

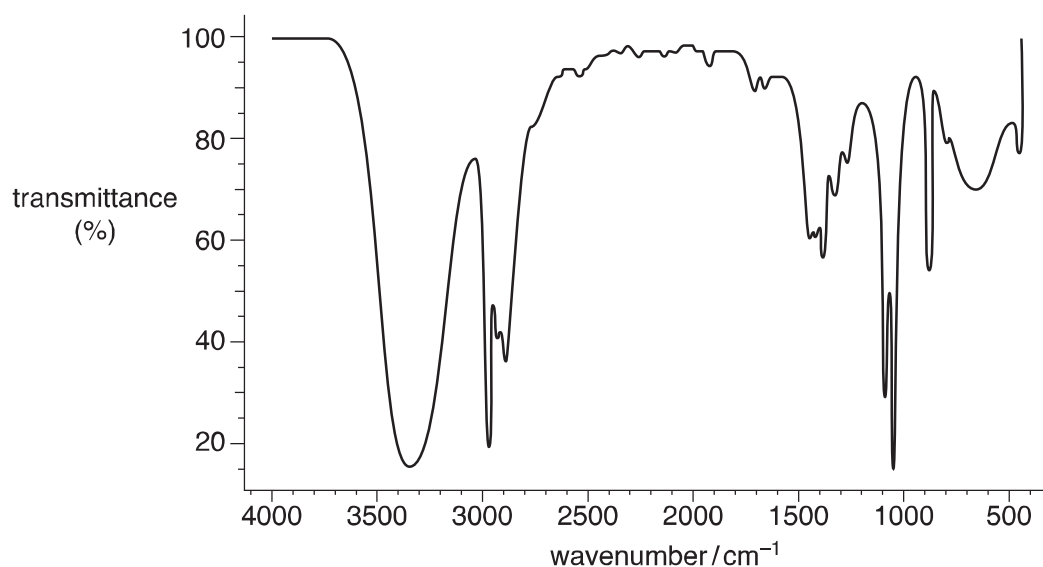
- 7 Compound **X** and compound **Y** react together to make an ester **Z**. Samples of **X** and **Y** were analysed by a research chemist. A summary of the chemist's results are shown below.

Analysis of compound X

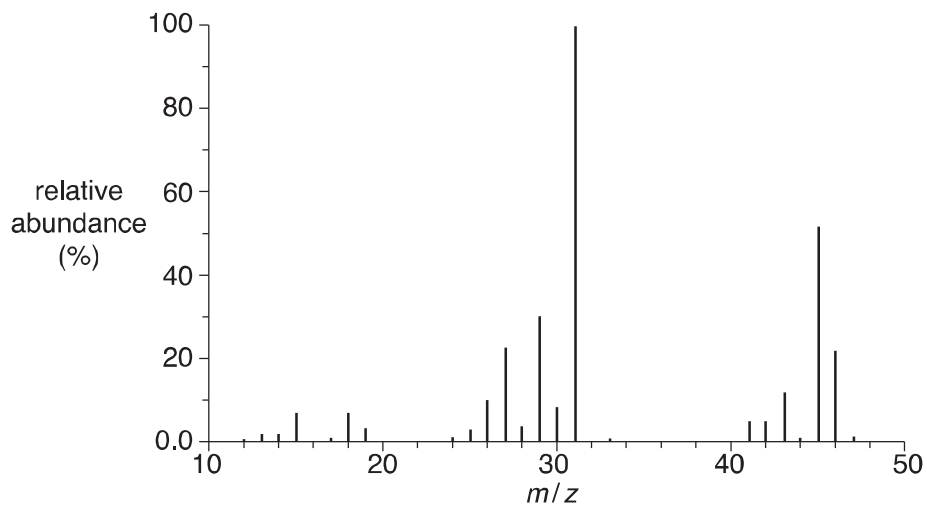
type of analysis	evidence
infrared spectroscopy	absorption at 1720 cm^{-1} and a very broad absorption between 2500 and 3300 cm^{-1}
percentage composition by mass	C, 48.65%; H, 8.11%; O, 43.24%
mass spectrometry	molecular ion peak at $m/z = 74.0$

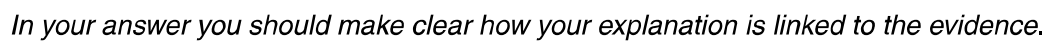
Analysis of compound Y

infrared spectrum of **Y**



mass spectrum of **Y**





[10]

[Total:10]