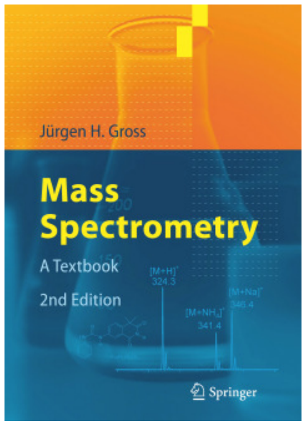
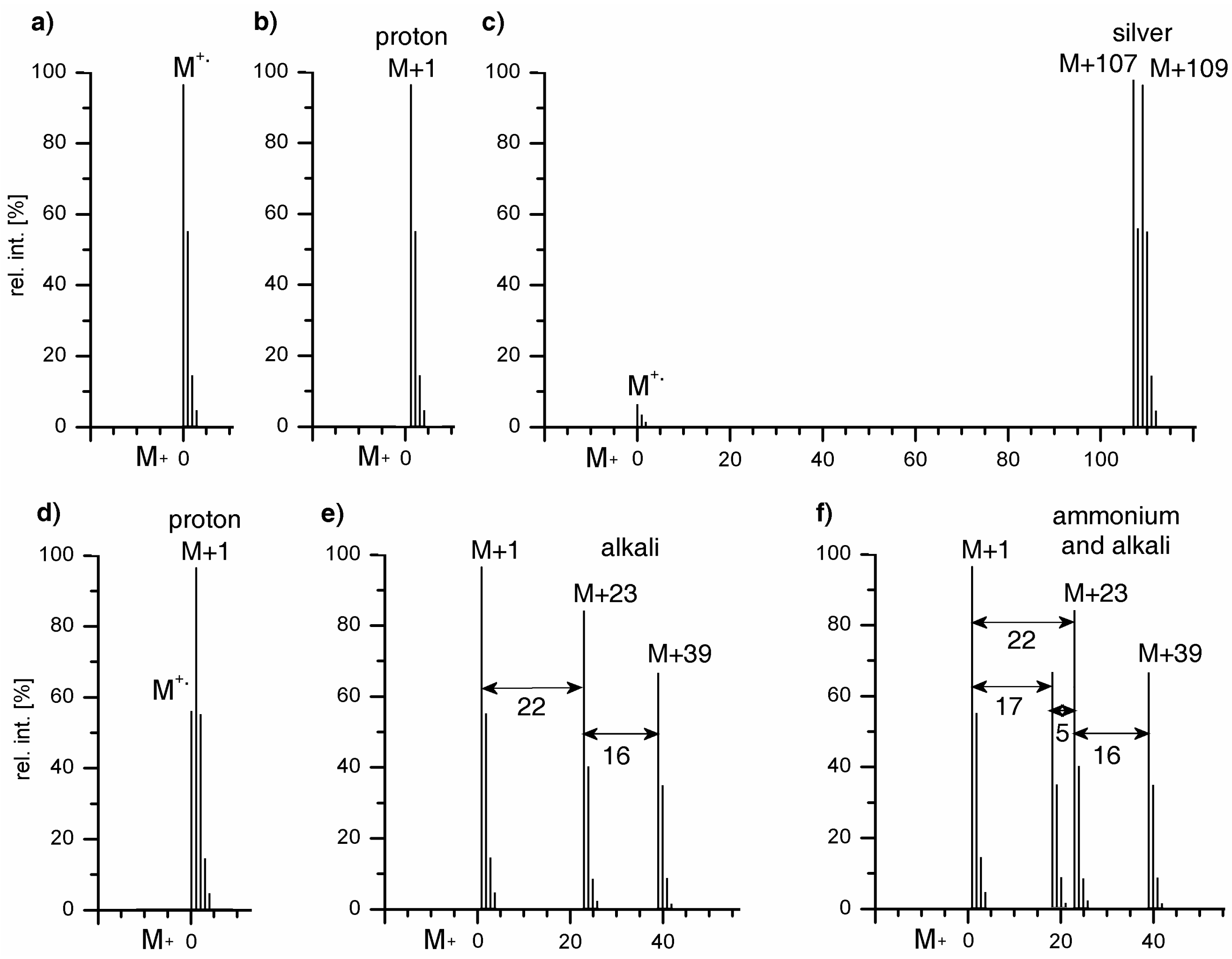
Recognizing Cationization

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	Δm [u]
$M^{+\bullet}$ vs. ^{13}C-$M^{+\bullet}$	1.0033
$M^{+\bullet}$ vs. $[M+H]^+$	1.0078
$[M+H]^+$ vs. $[M+NH_4]^+$	17.0265
$[M+H]^+$ vs. $[M+Na]^+$	21.9819
$[M+H]^+$ vs. $[M+K]^+$	37.9559
$[M+Na]^+$ vs. $[M+K]^+$	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 M+X nominal mass value; artificial isotopic patterns are added for more realistic appearance.