SNS COLLEGE OF PHARMACY AND HEALTH SCIENCES

Affiliated To The Tamil Nadu Dr. MGR Medical University, Chennai

Approved by Pharmacy Council of India, New Delhi.

Coimbatore -641035

COURSE NAME : PHARMACOGNOSY

D.PHARM / I YEAR

TOPIC 7 : GLYCOSIDES

DESIGN THINKING STAGES IN CLASSIFICATION

Empathize: Understand the users — in this case, students, pharmacists, or researchers who use the alphabetical classification system.

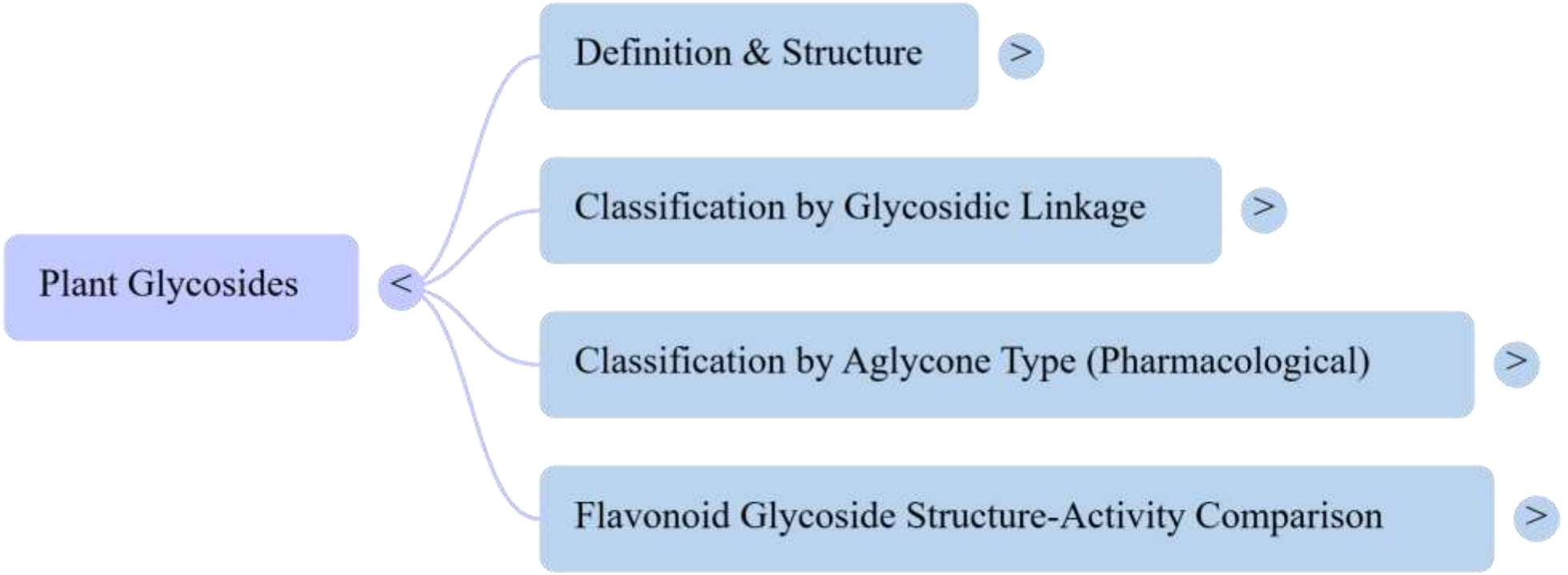
Define: Clearly define the problem based on the insights from the empathize stage.

Ideate: Generate possible solutions or improvements.

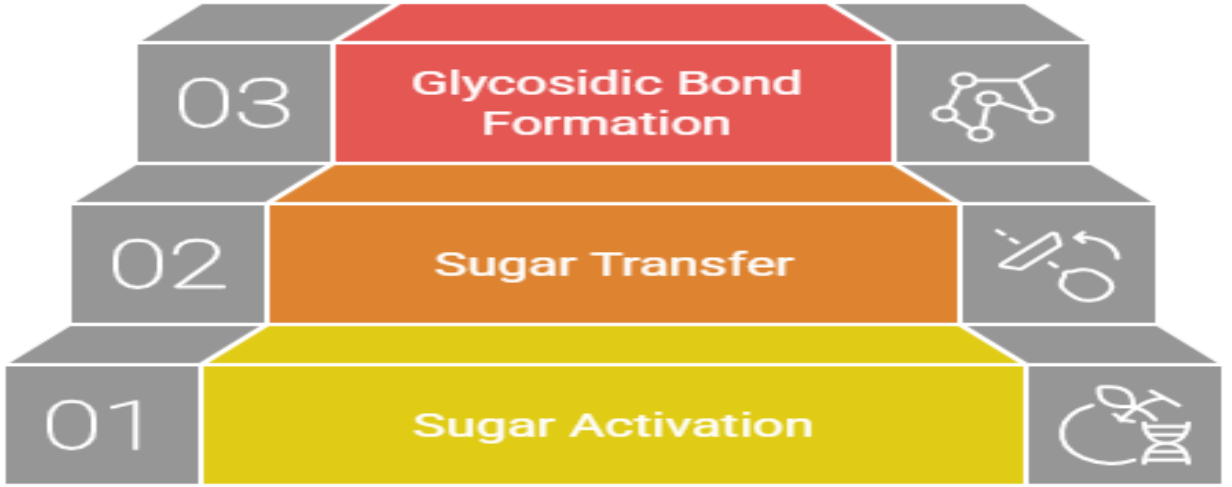
Prototype: Create a tangible version of your solution

Test: Evaluate the prototype with real users.

