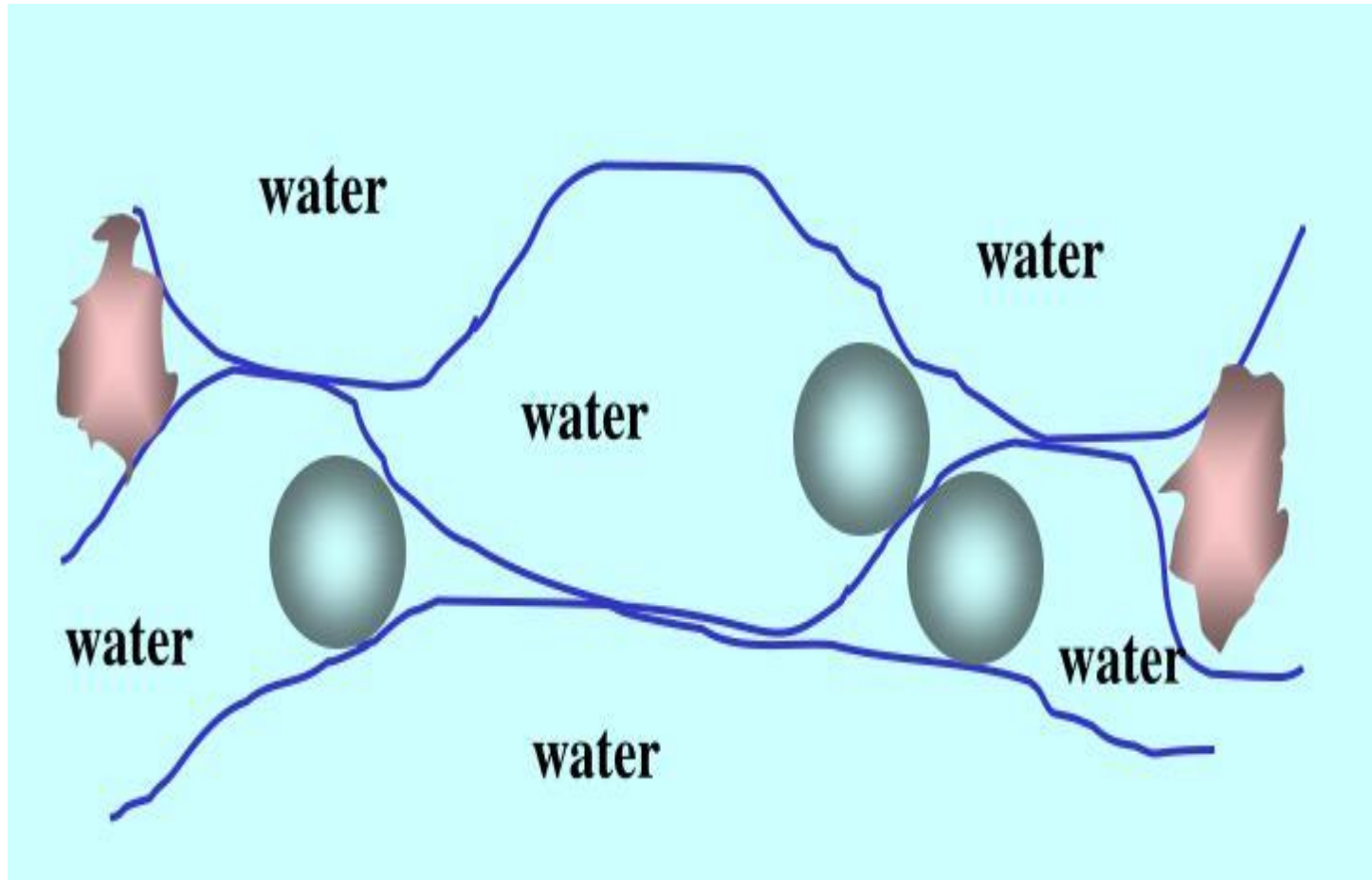


