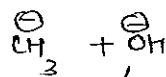
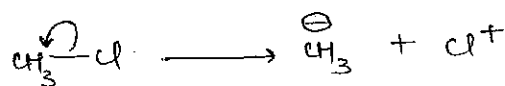


3rd possible principle



can be neglected.

Study of reaction mechanism is only done with indirect method:
and these indirect methods are :-

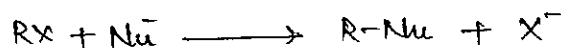
- ① study of kinetics :-
- ② use of isotope
- ③ cross over experiment
- ④ product isolation
- ⑤ Intermediate trapping
- ⑥ Stereochemistry

Study of kinetics :-

If any reaction is taking place in multiple step then one of the step is always slowest step, this slowest step is regarded as rate determining step (r.d.s)

Kinetics of reaction depend upon r.d.s step, Therefore kinetic study may provide information about the process taking place during conversion of reactant into product

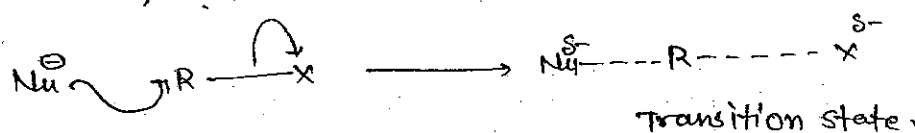
Suppose a reaction



According to chemical kinetics

$$\boxed{\text{Rate} = k_2 [\text{RX}] [\text{Nu}^-]}$$

In RDS step both substrate and nucleophile are involve which is only possible whenever,



that means it is a single step reaction, taking place through transition state.