Dear reviewer,

Thank you so much for your time and efforts to come up with these valuable comments to improve our manuscript's quality. The followings are our answers to your concerns.

The manuscript reported the attempt to fabricate TFC FO membrane on an electrospun nanofiber support. The topic is not new and there have been other studies addressing the use of nanofiber support for TFC FO membranes. Could the authors highlight what is the difference of the reported method as compared to the methods reported in the literature?

Answer: In our paper, we studied the use of a highly hydrophilic polymer (i.e. PAN) in the preparation of a highly porous nanofiber membrane (support layer) using a home-made electrospinning system that was built from locally available parts. This support layer was tested in FO process, after synthesizing a polyamide thin film composite (TFC) membrane. Its performance was compared to a typical commercial FO membrane (i.e. HTI-CTA membrane). The outcomes of this paper show that highly efficient FO membranes can be prepared in an easy way and also opens the door to investigate different types of other polymers to prepare nanofibrous membranes. Ultimately, we have prepared an inexpensive FO membrane using a very low-price home-made electrospinning system.

What would be the advantage of electrospun nanofiber support compared with other nanofiber supports for TFC FO membranes?

Answer: Electrospinning has the ability to produce nanofibers materials with highly tunable properties. Hence, the electrospun nanofibers could be the right candidates for membrane materials for water treatment applications. The support layer of FO membranes should have structural parameters as low as possible (i.e. small thickness, high porosity, and low tortuosity). Electrospun nanofibers can be a good option as a support layer for FO process as they have unique features that matching the properties of the desired support layer. The main advantages of electrospun nanofiber membranes are the easy preparation and highly controllable properties.

The authors compared the lab-scale fabricated FO membranes with the commercial FO membranes. There showed marginal improvement in the water flux and salt rejection (16 LMH v.s. 13 LMH; 4 GMH v.s. 3 GMH). What would be the potential challenge in scaling up this technology towards a commercial new product? Would scaling-up lead to sacrifice of the performance?

Answer: Although there are many commercial FO membranes in the market, almost all these membranes have not been used in the industrial scale. FO process, in general, still in its early stages in terms of industrial commercialization. Electrospinning process is starting to be used in larger scale to produce commercial electrospun nanofibers membranes for water treatment applications. DuPont manufactured commercial PES electrospun nanofibers and these membranes were tested as support layers for TFC FO membranes (Chowdhury, Huang, and McCutcheon 2017) and for membrane distillation (Al-Furaiji et al. 2019) process. To summarize, electrospinning technique has been already scaled up and commercial products were produced and tested in membrane processes (FO and MD). However, testing these commercial products on larger scale needs further investigations.

There are numerous FO products in the market. How do you compare the water flux and salt rejection with other commercial FO membranes? Could you cite the figures from literature for comparison?

Answer: We will add the table below to compare the performance of our membranes with the commercially available FO membranes from literature.

Membrane	Feed Solution	Draw Solution	Water Flux (LMH)	Salt Flux (GMH)	Reference
PAN-TFC	DI	1 M NaCl	16	4	This work
HTI-TFC	DI	1 M NaCl	15	4.5	(Ren and McCutcheon 2018)
Aquaporin TFC	DI	1 M NaCl	9	4	(Xia et al. 2017)
Oasys TFC	DI	1 M NaCl	30	50	(Cath et al. 2013)
Porifera CTA	DI	1 M NaCl	29	-	(Roy et al. 2016)

The strength of the PAN nanofiber support layer has been tested. Have you tested the adherence strength of between the support layer and separation layer?

Answer: During the interfacial polymerization reaction between the MPD and the TMC, a very thin polyamide layer is formed on the top of the PAN support layer. Typically, the thickness of the polyamide layer is about 100 nm as reported in our previous paper (Kadhom, Hu, and Deng 2017), while the thickness of the PAN support is about 100 µm. Measurement of adherence strength between the two layers is not practically possible due to the small thickness of the polyamide layer. However, the performance test proved that the selective layer was kept stick to the PAN support layer at least during the time of the experiment, where the salt rejection maintained high. Having a high salt rejection is impossible without the selective thin film membrane.

Have you done long-term test on the robustness?

Answer: The prepared membranes in this work was only tested in short-term experiment. However, long-term testing will be considered in our future investigations. Thank you for mentioning this.

The thickness of support layer is also a crucial factor. A thick support layer will lead to concentration polarization in the support layer, which impairs the performance. Could you compare the thickness of support layer with the commercial products? Would it be feasible to make even thinner support layer with the electrospun nanofiber method?

Answer: The thickness of our membrane (~100 µm) lies within the range of the thickness of the commercially available FO membranes (50-150 µm).

In the electrospinning method, the membrane thickness can be highly controlled and thinner support layer can be easily produced. Here, the manufacturing problems of phase inversion (the common preparation method of RO and FO support layers) are overcome. However, very thin electrospun nanofiber membrane will be difficult to deal with and the robustness of the prepared membranes will not be enough to withstand the testing conditions. So, there is a tradeoff between the concentration polymerization effect and the robustness of the membrane and finding the optimum thickness can be a good topic for future researches.

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