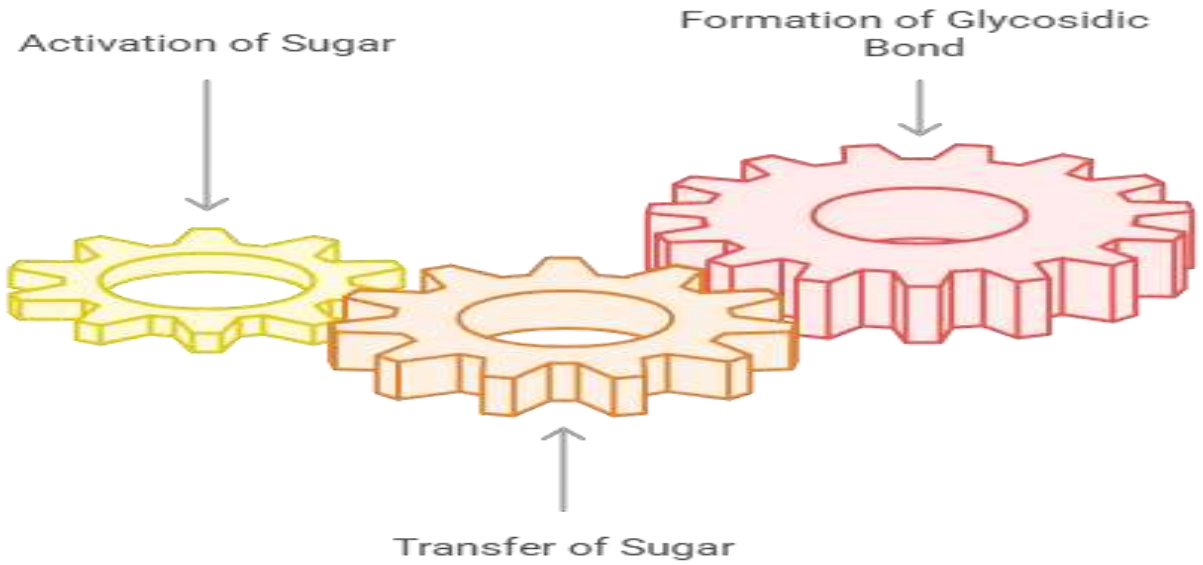
MINDMAP


Plant Glycosides
Definition & Structure
Classification by Glycosidic Linkage
Classification by Aglycone Type (Pharmacological)
Flavonoid Glycoside Structure-Activity Comparison

