

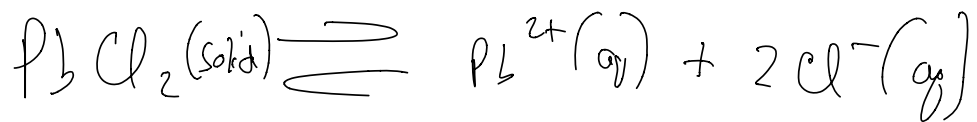


$$K_{sp} = \frac{a_{\text{Cl}^-(aq)} a_{\text{Ag}^+(aq)}}{a_{\text{AgCl}(s)}} \quad [\text{Cl}^-(aq)] [\text{Ag}^+(aq)]$$

$$a_{\text{AgCl}(s)} = 1$$

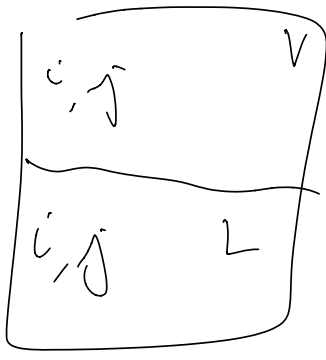
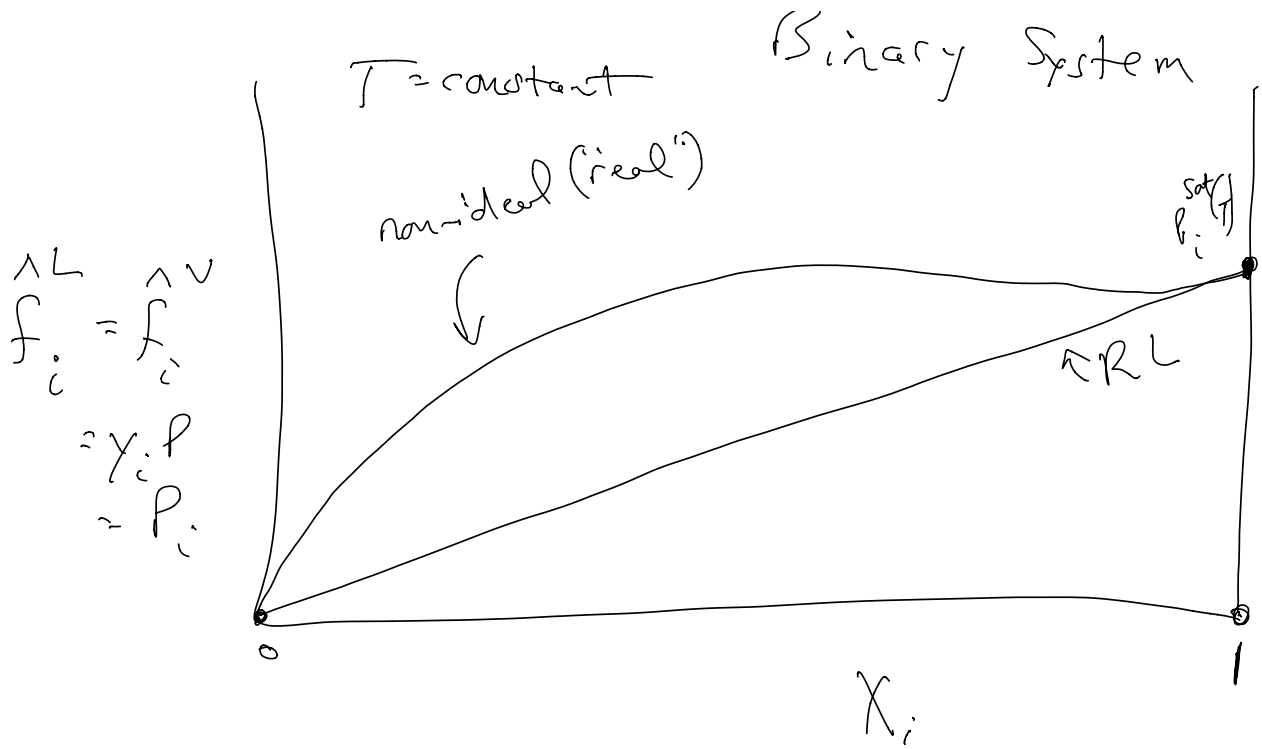
$$K_{sp} = a_{\text{Cl}^-} a_{\text{Ag}^+} = \left\{ \gamma_{\text{Cl}^-} \frac{[\text{Cl}^-]}{[\text{Cl}^-]^{\text{ref}}} \right\} \left\{ \gamma_{\text{Ag}^+} \frac{[\text{Ag}^+]}{[\text{Ag}^+]^{\text{ref}}} \right\}$$

$\frac{1}{I} \subset I^{\text{ref}}$  problem



Not  
exactly  
this

$$K_{sp} = \frac{a_{\text{Pb}^{2+}} a_{\text{Cl}^-}^2}{a_{\text{PbCl}_2}}$$



Assume Ideal Vapor

$$\hat{f}_i^V = P_i = \gamma_i P$$

$$\gamma_i = \frac{\hat{f}_i^L}{X_i f_i^{\text{ref}}} = \frac{X_i P_i^{\text{sat}}}{X_i P_i^{\text{sat}}}$$

as  $X_i \rightarrow 1$      $\gamma_i \rightarrow 1$

RL standard  
reference  
state