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Capillary electrophoresis-mass spectrometry characterisation of secondary metabolites from the antihyperglycaemic plant Genista tenera

Genista tenera is endemic to the Portuguese island of Madeira, where an infusion of the aerial parts of the plant is used in folk medicine as an antidiabetic agent. Consequently the medicinal properties of the secondary metabolites of this plant have been the subject of an ongoing study. A recently reported LC-MS method using a 100 min separation allowed identification of five flavonoid components in an extract of the aerial parts of this plant. In order to obtain additional information on the range and complexity of the plant's secondary metabolite components a CE-MS method has been developed and applied for the analysis of an extract of G. tenera. Twenty-six different components are distinguished in an analysis time of only 10 min. Results demonstrate that CE-MS/MS rapidly generates data complementary to those obtainable by LC-MS/MS and is particularly suited to the analysis of plant metabolites where concentration is not limiting.

Keywords: Antihyperglycaemic / CE / Flavonoid / Mass spectrometry / Phenolic compounds

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