Supporting Information For:

Diurnal and Seasonal Variability of Gasoline-Related Volatile Organic Compounds in Riverside, California

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Summary of Supporting Information:

6 Pages (excluding cover): S1-S6

Tables

Figures

Table S1: Compounds Measured During SOAR 2005

2-pentanone	isoprene	pentane
3-pentanone	isopropanol	propanal
acetone	methacrolein	propane
acetonitrile	methyl ethyl ketone	propene
alpha-pinene	methyl furan	propyne
benzene	methyl nitrate	toluene
beta-pinene	methyl tert-butyl ether	trans-2-butene
butanal	methyl vinyl ketone	water vapor
butane	methyl-1-butene	C2Cl4
butene	methyl2butanone	C2HCl3
carbon monoxide	methylbutenol	CCl3F
cyclopentane	methylpentane	CH2Cl2
dimethylsulfide	methylpropanal	CH3CCl3
ethyl & isopropyl nitrate	methylpropene	CH3Cl
heptane	neopentane	CH3I
hexanal	n-propyl nitrate	CHCl3
hexane	o-xylene	CHClF2
isobutane	ozone	Cl2FC-CClF2
isopentane	pentanal	F141b (Cl2FC-CH3)

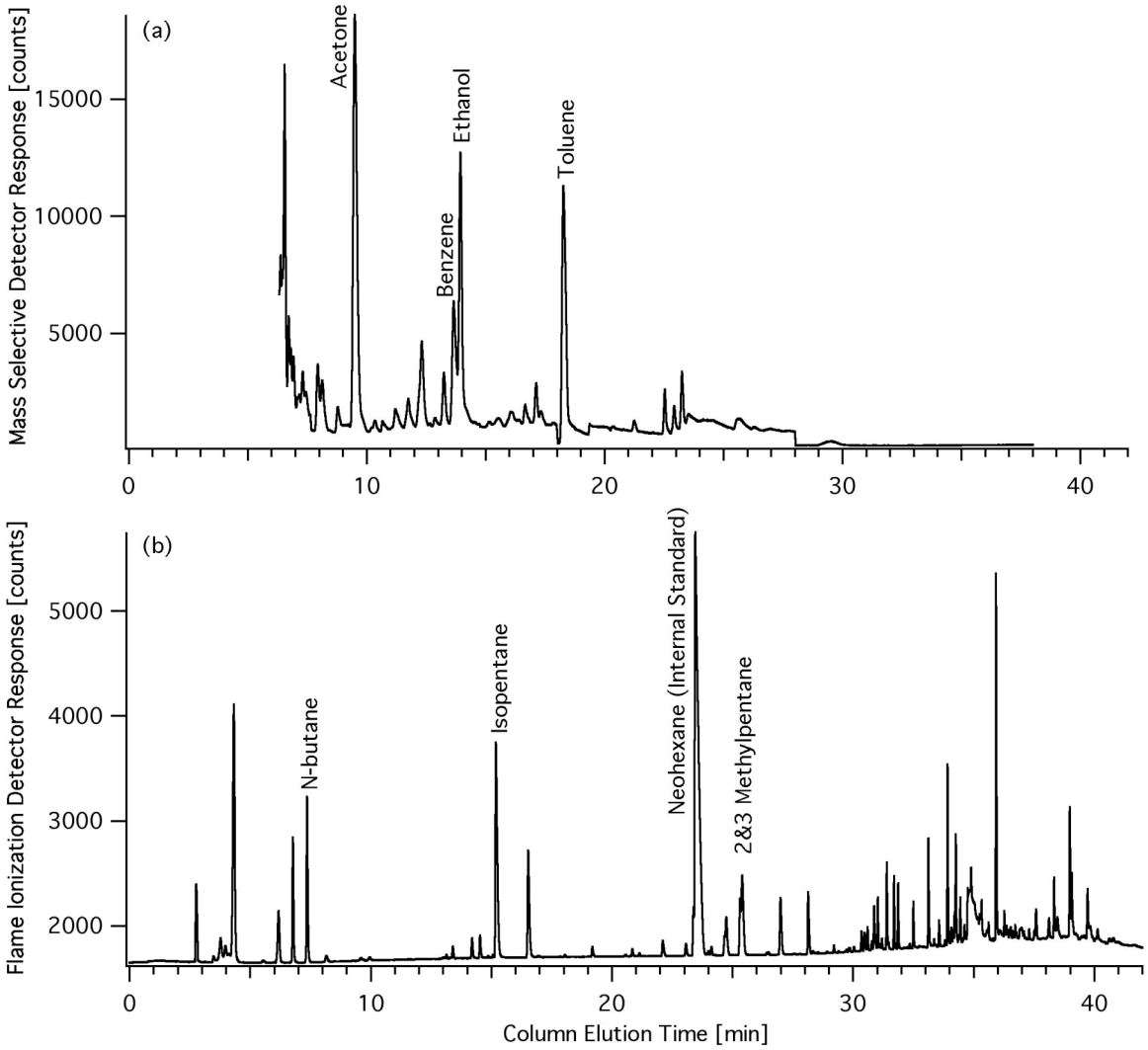

Figure S1: Sample chromatograms from Summer SOAR measurements (07:00 7/26/2005) for (a) the mass selective detector and (b) the flame ionization detector

Notes on EMFAC Model Calculations:

The model (EMFAC 2007 v2.3) was run for the summer season constrained to the portion of Riverside County in the South Coast air basin using model years 1965-2005 and all classes of gasoline-powered vehicles in the enhanced interim method (8). To calculate the percent vapor contribution, vapor and whole gasoline emissions are grouped as defined in the introduction; with the exception that running losses were halved between whole gasoline and fuel vapor emissions to account for liquid fuel spills, which is in accordance with previous work (4).

