

Table 4.13 Some common losses from molecular ions

<i>Ion</i>	<i>Groups commonly associated with the mass lost</i>	<i>Possible inference</i>
M-1	H	—
M-2	H ₂	—
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M-14	—	Homologue?
M-15	CH ₃	—
M-16	O	Ar-NO ₂ , $\geq N^+-O^-$, sulphoxide
M-16	NH ₂	ArSO ₂ NH ₂ , -CONH ₂
M-17	OH	—
M-17	NH ₃	—
M-18	H ₂ O	Alcohol, aldehyde, ketone, etc.
M-19	F	} Fluorides
M-20	HF	
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M-26	C ₂ H ₂	Aromatic hydrocarbon
M-27	HCN	} Aromatic nitriles Nitrogen heterocycles
M-28	CO	
M-28	C ₂ H ₄	Quinones
M-29	CHO	} Aromatic ethyl ethers Ethyl esters, <i>n</i> -propyl ketones
M-29	C ₂ H ₅	
M-30	C ₂ H ₆	—
M-30	CH ₂ O	Ethyl ketones, Ar- <i>n</i> -C ₃ H ₇
M-30	NO	—
M-31	OCH ₃	Aromatic methyl ether
M-32	CH ₃ OH	Ar-NO ₂
M-32	S	Methyl ester
M-33	H ₂ O + CH ₃	Methyl ester
M-33	HS	—
M-34	H ₂ S	} Thiols
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M-41	C ₃ H ₅	Propyl ester
M-42	CH ₂ CO	Methyl ketone
M-42	C ₃ H ₆	} Aromatic acetate, ArNHCOCH ₃ <i>n</i> - or <i>iso</i> -butyl ketone
M-43	C ₃ H ₇	
M-43	CH ₃ CO	Aromatic propyl ether, Ar- <i>n</i> -C ₄ H ₉
M-44	CO ₂	Propyl ketone, Ar- <i>n</i> -C ₃ H ₇
M-44	C ₃ H ₈	Methyl ketone
M-45	CO ₂ H	} Ester (skeletal rearrangement) Anhydride
M-45	OC ₂ H ₅	
M-46	C ₂ H ₅ OH	—
M-46	NO ₂	Carboxylic acid
M-48	SO	Ethyl ester
		Ethyl ester
		Ar-NO ₂
		Aromatic sulphoxide
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M-55	C ₄ H ₇	Butyl ester
M-56	C ₄ H ₈	} Ar- <i>n</i> -C ₅ H ₁₁ , ArO- <i>n</i> -C ₄ H ₉ Ar- <i>iso</i> -C ₅ H ₁₁ , ArO- <i>iso</i> -C ₄ H ₉
M-57	C ₄ H ₉	
M-57	C ₂ H ₅ CO	Pentyl ketone
M-58	C ₄ H ₁₀	Butyl ketone
M-60	CH ₃ COOH	Ethyl ketone
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		Acetate