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Atmospheric Measurement Techniques Discussions

Interactive comment on "MS/MS studies on the selective on-line detection of sesquiterpenes using a flowing afterglow-tandem mass spectrometer" *by* J. Rimetz-Planchon et al.

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We thank the reviewer for his interesting suggestions.

Comment: This is very important paper pioneering the use of MS-MS approach in the flow tube ion chemistry. I know that several groups have tried this before, but this is in my knowledge the first time positive and useful data have been produced using such combination. The only previous study using SIFT and tandem MS has been carried out by Roithova et al JPC 110, 2970, 2006. Thus the paper not only presents important original data but also may be an indication of a beginning of a new era in the flow tube

ion chemistry.

Reply: We are aware of the paper by Roithova et al., dealing with dication studies in the TUBerlin SIFT/GIB apparatus. However, in the present study a Flowing Afterglow reactor was coupled to a tandem mass spectrometer and not a SIFT. Coupling a SIFT to a tandem mass spectrometer is indeed a great challenge in terms of sensitivity.

Specific comments

Comment: The term parent ion is not used correctly, a better term woudl be precursor ion or even better reagent ion.

Reply: The term parent ion will be replaced by the term precursor ion.

Comment: Of some relevance might be the very recent paper by Gao et al. Environmental Science & Technology 44, 7897-7902oct 15 2010 where tandem MS has been used to look at the oxidised monoterpenes.

Reply: We thank the reviewer for drawing our attention to the paper by Gao et al. However, this paper mainly deals with fragmentation of SOA components in ESI/FTICR instrumentation, which is rather far away from the subject of the present paper.

Comment: It would be useful if the differences in fragmentation could be rationalised with respect to the structure of the individual molecules (maybe even using a scheme for ilustration).

Reply: we refer to our answer to the similar question in the short comment C1950 by Patrik Spanel.

Technical corrections

Comment: The figures would benefit from some improvement. Certainly the Figures 1 and 3 should be shown on-line in colour. Labeling in Figure 2 should be larger and also some key labels indicating what each pattern means woudl help the readers (at least giving the Ecm values within the figure) The vertical lines between the bars are

non needed and should be removed. Also there is no need for the gridlines in Figure 4.

Reply: All figures will be modified according to the suggestions of the reviewer, except for the Figure 1 which, to our opinion, is sufficiently clear and should not necessarily be shown in color.

Interactive comment on Atmos. Meas. Tech. Discuss., 3, 4285, 2010.