PP35. SYNTHESIS SOME OF 3,11-DIOXO-18βH-GLYCYRRHETIC ACID AMIDES

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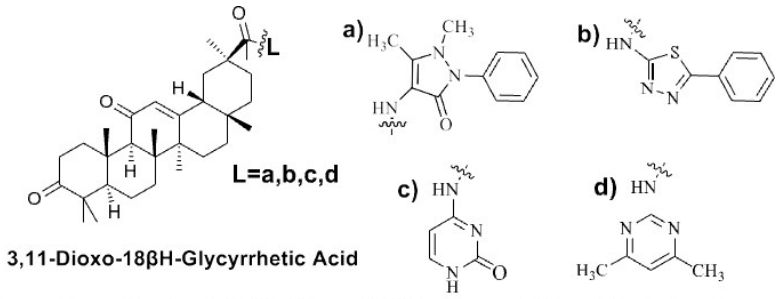
The structural alterations of natural compounds and the subsequent addition of particular functional ligands allow for the synthesis of their novel, highly promising semi-synthetic analogs, which have a directed action against pathogens of various diseases like bacteria, viruses, etc.

One of these compounds is 18H-glycyrrhizic acid, which was examined during the pandemic as an alternative antiviral substance for the treatment of COVID-19 diseaseand showed encouraging results. It also has an aglycone called Glycyrrhetic acid. They demonstrated improved tolerance for the latter by minimizing its negative effects when used in conjunction with other antiviral medications. In vitro studies have revealed that, several mechanisms of antiviral activity described, the main two waysare reducing the virus's adsorption and entry through the membrane during the first stage of viral replication, altering membrane fluidity, and because of its capacity to interact with the



Structure of synthesized 3,11-dioxo-18βH-glycyrrhetic acid derivatives.

ACE2 enzyme. 18H-glycyrrhetic acid was obtained from technically manufactured locally Glycyrrhizic acid. Johnson's reagent was used to synthesize 3,11-dioxo-18-H- glycyrrhetic acid, and X-ray diffraction analysis was used to determine the synthesized structure. By using the activated ester method, amino derivatives were obtained in atwofold molar ratio, the reaction took place for 10 to 24 hours at room temperature,and dry methylene chloride, EDCI, and HOBT reagents were utilized as activators. In a result the yield of synthesized product was equal to 92%. HPLC and mass spectrometry were used to analyze the compounds, and melting point and Rf were calculated (petroleum ether: acetone 3/1).

Ligands used: a) 4-aminoantipyrine; b) 2-amino-5-phenyl-1,3,4-thiadiazole; c) 2-amino-4,6-dimethylpyrimidine d) 4-aminouracil