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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Detection of atmospheric gaseous amines and amides by a high resolution time-of-flight chemical ionization mass spectrometer with protonated ethanol reagent ions" *by* Lei Yao et al.

Anonymous Referee #2

Received and published: 22 August 2016

Lines 93-94: C3 amines include trimethylamine, methyl-ethylamine and propylamine (formally also azetidine and the various methylaziridines, which have a different sum formula)

Lines 166-167: It is stated that the amines and amides reacted dominantly with protonated ethanol (through proton transfer reactions). This statement requires some clarification. The authors state in the lines preceeding that most abundant reagent ion is protonated ethanol dimer (illustrated in Fig. S1).

3.1.2 Effects of RH and organics: The influence of RH on the instrument sensitivity is

described and illustrated for three simple amines. The observed effect requires some explanation. Have the authors calculated the PTR rate coefficients for the different reagent ions? Does the reagent ion distribution change significantly ?

Line 314: "oxomide" should be "oxamide"

Figure 3 requires some additional information/clarification. First, the peak-shape is not discussed. Second, the curve-fitting includes a listing "Isotopes and other compounds". It is not obvious to the reader which "isotopes and other compounds" that are actually included in the analyses. As an example the region around m/z 60 must clearly contain a signal from the 13-C isotope of acetone (60.053), but this appears not to be the case.

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