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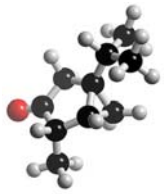
1.1 – ATOMIC STRUCTURE – PPQ5



Name …… Form ……

5) A sample of element **Q** was extracted from a meteorite. The table below shows the relative abundance of each isotope in a mass spectrum of this sample of **Q**.

m/z	64	66	67	68
Relative abundance (%)	38.9	27.8	14.7	18.6

a) Define the term *relative atomic mass* of an element. (2)

b) Use the data above to calculate the relative atomic mass of this sample of **Q**. Give your answer to one decimal place. Suggest the identity of **Q**. (3)

c) In order to obtain a mass spectrum of **Q**, a gaseous sample is first ionised. Describe how ionisation is achieved in a mass spectrometer. Give **three** reasons why ionisation is necessary. (5)

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