Abstract

This work is devoted to the phytochemical study; structural determination and biological evaluation of natural substances isolated from a species of the Lamiaceae family: Thymus munbyanus subsp. ciliatus (Desf.) Greuter & Burdet. This study made it possible to isolate and identify 16 compounds, 2 of which correspond to new structures.

The molecular structures of the isolated compounds were elucidated mainly by the use of 1D and 2D NMR techniques (^{1}H, ^{13}C, COSY H-H, HSQC and HMBC), ESI-MS and by comparison with literature data. These are 1 sterol, 3 flavonoids, 6 phenolic acids, 5 phenolic derivatives and 1 pyran-2-one derivative.

The determination and quantification of phenolic compounds in extracts of the species Thymus munbyanus subsp. ciliatus were performed by HPLC-TOF/MS. The result of this analysis revealed the presence of 29 compounds in varying amounts.

The ethyl acetate extract and product A7 show a powerful reductive power vis-à-vis the molybdenum ion by electron transfer. While all the extracts and products studied reveal interesting antioxidant properties vis-à-vis the radical DPPH by proton donation. BHA and BHT have been used as standard antioxidants.

Keywords: Lamiaceae, *Thymus*, HPLC-TOF/MS, Antioxidant activity, 1D and 2D NMR