Dear Jan,

Thank you very much for your letter with the reviewers’ comments on our manuscript. We found the comments very appropriate. We have modified the manuscript to comply with the referee request in the following way:

Reviewer’s 2 comments:

1. Reviewer comment: “The author only test the program using one of the four modules”.

Answer: Following the reviewer suggestion we have included a better explanation about the use of more options of two modules in the test process and included two new figures (Figure 7 and 8) and one table (Table 1):

*As an initial procedure a spectrogram from t3 and t4 electrodes was calculated for each subject using the STFT Module (5sec windows, 50% overlapping, Hanning window). An example of a typical spectrogram obtained is shown in (Fig. 7). The increase of alpha power on first and third time intervals (eyes closed) is evident.*

*To confirm the results the Fourier Module was used to calculate the power of the alpha rhythm for each subject at each interval. Groups of seven subjects were loaded in the module to be processed simultaneously. As an illustration of this step, and for better visualization, only two subject’s data sets (blue and red, loaded in Fourier Module) are shown in (Fig. 8). This data correspond to the first minute of the protocol.*

*All power data from subjects was exported by Protolize! to Excel® files and stored for further statistical analysis. Table 1 shows the exported data of example from (Fig. 8) loaded in Excel® to illustrate how the data is organized and what information the exported files contains.(Page 10, Line 9, System Performance and examples, 2nd paragraph)*

2. Reviewer comment: “Given the complexity of their test, I can't justify the using of ANOVA and Bonferroni test in their statistical analysis.”

Answer: In this case we prefer to maintain the statistical test because we consider that, even been a conservator strategy for this analysis, the ANOVA and Bonferroni method ensure a more trustful results.

3. Reviewer comment: “the reference number 19 is intended for other commercial available tools but instead it is for a similar graphic tool as described in this manuscript.”

Answer: We corrected the citation by modifying the text.

*There is a high variety of software for biological signal analysis commercially available but normally they have a high cost or are linked to specific equipment. Other free computational tools as Protolize! [19] offers less analysis methods implemented (Page 12, Line 33, Advantages and Availability).*

3. Reviewer Comment:

Reviewer’s 3 Comments:

1. Reviewer Comment: “The paper needs some editorial work and proofreading of the English language. Page 3, first sentence, please be specific that you are referring to data process and/or analysis in signal processing. Otherwise, it is too general and there are numerous, instead of several, methods for data analysis. Line 8 from bottom, page 3, ';' could be deleted. Many 'through' was typed as 'trough'. For example, line 7, page 4; line 6, page 8. Line 7, page 4, 'time' should be 'Time', to be consistent. Line 2, page 7, I think 'is' should be changed to 'are'. Line 4, page 8, 'rotate' should be 'rotating'. Line 7 from bottom, page 9, 'a' should be deleted. Line 3 from bottom, the same page, 'know' should be 'known'. Line 5 from bottom, page 10, 'was' should be 'were' be to consistent with 'differences'. Line 6, page 11, 'it' should be deleted. I would suggest the paper be proofread by a native speaker of English before re-submission.”

Answer: We edited the text according to all reviewer’s suggestions and submit it to a proofread by a native English speaker.

2. Reviewer Comment: By convention, formulas are considered as part of a sentence. Therefore, a comma should be placed after the formula if it is not the end of a sentence and a period should be placed if it finishes the sentence. Please correct this throughout the paper. Also, the meaning of the notations of each formula was not mentioned. I feel it is better to point this out explicitly. For example, what does Z mean in equation 6? What is j and k?

Answer: We added a comma after each formula and included the meaning of formula’s notation in the text as follows:

*Through the Discrete Fourier Transform ( with ω been the angular frequency expressed in radians in Eq. 1), it is possible to identify the different frequency components present in the signal x[n] by projecting it in a sinusoidal orthogonal basis . (Page 4, Line 12, Computational Methods and Theory)*

*It is common to use a logarithmic sampling for the scalar parameter a (Eq. 6), and a shift parameter b expressed proportionally, by multiplying a by a integer k, in order to cover the entire time interval of x(t) in the sampling process (Eq. 7). This procedure changes the orthogonal basis to (Eq. 8) where Z denotes the integer numbers set. (Page 5, Line 17, Computational Methods and Theory)*

3. Reviewer Comment: “The program was developed under Matlab and its operation depends on the availability of the software. A standalone executable file/package, if possible, would be preferable.”

