**Response to Editor report #1**

Thank you for your comments, we have responded to them in *italics* below.

1. Related to Reviewer #1, Sect. 2.2.2/Fig. 6 comments: I'm not sure you can know the linearity better than the flow controllers. It seems like the slopes should at least have a 0.4% uncertainty based on the best flow controller.

*Response: We have added a statement to the relevant text in lines 179-181 to address this: The linearity assessment for COMA is shown in Figure 6 and demonstrates that COMA is highly linear over a wide range of CO and $N_2O$ mixing ratios. Figure 6 shows COMA to be linear (slope of 1.00) between 25-1000 ppb CO and linear (slope of 1.00) between 25-850 ppb $N_2O$, with the largest uncertainty equal to the reported accuracies of the flow meters stated above.*

2. somewhere qualify that Equation 2 is good for N2O > x, since the precision will eventually become 0 and then negative at low N2O concentrations?

*Response: We have added a statement to the relevant text in lines 206-208 to address this: At 50 ppb CO precision = 1.4 ppb (equivalent to 2.8 %), while at 200 ppb CO precision = 4.1 ppb (equivalent to 2.1 %). Readers should use discretion if extrapolation of precision is required outside the range used to determine these equations (CO: 48-203 ppb; N2O: 195 – 345 ppb).*

3. I'm curious how the full comparison of COMA with COLD2 with a slope of 1.06 is lower than any individual flight (1.10–1.15). By deleting the ranges, the authors are deleting possible relevant information related to how the COLD2 instrument performed. Please add the ranges back into the text.

*Response: We have added the ranges back, in addition to the overall, average. Note the values have been updated to reflect comparisons run using the most recent and finalized COMA data product, obtained here: https://www-air.larc.nasa.gov/cgi-bin/ArcView/acclip.2022#PODOLSKE.JAMES/*