

Forensic Identification of Explosives by Mass Spectrometry and Allied Techniques

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ABSTRACT: In forensic analysis of explosives, analytical methods are required that combine good separation characteristics with highly specific and sensitive detection. Two novel techniques, liquid chromatography/mass spectrometry (LC/MS) and tandem mass spectrometry (MS/MS) have such specifications. These are now well-established analytical techniques for separation and identification of mixtures and for trace analysis of selected components. The principles and instrumentation of LC/MS and MS/MS are described, as well as their applications, in forensic identification of explosives residues and detection of hidden explosives.

KEY WORDS: Detection, explosives, forensic identification, LC/MS, mass spectrometry, MS/MS, residues