

## ***Interactive comment on “Optimizing sample pretreatment for compound-specific stable carbon isotopic analysis of amino sugars in marine sediment” by R. Zhu et al.***

**Anonymous Referee #1**

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Does the paper address relevant scientific questions within the scope of BG? If I read what the scope of Biogeosciences is: “Biogeosciences (BG) is an international scientific journal dedicated to the publication and discussion of research articles, short communications and review papers on all aspects of the interactions between the biological, chemical and physical processes in terrestrial or extraterrestrial life with the geosphere, hydrosphere and atmosphere. The objective of the journal is to cut across the boundaries of established sciences and achieve an interdisciplinary view of these interactions.”, then I have clearly to say that this pure methodological manuscript is not suitable for this journal. Zhu et al. describe a method improvement, which without question is very useful for people who want to measure the carbon isotopic composi-

C1

tion and (maybe) concentration of amino sugars in the marine environments and this is completely out of the scope of Biogeosciences as outlined above. The study would much better fit into a journal like Organic Geochemistry. Does the paper present novel concepts, ideas, tools, or data? The manuscript describes a new method but the discussion part including ideas or new data is very small. Just four samples have been investigated to study which method is the most suitable one for the measurements of the carbon isotopic composition of amino sugars. For this it is useful but no further conclusion can be drawn. For this one would need more data and a solid discussion chapter. Are substantial conclusions reached? When referring to the method development then yes the best method is recommended. Further discussion and conclusion are almost not existing, which is neither surprising nor possible with this small sample size. Hence, I would suggest to publish this manuscript somewhere else (method journal) or do a real study of which conclusions could be drawn. Are the scientific methods and assumptions valid and clearly outlined? It is a method paper and the method evaluation is clearly presented. In general, it is a well written manuscript and could help people in deciding which method to choose when isotopic composition of amino sugars are the object of a study. Are the results sufficient to support the interpretations and conclusions? Very little results are presented. As said it serves as a method paper but not as a real paper with extended result and discussion sections. Is the description of experiments and calculations sufficiently complete and precise to allow their reproduction by fellow scientists (traceability of results)? Yes. Do the authors give proper credit to related work and clearly indicate their own new/original contribution? Yes. In the manuscript proper credit is given to former work (it is a small field so there are not many articles to cite). The introduction of their new parts is sufficiently described. The reader can evaluate what would be important if this kind of analysis wants to be done. Does the title clearly reflect the contents of the paper? Yes. Does the abstract provide a concise and complete summary? Yes. Is the overall presentation well structured and clear? Yes. Is the language fluent and precise? Yes. Are mathematical formulae, symbols, abbreviations, and units correctly defined and used? Yes. Should

C2

any parts of the paper (text, formulae, figures, tables) be clarified, reduced, combined, or eliminated? Maybe figure 1 is not needed. People who study amino sugars should know how they look like. Are the number and quality of references appropriate? Yes. Is the amount and quality of supplementary material appropriate? No supplementary material existing.

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