Q1.

High resolution mass spectrometry can be used to determine the precise relative molecular mass of compounds.

Which compound has a precise relative molecular mass that is different from the precise relative molecular mass of butanone?

A But-3-en-1-ol ⬭

B Cyclobutanol ⬭

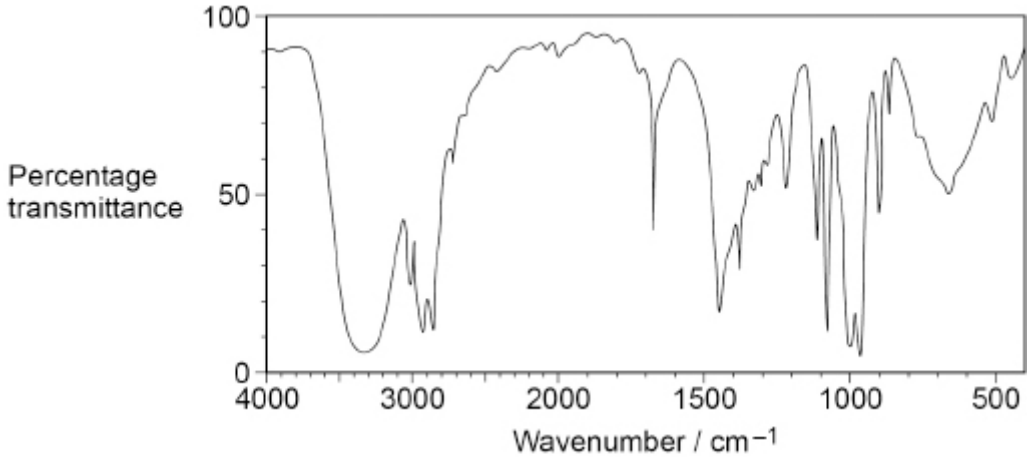
C Methylpropanal ⬭

D Prop-2-enoic acid ⬭

(Total 1 marks)

Q2.

The infrared spectrum of an organic compound is shown.



Which compound could produce this spectrum?

A but-1-ene ⬭

B but-2-en-1-ol ⬭

C butanoic acid ⬭

D butan-2-ol ⬭

(Total 1 mark)

Q3.

The skeletal formulas of two compounds are shown.

Which method would distinguish between samples of these compounds?

A comparing fingerprint regions of their infrared spectra ⬭

B obtaining molecular masses from their high resolution mass spectra ⬭

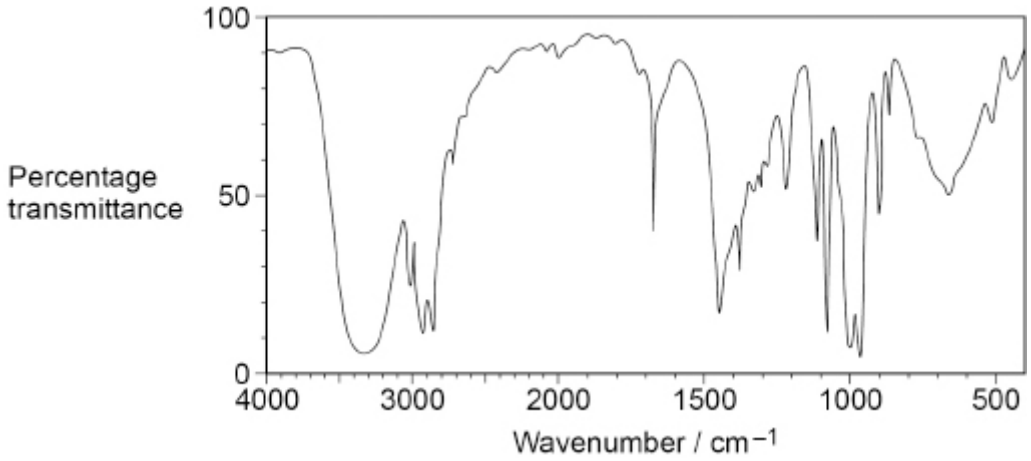
C warming with acidified potassium dichromate(VI) solution ⬭

D warming with Tollens' reagent ⬭

(Total 1 mark)

Q4.

The infrared spectrum of an organic compound is shown.



Which compound could produce this spectrum?

A but-1-ene ⬭

B but-2-en-1-ol ⬭

C butanoic acid ⬭

D butan-2-ol ⬭

(Total 1 mark)