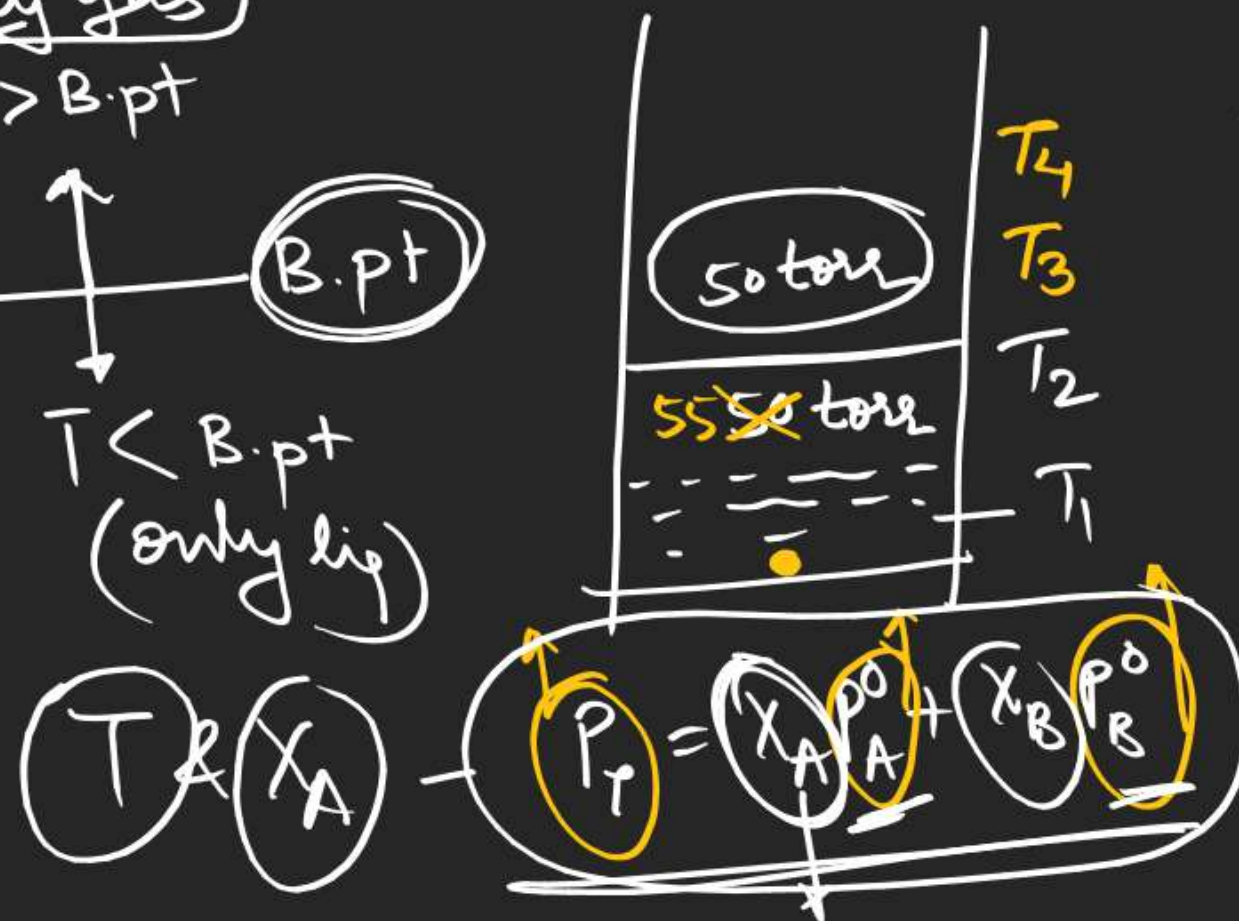
