

Response to the Editor's Comments:

This paper has been exemplary in the publishing process. A good paper was submitted, reviewers provided helpful comments, which the authors fully considered, and a very good paper has resulted. The paper is ready for publication after one very minor question is addressed. The revision has added the phrase: "...derived an average $\gamma(\text{N}_2\text{O}_5)$ ($\pm\text{SD}$) of 0.018 ± 0.00006 for our selected cases." Is the standard deviation really more than 2 orders of magnitude smaller than the average?

Response: we thank the editor so much for your great efforts for handling and evaluating our manuscript. The review and publishing process is very helpful for improving our research. For the comment on $\gamma(\text{N}_2\text{O}_5)$, we checked again the calculation results and found that the derived $\gamma(\text{N}_2\text{O}_5)$ values are quite uniform, i.e., in the range of 0.0178–0.0179. So the standard deviation is very small. We have further revised the original phrase as follows.

“We estimated the $\gamma(\text{N}_2\text{O}_5)$ from the reaction rate for the N_2O_5 gas-to-particle partitioning and the measured aerosol surface area concentrations, and derived a $\gamma(\text{N}_2\text{O}_5)$ value of 0.018 for our selected cases. Such level is well within the reported range of $\gamma(\text{N}_2\text{O}_5)$ derived from the field observations in other locations worldwide (e.g., 0.001-0.1), including several polluted areas in northern China (Tham et al., 2018; and references therein).”