Revision of final comments from editor:

Thank you for the second review round and we are pleased to revise the final minor comments from your part. The revised version is stated in blue below your comments:

• Lines 62-64 "Here, we focus on examining the formation of particle-bound ROS within an iron and/or copper CA particles induced by complex photolysis under changing atmospheric conditions."

In this study, we examine the generation of particle-bound ROS in CA particles containing iron and/or copper because of photolytic processes influenced by varying atmospheric conditions.

• Figure 1 caption "... The left pathway exemplary depict an OA growth..."

On the left pathway (blue particles) an OA particle growth in high RH conditions is drawn, implying a liquid OA phase, whereas on the right the particles (green) experience low RH conditions that lead to highly viscous organic phase.

• Lines 83-85 "As schematically shown in Figure 1, we expected lower particlebound ROS concentrations in aerosols photochemically aged under humid compare to dry conditions..."

As depicted in Figure 1, we anticipated that aerosols undergoing photochemical aging in humid conditions would exhibit lower concentrations of particle-bound ROS compared to those in dry conditions. This is because effective diffusion aids in the exchange between gas and particle phases, leading to greater loss to the gas phase.

• Line 220 "The low levels of oxygen must..."

The low oxygen levels must have been sufficient to oxidize the CCFR (refer to R2 in Table \ref{Chap_3_Tab_1}) and initiate ROS cycling reactions. Please define the abbreviation "AA" used in Lines 90-91.

• Please make sure the parenthesis in placed correctly in Lines 216-222 "However, our online measurements also showed high Cnorm in particles aged in nitrogen thus normally in absence of oxygen. Though we caution that a limited amount of oxygen in the particle phase (from the nebulized solution, diffusion through the permeable tubing and/or oxygen traces in the N2 gas flow not being may have led to only about a factor of:100 % decrease of oxygen when switching from air to N2). Good point. We have deleted the paranthesis and used 'for instance' instead: 'Though we caution that a limited amount of oxygen in the particle phase for instance from the nebulized solution, diffusion through the permeable tubing and/or oxygen traces in the N_2 gas flow may have led to only about a factor of 100 decrease of oxygen when switching from air to N_2.'