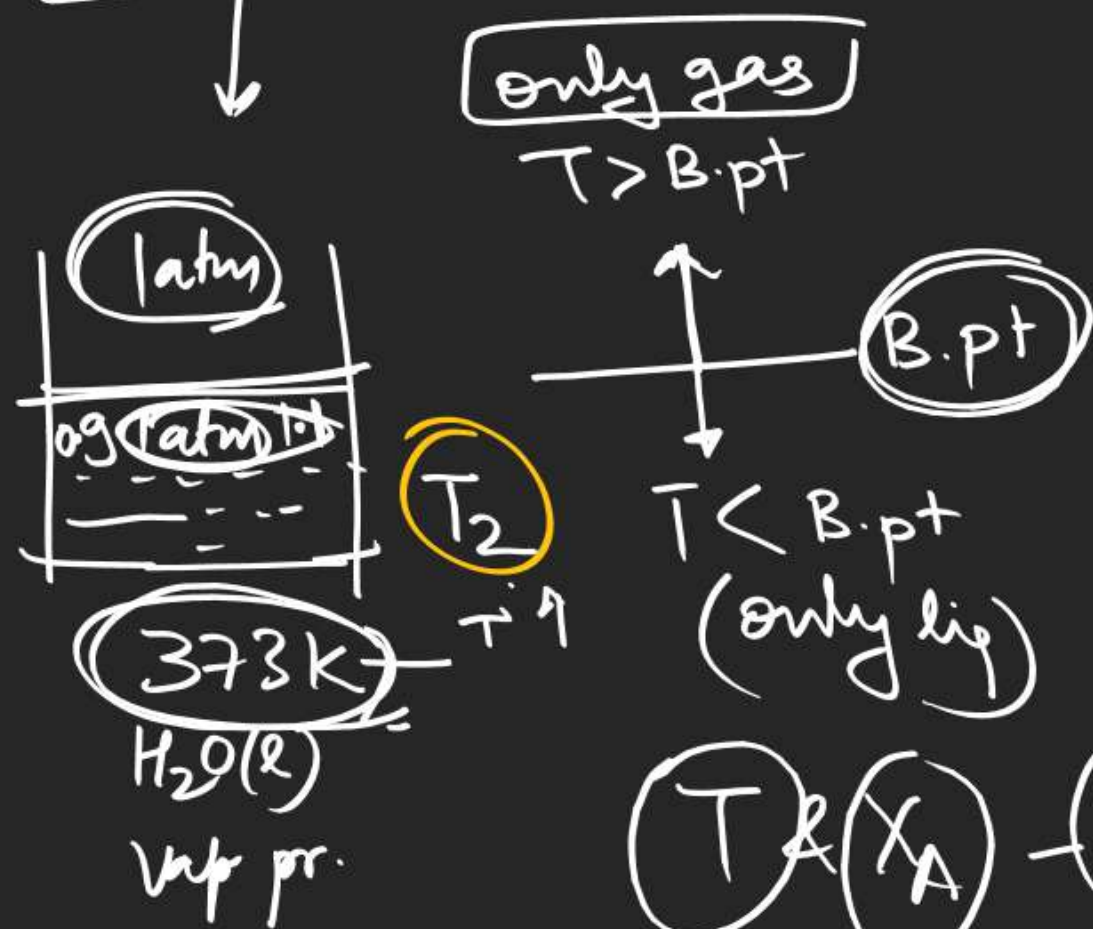
