



## Applications of Mass Spectrometry in Life Safety (Paperback)

By -

Springer-Verlag New York Inc., United States, 2008. Paperback. Condition: New. 2008 ed.. Language: English . Brand New Book. Mass spectrometry (MS) along with its hyphenated techniques is capable of high throughput, sensitivity, accuracy and selectivity for the analysis of structure and composition of almost any product. Like in electrophoresis, MS separates molecules based on the mass-to-charge ratio. In case of gel electrophoresis (SDS-PAGE), a well-known and efficient bioanalytical technique, proteins bear negative charges but have the same charge density, so proteins are separated according to their size. Similarly, in case of MS analysis, proteins carry the same charge, and are separated by their molecular weight. Unlike SDS-PAGE, however, modern ultra high resolution MS discerns very small mass differences and can resolve and completely identify in a single experiment species of the same nominal mass in complex biological mixtures. Consequently, MS can be used for the structural characterization, identification and sensitive detection of mixtures of biomolecules or for assessing the quality of isolated proteins (purity, integrity, or post-translational modifications, for example), carbohydrates, nucleic acids, drugs, metabolites, pollutants etc. In the post-genome era, MS is continuously developing as one of the most reliable analytical method for elucidating the structure...



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