Answer: We agree about the convenience of an executable version. However, as Matlab is one of the most used and common software for data analysis; we consider that the guide interfaces can be enormously helpful in signal processing.

4. Reviewer Comment: If the authors could set up a webpage providing link for free download of the software with a well-written user's manual, that would greatly facilitate the distribution of the tool.

Answer: We agree this will facilitate the distribution, however we would like to make contact with every eventual user of Protolize! in order to improve the feedback process, then we decide to distribute the tool after an email request.

5. Reviewer Comment: Figure 5 was supposed for CWT, but the figure legend shows that it is figure 6 and the figure for CWT is placed after DWT.  Please correct this in the manuscript and/or figures.

Answer: The order of attached figures was set in the same order as its appearance in the text.

6. Reviewer Comment: The authors did not discuss how the statistical analysis was performed. It seems to me that this was done separately. Did you export the data obtained with your tool and then perform the analysis? Was it done in Matlab too? This process was not clear to me. Also, what does the exported data look like? Was it in a format that is ready for immediate statistical analysis? More details about this example would help exemplify the usefulness of this tool.

Answer: Following the reviewer suggestion we have included a better explanation about the use of more options of two modules in the test process and included two new figures (Figure 7 and 8) and one table (Table 1):

*As an initial procedure a spectrogram from t3 and t4 electrodes was calculated for each subject using the STFT Module (5sec windows, 50% overlapping, Hanning window). An example of a typical spectrogram obtained is shown in (Fig. 7). The increase of alpha power on first and third time intervals (eyes closed) is evident.*

*To confirm the results the Fourier Module was used to calculate the power of the alpha rhythm for each subject at each interval. Groups of seven subjects were loaded in the module to be processed simultaneously. As an illustration of this step, and for better visualization, only two subject’s data sets (blue and red, loaded in Fourier Module) are shown in (Fig. 8). This data correspond to the first minute of the protocol.*

*All power data from subjects was exported by Protolize! to Excel® files and stored for further statistical analysis. Table 1 shows the exported data of example from (Fig. 8) loaded in Excel® to illustrate how the data is organized and what information the exported files contains.(Page 10, Line 9, System Performance and examples, 2nd paragraph)*

7. Reviewer Comment: Could you add a couple of sentences discussing whether there is any plan about maintenance or future update of the tool?

Answer: As suggested, the following lines were added:

*“This is the first version of a project to develop a high quality analysis tool in the next future, including novel methods and option for its users, thus the authors will be available for any support this version requires.”*

8)      I am personally curious about how the authors came up with the name 'Protolize!'. Does it have any meaning?

Answer: The name “Protolize!” came up as a bad joke and a temporary name. One night during the most intense programming phase of the modules, a couple of errors insisted to appear every time, so the author, tired of this situation, began to speak with the computer and said: “Please! I just want you to analyse this protocol data! It is not that difficult! Is a simple action like ‘protolize’, you know, analyze the protocol, please! protolize!” and what was a bad joke in a stressful time stick to the project for the next months so we decided to maintain the name.

EIC Comments:

“The authors need to address all comments made by reviewers before the manuscript can be considered for publication. In addition, it is not clear if the paper presents any novel idea or methodology. This issue has to be clearly addressed.”

Answer: We thank for all suggestions made by reviewers and we addressed all them in the better way we could. Additionally we included this text to address the novel idea or methodology issue:

*Protlize! is a free distributed program available under request. It offers four of the main signal analysis methods in frequency domain, allowing the user to define their basic parameters and to analyze up to seven signals simultaneously (Fourier and STFT Modules) by using a friendly interface. This kind of analysis is far from trivial to be programmed and executed for researchers, in biological area, who are not familiarized with programming techniques and doesn´t count with commercially available software. This made of Protolize! a good option as a tool for biological signal processing.(Advantages and Availability, Page 12, Line 21)*

We thank you and your reviewers for the helpful assistance and hope that this revised manuscript can be now suitable for publication in BECB.

Sincerely yours,

Sergio Conde