Photo Halogenation

1 Reaction and Mechanism

Photo Halogenation

 $R \longrightarrow H + X \longrightarrow X \longrightarrow R \longrightarrow X + X \longrightarrow H$

Mechanism:
$$X \xrightarrow{hv} 2X^{\circ}$$
 $R \xrightarrow{\delta^{+}} H \xrightarrow{K^{\circ}} R^{\circ} + H \xrightarrow{K^{\circ}} K \xrightarrow{K$

2 Reaction Observations

- i. C^{\bullet} obtained as intermediate.
- ii. Example of C^{\bullet} substitution reaction.
- iii. Kinetic isotopic effect is observed.
- iv. Example of Oxidation reaction.
- v. Formation of C^{\bullet} is RDS.

vi. $ROR \propto Stability of C^{\bullet}$

vii. ROR for X_2 , $F_2 > Cl_2 > Br_2 > I_2$