

Interactive comment on “Dicarboxylic acids, ketocarboxylic acids, α -dicarbonyls, fatty acids and benzoic acid in PM_{2.5} aerosol collected during CAREBeijing-2007: an effect of traffic restriction on air quality” by K. F. Ho et al.

Anonymous Referee #2

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The manuscript by Ho et al describes the organic acid and carbonyl concentrations measured in two locations in Beijing in 2007. The aim of the study was to determine the roles of regional transport, local emissions and secondary formation of particulate matter in the air in Beijing. Beijing is one of the largest cities in the world with severe atmospheric pollution and every effort towards cleaner air is certainly beneficial. They managed to show that traffic restrictions are useful in reducing primary pollutants although secondary products were not reduced due to enhanced photochemical aging. These issues are important when planning efficient strategies for air pollution control in

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China. The paper is well written and clear and I think it is suitable for publication in ACP after minor corrections. My main concern deals with the stability of the samples. The samples were collected seven years ago, which is really long storage time for organic molecules even when kept in -20 C. When were they analyzed? If they were analyzed only recently, how was the stability of the samples confirmed? The other concern deals detection using FID since there is very often overlapping of other compounds when using FID for detection. The occasional MS analysis does not confirm the purity of the peaks. It would have been better to analyze all the samples using MS detection. The number of samples is small, only ten samples/site and two of the samples were taken during traffic restrictions. This limits the confidence to the results.

Minor comments:

1. What is meant by the expression C18:1, C25:0 etc.? I assume the first number is C-number and the latter one refers to the amount of double bonds, but please mention it in the first place.
2. The Fig.1 is too small in the printed version and the font size too small. You do not need to include the explanations in every panel, once is enough.
3. Fig. 2 should show also the trajectory for 19:th August, but it does not.
4. Figure 3 would be clearer with colors.
5. In Fig. 5 caption please do not use abbreviation R/N, but the whole word.
6. When calculating the ratios, did you use all measured compounds with 3 or 4 C-atoms?
7. The number of samples collected at Yufa was 10 and not 1 as indicated in Table 1?

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