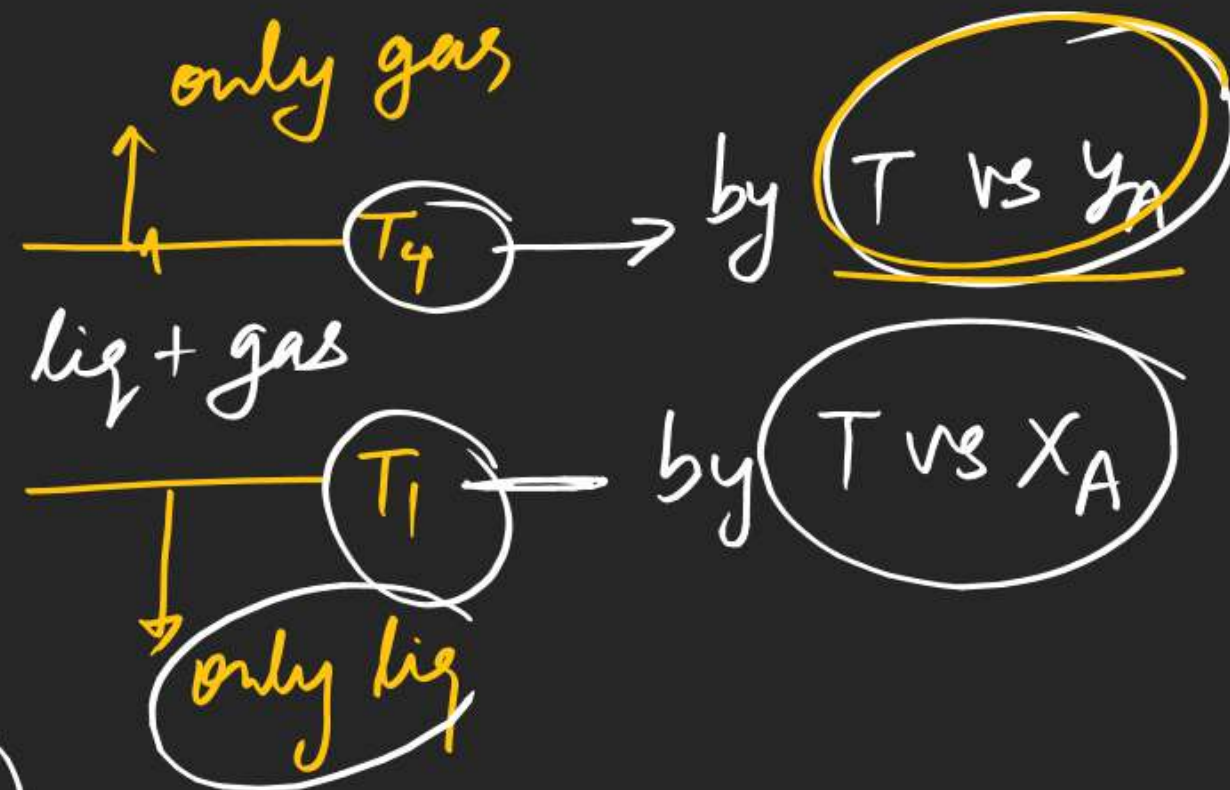


