

**protonated molecule (in mass spectrometry)**

An ion formed by interaction of a molecule with a proton abstracted from an ion, as often occurs in chemical ionization according to the reaction:  $M + XH^+ \rightarrow MH^+ + X$ . The symbolism  $[M + H]^+$  may also be used to represent the protonated molecule. The widely used term 'protonated molecular ion' to describe the  $MH^+$  ion is not recommended, since it suggests an associated product of a proton with a molecular ion.

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