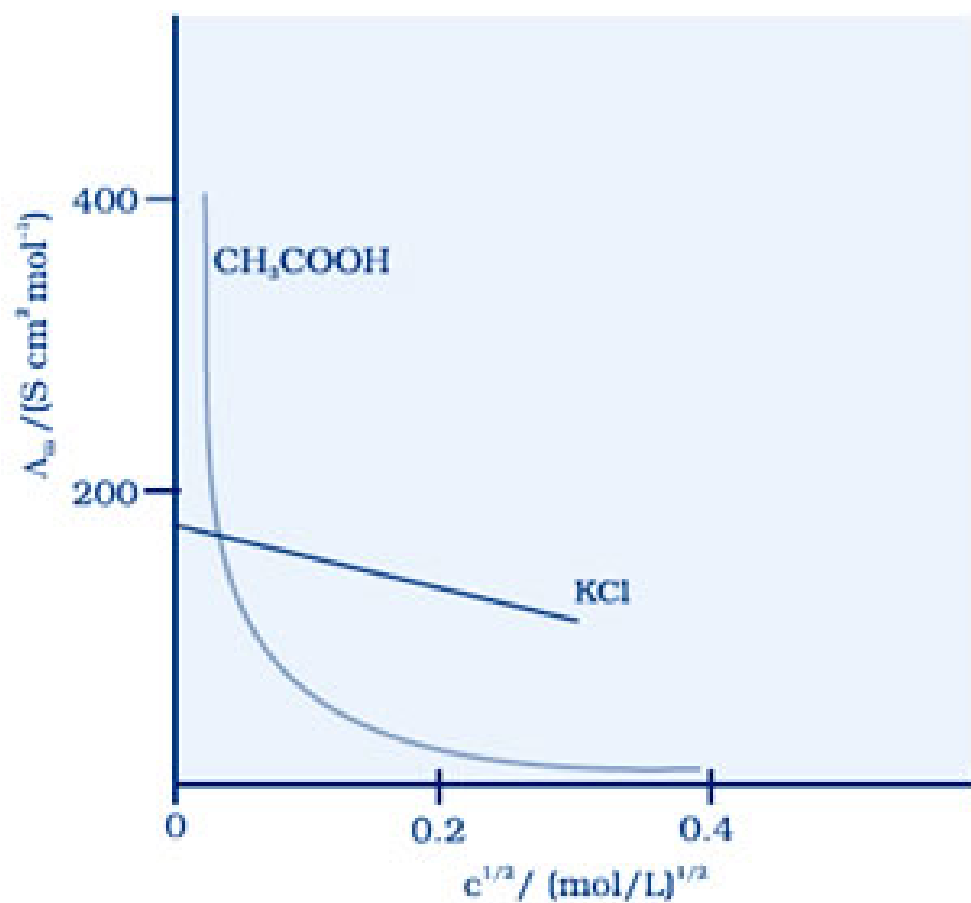
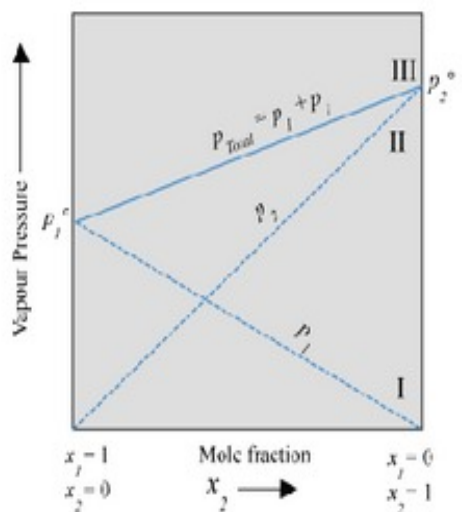


Important graphs

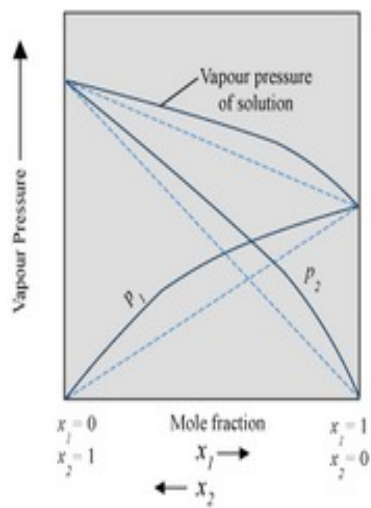
DAV CENTENARY PUBLIC SCHOOL, PASCHIM ENCLAVE, NEW DELHI-87



