

(21) ^{PSB} 6 m glucose = $\frac{6 \text{ mds glucose}}{1 \text{ Kg water}}$

$$X_{\text{glucose}} = \frac{\text{Moles glucose}}{\text{Moles glucose} + \text{Mole H}_2\text{O}} = \frac{6}{6 + 55.6} = 0.0974$$

1000g H₂O	1 mole H ₂ O	= 55.6
	18g H₂O	

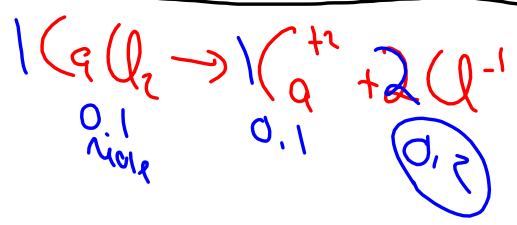
$$X_{\text{H}_2\text{O}} = \frac{55.6}{55.6 + 6} = 0.9$$

Jan 10-7:42 AM

(23) Find X_{Cl^-} $\frac{0.1 \text{ mole CaCl}_2}{100 \text{g H}_2\text{O}}$

$$X_{\text{Cl}^-} = \frac{\text{mole Cl}^-}{\text{Mdes Cl}^- + \text{Mdes H}_2\text{O}} = \frac{0.2}{0.2 + 5.56} = 0.2612962833$$

H₂O	100g	1 mole	= 5.56 mole H ₂ O
		18g	



Jan 10-7:58 AM

20 1 M glucose $\rho =$ $\frac{\text{Moles glucose}}{\text{L soln}}$
 Need density $\rho = \frac{\text{Moles glucose}}{\text{kg Water}}$
 $D = \frac{m}{V}$
 soln
 glucose + water

Jan 10-8:05 AM

20 Benzene Toluene
 $X_{Bz} = 0.65$ $X_{Tol} = 0.35$
 $VP_{Bz} = 94.6 \text{ torr}$ $VP_{Tol} = 29.1 \text{ torr}$
 $VP_{\text{solvent}} = X_{\text{solvent}} P_{\text{pure solvent}}$
 $VP_{Bz} = (0.65)(94.6) = 61.49 \text{ torr}$
 $VP_{Tol} = (0.35)(29.1) = 10.185 \text{ torr}$
 71.675 torr

Jan 10-8:08 AM

$\Delta T = (K \times m) \cdot i$

(a) KCl (2) ↑ # particles
 (b) $CaSO_4$ (2)
 (c) $C_6H_{12}O_6$ (1) Cov.
 (d) Na_2SO_4 (3) ←
 (e) C_2H_5OH (1) Cov.

