

**Supplementary information for “Airborne eddy-covariance
fluxes and concentrations of Volatile Organic Compounds
in transects over California”**

**P. K. Miszta^{1,2}, T. Karl^{2,3}, R. Weber¹, H. H. Jonsson⁴, A. B. Guenther^{2,5}, and A. H.
Goldstein¹**

[1]{University of California at Berkeley, Berkeley, California, USA}

[2]{National Center for Atmospheric Research, Boulder, Colorado, USA}

[3]{now at: Institute for Meteorology and Geophysics, University of Innsbruck, Innsbruck,
Austria}

[4]{Center for Interdisciplinary Remotely-Piloted Aircraft Studies, Monterey, CA, USA}

[5]{now at: Atmospheric Sciences and Global Change Division, Pacific Northwest National
Laboratory, Richland, WA, USA}

Correspondence to: P. K. Miszta (pkm@berkeley.edu)

Oak ecosystem



Figure S1. A typical oak savannah ecosystem seen from the twin-otter. Note spatial variability in oak densities. The photo is showing the Tonzi Ranch tower, where REA flux measurements took place (see Sect. 3.2.2).

1 Sensitivities and settings

2 Table S2. PTR-MS sensitivities and settings during CABERNET

	6/8/2011 RF1	6/9/2011 RF2	6/10/2011 RF3	6/14/2011 RF4	6/15/2011 RF5	6/16/2011 RF6	6/20/2011 RF7	6/21/2011 RF8
Normalized sensitivities (ncps ppbv ⁻¹)								
M79	19.816	22.124	19.622	21.913	20.788	18.842	24.852	23.559
M93	18.000	20.097	17.824	19.905	18.883	17.115	22.575	21.401
M105	14.108	13.588	10.719	14.059	13.779	11.146	17.496	15.551
M107	10.155	14.142	11.899	13.096	12.917	11.023	15.783	14.964
M113	10.570	15.216	12.546	13.665	13.224	11.669	16.476	15.435
M121			8.4953	11.468	12.061	9.5474	15.166	14.011
M147	2.4690	3.0201	2.5351	4.4609	4.5862	2.8743	7.4852	6.5489
M181	0.0533	0.1434	0.0836	0.0944	0.1333	0.0783	0.1722	0.1793
M41	1.5316	2.1000	1.5369	2.3115	2.4218	1.9551	2.4882	2.4709
M69	12.303	14.838	12.040	14.309	15.182	12.922	15.322	16.566
M81*	7.0856	7.5255	7.0029	7.8044	8.4026	7.4407	8.6862	9.1489
M137*	7.2781	7.0122	7.2037	6.9632	7.2211	6.9476	7.5266	8.0743
Isoprene	13.835	10.800	13.577	16.6202	17.603	14.877	17.810	19.037
MVK+MACR*	22.014	24.578	21.798	24.343	23.093	20.932	27.609	26.172
Monoterpenes*	14.364	14.538	14.207	14.768	15.624	14.388	16.213	17.223
M33*	15.916	15.916	15.916	15.916	15.916	15.916	15.916	15.916
M45*	25.017	25.017	25.017	25.017	25.017	25.017	25.017	25.017
M87 (MBO)*	3.6625	4.4172	3.5844	4.2596	4.5195	3.8467	4.5613	4.9316
Settings								
p _d (mb)	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
U _d	560	540	560	560	560	560	560	560
T (°C)	50	50	50	50	50	50	50	50
H ₂ O flow (sccm)	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
M21 (cps)	19,123,000	24,000,000	20,900,000	20,000,000	18,000,000	19,200,000	19,100,000	19,100,000
SEM (V)	2335	2404	2435	2496	2510	2518	2626	2626

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*derived from daily sensitivity curves and post-campaign calibrations

