

Anonymous Referee #1

Received and published: 8 May 2020 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 500oC (smoldering) and 800oC (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 minor comments outlined below to help with the flow of the paper. These needs to be addressed before the paper can be considered for publication.

Authors response

The authors thank the reviewer for the positive comments and suggested revisions. The revisions done based on the comments are provided below each comment in italics.

Reviewers 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

We disagree with the reviewer, it's each case, not each cases. That doesn't sound right on the ear. "Each" is always singular.

Line 188 – Suggest adding after cases, respectively

Correct, this has been changed.

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

The original wording is correct, according to APA Style 6th edition. The acronym "m/z" is pronounced "em-zee", which starts with a vowel sound, and therefore is preceded by "an" instead of "a".

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

Correct, this has been changed.

Lines 330 and 339 – Believe that dihydroxyphthalic acid is misspelled

Correct, this has been changed.

Line 337 – Suggest changing an SSA to a SSA

The original wording is correct, according to APA Style 6th edition. The acronym "SSA" is pronounced "ess-ess-ay", which starts with a vowel sound, and therefore is preceded by "an" instead of "a".

Line 375 – Believe that hydroxybenzaldehyde and dimethoxybenzoic acid should be one word
Correct, this has been changed.

Line 420 – Suggest changing indicated their molecular to indicating the molecular as well as listed them to listing them
Correct, this has been changed.

Line 443 - Believe that dihydroxyphthalic acid is misspelled
Correct, this has been changed.

Line 464 – Suggest adding an a before pyrolysis
Correct, this has been changed.

Line 465- Suggest changing to 290 nm to at 290 nm
Correct, this has been changed.

Line 483 – Believe that nitrocresol is one word
Correct, this has been changed.

Table 3 - Believe that dimethoxybenzoic and nitrocresol should be one word
Correct, this has been changed.

Line 510 – Suggest changing an SSA to a SSA
See above.

Line 520 – Suggest adding an a before greater
Correct, this has been changed.

Line 523 – Suggest adding the word region after mid-visible
Correct, this has been changed.

Line 526 – Suggest adding a the before uncertainty
Correct, this has been changed to “within the measurement uncertainty...”.

Line 581 - Believe that nitrocresol is one word
Correct, this has been changed.

Line 588 – Suggest changing an SSA to a SSA
See above.

Line 604 - Believe that nitrocresol is one word
Correct, this has been changed.

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

This has been corrected.

Line 698 – Believe that Prevot is missing accent marks

This name and others in this citation have had their accent marks added.

Line 713 – The journal title appears to be missing

This has been corrected.