

Interactive comment on “Secondary organic aerosol formation from primary aliphatic amines with NO₃ radical” by Q. G. J. Malloy et al.

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The author apologizes for any confusion that may have occurred from reading of their manuscript or replies to reviewers.

It is true that ammonium produces signals at NH⁺, NH₂⁺, and NH₃⁺. However, the author intended to indicate that NO⁺ and NO₂⁺ are produced during EI ionization of *nitrate salts* (i.e methylammonium nitrate). This fact is supported in the reference given (Allen et al. page 911) There also appears to be some confusion as to the citations involved as well. The authors citation of Murphy et al. 2007 refers to the following paper:

Murphy, S. M., Sorooshian, A., Kroll, J. H., Ng, N. L., Chhabra, P., Tong, C., Surratt, J. D., Knipping, E., Flagan, R. C., Seinfeld, J. H.: Secondary aerosol formation from

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atmospheric reactions of aliphatic amines, *Atmos. Chem. Phys.*, 7, 2313-2337, 2007

Here Murphy states on page 2318

"The spectra are similar to reference electron impact spectra in the NIST database for the gas-phase amines except for additional intensity at m/z 30 and m/z 46 caused by NO^+ and NO_2^+ ion fragments from nitrate (Stein, 2005)."

Silva et al also uses m/z 30 and 46 to indicate the presence of nitrate salts (page 4692)

"The spectrum is very simple, showing only fragments from nitrate (m/z 30, 46) and trimethylamine (m/z 30, 42, 58, and 59). This is not surprising since the simple acid-base reaction should result in an amine-nitrate salt."

The revised manuscript will included changes to reflect the salts discussed are nitrates. The author will also change the description of the AMS to reflect its operation in mass spectrum mode.

References:

Murphy, S. M., Sorooshian, A., Kroll, J. H., Ng, N. L., Chhabra, P., Tong, C., Surratt, J. D., Knipping, E., Flagan, R. C., Seinfeld, J. H.: Secondary aerosol formation from atmospheric reactions of aliphatic amines, *Atmos. Chem. Phys.*, 7, 2313-2337, 2007

Silva, P., Erupe, M., Malloy, Q. G. J., Li, Q., Warren, B., Price, D., Elias, J., Cocker, D. R.: Trimethylamine as Precursor to Secondary Organic Aerosol Formation via Nitrate Radical Reaction in the Atmosphere, *Environ. Sci. Technol.*, 42(13), 4689-4696, 2008

Interactive comment on *Atmos. Chem. Phys. Discuss.*, 8, 12695, 2008.

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