

Dear editor, we would like to express our gratitude to you for providing thoughtful comments and valuable suggestions that have significantly improved the quality of our manuscript. Below, you will find our point-by-point responses to the individual comments of the editor.

## Response to the Editor

Technical comments:

1. In the supplement file it is mentioned "Number of Figures: 13"; however, there are only 12 figures.

Authors thank the editor for highlighting this point. Please see the changes in the revised supplementary information.

*(Line 18) "Number of Figures: 12"*

2. Figures S12 is not called in the main text

Authors thank the editor for highlighting this point. Please see the changes in the revised manuscript (MS).

*(Line 577-579) "The clean duration was from 9 PM to 11 AM. E and S-E winds dominated the relatively clean period, but pollution was associated with calm winds, as shown in Fig. S12."*

3. Figures S5 (Line 227) and S6 (Line 238) are called before Fig. S4 (Line 267)

Thank you for pointing out it. Authors corrected the related text in the manuscript. Please see the changes in the revised manuscript (MS).

*(Line 225-227) "In addition, Fig. S4 exhibits the temporal fluctuations of atmospheric gases, specifically nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), and sulfur dioxide (SO<sub>2</sub>). Delhi's winter climate is mainly affected by a depression caused by Western Disturbances, resulting in cold waves in the region."*

*(Line 236-238) "Fig. S5 displays the variation of WS and WD, ranging from 0.0 to 5.6 (with an average of  $1.0 \pm 1.0$ ) m/s and 4.0 to 345.7 (with an average of  $197.1 \pm 84.4$ ) degrees from the North, respectively."*

*(Line 243-245) “During intense biomass burning activities, ambient NO<sub>x</sub> levels reach a maximum of 421.2 ppb (58.4 ± 61.9). CO concentrations also reach maximum levels during similar periods as NO<sub>x</sub>, varying from 0.0 to 7.66 ppm (0.58 ± 0.79), as illustrated in Fig. S4.”*

*(Line 263-265) “Additionally, we observed a high correlation ( $r^2 = 0.83$ ,  $p < 0.05$ ) between PM<sub>1</sub> measured by ACSM and MPSS, assuming an effective aerosol density of 1.6 g/cm<sup>3</sup> (refer to Fig. S6).”*

4. Given that the order of the figures from the supplement were changed, please double check that they are properly called in the main text.

Thank you for pointing out it. Please see the changes in the revised manuscript (MS).