

Authors response to revised manuscript corrections.

Dear Prof. Rob Mackenzie.

We thank the editor for the comments and corrections. All comments have been addressed, I will quickly summarise what we have changed below:

- We have made the equation showing our new age calculations clearer. There was a mistake in the text when referring to the chemical lifetime. It made it seem as if this was a constant 60 days was included in the equation where in fact it is a dynamic number based on the e-folding lifetime of CO. The e-folding value uses a lifetime of 60 days (based on an OH assumption), and this is where we got our text confused. This has been made explained clearer in the text.
- We have included a more detailed explanation (including equations) on how photochemical age is calculated – based on equations from Parrish et al. 2007.
- There is now a clear statement on what we can infer from the differences between photochemical age and our age calculation and how each is effected by the OH concentration.
- All further comments have been addressed and hopefully have achieved a more readable manuscript.

Please find attached the revised manuscript with all ammendments highlighted in bold text.