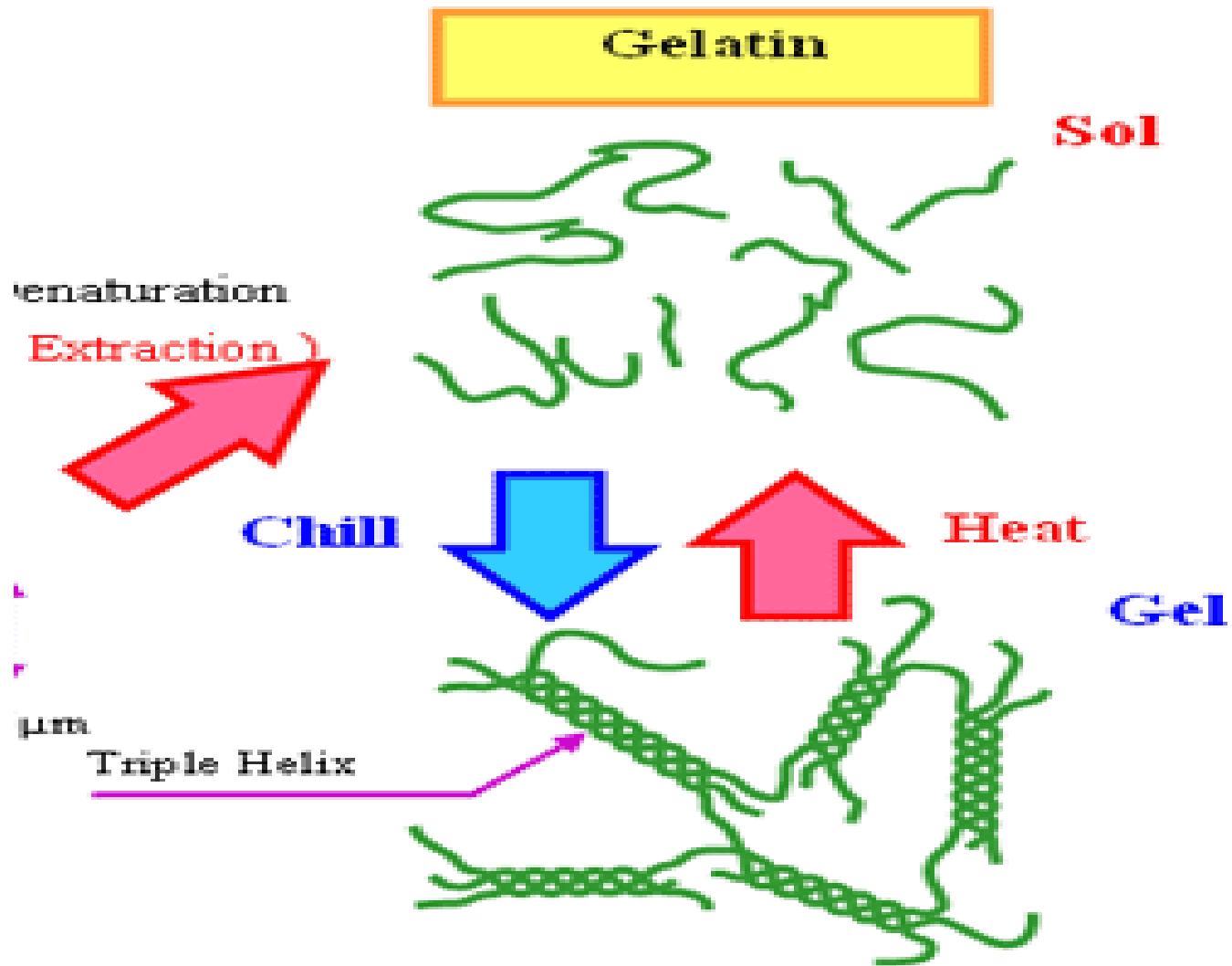
Pharmaceutical technology

