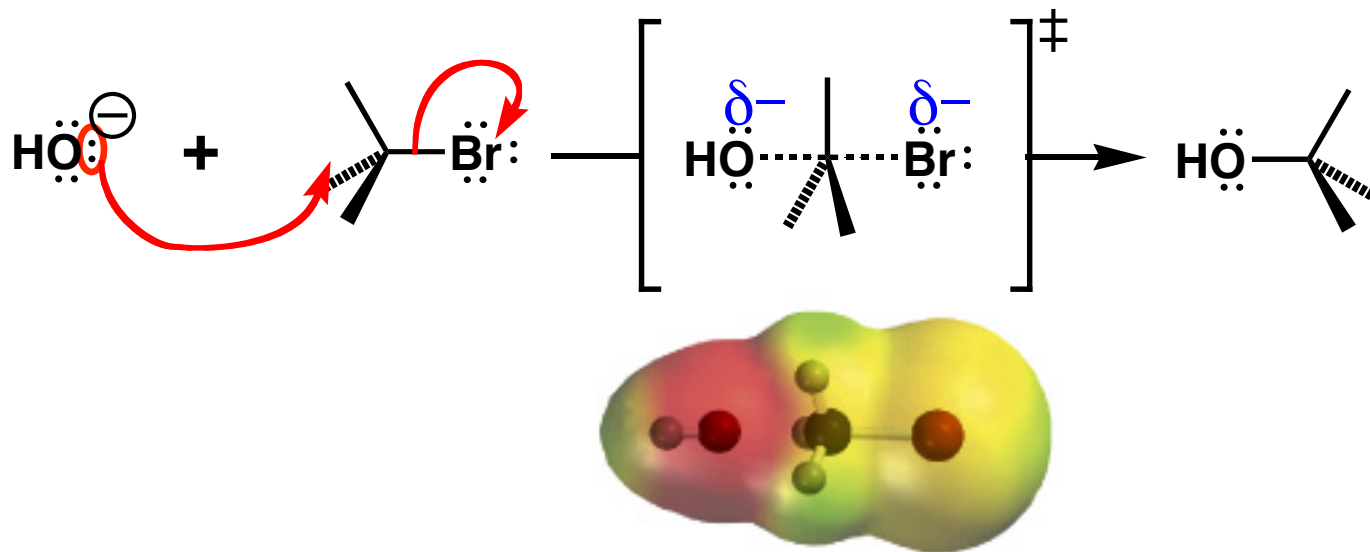


Bimolecular Nucleophilic Substitution: Simultaneous Bond Making and Bond Breaking

The $[S_N2]$ pathway (Substitution, Nucleophilic, Bimolecular)

