We appreciate the editor's valuable comments on our work. Our responses to the specific comments and the changes made to the manuscript are given below.

Responses to the comments of Editor:

Comment 1: One reviewer however had one remaining issue about the choice of the specific PMF factors (see comment reviewer #2). I agree with him/her that this would be highly beneficial for the reader to know.

***Reply 1*: Please see our reply to the Referee#2's comment.**

Comment 2: In addition, please improve the resolution of the figures. They are sometimes very low in resolution and pixilated. Fig. 8 is also slightly distorted in the y-direction.

Reply 2: **The resolutions of the figures have been improved especially Fig. 8 as suggested.**

Comment 3: In addition, I would encourage the authors to make their data publicly available on repository (e.g. with DOI). Please have a look at the guidelines of ACP: https://www.atmospheric-chemistry-and-physics.net/policies/data_policy.html

Reply 3: **We have now provided the data to be available in the supplement.**

Responses to the comments of Referee #2:

We appreciate the referee's comments on our work. Our responses to the specific comments and the changes made to the manuscript are given below.

Comment 1: I thank the authors for their work on the paper. I have one remaining comment regarding the PMF solution, which I think is important enough to ask for minor revisions. I apologize if I have not been clear enough, but I would like to encourage the authors to write a short summary of their reasoning of choice of PMF factors for the supplementary section, where they also show data and numbers (e.g. Q values, distribution of residuals, solutions with different factors), and try to visualize how they derived the most appropriate number of factors, so that this can be retraced by the readers.

Reply 1: **According the comment, we have provided the output numbers of PMF with different numbers of factors in the supplement (Table S1). We believe that it is now clear how the most appropriate number of factors was determined in this study.**