METABOLOMICS BY LCMS UTILISING LINEAR IONTRAP MS^N TECHNIQUES – APPLICATIONS IN DIVERSITY ANALYSIS AND STRUCTURE ELUCIDATION

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Metabolomics is the study of global metabolite profiles in a system (cell, tissue, or organism) under a given set of conditions. The analysis of the metabolome is particularly challenging due to the diverse chemical nature of metabolites. Metabolites are the result of the interaction of the system's genome with its environment and are not merely the end product of gene expression but also form part of the regulatory system in an integrated manner. The study of metabolomics can therefore inform research into functional interactions between a system and its environment. This paper will discuss the utility of LC-ion trap ms for metabolomics with specific examples including assessing plant cultivar diversity, structure elucidation of metabolites (eg. Figure 1) and how these strategies can be combined to understand the chemical significance of plant genetic diversity and the impact of environment.

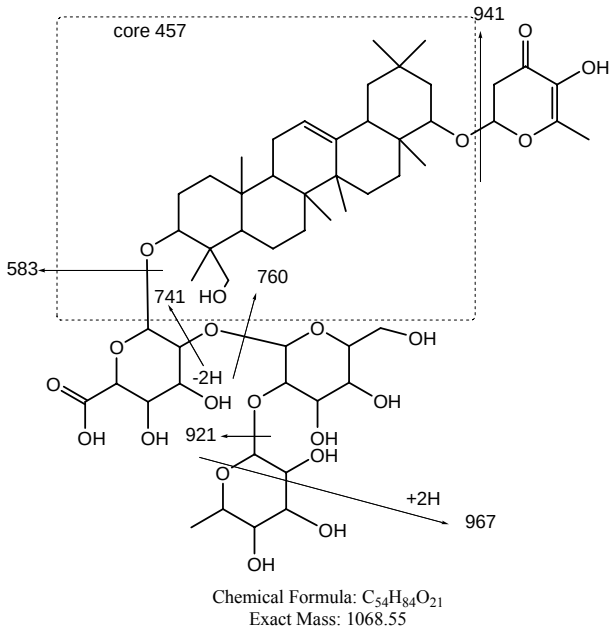

Figure 1. Fragmentation of a triterpene saponin from *Cicer arietinum* (Chick pea)