

We draw attention to a potentially confusing statement in our text. On lines 401 to 407 we write:

“The result of a simulation (Model 2) with $k_{RO_2+NO_3}$ set to $4.6 \times 10^{-12} \text{ cm}^3 \text{ molecule}^{-1} \text{ s}^{-1}$ (twice the generic value in MCM v3.3.1) is displayed as the blue lines in Fig. 9. The O_3 , NO_2 , N_2O_5 and isoprene mixing ratios are only slightly affected by this change in the reaction constant, whereas its impact on the NO_3 mixing ratios as well as on the reactivity is very significant. The higher rate coefficient for reaction of NO_3 with RO_2 would not only explain the observed discrepancy between the overall reactivity $k_{nss}^{NO_3}$ and k^{NO_3} but also results in a better reproduction of the NO_3 measurement during the isoprene-dominated period. A similar result is obtained in a comparable experiment under dry conditions on the 10th August (see Fig. S4 in the supplement).”

A value of $k(RO_2+NO_3) = 4.6 \times 10^{-12} \text{ cm}^3 \text{ molecule}^{-1} \text{ s}^{-1}$ is sufficient to bring the measured and modelled NO_3 -reactivities into agreement *within the uncertainty associated with the measurements*. The blue line plotted in Figure 9 (which represents optimum agreement irrespective of uncertainties) was however calculated with a value of $9.2 \times 10^{-12} \text{ cm}^3 \text{ molecule}^{-1} \text{ s}^{-1}$.

The caption to Figure 9 and Figure S4 should thus read:

Figure 9: O_3 , NO_2 , NO_3 , N_2O_5 and isoprene mixing ratios and NO_3 reactivity on 2nd August (black). The grey shaded area symbolizes the overall uncertainty associated with each measurement. Orange circles denote the reactivity obtained using Eq.(3). The results of the numerical simulation using MCM v.3.3.1 (with NO_3 and N_2O_5 wall loss rates of 0.016 s^{-1} and $3.3 \times 10^{-4} \text{ s}^{-1}$ respectively) for each of the reactants is shown by a red line, whereas the blue line shows the result of the same model with the rate coefficient for reaction between NO_3 and RO_2 set to $9.2 \times 10^{-12} \text{ cm}^3 \text{ molecule}^{-1} \text{ s}^{-1}$. *Considering total uncertainty, a rate coefficient of $4.6 \times 10^{-12} \text{ cm}^3 \text{ molecule}^{-1} \text{ s}^{-1}$ is sufficient to bring model and measurement into agreement.*

Figure S4: O_3 , NO_2 , NO_3 , N_2O_5 and isoprene mixing ratios as well as the NO_3 reactivity on the experiment of the 10th August (black). The grey shaded area symbolizes the overall uncertainty associated with each measurement. Orange circles denote the non-steady-state reactivity obtained from Eq.(3). The results of the numerical simulation using MCM v.3.3.1 (with NO_3 and N_2O_5 wall loss rate of 0.016 s^{-1} and $3.3 \times 10^{-4} \text{ s}^{-1}$ respectively) for each of the reactants is shown by a red line, whereas the blue line shows the result of the same model with $k_{NO_3+RO_2} = 9.2 \times 10^{-12} \text{ cm}^3 \text{ molecule}^{-1} \text{ s}^{-1}$. *Considering total uncertainty, a rate coefficient of $4.6 \times 10^{-12} \text{ cm}^3 \text{ molecule}^{-1} \text{ s}^{-1}$ is sufficient to bring model and measurement into agreement.*

The overall conclusions, that reactions of NO_3 with RO_2 contribute significantly to NO_3 -reactivity and that the rate coefficient for reaction between NO_3 and RO_2 is potentially larger than presently used in the MCM, are unchanged.