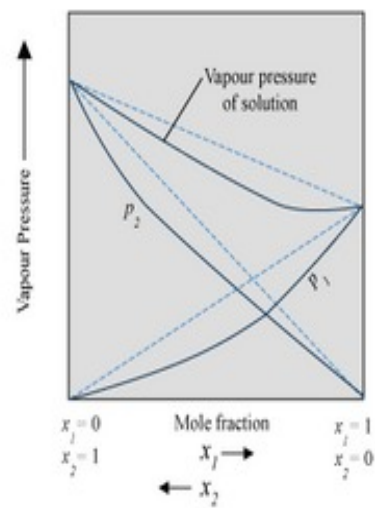
Molar conductivity versus $c^{1/2}$ for acetic acid (weak electrolyte) and potassium chloride (strong electrolyte) in aqueous solutions.



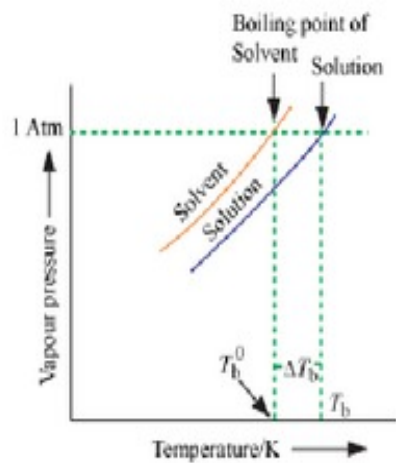
Ideal solution



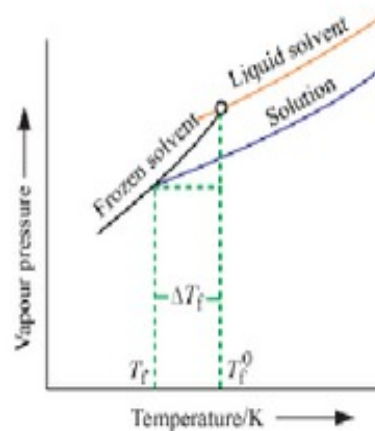
Positive deviation



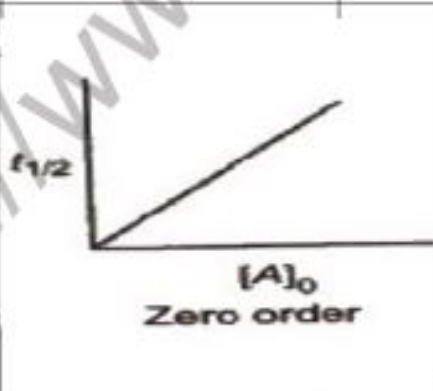
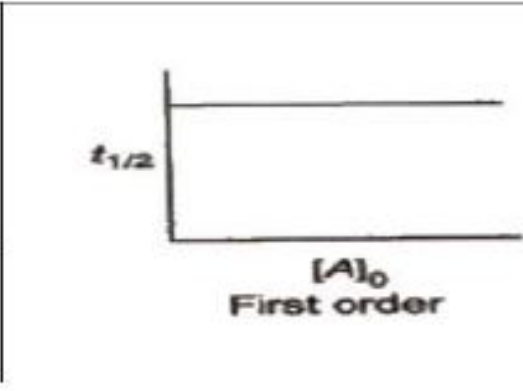
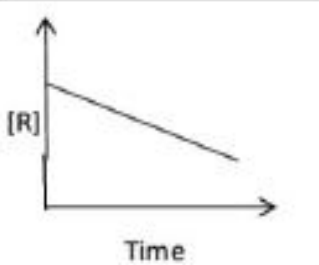
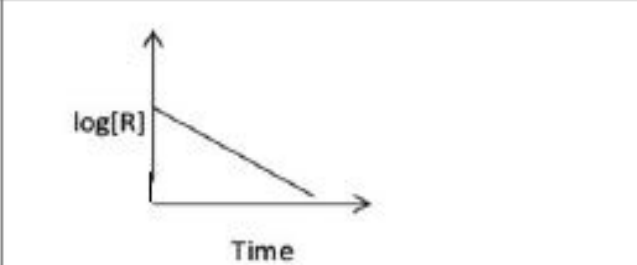
Negative deviation



