

Interactive comment on “Comparison of analytical methods for HULIS measurements in atmospheric particles” by C. Baduel et al.

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We thank the reviewer for his thoughtful and detailed review. In our response below, reviewer comments are stated in italics and our response follows.

a good correlation between the concentrations derived by the two methods. This suggests that HULIS, which are usually referred as an operationally-defined class of substances, actually are (or contain) substances which are humic-like irrespectively of the analytical protocol used. I believe this is non-negligible result which should be stressed at some point during the discussion.

The correlation between the concentrations derived by the two methods was indeed higher than we expected. This can be interpreted, as the reviewer points, as the fact

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that HULIS are not as elusive a class of substance as one might fear, which is good enough news to be stressed as suggested. It can also be related to the fact that our batch of samples is rather homogeneous in nature

all the analysis performed by the Authors is based on a limited batch of samples, which is very homogeneous in nature. Since the composition of the samples reflects “a stable and dominant source of POM” (page 6806, line 3), the Authors conclude that further investigations are needed “including extensive characterization and quantification studies in a wide variety of aerosol samples coming from different emission sources”. Such limitations of the present study must be clarified also in the abstract of the paper. I am not convinced that the results presented in this manuscript are general enough to state that one of the two methods “should be recommended” (Abstract, last line).

As already answered to reviewers 1 and 2, the conclusion has been tempered to take those limitations into account, and it is clearly specified that the recommendation should not be extended beyond the 2 methods actually tested here. Yet, as argued in our answer to reviewer 1, there are clues in the literature that methods that are comparable in terms of hulis recovery from the resins (namely XAD8 extraction as described by IHSS and reported on in detail by Sullivan et al, 2006, or HPLC-DEAE method as described in Mancinelli et al, 2007) are also less specific, specially when it comes to separating HULIS and phenolic species

Mancinelli et al. (2007) J. Chromatogr. A, 1149, 385–389, 2007.

Sullivan and Weber (2006), J. Geophys. Res., 111, D05314, doi:10.1029/2005JD006485.

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