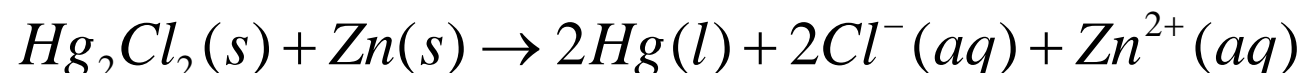


Assignment V

- **P7.16.** Consider the cell



for which the reaction is



- Given that $E^\ominus(\text{Zn}^{2+}, \text{Zn}) = -0.7628$; $E^\ominus(\text{Hg}_2\text{Cl}_2, \text{Hg}) = +0.2676$
- and the measured emf $E = +1.2272$
 - a) write the Nernst equation for the cell
 - b) determine the standard emf
 - c) find $\Delta_r G$, $\Delta_r G^\ominus$ and K for the cell reaction
 - d) the mean ionic activity and activity coefficient for ZnCl_2 from the measured cell potential
 - e) the mean ionic activity and activity coefficient for ZnCl_2 from the Debye-Huckel limiting law
 - f) given the emf temperature coefficient $-4.52 \cdot 10^{-4} \text{ V/K}$ calculate ΔS , ΔH .