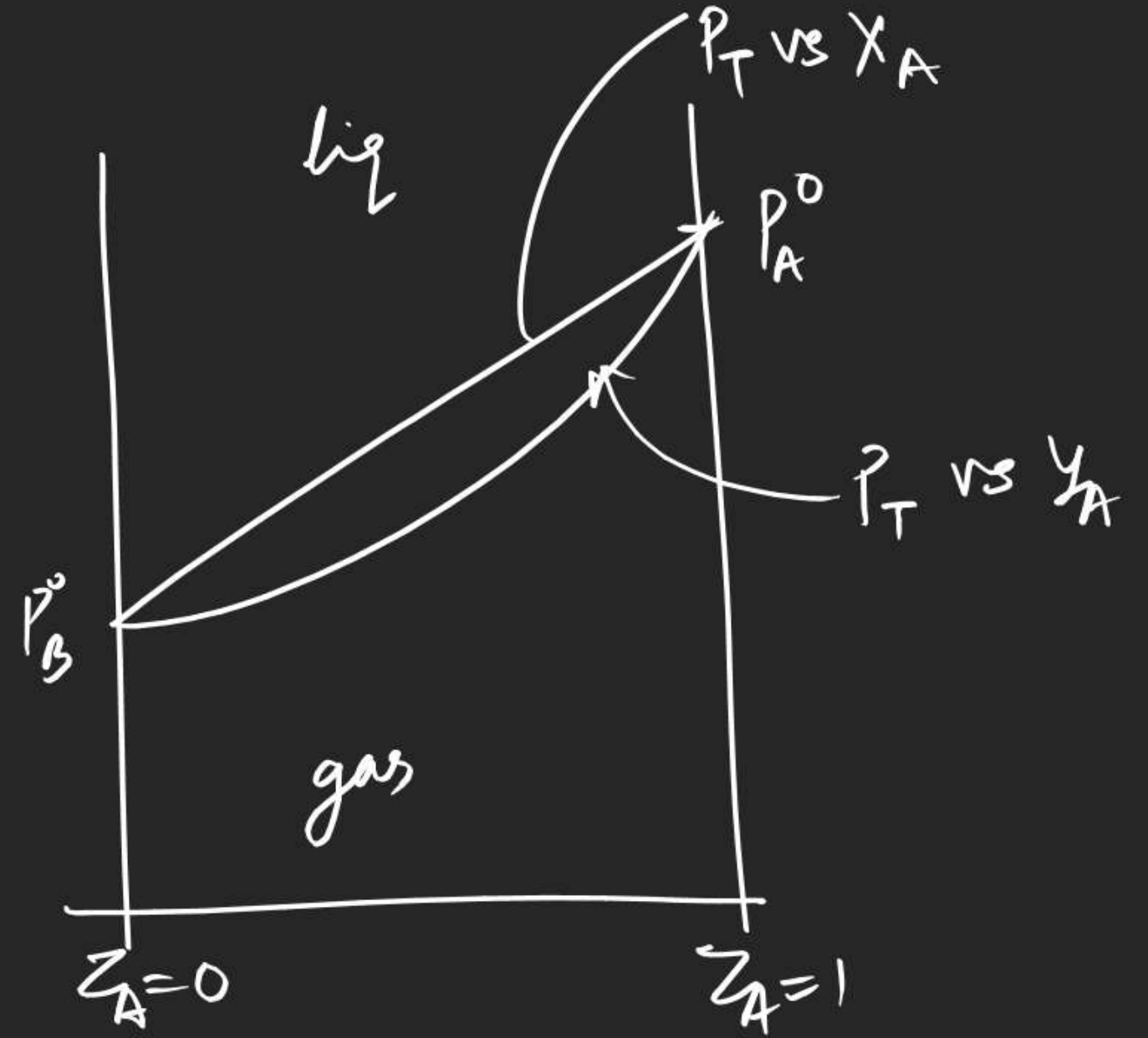
