

Honors Equilibrium Review

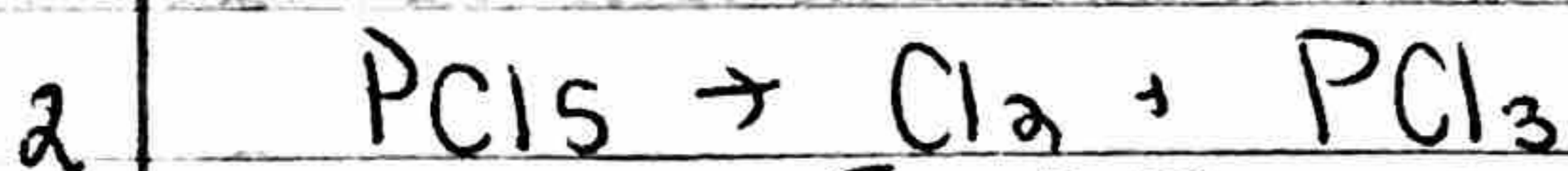
1 a) $K_{eq} = \frac{[NO_2]^2}{[NO]^2 [O_2]}$

b) $K_{eq} = \frac{[H_2O]^2 [Cl_2]^2}{[HCl]^4 [O_2]}$

c) $K_{eq} = \frac{[NO] [Cl_2]^{1/2}}{[NOCl]}$

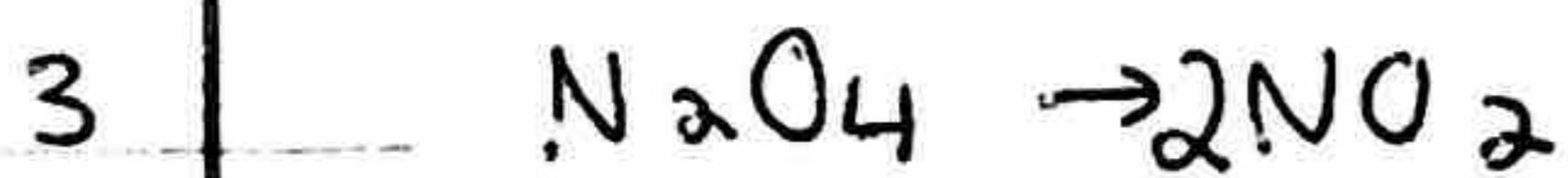
d) $K_{eq} = \frac{[FeSCN^{2+}]}{[Fe^{3+}] [SCN^-]}$

