

General Chemistry with Doc M

Today
Friday 1/27

13.9-13.11 (look at 13.7 + 13.8)

Sunday 1/29

Review session 5-6:30 pm Hitchcock 108

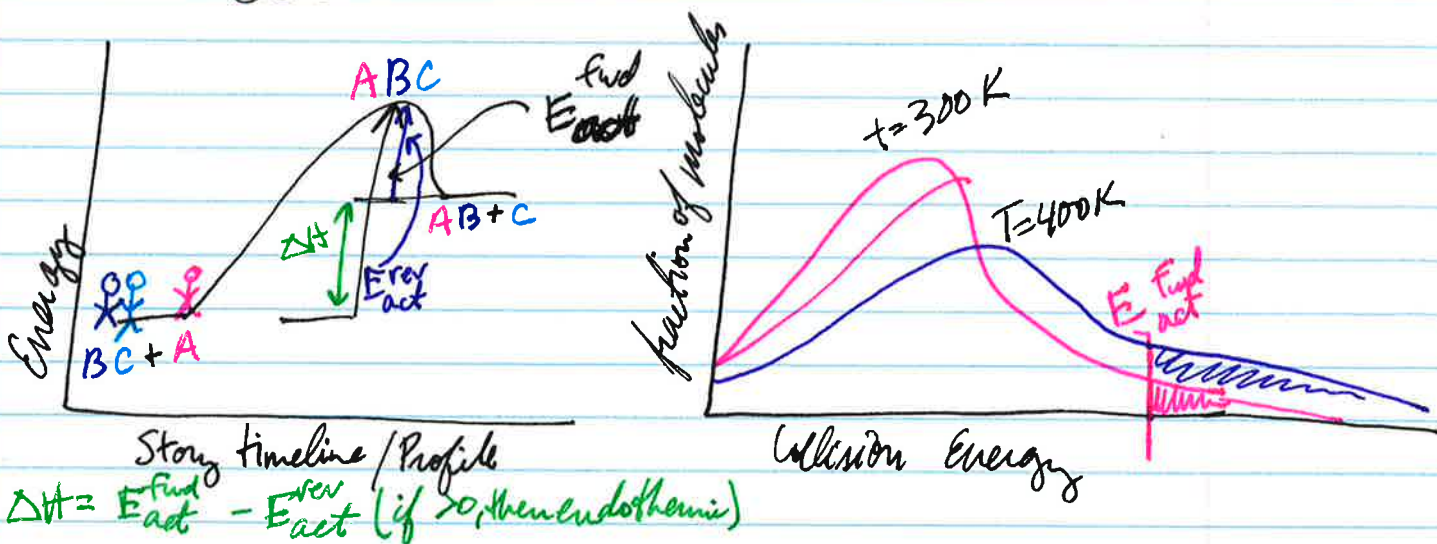
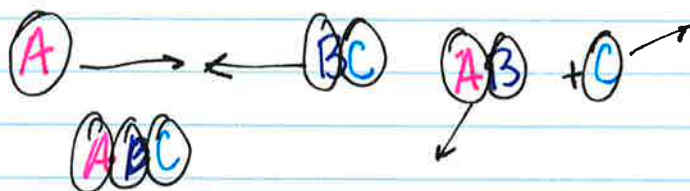
Monday 1/30

Celebration of Knowledge #1
Doors open at 10:45 am

Wednesday 2/1

Finish chapter 13 Catalysts

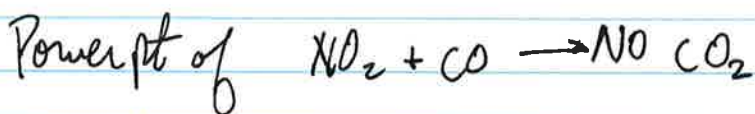
Exam stuff: look at old exams
will opt data sheet
NO colligative property eqns given
↳ Must know them yourself
Some organic q's on test



$$k = p * z * e^{-E_{act}/RT}$$

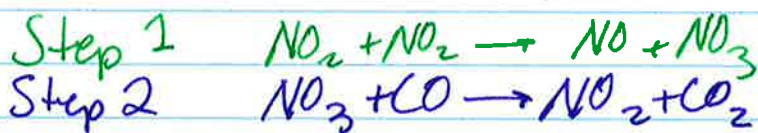
typical $\sim 10^{-14}$
 $E_{act} \approx 80,000 \text{ J/mol}$

orientation 0-1
 collision frequency
 fraction of molecules with enough KE to react ($> E_{act}$)