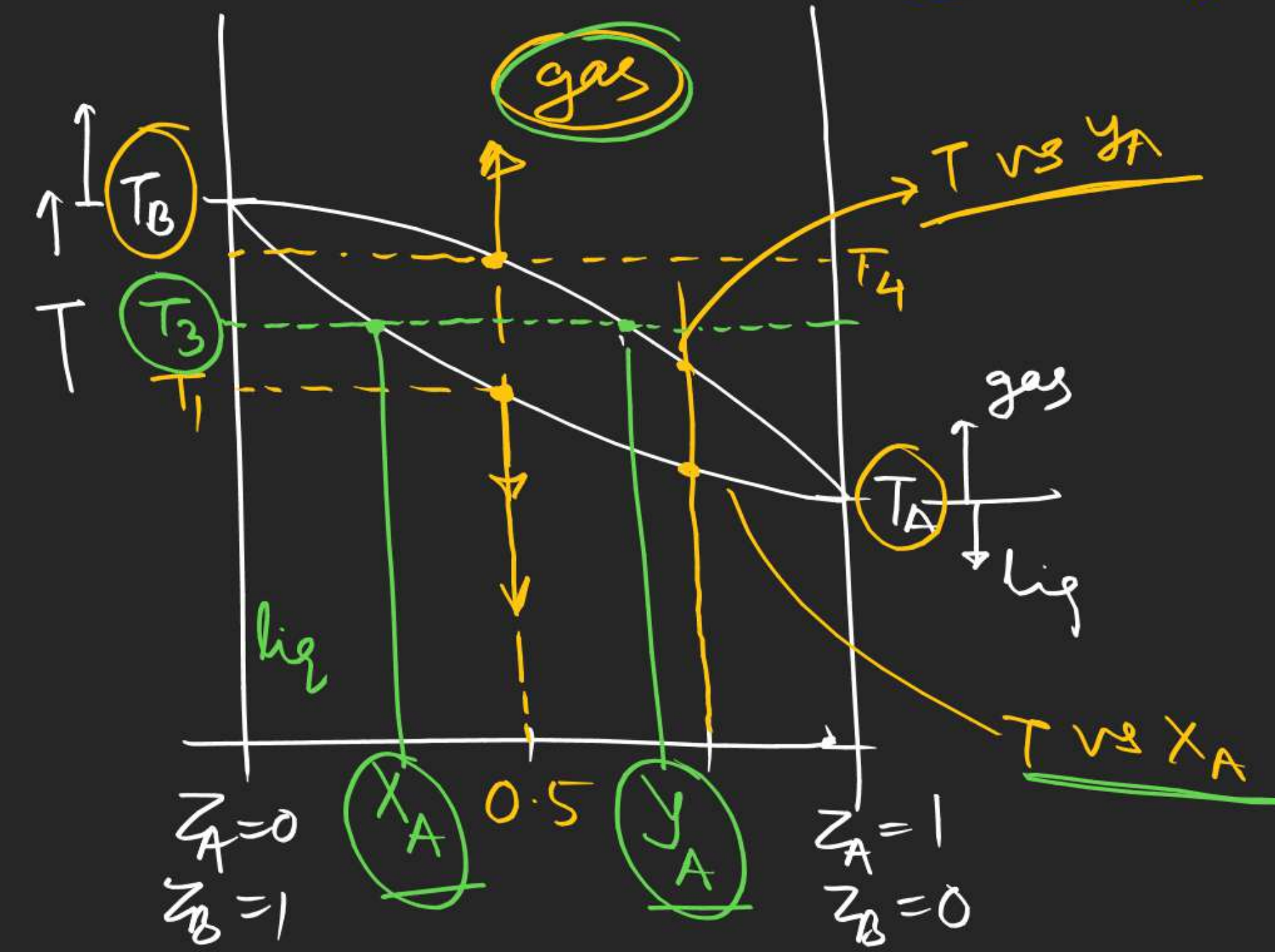
⑥ Solution

