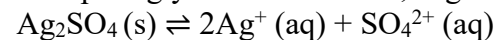


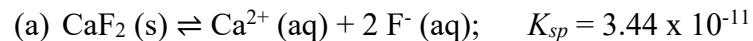
- d. If the partial pressures of HI and H₂ are found to be 3.01×10^{-3} atm and 2.04×10^{-2} atm at equilibrium, respectively, what would the partial pressure of I₂ be?
- e. Calculate Q when $[\text{HI}] = 2.11 \times 10^{-4}$ M and $[\text{H}_2] = 2.10 \times 10^{-3}$ M and $[\text{I}_2] = 3.4 \times 10^{-3}$ M. Is the system at equilibrium? If no, in which direction is the reaction predominately proceeding?
- f. How would the system respond if the volume of the reaction flask was decreased without changing the amount of reactants added?

The dissolution of Ag_2SO_4 , which is known to be sparingly soluble in water, is given by:



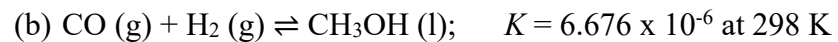
What will the concentration of SO_4^{2-} and Ag^+ be at equilibrium when 0.342 g of Ag_2SO_4 is added to 10 L of water?

For the following scenarios, indicate which direction the equilibrium will shift when the “stressor” indicated is introduced?



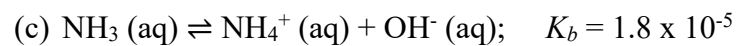
(i) Additional water is added to a system at equilibrium

(ii) $\text{Ca}(\text{NO}_3)_2$ is added



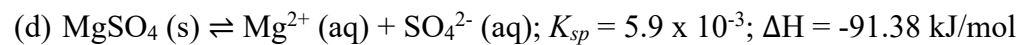
(i) The volume of the reaction chamber is compressed

(ii) More H_2 is added



(i) The solution is basified with NaOH

(ii) The solution is acidified with HCl



(i) The solution is heated

(ii) The solution is cooled

(iii) Solid BaSO_4 is added to the reaction flask