

Interactive comment on “Molecular fingerprinting of particulate organic matter as a new tool for its source apportionment: changes along a headwater drainage in coarse, medium and fine particles as a function of rainfalls” by Laurent Jeanneau et al.

Anonymous Referee #1

Received and published: 3 October 2017

The authors present an interesting study on the suitability of molecular analysis of POM using THM-GC-MS to investigate the sources of POM. The concept and implementation and analytics of the study is highly demanding and the approach very ambitious. While the results are interesting and successfully attribute the sources to litter, surface soils and in-channel sediments, the question arises why this technique is not used to differ between different litter types and soils. It is not so surprising that most of the POM derives from litter, more interesting would be to see from which land use types

C1

in the catchment, which soils and vegetation surfaces. The manuscript is generally very well prepared, I no major comments. However, pretty difficult to read, because it is so full of abbreviations that you actually would need a permanent online translator to read it. E.g.: “The relative proportion of LIG compared to HMW FA plotted against the proportion of α -diacids and α -hydroxyacids with more than 20 C atoms among HMW FA resulted in a visual differentiation of Li and SBed from W, FH, BaA and BaB and from Up (Figure 5).” The manuscript is full of sentences like that. May be you could at least spell out the soils and horizons/layers and may be even different fractions. It would make the manuscript for sure easier to read. Not clear to me, what the 71 variables were, which were used in the PCA? Please make sure that all Figure captions and table titles are self-explaining, they are not at the moment. Partly again because of too many abbreviations which are not explained in the headings (e.g. Table 1 and 2: abbreviations not explained. Also Figure 2 BaA, BaB etc.).

Interactive comment on Biogeosciences Discuss., https://doi.org/10.5194/bg-2017-325, 2017.

C2