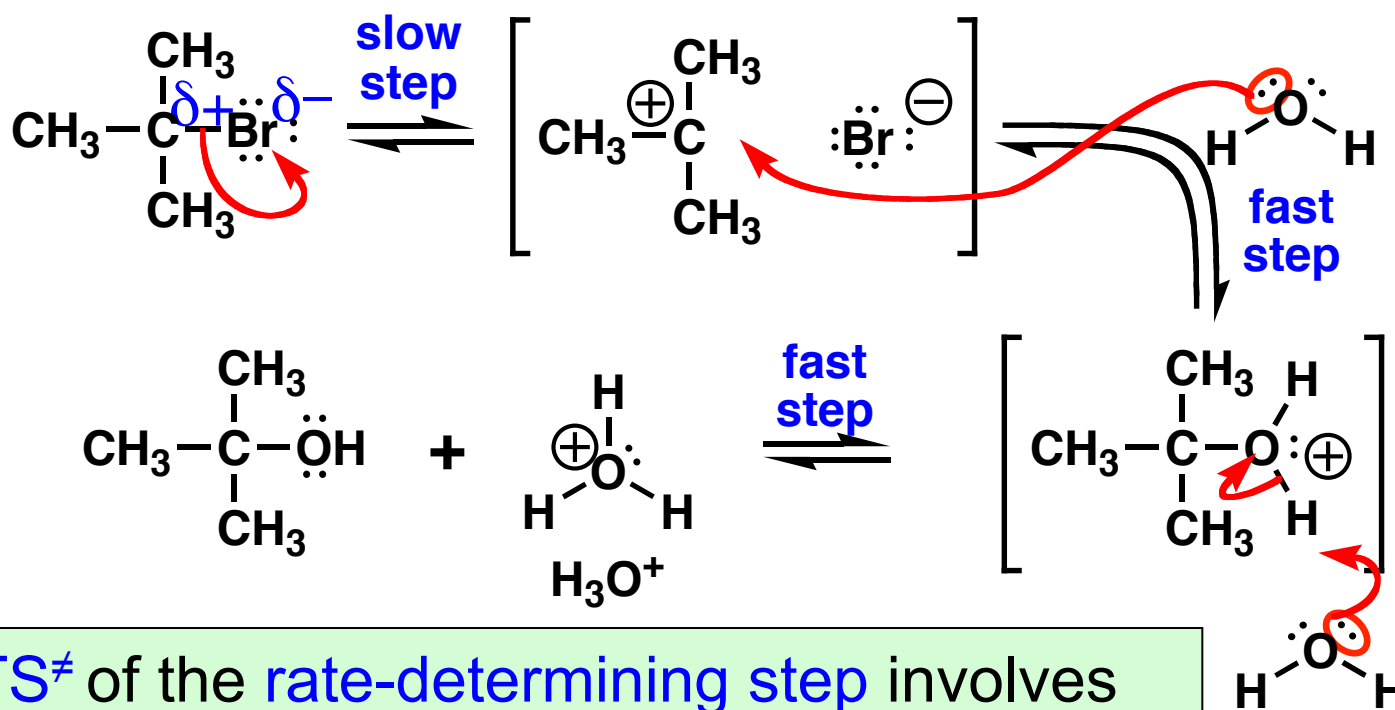


The TS^\ddagger of the rate-determining step involves the association of two molecules (bimolecular)



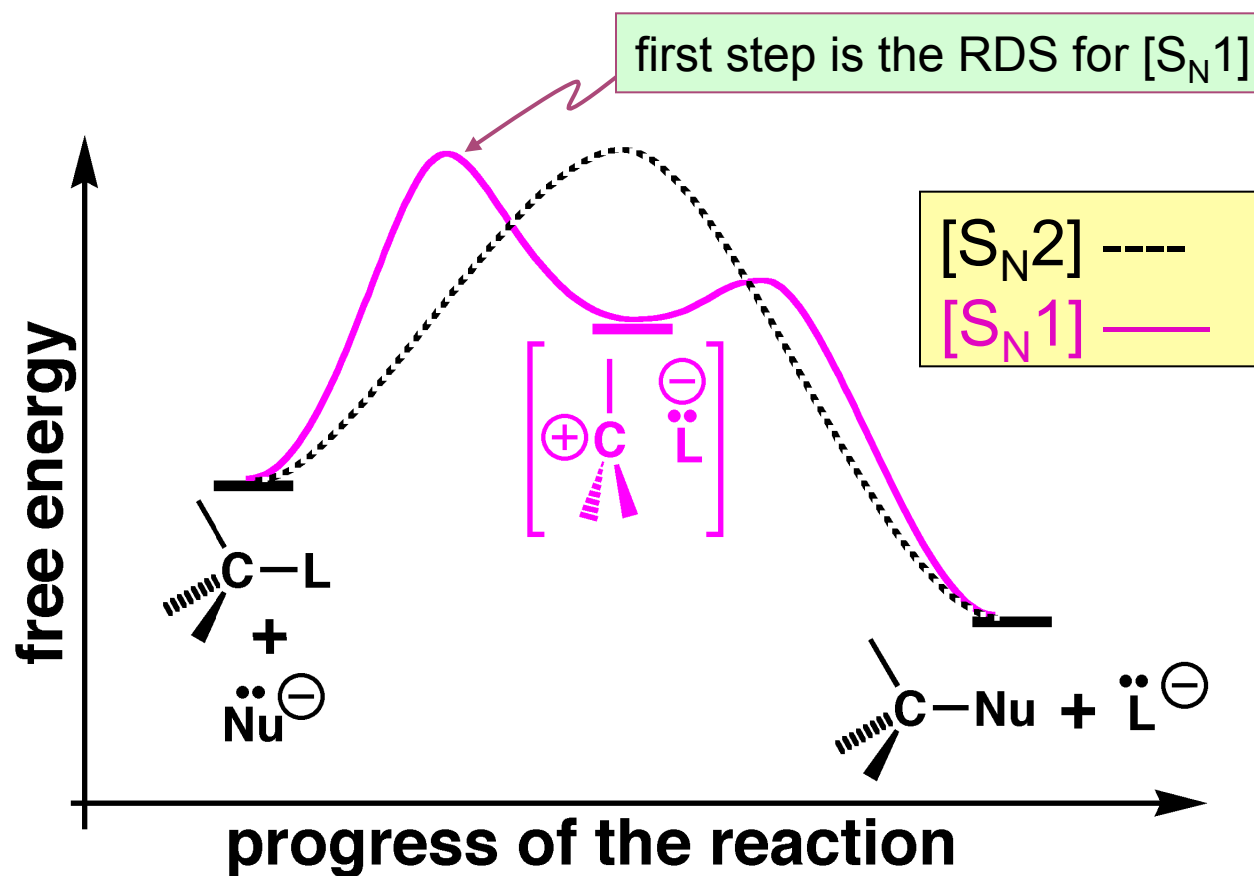
Unimolecular Nucleophilic Substitution: Bond Breaking Precedes Bond Making

The S_N1 pathway (**S**ubstitution, **N**ucleophilic, **U**nimolecular)



The TS^\ddagger of the **rate-determining step** involves just one molecule (unimolecular)

Comparison of [S_N1] and [S_N2] Pathways



Nucleophilic substitution	Simple S _N 2 reaction
Elimination	S _N 1 and S _N 2
Electrophilic aromatic substitution	Carbocation structure and stability

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