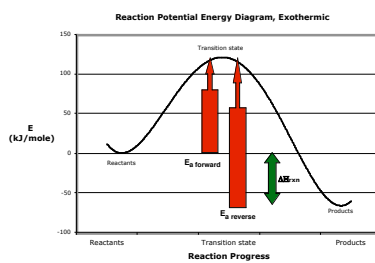


Chemistry 106

Fundamental Chemistry II

Kinetics Practice



$$R = 8.314 \times 10^{-3} \text{ kJ/mole}\cdot\text{K}$$

$$0.0 \text{ }^\circ\text{C} = 273.2 \text{ K}$$

- 1) $A \rightarrow B + 2 C$; rate = $-(0.070 - 0.100 \text{ M})/(5 - 0 \text{ sec}) = 0.006 \text{ M sec}^{-1}$; $k = 0.06 \text{ sec}^{-1}$
- 2) 0.541 M
- 3) 0.0583 M
- 4) a) $E_a = 200. \text{ kJ/mol}$; exothermic; irreversible
b) $E_a = 50. \text{ kJ/mol}$; endothermic; reversible
- 5) $E_a = 53.4 \text{ kJ/mol}$
- 6) $A = 4.31 \times 10^9 \text{ sec}^{-1}$
- 7) $k = 0.405 \text{ sec}^{-1}$
- 8) $k_{\text{cat}}/k_{\text{uncat}} = 1.74 \times 10^7$