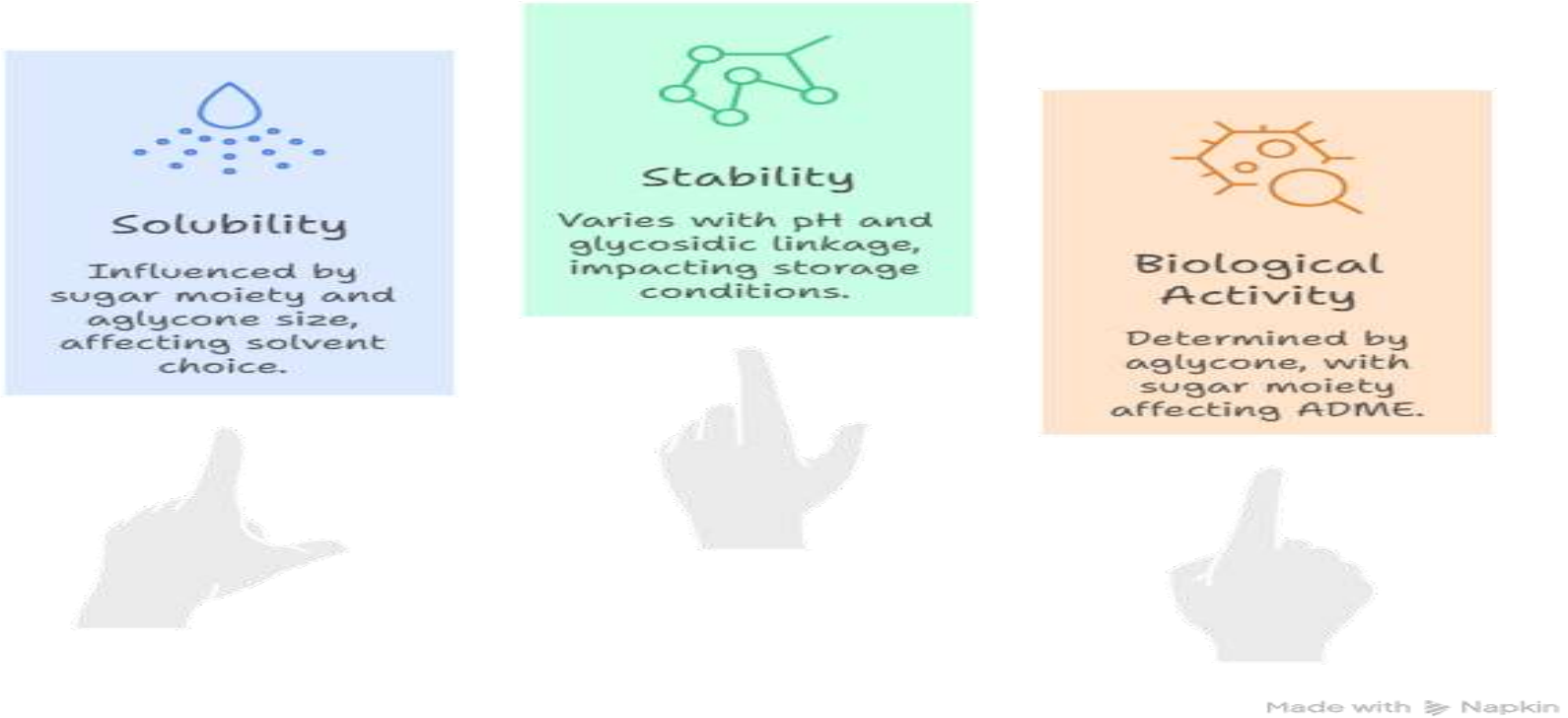
Biosynthesis of Glycosides



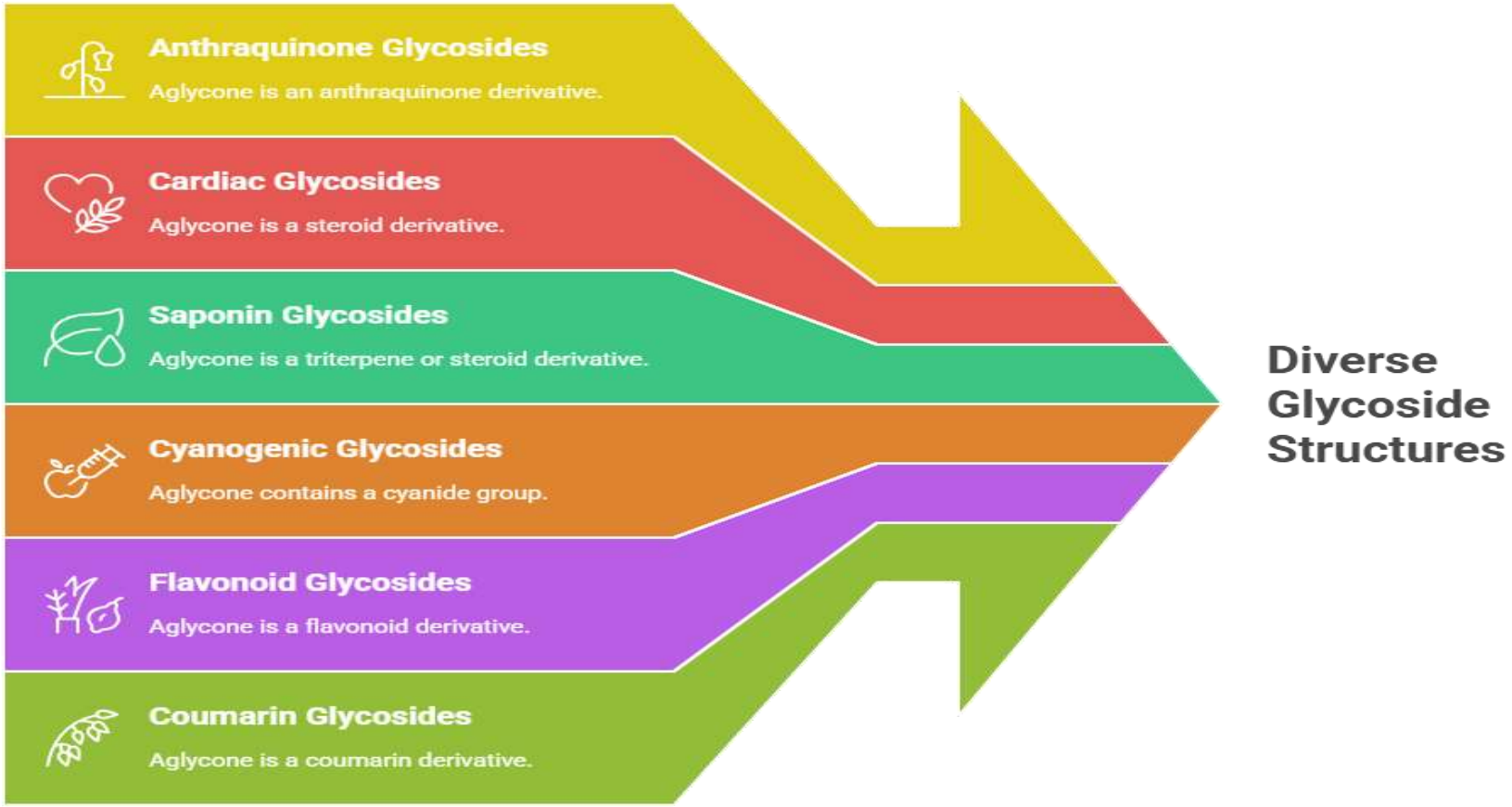
Glycoside Biosynthesis Process



What are the key properties of glycosides?



Glycoside Diversity



What type of glycosidic linkage is present?

