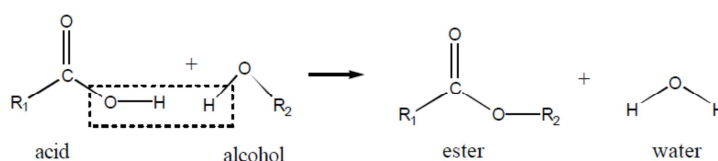


EXAMEN : Baccalauréat général - Série S-SVT ou S-SI	Session 2013
ÉPREUVE : Evaluation spécifique de Langue en section européenne	
PHYSIQUE-CHIMIE en langue ANGLAISE	
Thème : « Réactions chimiques »	Sujet n° 17

Synthesis of Aspirin and Oil of Wintergreen

Synthesis and use of organic compounds is an extremely important area of modern chemistry. In everyday life, many if not most of the chemicals you come in contact with are organic chemicals. Examples include drugs, synthetic fabrics, paints, plastics, etc. Aspirin and oil of wintergreen are both organic esters.



Here R_1 and R_2 represent groups such as CH_3- or CH_3CH_2- . The reaction type shown above may be called a condensation reaction. It may also be called an esterification.

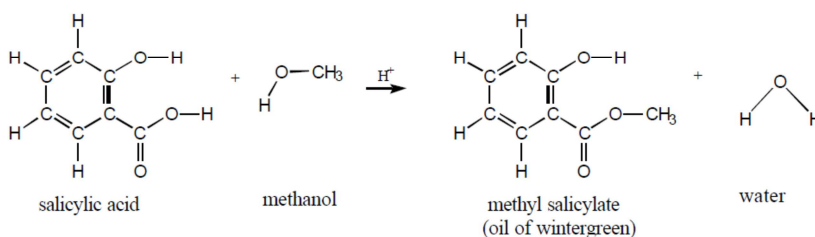
Esters usually have pleasant, fruit-like odors and are the chemicals responsible for the odors and flavors of many fruits (oranges, bananas, pineapples) and flowers.

In most cases, such natural products get their properties from a mixture of organic compounds.

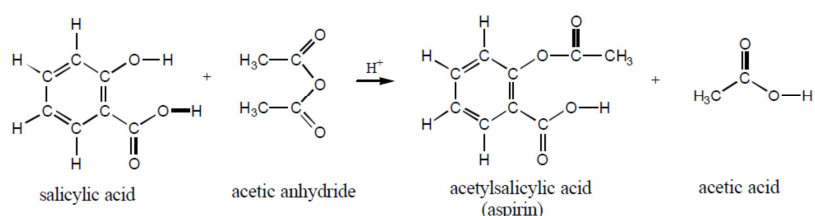
Acetylsalicylic acid is aspirin, the common analgesic. Oil of wintergreen, or methyl salicylate has a familiar odor is used as a flavoring agent and in rubbing pomades.

Aspirin involves a reaction of the -OH group of salicylic acid, while methyl salicylate involves a reaction of the -COOH group of salicylic acid. Organic chemistry is the broad field of studying the tremendous variety of such reactions of organic functional groups.

Preparation of methyl salicylate



Preparation of acetylsalicylic acid



http://www.roanoke.edu/Chemistry/GSteehler/chem_112/aspirin_experiment.PDF

Questions :

1.a. Present and comment on the document. Do not forget to focus on the type of organic reaction involved in these syntheses.

1b. In organic chemistry, how is it possible to check the result of synthesis?

2. What do you think of the use of organic chemistry and its applications nowadays?