₁₄)H ⁺
84.950	Unassigned	148.984	Unassigned
85.068	(C ₅ H ₈ O)H ⁺	149.075	(C ₇ H ₁₃ ClO)H ⁺
87.029	(C ₄ H ₆ S)H ⁺	180.942	(C ₆ H ₃ Cl ₃)H ⁺