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Interactive comment on "An enhanced procedure for measuring organic acids and methyl esters in $PM_{2.5}$" *by* F. Liu et al.

Anonymous Referee #2

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This is potentially a worthwhile manuscript. The authors claim to have developed improved methods based on solid-phase extraction (SPE) for measuring organic acids and methyl esters in PM2.5 aerosols. Improved methods for such compounds are certainly very welcome. However, the current manuscript is rather vague and not very convincing. It is not clear whether the SPE methods used are novel and what the basis was for selecting them. In the Introduction (page 2382) it should be mentioned which specific SPE techniques have been used in previous work.

Specific comments:

Page 2380 – lines 8-9 (and on many occasions elsewhere): the number of carbon atoms in a molecule should be indicated in subscript.

Page 2380 – lines 10-12: this sentence is incomprehensible; there is something missing in it. It should be rephrased.

Page 2380 – line 20: "indicated" is too strong; I recommend replacing it by "suggested".

Page 2381 – line 28: acronyms and abbreviations, here "GC", should be defined (written full-out) when first used.

Page 2382 – line 1: acronyms and abbreviations, here "GC-MS", should be defined (written full-out) when first used.

Page 2382 – line 21: replace "product-ion mass spectrum for" by "product-ion mass chromatogram for".

Pages 2383-2386, section 2: it should be indicated how many samples were subjected to the analysis, so that the significance of the correlation coefficients in Table 3 can be assessed. Were it 30 samples? The number of samples should also be indicated in the heading of Table 1.

Page 2384 – line 10: there is something missing after "vial and".

Page 2385 – line 4: replace "purifying nonpolar groups" by "purifying nonpolar compounds".

Page 2386 – lines 7-8: reference is made here to the "targeted analysis section", but there seems to be no such section.

Page 2386 – line 14: "electron impact" is an old term that is not recommended by IUPAC; it should be replaced by "electron ionization".

Page 2387 – line 1: "daughter ions" is old terminology that is not recommended by IUPAC; it should be replaced by "product ions".

Page 2388 – line 11: there is something missing after "in the".

The references are a real disaster. I strongly recommend that authors of manuscripts pay much better attention to the references.

The following references, which are mentioned in the text, are missing from the Reference list:

Barbara and Ho (2001), mentioned on page 2381, line 4. There is “Barbara et al. (2001)” in the Reference list, to which not is referred in the text.

Duan et al. (2013), mentioned on page 2387, line 23.

Grosjean et al. (1978), mentioned on page 2391, line 11.

Guillard (1993), mentioned on page 2390, lines 21-22. There is “Guillard et al. (1993)” in the Reference list, to which not is referred in the text.

Ho et al. (2011), mentioned on page 2388, line 26.

Kawamura (1985), mentioned on page 2381, line 23.

Kawamura and Gagosian (1987c), mentioned on page 2381, lines 28-29, and on page 2384. line 8. There is “Kawamura and Gagosian (1987b)” in the Reference list, to which not is referred in the text.

Kawamura and Ikushima (1993), mentioned on page 2390, line 22, and on page 2391, lines 11 and 16.

Kawamura and Kaplan (1987a), mentioned on page 2381, line 8. I presume that this should be “Kawamura and Kaplan (1987)”, which is in the Reference list; incidentally, there is no Kawamura and Kaplan (1987b).

Kawamura et al. (1996), mentioned on page 2381, line 12, and on page 2390, line 17.

Kawamura et al. (2005), mentioned on page 2389, line 15.

Pio et al. (2008), mentioned on page 2381, lines 9-10.

Reid et al. (1998), mentioned on page 2381, line 9. There is “Reid and Hobbs (1998)”

in the Reference list, to which not is referred in the text.

Rogge et al. (1991), mentioned on page 2389, line 5.

Simoneit and Mazurek (1982), mentioned on page 2389, line 14.

Sochor (2000), mentioned on page 2382, line 10. There is “Sochor et al. (2000)” in the Reference list, to which not is referred in the text.

Tan et al. (2013), mentioned on page 2381, line 10.

Yu et al. (2008), mentioned on page 2381, line 10.

Further references in the Reference list to which not is referred in the text:

He et al. (2001).

Nicol et al. (2001).

Simoneit and Mazurek (1989).

There are two references “Rogge et al. (1993)” in the Reference list; it is unclear to which of them the “Rogge et al. (1993)”, mentioned on page 2389, lines 5 and 14, and on 2391, line 21, refers. In case both references have to be retained, they should be renamed into “1993a” and “1993b”.

Finally, the journal names in the Reference list should be abbreviated for “Limbeck and Puxbaum (1999” and for “Simoneit (1986)”.

Grammatical and other minor technical corrections:

Page 2382 – line 6: replace “with problem” by “with the problem”.

Page 2387 – line 28: replace “contributed” by “it contributed”.

Page 2388 – line 2: replace “contributed” by “it contributed”.

Page 2390 – line 19: replace “Yasu” by “Yasui”.

Page 2390 – line 23: replace “indicators” by “and are indicators”.

Page 2391 – line 6: replace “acid, which” by “, which”.

Page 2392 – line 6: replace “strongly” by “strongly to”.

Page 2392 – line 11: replace “use determining” by “use for determining”.

Interactive comment on Atmos. Meas. Tech. Discuss., 8, 2379, 2015.