

## ***Interactive comment on “Laboratory studies of fresh and aged biomass burning aerosols emitted from east African biomass fuels – Part 2: Chemical properties and characterization” by Damon M. Smith et al.***

**Anonymous Referee #1**

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This paper presents the results from laboratory burning experiments of biomass fuels from east Africa. This is Part 2 of a companion paper. In this paper the authors present the chemical characterization of the smoke sampled during the burns. Both fresh and aged smoke at 500°C (smoldering) and 800°C (flaming) is examined to explore the compounds that lead to the light absorbing properties of the smoke.

Overall, this is a good paper. It is not necessarily an easy read due to all the interpretation of mass spectra involved in the analysis. But I think the authors have generally done a good job in presenting it in a straightforward manner. I just have a handful of

C1

minor comments outlined below to help with the flow of the paper. These need to be addressed before the paper can be considered for publication.

Specific Comments: Line 22 – The authors mention Eucalyptus and Acacia as the fuels examined. Although they are the primary ones examined in this work, results from the burning of Olive are also presented. This should be noted in the abstract.

Line 183 – Suggest changing cases to case

Line 188 – Suggest adding after cases, respectively

Line 245 – Suggest changing an m/z to a m/z

Table 1 – Believe that dimethoxybenzoic and nitroresol should be one word

Lines 330 and 339 – Believe that dihydroxyphthalic acid is misspelled

Line 337 – Suggest changing an SSA to a SSA

Line 375 – Believe that hydroxybenzaldehyde and dimethoxybenzoic acid should be one word

Line 420 – Suggest changing indicated their molecular to indicating the molecular as well as listed them to listing them

Line 443 - Believe that dihydroxyphthalic acid is misspelled

Line 464 – Suggest adding an a before pyrolysis

Line 465- Suggest changing to 290 nm to at 290 nm

Line 483 – Believe that nitroresol is one word

Table 3 - Believe that dimethoxybenzoic and nitroresol should be one word

Line 510 – Suggest changing an SSA to a SSA

Line 520 – Suggest adding an a before greater

C2

Line 523 – Suggest adding the word region after mid-visible

Line 526 – Suggest adding a the before uncertainty

Line 581 - Believe that nitrocresol is one word

Line 588 – Suggest changing an SSA to a SSA

Line 604 - Believe that nitrocresol is one word

Line 624 – Believe the phrase and analyzed the data should be removed as it is repeated in the next line

Line 698 – Believe that Prevot is missing accent marks

Line 713 – The journal title appears to be missing

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Interactive comment on Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2019-1160>, 2020.