Alpha cleavage in mass spectrometry is a characteristic fragmentation of the molecular ion derived from carbonyl compounds, in which the bond linking the carbonyl carbon to the atom occupying an alpha position breaks.

eg:

\[ \text{M}^+ \rightarrow \text{M}^+ \text{ (m/z 128)} \]

\[ \text{M}^+ \rightarrow \text{M}^+ \text{ (m/z 95)} + \text{CH}_2\text{CH}_3 \]

\[ \text{M}^+ \rightarrow \text{M}^+ \text{ (m/z 57)} + \text{CH}_3\text{CH}_2\text{CH}_3 \]

see beta cleavage

Contributors

- Gamini Gunawardena from the OChemPal site (Utah Valley University)