**Question 22** (6 marks)

A student prepared the compound methyl propanoate in a school laboratory.

(a) Give a common use for the class of compounds to which methyl propanoate belongs.

> esters... a common use for esters... are flavouring for food...

(b) In the preparation of this compound a few drops of concentrated sulfuric acid were added to the starting materials. The mixture was then refluxed for a period of time.

Why was it necessary to reflux the mixture?

> It is necessary to reflux because the rate of reaction will increase if heated and the products are very volatile so it needs to be refluxed.

(c) Name the TWO reactants used in preparing the methyl propanoate and draw their structural formulae.

![Structural formulae](image)