Comments to the Author

Review report for CJCE-24-1047R1

Authors have tried to address the reviewer's comments. Accordingly, the revised manuscript is now recommended accepting for publication at the Canadian Journal of Chemical Engineering.

*Thank you*

Reviewing: 2

Comments to the Author

The manuscript presents a valuable contribution to the field of supercritical extraction modeling. The sensitivity analysis provides useful insights into optimizing extraction conditions, particularly regarding pressure variations. However, the manuscript would benefit from clearer justification of its novelty, additional validation of the model, improved clarity in figures and equations, and a more explicit discussion on the industrial applications of the findings. Please provide one table for comparison. Several minor grammatical errors should be revised.

*Thank you for the comments.*

* ***clearer justification of its novelty***

*The discussion on the novelty was expanded. Please see lines 279-302*

* ***additional validation of the model***

*Additional model validation was included in the manuscript. An important application of the local sensitivity analysis method is to validate that included empirical correlations exhibit feasible behaviour. The additional analysis investigated an influence of parameters from empirical correlation describing a decay function on the state space. The system's expected behaviour is compared with the simulation result. See lines 658-712 and 845-872*

* ***improved clarity in figures and equations***

*The description of the equations has been improved to improve the readability and clarity of this work. The emphasis was put on providing a clear physical interpretation of the sensitivity equations. Moreover, sections 2.2.8 and 2.3 were rewritten.*

*The quality of the figures was improved.*

* ***explicit discussion on the industrial applications of the findings***

*Discussion on industrial applications was introduced. Please see lines 873-889*

* ***provide one table for comparison***

*The results comparison is presented in Table 1*