

# ***Interactive comment on “Anthropogenic VOC in Abidjan, southern West Africa: from source quantification to atmospheric impacts” by Pamela Dominutti et al.***

## **Anonymous Referee #2**

Received and published: 12 March 2019

This work describes results of VOC analysis of sorbent tube sampling from various regions and sources in and around the SW African coastal city of Abidjan, Côte d'Ivoire. The results are employed to establish fractional molar mass contributions and for the estimation of potential VOC-OH reactivity, ozone and secondary organic aerosol formation.

The emissions factors were compared with those reported in global emission inventories (MACCity and Edgar). The huge emission inventory underestimations reported by this work for speciated VOCs particularly when comparing residential and transportation sectors with the computer model inventory estimations makes a good case for the

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need for more such measurements for the larger West African region.

While I am sure that this manuscript contains a lot of novel data that will be of great value to the emissions inventory community, it is difficult to work out how many samples are measured and exactly what is new in this manuscript, rather than what is already covered by other publications, particularly Keita et al., 2018.

It is not until line 545 that I get a better idea of where these new results fit in with those of Keita et al “Our results emphasize the first insights obtained in the work of Keita et al. (2018) . . .) though “emphasize” I feel is not the best word to use... maybe “reinforce”?

I agree with the main points raised by the other reviewer, especially that the quality of the English, is not quite good enough for me to be confident I understand all the points that the authors are trying to make – and it certainly makes for slow reading. Therefore I found it difficult to assess the manuscript in its entirety. I also feel that the manuscript needs to be shortened and “streamlined” to make it more accessible to the reader.

Specific comments (not a comprehensive list):

Line 25: “two-wheeled vehicles” sounds more accurate/scientific/less slang than “two-wheelers”.

Line 184 and Table SM1 – how many samples represent each category? What are the standard deviations for each category?

Line 287 I do not see POCP values for each VOC in Table SM1

Table SM2 – I do not see any POCP values on my version of the table.

Line 327 “This analysis relies on the fifteen VOC species already described in Keita et al (2018)” – does this mean that the Keita et al data are used here – or the same chemical species newly measured?

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Interactive comment on Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2018-1263>,

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