S-Glycosides

Sugar linked through sulfur

N-Glycosides

Sugar linked through nitrogen

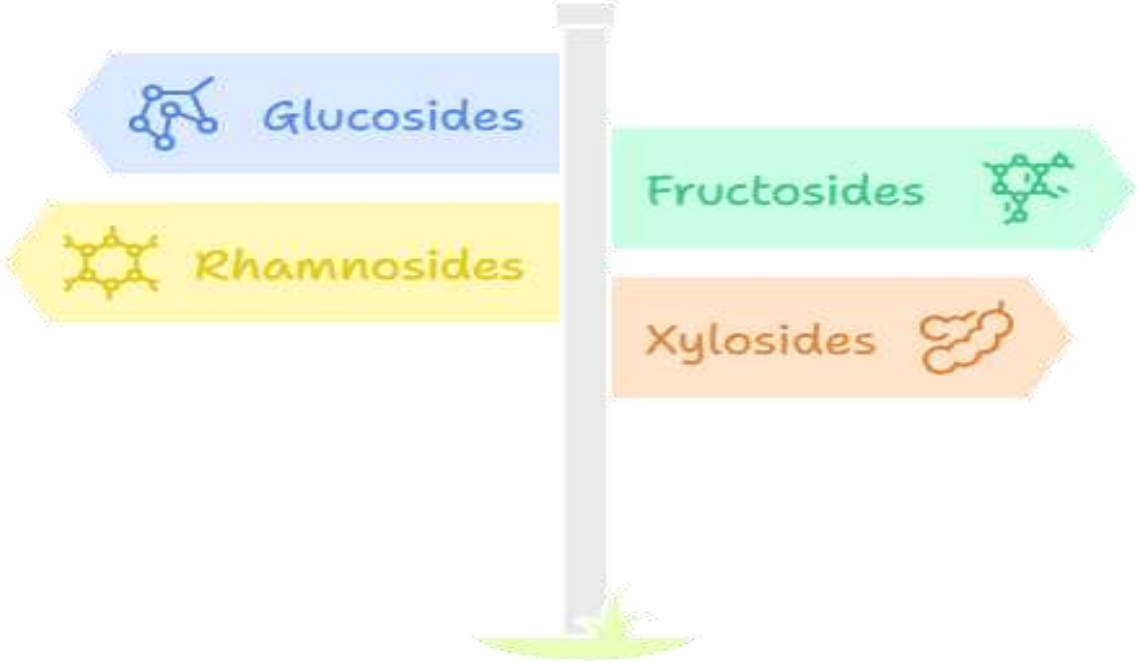
C-Glycosides

Sugar linked through carbon, stable and resistant to hydrolysis

O-Glycosides

Most common type with sugar linked through oxygen

Which type of glycoside is present based on the sugar moiety?



