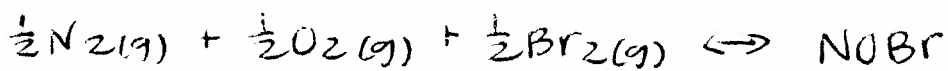
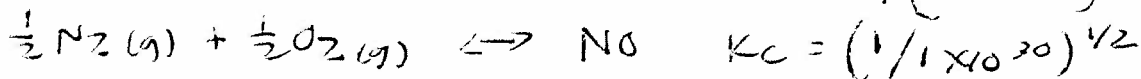
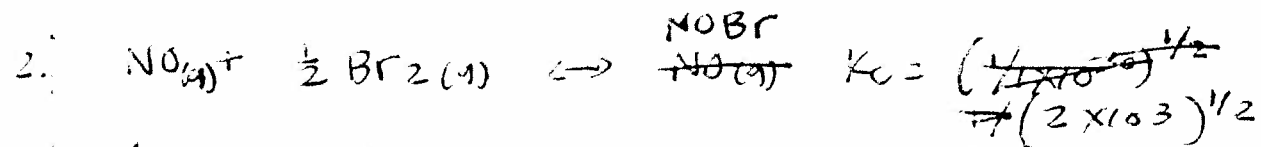
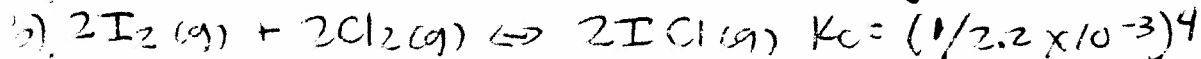
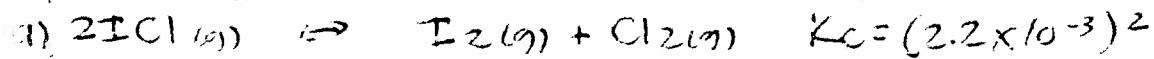
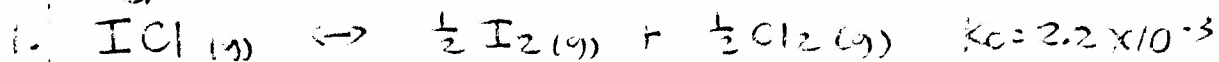


GE 1



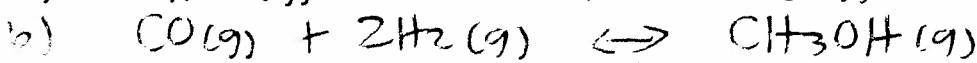
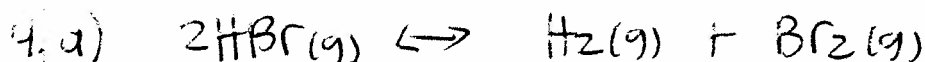
$$K_c = (2 \times 10^3)^{1/2} \left(\frac{1}{1 \times 10^{30}} \right)^{1/2}$$

3.

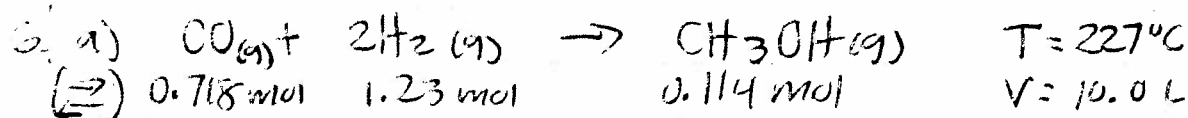
a) $K_c = \frac{[\text{I}_2]^{1/2} [\text{F}_2]^{1/2}}{[\text{IF}]} \quad K_p = \frac{(P_{\text{I}_2})^{1/2} (P_{\text{F}_2})^{1/2}}{(P_{\text{IF}})}$

b) $K_c = \frac{[\text{C}_{10}\text{H}_{12}]}{[\text{C}_5\text{H}_6]^2} \quad K_p = \frac{(P_{\text{C}_{10}\text{H}_{12}})}{(P_{\text{C}_5\text{H}_6})^2}$

c) $K_c = \frac{[\text{POCl}_3]^{10}}{[\text{P}_4\text{O}_{10}][\text{PCl}_5]^6} \quad K_p = \frac{(P_{\text{POCl}_3})^{10}}{(P_{\text{P}_4\text{O}_{10}})(P_{\text{PCl}_5})^6}$



5. $K_c = \frac{[\text{CH}_4][\text{H}_2\text{O}]}{[\text{CO}][\text{H}_2]^3} = \frac{(0.150\text{M})(0.233\text{M})}{(0.513\text{M})(0.259\text{M})^3} = \boxed{3.92}$



b) $K_c = \frac{[\text{CH}_3\text{OH}]}{[\text{CO}][\text{H}_2]^2} = \frac{\left(\frac{0.114 \text{ mol}}{10.0 \text{ L}} \right)}{\left(\frac{0.718 \text{ mol}}{10.0 \text{ L}} \right) \left(\frac{1.23 \text{ mol}}{10.0 \text{ L}} \right)^2} = \boxed{1050}$