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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Polar organic tracers in $PM_{2.5}$ aerosols from forests in eastern China" *by* W. Wang et al.

W. Wang et al.

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We would like to thank the anonymous referee 2# for useful comments.

In response to the comments, the following changes will be made in the revised manuscript:

General comments:

In response, an effort will be made in the revised manuscript to more fully interpret the data, also taking into account the suggestions made by Dr. C. Oliveira and anonymous referee #1.

Specific comments:

1. Abstract: the suggestion of the referee to be more specific will be considered and

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vague statements will be removed or clarified.

Instead of "Results indicate that the concentration trends of the secondary organic compounds reflected those of the trace gases and meteorological parameters", the following sentence will be included: "Very good correlations between the sum concentrations of isoprene oxidation products and atmospheric SO2, O3, NO2, NOx, as well as CO2, at the Changbai site were found."

The sentence "The 24-h average concentrations of isoprene oxidation products, alpha-pinene oxidation products, sugars and sugar alcohols vary systematically along gradients of ecological succession" will be modified and clarified as follows: "The percentage of the OC attributable to the carbon in isoprene oxidation products was the highest in Hainan where isoprene-emitting broadleaf species are dominant while that in alpha-pinene oxidation products was the highest in boreal Changbai where alpha-pinene-emitting coniferous species are prevalent."

2. Abstract, line 4: In response, the term "time trends" will be replaced by "time series".

3. We have examined the suggested references but feel not all of them are relevant to our study. In response, the following 4 articles will be retained:

Wang, G. and Kawamura, K.: Molecular characteristics of urban organic aerosols from Nanjing: A case study of a mega-city in China, Environ. Sci. Technol., 39, 7430-7438, 2005.

Ho, K., Cao, J., Lee, S., Kawamura, K., Zhang, R., Chow, J., and Watson, J.: Dicarboxylic acids, ketocarboxylic acids, and dicarbonyls in the urban atmosphere of China, J. Geophys. Res., 112, D22S27, 2007.

Feng, J., Chan, C., Fang, M., Hu, M., He, L., and Tang, X.: Characteristics of organic matter in PM2.5 in Shanghai, Chemosphere, 64, 1393-1400, 2006.

He, L., Hu, M., Huang, X., Zhang, Y., and Tang, X.: Seasonal pollution characteristics of organic compounds in atmospheric fine particles in Beijing, Sci. Total Environ., 359,

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167-176, 2006.

4. Page 12442, lines 13-15: In response, the sentence will be modified as follows: "The average concentration of the 2-methyltetrols was the highest during day-time at two (i.e., Chongming and Hainan) of the three study sites where 12-h samples could be collected (Table 1)."

5. This issue was addressed in our response to the comment made by Dr. C. Oliveira (item 9), as follows: "Similar results were obtained for the Chongming site (not shown, due to not enough data points)."

6. This important issue was also raised by anonymous referee #1. Please, see our response (item 9).

Minor comments:

1. The four tables have been merged to one, according to the suggestion made by Dr. C. Oliveira.

Interactive comment on Atmos. Chem. Phys. Discuss., 8, 12435, 2008.