**Table S2**: Observed VOC and NO2 VMRs (in ppb) at the Floresville monitor (this work), Boulder Atmospheric Observatory (Gilman et al., 2013), and the Houston/Galveston Bay (HGB) area (Gilman et al., 2009). Median values in this table entered the reactivity comparison shown in Table 2.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| compound | Floresville, TX | Boulder Atmos. Observatory | Houston/Galveston Bay |  |
|  | mean | median | 1 sd | mean | median | 1 sd | mean | median | 1 sd | kOH 1 |
| ethane | 20.75 | 12.12 | 26.97 | 35 | 22 | 38 | 8.35 | 4.41 | NA2 | 0.25 |
| propane | 14.8 | 7.4 | 21.94 | 27 | 17 | 33 | 6.67 | 2.71 | NA | 1.1 |
| n-butane | 6.19 | 2.98 | 9.18 | 14 | 7.3 | 19 | 4.18 | 0.96 | NA | 2.4 |
| isobutane | 2.91 | 1.34 | 4.61 | 6 | 2.9 | 8.5 | 4.38 | 0.86 | NA | 2.1 |
| n-pentane | 1.76 | 0.82 | 2.57 | 4.7 | 6.7 | 2.2 | 2.23 | 0.34 | NA | 3.8 |
| isopentane | 1.94 | 0.93 | 2.81 | 4.2 | 2 | 5.9 | 3.61 | 0.7 | NA | 3.6 |
| n-hexane | 0.44 | 0.23 | 0.6 | 1.1 | 0.6 | 1.3 | 0.86 | 0.19 | NA | 5.2 |
| methylpentanes | NA | NA | NA | 0.93 | 0.69 | 0.86 | 0.78 | 0.22 | NA | 5.4 |
| dimethylbutanes | 0.01 | 0.01 | 0.03 | NA | NA | NA | 0.44 | 0.13 | NA | 5.6 |
| n-heptane | 0.13 | 0.07 | 0.17 | 0.32 | 0.19 | 0.35 | 0.21 | 0.05 | NA | 6.8 |
| n-octane | 0.03 | 0.01 | 0.06 | 0.095 | 0.063 | 0.095 | NA | NA | NA | 8.1 |
| n-nonane | 0.02 | 0.01 | 0.03 | 0.039 | 0.026 | 0.038 | NA | NA | NA | 9.5 |
| n-decane | 0.02 | 0.01 | 0.03 | 0.027 | 0.02 | 0.024 | 0.06 | 0.01 | NA | 11 |
| cyclopentane | 0.08 | 0.05 | 0.09 | 0.21 | 0.1 | 0.3 | NA | NA | NA | 7 |
| cyclohexane | 0.1 | 0.06 | 0.13 | 0.3 | 0.2 | 0.28 | 0.32 | 0.06 | NA | 7 |
| methylcyclopentane | 0.12 | 0.07 | 0.14 | 1.3 | 1 | 1.2 | 0.36 | 0.09 | NA | 8.6 |
| methylcyclohexane | 0.1 | 0.05 | 0.12 | 0.28 | 0.17 | 0.34 | NA | NA | NA | 9.6 |
| ethene | 0.53 | 0.41 | 0.44 | 0.74 | 0.49 | 0.79 | 2.69 | 0.8 | NA | 8.5 |
| propene | 0.2 | 0.15 | 0.23 | 0.16 | 0.09 | 0.19 | 1.54 | 0.22 | NA | 26.3 |
| butene | 0.04 | 0.03 | 0.03 | NA | NA | NA | 0.25 | 0.03 | NA | 51.4 |
| isobutene | NA | NA | NA | NA | NA | NA | 0.28 | 0.06 | NA | 31.4 |
| c-2-butene | 0.02 | 0.02 | 0.02 | NA | NA | NA | 0.086 | 0.005 | NA | 56.4 |
| t-2-butene | 0.04 | 0.04 | 0.02 | NA | NA | NA | 0.123 | 0.006 | NA | 60 |
