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Atmospheric Measurement Techniques Discussions

Interactive comment on "On-line derivatization for hourly measurements of gas- and particle-phase Semi-Volatile oxygenated organic compounds by Thermal desorption Aerosol Gas chromatography (SV-TAG)" *by* G. Isaacman et al.

Anonymous Referee #1

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On-line Derivatisation for hourly measurements of gas- and particle-phase Semi-Volatile oxygenated organic compounds by Thermal desorption Aerosol Gas Chromatography (SV-TAG).

G. Isaacman et al.

Here the Authors present an on-line, automated method for the derivatisation and analysis of both gas- and particle-phase semi-volatile organic species by gas chromatography. The paper then presents validation data and goes on to present data collected

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Discussion Paper

from ‘real’ atmospheric samples.

The Paper is well written and is a useful addition to the SV-TAG system. The explanations are clear and logical and I would recommend publication after these few minor comments have been addressed.

Comments;-

1) The Introduction is clear and gives a good account of the science however fails to give any mention to GCxGC (P7498 lin 8) which has also shown to be useful for this kind of analysis.

2) On P7500 lin 10. O:C should be defined.

3) Section 2.1.2 describes the operation of the SV-TAG system. Although the text is well structured, Figure 1 could be further clarified to aid the reader with the description. From Figure 1 anything referred to in the text should be labelled to aid the reader work through the text explanation e.g P7503 lin 10 (VP1) I feel Figure could be further clarified with the addition of more flow indication arrows or by highlighting the lines that have flow during the desorption stage in a different colour. The diagram could also show the split ratio on the diagram to aid the reader in tracing the flow paths and further understanding the operation explained in the text (e.g highlighting the percentage of flow, with arrows, at the intersection of the “Tee-Box”). Figure 1 and the text within could be made larger to aid with clarity however, this may be a typesetting issue during upload to AMTD.

4) P7503 lin 15. Should read ‘efficiency’

5) P7504 lin 18. This should read ‘less volatile’

6) P7509 lin 27 and P7510 lin 1. I don’t feel the use of ‘near or nearly perfect’ is appropriate here, either something is perfect or it isn’t and as the authors have quantified the error (which is low) it is not perfect.

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7) P7502 lin 8-9. Does there need to be the same measurement given with different units for the focusing trap within 5 words?

8) P7503 lin 7 and P7504 lin 11. 1/16” should be given in SI units

9) Figure 4. Could be made larger to aid with clarity

10) There are a few instances in the text where figure and fig are used please check for consistency.

Interactive comment on Atmos. Meas. Tech. Discuss., 7, 7495, 2014.