



## Supplement of

## Distinct photochemistry in glycine particles mixed with different atmospheric nitrate salts

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Figure S1. The schematic of the aerosol flow-cell system.



Figure S2. The schematic of the aqueous reactor system.



**Figure S3.** The Full width at half maxima of nitrate peak (at ~1050 cm<sup>-1</sup>) and glycine peak (~900 cm<sup>-1</sup>) in AN+GC particles at different RHs.



Figure S4. The Raman characteristic peak of GSN.



**Figure S5.** Ionic chromatography of Fresh and UV-aged (8 h) AN+GC and SN+GC particles extract. The particles were aged at 80%RH.



Figure S6. Raman spectrum of ammonium acetate solution.



Figure S7. The decay kinetics of nitrate in AN+GC and SN+GC particles at 80% RH.



**Figure S8.** Raman spectrum of AN+Ala and SN+Ala mixed particles after 0 and 8 h irradiation at 80% RH.