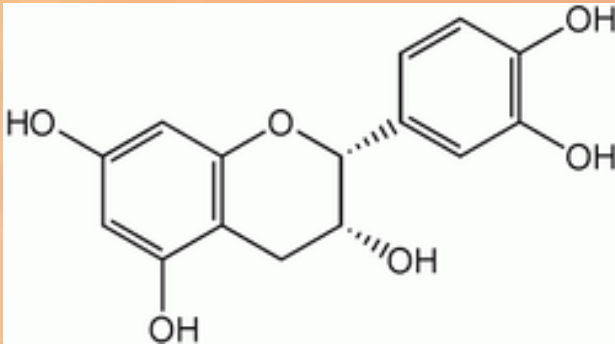


Tannins

One of the subclasses of Flavonoids , polyphenolic compounds. Specifically, it is a Flavanol.

Tannins are what create the same drying sensation you experience when drinking tea, wine or bite into an under ripe persimmon. They do this by interacting with the proteins on your tongue.

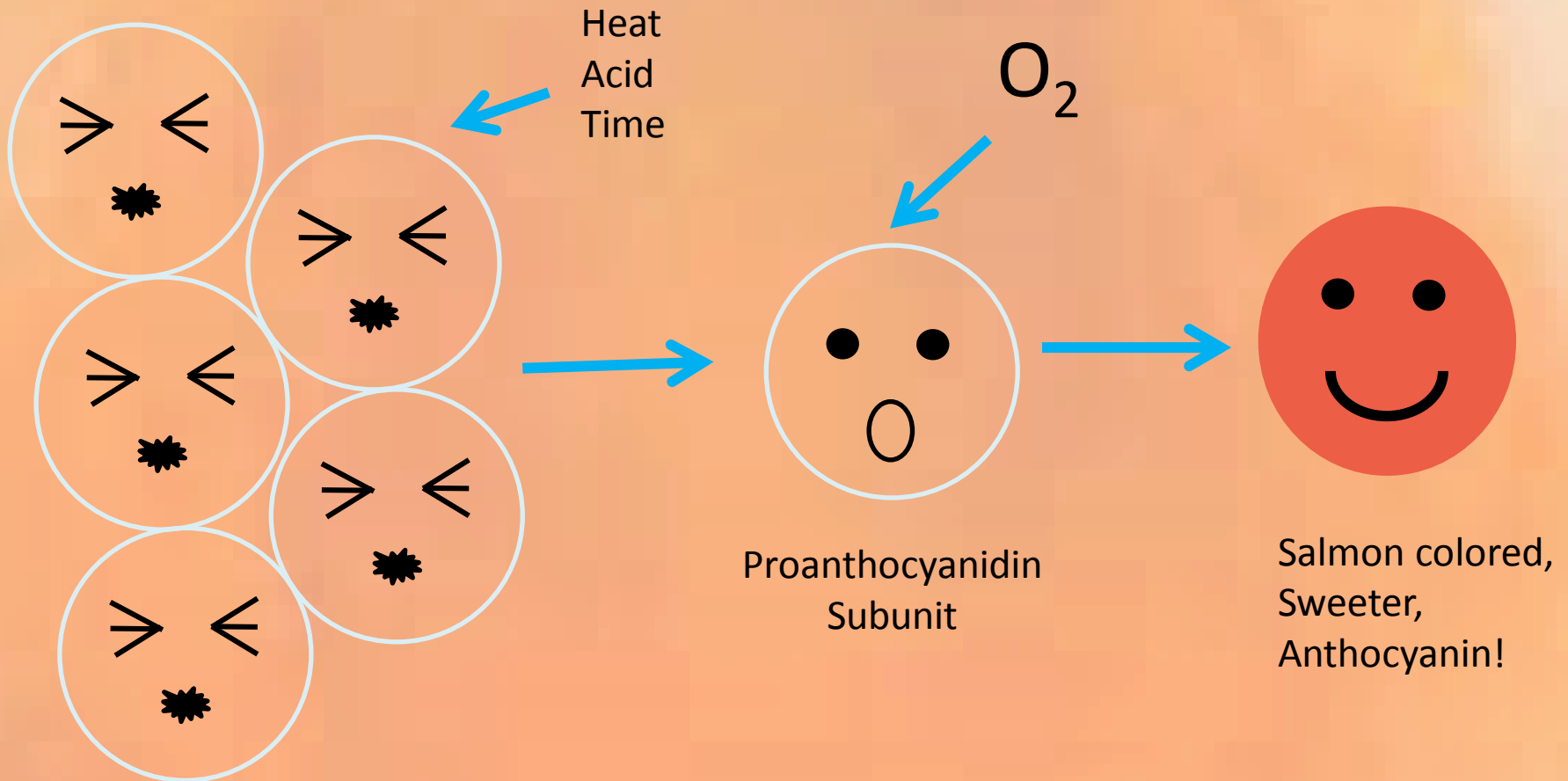
Quince Tannins



