

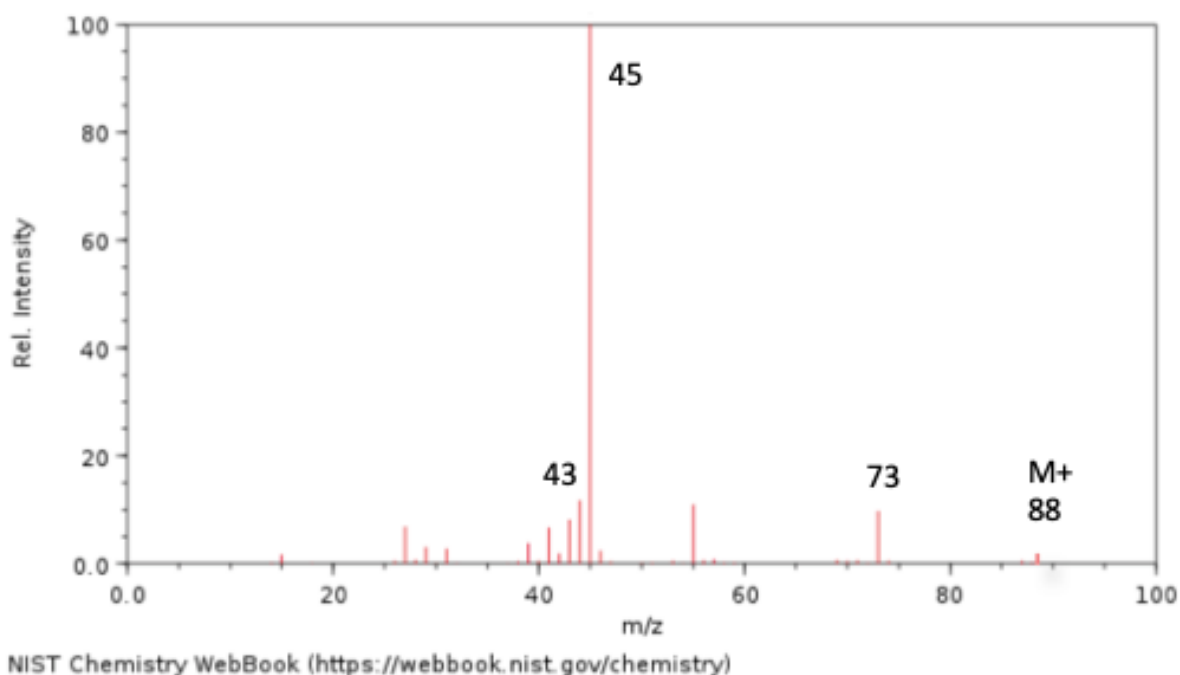
HL Spectroscopic identification of organic compounds: Question 17

Identify **Compound Q** from the data (a – d) given and explain how you arrived at your answer

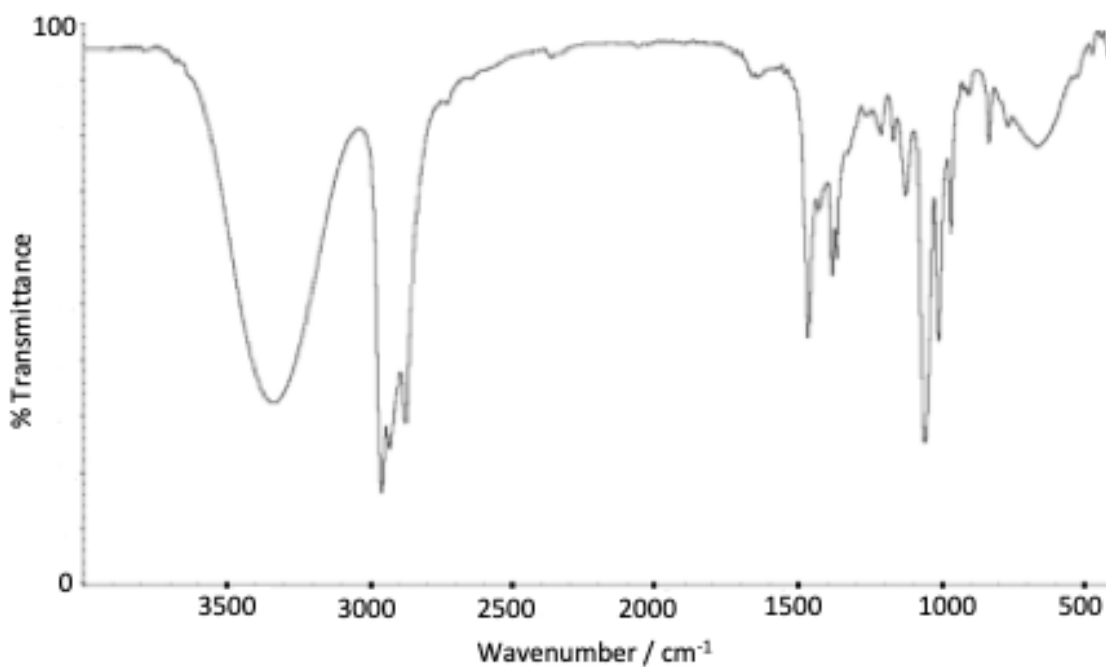
(a) Elemental analysis of **Compound Q**

Element	Percentage by mass
Carbon	68.11
Hydrogen	13.74
Oxygen	18.15

(b) Mass spectrum of **Compound Q**



(c) Infrared spectrum of **Compound Q**



Source: <https://pdfs.semanticscholar.org/cf7a/7e22001c5415cf6436e95f5f11a3e3b68488.pdf>

(d) Data from ^1H NMR spectrum of **Compound Q**

Position of signal / ppm	Splitting pattern	Integration trace
0.9	doublet	6
1.1	doublet	3
1.6	complex	1
1.8	singlet	1
3.6	complex	1

^1H NMR data from <https://spectrabase.com/spectrum/LnpPkfzUaE2>

