

Avesthagen-MetaGrid™
 Creation of a "Metabolite Grid" for the rapid identification of therapeutically relevant molecules.

The plethora of plants selected for the isolation of therapeutically relevant molecules to be used in the treatment of diabetes, is being subjected to both targeted and non-targeted screening procedures. The ongoing-targeted screening procedures which feature a comprehensive metabolite profiling of multitudes of phyto-extracts were envisaged to facilitate the creation of a metabolite grid. Extensive comparative analyses of the

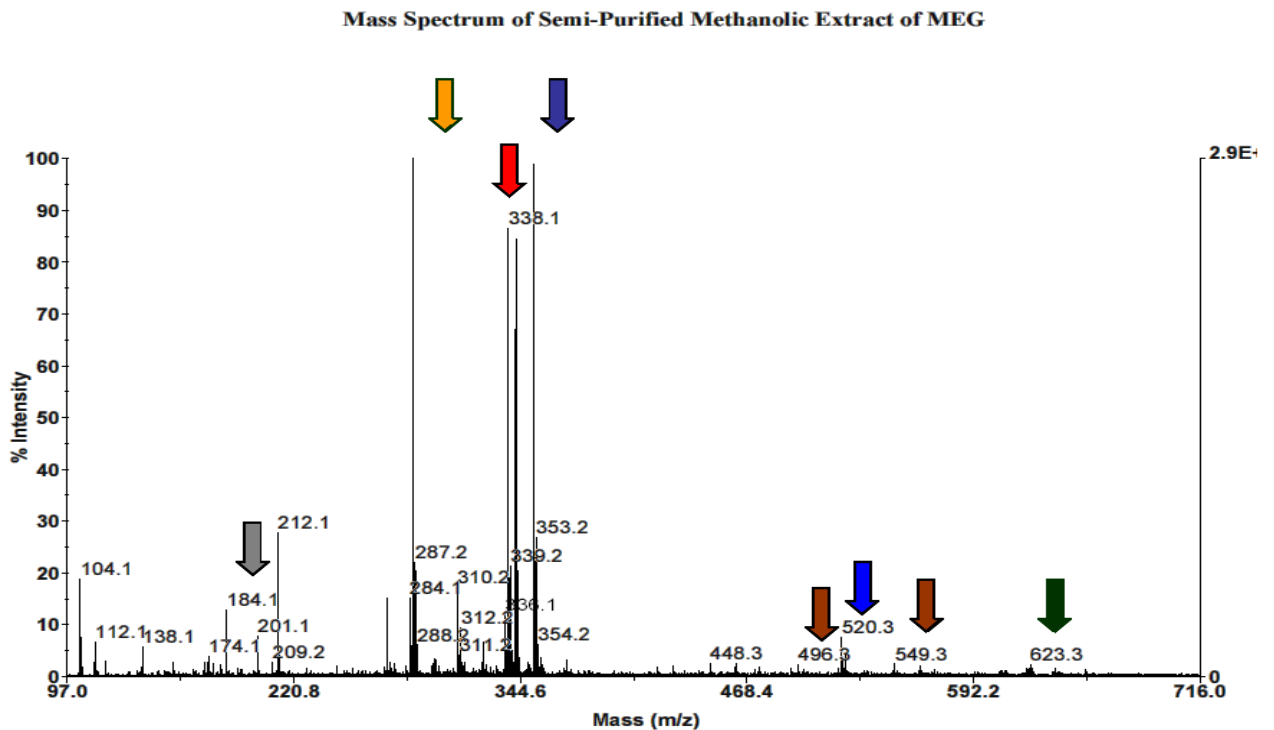
individual plant species with the existing drug and/or phytoextract formulations in the market has revealed the presence of both unique and common molecular constituents that will be used individually and/or in combination to accelerate the process of discovery of novel therapeutic formulations.

A representative instance of the process described above is depicted below.