Quinces and some pears are especially high in flavonals: proanthocyanidins.

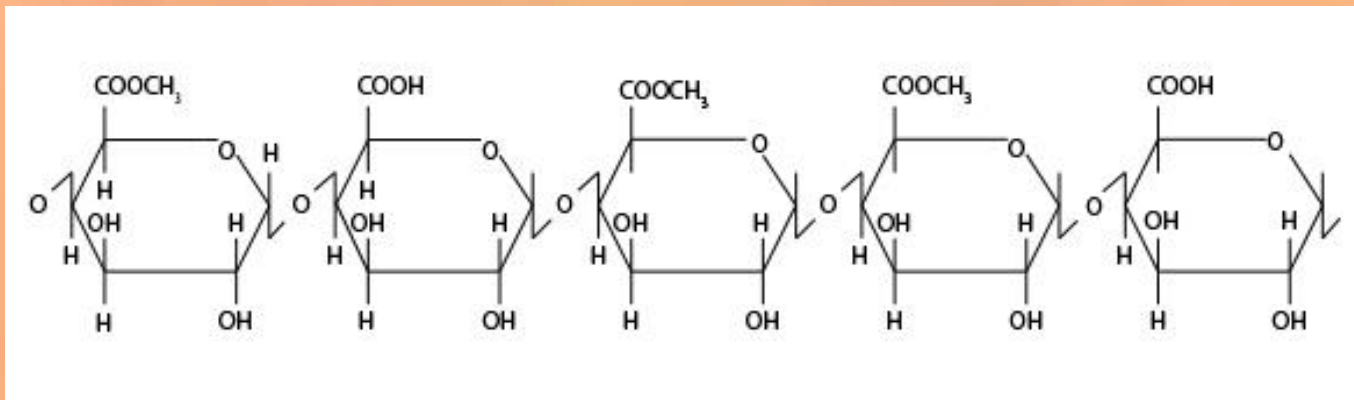
Magical Quince Tannin Chemical Transformation!

Colorless, Astringent,
Condensed Tannin



Pectin: what is it?

Linear polysaccharide (100 – 1000 units)



D-Galacturonic acid (sugar acid)

Quince Pectin: How does it gel?



Random 3D matrix of hydrogen bonds and hydrophobic reactions. Called “low water activity gel” or “sugar-acid-pectin gel”.

