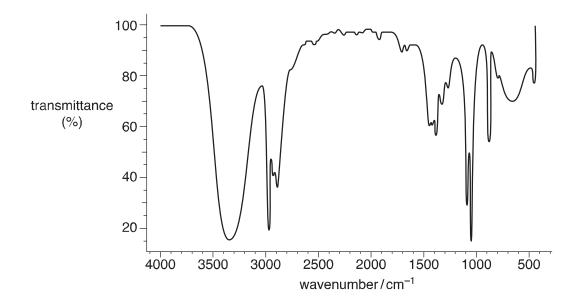
7 Compound **X** and compound **Y** react together to make an ester **Z**. Samples of **X** and **Y** were analysed by a research chemist. A summary of the chemist's results are shown below.

## Analysis of compound X

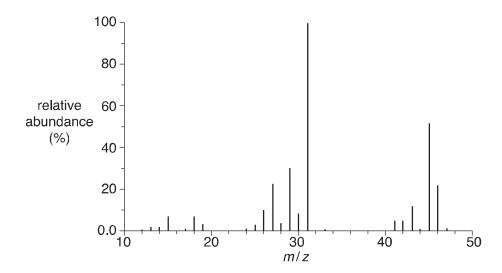
type of analysis	evidence
infrared spectroscopy	absorption at 1720 cm <sup>-1</sup> and a very broad absorption between 2500 and 3300 cm <sup>-1</sup>
percentage composition by mass	C, 48.65%; H, 8.11%; O, 43.24%
mass spectrometry	molecular ion peak at m/z = 74.0

## Analysis of compound Y

## infrared spectrum of Y



## mass spectrum of Y



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Use this information to suggest the identity of compound  ${\bf X}$ , compound  ${\bf Y}$  and ester  ${\bf Z}$ .

	In your answer you should make clear how your explanation is linked to the evidence.
•	
•	
-	

[Total:10]