

Pseudo Order Reaction

↳ Reaction in which one of the reactant is present in large / excess.



[DEPTH OF BIOLOGY]

Show a diff. order as compared to actual.

↳ Exp. order (not the actual one = Pseudo order)

Eg :-



[DEPTH OF BIOLOGY]

$$\text{Rate Law} = k[A][B]$$

B↑↑↑ (So, its Conc. remain practically Const. in the course of rxn).

$$\text{Rate} = k'[A]$$

Where, new rate const. $\Rightarrow k' = k[B]$

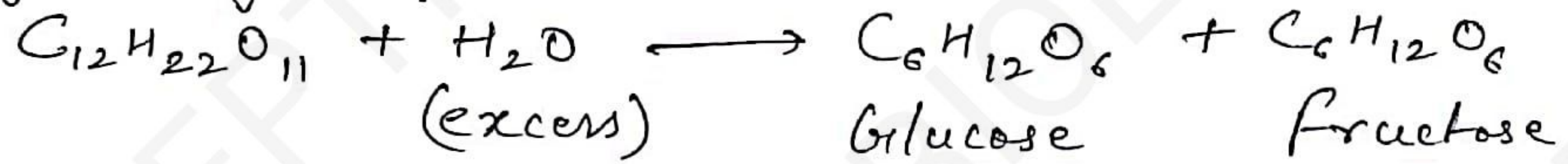
▶ The actual order of the rxn. is 2nd order.

[DEPTH OF BIOLOGY]

But, in practical it will be 1st order.

→ So, rxn is said to have a pseudo-first order. [DEPTH OF BIOLOGY]

eg:- Hydrolysis of Sucrose →



$\text{H}_2\text{O} = \uparrow\uparrow\uparrow$ (practically const.)

$$\text{rate} = k [\text{C}_{12}\text{H}_{22}\text{O}_{11}] [\text{H}_2\text{O}]$$

$$\text{rate} = k [\text{C}_{12}\text{H}_{22}\text{O}_{11}]$$

[DEPTH OF BIOLOGY]

Reaction through second order rxn is experimentally found to be 1st order.
(Pseudo first order rxn)