

Interactive comment on “Ambient aerosol concentrations of sugars and sugar-alcohols at four different sites in Norway” by K. E. Yttri et al.

K. E. Yttri et al.

Received and published: 16 August 2007

Response to specific comments made by referee Magda Claeys:

We would like to thank the reviewer for the positive comments made to our manuscript and for the effort made to clarify and improve its content.

1. Page 5570 (Abstract) - line 17: I suggest to specify that trehalose is a dimeric sugar: “and the dimeric sugar trehalose.”

Replay: Has been performed.

“The mean concentration of sucrose was up to 10 times higher than fructose, glucose and the dimeric sugar trehalose”

2. Page 5571 (Introduction): In the introduction, a review is given on the various classes

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of compounds that contribute to the hydrophilic properties of the ambient aerosol. I would like to point out that recent evidence became available that part of the HULIS corresponds to organosulphates.

Replay: A sentence has been added taken into account that part of HULIS could be attributed to organophosphates. The references suggested by the referee have been included.

“Recently it has been shown that parts of the HULIS are organosulphates (Romero and Oehme, 2005; Surrat et al., 2007)”

3. Page 5572 (Introduction) - line 14: Here the authors write: “The recent finding and characterization of 2-methyl” Therefore, I suggest to correct/update this sentence:

Replay: The sentence and the references suggested by the referee have been included.

“The recent finding and characterization of 2-methylthreitol and 2-methylerythritol (Clayes et al., 2004), which were confirmed to be oxidation products of isoprene (Edney et al., 2005; Surrat et al., 2005), supports this.

5. Pages 5777 - line 11: I suggest to clarify that m/z 379 is the ^{37}Cl -containing isotopic ion. m/z 377, and m/z 379 (^{37}Cl isotopic ion). According to IUPAC recommendations, m/z should be written in italic font.

Replay: The sentence has been rephrased to clarify that m/z 379 is the ^{37}Cl -containing ion. m/z will be written in italic to meet the IUPAC recommendations.

“This procedure generates adducts between the target compounds and chlorine $[\text{M}+\text{Cl}]^-$ with a superior ionisation repeatability; e.g. sucrose was monitored by the ion m/z 377, and m/z 379 (^{37}Cl isotopic ion) was used as a qualifier.”

6. Page 5777-5778: I wonder whether the method did not allow for the detection and measurement of 2-methyltetrols in summer samples from rural sites?

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Replay: We have the exact mass of the tetrols in our mass spectra when running summer samples, and using the actual column. However, we haven't confirmed it by comparing with a standard yet, as the compounds are not commercial available.

7. Page 5780 - line 14: The high mean concentration of levoglucosan during winter may be compared with data obtained for Ghent, Belgium

Replay: References to the studies by Zdráhal et al. (2002) and Pashynska et al. (2002) have been made.

“A similar seasonal pattern of levoglucosan has previously been reported by Zdráhal et al. (2002) and Pashynska et al. (2002)”.

The technical corrections listed by Magda Clayes have been taken into account.

Interactive comment on Atmos. Chem. Phys. Discuss., 7, 5769, 2007.

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