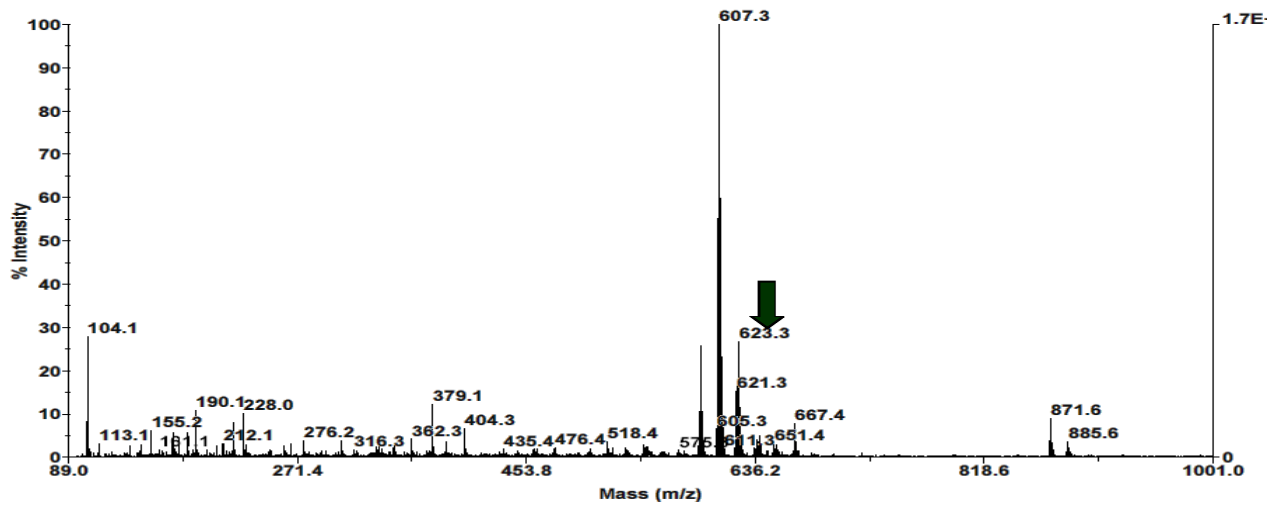
An overview of the comparative MALDI-TOF metabolite profiles of:

(A) MEG (a commercially available formulation) and four major plant constituents (GS, TFG, MC and EJ):

* Arrows have been color coded to depict the occurrence of identical mass fractions across the different samples.