Elevation in boiling point



Depression of freezing point

	for zero order reaction	for first order reaction
Integrated rate equation	$k = \frac{[R]_0 - [R]}{t}$	$k = \frac{2.303}{t} \log \frac{[R]_0}{[R]}$
Half life	$t_{1/2} = [R]_0 / 2k$	$t_{1/2} = 0.693/k$
Graph b/w half-life & conc of Reactant	 <p style="text-align: center;">$[A]_0$ Zero order</p>	 <p style="text-align: center;">$[A]_0$ First order</p>
Graph b/w conc. of reactant & time	 <p style="text-align: center;">Time</p>	 <p style="text-align: center;">Time</p>

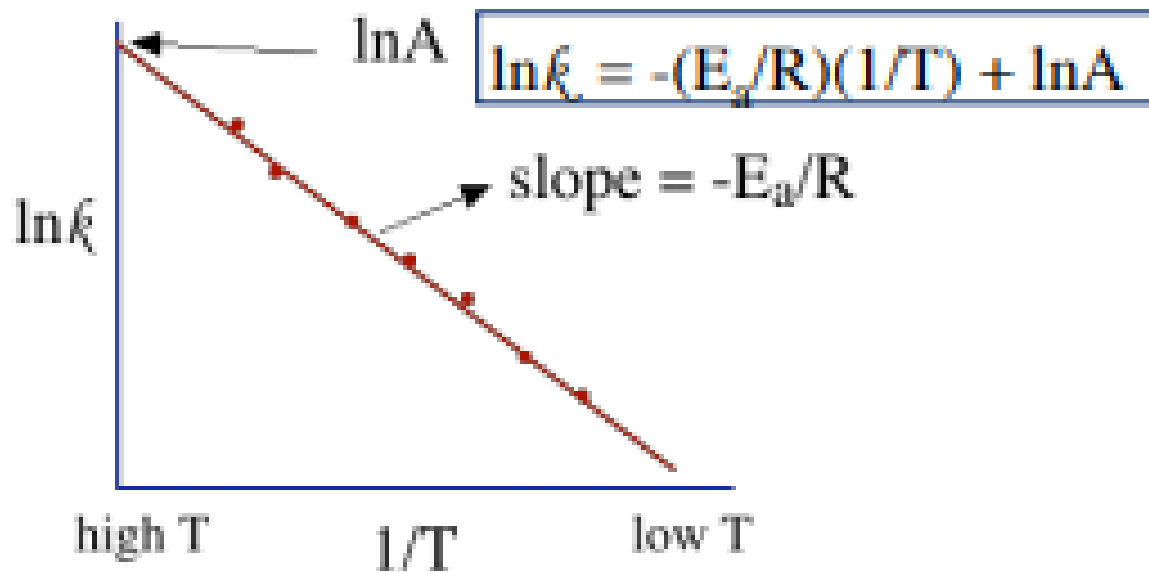
7. Arrhenius equation

$$\log K = \log A - E_a / 2.303RT$$

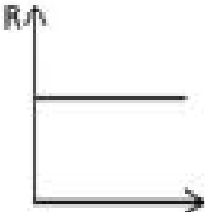
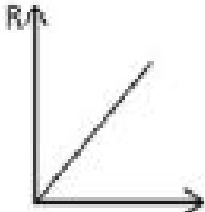
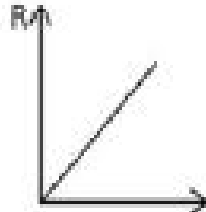
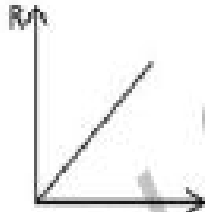
$$\log \frac{k_2}{k_1} = \frac{E_a}{2.303R} \left[\frac{T_2 - T_1}{T_1 T_2} \right]$$

Arrhenius Eqn., Graphical Form

A “best fit” to many data is better!



5. Units of rate constants and graph between rate and conc. of reactant

Order of reaction	zero	first	second	third
Unit of rate constt.	$\text{Mol L}^{-1} \text{s}^{-1}$	s^{-1}	$\text{Mol}^{-1} \text{L}^{+1} \text{s}^{-1}$	$\text{Mol}^{-2} \text{L}^{+2} \text{s}^{-1}$
Relation b/w rate & conc of Reactant	$R \propto [A]^0$	$R \propto [A]^1$	$R \propto [A]^2$	$R \propto [A]^3$
Graph b/w rate & conc of Reactant	 <p style="text-align: center;">$[A]$</p>	 <p style="text-align: center;">$[A]^1$</p>	 <p style="text-align: center;">$[A]^2$</p>	 <p style="text-align: center;">$[A]^3$</p>

