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Bioactive natural products from *Symphytum (Boraginaceae)*

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Symphytum asperum and *S. caucasicum* (prickly or rough comfrey) roots and stems have been used externally as a traditional medicinal plant in treating gastrointestinal and respiratory tract diseases in folk medicine. Previous studies showed that these beneficial properties of comfrey are the result of the presence of numerous bioactive compounds. High-molecular fractions from comfrey were isolated. Based on the IR and NMR spectroscopy data, poly[3-(3,4 dihydroxyphenyl)glyceric acid] (PDPGA) was confirmed to be the major component of these fractions. PDPGA–SA and PDPGA–SC exhibit immunomodulatory (anti-complementary), antioxidant and anti-inflammatory activities and wound-healing property. Phytochemical study of roots/stems of *Symphytum asperum* Lepech., was carried out in order to define other phenolic constituents. The solid-liquid extraction technique was chosen as the first step for isolation the compounds probably containing the fragments of PDPGA followed by the investigation of the composition of the extracts of *S. asperum* roots/stems using UHPLC-Q-TOF/MS method. Ultrahigh-pressure liquid chromatography coupled with quadrupole time-of-flight tandem mass spectrometry (UHPLC-Q-TOF/MS) analysis of extracts of *S. asperum* roots/stems was carried out and revealed the presence of low molecular weight compounds such as caffeic, rosmarinic, chlorogenic and salvianolic acids and several oligomeric compounds. The obtained results showed that the comfrey roots/stems can be used as a source for the isolation of low molecular weight biologically active compounds.

Biography

L Amiranashvili has completed her PhD from I Javakhishvili Tbilisi State University. She is a Research Scientist at Tbilisi State Medical University I Kutateladze Institute of Pharmacochemistry, Department of Plant Biopolymers. She has published more than 40 papers in reputed journals and more than 50 presentations at the international conferences. Her fields of professional interests are Bioorganic and Medicinal Chemistry.

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