Response to remaining remarks

Sincerely thanks for the reports! We have checked the manuscript carefully, revised, and responded to the two remaining remarks.

Report #1

1. Table S1: It would be more informative to include the number of samples collected for each sampling period (and to specify the duration of each sample, if it was fixed), rather than reporting the total sampling duration, which is different from the sampling period for obvious reasons. Also, how can the ambient relative humidity exceed 100.0%?

Author's response: Thanks for the remark.

(1) The number of samples collected for each sampling period was one. The duration of each sample was not fixed and not equal to the difference between the end time and the start time of the sampling period. When the ship stopped or wind conditions were unfavorable, the sampling pump was turned off, and the interruption time was not included in the cumulative sampling duration, same with previous studies (Yao et al., 2023; Guo et al., 2020; Kang et al., 2018).

(2) In actual measurements, it is indeed possible for high-resolution real-time monitoring instruments to record relative humidity readings slightly exceeding 100% due to measurement uncertainty or transient super-saturation. In this study, the highest recorded relative humidity was 100.3%, which falls within the acceptable uncertainty range (1−2%). We have revised values above 100% to 100%, and recalculated the averages in Table S1.

2. Air-mass analyses clearly show that samples S3, S12, S13, S14, S15, S16, S17, S18, and S19 were strongly influenced by continental outflow, while S5, S6, and S8 appear to be marine. The remaining samples are mixed in nature. Are there any apparent differences in amine concentrations (and other parameters) between continental outflow and marine air masses?

Author's response: Thanks for the remark.

We have added the descriptions about the differences between continental outflow and marine air masses (Lines 240-249).

"**According to air-mass analyses (Figure S3), S3 and S12−19 (include all samples from the NYS−BS) were strongly influenced by continental outflow, while S5, S6, and S8 (from the SYS) were dominated by marine air masses. The remaining samples were affected by mixed terrestrial and marine air masses. Higher concentrations of MA (16.0 ± 11.5 ng m^{-3}), EA (2.3 ± 1.4 ng m^{-3}), DMA (5.3 ± 2.9**

ng m^{-3}), and PA (3.2 ± 1.0 ng m^{-3}) were observed in samples influenced by continental outflow compared to those dominated by marine air masses (MA: 10.0 ± 6.6 ng m^{-3}; EA: 1.3 ± 0.2 ng m^{-3}; DMA: 2.0 ± 0.1 ng m^{-3}; and PA: 2.3 ± 1.0 ng m^{-3}). In contrast, TMDEA concentrations were higher in samples dominated by marine air masses (27.6 ± 9.1 ng m^{-3}) than those influenced by continental outflow (19.8 ± 7.4 ng m^{-3})." (Lines 240-249).

References

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