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Comment

Interactive comment on “In situ measurements of volatile organic compounds in a boreal forest” by H. Hakola et al.

H. Hakola et al.

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We thank referee 1 for the comments and agree that modeling should be conducted. The data will be used for modeling purposes later on.

Answers to the detailed comments:

1. Helmig et al., 2003 has been added to the reference list.
2. Yes, water vapor affects the breakthrough volume and weakens the quality of the chromatography. That is why we had to increase the temperature of the cold trap when the air got more humid in summer. After increasing the temperature, the breakthrough was tested and some isoprene was found to go through the trap. The precision of the repeated calibration standards was about 8-10 % for most of the mono-and sesquiter-

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penes, only p-cymene and linalool had higher deviations 14 % and 22%, respectively. The standard deviations of the repeated analysis of aromatic hydrocarbon standards were 6- 12 %, but 16 % for benzene. These have been added to the text. Unfortunately we did not have standard reference materials available to calculate the accuracy of the analysis nor have we participated any intercalibration exercises with this instrument.

3. We only used liquid standards in methanol solutions at the time of the measurements. Five point calibration was performed at the level of ambient concentrations and the detector response was found to be linear all the time.

4. Agilent number has been corrected.

5. Only benzene was not retained in the cold trap quantitatively, but 60 % of it was lost in June and July. This has now been added to the page 1559.

6. There is no information regarding the BVOC emissions from the sawmill, but Liao et al., (2011) have studied the monoterpene episodes in detail and they found that wind direction 120 deg.-145 deg. originate from sawmill. In that wind direction there are no other major emission sources. The pictures showing wind rose and monoterpene mixing ratios in different wind directions are added.

7. The figure with enantiomeric composition is added.

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