Digitalis Improves Heart Conditions

Digitalis

Slows AV nodal conduction

CHF

Improves cardiac output

Arrhythmias

Slows ventricular rate

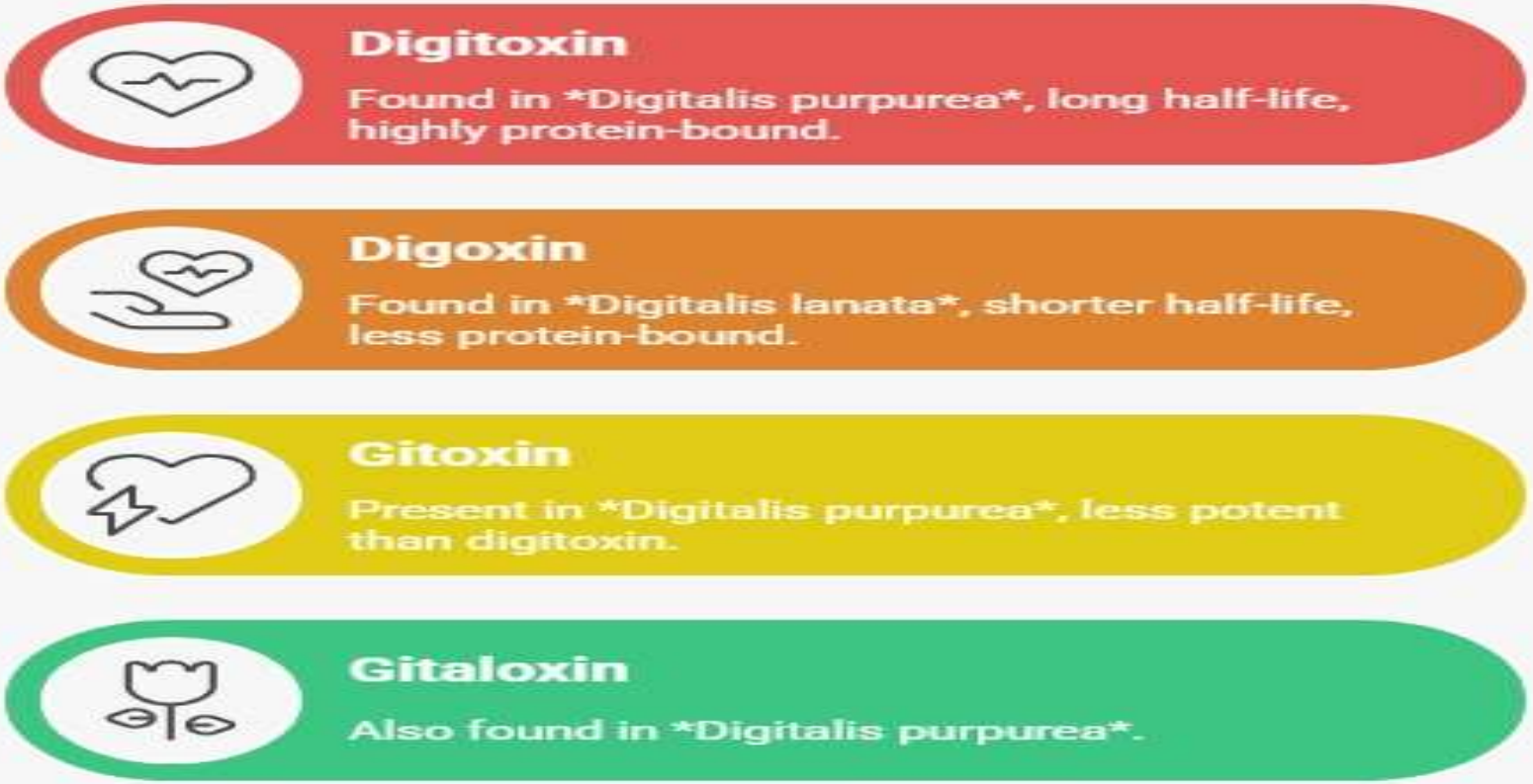
SVT

Terminates or controls SVT

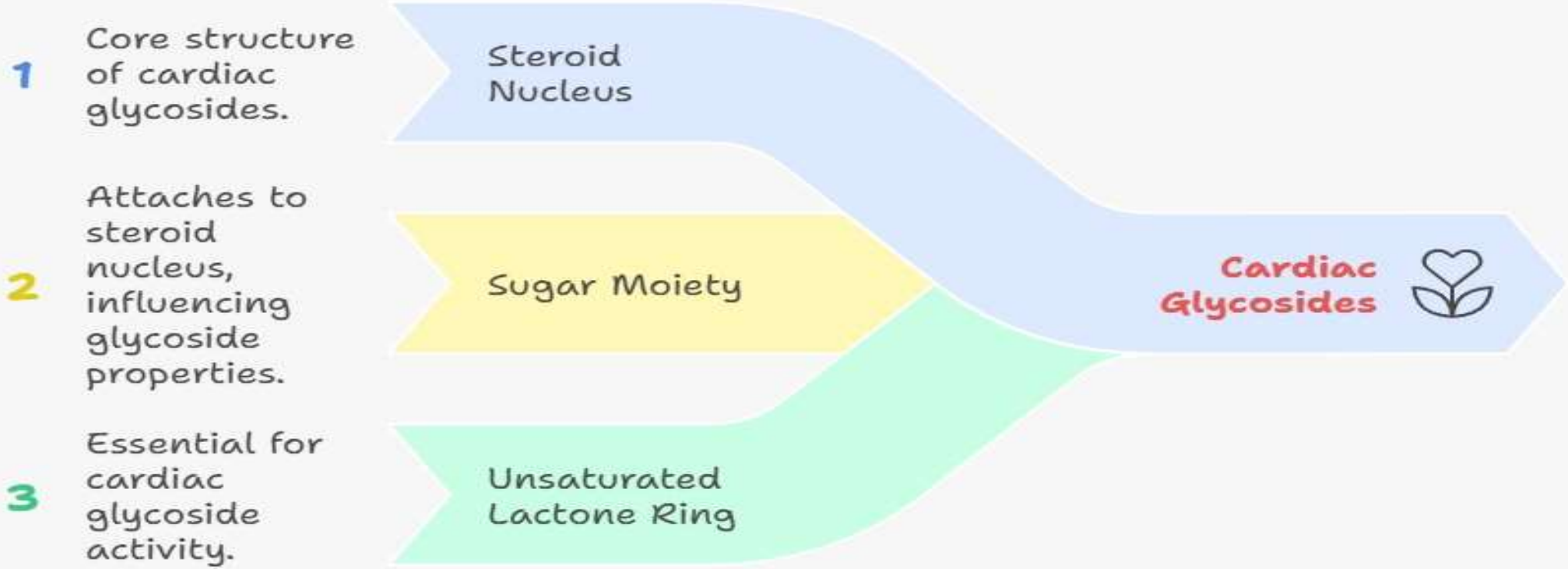
Digitalis use

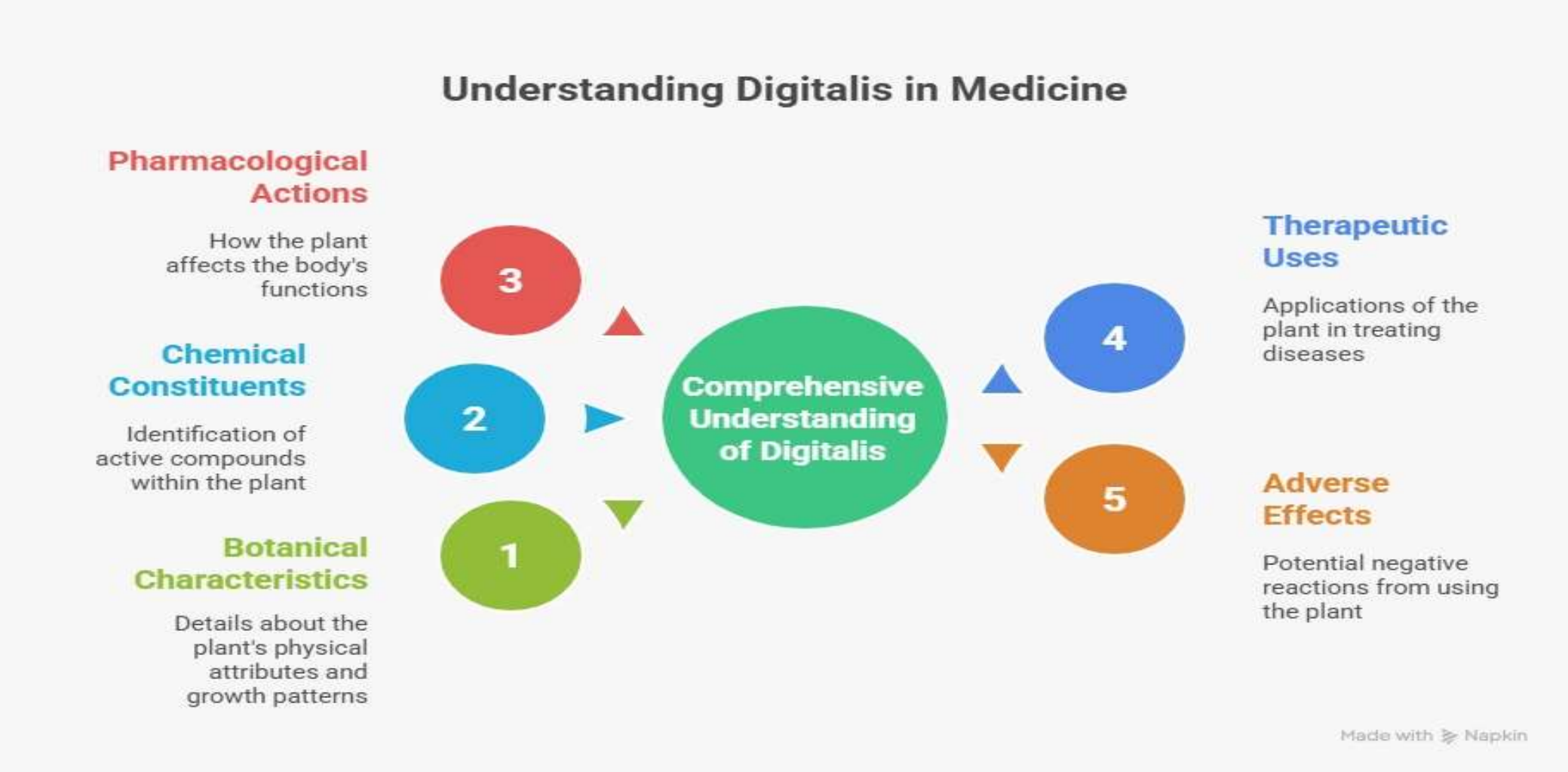
Cardiac glycosides