Colloid dispersion

Figures

Starch gel





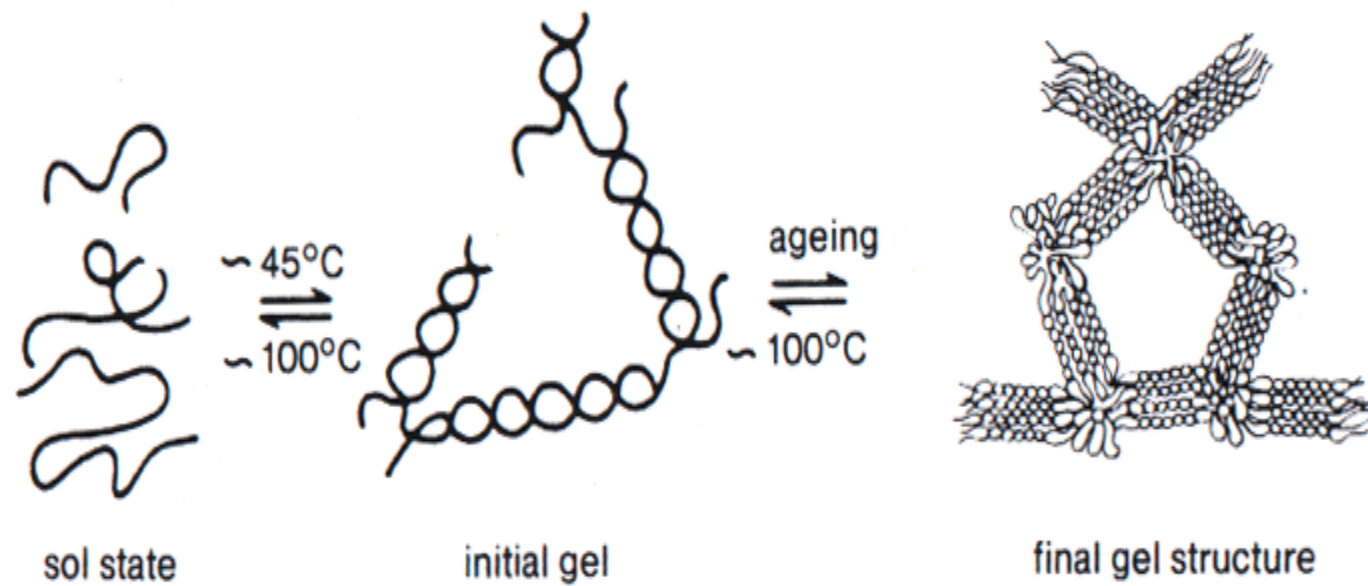
