In mass spectroscopy, the mass-to-charge ratio (symbols: $m/z$, $m/e$) of a cation is equal to the mass of the cation divided by its charge.

$$\text{mass-to-charge ratio} = \frac{\text{mass of cation}}{\text{charge of cation}}$$

Since the charge of cation formed in the mass spectrometer is almost always +1, the mass-to-charge ratio of a cation is usually equal to the mass of the cation.

$$\text{mass-to-charge ratio} = \frac{\text{mass of cation}}{+1} = \text{mass of cation}$$

The mass of the molecular ion is equal to the molecular weight of the compound. Thus, the mass-to-charge ratio of the molecular ion is equal to the molecular weight of the compound.

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**Contributors**

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