CE 329, Fall 2015
Assignment 24

Problem Statement

Consider a typical reaction that is reversible and exothermic. Suppose that reaction is run two separate times using a steady state PFR. The reactor volume, feed rate, feed composition and feed temperature are the same in both of the runs. One run is conducted isothermally and the other is conducted adiabatically. Sketch the conversion versus space time for the two runs on the same set of axes. Your sketch should be sufficiently detailed to show initial and final slopes, curvature, inflection points, etc. If your artistic skills are weak, you should provide a brief written description of the two curves that describes these aspects.