Charged Atoms in Molecules

Atoms in molecules may lose or gain electrons and become charged.

Atoms which lose an electron become positive.



Carbocations are particularly reactive because they do not have a full octet.

Reactivity of other cations is based on electronegativity: the more electronegative the atom is, the more reactive its cation will be.

reactivity: $C^+ > Br^+ > O^+ > N^+$ stability: $N^+ > O^+ > Br^+ > C^+$

Atoms which gain an electron become negative.



Reactivity of anions is based on electronegativity: the more electronegative the atom is, the less reactive its anion will be.

reactivity: $C^- > N^- > O^- > Br^-$ stability: $Br^- > O^- > N^- > C^-$