Question #57810, Chemistry / Physical Chemistry

A sample of oxygen contains the isotopes 16O, 17O, 18O. How many peaks would there be for the O2^+ ions in the mass spectrum of this sample of oxygen?

Solution:

Because these isotopes of atoms can form molecules of O_2 content:

16 + 16 = 32;

16 + 17 = 33;

16 + 18 = 34;

17 + 17 = 34;

17 + 18 = 35;

18 + 18 = 36;

Thus, ions can form a mass of O_2^+ 32; 33; 34; 35; 36 - all in the mass spectrum is 5 peaks.

Answer: In the mass spectrum of this sample of oxygen would 5 peaks