

16.14 The Arrhenius Equation (Video)

This project was preformed to supply **Libretext authors** with videos on General Chemistry topics which can be used to enhance their projects. Also, these videos are meant to act as a learning resource for **all General Chemistry students**.

Video Topics

From collision theory we get: $\text{Rate} = CPe^{-E_a/RT}[A][BC]$

These relations are summarized by The Arrhenius Equation $k = Ae^{-E_a/RT}$

The Arrhenius Equation shows that k changes with E_a and T

To look at how k changes with temperature use the integrated form of the Arrhenius equation.

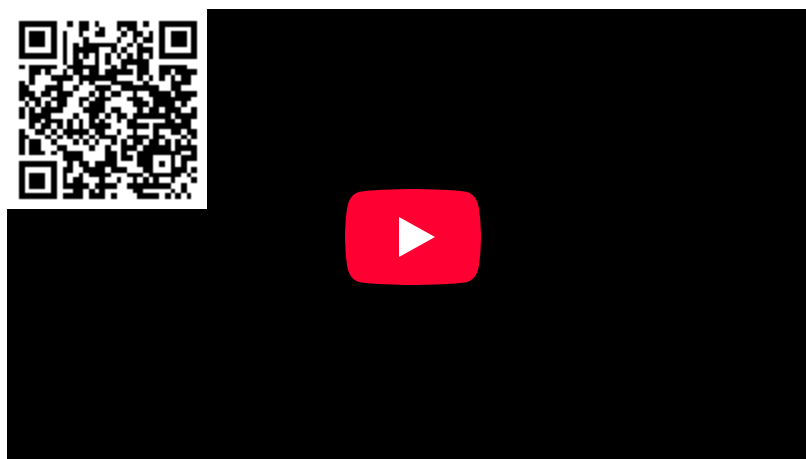
$\ln(k_2/k_1) = (E_a/R)(1/T_1 - 1/T_2)$

This video contains the solution to the followed problem:

If $k = 2.15 \times 10^{-8} \text{ 1/M}\cdot\text{s}$ at 650 K and the activation energy is 182 kJ/mol what would be k at 700 K?

Link to Video

The Arrhenius Equation: <https://youtu.be/qu3x0z8sqjw>



Attribution

- Prof. Steven Farmer ([Sonoma State University](#))

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