

We thank the reviewer for their comments and for highlighting the paper by Xu *et al.*, 2020. The following points have been added to the manuscript:

The dominant fate of this alkoxy radical is ring breaking which can further form a variety of SOA relevant compounds such as HOMs, glyoxal, and various C<sub>4</sub> and C<sub>5</sub> compounds (Xu *et al.*, 2020).

C<sub>5</sub> compounds are shown to form from the ring opening of the di-oxygen bridge alkoxy radical (Xu *et al.*, 2020) and could subsequently be involved in dimer formation of C<sub>9</sub> and C<sub>10</sub> compounds.

It should be noted that these species are identified in Xu *et al.* (2020) as products of an epoxidation channel of the alkoxy phenol radical.

Contrary to the comment, C<sub>6</sub>H<sub>7</sub>NO<sub>5</sub> (BCE nitrate) is not observed in this study although C<sub>6</sub>H<sub>7</sub>NO<sub>4</sub> (BCP nitrate) and C<sub>6</sub>H<sub>7</sub>NO<sub>6</sub> (TCEE) are. These latter two compounds could be formed through the epoxy channel, however in the cluster analysis of this paper they are assigned to cluster 3 which does not form part of the discussion on how NO/NO<sub>x</sub> fractions impact RNO<sub>x</sub> product distributions. The following passage is added to discuss this point:

Additionally, the presence of a pathway to form N containing ring retaining epoxides from the alkoxy phenyl radical recently described by Xu *et al.* (2020) further demonstrates the difficulty of structural assignments and accounting for the position of oxygen atoms. C<sub>6</sub>H<sub>7</sub>NO<sub>4</sub> and C<sub>6</sub>H<sub>7</sub>NO<sub>6</sub> are two formulae that could represent ring retaining nitrogen containing epoxides however as these two formulae are found in cluster 3 they do not impact the discussion on the effect of NO/NO<sub>x</sub> ratios on clusters 1 and 2 here.