This manuscript focuses on studying the influence of the module design and concentration polarization on pore size determination and the nanofiltration performance. I think this work is very valuable to the membrane field, which most labs neglect when they build up the setup. I strongly recommend that this work be published after the following comments are addressed.

Minor comment below:

1. The authors state that "the model is not able to describe the experimental data accurately, which is likely due to the logarithmic plot magnifying the measurement uncertainties of J_P and R_{obs}." It is unclear why a logarithmic representation would magnify experimental uncertainties. In many cases, logarithmic plots are used to compress data ranges and reduce the apparent impact of measurement noise. The authors should clarify the mechanism by which the logarithmic scaling increases uncertainty in this case.
2. Although the k_m fitting for Cell I appears inaccurate (Figure 5), the experimentally obtained value is reported to be consistent with the theoretically calculated value (Table 1). The authors should comment on this apparent inconsistency. If the fitting quality is poor, what is the primary source of deviation, and how can the agreement with theory still be justified?
3. The authors should clearly explain why Cell II can avoid polarization and mass-transfer limitations, whereas Cell I cannot. Is this difference primarily attributed to the meandering channel geometry across the membrane module, or are there other contributing factors, such as flow distribution or hydrodynamics?
4. There is a typo after must be: Logically, the observed retentions in cell II must be the lowest possible values for the intrinsic retentions, as ci can not reasonably be lower than the bulk feed concentration.
5. Is the concentration polarization phenomenon discussed here specific to glucose? Have the authors examined other solutes with lower molecular weight, such as NaCl, to verify whether similar behavior is observed?