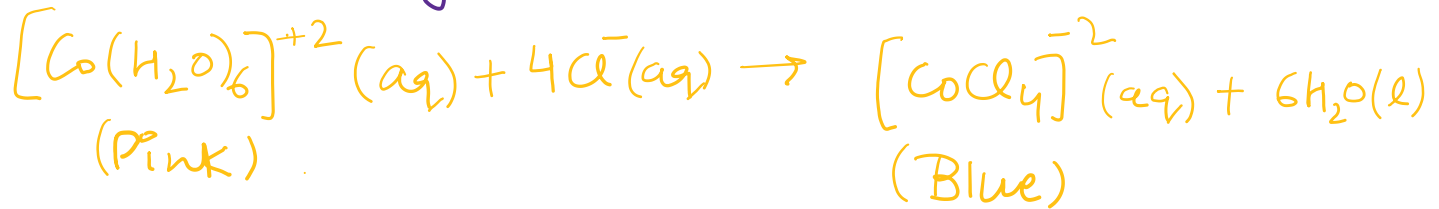


When hydrochloric acid is added to Cobalt Nitrate solution at room temperature, the following rxn takes place and reaction mixture becomes blue. On cooling the mixture, it becomes pink.



Mark the correct statements with respect to the reaction.

- (a)  $\Delta H > 0$
- (b)  $\Delta H < 0$
- (c)  $\Delta H = 0$
- (d) sign of  $\Delta H$  can't be predicted.

Sol. On cooling the reaction mixture becomes pink. This implies the reaction occurs in backward reaction on cooling.

- $\Rightarrow$  backward reaction is exothermic
- $\Rightarrow$  forward reaction is endothermic
- $\Rightarrow \Delta H > 0 \Rightarrow$  option (a).