Inter-comparison with Walnut Grove tower

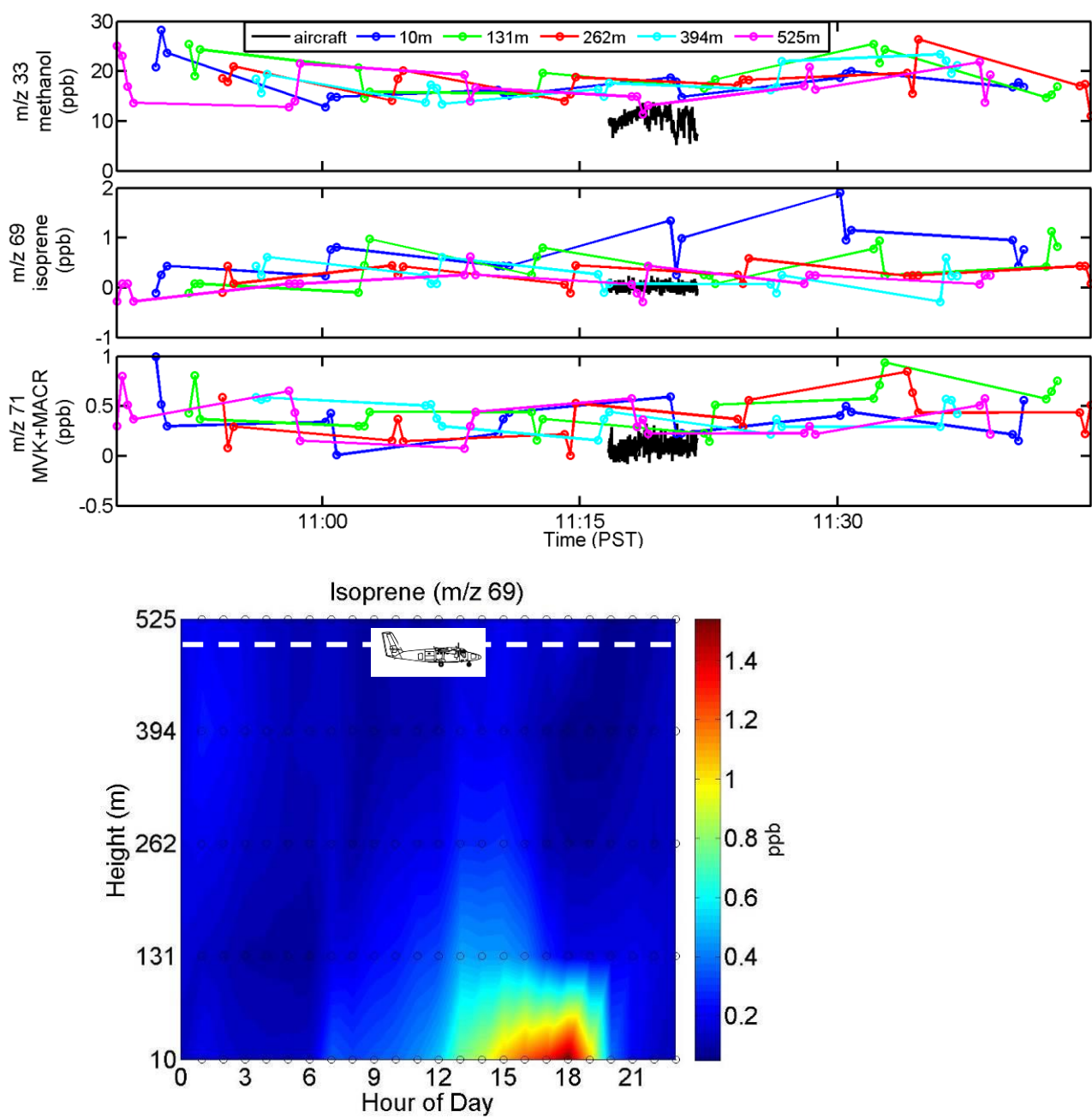


Figure S2. (a) Intercomparison of concentrations at Walnut Grove tower coinciding with top level of the tower. (b) Vertical profile for concentration of isoprene shows complementary value from ground-based measurements.

