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04/04/2019

**Dear Dr. Bojan Radak**

Vinča Institute of Nuclear Sciences, Belgrade

Thank you for your useful comments and suggestions about our manuscript "**Application of the eco-friendly subcritical water oxidation method in the degradation of epichlorohydrin**". Additionally, the authors are very thankful to the referees for their valuable evaluations of our manuscript. We have modified the manuscript according to the **reviewer’s and Editor’s comments and** guide-for-authors **point by point.** (The corrections were made in the manuscript highlighted in blue and responses were given as follows).

## This is an original research article that has not been published already, nor under consideration for publication or in press elsewhere. We would appreciate you taking our revised manuscript into consideration to be examined for publication in the journal.

I am looking forward to hearing from you soon.

Yours faithfully

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**Author’s Response to Reviewer’s comments**

**Reviewer A:**

**Does the manuscript contain enough significant original material?:**

 **yes**

**Is the manuscript clearly and concisely written?:**

 **yes**

**Are the conclusions adequately supported by the data?:**

 **yes**

**Does the manuscript give appropriate credit to related recent publications?:**

 **yes**

**Are the references appropriate and free of important omissions?:**

 **yes**

**Is the length of the manuscript appropriate?:**

 **yes**

**Does the manuscript need condensation or extension?:**

 **no**

**Is the quality of the figures (including legends and axes labelling)**

**satisfactory?:**

 **yes**

**Are the nomenclature and units in accordance with SI?:**

 **yes**

**Are the English grammar and syntax satisfactory?:**

 **yes**

**ADDITIONAL / Specific** **COMMENTS**

**In this manuscript degradation of epichlorohydrin was investigated applying an eco-friendly subcritical water oxidation method. Also, a theoretical prediction model was used to evaluate effects of experimental variable conditions. In my opinion results are worth to be published in JSCS after minor revision.**

**In my opinion, this manuscript should:**

 **be published after minor revision without additional review**

**If manuscript is suitable for publishing, referees recommendation:**

 **Original scientific paper**

Response:

Author thanks the reviewer for appreciating our work. We have revised the previous manuscript and checked the manuscript for typo and grammar errors. Revised article is much better now.

**Specific comments**

**Line 202. Authors first mentioned Fig. 4 and then Fig.3.**

Response:

We apologize for the mistake. It was corrected in the revised manuscript.

Line 207. It is not clear does Figs.2-5 represent experimental results or

calculated? If it is experimental results, then the sentences: “…TOC

removal of EPC can be increased from 55.25% to 75.31% through doubling the

25 mM of concentration” is not written correctly. Authors need to write,

describe and explain the results clearly.

**Response:**

Figs. 2-5 represent experimental results. However, these images can be used to obtain estimated values for TOC removal. It is also possible to predict how the response may change by changing the experimental parameters by using the advantage of the color (color sacale). Thus, the sentence that the reviewer refers to (“…TOC removal of EPC can be increased from 55.25% to 75.31% through doubling the 25 mM of concentration…) are derived from the theoretical TOC removal values. Theoretical TOC removal can be obtained at the desired values of the target experimental parameters using the design-expert program.

We indicated the above-mentioned explanation by referring the terms “experimental” and “theoretical” in the lines 191 and 194, respectively, and supported by references. When the result and discussion are read in this way, it will be seen that the sentences describing the experimental data and the theoretical situations are clearly distinguishable from each other, and the sentence structures referring to the probability and condition are always used for a theoretical situation.

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**Reviewer C:**

**Does the manuscript contain enough significant original material?:**

 **yes**

**Is the manuscript clearly and concisely written?:**

 **yes**

**Are the conclusions adequately supported by the data?:**

 **yes**

**Does the manuscript give appropriate credit to related recent publications?:**

 **yes**

**Are the references appropriate and free of important omissions?:**

 **yes**

**Is the length of the manuscript appropriate?:**

 **yes**

**Does the manuscript need condensation or extension?:**

 **no**

**Is the quality of the figures (including legends and axes labelling)**

**satisfactory?:**

 **yes**

**Are the nomenclature and units in accordance with SI?:**

 **yes**

**Are the English grammar and syntax satisfactory?:**

 **yes**

**ADDITIONAL COMMENTS**

**Below comments should be considered.**

**Comments:**

**INTRODUCTION:**

**line 37: “… drinking water pipes, synthesis of cationic polyelectrolytes**

**…” should be corrected as “…. drinking water pipes and synthesis of**

**cationic polyelectrolytes …”**

Response:

It was corrected in the revised manuscript

**line 48-49: “In this study, subcritical water oxidation method (SWO),**

**which is known as an environmentally friendly and effective method, was**

**performed” should be corrected as “In this study, subcritical water**

**oxidation method (SWO), which is known as being an environmentally friendly**

**and effective method, was performed”**

Response:

It was corrected in the revised manuscript

**line 56: “wastewater containing medium and high concentrations of organic**

**carbon” should be corrected as “wastewater containing medium and high**

**concentration levels of organic carbon”**

Response:

It was corrected in the revised manuscript

**line 55-56: “In addition, H2O2 is an ecological oxidant that does not**

**cause any harmful by-product formation and is non-toxic” should be**

**corrected as “In addition, H2O2 is a non-toxic and an ecological oxidant**

**that does not cause any harmful by-product formation.”**

Response:

It was corrected in the revised manuscript

**line 62: “Response surface methodology (RSM) consists of a set of**

**mathematical and statistical techniques used to define the relationship**

**between the response and independent variables of a system.” should be**

**corrected as “RSM consists of a set of mathematical and statistical**

**techniques and it is used to define the relationship between the response**

**and independent variables of a system.”**

Response:

It was corrected in the revised manuscript

**EXPERIMENTAL**

**Line 86: “The mentioned specific amount of H2O2, temperature and treatment**

**time were given in Table II” should be corrected as “ The mentioned**

**specific amounts of H2O2, temperature and treatment time were given in TableII”**

Response:

It was corrected in the revised manuscript

**Line 97: Caption of Table 1 should be corrected. (…variables along and**

**their coded… should be corrected as….. variables along with their**

**coded….)**

Response:

It was corrected in the revised manuscript

**RESULTS AND DISCUSSION**

**Line 270: Caption of Table V should be corrected. (It is Table V, not VI)**

Response:

It was corrected in the revised manuscript

**REPORT:**

 **Thus, this work focused on the degradation of a hazardous and**

**environment-polluting compound, epichlorohydrin. As mentioned in this study,pollution of water by numerous of hazardous compounds is one of the most important problem of our time. In addition, this hazard is also directly or indirectly threaten human health. Thus, effective and reliable methods are required to solve this problem. In this study, degradation of**

**epichlorohydrin was investigated using eco-friendly subcritical water**

**oxidation method.**

**Subcritical water oxidation method offers a unique method to come over from**

**above-mentioned problem. It is clearly seen from the manuscript that**

**comprehensive analyses were done and degradation of epichlorohydrin aniline**

**was followed by means of TOC analysis. Also, multi response central**

**composite design is one of the other important side of the manuscript to be**

**addressed. The applied method was statistically evaluated using this method.**

**When viewed from this angle, I recommend to accept this paper for**

**publication due to being original, well prepared and comprehensive**

**manuscript. I think that it will be useful the readers.**

**In my opinion, this manuscript should:**

 **be published as is**

**If manuscript is suitable for publishing, referees recommendation :**

 **Original scientific paper**

We thank the reviewer for appreciating our work. We agree with the referee. we think that this study will be useful to readers. We have revised the previous manuscript and checked the manuscript for typo and grammar errors. Revised article is much better now.