CE 329, Fall 2015

Assignment 15

Problem Statement

The irreversible liquid phase reaction A + B → R was studied in a 100 cm^3 perfectly mixed batch reactor at a constant temperature. The initial concentration of A in the reactor was 1 mol L^{-1} and that of B was 0.5 mol L^{-1}. There was no product present initially. The reaction is believed to be elementary; on the basis of an integral data analysis, are the following data consistent with this belief?

time (min)	[A] mol L^{-1}
10	0.91
20	0.85
50	0.72
100	0.61
200	0.54
500	0.50