

*I appreciate many revisions the authors incorporated, which have clearly improved the quality of the manuscript. However, I still think that the limitations of the present modeling exercise should be more solidly assessed, or at least not be obscured. The authors included a Table with model evaluation statistics about which they now say themselves the data is biased. This point of concern was also raised by one of the other reviewers. I still recommend removing these statistics/Table.*

L250-255. I suggest the authors perform a global sensitivity analysis to evaluate if model output is largely affected by the present set of parameters that was optimized, or parameters that were not optimized, but simply assigned a certain value.

**Response:** this an interesting subject but it is not in our scope to perform global sensitivity analysis in this paper. Such an analysis will be of great relevance when new data on bromoform and hydrogen dynamics become available to validate the functions of the regulation of fermentation.

*I disagree that a global sensitivity analysis will be of great relevance when new data becomes available. A global sensitivity analysis will be relevant, too, when no new data becomes available. It is simply a matter of sampling parameter values and evaluating the relationship with model output. It relates variation in outputs such as methane emissions to uncertainty in parameter values, which is not easily out of the scope of the paper.*

Figure 2: I recommend to show the entire dose-response picture for all metabolites as done in for hydrogen in Fig 6.

**Response:** we preferred to focus the attention on the measured metabolites and hydrogen due to its effect on the fermentation. However, by providing the code, the reader can look at the dynamics of the different metabolites.

*The authors have adopted a suggestion by another reviewer to include methane in the title. However, it is then inconsistent that methane in response to A. taxiformis supplementation is not (graphically) shown in the paper as done for hydrogen.*

### ***Specific minor comments***

Line 250: Not sure if distribution is the right word here as there is no uncertainty estimate (i.e. standard deviation or variance). Would partitioning not be more appropriate?

**Response:** distribution should be read here as allocation

*Why not using the word allocation then?*

Fig 2: bar, not bars; incorporate throughout.

**Response:** done

*"bars" still appears for the x-axis labels in Fig 5.*

Fig 3: intercepts for 4 of the plots are missing. Do the points represent all the different macroalgae inclusion rates?

**Response:** it is normal that intercepts do not appear in the figures since they correspond to the initial conditions of the VFAs

*It seems like the authors had Fig 2 in mind when responding. In Fig 3, an intercept value is shown for the propionate pred vs obs plot, but appears missing for the other 4 plots. Please show this for all 5 plots or explain why the intercept value should only be shown for propionate.*

*Fig 6: 'dynamics of hydrogen', is this a certain quantity, partial pressure, else?*

*Line 366: energy, not energetic*

*Line 371: "are still few to provide", please rephrase*

*Line 373: it should be concomitantly*

*Line 395: "an" missing between 'perform' and 'identifiability'*

*Line 454: I started with a new job at Wageningen University, The Netherlands last fall. Please correct.*