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***Thursday, January 25, 2018***

Title: **Highly thermal resistance hydrophobic polyvinyl alcohol-silica hybrid nanofibers**

Dear Editor,

Thank you very much for sending me comments made by referee’s on the above submitted manuscript. I would also like to thank the referees and you for making the comments which will turn this manuscript into a better paper. You can find our revisions to reviewers’ comments as yellow marked in the manuscript.

We have addressed all the comments made by the referee’s as detailed below. I now hope that our responses are to referee’s and your satisfaction and I look forward to seeing our paper being published in your journal.

Kindest regards,

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**Highly thermal resistance hydrophobic polyvinyl alcohol-silica hybrid nanofibers**

**MUSTAFA HULUSI UGUR, BURCU OKTAY, ATILLA GUNGOR, NILHAN KAYAMAN-APOHAN\***

*Please find our responses to reviewers’ comments in italic below*

Referee(s)' Comments to Author:

**Reviewer B:

Comments to the Author**

(1)     The thermal behavior of PVA/Silica nanofibers was performed using TGA (Fig. 3, Table I). Display DTG curves of PVA / Silica hybrid nanofibers and pure PVA nanofibers.

* ***DTG curves of PVA/Silica hybrid and pure PVA nanofibers were added into the manuscript.***

(2)     Fig 7. Presented that the PVA/Silica hybrid membrane showed very uniform pores. Calculate the apparent density and porosity of the electrospun nanofibers.

* ***The surface areas, pore volumes and porosity of the PVA/Silica hybrid membrane could measure by BET method. Also it could be measure by Mercury Porosimetry. Unfortunately, we have no technical facility to measure/calculate the porosity of hybrid nanofiber.***

(3)     The decimal numbers should be designated by dots, not commas in Table II (EDS results of PVA/Silica composite nanofibers (M1 – M4).

* ***In the Table II, The decimal numbers were corrected.***

**Reviewing: C**

**Comments to the Author**

1.      Line 39- polymer fluid is not good construction, it is polymer solution and some others should be corrected.

* ***The related definition was corrected.***

2.      Line 138- is 0,5% precursor is enough for fully cross linking of PVA with 67000 molecular weight??

* ***Referee is absolutely right. PVA with 67.000 molecular weight (but %7 PVA solution) has hydrolysis degree of 86.7-88.7 mol%. Also sol-gel content plays a role on the degree of cross-linking. Therefore it gets partial cross-linking. On the other hand, FTIR confirms the disappearance of the –OH peak. And between PVA and silica is indicated by the Si-O-C peak in the spectra of hybrid nanofibers.***

3.      thermal stability, how explain that in sample M7 60% is PVA but residual is more than 95wt%? Does Si precursor increased thermal stability of PVA and made them such stabile?

* ***As expected, the thermal stability increases with an increase in sol-gel content. As you know, using relatively inert silica precursor ensure to get the ability to form cross-linked hybrid nanofibers of PVA. Additionally, the sol-gel (silica network) is responsible for crosslinking the PVA and helpful to improve thermal stability of hybrid nanofiber. Hence, Yes Si precursor increases the thermal stability of PVA/Silica composite nanofibers.***

4.      SEM images- images of pure PVA is needed because of investigation of Si precursors on the network morphology.

* ***SEM image of pure PVA nanofiber was added into the manuscript.***

I look forward to seeing our paper being published in your journal.

Sincerely yours.

Prof. Dr. Nilhan KAYAMAN-APOHAN