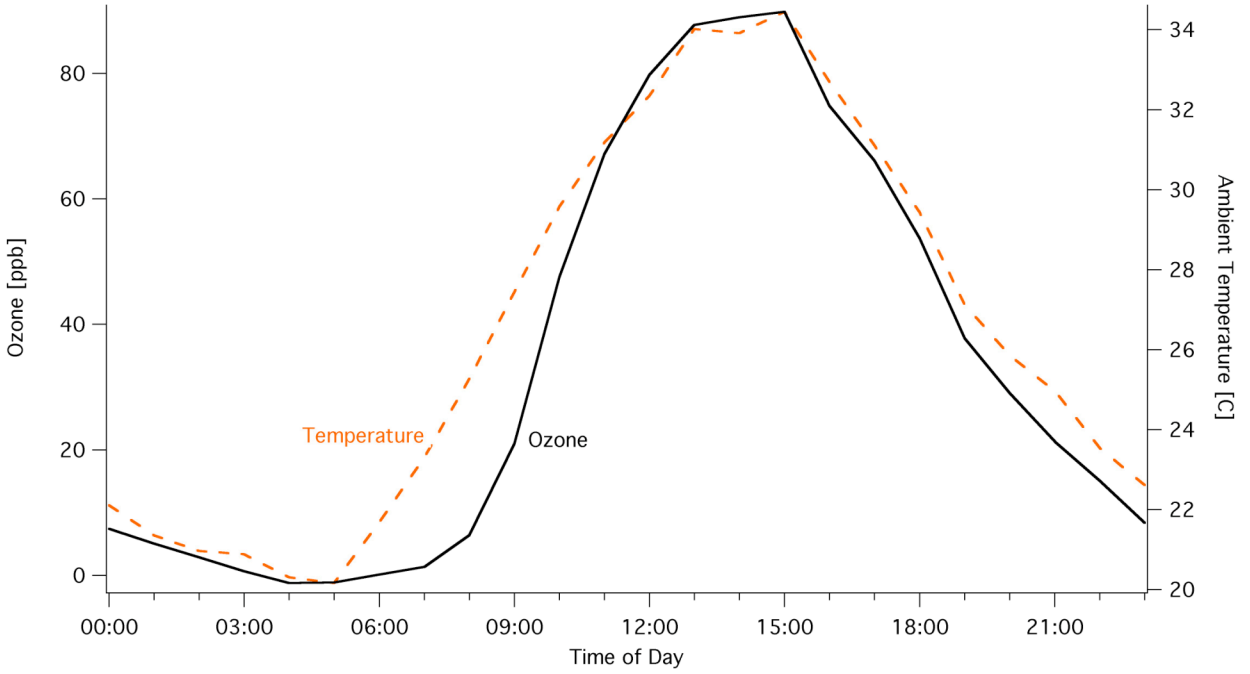

Figure S2: Superimposed weekday diurnal ozone and ambient temperature profiles

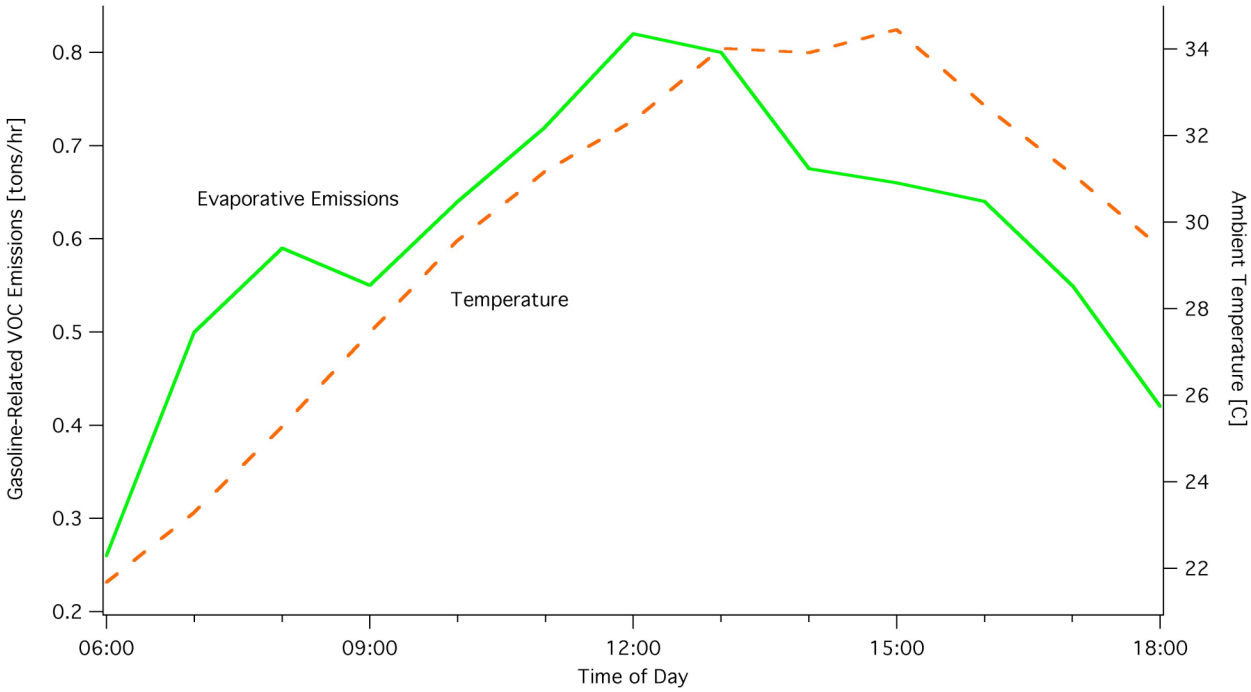

Figure S3: Diurnal EMFAC-derived evaporative emissions during summer 2005 with ambient temperature observations superimposed

