

The revised manuscript well addressed most concerns of the two reviewers. However, I still think that it is inappropriate to state that the structures of polar organic compounds were characterized. In fact, only the elemental compositions in organic molecules were inferred. With the same condensed chemical formula, there may be different structures of organics, which may further represent emissions of different sources or secondary formations from different pathways. Thus, I suggest changing the definite expressions on molecular structures to speculative ones throughout the manuscript. Then, the title of the manuscript has been changed to “Molecular Characterization of Polar Organic Aerosol Constituents in Off-Road Engine Emissions Using Fourier Transform Ion Cyclotron Resonance Mass Spectrometry (FT-ICR-MS): Implications for Source Apportionment”, according to the suggestion of one reviewer. Correspondingly, the conclusion section has also been expanded, with the new subtitle of “Conclusions and Environmental implications”. However, the implications on source apportionment are not clearly presented. Do you find some tracers that are new and specific for some sources? Will the tracers be applicable in source apportionment, given that most findings are about the elemental compositions and DBE values rather than the speciated organic tracers? Will the findings substantially improve the current source apportionment results, like the clear separation of fossil and non-fossil sources by ^{14}C ? For me, the last section reads more like discussions on the results in the present study and previous studies, while the significance and scientific value of the study have not been demonstrated. As a study providing fundamental measurements of source emissions, it is essential to indicate the atmospheric relevance of the findings.