

Dear Authors,
A few relatively minor points to be addressed. A few comments below.

Abstract:

Editor comment: Agree with reviewer - abstract should mention the analytical range (compounds measured) of the instrument.

Reviewer: P3, L30 – “In my experience, heated teflon line can be quite permeable, how do you test for contamination? e.g. TOGA has zero air introduced right at the start of the inlet as it enters the cabin.”

Response by authors: The contamination was tested in a similar manner. On board SOFIA a N2 bottle (6.0) was frequently used for diagnostic purposes. This information has been now in the text.

Editor comment: How do the inlet blanks look? This would be nice additional information. Perhaps a sentence or two describing this is in order.

Section 2.8 9/35: Prior to each mission (or flight?)

Section 2.8 9/35: The instrument was turned on (power consumption ≈ 1000 W) and all gas cylinders were opened.

(Please look for other such errors in manuscript. I ran across a few of them but did not document all of them)

Editor comment: Reviewer 3 asked for information regarding the start-up time for the instrument until it is ready for prime time. I agree that this is very useful information for an aircraft instrument and should be included.

Section 2.8 10/8: (seems that this paragraph should come first in this section)

“The system was installed on board the HALO aircraft after its final configuration and certification. At first, a limited number of compounds (11) was monitored in order to ensure reliable quantification (Table 1). At the start of the OMO campaign, high sampling flows (100 sccm) resulted in inefficient water removal and hence poor and non-reproducible chromatographic peaks. The solution was to operate the system with a lower sampling flow (40sccm) and only at high altitudes where low dew point temperatures do not affect the sampling procedure. The sampling time was 1min so a total volume of 40 ± 6 ml was collected into the traps. During sample collection, the water trap temperature was set to -30 ± 0.3 °C and the enrichment trap to -140 ± 4 °C. During the sample transfer, the cryofocus trap was set to -160 ± 1 °C. All traps were then heated to 120°C to ensure that all 10 volatiles were desorbed efficiently from each trap.”

Editor comment: Is this still the case that the system can be operated only at high altitudes? If so, how high?

Figure 2: The inlet figure is great but not described in the text. Please describe it.

2.7.2 9/25: This increase can be attributed to production by ozone reactions occurring with other 25

species that are present in the multicomponent gas standard
– how do you know this is true? – did you try zero air + ozone?