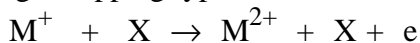


$E/2$ mass spectrum

Processes of the charge-stripping type:



occurring in a collision cell (containing a gas, X) located in a field-free region preceding a magnetic and electric sector combination placed in either order, may be detected as follows.

If the instrument slits are wide and if the electric sector field E is set to half the value required to transmit the main ion-beam, the only ions to be transmitted will be those with a kinetic energy/charge ratio half, or almost exactly half, that of the main ion beam. The product ions of the charge-stripping process fulfil this condition. If the magnetic field B is scanned, a mass spectrum of such doubly-charged product ions, and thus of their singly-charged precursors, is obtained. Such a spectrum is called an $E/2$ mass spectrum. Interference from product ions from processes of the type:



where m_1 , m_2 , and $(m_1 - m_2)$ are the masses of M_1^+ , M_2^+ and M_3 , respectively, and where $m_2 = 0.5m_1$, can arise in $E/2$ mass spectra.

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