

1. Line 75. I suggest changing the sentence to 2-3 orders of magnitude. Sorry, but convective outflow and UT background mixing ratio measurements of the most abundant carbonyls do not show an order 1 comparison (1-10 ppbv) to the mixing ratio used in the lab experiments.

This change has been made in the manuscript.

2. Not all the material in the supplement is cited in the main manuscript. Please add text in the manuscript to direct the reader to more information in the supplement.

A reference to the unreferenced Figures (S5-S8) has been added in Line 519. The remaining unreferenced figure (S2), is referenced directly within the supplement.

3. Line 367. It should be “exclusively be attributed to” instead of “exclusively to attributed to”.

This typo has been corrected.