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The authors describe experimental results from the ozonolysis of the diterpene kaurene ($C_{20}H_{32}$) carried out in a low-flow 2 m^3 Teflon reactor for close to atmospheric conditions and RH < 1% with a residence time of the reaction mixture of about 1 hour. Kaurene was dosed by flushing a carrier gas through a heated vial filled with the hydrocarbon and introducing the flow into the reactor. Gas-phase analysis was carried out applying a Vocus PTR mass spec and a nitrate-based CIMS. A SMPS system and a AMS analyzed the formed particles. Resulting kaurene concentrations in the Teflon reactor were tried to determine using Tenax absorbers and by its O_3 reactivity with and assumed rate coefficient k(O_3+kaurene). Generally, this manuscript describes a very challenging experimental work. A well-defined conversion of such a sticky compound in this reactor type is a really hard job.

This manuscript represents the first reported product study of a diterpene. Despite the big uncertainty of stated product concentrations and formation yields, the results are interesting and worth to be published in ACP. Some points should be considered before final acceptance is recommended.

1. Line 96: What is the reason using RH <1%?
2. Line 99: Is something known in the literature regarding vapor pressure and melting/boiling point of kaurene?
3. Line 155: Poor reliability of kaurene quantification is a weakness of this work. Did the authors think about a GC-FID technique applying the "effective carbon number" approach, which is especially suitable for pure hydrocarbons with a relatively high carbon number. It´s an old, but very robust, technique for measuring concentrations of hydrocarbons as successfully used for measuring sesquiterpenes in kinetic and product studies for atmospheric conditions. Should work for kaurene as well.
4. Line 183: I think the chosen rate coefficient k(O_3+kaurene) = 5 x 10^{-15} cc/s cannot be estimated from modeling as described in the SM. There are 4 free parameters (kaurene feed, k(O_3+kaurene), k(OH+kaurene) and OH yield) you can play with. There is not enough experimental information to fix them independent from each other.
   Is k(O_3+kaurene) available via SAR?
   What about to measure k(O_3+kaurene) using a relative rate technique? A signal, proportional to the kaurene concentration, is available from the PTR-ms.
   With the knowledge of a more reliable k(O_3+kaurene) (and in the presence of an OH scavenger), a better estimate of the kaurene concentration should be possible based on the measured O_3 disappearance.
5. Line 230: A reaction scheme showing the expected first pathways would be helpful to better understand the argumentation given in this paragraph.
6. Line 252: Is the "calibration factor" c = 10^{10} molecules/cc not coming from sulfuric acid calibration? Is there an uncertainty only with a factor of 2? Was duty cycle correction applied? Additional uncertainty arising from the ion transmission of the big ions is mentioned. What is the expected total error in HOM concentrations?
7. Line 273: Also here, a (rough) estimate of the uncertainty in the HOM yield should be given.