MASS SPECTRA OF ELEMENTS

1. Mass spectra enable you to find relative abundances of the isotopes of a particular element.

   a) What are isotopes?

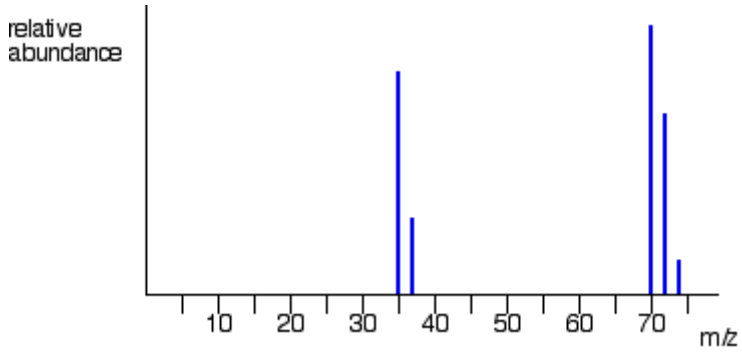
   b) Define relative atomic mass.

   c) The mass spectrum of strontium contains the following lines for 1+ ions:

m/z	% abundance
84	0.56
86	9.86
87	7.00
88	82.58

   Calculate the relative atomic mass of strontium.

2. The mass spectrum for chlorine looks like this:



   a) Explain why there are two separate groups of peaks.

   b) State what causes each of the 5 lines.

   c) Explain the approximate relative heights of the lines at 35 and 37.

   d) What are the approximate relative heights of the lines at 70, 72 and 74?

   e) Why can't you predict the relative heights of the two clusters of lines (35/37 and 70/72/74)?