FROM TEACHERS FOR TEACHERS

DIVERSITY IN STEM EDUCATION

Renáta Ottová | Gymnázium Praha 6, Nad Alejí | Prague | Czech Republic

Vitamin C in food

Students are to estimate and subsequently determine by experiment the amount of Vitamin C in food products.

We can compare different kinds of flavourings (i.e. factory made lemon juice) based on factors such as vitamin C content, package attractiveness, brand and price.

We can determine how much vitamin C different kinds of fruit and vegetables contain. We can also compare the difference between homegrown and store-bought fruit and vegetables.

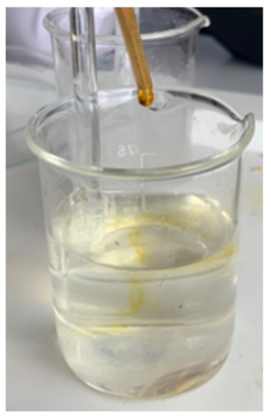
The project is conducted with commonly available tools, which are safe for students to work with individually and can be bought in supermarkets and drugstores.

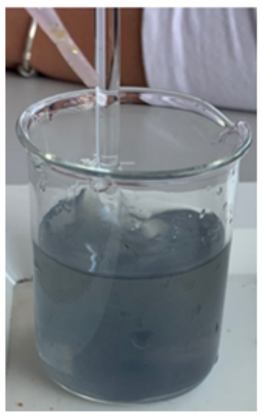
Method:

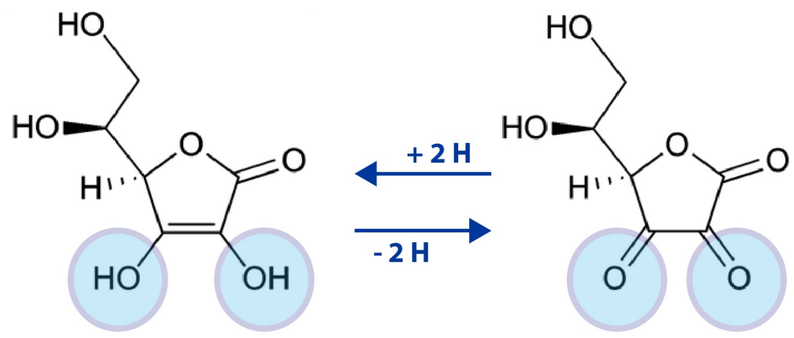
The objective of this experiment is to determine the amount of vitamin C through iodometry with the use of its redox character.

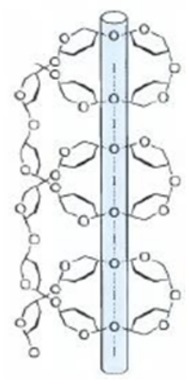
First the iodine reacts with the vitamin C (L-ascorbic acid) while producing L-dehydroascorbic acid and hydroiodic acid.

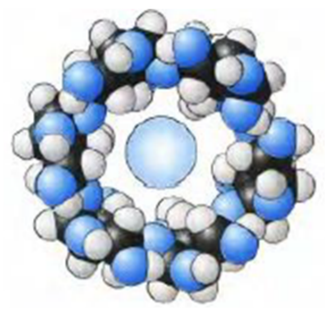
When all the vitamin C cointained in food reacts with iodine, the excess iodine forms a complex with starch (α-amylose). This complex of α-amylose and polyiodide anion results in the solution turning blue-violet color.











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