

Chemistry lab on saturated and unsaturated fats flashcard



**ASSIGN
BUSTER**

Classic chemistry experiments Inaugurations in fats and oils Topic Organic chemistry, saturated and unsaturated fats.

Timing 45 min. Description The students titrate different oils and fats mixed with Volatile against bromine water. Apparatus and equipment (per group) w White tile w Conical flask w Dropper pipette. (Use the type of teat pipette usually fitted to Universal Indicator bottles, that do not allow squirting – egg Griffin.

) w Burette (filled with bromine water) w Boss w Clamp w Stand. Chemicals (per group) -3 w Bromine water (Harmful and irritant) 0. 2 mol DMS (This concentration does not eave to be accurate, but if the concentration is reduced, less fat will be required to ensure sensible volumes of bromine water are used.) w Volatile (Volatile 244 from BAD) (This is a mixture of organic chemicals which can act as a solvent for this experiment.) w Cooking oil (animal) w Cooking oil (vegetable) w Olive oil. Teaching tips Other fats can be tried – egg melted butter, melted lard, melted margarine, and specific products such as Flora and Clover.

This experiment has also been trialed using Kinks(aqua) (0. 0005 mol DMS) as the indicator.

This turns from purple to colorless while inaugurations is still present. The procedure is the same as for bromine water, but portions of the potassium permanganate are added with swirling until the mixture fails to produce a colorless solution.

The mixture requires more and more swirling as the amount of potassium permanganate increases. Warming fats in the Volatile using a beaker of hot water helps the fat dissolve and also speeds up the reaction. This experiment should be done in a fume-cupboard with ready filled burette's.

Background theory Saturation and inaugurations.

21 Safety Wear eye protection. Answers 1. Depends on what is supplied. .

Weighing the fats and oils and calculating the exact amount of bromine water used per mole. 3. Unsaturated compounds contain double covalent bonds. Introduction Advertisements often refer to unsaturated fats and oils. This experiment gives a comparison of inaugurations in various oils.

45 47 Burette containing bromine water 49 50 Conical flask Oil and Volatile White tile What to record Volume of bromine water required for each oil. What to do 3 1. Using a teat pipette, add five drops of olive oil to 5 CM of Volatile in a conical flask. – 2.

Use a burette filled with a dilute solution of bromine water (0. 02 mol DMS) (Harmful and irritant).

Read the burette. 3. Run the bromine water slowly into the oil solution.

Shake vigorously after each addition. The yellow color of bromine disappears as bromine reacts with the oil. Continue adding bromine water to produce a permanent yellow color. 4.

Read the burette. Subtract to find the volume of bromine water needed in the titration. 5. Repeat the experiment with: five drops of cooking oil (vegetable) and five drops of cooking oil (animal). Questions 1 .

Which sample is the most saturated and which is the most unsaturated? 2.

This comparison is only approximate. How could the method be improved? 3.

What does unsaturated mean?