

Interactive comment on “Linking biogenic hydrocarbons to biogenic aerosol in the Borneo rainforest” by J. F. Hamilton et al.

Anonymous Referee #3

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General comments:

This manuscript presents the results from the analysis of ambient PM_{2.5} filter samples collected in Borneo rainforest, Malaysia. The authors have tentatively or conclusively identified isoprene, monoterpene and sesquiterpene SOA marker compounds in these samples using LC/ESI-MS. Their identification was achieved by the comparison of their chromatographic and mass spectrometric behaviours with either authentic standard compounds or known marker compounds in laboratory produced SOA samples. Overall, the manuscript is reasonably well written and it certainly meets the focus of the journal. I feel the manuscript will improve significantly if the authors can add quantitative data for some of SOA marker compounds instead of qualitative data.

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Specific comments:

P18115 L17-18: A word ‘project’ is repeated twice.

P18117 L8-9: Please change ‘since for most biogenic oxidation products no commercially available materials are available.’ to ‘since most of biogenic oxidation products are not commercially available.’

P18118 L5-6: Please use a column instead of a semi-column.

P18120 L16: While a personal communication is not used to support the results of this study, only the published literature should be used as a reference. I recommend the authors to include the data in the manuscript or supporting information, and add S. Owen as a co-author.

P18123 a-pinene SOA: Some of the compounds that the authors described here are commercially available (terebic acid) or synthesised (terpenylic acid and MBTCA) by other groups. Why have the authors not used them for positive identification? The use of these compounds further strengthens the authors’ findings.

P18124 L12: Can the authors provide more information about these fit values? How good are 1000 and 991 for these fits?

P18124 L19 and elsewhere: I know the readers will find this out eventually as Fig. A4a does not exit in this paper but can the authors be more specific when the figures from other papers are referred to? Here, it is not clear if the authors refer to a figure in Yasmeen et al. (2011) or in this paper.

P18138 Table 3: Are the authors sure that the compound with m/z 226.986808 (C₅H₇O₈S) originates from monoterpene? A C₅ skeleton makes more sense for an isoprene oxidation product.

P18139 Figure 1: TIC does not add much information to the manuscript. I recommend the authors to add BIC instead, and label peaks so that the readers know which peaks

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correspond to the SOA marker compounds.

Interactive comment on Atmos. Chem. Phys. Discuss., 13, 18113, 2013.

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