**Response to Reviewers’ Comment:**

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| **No.** | **Reviewer’s Comment** | **Author’s Response** |
|  | **Reviewer A** |  |
| 1 | English need to be improved throughout the manuscript, including misspelling etc. | I have tried to improve English from abstracts to conclusions, where the improvements made are written in red. |
| 2 | Introduction  What was the advantage of the tetrahydrofurfuryl acrylate (pTHFA) membrane compared to the other polymeric membrane as a matrix of the ISE sensor for nitrate detection? | Thanks for the question, in fact in the introduction to the third paragraph I've described. On my third paragraph already explains in general the advantages of acrylic-based membrane as a materials for the fabrication of an ISE, which is actually pTHFA is one example of a group of acrylic membrane. In General its nature have similarities with other acrylic was used as material for the fabrication of ISE. But as long as this has not been utilized as material for the fabrication of ISE. This is my underlying to utilize pTHFA as material fabrication of ISE. And to clarify the third paragraph 3 added the sentence "**including a photopolymerized tetrahydrofurfuryl acrylate (pTHFA**)" in the third line. |
| 3 | Materials  The condition of all materials used need to be described in detail, is it used without prior purification? What is the type of water used distilled or deionized water? Etc. | Thanks for the comment, I've fix the sub-section materials. |
| 4 | The application in of selected compositions of the pTHFA that has been used for Nitrate-ISE, need descibed as a figure for easy understanding  Revised this subsection, as this style by using the number as sub-section is not common in this journal. | •I apologize in advance if the writing of the composition of the pTHFA less attractive and difficult to understand. To more easily understand the composition of the selection, then here I am trying to fix in the form of a table on page 4, where here I added 1 more compositions into 6 variations of previously only 5 variations.  •For subsection, I already fixed it following the customary this journal as can be seen on the page 4-5. |
| 5 | 1. Synthesis and Characterizations of pTHFA  This value is chosen because it approximates the Tg of the membrane value, commonly used for ISE sensor fabrication i.e. between -40oC to -20oC [6].  Is it suitable with the proposed sensor since it has only -17.3, that >> -20oC.  What happens if in the DMPP is below 1 mg? | •A pretty good questions, and thank you for the question. In the manufacture of ISE, Tg membrane is common indeed between-40oC to-20oC. But that does not mean there is nothing that is outside of the figure, albeit rarely. To strengthen the evidence for the use of outside-40oC and-20oC, then I added 2 references i.e. references 23 and 24 on page 9  .  •Thanks for the comments, on the use of DMPP < 1 mg, the membrane is not formed, and I added the results in table 2 it 8. In addition, I add the explanation below than table 2 at line 4-7 page 9. |
| 6 | 2. Nitrate ISE  Why Figure 6 did not show the linear response of the ISE-Nitrate in various concentrations of the nitrate solutions? Please show the linear range of the method | Thank you for the criticism delivered. Figure 6 is basically a response to the overall variation of the composition of the nitrate sensor to the various concentrations of ion nitrate sample concentrations. Such graphical displays are a common display in various scientific reports about ISE. With such a view, it is expected that it can provide an overview of the linear region, where the LOD and the area that cannot be detected by the sensor. Besides that, with a display like this, it can be seen a comparison of the overall effect of the composition on the response to the presence of nitrate ions in various concentrations. For the linear range, it can actually be related to table 3 which is right above figure 6. Where table 3 is an interpretation of figure 6. Thus I think there is no need to add new figure specifically for the linear range. |
| 7 | How did you measure the LOD? | how to determine the LOD is a standard following the recommendations of IUPAC 1994. Where the LOD value is taken from the extrapolation point between the linear range region and the area that concentrates outside the linear range. Usually the area outside the linear range reads the potential value is constant. |
| 8 | How the intereference from nitrite that may also present in the sample? | Interference from nitrite in research is unlikely. This is inseparable from the nature of nitrite which is unstable and very unstable with the presence of oxygen in the sample. So that in this study, selectivity was not tested for nitrite. |
| 9 | 3. Real Sample Test  the results of measurements with the ISE-NO3 sensors based on pTHFA films are also validated using the standard method, APHA Ed.22nd 4500-NO3-E2012.  Please describe in detail regarding the APHA method, including how you performed using this method? | Thank you for the question. The standard procedure for my add on page 5, last paragraph part procedure. |
|  | **Reviewer B** |  |
| 1 | This manuscript presented pTHFA photopolymer membranes as an alternative  matrix of the ISE sensor fabrication, in this case focused on the nitrate  sensors. It is interesting topic, but more data/discussion are needed i.e.:  1. Based on the results of the selectivity coefficient test showed that t  I- gives a very big interference. It will make a problem if the real sample  contain iodide. | Thank you for the comments you gave. Based on measurement data, indeed I- gives a large interference, and right this will give serious problems in the measurement of real samples. Therefore, it must be admitted that the sensor developed is not suitable for large numbers of samples containing I-. If indeed the sample used is estimated to contain I-, then there must be special treatment such as separation to avoid interference from I-. As is known together, there are no sensors that work universally. Each sensor has its own characteristics. |
| 2 | Please give stability data test of this sensor. How long this membrane  still can be used as the ISE-nitrate sensor? | I previously apologizedThe stability of a sensor is indeed important to know, but because the focus of this paper is as a preliminary study and wants to see the potential use of the pTHFA membrane as an alternative material for making ISE, where this material has not been used as material for the manufacture of ISE. So that I think currently it is limited to just a few parameters such as LR, LOD, selectivity and real samples and studying the characteristics of pTHFA membranes before they are applied as sensors. |
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