

conjugated system (conjugation)

In the original meaning a conjugated system is a molecular entity whose structure may be represented as a system of alternating single and multiple bonds: e.g. $\text{CH}_2=\text{CH}-\text{CH}=\text{CH}_2$, $\text{CH}_2=\text{CH}-\text{C}\equiv\text{N}$. In such systems, conjugation is the interaction of one p-orbital with another across an intervening σ -bond in such structures. (In appropriate molecular entities d-orbitals may be involved.) The term is also extended to the analogous interaction involving a p-orbital containing an unshared electron pair, e.g. $:\text{Cl}-\text{CH}=\text{CH}_2$.

See also: delocalization, homoconjugation, resonance

Source:

PAC, 1994, 66, 1077 (*Glossary of terms used in physical organic chemistry (IUPAC Recommendations 1994)*) on page 1099