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VII Phytochemistry UNIT-IV Glycoside

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Abstract : Introduction: Glycosides: Enzymatic and hydrolysis reactions of glycosides, mechanism of action, SAR, therapeutic uses and toxicity of glycosides. Cardiac glycosides of digitalis, bufa and squill. Structure of salicin, hesperidin and rutin. Glycosides are certain molecules in which a sugar part is bound to some other part. Glycosides play numerous important roles in living organisms. Formally, a glycoside is any molecule in which a sugar group is bonded through its anomeric carbon to another group and form glycosidic bonds via an O-glycosidic bond or an S-glycosidic bond; glycosides involving the latter are also called thioglycosides. The purpose: the addition of sugar be bonded to a non-sugar for the molecule to qualify as a glycoside, The sugar group is then known as the glycone and the non-sugar group as the aglycone or genin part of the glycoside. The glycone can consist of a single sugar group (monosaccharide) or several sugar groups (oligosaccharide). The glycone and aglycone portions can be chemically separated by hydrolysis in the presence of acid. Methods: There are also numerous enzymes that can form and break glycosidic bonds. Results: The most important cleavage enzymes are the glycoside hydrolases, and the most important synthetic enzymes in nature are glycosyltransferases. Mutant enzymes termed glycosynthases have been developed that can form glycosidic bonds. Conclusions: There are a great many ways to chemically synthesize glycosidic bonds.

Keywords : glycosides, bufa, squill, thioglycosides
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