

Interactive comment on “A technique for rapid source apportionment applied to ambient organic aerosol measurements from the Thermal desorption Aerosol Gas chromatograph (TAG)” by Yaping Zhang et al.

Anonymous Referee #1

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General comment:

The paper is sound, well written and very well structured. It presents a novel method for a fast source apportionment (SA) of ambient particulate matter. This method is less time consuming than methods based on individual organic molecules, and has some advantages over fully "bulk" methods (such as PMF run on AMS readings). However, the advantages are not clearly stated (e.g. in the abstract and in the introduction). It would be very interesting to know about the authors' opinion on the advantages and disadvantages of this SA methodology. The paper presents an error estimation for the

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method, as well as a comparison with other SA procedures. The methodology presented in the paper also addresses technical limitations of GC/MS in a satisfactory way.

Particular comments:

Abstract

Introduction At the end of the first paragraph, a sentence talks about the past efforts made to apportion the major chemical components as well as to attribute sources. There have been many attempts and approaches to do so, relying not on individual components, but rather on bulk properties. However, the references cited are quite recent. Since this is a major goal of the present paper, this subject deserves a more in-depth reference. page 2, lines 17-19: which are the aspects that the AMS cannot resolve and that the capacity to resolve single components of the TAG can? Please elaborate and cite relevant works.

Methods

Results and Discussion

page 8, lines 23-24: reword "... described in detail in of Zhang ..." to "... described in detail in Zhang ..."

Conclusions and Implications

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