e) $K_{eq} = [Cl^-]^2 [Ca^{2+}]$



$$K_{eq} = \frac{[Cl_2] [PCl_3]}{[PCl_5]}$$

$$K_{eq} = \frac{[0.37] [0.15]}{0.01} = \boxed{5.55}$$



I $.125$ 0

C $-x$ $+2x$

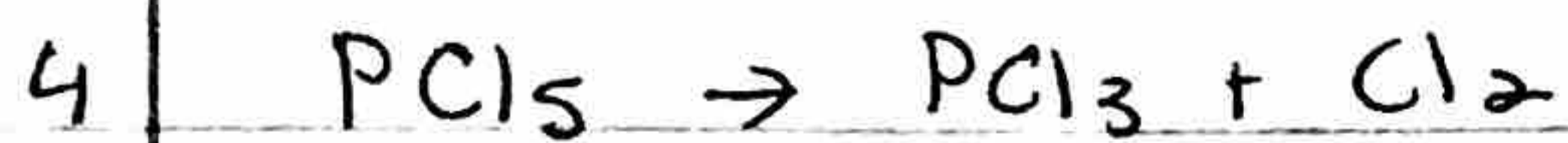
E $.0750$ $.1$

$$K_{eq} = \frac{[NO_2]^2}{[N_2O_4]}$$

$$K_{eq} = .13$$

$$.125 - x = .0750$$

$$x = .05$$



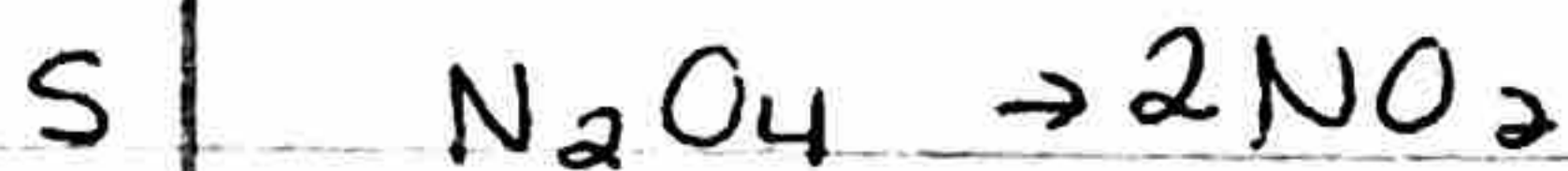
I	1.10	0	0
C	-x	+x	+x
E	.33	.77	.77

$$K_{eq} = \frac{[.77][.77]}{[.33]}$$

$$K_{eq} = 1.80$$

$$1.10 - x = .33$$

$$x = .77$$

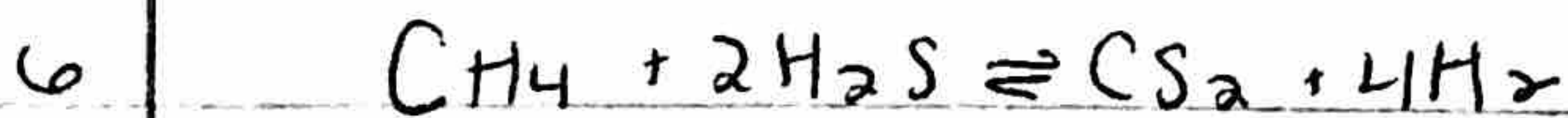


$$K_{eq} = \frac{[\text{NO}_2]^2}{[\text{N}_2\text{O}_4]}$$

$$.212 = \frac{x^2}{.155}$$

$$.03286 = x^2$$

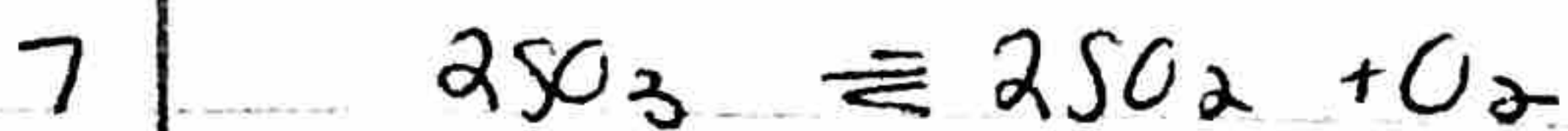
$$x = .181 \text{ M}$$



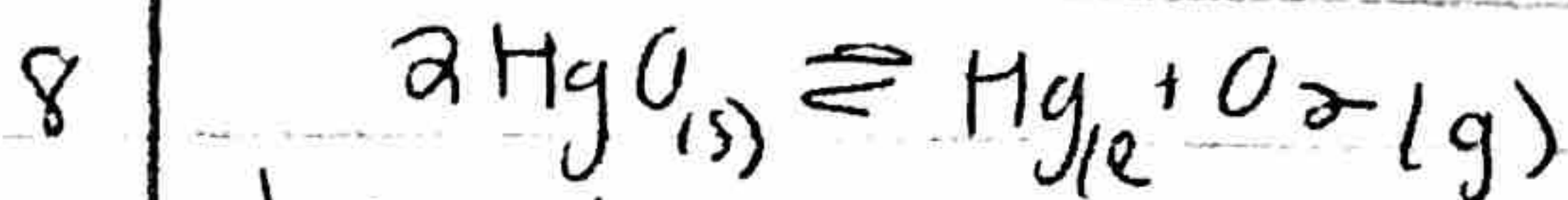
3 mol

5 mol

- a) ←
- b) ←
- c) ←
- d) ←
- e) ←



- a) ←
- b) ←
- c) ←



- a) No change
- b) ←