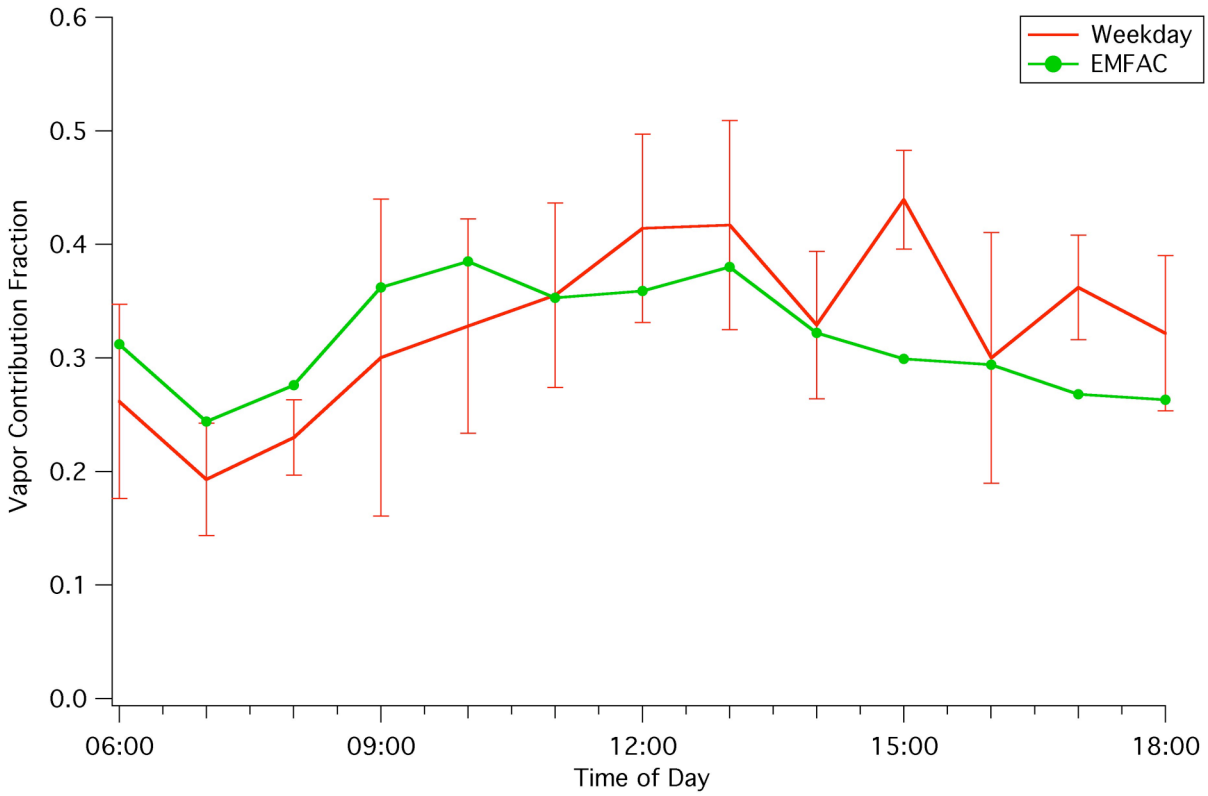

Figure S4: Daytime vapor contribution fraction from weekday summer measurements (with 95% confidence intervals) compared to EMFAC model results

Table S2: Percent Vapor Contribution to Gasoline-related VOC Emissions (± 95% Confidence Intervals)

Hour	Weekday	Weekend	EMFAC
0:00:00	31 ± 13	23 ± 1	41
1:00:00	30 ± 5	27 ± 7	58
2:00:00	34 ± 19	32 ± 13	59
3:00:00	38 ± 23	29 ±6	75
4:00:00	26 ± 2	29 ± 5	53
5:00:00	21 ± 4	24 ± 3	47
6:00:00	26 ± 9	22 ± 6	31
7:00:00	19 ± 5	22 ± 5	24
8:00:00	23 ± 3	23 ± 11	28
9:00:00	30 ± 14	37 ± 8	36
10:00:00	33 ± 9	33 ± 9	39
11:00:00	36 ± 8	46 ± 10	35
12:00:00	41 ± 8	49 ± 22	36
13:00:00	42 ± 9	34 ± 13	38
14:00:00	33 ± 6	31 ± 12	32
15:00:00	44 ± 4	47 ± 11	30
16:00:00	30 ± 11	52 ± 13	29
17:00:00	36 ± 5	37 ± 6	27
18:00:00	32 ± 7	39 ± 11	26
19:00:00	29 ± 6	42 ± 9	26
20:00:00	27 ± 8	28 ± 6	26
21:00:00	34 ± 13	27 ± 9	28
22:00:00	33 ± 10	32 ± 14	23
23:00:00	23 ± 8	32 ± 16	29

