

Mass Spectrometry

Chemistry

The stages, and how to read a spectrum.

The stages inside the instrument.

1

Ionisation

Electron impact or electrospray produces positive ions.

2

Acceleration

An electric field gives all ions the same kinetic energy.

3

Deflection

A magnetic field deflects by mass-to-charge ratio.

4

Detection

Abundance recorded against m/z .

READING A SPECTRUM

M peak: the molecular ion, gives M_r

$M+1$ peak: ^{13}C isotope, indicates carbon count

$M+2$ peak: chlorine or bromine present

Base peak: the most abundant fragment

An $M+2$ peak one third the height of M indicates one chlorine; roughly equal heights indicate one bromine.