

99. The method of claim 97 wherein said step of detecting ion packets comprises the use of a system comprising a mass spectrometer.

100. The method of claim 97 wherein said step of detecting ion packets comprises the use of a system comprising a time-of-flight mass spectrometer.

101. The method of claim 100 wherein said step of detecting ion packets further comprises pre-selecting parent ions by a step selected from the group consisting of collision-induced dissociation, photo-induced dissociation; and surface-induced dissociation.

102. The method of claim 101 wherein said step of pre-selecting parent ions further comprises focusing said parent ions and any fragment ions using a radio frequency quadrupole.

103. A method of collecting ion mobility spectrometric information comprising:

generating a gaseous sample of ions using a technique selected from the group consisting of:

matrix assisted laser desorption ionization, electrospray ionization, laser ionization, photoionization, an electron ionization, chemical ionization, electric field ionization, surface ionization, radioactive ionization, discharge ionization; and, multiphoton ionization,

separating said gaseous sample of ions into packets of ions according to the ion mobilities of said packets

through use of a drift cell having a parallel electrode assembly comprising at least one radius of curvature electrode; and,

detecting said ion packets.

104. The method of claim 103 wherein said step of detecting ion packets comprises the use of an ion collector and an amplifier.

105. The method of claim 103 wherein said step of detecting ion packets comprises the use of a system comprising a mass spectrometer.

106. The method of claim 104 wherein said step of detecting ion packets comprises the use of a system comprising a time-of-flight mass spectrometer.

107. The method of claim 106 wherein said step of detecting ion packets further comprises pre-selecting parent ions by a step selected from the group consisting of collision-induced dissociation, photo-induced dissociation; and surface-induced dissociation.

108. The method of claim 107 wherein said step of pre-selecting parent ions further comprises focusing said parent ions and any fragment ions using a radio frequency quadrupole.

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