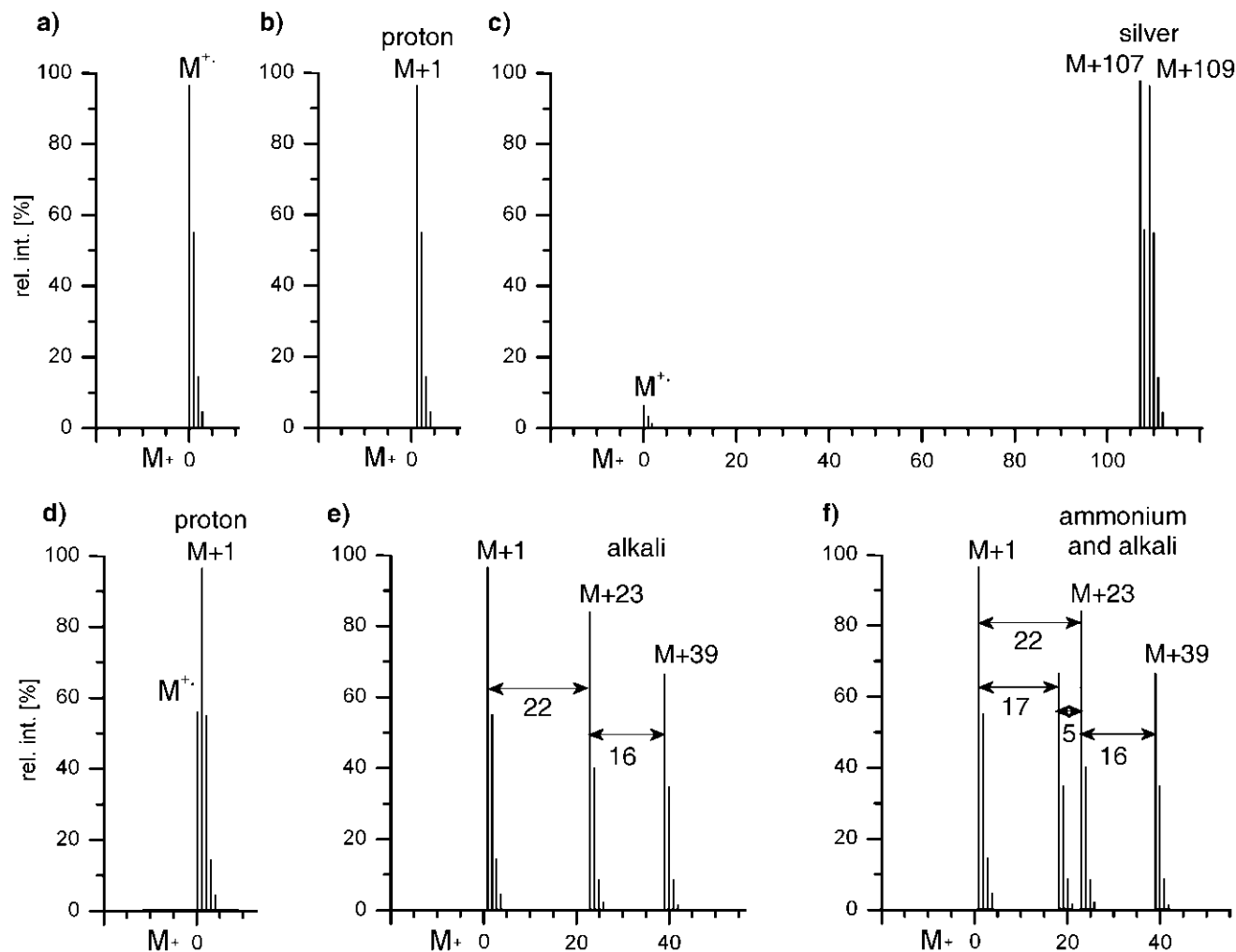
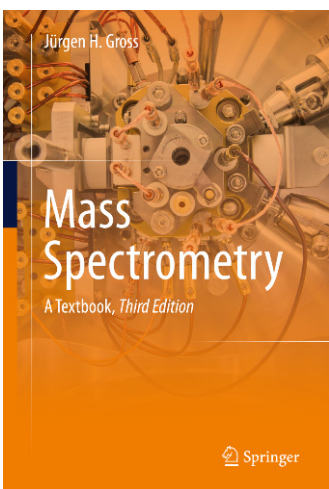


Recognizing Cationization

Soft ionization methods often cause cationization by Na^+ , K^+ , Cs^+ , and Ag^+ . Especially Na^+ , K^+ adducts are omnipresent. Searching a spectrum for those peak distances reveals the true molecular mass. Exact mass differences to identify frequent cationization products are given below.

Pair of Ions	$\Delta(m/z)$
M^{++} vs. $^{13}\text{C}\text{-M}^{++}$	1.0033
M^{++} vs. $[\text{M}+\text{H}]^+$	1.0078
$[\text{M}+\text{H}]^+$ vs. $[\text{M}+\text{NH}_4]^+$	17.0265
$[\text{M}+\text{H}]^+$ vs. $[\text{M}+\text{Na}]^+$	21.9819
$[\text{M}+\text{H}]^+$ vs. $[\text{M}+\text{K}]^+$	37.9559
$[\text{M}+\text{Na}]^+$ vs. $[\text{M}+\text{K}]^+$	15.9739



Signals representing the intact molecular mass in case of (a) molecular ion formation, (b) protonation, (c) silver cationization, (d) molecular ion and protonation, (e) protonation plus alkali cationization, and (f) protonation, ammonium plus alkali adduct formation. The relative abundances of the respective contributions are subject to wide variations. The abscissa gives the corresponding $\text{M}+\text{X}$ nominal mass value; artificial isotopic patterns are added for more realistic appearance.