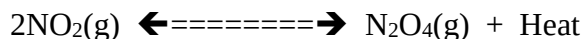


Feb 26

Lesson #6: Temperature effect on K_{eq}

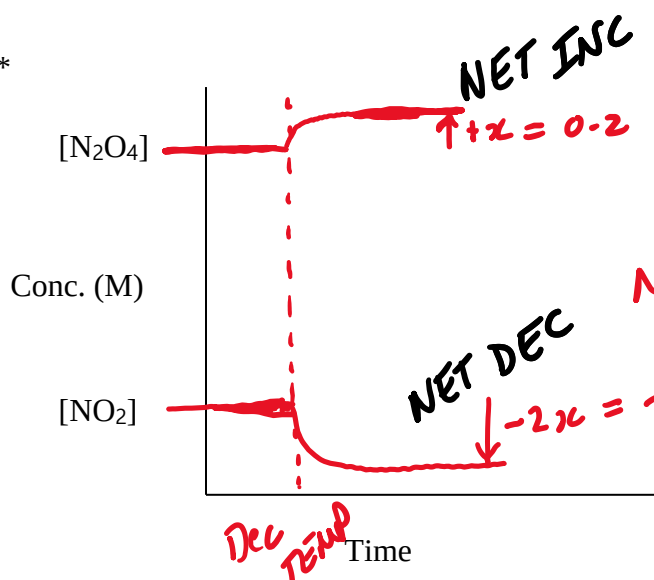
Exercises:



Determine the direction of shift for each stress and draw the resulting graph for concentration change over time.

- (A) Decrease temperature $\rightarrow$ Result (shift right)
 (B) Remove $\text{NO}_2(\text{g})$
 (C) Decrease the container size (i.e., increase pressure) $\rightarrow$ result (shift right)

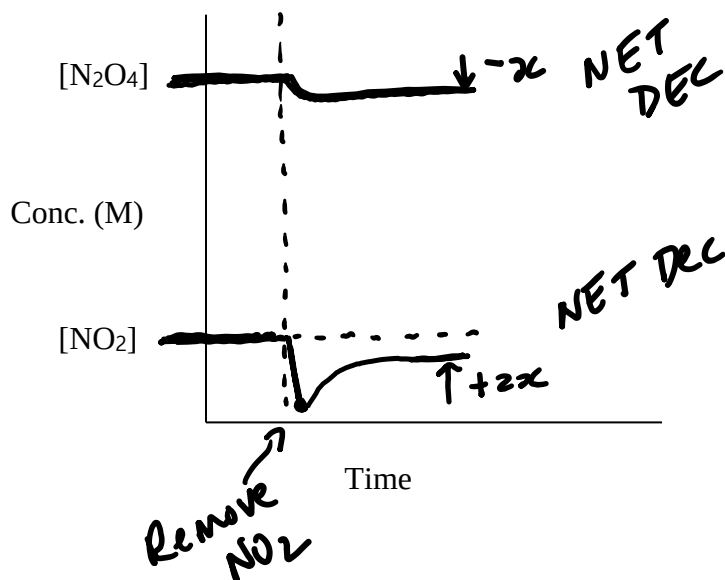
A*



$$K_{eq} = \frac{[\text{N}_2\text{O}_4]}{[\text{NO}_2]^2} = \frac{(5)}{(4)^2} = 0.31$$