Digitalis Glycosides



Building Blocks of Cardiac Glycosides




Understanding Digitalis in Medicine
Pharmacological Actions
How the plant affects the body's functions
Chemical Constituents
Identification of active compounds within the plant
Botanical Characteristics
Details about the plant's physical attributes and growth patterns
3
2
1
Comprehensive Understanding of Digitalis
4
5
Therapeutic Uses
Applications of the plant in treating diseases
Adverse Effects
Potential negative reactions from using the plant
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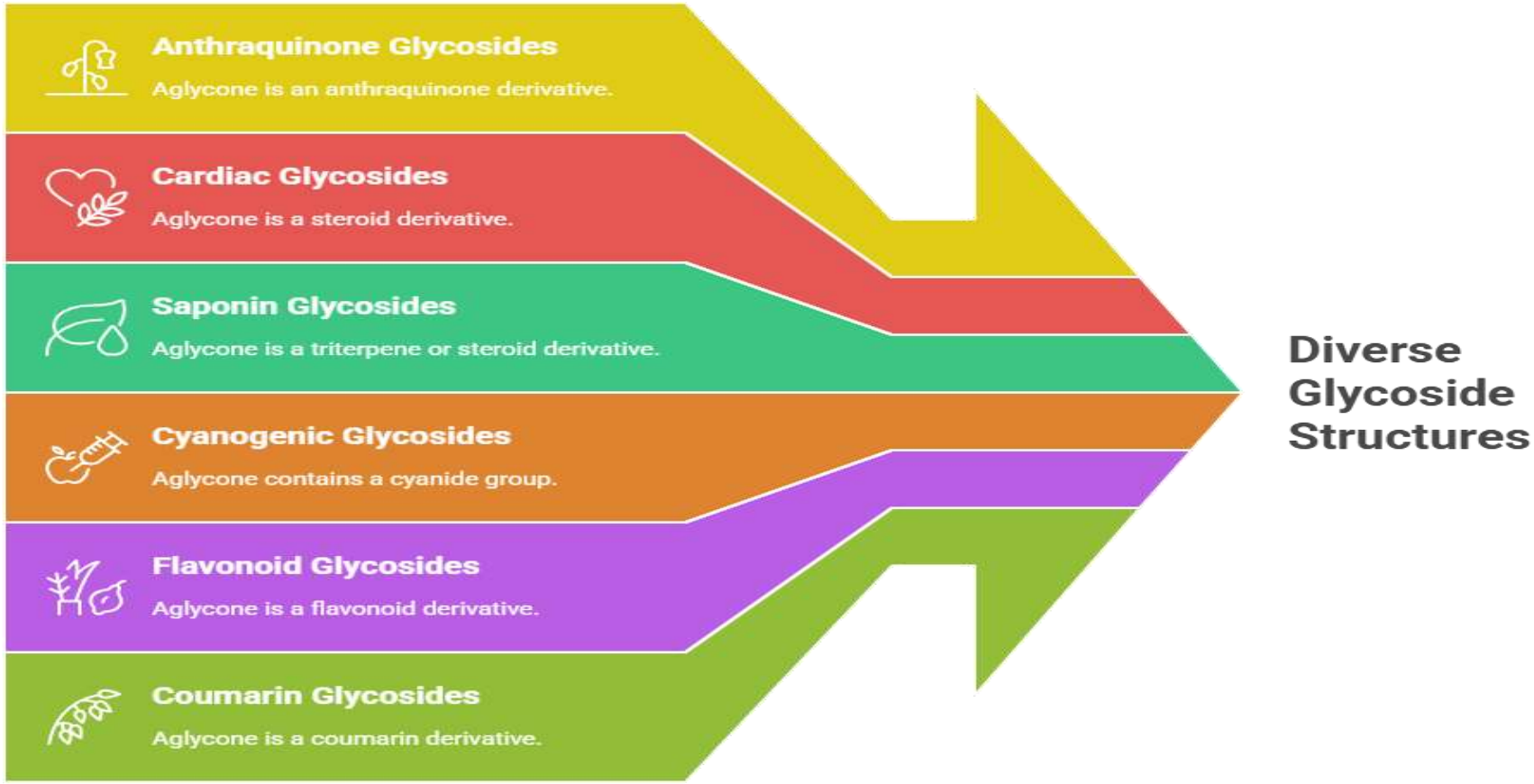
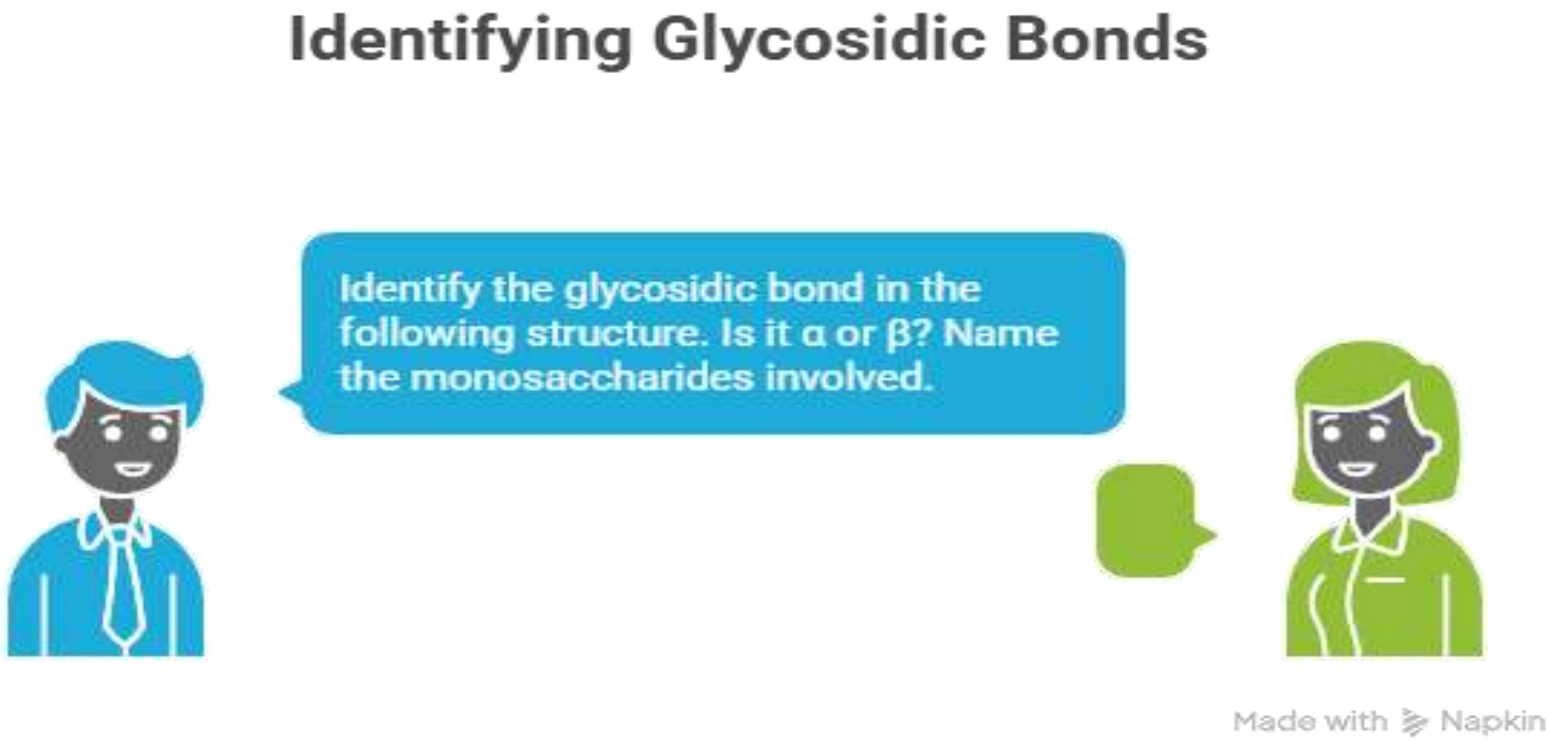
Glycoside Diversity



