Mass spectrometry is an analytical technique used to identify and quantify the chemical composition of a sample based on the mass-to-charge ratio of its ions.It is a powerful tool used in a wide range of scientific fields, including chemistry, biology, environmental science, and forensics.Detection: The deflected ions are detected by a suitable detector, such as a photographic plate, a phosphorescent screen, or more commonly, an array of electronic detectors.Data Interpretation: The mass spectrum is analyzed using various techniques, such as database searching, spectral libraries, or pattern recognition algorithms, to identify the compounds present in the sample.Overall, composition mass spectrometry allows for the identification and quantification of the chemical composition of a sample by measuring the mass-to-charge ratios of its ions.Ionization: The sample is ionized, meaning that its atoms or molecules are converted into charged particles (ions).This can be achieved through various methods, such as electron impact ionization, chemical ionization, or electrospray ionization, depending on the nature of the sample.This acceleration allows the ions to gain kinetic energy, which is essential for subsequent analysis.Deflection: The accelerated ions are subjected to a magnetic field, which causes them to follow curved paths due to their charge and mass.Analysis: The mass spectrum obtained from the detector provides information about the mass-to-charge ratios of the ions present in the sample.Additionally, the isotopic distribution of ions can be used to determine the elemental composition of the sample.2.3.4.5.6.

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