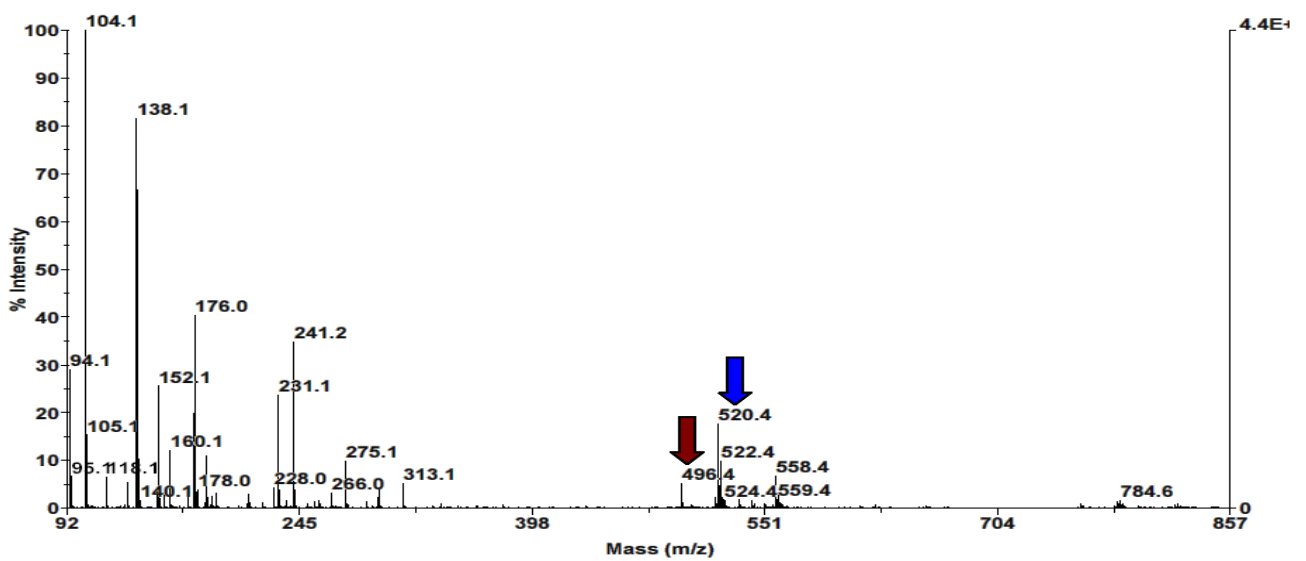


Mass Spectrum of Semi-Purified Methanolic Extract of GS

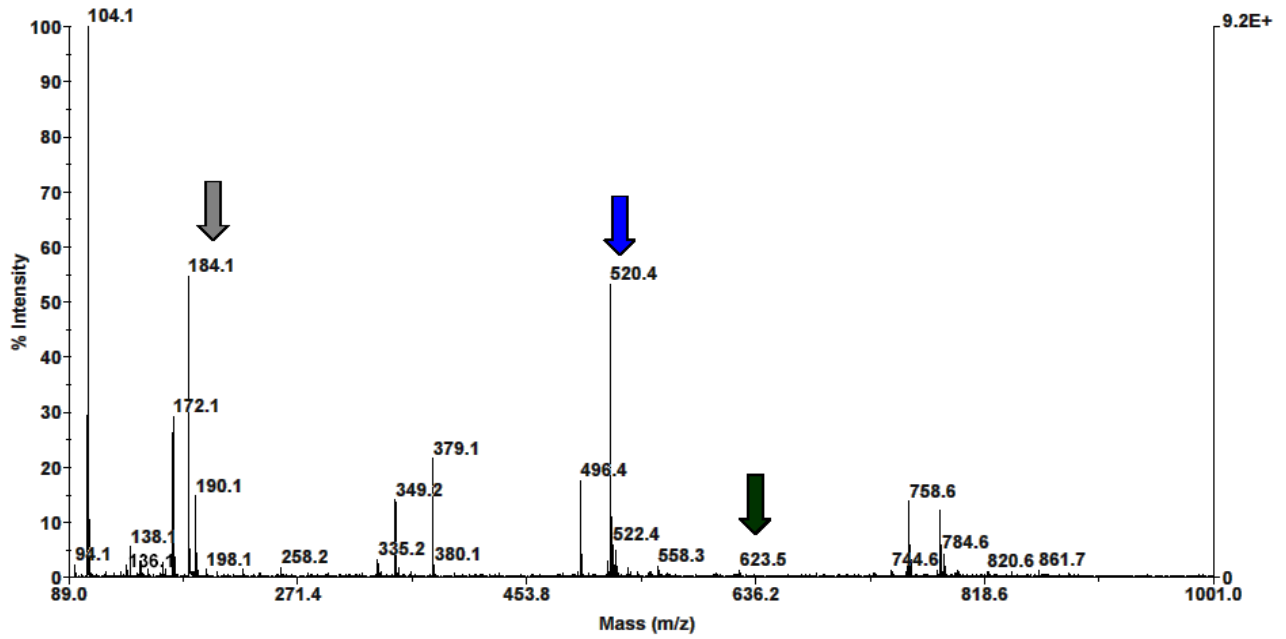


The molecular fractions that are present in the drug formulations as well as the

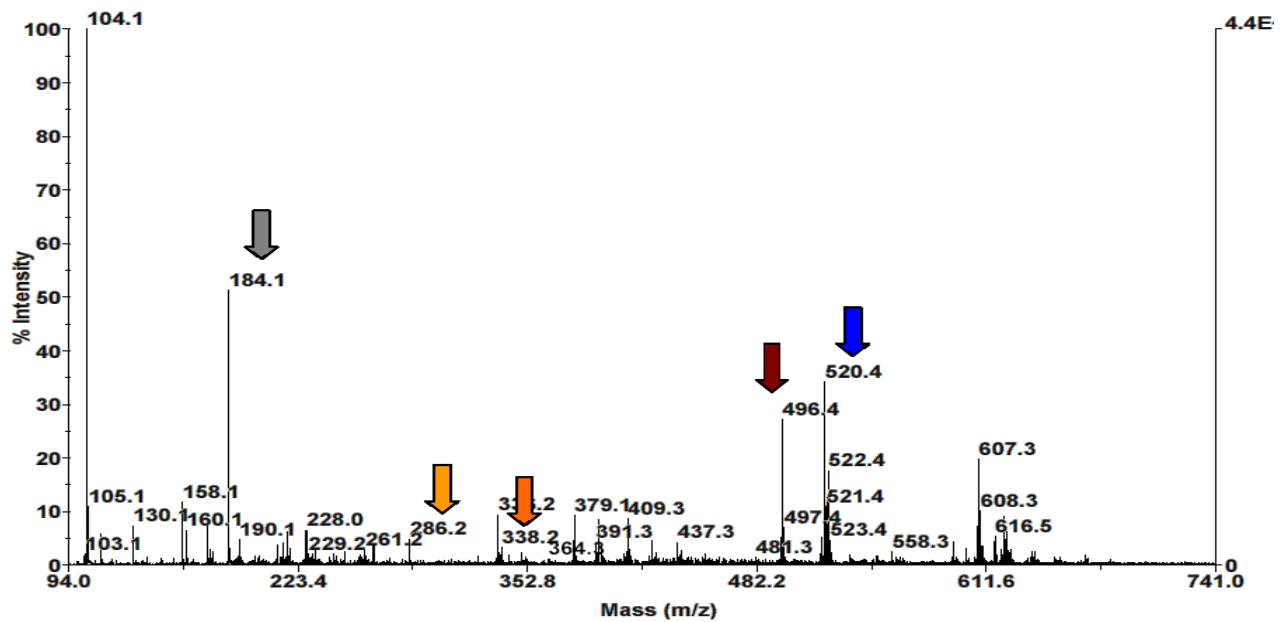
Mass Spectrum of Semi-Purified Methanolic Extract of TFG



Mass Spectrum of Semi-Purified Methanolic Extract of MC



Mass Spectrum of Semi-Purified Methanolic Extract of EJ



The molecular fractions that are present in the drug formulations as well as the constituent plant species will be further investigated for biological activity using defined bioassay procedures that are being designed in collaboration with the National Center for Biological Sciences (NCBS), Bangalore, India and Quintiles, Edinburgh, UK.