First Synthesis of Glycoconjugates of Glycyrrhetic Acids with Aminosugars

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Natural triterpenoids and triterpene glycosides are known by their high and different kinds of biological activities. A synthesis of medicinal plants triterpenoids analogs and related compounds with improved therapeutic properties attracts a great deal of attention within the last decade.

To design of new immunoregulators and antiviral agents we have carried out the first synthesis of triterpene glycoconjugates - modified analogs of the major saponin of licorice roots (*Glycyrrhiza glabra L., Gl. uralensis F.*) - Glycyrrhizic Acid (GA) (1). 18β- and 18α-Glycyrrhetinic acids, its 11-deoxo- and 18,19-dehydro-analogs as methyl esters (2) were used as starting triterpenes and acylated by usual method to corresponding 3-0-hemisuccinates, -maleates and -phtalates (3). As aminocomponents we used available of 1- and 2-aminosugars, they are of great interest as parts of biologically active compounds or because of their own potential activity.

The synthesis of triterpene glycoconjugates - amides of aminosugars with glycyrrhetinic acids 3-0-acylates (3) was carried out by the chloroanhidride technique or using N,N'-dicyclohexylcarbodiimide in 50-70% yields. The target products (4) were separated by column chromatography on silica gel and deacetylated by 5% KOH in MeOH-CH_2Cl_2 mixture. The structures of prepared glycoconjugates were assigned using spectral methods (IR, UF, ^1H and ^{13}C NMR spectroscopy).