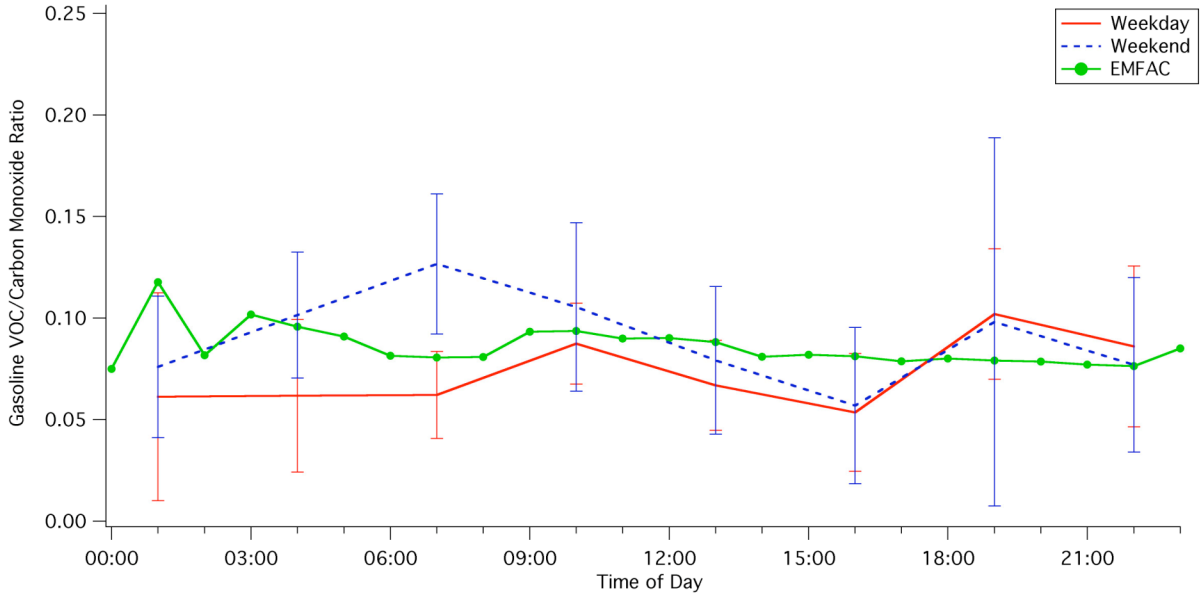

Figure S5: Gasoline-related VOC to CO ratios for weekday and weekend (with 95% confidence intervals) including EMFAC model results

Table S3: VOC/CO Ratios (± 95% Confidence Intervals)

Time of Day	Weekday	Weekend	EMFAC
0:00-3:00	0.061 ± 0.051	0.076 ± 0.035	0.091
3:00-6:00	0.062 ± 0.038	0.101 ± 0.031	0.096
6:00-9:00	0.062 ± 0.021	0.127 ± 0.035	0.081
9:00-12:00	0.087 ± 0.020	0.106 ± 0.041	0.092
12:00-15:00	0.067 ± 0.022	0.079 ± 0.036	0.086
15:00-18:00	0.054 ± 0.029	0.057 ± 0.038	0.081
18:00-21:00	0.102 ± 0.032	0.098 ± 0.091	0.079
21:00-0:00	0.086 ± 0.040	0.077 ± 0.043	0.079