

Interactive comment on “Comparison of analytical methods for HULIS measurements in atmospheric particles” by C. Baduel et al.

Anonymous Referee #2

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This manuscript addresses the important issue of measuring HULIS in atmospheric particles. As indicated in the review paper of Graber and Rudich (Atmos. Chem. Phys., 6, 729-753, 2006), different methods are applied for the determination of HULIS in aerosols and an intercomparison between the different methods has not been conducted; these authors conclude that “the lack of a consistent approach to obtaining an operational definition for aerosol-associated HULIS almost certainly hampers the study of this component”. The present manuscript compares two methods for measuring HULIS and is certainly a valuable contribution to arriving at better methods for measuring HULIS. However, there are several more methods in use within the HULIS aerosol research community; besides, only aerosol samples from a winter campaign in a valley in the French Alps were analysed in the present study. To conclude from this that the DEAE isolation procedure should be recommended is not warranted. This

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conclusion should be downplayed.

The manuscript is fairly well written, but the explanation could on several occasions be clearer. Acronyms should be explained (written full-out) when first used and English acronyms instead of French ones (e.g., RMN) should be used. The grammar should also be improved. In a number of cases, the subject is plural and the verb singular or vice versa. There are other instances with incorrect use of plural (see under Specific Comments below). Most Table headings and some Figure captions should be more explicit (give somewhat more detail). There are a few problems with references to certain section numbers (see under Specific Comments). More important, the authors have been quite sloppy with regard to the references (see under Specific Comments for details). Unfortunately, they are not the only ones. All too often do I receive manuscripts for review where this is the case and in many published manuscripts there are errors in the references. I like to urge everyone who submits a manuscript to ACPD or any other journal to take good care of the references. The importance of accurate references has already been stressed in the past. As an example, I give here two articles that have addressed the problem: R.A. Duce, Accurate references, *Science*, 187 (1975) 792 and J.H. Sweetland, Errors in bibliographic citations - A continuing problem, *Library Quarterly*, 59 (1989) 291-304. Unfortunately, the situation does not really seem to improve over the years.

Specific comments:

1. With regard to the references:

p. 6789, l. 16 and also later on p. 6799, l. 23: There is a reference to “Decesari et al., 2006” here, but this reference is not in the list of References.

p. 6789, l. 29: replace “Krivascy” by “Krivácsy”.

p. 6790, l. 15: replace “Andrea” by “Andreae”.

p. 6795, l. 5: There is a reference to “Tagliavini et al., 2005” here, whereas in the

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list of References it says “Tagliavini et al., 2006”. The latter is correct. There was no “Tagliavini et al.” Web of Science paper in 2005.

p. 6795, l. 15: replace “Sambrurova” by “Samburova”.

p. 6795, l. 14: There is a reference to Limbeck (2005), but this reference is not in the list of References. Should it perhaps be Limbeck et al. (2005) here?

p. 6799, l. 19: replace “Lukas” by “Lukács”.

p. 6810, l. 11: replace “2001a” by “2001”.

p. 6812, l. 26: replace “2001a” by “2001”; also on p. 6795, l. 4.

p. 6813, l. 19-23: there is no reference to Mircea et al. (2006) within the text.

p. 6813, l. 24: the author’s name is “Janos, P.” instead of “Pavel, J.”. Within the text, “Pavel et al., 2003” is used incorrectly.

p. 6814, l. 19: replace “2005a” by “2005”. Besides, the two references to Samburova et al. should be placed in chronological order.

p. 6814, l. 23-25: there is no reference to Shirshova et al. (2006) within the text.

p. 6814, l. 26-31: there are two separate references to Sullivan and Weber (2006) here; they should be labeled 2006a and 2006b. Some changes in this regard are also needed within the text.

2. Further with regard to the references: When referencing to papers with only 2 authors within the text, both authors should be listed instead of the first author followed by et al. On several occasions, this rule was not followed. I list here the cases within the text where “et al.” should be replaced:

p. 6788, l. 22

p. 6789, l. 15 (first occurrence)

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- p. 6789, l. 26
- p. 6790, l. 1 (second occurrence)
- p. 6790, l. 2 (second and third occurrences)
- p. 6790, l. 4 (second occurrence)
- p. 6791, l. 24 (first and third occurrences)
- p. 6794, l. 25 (third occurrence)
- p. 6795, l. 4: “Duarte et al., 2005” should be “Duarte and Duarte, 2005” instead.
- p. 6797, l. 4-5
- p. 6799, l. 21
3. Page 6791, line 10: replace “basics compounds” by “basic compounds”.
4. Page 6792, line 8: Here, the authors use the term “Elga”, but later in the manuscript, they switch to “Elgastat”. Consistency would be welcome.
5. Page 6792, line 17: replace “1 cm ID” by “1 cm ID”.
6. Page 6792, line 24: replace “though” by “through”.
7. Page 6792, line 25: replace “1.0 mm ID” by “1.0 mm ID”.
8. Page 6793 lines 8 and line 12: The authors switch from “TOC analysers” to “DOC analyzers” and later in the manuscript both TOC and DOC are used. I presume that they mean the same. I suggest that the authors stick to one of the two terms. Further, I suggest that they try to stick to either UK English or US English, but not use a mixture of both.
9. Page 6794, line 17: replace “aerosols samples” by “aerosol samples”.
10. Page 6795, lines 14-17: This sentence is rather unclear.

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11. Page 6795, line 20: replace “trough” by “through”.
12. Page 6795, line 21: The “Acrodisk filter” is mentioned here a first time and later on, on page 6796, lines 23-24, additional details are given for it. It would be better to give the additional details on the first occasion “Acrodisk filter” is mentioned.
13. Page 6797, line 6: To my knowledge, the maximum temperature in the 2nd phase of the EUSAAR2 protocol is not 700°C, but 850°C.
14. Page 6797, line 10: “both methods” is rather vague. It would be better to explicitly mention them (also in the Table headings).
15. Page 6797, line 17: replace “ μC ” by “ μgC ” (also on a number of other occasions later in the manuscript).
16. Page 6798, lines 15-18: These are inconsistencies between some data given here and those listed in Table 1; the number of measurements (n) is also different.
17. Page 6799, line 4: replace “SAX solutions” by “SAX”.
18. Page 6801, line 15: Reference is made here to Sect. 3.4.b, but there is no section with this number. Presumably, “Sect. 3.4.b” should be replaced by “Sect. 3.4.2”.
19. Page 6803, line 19: Reference is made here to Sect. 3.4.a, but there is no section with this number. Presumably, “Sect. 3.4.a” should be replaced by “Sect. 3.4.1”.
20. Page 6803, lines 25-28: This sentence is rather unclear.
21. Page 6805, line 1: Reference is made here to Sect. 3.4.a, but there is no section with this number. Presumably, “Sect. 3.4.a” should be replaced by “Sect. 3.4.1”.
22. Page 6806, lines 9-11: Where is the basis for the statement in this sentence? A literature reference or some explanation is needed.
23. Page 6808, for EC: replace “Elementary Carbon” by “Elementary Carbon”.
24. Page 6816, Heading of Table 1: It should be specified that the data in this Table

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apply to SRFA. Also, in this and other Table headings, it would better to indicate the two methods used rather than make use of the vague term “both methods”.

25. Page 6817, within Table 2: replace “H20” by “H2O”.

26. Page 6818, Heading of Table 3: It should be specified for what samples the data in this Table are.

Interactive comment on Atmos. Chem. Phys. Discuss., 9, 6787, 2009.

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