Jan 10-8:16 AM

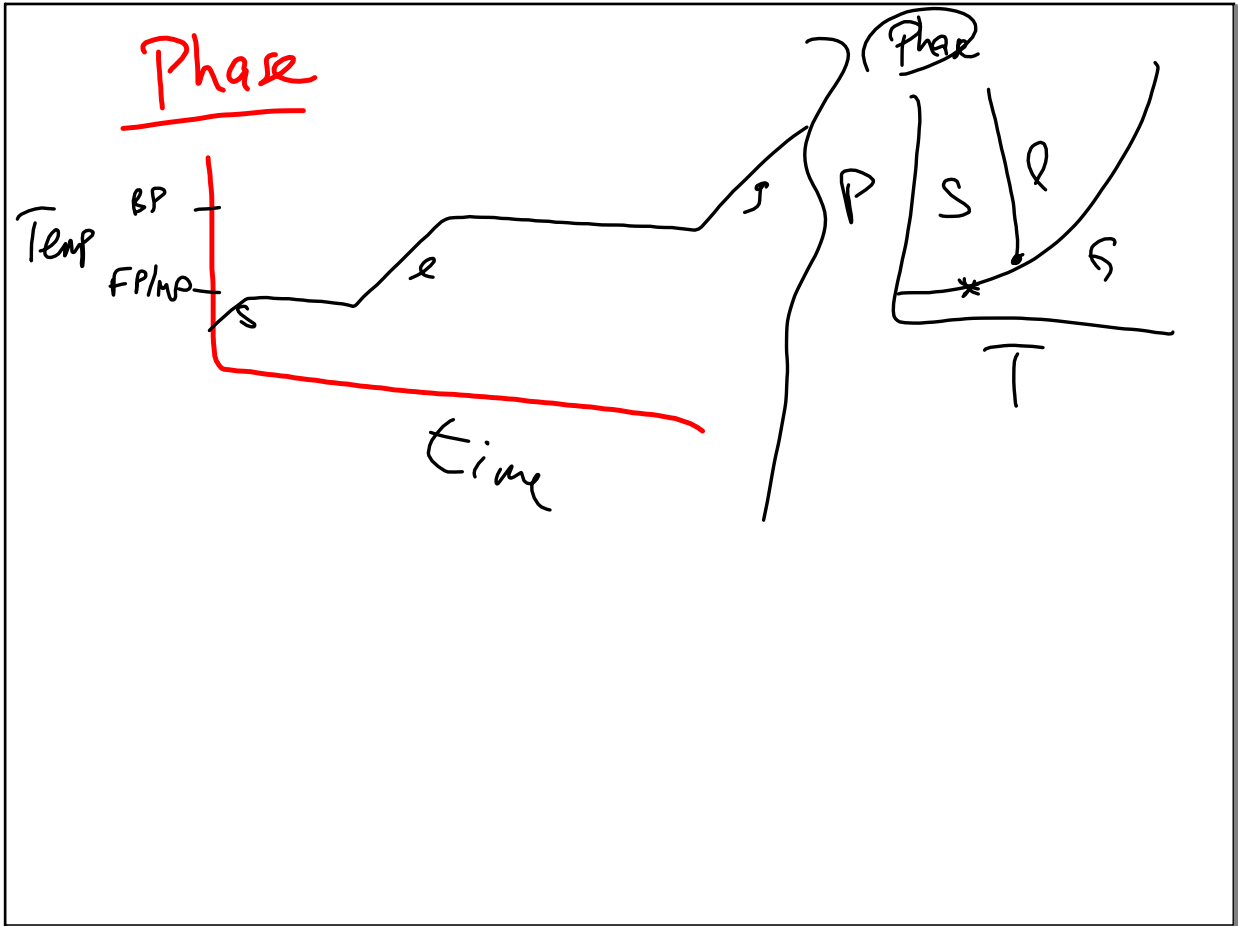
(2) $\frac{0.03 \text{ moles glucose}}{100g \text{ H}_2O}$, $VP_{H_2O}^{pure} = 355 \text{ torr}$
 $80^\circ C$

Find VP_{soln}

$VP_{soln} = X_{solvent} \cdot P_{pure \text{ solvent}}$
 $VP_{soln} = (0.9946) (355)$

$X_{H_2O} = \frac{\text{Mole H}_2O}{\text{Mole H}_2O + \text{Mole Glucose}} = \frac{5.56}{5.56 + 0.03} = 0.9946$

Jan 10-8:21 AM



Jan 10-8:40 AM

⑩ 7g non-eler. , 45g H₂O , $K_f = 1.86 \frac{^{\circ}\text{C}}{\text{m}}$

Pure FP = 0°C

Soln FP = -2.56°C

$\Delta T = 2.56$

Find MW

1.38 m	0.045 kg H₂O
kg H₂O	

= 0.062 m

① $\Delta T = (K_f \times m)$

$2.56 = (1.86 \times m)$

$1.38 \text{ m} = \frac{1.38 \text{ mols non-eler}}{\text{kg H}_2\text{O}}$

$\frac{\text{mols}}{1} = \frac{g}{\text{MW}}$

$\text{MW} = \frac{g}{\text{mole}} = \frac{7}{0.062} = 113$

Jan 10-9:12 AM

13.73

Jan 10-9:18 AM