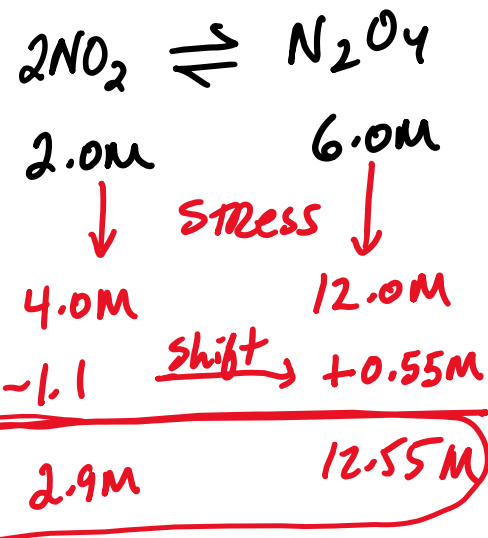
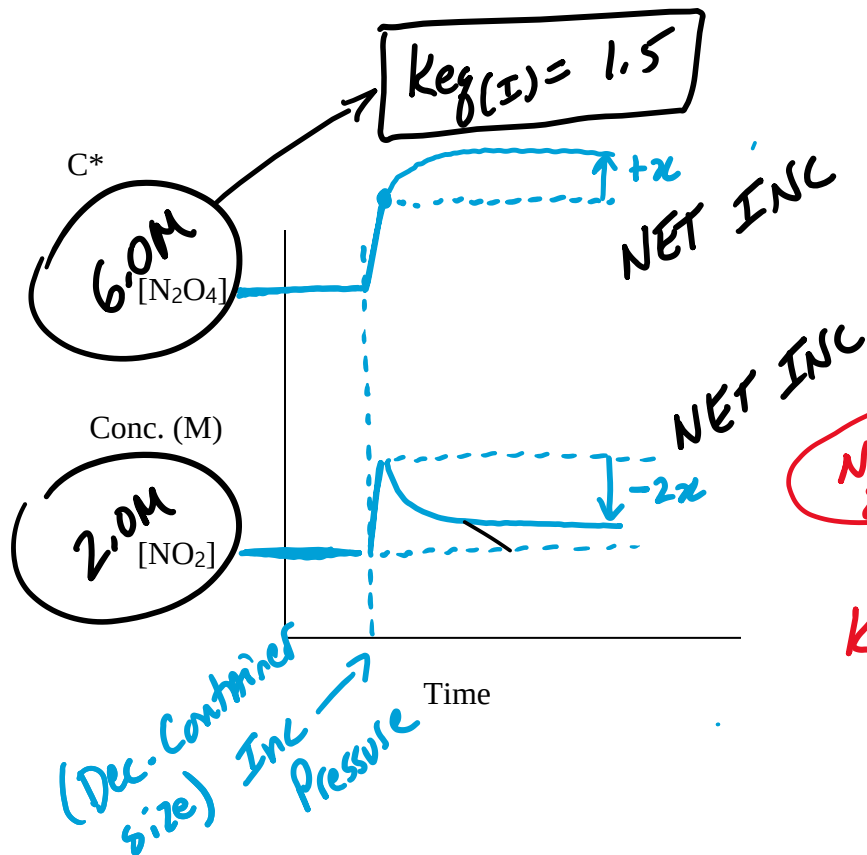
$$\text{NEW } K_{eq} = \frac{(5.2)}{(3.6)^2} = 0.40$$

B*



$$K_{eq}(I) = \frac{6.0}{(2.0)^2} = 1.5$$

$$K_{eq}(f) = \frac{5.7}{(1.95)^2} = 1.5$$

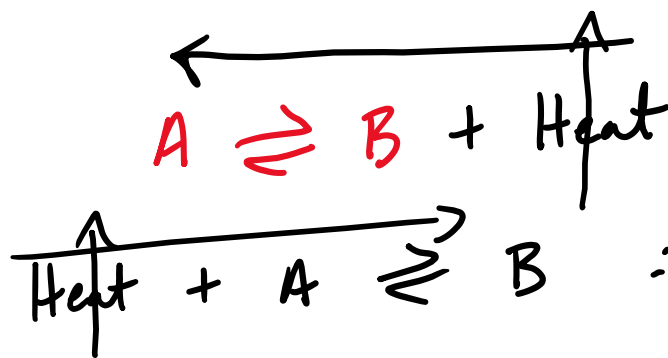


$$K_{eq} = \frac{[\text{N}_2\text{O}_4]}{[\text{NO}_2]^2} = \frac{12.55}{(2.9)^2}$$

$$K_{eq} = 1.5$$

PART II : Predicting effect on K_{eq} w/ TEMP change

- IF TEMP of an equilibrium inc, K_{eq} is found to inc also. IS the SYSTEM ENDO or EXOTHERMIC?



∴ ENDO, b/c shift is toward product.

- $$X + G + \text{Heat} \rightleftharpoons J + R$$

What happens to K_{eq} if TEMP Dec? **Key Dec**