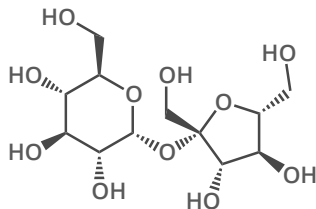


MAPLE SYRUP CHEMISTRY

Maple syrup is the largest commercially produced product derived from tree sap. The sweet syrup has more constituents than just sugar, however. Here's a brief look at a small selection.

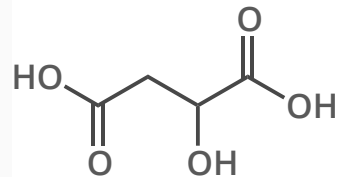
SUGARS



Sucrose is the main sugar in maple syrup, making up almost 70% of its composition. The percentages of other sugars are very low by comparison.

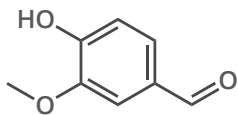


ACIDITY

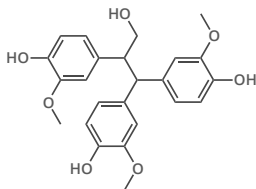


Maple syrup is slightly acidic due to the presence of several organic acids. The most abundant of these is malic acid, at around 0.5%.

PHENOLIC COMPOUNDS

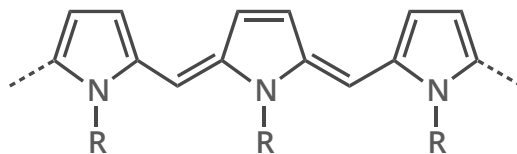


VANILLIN (ABOVE)
AND QUEBECOL (RIGHT)



Phenolic compounds in maple syrup form from degradation of lignin in sap, though some, like quebecol, form in the syrup-making process. Some contribute to the syrup's flavour, though the exact combination of compounds remains unclear.

SOURCE OF COLOUR



EXAMPLE FRAGMENT OF A MELANOIDIN STRUCTURE
(Melanoidins are brown polymers formed by the Maillard reaction)

Maple syrup is graded according to its colour. However, we still don't know the exact compounds behind its colouration. Maillard reactions, caramelisation, and formation of polycarbonyl compounds have all been implicated.

