The paper reports results of a 1-year source apportionment of carbonaceous aerosol fractions in a polluted Chinese city, based on radiocarbon (^{14}C) and stable carbon isotope($\delta^{13}C$) measurements. Large focus is devoted to ^{14}C source apportionment of WIOC and WSOC, and discussion on whether ^{14}C-apportioned WIOC and WSOC can be used as proxies of primary emissions and secondary formation of OC, respectively. To my knowledge, there are limited ^{14}C results of WIOC and WSOC in the literature, especially this study covers a full year cycle. The data and methodology are presented clearly and appear to be valid. The well-writen manuscript is acceptable for publication after minor revisions.

1) ^{14}C measurement is known to be expensive and time-comsuming. In this study, only 3 samples/season (in total, 12 samples/year) were selected for ^{14}C measurements of EC, OC and WIOC. How are those 12 samples representative of a year?

2) Section 2.2. Are the samples corrected for field blanks?

3) Page 6, line 6-8. Why $\delta^{13}C$ of -25‰ is used to correct isotope fractionation?

4) Page 7, line 2. "M_{OC} is measured by the thermal-optical method as described in Sect. 2.2".

In Sect. 2.2, EUSAAR_2 protocol is used. In Sect.2.4.2, for ^{14}C measurement, OC is extracted by heating filter samples in O_2 at 375 ℃. So I see two different protocols. How comparable are they?

5) Page 7, line 10-11. "The most likely value of M_{WIOC} is chosen at $M1_{WIOC} + 2/3 \times (M2_{WIOC} - M1_{WIOC})$, because it is more likely that WIOC has a similar recovery as OC rather than 100% recovery". Do you have any evidence to support this statement? I care this because the estimated M_{WIOC} is used in Eq. 4 to determine the $F^{14}C$ and mass of WSOC.

6) Page 7, line 14-20. Conversion factors are applied to convert $F^{14}C$ to the relative contribution of non-fossil sources to EC/OC. The conversion factors are $F^{14}C_{bb}$ (= 1.10 ± 0.05) for EC and $F^{14}C_{nf}$ (= 1.09 ± 0.05) for OC, respectively. Why are the two conversion factors slightly different? I suggest the authors to explain this clearly in the method section.

7) Page 9, line 15-16. Are the measurement uncertainties of $F^{14}C_{(EC)}$ and $\delta^{13}C_{EC}$ considered in the MCMC calculations?

Technical comments:

8) Page 4, line 1. "a" between "in" and "pre-baked" should be deleted.

9) Page 8, line 8. To be consistent with the text, I think it should a comma in "$OC_{o,nf}$" in Eq. (8).

Please check all instances

10). Page 8, line 11. A citation is missing for the statement that "In most cases, contributions of primary biogenic OC to $PM_{2.5}$ are likely small".

11) Page 8, line 19. It should be "**combining**" instead of "combing".

12) Page 8, line 25. Give full name of PDF, because it is used for the first time in this manuscript. The authors should check the manuscript again for proper use of abbreviations.

13) Page 10, line 22. "a slightly lower **value**" instead of "a slightly lower values"

14) Page 17, line 23. "various carbonaceous aerosol **fractions**"

15) Page 17, line 27. "An increased **contribution** of non-fossil sources to all carbon fractions **was** observed"