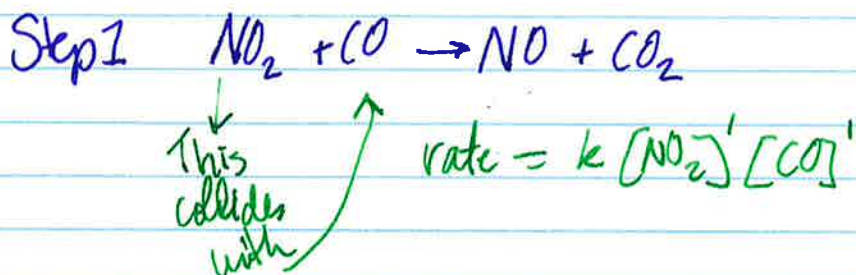


if molecular reaction was $\text{NO}_2 + \text{CO}$, then
 $\text{rate} = k [\text{NO}_2] [\text{CO}]$

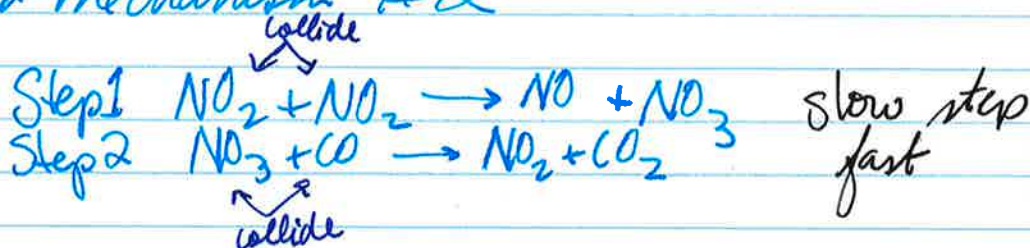
But Experiments say it's not 1st order in $\text{NO}_2 + \text{CO}$!

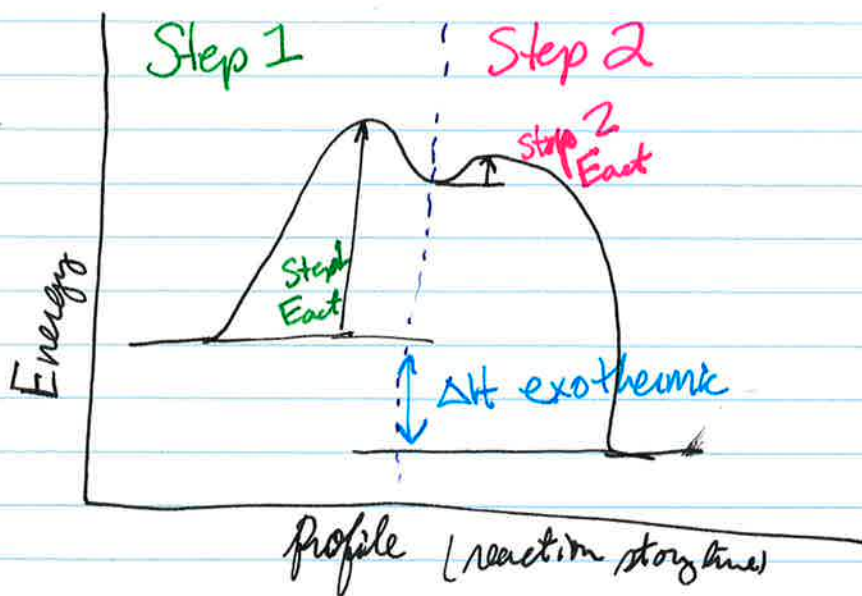


Proposed mechanism #1



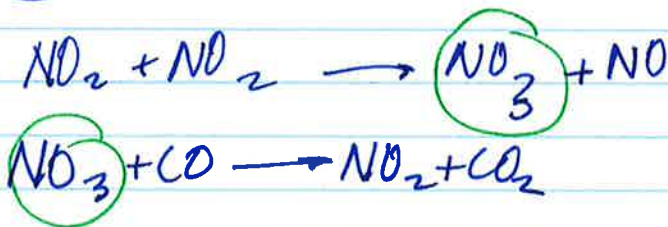
Proposed mechanism #2





From slow step of reaction

$$\text{rate} = k[\text{NO}_2][\text{NO}_2] = k[\text{NO}_2]^2$$



make it, then use it
is
INTERMEDIATE

