

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. 1

Perfume smells. Esters release a
smells which are used in make perfumes.

- (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. 2

Why was it necessary to reflux the mixture?

Reflux occurs when a mixture is heated in
with a cooling condenser attached to it
vertically. This allows volatile components
of the mixture to travel up the column,
cool and condense, then flow back into the mixture

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

Methyl propanoate ~~CH₃CH₂COOCH₃~~

