Response to Executive Editor comment by Astrid Kerkweg.

Please find below our response. The editor comment is in italic. Our response is in regular font, and changes to the manuscript are given in bold.

please note, that if only one model is concerned, the title of a GMD manuscript should state the model name (or its acronym) and a version number. These are always important to know even in the case of an evaluation, as different versions might perform differently for the same evaluation procedure. Therefore please change the title of your manuscript accordingly upon revision; e.g., "Quantifying uncertainties due to chemistry modeling – evaluation of tropospheric composition simulations in the CAMS model (version x.y)"

Thank you for pointing this out. Note that here we evaluate results from three chemistry model versions in the CAMS model, which so far all follow a different versioning scheme. Therefore it is beyond the scope of the title to provide exact details of the version, but their communality is the IFS version adopted here, which is CY43R1, which is a good proxy for the chemistry version adopted. We will change the title accordingly to:

"Quantifying uncertainties due to chemistry modeling - evaluation of tropospheric composition simulations in the CAMS model (Cycle 43R1)"

We now furthermore refer to this cycle in the first sentence of the conclusions section.

Additionally, please note that evaluation papers also need to include a code availability section, telling the reader how to access the exact code version of the evaluated model or providing profound reasons why the code can not be accessed. Furthermore, please provide reasons, why the data is not freely available.

The editor is correct that we should be more explicit about code availability. Full data public availability is beyond reach, considering the large volume of data produced for these experiments. Data is fully archived on the ECMWF Archiving system (MARS) and selections will be made available freely to interested readers by contacting the first author. Also we provide details on accessibility of model code. According to this, we now change this section to:

The source code of the chemistry modules are integrated into ECWMF's IFS code, which is only available subject to a license agreement with ECMWF. The IFS code without modules for assimilation and chemistry can be obtained for educational and academic purposes as part of the openIFS release (https://confluence.ecmwf.int/display/OIFS). A detailed documentation of the IFS code is available from (https://www.ecmwf.int/en/forecasts/documentation-and-support/changes-ecmwf-model/ifs-documentation). The CB05 chemistry module of IFS was originally developed in the TM5 chemistry transport model. Readers interested in the TM5 code can contact the TM5 developers (http://tm5.sourceforge.net). The BASCOE stratospheric chemistry module can be freely obtained from the BASCOE developers (http://bascoe.oma.be). The MOCAGE chemistry module of IFS is developed at Météo-France on the basis of the

MOCAGE chemistry-transport model, http://www.umr-cnrm.fr/spip.php?article128. The MOZART code can be obtained through contacting their developers via https://www2.acom.ucar.edu/gcm/mozart. The MOZART and CB05BASCOE chemistry schemes are also freely available through the Sander et al. (2019) publication.
The model simulation datasets used in this work are archived on ECMWF archiving system (MARS) under the respective experiment IDs listed in Table 3. Readers with no access to this system can freely obtain these datasets from the corresponding author upon request.