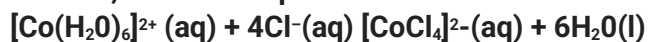


**Q4. When hydrochloric acid is added to cobalt nitrate solution at room temperature, the following reaction takes place and the reaction mixture becomes blue. On cooling the mixture, it becomes pink. On the basis of this information mark the correct answer.**



(Pink)

(Blue)

(a)  $\Delta H > 0$  for the reaction

(b)  $\Delta H < 0$  for the reaction

(c)  $\Delta H = 0$  for the reaction

(d) The sign of  $\Delta H$  cannot be predicted on the basis of this information.

**Sol:**(a) Since the reaction shifts to backward direction on cooling, this means that the backward reaction is exothermic reaction. Therefore, the forward reaction is endothermic reaction and  $\Delta H > 0$ .