

(15.44) $\text{Br}_2(g) + \text{Cl}_2(g) \rightleftharpoons 2\text{BrCl}(g)$ (400K)

I	0.25 M	0.25 M	0
Δ	-x	-x	+2x
E	0.25 - x 0.11 M	0.25 - x 0.11 M	2x 0.28 M

$K_c = 7.0$
 $K > 1$

MOLE RATIO

$$K_c = \frac{[\text{BrCl}]^2}{[\text{Br}_2][\text{Cl}_2]} = \frac{(2x)^2}{(0.25-x)^2} = 7$$

$\sqrt{7}x$
 $\sqrt{7}x$
 $\sqrt{7}x$

$\frac{2x}{0.25-x} = \frac{\sqrt{7}}{1}$

$$2x = 0.66 - \sqrt{7}x$$

$$4.65x = 0.66$$

$x = 0.14$

Feb 13-9:40 AM

(15.46) $\text{NH}_4\text{HS}(s) \rightleftharpoons \text{NH}_3(g) + \text{H}_2\text{S}(g)$ (218°C)

I	#	0	0
Δ	-x	+x	+x
E	#-x	x	x

$K_c = 1.2 \times 10^{-4}$
 $K < 1$

$$K_c = \frac{[\text{NH}_3][\text{H}_2\text{S}]}{1} = 1.2 \times 10^{-4}$$

$$x = \sqrt{1.2 \times 10^{-4}} = 0.011$$

Feb 13-10:02 AM

$$\boxed{\text{AT Equilibrium} = K} \rightarrow \frac{[P]}{[R]}$$

Not at Equilibrium Q

If $Q = K \Rightarrow$ AT Equilib ☺

If $Q < K$ $R_{xn} \rightarrow$

If $Q > K$ $R_{xn} \leftarrow$

Feb 13-10:07 AM

HW

PS 15-1 # 1-15

Feb 13-10:12 AM