

## ***Interactive comment on “Source apportionment of fine organic aerosols in Beijing” by Q. Wang et al.***

**Anonymous Referee #2**

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In this manuscript the authors report the results of chemical analyses of PM 2.5 aerosol carried out with GC-MS. A number of organic tracers characteristic for particular sources were quantified and CMB was applied to apportion the sources of organic aerosol. An advantage of the manuscript is that source profiles were taken from local studies. The paper is well organized and in most parts clearly presented. There are, however, some points that need clarification/corrections as listed below:

Page 9044: In the abstract the authors write “Particulate organic matter in the ambient samples was quantified by gas chromatography/mass spectrometry”; It turns out later that only 3-6% of organic matter was recovered by GC-MS and thus POM was not quantified. Replace “particulate organic matter”; with e.g. “individual organic compounds”;

Similarly on Page 9047 line 19 “The rest of the quartz fiber filter was then

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extracted and analyzed using an Agilent GC-MS system (6890 plus GC-5973N MSD) to determine the concentrations of POM. DCM/methanol extracts only a fraction of POM and 3-6% of organic matter was recovered by GC-MS

Page 9047 line 17 Change NOISH into NIOSH

Page 9046 The description of the three sampling campaigns is detailed enough in the text, therefore Table 1 is unnecessary.

In table 2 and 3 the wording for weighting factor is not consistent (weight factor, weighting factor, weight value). Furthermore, the sum of weighting factors in Table 3 equals 1 but it is more than 1 in Table 2. What is the explanation for that?

Also in table 2 the annual average travel distance (49736 km) seems to be very high. What is the source for this value?

I think the fraction of organic matter explained by the CMB is an important number when talking about source apportionment. In this study this value was 64%+-15% but it is not mentioned in the conclusion (neither in the abstract). Also the lack of ability of the CMB to deal with secondary aerosol formation should be mentioned.

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Interactive comment on Atmos. Chem. Phys. Discuss., 9, 9043, 2009.

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