

We thank the Anonymous Referee #2 for their comments and suggestions. All of the comments have been considered and were helpful in improving the manuscript. We address the specific comments below.

**Abstract Page 22165, Line 3 – There should be no hyphen between crop and residue**

P22165 L3 We have changed “crop-residue” to “crop residue”

**Page 22165, Line 5 – Suggest changing standards to standard**

P22165 L5 We have changed to “a combination of gas standard calibrations”

**Page 22615, Line 10 – The abbreviation FTIR has not been defined**

P22165 L5 We have defined FTIR, subsequently changing “FTIR” to “Fourier transform infrared (FTIR) spectroscopy”

**Page 22166, Lines 23-24 – There should be hyphens in proton transfer reactions**

P22166 L 23-24 We have added hyphens, changing “proton transfer reactions” to “proton-transfer-reactions”

**2.3.Proton-transfer-reaction time-of-flight mass spectrometer Page 22171, Line 8 – The abbreviation VOC has not been defined**

P22171 L8 We have now defined VOC in the sentence: “volatile organic compound (VOC)”

**2.4.OP-FTIR Page 22171, Line 10 – The chemical formula used has not been defined**

P22171 L10 We have now defined CO “ratio to carbon monoxide (CO)”

**Page 22185, Line 17 – There should be no hyphen between crop and residue**

P22185 L17 We have changed “Crop-residue” to “Crop residue”

**4.7.Cookstoves Page 22187, Line 18 – Envirofit is misspelled**

P22187 L18 We have respelled “Envriofit” to “Envirofit”

**References Page 22912, Line 6 – Believe it should be St. Clair, J.M.**

P22912 L6 We have fixed our mistake concerning the location of the St. in the following reference

“Alvarado, M. J., Logan, J. A., Mao, J., Apel, E., Riemer, D., Blake, D., Cohen, R. C., Min, K.-E., Perring, A. E., Browne, E. C., Wooldridge, P. J., Diskin, G. S., Sachse, G. W., Fuelberg, H., Sessions, W. R., Harrigan, D. L., Huey, G., Liao, J., Case-Hanks, A., Jimenez, J. L., Cubison, M. J., Vay, S. A., Weinheimer, A. J., Knapp, D. J., Montzka, D. D., Flocke, F. M., Pollack, I. B., Wennberg, P. O., Kurten, A., Crouse, J., St. Clair, J. M., Wisthaler, A., Mikoviny, T., Yantosca, R. M., Carouge, C. C., and Le Sager, P.: Nitrogen oxides and PAN in plumes from boreal fires during ARCTAS-B and their impact on ozone: an integrated analysis of aircraft and satellite observations, *Atmos. Chem. Phys.*, 10, 9739–9760, doi:10.5194/acp-10-9739-2010, 2010.”

**Page 22912, line 27 – There is an extra d at the end of European**

P22912 L27 We have corrected misspelling by changing “Europeand” to “European”

**Page 22195, Line 8 – There should be an and before Hjorth**

P22195 L8 We have added an “and” changing the reference to “Gomez Alvarez, E. G., Borrás, E., Viidanoja, J., and Hjorth, J.: Unsaturated dicarbonyl products from the OH-initiated photo-oxidation of furan, 2-methylfuran and 3-methylfuran, *Atmos. Environ.*, 43, 1603-1612, doi:10.1016/j.atmosenv.2008.12.019, 2009.”

**Page 22199, Line 29 – There should be an and before Fanelli**

P22199 L29 We have added an “and” changing the reference to “Natangelo, M., Mangiapan, S., Bagnati, R., Benfenati, E., and Fanelli, R.: Increased concentrations of nitrophenols in leaves from a damaged forestal site, Chemosphere, 38, 1495–1503, doi: 10.1016/S0045-6535(98)00370-1, 1999.”

**General Comment: -The order of the references in the citations seems to vary through the paper of being in alphabetical or chronological order. Either way is actually fine, but it should be consistent throughout. I have tried to point out the ones I noticed below in my specific comments.**

We thank the referee for noticing the alphabetical and chronological variations in our reference citations. We have addressed all discrepancies as indicated below.

P22166 L7-9 Re-ordered to read “(Reid et al., 1998; Trentmann et al., 2005; Alvarado and Prinn, 2009; Yokelson et al., 2009; Vakkari et al., 2014)”

P22174 L10 Re-ordered to read “(Akagi et al., 2011; Yokelson et al., 2013, etc.)”

P22174 L19 Re-ordered to read “(Liu et al., 2012; Pittman Jr. et al., 2012; Li et al., 2013; more citations in Table S4)”

P22174 L25 Re-ordered to read “(Lobert, 1991; Ge et al., 2011; etc.)”

P22177 L11-12 Re-ordered to read “(Phouongphouang and Arey, 2002; Ziemann and Atkinson, 2012).”

P22177 L21 Re-ordered to read “(Andreae and Merlet, 2001; Henze et al., 2008)”

P22180 L5-6 Re-ordered to read “(Atkinson et al., 1992; Olariu et al., 2002; Harrison et al., 2005; Lauraguais et al., 2014)”

P22180 L12-13 Re-ordered to read “(Kitanovski et al., 2012; Desyaterik et al., 2013; Mohr et al., 2013; Zhang et al., 2013)”

P22180 L15-16 Re-ordered to read “(Iinuma et al., 2010; Kitanovski et al., 2012; Lauraguais et al., 2014)”

P22181 L5-6 Re-ordered to read “(Cabañas et al., 2005; Villanueva et al., 2007)

P22182 L21-22 Re-ordered to read “(Lobert et al., 1991; Schade and Crutzen, 1995; Ma and Hays et al., 2008; Barnes et al., 2010; Ge et al., 2011).”

P22184 L7 Re-ordered to read “(Friedli et al., 2001; Meinardi et al., 2003; Akagi et al., 2011; Simpson et al., 2011)”

P22185 L11 Re-ordered to read “(Holzinger et al., 1999; Christian et al., 2004)”

P22186 L11-12 Re-ordered to read “(Christian et al., 2003; Akagi et al., 2011; Yokelson et al., 2013; St. Clair et al., 2014)”

P22187 L10 Re-ordered to read “(Simpson et al., 2011; Akagi et al., 2013)

**Tables Table 2 -Line 2 of the caption - Suggest adding the word type after fuel**

The table caption now reads “Table 2a. Emission ratios to benzene, phenol, and furan for aromatic hydrocarbons, phenolic compounds, and substituted furans in lumped fuel-type categories.

**Figures Figure 1 -Suggest labeling each plot as a, b, or c since they are referred to this way in the text**

Thanks for the suggestion and we have labeled the three sections of the figure a, b, and c.

**Figure 3 -Suggest indicating in the caption that the number of oxygen atoms for the three various oxygenated classes are indicated in parenthesis in the legend**

This has been addressed both in the text and in the figure caption as initially prompted by Anonymous Referee 1.

**Figure 5 -Line 3 of the caption - Suggest changing considered the fuel average to considered in the fuel average**

We have changed the caption to read “Figure 5. (a) The distribution in average fuel EF for several phenolic compounds, where compound specific contributions are indicated by color. The EFs for compounds additionally analyzed a single time for select fires are included but are not a true average. (b) The linear correlation of select phenolic compounds with phenol during an organic hay burn (Fire 119).”