ASSESMENT


Identifying Glycosidic Bonds
Identify the glycosidic bond in the following structure. Is it α or β? Name the monosaccharides involved.
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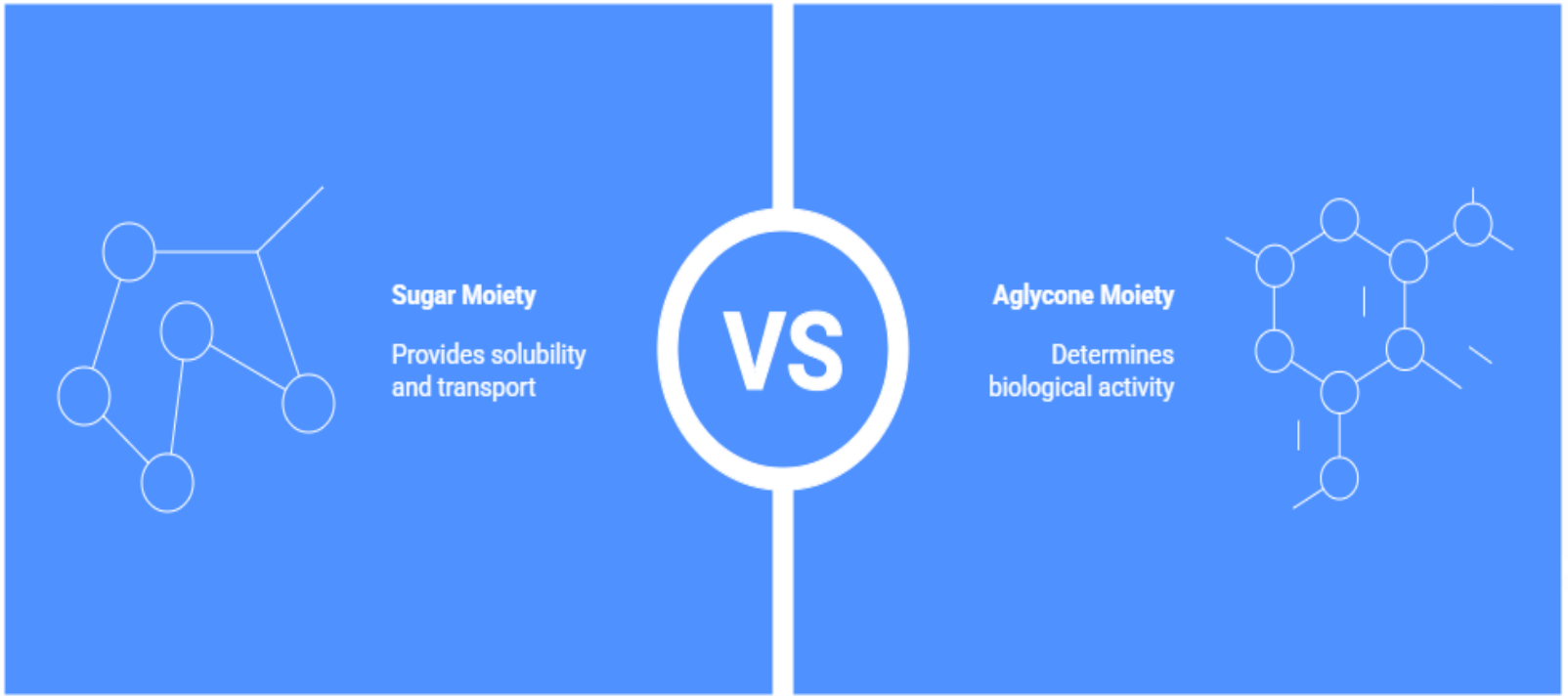
How to understand the structure of glycosides for various applications?



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What is the role of the glycone in glycosides?

Solubility

The glycone determines the solubility of the glycoside, affecting its absorption and distribution in biological systems.

Biological Activity

The type of sugar in the glycone influences the glycoside's biological activity, such as its therapeutic effects.

Structural Diversity

Different sugars in the glycone lead to structural variations, impacting the glycoside's properties and functions.

ASSESMENTS

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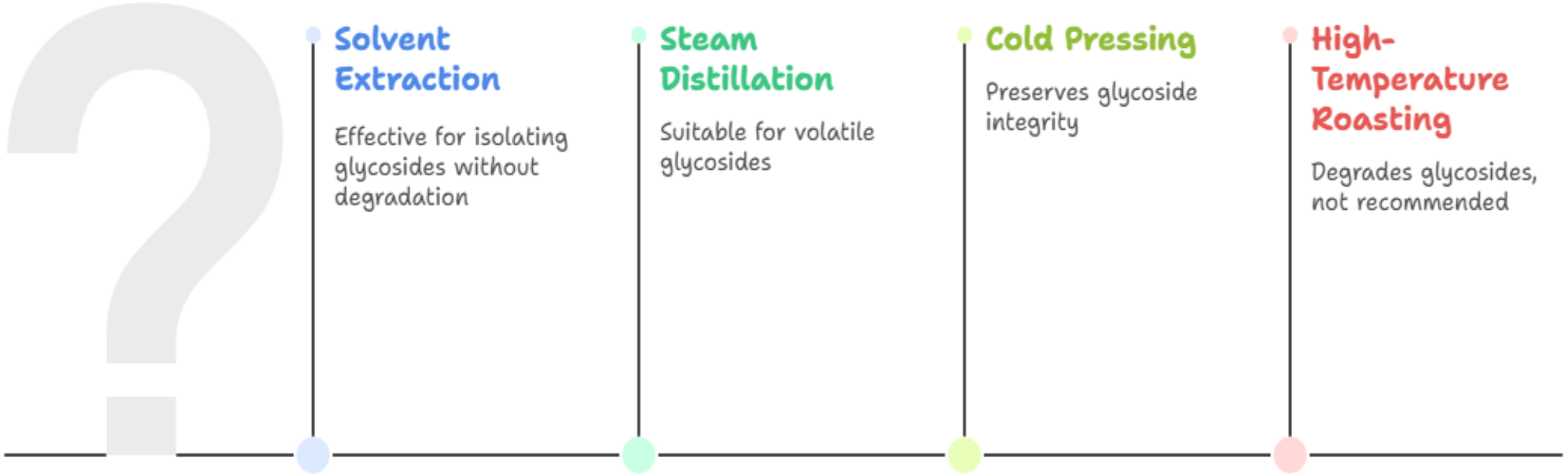
Which method should be used for extracting glycosides?



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REFERENCES

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Thank You