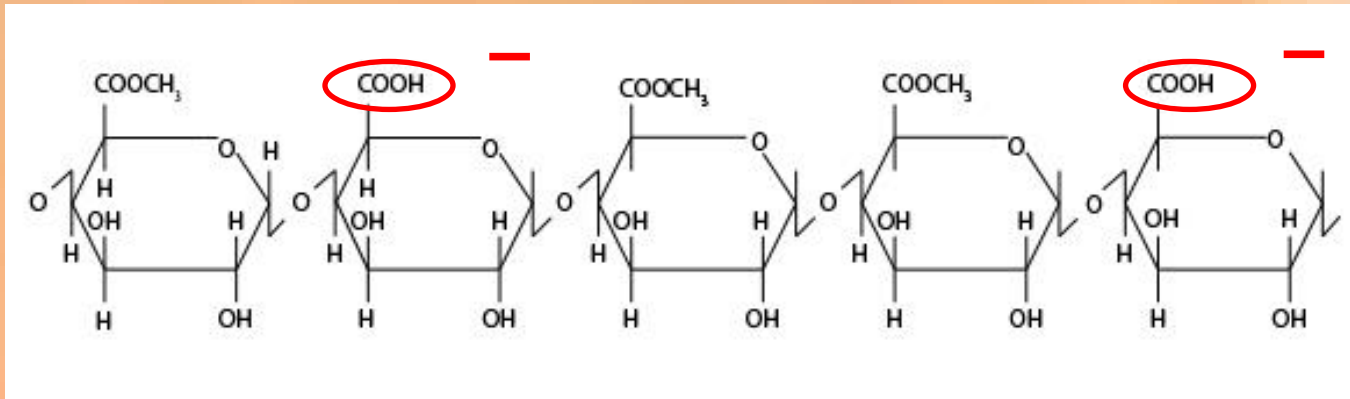
High Methoxyl Pectin

High Methoxyl Pectin

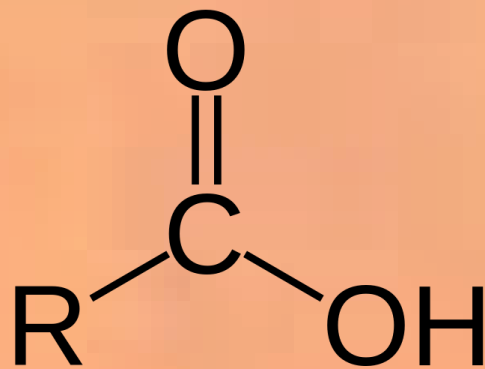
Needs Acid and Sugar to gel

Why?

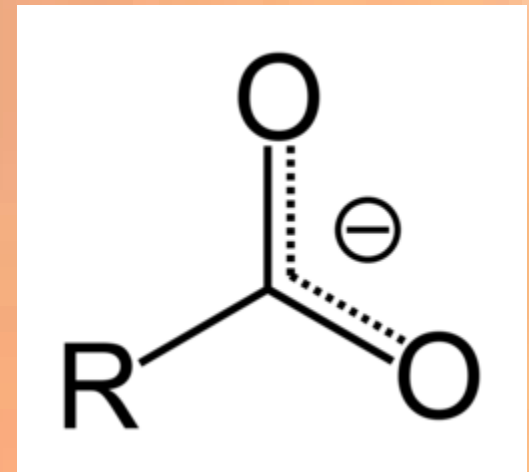
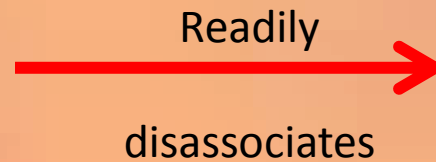
Acid Requirement



