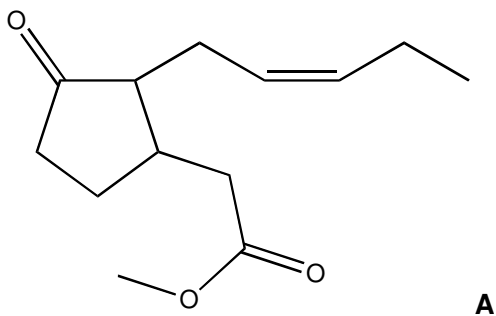


F324 Module 2: HW7

1. Compound **A**, shown below, contributes to the smell and taste of black tea and is a component in jasmine oil.



- (i) Deduce the molecular formula of compound **A**.

.....

[1]

- (ii) Compound **A** contains several functional groups.

Identify, by **name**, the functional groups in compound **A**.

.....
.....
.....

[3]

- (iii) Compound **A** is a stereoisomer.

On the structure above,

- mark each feature responsible for stereoisomerism with an asterisk, *,
- label each feature with the type of stereoisomerism.

[2]

- (iv) Outline **two** important factors that pharmaceutical companies need to consider when manufacturing chiral compounds for use as medicines.

.....

.....

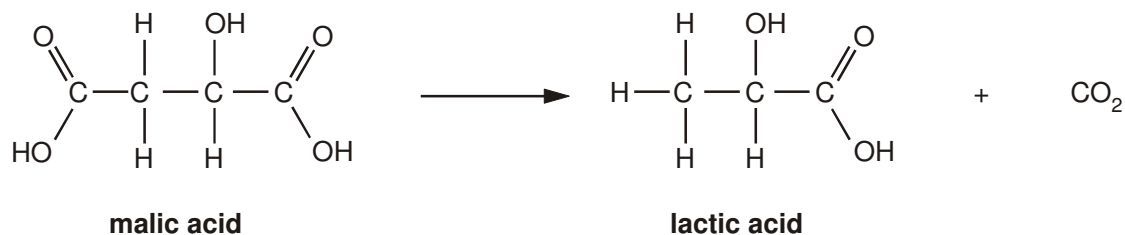
.....

[2]

[Total 8 marks]

2. One of the final stages in winemaking involves the fermentation of malic acid to lactic acid.

An equation for the reaction is shown below.



Both acids contain a chiral centre.

- (i) Identify the chiral centre on the structure of **malic acid** above using an asterisk *.

[1]

F324 Module 2: HW7

- (ii) Draw a diagram to show the 3-D arrangement of groups around the chiral centre in malic acid.

[1]

[Total 2 marks]