

To the editor:

Thank you for the opportunity to publish in *Atmospheric Chemistry and Physics*. We are also grateful for the comments and questions from the two anonymous reviewers. Their input has strengthened our manuscript and we are happy for the opportunity to share our work. This final submission contains corrections made at your request. Please find our response below in blue text, and we have also included the relevant language change from the manuscript in orange.

We note that there may be a discrepancy between the line numbers provided in these comments and the line numbers in our working document. For example, the comment about “writ large” on line 301 refers to line 281 in our document. We have made our best effort to identify the location of the comment.

- Line 120: The Abstract, this line and table 1 each indicate a different wavelength (561 nm, 532 nm, and 588 nm). Please check that the correct wavelength is used throughout the paper.

This correction has been made and the manuscript now refers only to the correct wavelength of 561 nm.

- Line 132: delete 'enhancement' at the end of this sentence

This correction has been made. Lines 116-117 now read:

Thus, $E_{MAC}(\lambda) > 1$ indicates an oxidative aging-induced absorption enhancement, while $E_{MAC}(\lambda) < 1$ indicates diminished absorption.

- Line 289-290: include the units for the ambient MAC values of this study

The values given in the text in section 3.1 are for ambient AAE, which is unitless. We have made the following change to line 235:

Table 1 summarizes the average $MAC(\lambda)$ values ($m^2 g^{-1}$) of ambient aerosol obtained from Arizona and Oregon.

- Line 301: I don't think "writ large" fits here

This correction has been made. Lines 280-281 now read:

While knowledge of the individual m/z enhancement and depletion may inform future investigations, it is perhaps more illustrative to consider ion families.

- Conclusions: The same way that the abstract was modified to reflect the dynamic influence of OH on MAC, the conclusions should be change to correctly indicate that OH first increased MAC, but at longer oxidation times, bleaching was observed

This correction has been made. Lines 328-330 now read:

Aerosol does not age along any single pathway for more than half of a diurnal cycle: at night, oxidative aging of BrC by $NO_3\cdot$ increases $MAC(\lambda)$, whereas daytime oxidative aging by $OH\cdot$

initially increases $\text{MAC}(\lambda)$, which is followed by a strong reduction in $\text{MAC}(\lambda)$ due to bleaching.