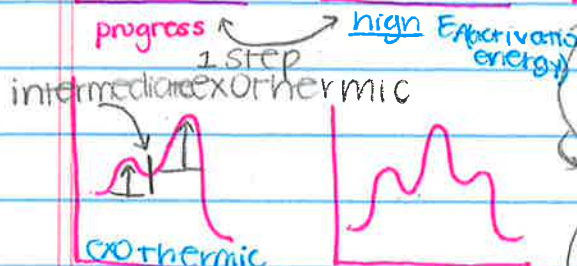
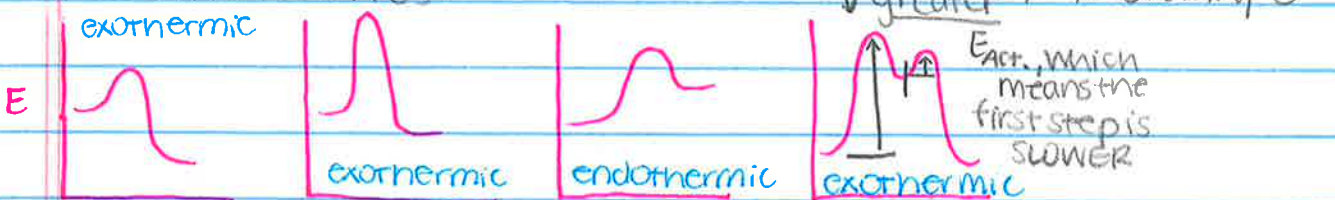
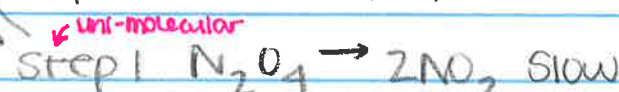


* TUTORING: 5-6:30pm Monday, Eppley 211
6:30-8pm Tuesday, Eppley 211

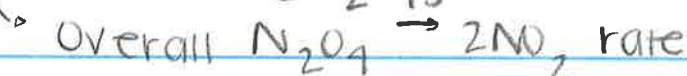
Reaction Profiles:



MATCHES the mechanism \rightarrow endothermic (ΔH^+)
Proposed Mechanism:



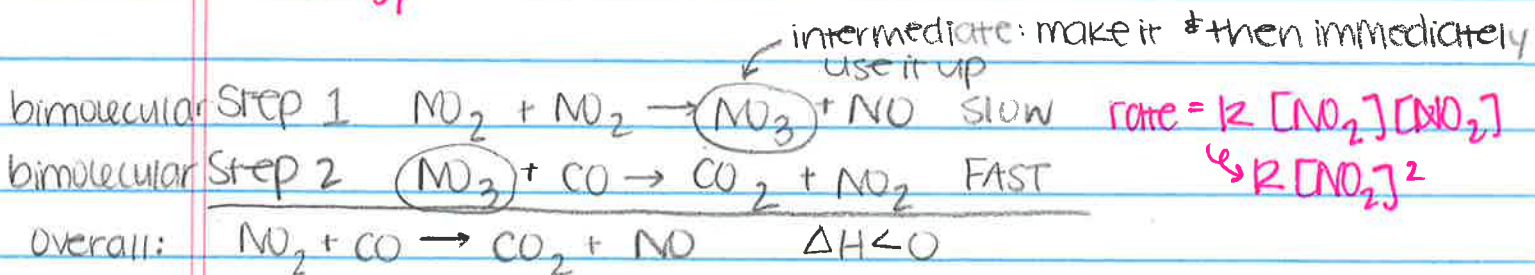
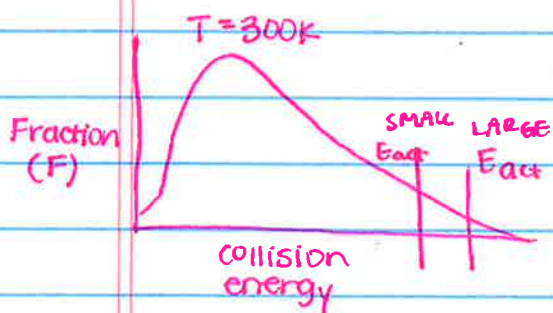
rate = $k [N_2O_4]^1$



$\Delta H = +57 kJ$

$f = e^{-E_{act}/RT}$

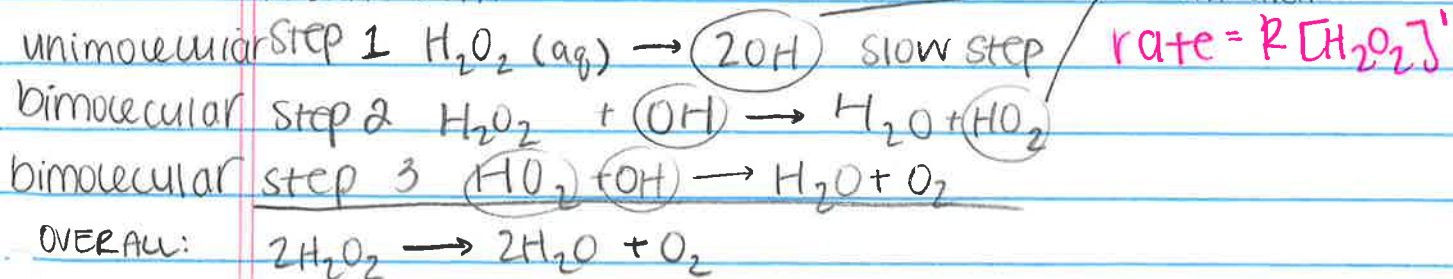
$k = A e^{-E_{act}/RT}$



Molecularity: unimolecular \rightarrow 1 thing in a step
bimolecular \rightarrow 2 things in a step

IF $E_{act}^{fwd} < E_{act}^{rev} \rightarrow$ exothermic
"fraction" $\rightarrow f_{fwd} > f_{rev}$
 $k_{fwd} > k_{rev} \rightarrow k = A f$

Mechanism:



* with Catalyst (I^-) \rightarrow iodide \rightarrow intermediate February 3rd



mm	m	n	V
34L sucrose	40g	0.117 mol	

H_2O
sol'n

100g \rightarrow 85.0 mL

$$d = \frac{m}{V}$$

$$\hookrightarrow V = \frac{m}{d} = \frac{100g}{1.176 g/mL} = 85.0 mL$$

$$\ln\left(\frac{k_2}{k_1}\right) = \frac{-E_{act}}{R} \left(\frac{1}{T_2} - \frac{1}{T_1}\right)$$

$$\ln\left(\frac{1.8}{1.7}\right) = \frac{-E_{act}}{R} \left(\frac{1}{304} - \frac{1}{303}\right)$$

8.314 J/mol·K \rightarrow k

$$-0.940 = \frac{-E_{act}}{R} (2.14 \times 10^{-4})$$

$$\hookrightarrow E_{act} = 3.73 \times 10^4 J = \boxed{37.3 KJ}$$