



## ***Interactive comment on “Volatile diterpene emission from dominant conifers in Japan” by S. N. Matsunaga et al.***

**Anonymous Referee #1**

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p.4 line 1 Reference Hallquist et al.2009 is not listed in “References”. p.4 line 7. Although molecular formulas of volatile diterpenes are C<sub>20</sub>H<sub>32</sub>, there are many diterpenes which contain oxygen. Therefore, correct the definition of diterpens.

p.4. line 16. The author says “ a new analytical technique”. But solid-adsorption ?liquid extraction method is very popular method. It is not newly developed method. Should describe what is new .

p.7. line 11. Some of monoterpenes such as  $\alpha$ -pinene which is quantitatively major compound of volatile plant terpenes are unstable. Also those monoterpenes easily stick to an enclosure bag. The author should confirm if monoterpenes stick to a bag or not. Many reports say that usually most major terpenes emitted from tree leaves are  $\alpha$ -pinene. However on Figure 2 in the report,  $\alpha$ -pinene is missing. It is un-

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usual.

p.10. line 16. "did not show any significant difference with light intensity". Should show the data. It is known that emission amounts of volatile terpenes from plants depend on light, temperature. And seasonal variation of emission are recognized. As the author says, the production mechanism and process of emission of diterpenes will be different from mono- and sesquiterpenes.

This report is unnatural and insufficient, because only kaur-16-ene was picked up. Although GC spectrum shows sesquiterpenes, and also other diterpenes, the author neglect them. It is also unnatural that monoterpenes were not recognized on GC. It can be presumed that experimental procedure was insufficient. Further detailed experiment is needed to say that emission amount diterpenes from tree leaves is larger than mono-and sesquiterpenes.

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Interactive comment on Biogeosciences Discuss., 8, 6681, 2011.

**BGD**

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