

***Interactive comment on “Functionalization and fragmentation during ambient organic aerosol aging: application of the 2-D volatility basis set to field studies” by B. N. Murphy et al.***

**Anonymous Referee #2**

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This manuscript represents continued efforts to use a model to describe mass concentrations and the chemical nature of organic aerosol. While the work itself is not terribly novel (uses mostly pre-existing modeling techniques and data sets), it is important and well within the relevance of ACP. It is well written, and all texts, tables, and figures are necessary. The title, abstract, and citations are all appropriate. The science method used is mostly sound; please see below for specific minor issues/comments.

On page 9871, lines 4-7, why is the assumption about biogenic aging relaxed here? (Also on page 9876, line 1). Please defend and explain.

On page 9872, lines 24-26, why is a rate constant increased by a factor of 3 used here?

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(Also on page 9878, lines 24-25). As above, please defend and explain.

On page 9878, line 13, I would suggest removing the words "seem to" - the factors all affect the organic aerosol characteristics.

On page 9900, figure 3, the gray line is difficult to see. Please correct/improve.

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Interactive comment on Atmos. Chem. Phys. Discuss., 12, 9857, 2012.

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