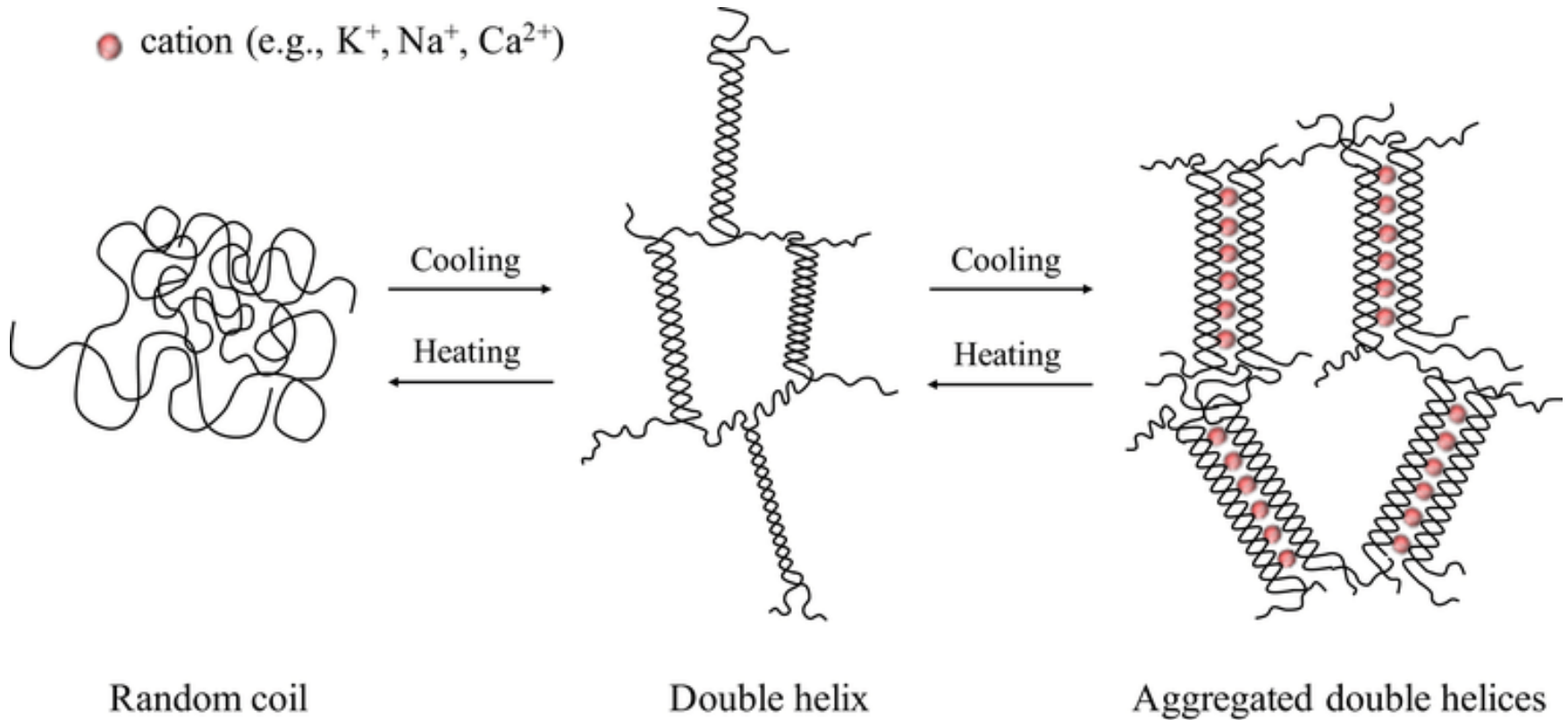


