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Interactive comment on “Emission of iodine containing volatiles by selected microalgae species” by U. R. Thorenz et al.

Anonymous Referee #3

Received and published: 13 August 2014

This is an interesting paper, providing novel data about the production of iodo- and bromocarbons, iodide in the aqueous phase, which fits well within the remit of ACP. The methodology is sound. The finding that ozone destruction does not seem to be linked to scavenging by iodide is definitely worth reporting.

Nevertheless, a few points should be addressed prior to acceptance in ACP:

- For stoichiometrically comparing production rates, it would be desirable to compute the rates for halocarbons and iodine (not only for iodide and iodate) in moles (Table 1).
- Also, for comparing rates between species, it would be desirable to express them on a basis per g (or mg) chlorophyll a or maybe even g fresh weight (or dry weight) – if the conversion factor between chlorophyll and biomass is known (Table 1).

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- There seems to be a discrepancy between the text and Table 1. Is the iodate concentration actually going up or down over time in a batch culture? And, if it does go down (in case it is reduced as the text suggests) can the differential amount of moles iodine be traced – in other words, does that iodate become iodide, molecular iodine, iodocarbons, or a combination of all these?

- A particularly interesting question which the manuscript does not address or even raise at all: Actually do the data tell us or suggest anything, which is the precursor (iodine source) for the formation of iodocarbons – iodide or iodate?

More comments are marked on the text.

Overall, I recommend major revisions of this paper.

Please also note the supplement to this comment:

<http://www.atmos-chem-phys-discuss.net/14/C5798/2014/acpd-14-C5798-2014-supplement.pdf>

Interactive comment on Atmos. Chem. Phys. Discuss., 14, 14575, 2014.

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