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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Observations of nitrated phenols in four sites in North China: Concentrations, source apportionment, and secondary formation" *by* Liwei Wang et al.

Anonymous Referee #1

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General: This is an interesting study about measurements of nitrated phenols in northern China. Nitrophenols have been analysed and a source apportionment by PMF has been performed identifiying five main contributing source factors.

The paper is largely correctly written and contains a wealth of valuable information. Nonetheless, the English language of the manuscript should be checked once more, preferably by a native speaker.

Unfortunately, the analytical finding for the NPs are not being linked to aerosol optical propoerties which is a topic currently much discussed but maybe this is foreseen for a follow-up or sister publication.

Overall, I think the paper can be published subject to only minor revision.

Details

Page 5. line 6 :....converter...

Page 8, line 14 ff: Please discuss if there are other PMF solutions which do explain equal fractions but derive another number of factors. For Jinan and Wangdu the sum of the five factors is not 100 %. Please mention and discuss.

Figure captions, Figure 5: Scatter plots (in two words)

Page10, line 8: Please discuss why coal combustion has not been identified before. This may just be due to the fact that this is not a strong source factor contributor either in Shanghai or in Germany.

Page 11, section 3.3.: Maybe this section can be substantiated somewhat by a discussion which chemical mechanisms actually lead to the secondary formation. The section is a bit unspecific. The occurence of which compounds can be explained by pure gas phase processes and where are product observed where multiphase processes could probably be involved ? Is there any correlation with haze occurence ?

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