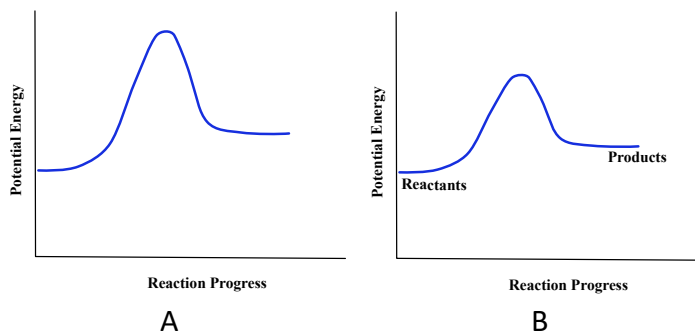
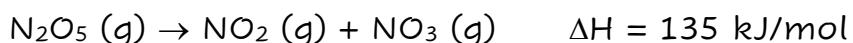


Activation Energy

1. From the two figures, A and B, which reaction is faster? Why?



2. Consider the following chemical equation:



The activation energy, E_a , is 152 kJ/mol. Draw a labeled energy diagram for this reaction and calculate E_a for the reverse reaction. Does the forward or the reverse reaction have the largest rate constant, k ? Is the reaction endothermic or exothermic in the forward direction?

3. A certain first order reaction has a rate constant of $2.63 \times 10^{-2} \text{ s}^{-1}$ at 22.0°C . What is the value of k at 75.0°C if $E_a = 76.9 \text{ kJ/mol}$?