

Responses to the comments of X. Ge:

We appreciate Dr. Ge for drawing attention to our work and for useful information.

Responses to the comments are given below.

Comment: This work includes the chemical measurements of organic nitrogen, I would like to draw the attention of the authors on our recent work on amines:

Ge, X., Wexler, A. S., and Clegg, S. L.: Atmospheric Amines – Part I. A review, Atmos. Environ., doi:10.1016/j.atmosenv.2010.10.012, in press.

Ge, X., Wexler, A. S., and Clegg, S. L.: Atmospheric Amines –Part II. Thermodynamic properties and gas/particle partitioning, Atmos. Environ., doi:10.1016/j.atmosenv.2010.10.013, in press.

(1)The part I provides a wealthy knowledge of the sources and dynamics of amines in the atmosphere, a summary of a lot of work on this topic, I am sure this can serve as a good supplement for the authors to improve the introduction section.

(2)The part II provides the thermodynamic properties (Henry's Law constant, pka, solubility, etc.,) of a large number of amines, of course including the most common short-chain aliphatic amines. It also proves that for several common amines, the tendency to partition to the particle phase is similar to or greater than that of ammonia by comparing their acid-base reaction dissociation constants with ammonia. At higher RH, the formation of aminium salts (including nitrates) is more likely, and this partitioning is also strongly dependent upon pH and is greatest for acidic aerosols.

***Reply:* In the revised manuscript, we have cited the part I paper in the Introduction section, and the part II paper in Section 3.2.**