Fig. 25. Gel structure of agarose. (Låås, T. Doctoral thesis. Acta Universitatis Upsaliensis 1975. Reproduced by kind permission of the Author.)

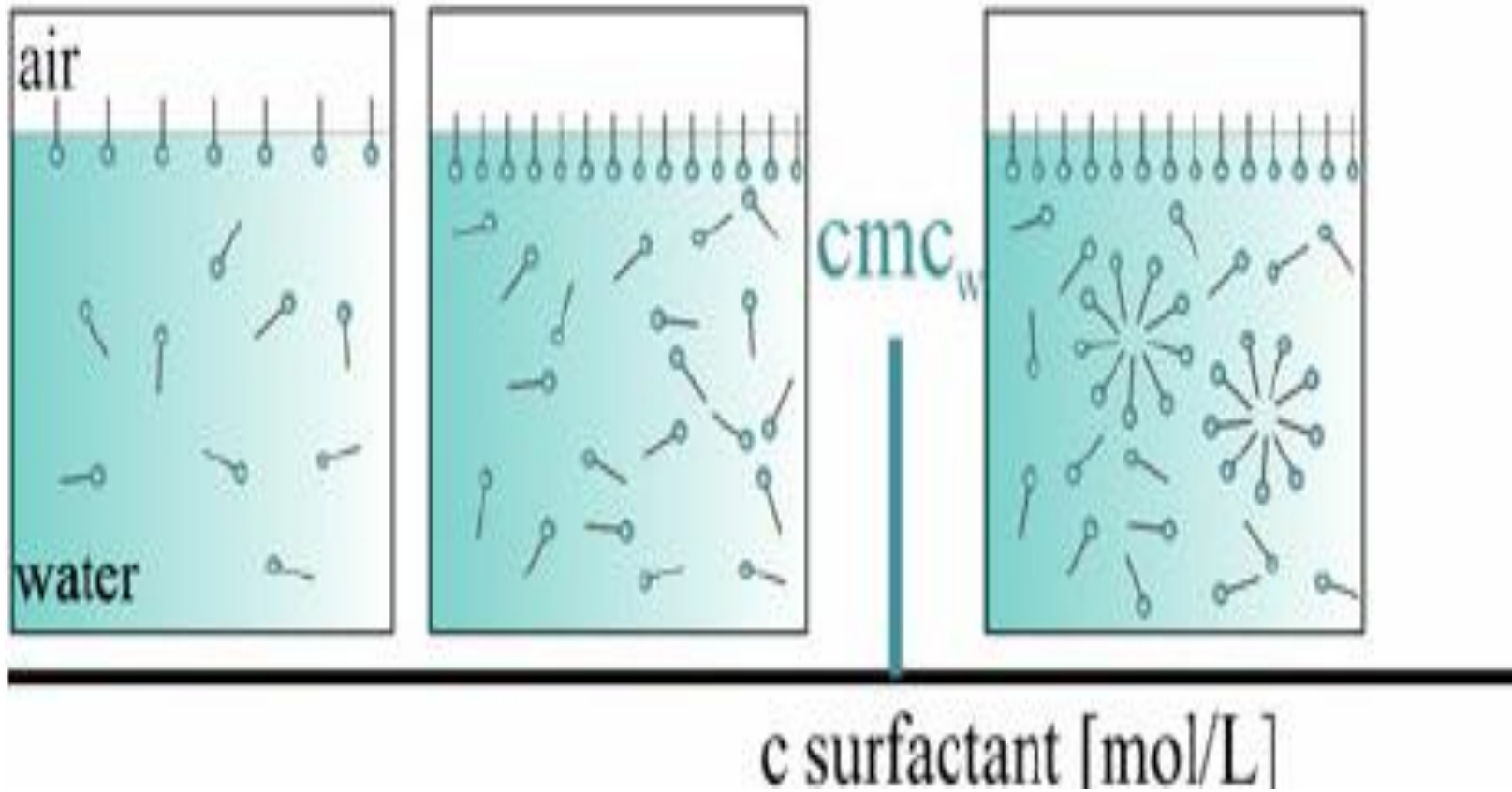
K-carrageenan gel formation

● cation (e.g., K^+ , Na^+ , Ca^{2+})



κ-carrageenan in solution

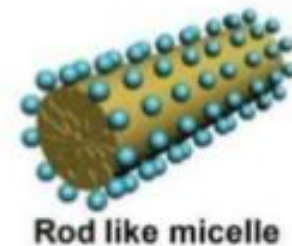
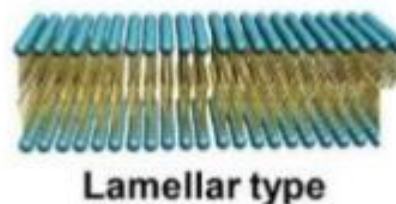
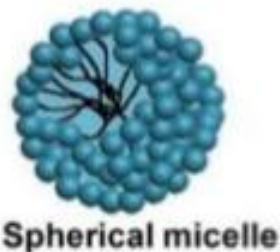
Micelles formation



