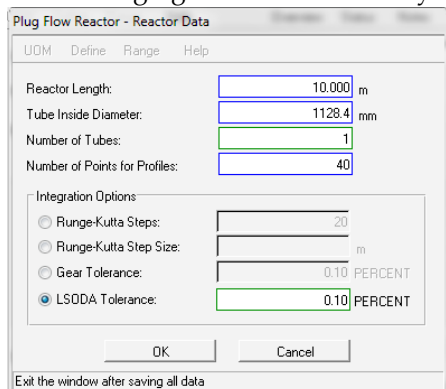
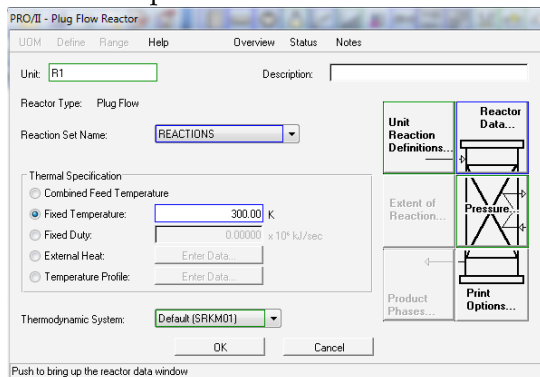


E133 Fall 2023 Hints on Final Project

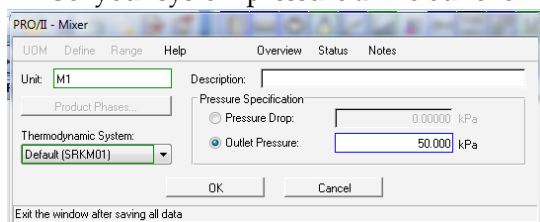
1. Set the integration option for the PFR to LSODA. It's the slowest, but has the best chance of consistently converging. The other ones may be numerically unstable at higher temperatures.



2. Set the specification for the PFR or CSTR to Fixed Temperature



3. Units are very important when entering kinetic data. Check that you have your units correct by running test cases at different temperatures in a PFR that has the same input conditions as for the Batch Reactor VI and verify that your results along the profile are close to equivalent. Since $\delta \neq 0$, the results will not be identical (unless you go the extra step and calculate the results by hand for a PFR using your determined kinetics for comparison with PRO/II). You can see the results by right-clicking on the reactor block, choosing View Results, and scrolling to the bottom of the web page. I copied the data, pasted them into a spreadsheet, adjusted the distance to time using the velocity of the gas, and compared with my VI output.
4. Set your system pressure at the outlet of the mixer.



The alternative is to set pressure in both the feed stream and set an initial value in the recycle stream, which is a pain.

5. Learn to use the Case Study set-up, plots, and tables. You can vary either the mixer outlet pressure or the reactor outlet temperature, and plot the variables of interest for your optimization as a function of the pressure or temperature respectively.