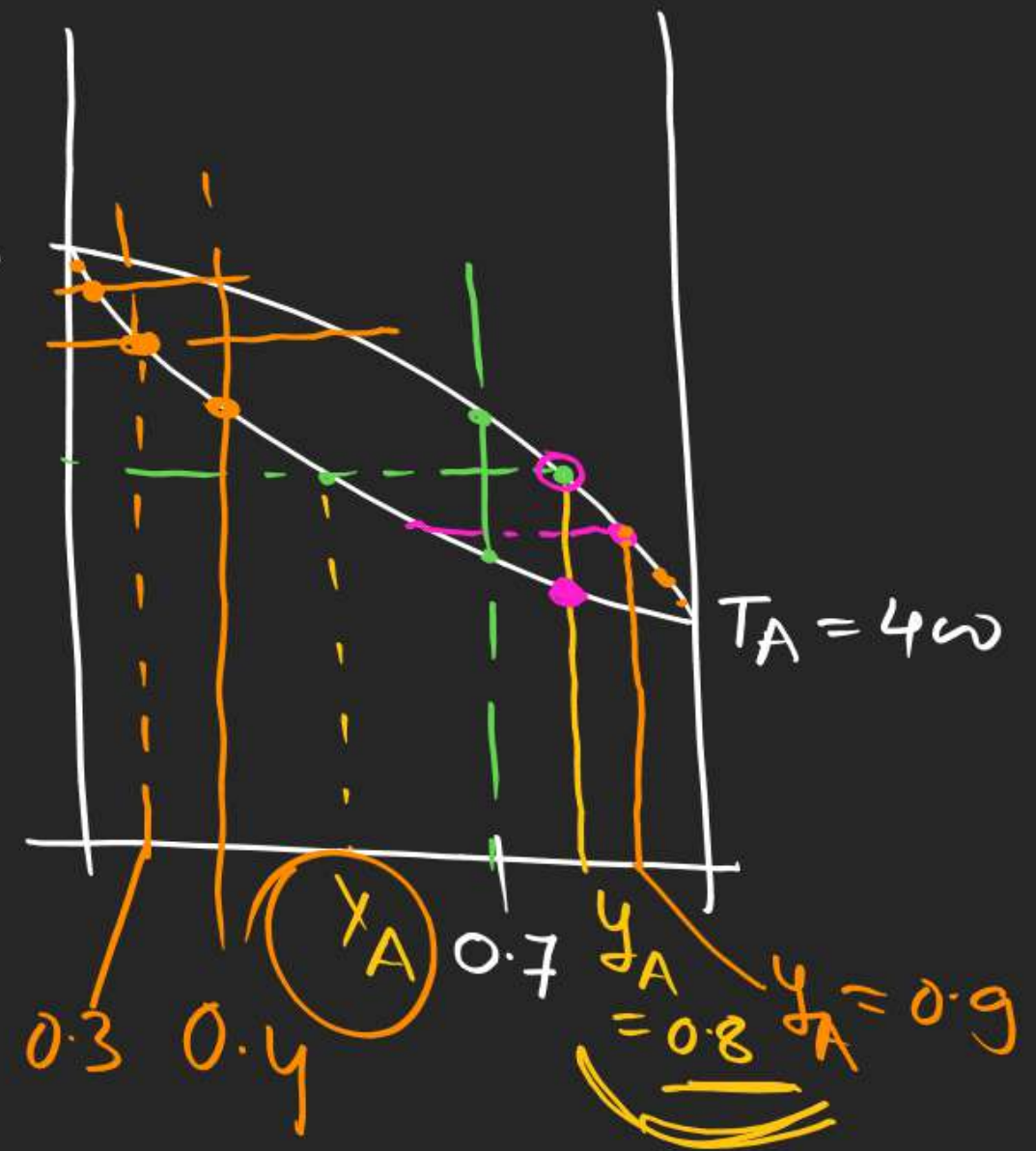
