

---- simple calculation -----

There is no explanation about concentration of trans-2-butene and cis-2-butene during the dust period, but just roughly estimate 0.72ppb and 0.6ppb at fresh pollution period (from 1-3-butadiene in Figure S5, Figure S1, and trans-2-butene/cis-2-butene ratio. 1-3-butadiene will similar source (car exhaust) and removal reaction by OH ($k = 6.7E-11 \text{ cm}^3/\text{molecule/s}$) as trans and cis-2-butenes). 1-3-butadiene was 0.2 ppb at 20:00-24:00 on Nov.9 and decrease 0.05ppb at 20:00-24:00 on Nov.10 (decrease 1/4).

In the simple calculation, when original fresh polluted air (0.72ppb t-2-butene and 0.6ppb cis-2-butene) decrease to 0.15 ppb (about 1/4), the butene ratio ($[\text{trans-2-butene}]/[\text{cis-2-butene}]$) decrease from 1.2 to 1.0. It seems to be difficult to explain the observed butene ratio decrease (from 1.2 to 0.7).

