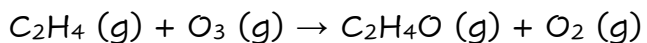


Time Concentration Data: Plots

The reaction



has the following concentration-time data.

Time, s	[O ₃], M
0	4.26 x 10 ⁻⁵
10	3.22 x 10 ⁻⁵
20	2.60 x 10 ⁻⁵
30	2.18 x 10 ⁻⁵
40	1.87 x 10 ⁻⁵
50	1.64 x 10 ⁻⁵
60	1.47 x 10 ⁻⁵

- 1) Determine the order with respect to [O₃].
- 2) What is the value of the rate constant with units?
- 3) What is the half-life of [O₃]?
- 4) How long will it take for [O₃] to decrease from 4.26 x 10⁻⁵ M to 1.55 x 10⁻⁵ M?