

General Comments:

The manuscript by Canonaco et al. developed a new method for long-term source apportionment with time-dependent factor profiles, which is a necessary piece of work for long-term field campaigns data. The seasonal variations of OA factors in urban background station were investigated. Overall, the paper is well written. I recommend acceptance for publication on AMT after minor revisions.

Specific Comments:

1, line 125: Why has the authors re-averaged the data into half-an-hour resolution instead of using the original one? If the reason is the amount of data, then why not just averaging the data into two-hour(or three-hour) resolution? Please elaborate.

2, line 391: What is the difference between the mass spectra of COA in May 2011-September 2011 (likely due to local barbecuing events) and the general mass spectra of COA in this study? Has other studies discussed the characterization of mass spectra of different cooking styles? Please compare it.

3, LV-OOA was only identified before ~1/11/2011 in Fig. 3, but why did the f_{44} in LV-OOA appear throughout the sampling time in Fig.2? In addition, there is no (c) in Fig. 2.

4, "Spring 11/Fall 11" in table2 should be "Spring 2011/Fall 2011".