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Bioactive compounds HPLC-MS and NMR structural elucidation from *Ginseng oolong*

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Ginseng based medicines help to build up general vitality and increase resistance to physical, chemical and biological stress. As a result ginseng based products are widely used as biologically active dietary supplements. Ginsenosides are considered as the main active principles of the traditional medicine “ginseng”. Ginsenosides share a dammarane-type triterpenoid saponin structure. Each ginsenoside molecule contains an aglycone moiety and several sugar chains connected to it. There are malonyl and acetyl derivatives also called “acidic” ginsenosides. As chemical purification and structural identification techniques are developed, novel ginsenosides continue to be reported. Up to now more than 600 ginsenosides were isolated from the roots of *P. Ginseng*, *P. quinquefolius* and *P. japonicus*. Therefore, it is necessary to obtain significant amounts of these compounds for their further structural analysis using NMR and other techniques. In this work, ginseng tea (oolong) was chosen as an original object for the investigation. Several approaches were developed for extraction of the main bioactive compounds of this product; HPLC-MS based separation and collection of the saponin fraction containing one of the compounds in the selected ion monitoring mode and HPLC-LITMS identification in positive and negative detection modes of the new group of ginsenosides. Obtained mass-spectra have shown new fragmentation pattern of the unknown sapogenin. The composition of the sugar chains was also determined. The comparison of the obtained mass-spectra and mass-spectra of standard protopanaxadiol, protopanaxatriol, ocotillol-type ginsenosides was made. The NMR analysis data of the isolated saponin fraction have confirmed the structure of the unknown sapogenin.

Biography

Stavrianidi Andrey has graduated from Lomonosov Moscow State University and has now completed his PhD in the field of analytical chemistry in the same university. He has published more than 13 papers in reputed Russian and other international journals.

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