Types of Micelles

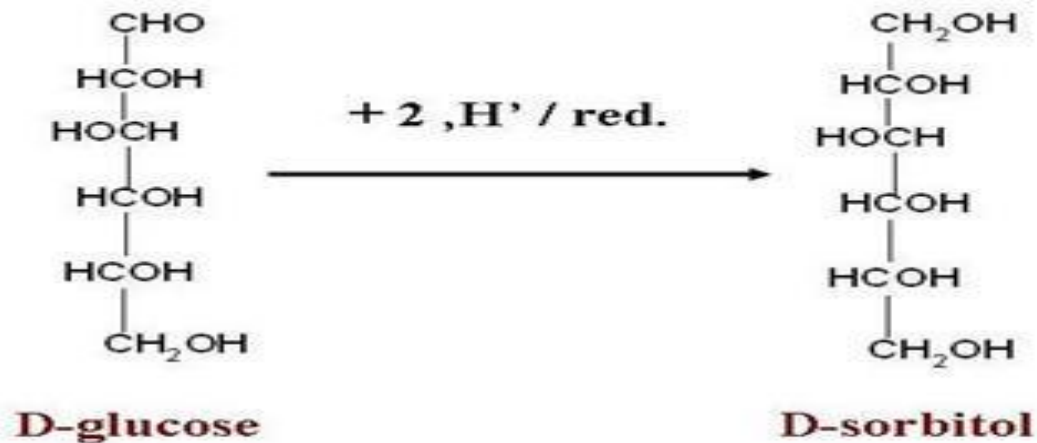
Following are three types of micelles

- **Spherical micelle,**
- **Rod shaped micelle,**
- **Lamellar micelle.**



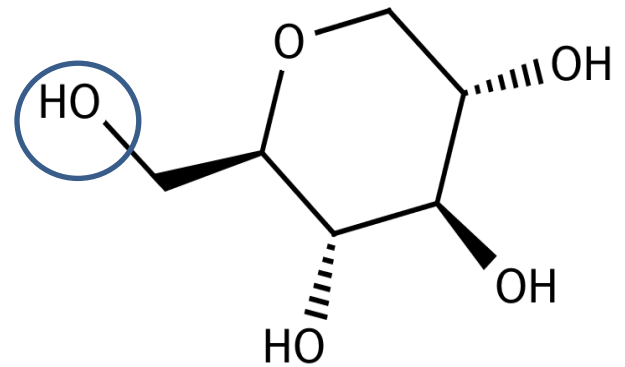
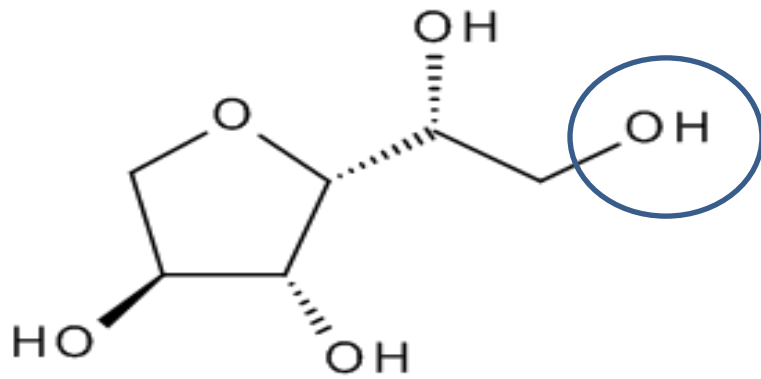
Preparation of Spans and Tweens

- The electrolytic reduction (H^+) of glucose yields the hexa hydroalcohol (sorbitol)



- Then by dehydration it gives mixture of 5- and 6- member ring compounds called sorbitan which has the following structure: they have the same chemical formula.

Sorbitan structure



- Sorbitan is produced by the dehydration of sorbitol and is an intermediate in the conversion of sorbitol to isosorbide. The rate of formation of sorbitan is typically greater than that of isosorbide, which allows it to be produced selectively, providing the reaction conditions are carefully controlled. The dehydration reaction has been shown to work even in the presence of excess water.

