

1. Editor comments

Comments to the Author:

Dear authors,

your manuscript has been re-assessed by one of the previous referees, who thinks that you have greatly improved the manuscript, but still points out some minor but relevant issues that need to be accounted for before your manuscript can become acceptable for publication in BG. When you submit your revised manuscript please upload a reponse letter indicating how you have dealt with the comments and what further changes you have made.

Kind regards,

Michael Bahn
(Editor)

Author response:

Thanks for your positive comments. We revised the manuscript according the reviewer comments, as detailed below. All changes were indicated by a blue color.

2. Responses to the reviewer comments

1. The authors could have revised the introduction now that they have dropped the use of optical indices. For example, note lines 15-17 on page 3 - do we still need these comments on optical sensors now that the optical indices are not being used?

Author response:

We agreed and removed the lines from the introduction (Page 3, Line 11).

2. line 4, page 5 - what is the pore size of the GF/F filter used - this is extremely important!

Author response:

GF/F (pore size: 0.7 um) was used to measure POC and DOC simultaneously (Page 4, Line 28-29).

3. lines 6, 7, page 6 - are these filters different from those indicated on page 5? If yes, what is the rationale of using filters of different pore size and material (GF/F versus cellulose acetate).

Author response:

The rationale for using filters having different pore size (for separation of particles from the filter surface, which is not possible with GF/F) is provided in Line 31-32 on Page 5.

4. line 2, page 7 - again a different filter size and material here! Little confused with all the different filters used and the rationale for this variation in methods.

Author response:

We used 2 um filters which have been used widely to remove only coarse particles, but to keep microbial cells as inoculum (Page 6, Line 29-30).

5. lines 4-7, page 7 - can the authors provide a rationale for the various "treatments" used?

The rationale (comparing biodegradation potentials of different OM fractions) was provided in Lines 3-5 on Page 7.

6. line 5, page 8 - I am still not convinced by the use of the cubic equations - this concern was also raised by reviewer 2. Whats the physical rationale behind using the cubic equations?

Author response:

Cubic equations were best in explaining variations in the nonlinear relationships and this was reiterated explicitly in Lines 3-7 on Page 8.

7. page 11, lines 7-12 - sentence too long! please shorten.

Author response:

The sentence was rephrased (Page 11, Line 7-12).

8. page 15, line 10 - spelling of "Goldsmith" is incorrect.

Author response:

Corrected (Page 15, Line 10).