Comparison of PTR-MS and GC cartridges

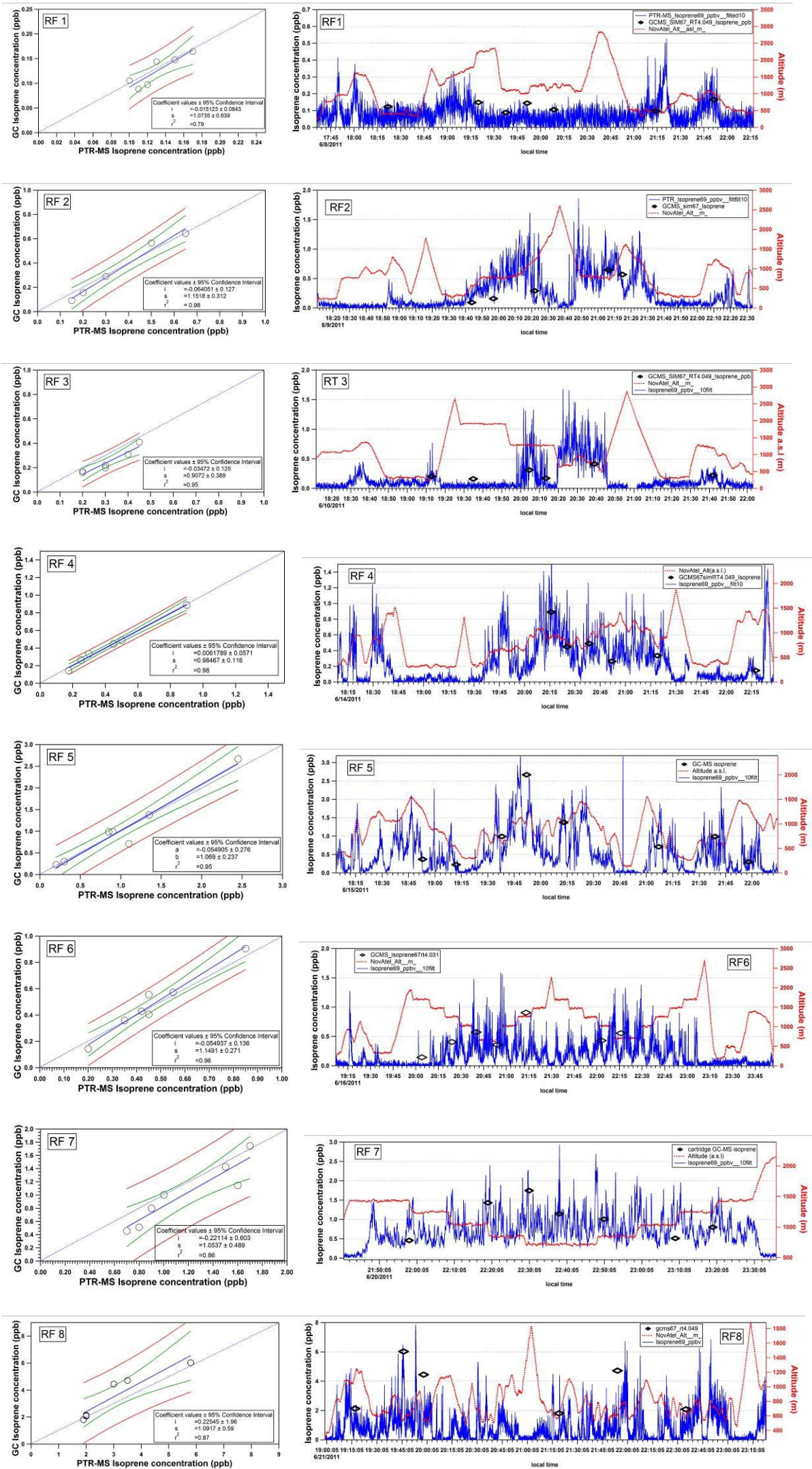


Figure S3. Comparison of isoprene concentrations between PTR-MS and GC cartridges.