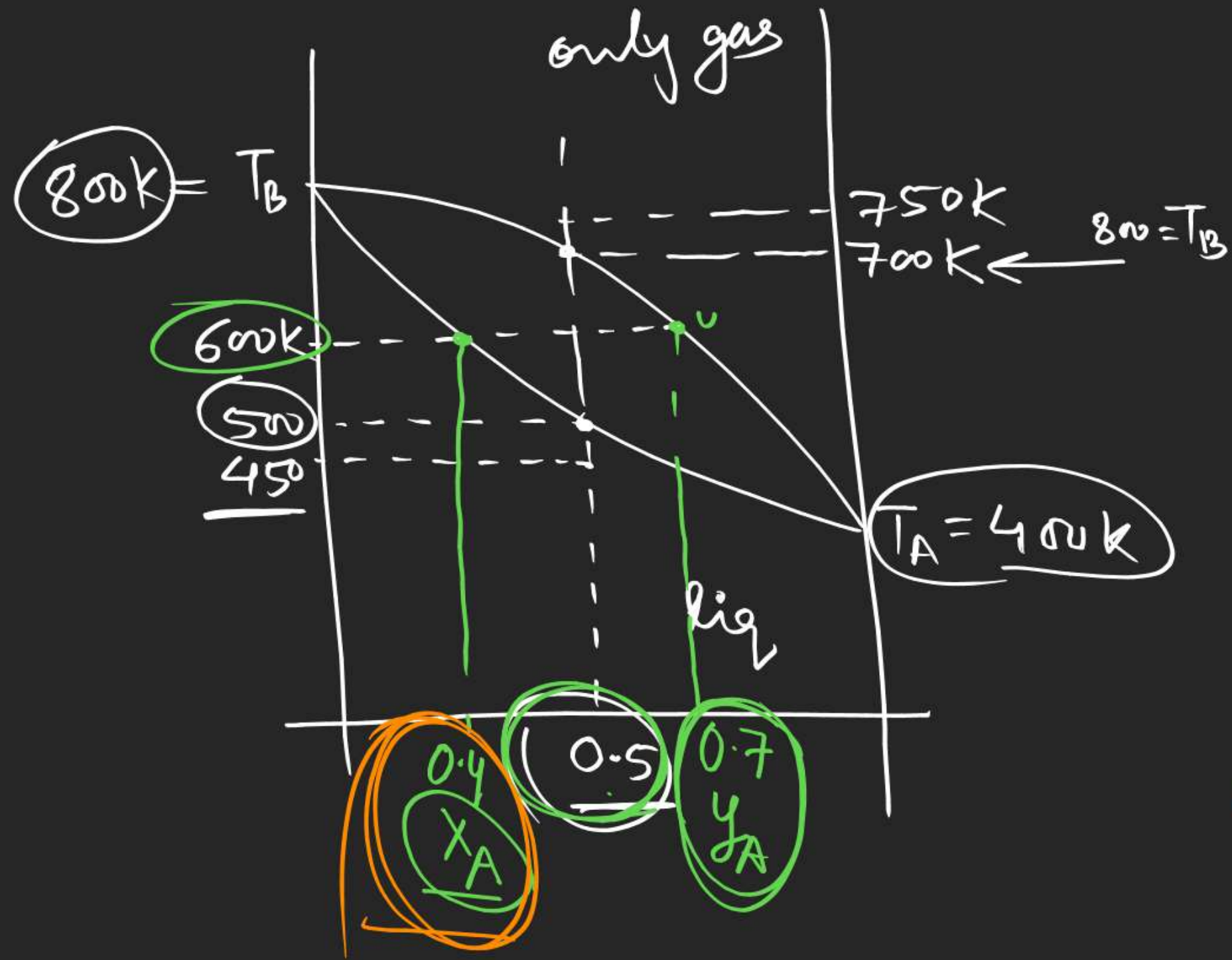


