

Minor Comments

Dear Authors: Thank you for your consideration of the previous comments. I am happy to accept the paper for publication following attention to the minor comments below. Line numbers refer to the track changes version.

1) Lines 329-333. Thank you for the addition of the text. However, the current wording is confusing to the reader as the description of the Corbin et al results begins by discussing peak width - a parameter not important for UMR. I suggest you start this section off with a sentence describing how the approaches give similar errors (along the lines of the last sentence of this addition) and then describe the Corbin et al approach.

Additional details about Model error value modification are available in the supplementary material (S3a, S3b, S4a, S4b, S5a, S5b). While the methods of Corbin et al. (2015) cannot be directly applied here, they are in broad agreement with the values we have used. According to Corbin et al., 2015, the peak width 'w' is predicted during the peak fit integration from an empirical fit to the data. This 'w' prediction has a linked proportional uncertainty $\sigma_w = w$. In that data set, $\sigma_w = w$ was 2.5%, which was independently treated as 2 or 3% uncertainty in the isolated peaks heights, so these two can be combined in quadrature. And for the isolated peaks the value for the total percentage uncertainty is about 5% which is conceptually equivalent to 0.05 model error. This is comparable to the 0.1 model error $\sigma_w = w$ used here. Along with placing greater emphasis on the smaller fullerene signals, the application of this model error also increased the number of "weak" variables, defined as having SNR below 2 (Paatero and Hopke, 2003; Ulbrich et al., 2009), which were down weighted by a factor of two. No variables were "bad" in the sense of having SNR < 0.2 (Paatero and Hopke, 2003).

2) Line 245-246: "...ensures quantitatively." --> "...ensures quantitative measurements." or something along those lines.

Corrected.

3) Lines 506-507: "Variables from this and previous publications." Please specify which ones are from previous publications and provide references.

Variables from this (such as rBC, BC & MO-OOA, BBOA, Domestic burning, Hydrocarbon-like OA and HOA+Fullerene) and previous publications such as HCNO, HCN, HONO from Priestley et al., (2018a) and sPON, pPON, eBC_{tr}, eBC_{wb} and eBC_{total} from Reyes et al., (2018).

4) Figures 2 & 3: Please improve the resolution of the labels and the axes.

Resolution of labels and axes are improved.