

## ***Interactive comment on “Identification of particulate organosulfates in three megacities at the middle and lower reaches of the Yangtze River” by X. K. Wang et al.***

**Anonymous Referee #5**

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General remarks:

In my opinion the manuscript is not suitable for publication in its present shape for at least two reasons:

### 1. A substantial lack of the analytical data

The authors intend to present the data from a few field campaigns in three megacities at the middle and lower reaches of the Yangtze River. A key tool they use is hyphenated mass spectrometry. Here is my first concern: the manuscript (including the supporting info) is lacking of the chromatographic and mass spectrometric data. I am utterly aware

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of a great number of raw data. However, the most relevant/major LC peaks should be discussed or at least briefly defined. The authors should consider a table as a tool to summarize the most ample organosulfates that contribute to the organic fraction.

### 2. A misleading title

The title "Identification of particulate organosulfates in three megacities at the middle and lower reaches of the Yangtze" suggests the authors are willing to make a thorough analysis to confirm molecular entities of detected organosulfates in the ambient SOA samples. As an analytical chemist I can not allow for the misuse of the term "identification" by showing only an elemental formula of the detected organosulfate. The elemental formula is a relevant, though not sufficient parameter for the structural elucidation of any organic compound. A term 'identification' should be reserved for a compound that is positively identified from the comparison to an authentic standard compound.

### 3. Constrained data for seasonal variation

The authors make an effort to discuss the seasonal and diurnal variations. However, it is not clear for me how the authors are able to achieve this goal from such a limited number of samples.

### 4. Difficulty in reading

The manuscript is written in the unpleasant way for the reader. I found the text difficult to follow, possibly owing to the fact of the data oversaturation. Thus, I would suggest the authors looking for a language editing service to make sure that the manuscript can be read smoothly. Just an example, page 21429 onwards about K D and/or V K diagrams: I find this section very weird to read and get information out of it. Moreover, there are some errors in terminology. An example, Th' and 'm/z' are used simultaneously. Both are a unit of mass-to-charge ratio, and it is redundant here. I would advise on using "m/z" as recommended by IUPAC provisions. Another example, page 21426 line 27-29

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and throughout manuscript: Is it a nitrate group or nitrooxy group? How do the authors know without CID (collision induced dissociation) experiments?

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