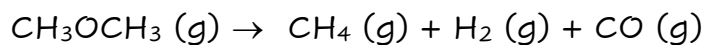


Integrated Rate Laws and Half-Life

1. Dimethyl ether, CH_3OCH_3 , decomposes at $525.0\text{ }^\circ\text{C}$. The rate constant is $7.6 \times 10^{-4}\text{ s}^{-1}$.



If the initial pressure of CH_3OCH_3 is 143 mmHg, what is its pressure after 1126 seconds?

2. The decomposition of NO_2 at 310°C has a rate constant of $0.544\text{ M}^{-1}\text{s}^{-1}$. If the initial concentration of NO_2 was 0.0480 M , what is the concentration after 0.250 hr?

3. The half-life for the first order dissociation of I_2 at $352\text{ }^\circ\text{C}$ is 2.56 s. If we start with 0.0450 M I_2 , how much will remain after 4.52 s?