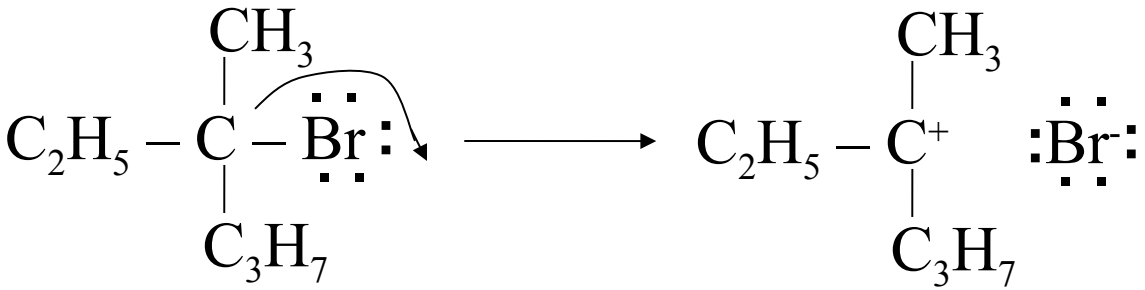
# Nucleophilic Substitution

## $S_N1$

rate determining step **unimolecular**

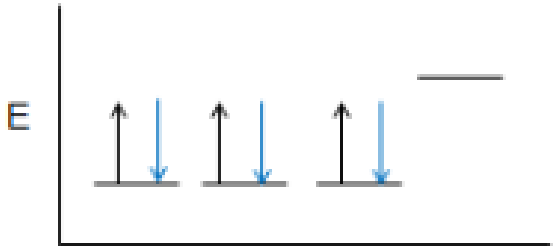
*step 1*




slow

$C^+$ carbocation

$(4 - ½\,(6) - 0) = +1$




reactants are optically active ✓

products are optically **inactive**

rate = k [R – X]