Pectin

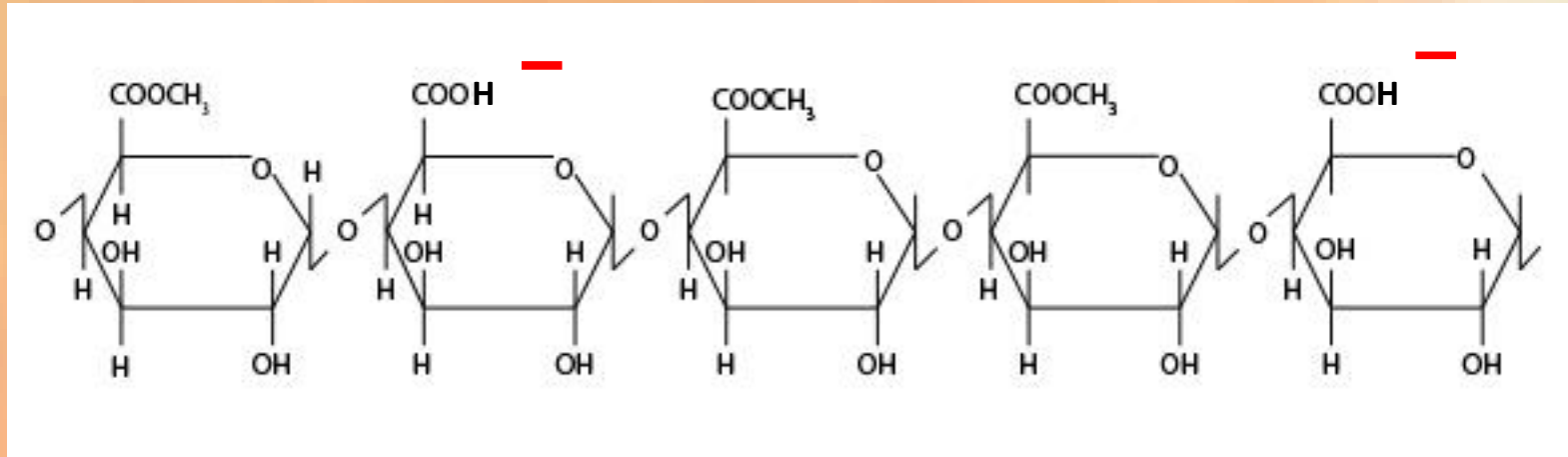


Carboxylic Acid

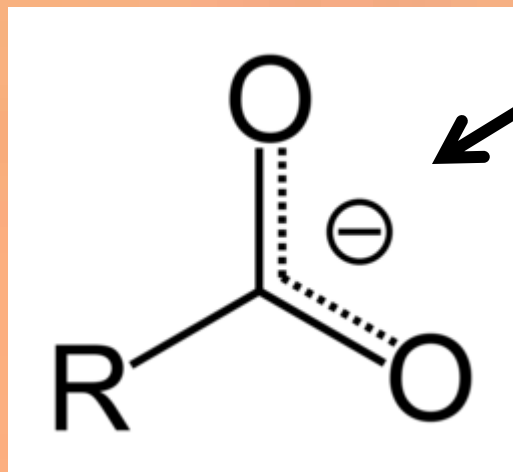


Carboxylate Anion

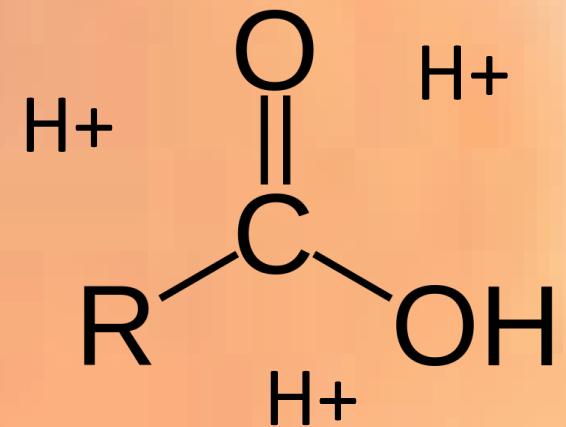
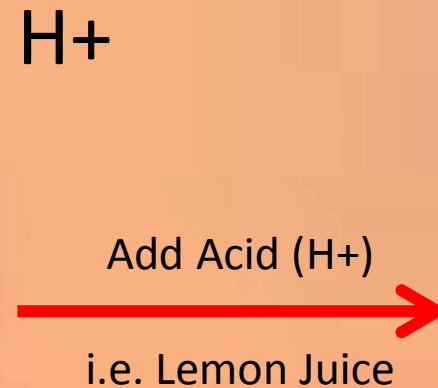
Acid Requirement



