**List of changes and comments**

We would like to thank to the reviewer A for careful reading and constructive remarks, which were of great help for us to improve the manuscript.

We have carefully followed the reviewer’s comments and suggestions to revise our manuscript and have provided responses. Below is given our response to each reviewer’s comments. We hope that the present version of the manuscript will meet reviewer’s expectations.

**Respnses to referee A**

1. English needs some polishing, e.g. line 168 “after certain times” should be corrected to “after a certain time” etc.

**Author’s reply:**

We corrected the required text on page 7, line 170:

*“Fig. 5 reveals an absorbance decrease and almost total decolourisation achievement after a certain time of plasma treatment…”*

2. The graphic representation of the created ANN model is missing.

**Author’s reply:**

We added the graphic representation of the created ANN model as Fig. 3 on the page 5.

3. The selection of particular ANN architecture should be reasoned

**Author’s reply:**

Following sentence is added (page 5 line 115):

“*In present work, this architecture is selected because of its ability to fit multidimensional datasets even with sparse data points*.”

4. DR 28 exhibited the smallest decolourisation rate than for RO 16 and RB 19” – hence is this technique suggested as suitable for DR 28, or some alternative should be used?

**Author’s reply:**

It is possible to scale up the plasma needle decolorization effects of the DR 28 by further optimization of the plasma parameters such as the power of supply in the existing configuration. Additionally, a set of plasma needles can be grouped together or another advanced oxidation technique (photocatalysis) can be simultaneously applied with plasma needle. If the suggested methods don’t achieve the required oxidation results than another plasma sources such as plasma reactors (DBD) or plasma jets should be investigated.

5. The conclusion should be amended with the proposal for further work.

**Author’s reply:**

We amended the conclusion section with the proposal for further work:

*“Further investigations will optimize oxidation of DR 28 by simultaneously applying semiconductor heterogeneous photocatalysis with plasma. We also plan to identify RO 16, RB 19, and DR 28 oxidation by–products and determine their toxicity level. Future work is planned in enhancing present methodology by using the design of experiments, which will contribute to obtaining dataset more suitable for multidimensional interpolation.”*

The authors are advised to use the design of experiments in further work, in order to obtain data that is more suitable for modeling.

**Author’s reply:**

Yes, use of the design of experiments is planed in future works.