

To: Prof. Jacqui Hamilton:

June 19, 2018

Re: ACP-2018-52

Dear Prof. Jacqui Hamilton:

Thank you for your comments to our paper entitled “High- and low-temperature pyrolysis profiles describe volatile organic compound emissions from western US wildfire fuels”. Here the manuscript has been revised according your comments.

Comment: I am happy that you have dealt with the reviewers comments and will proceed to publication. I have one small change to make prior to acceptance. In the new figure S9- can you add some text to the legend to describe A and B. While I can see it on the top panel, it took me a little while to find it and I think it should be included in the text legend.

Answer: We added a text to describe coefficients *A* and *B* in the caption of Figure S9, as follows:

“Figure S9. The comparison of contribution of high-temperature factor versus ethyne/furan ratio. (a) Time series of Fire #37 (Ponderosa pine realistic mixture). (b) Scatter plot of instantaneous high-temperature contribution versus ethyne/furan ratio for all Ponderosa pine fires. (c) Scatter plot of fire-integrated high-temperature contribution versus ethyne/furan ratio for all fires. Contribution of high-temperature factor was calculated by $\Sigma\text{VOC}_{\text{high-T}}/(\Sigma\text{VOC}_{\text{high-T}} + \Sigma\text{VOC}_{\text{low-T}})$ instantaneously or on

a fire-integrated basis. **Ethyne/furan ratio was calculated by $\frac{\text{Ethyne}/A}{\text{Ethyne}/A + \text{Furan}/B}$**

instantaneously or on a fire-integrated basis. Coefficients *A* and *B* correspond to 0.0393 (in ppbv/total VOC ppbv) for ethyne in the high-temperature factor and 0.0159 (in ppbv/total VOC ppbv) for furan in the low-temperature factor, respectively.”