

Megan Mosey

Orange You Glad You Ate Them While They Were Fresh?

The purpose of the project was to see whether or not the vitamin C content in oranges increases or decreases over time. To start the procedure, first a starch indicator solution must be made by adding 10 grams of cornstarch to 100ml of heated water. The next step is to make a Vitamin C standard solution and titrate it with iodine after adding the starch indicator solution. For the next six consecutive days, titrate 20ml of juice from three different oranges. Before titrating, it was necessary to add enough starch indicator solution to make the total volume of the mixture to 30ml. Then, add enough iodine to make the mixture turn a bluish black color and record the volume of the iodine necessary to create the reaction. Then find the average amount of vitamin C per day by using this equation: $x = (0.3\text{mg/ml}) * (20\text{mg}) / (0.1\text{ml})$. Example: If 0.3mg/ml was the amount of iodine needed to titrate the orange juice sample, then you multiply that by the control (20mg was the amount of vitamin C in the sample and 0.1ml was the amount of iodine used). Record and calculate the vitamin C content for each day. The overall results were that the average amount of vitamin C per day decreased by about 30% from day one to day six. On day one, the average amount of vitamin C was 66mg. On day six, the average vitamin C content was 40mg.