

Identification and Characterization of Bioactive Compounds in *Glycyrrhiza glabra* through GC-MS

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ABSTRACT

The pharmaceutical properties of medicinal plants are attributed to the variety of biochemical compounds called secondary metabolites, which are synthesized and stored in different parts of plants. Most of these compounds are metabolically induced in plants in response to environmental stresses and hence play defensive role enabling protection to plant from various biotic and abiotic factors. *Glycyrrhiza glabra* commonly known as Mulaithi or Licorice is one such medicinal plant with a source of large number of secondary metabolites of therapeutic value. Its leaves are rich source of bioactive phytochemicals which have not been given much attention. Therefore, a need was felt to characterize its bioactive components using a robust technique which could give a comprehensive overview of its secondary metabolites. We prepared crude ethanolic extracts of *Glycyrrhiza glabra* leaf through heat stirred reactor and attempted for detailed profiling of its secondary metabolites using gas chromatography mass spectrometric (GC-MS) analysis. Total 31 compounds were identified in the chromatogram on the basis of National Institute Standard and Technology (NIST) and WILEY 8 Libraries. The major bioactive compound identified were pyridine carboxylic acid, tetradecanoic acid, linalool, eicosanoic acid, 5-Formyl-2-methoxy phenyl 4-morpholine and nonadecene. The results of this study would help to draw the attention towards the utilization of *G. glabra* leaves for their potential pharmaceutical uses and commercial exploitation for extraction of bioactive compounds.

Keywords: Phytochemical compounds, *Glycyrrhiza glabra*, leaves, GC-MS, characterization