$$T \& y_A \leftarrow \frac{1}{P_T} = \frac{y_A}{P_A^0} + \frac{y_B}{P_B^0}$$



# phase diagram







# Distillation

Zn	907°C
↑ Cd	767°C



30, 31, 32 hold

(28)

$4 \times 0.5$   
2 mol

1 mol  
446 gm

$\text{Ag}^+$   
 $4 \times 10^{-7}$

$\text{Br}^-$   
 $3 \times 10^{-7}$

$\text{NO}_3^-$   
 $10^{-7}$

(33)

$$K_{\text{soln}} = K_{\text{Ag}^+} + K_{\text{Br}^-} + K_{\text{NO}_3^-}$$

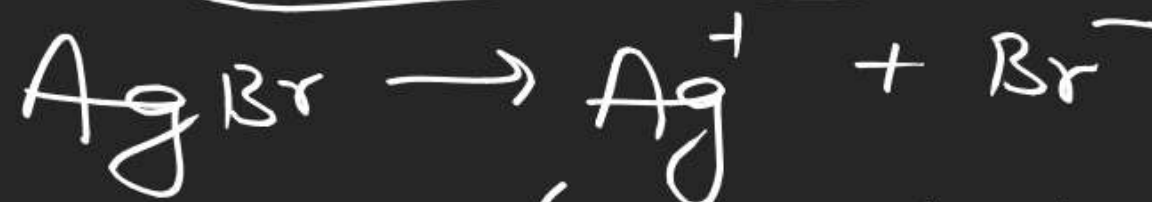
for ions

$$\Lambda_m^\infty = \Lambda_m = \frac{K}{1000 \times M}$$

$\Lambda_m^\infty$

$\Lambda_m^\infty$

$\Lambda_m^\infty$



$$(10^{-7} + s)(s) = 12 \times 10^{-14}$$

$$s = 3 \times 10^{-7}$$



$$\Delta G_r^\circ = \Delta G_f^\circ(\text{Pr}) - \Delta G_f^\circ(\text{R})$$

$$= -nFE_{\text{cell}}^\circ$$

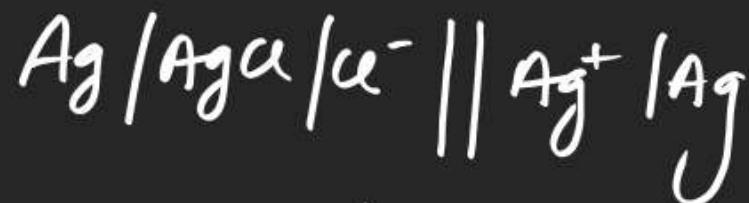
$$\Delta G^\circ = -RT \ln \frac{1}{K_{\text{eq}}}$$

$$S = K_{\text{eq}} = 10^{-10}$$

$$K_{\text{eq}} = \frac{[\text{Zn}^{2+}]}{[\text{Ag}^+]^2}$$

$$E_{\text{cell}}^\circ = 1.56$$

$$E^\circ = \frac{0.059}{2} \log K$$



$$\begin{matrix} 10^{-3} & 10^{-6} & 0 \\ & 0 & 10^{-6} \text{ mol} \end{matrix}$$

(44)

15°C

0.23

25°C

0.22

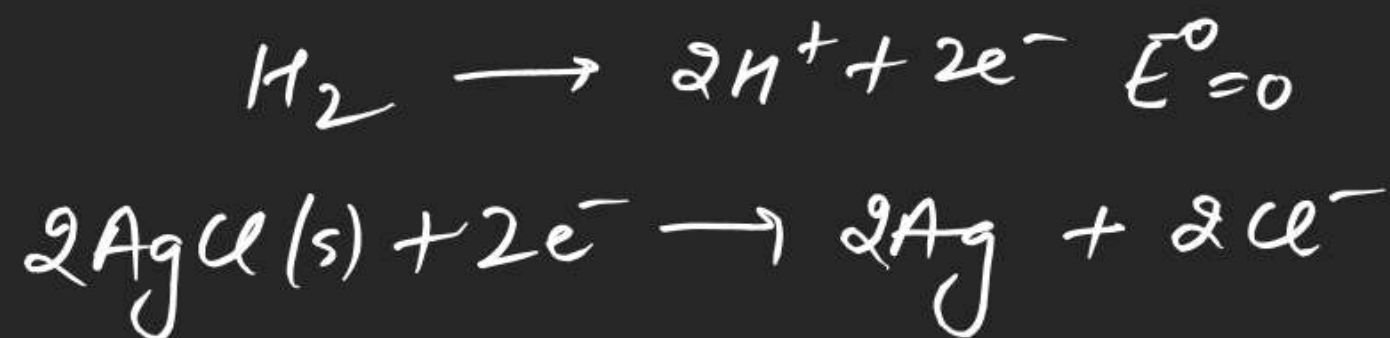
35°C

0.21 volt

$$-nF(E) = \Delta G = \underline{\Delta H} - (T) \underline{\Delta S}$$

$$nF \frac{dE}{dT} = \Delta S$$

$$-nF \left( \frac{0.02}{20} \right) = \Delta S$$



$$0.22 = E^\circ_{AgCl/Ag^+, Cl^-}$$

$$0.8 = E^\circ_{Ag^+/Ag}$$

K<sub>sp</sub>