Pectin



Carboxylate Anion

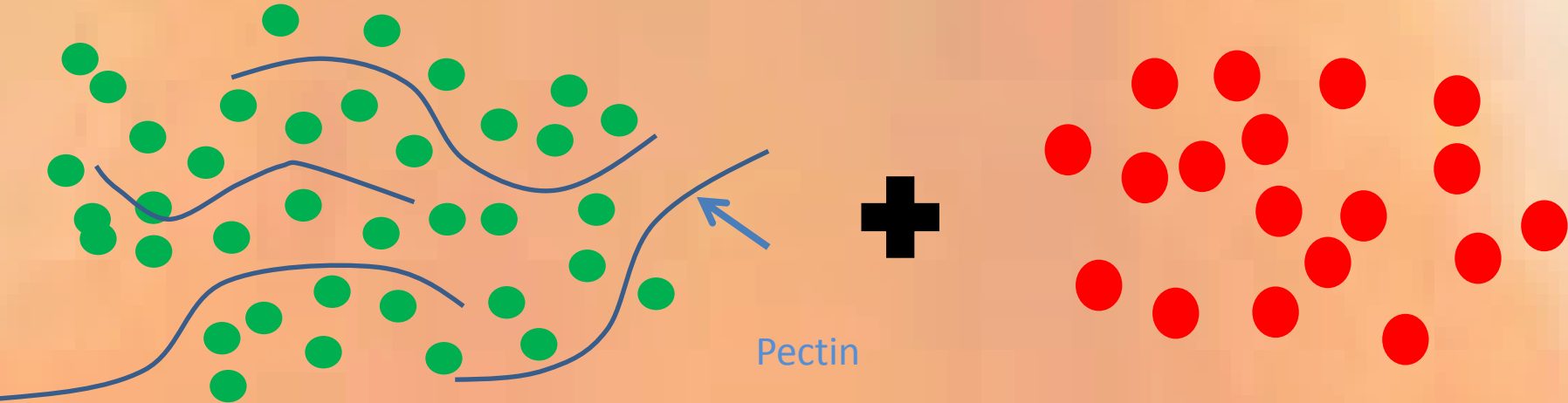


Carboxylic Acid

H₂O

Sugar Requirement

Sugar

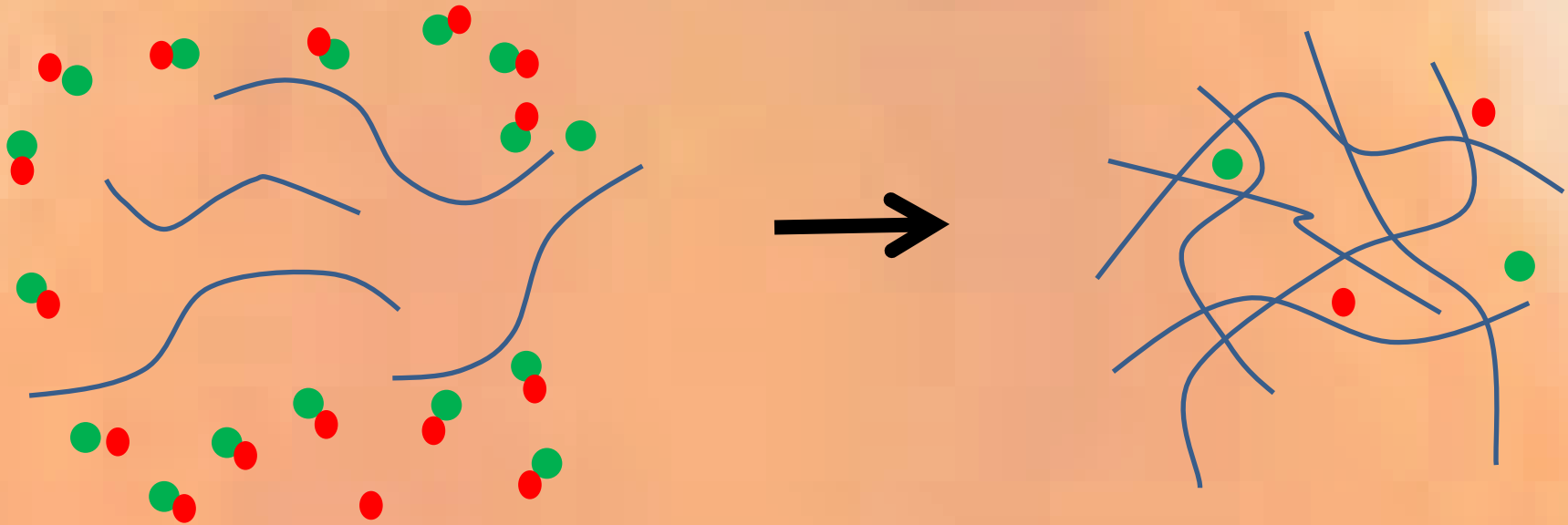


Sugar is hydrophilic (water loving) so it competes for and wins the water away from the pectin.

H₂O

Sugar Requirement

Sugar



Remember: Called “low water activity gel” or “sugar-acid-pectin gel”.