| methyl-butenes | NA | NA | NA | NA | NA | NA | 0.16 | 0.07 | NA | 31.4 |
| pentene | <0.01 | <0.01 | 0.01 | NA | NA | NA | 0.05 | 0.013 | NA | 51.4 |
| c-2-pentene | <0.01 | <0.01 | 0.01 | NA | NA | NA | 0.04 | 0.007 | NA | 65 |
| t-2-pentene | <0.01 | <0.01 | 0.02 | NA | NA | NA | 0.076 | 0.013 | NA | 67 |
| hexenes | NA | NA | NA | NA | NA | NA | 0.06 | NA | NA | 61 |
| butadiene | 0.02 | 0.02 | 0.02 | NA | NA | NA | 0.08 | 0.016 | NA | 67 |
| ethyne/acetylene | 0.44 | 0.4 | 0.22 | 0.84 | 0.67 | 0.61 | 0.47 | 0.3 | NA | 0.9 |
| benzene | 0.19 | 0.16 | 0.11 | 0.29 | 0.23 | 0.21 | 0.42 | 0.19 | NA | 1.2 |
| toluene | 0.16 | 0.11 | 0.17 | 0.3 | 0.21 | 0.29 | 0.5 | 0.16 | NA | 5.6 |
| mp-xylene | 0.05 | 0.03 | 0.07 | 0.11 | 0.075 | 0.1 | 0.22 | 0.05 | NA | 19 |
| o-xylene | 0.02 | 0.01 | 0.03 | 0.03 | 0.23 | 0.03 | 0.09 | 0.02 | NA | 13.6 |
| ethylbenzene | 0.01 | 0 | 0.02 | 0.03 | 0.021 | 0.03 | 0.08 | 0.03 | NA | 7 |
| trimethylbenzenes | 0.03 | 0.01 | 0.06 | 0.04 | 0.03 | 0.042 | 0.12 | 0.02 | NA | 45 |
| C3-benzenes | <0.01 | <0.01 | 0.01 | 0.029 | 0.022 | 0.028 | 0.11 | 0.02 | NA | 58 |
| styrene | <0.01 | <0.01 | 0.01 | 0.006 | NA | 0.01 | 0.04 | 0.004 | NA | 6 |
| isoprene | <0.01 | <0.01 | 0.01 | 0.004 | 0.002 | 0.005 | 0.14 | 0.06 | NA | 101 |
| alpha-pinene | NA | NA | NA | NA | NA | NA | 0.024 | 0.013 | NA | 52.3 |
| beta-pinene | NA | NA | NA | 0.001 | NA | 0.003 | 0.013 | 0.007 | NA | 74.3 |
| NO2 | 4.69 | 3.83 | 3.5 | NA | NA | NA | 8.5 | 5.9 | NA | 8.7 |
| *oxygenated VOCs* |  |  |  |  |  |  |  |  |  |  |
| formaldehyde | NA | NA | NA |  |  |  | 2.44 | 1.60 | NA | 9.4 |
| acetaldehyde | NA | NA | NA | 0.54 | 0.41 | 0.38 | 0.78 | 0.58 | NA | 15 |
| propanal | NA | NA | NA | 0.15 | 0.12 | 0.09 | 0.23 | 0.17 | NA | 20 |
| MACR | NA | NA | NA | 0.006 | 0.005 | 0.005 | 0.05 | 0.024 | NA | 29 |
| MVK | NA | NA | NA | 0.014 | 0.012 | 0.012 | 0.08 | 0.03 | NA | 20 |
| methanol | NA | NA | NA | 5.4 | 4.6 | 3.5 | 4.76 | 2.58 | NA | 0.9 |
| ethanol | NA | NA | NA | 2.2 | 1.7 | 2.0 | 0.87 | 0.58 | NA | 3.2 |
| acetone | NA | NA | NA | 1.3 | 1.1 | 0.43 | 3.55 | 2.74 | NA | 0.17 |

1 OH reactivity is given in units of 10-12 cm3 molecule-1 s-1 (from Gilman et al., 2009)

2 NA stands for non-applicable, either due to not being listed in the reference, not being measured, or below the detection limit