Atmos. Chem. Phys. Discuss., 4, S633–S635, 2004
www.atmos-chem-phys.org/acpd/4/S633/

Atmospheric Chemistry and Physics Discussions

Interactive comment on "Partially oxidised organic components in urban aerosol using GCXGC-TOF/MS" *by* J. Hamilton et al.

Anonymous Referee #2

Received and published: 3 May 2004

General remarks

The authors show that they were able to identify many VOCs and o-VOCs by using their very sophisticated GC x GC technique coupled to TOF/MS. This is a very promising combination, leading to new insights into the development and the composition of small atmospheric particles. Therefore, I strongly encourage the publication of this paper in ACP.

However, it is not obvious how many samples were analyzed to get to the results and figures. Authors should give more details of the conditions during sampling (e.g. time of the year of sampling, weather conditions) and about the number of samples analyzed.

Specific remarks

Can authors justify the number of 10 000 individual organic components isolated from

Full Screen / Esc
Print Version
Interactive Discussion
Discussion Paper

around 10 μg of aerosols. There is only one sentence related to this number in the manuscript (i.e.: Deconvolution software typically identified in excess of 10 000 analytically distinct compounds with a S/N ratio greater than 50:1 in samples of this kind). To my opinion this is too less to justify this result to appear in the abstract (and also in the conclusion).

Introduction
P. 1394, L.23:
When volatile organic compounds (VOCs) react with hydroxyl radicals (OH)* As VOCs also react with O_3 and NO_3, I would suggest to rephrase this sentence: When organic compounds (VOCs) are degraded in the atmosphere, they produce*

P. 1395, L. 8:
shown that particulate matter (PM)

Experimental
P. 1399, L. 13:
when was the sample taken, could authors give the date and related meteorological information.

P. 1400, L 4:
Is the liquid nitrogen cooled gas jet midpoint modulator described in a recent publication, please show the reference.

L. 14:
what was lower temeprature of the modulator?

P. 1402, L. 13 ff:
To my opinion it would be more consistent to place the description of the blank values in the experimental section, either at the end of 2.1 or as a new sub-section after 2.1

Discussion

ACPD
4, S633–S635, 2004

P. 1402, L. 22 ff:
In principle I accept the fact that a calibration of this large number of substances is a too demanding task to be performed for this publication. However, would it be possible for the authors to give numbers for some straightforward compounds like benzene and other compounds were calibration mixtures are commercially available. Possibly this could also be the subject of a future publication??

P. 1403, L1:
Please indicate in the experimental section from where these additional samples were taken.

L.10:
delete the hamburger, I suppose this substance is emitted from any cooking (or frying meat) process.

L.19:
SOA: abbrevation used with no explanation

L.28:
Forstner et al. (1998)*same on P. 1404, L 6, L 21

Figures
Figure 5:
Was this information taken out of the publication of Forstner et al., 1998? If so, please make a reference in the figure caption.

Interactive comment on Atmos. Chem. Phys. Discuss., 4, 1393, 2004.