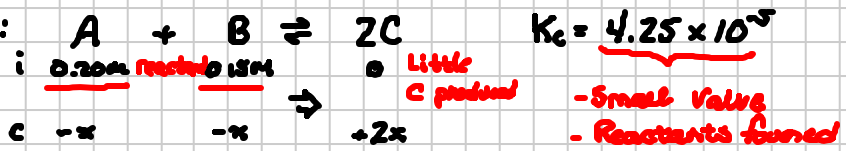


Lecture 9.3 Equilibria: Simplifying Assumptions

Note Title

10/3/2011

Recall Previous Problem:



L.M.A

$$4.25 \times 10^{-5} = \frac{(2x)^2}{(0.20-x)(0.15-x)}$$

\leftarrow No \leftarrow ≈ 0
 \uparrow $x \approx 0$

multiply x +/- number

$$4.25 \times 10^{-5} = \frac{(2x)^2}{(0.20)(0.15)}$$

$$\sqrt{\frac{(4.25 \times 10^{-5})(0.20)(0.15)}{4}} = \sqrt{x^2}$$

$$x = 5.645 \times 10^{-4} \text{ close to quadratic result}$$

- Equil conc.
- Check your equil. Q calculation $\approx K_c$

Check Assumption: 5% rule

$$\frac{x}{[A]} \cdot 100 = \frac{5.645 \times 10^{-4}}{0.20} \cdot 100 = 0.282\% < 5\% \quad \text{☺}$$

critical test.

$$\frac{x}{[B]} \cdot 100 = \frac{5.645 \times 10^{-4}}{0.15\text{M}} \cdot 100 = 0.376\% < 5\% \quad \text{☺}$$

\uparrow
Smaller.