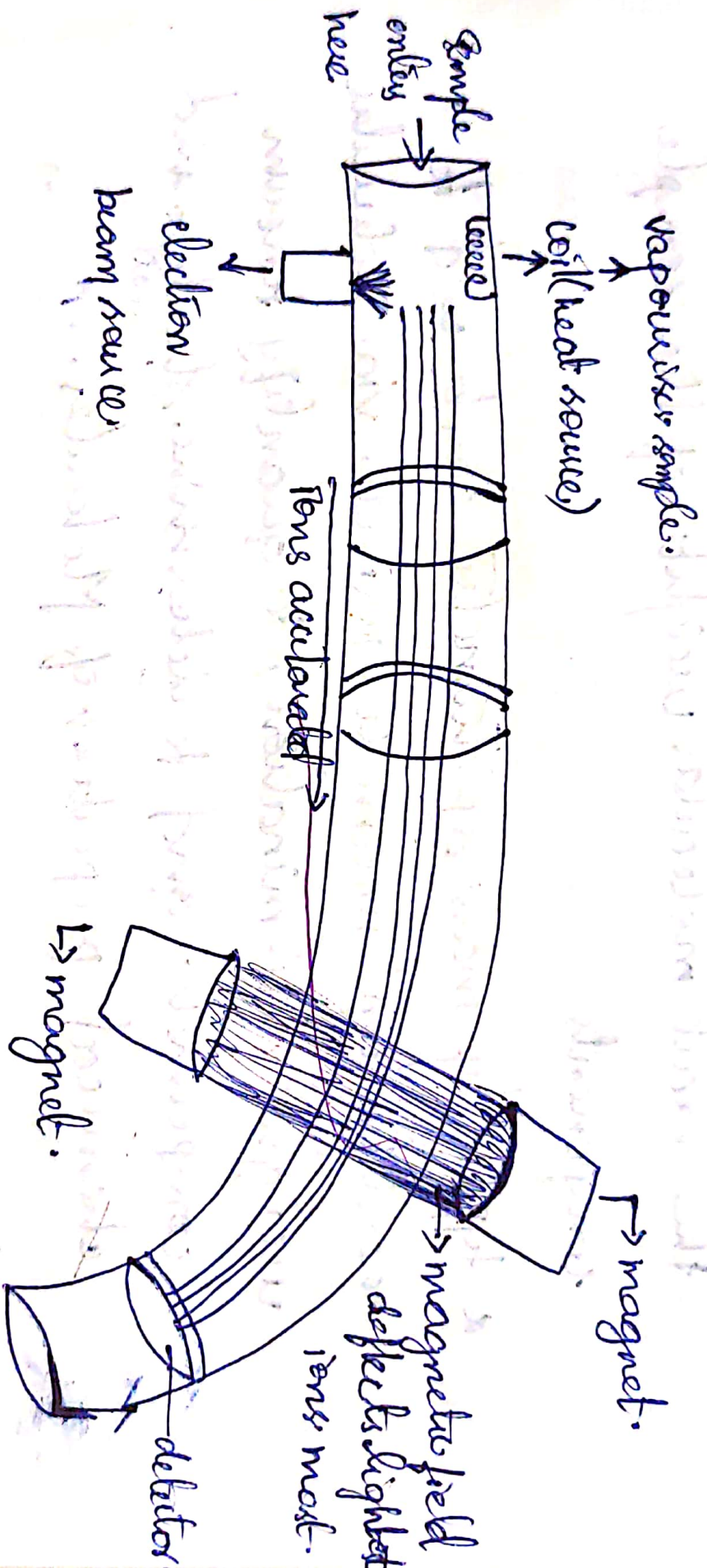
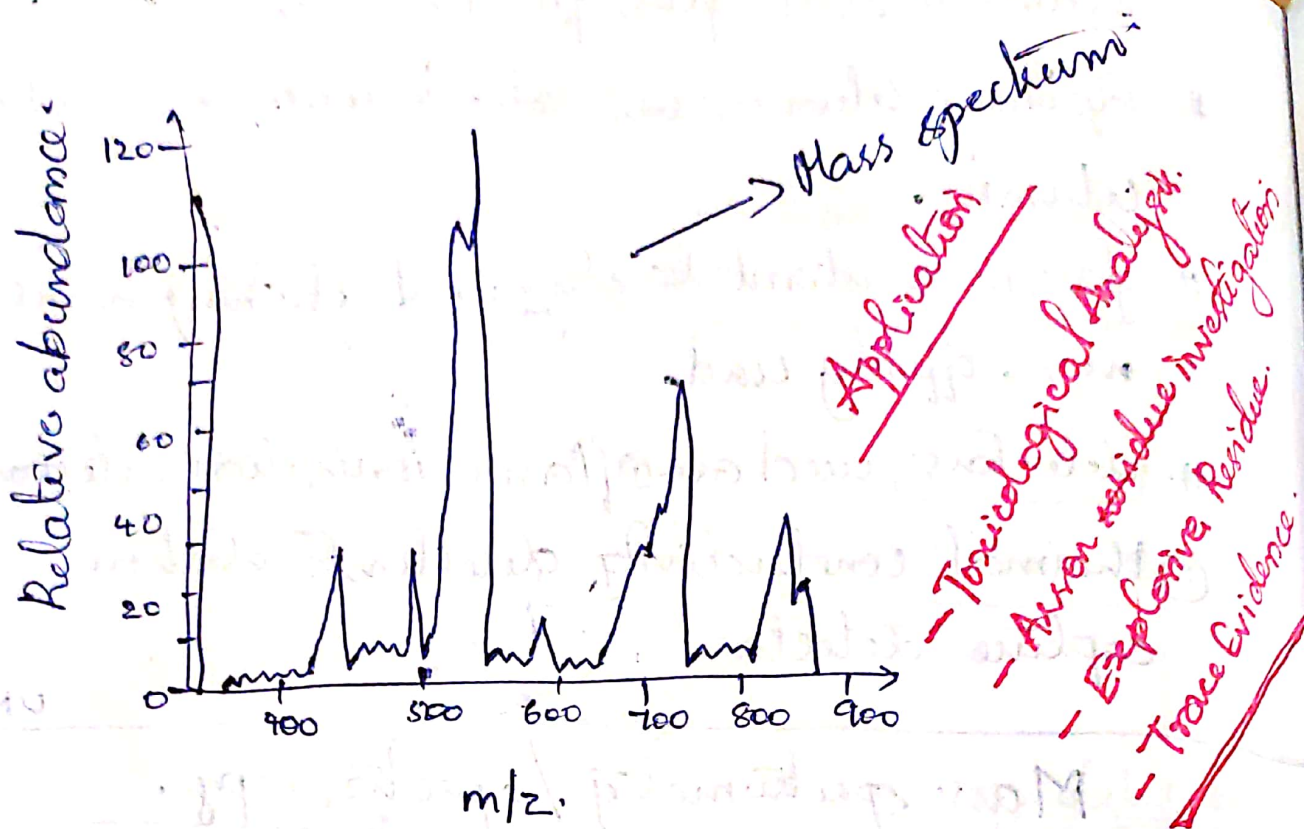


Mass spectrometry / Spectroscopy.



Mass spectrometry is an Analytical tool useful for measuring the mass to charge ratio (m/z) of one or more molecules present in a sample. These measurements can often be used to calculate



the exact molecular weight of the sample components

a typically mass spectrometers can be used to identify unknown compounds via molecular weight determination, to quantify known compounds and to determine structure and chemical properties of molecules.

« Every mass spectrometer consists of at least these three components.

- (i) ionisation source.
- (ii) mass analyzer.
- (iii) ion detection system.

① The ionisation source: molecules are converted to gas phase ions, so that they can be moved about and manipulated by the external electric and magnetic field.

② The mass analyzer: once ionized the ions are separated according to mass to Charge ratios, the mass analyzer often works in conjunction with the ion detection system.

③ ion detection system: The separated ions are then measured and sent to a data system where the mass to charge ratios are stored together along with their relative abundance.

• A mass spectrum is simply the mass to Charge ratios of the ions present in a sample plotted against their intensities.

• Each peak in a mass spectrum shows a component of unique mass to Charge in the sample and heights of the peaks per shows the relative Abundance of the various components in the sample.