CLAIMS

1. A source assembly comprising:

a housing configured to receive source components, the housing comprising a first integral alignment feature; and

a terminal lens configured to provide a beam, the terminal lens comprising a second integral alignment feature, the terminal lens constructed and arranged to couple to the housing when the first integral alignment feature is coupled to the second integral alignment feature to align the terminal lens with the source components in the housing and retain the source components in the housing.

2. The source assembly of claim 1, in which one of the first and second integral alignment features comprises a pin and the other integral alignment feature comprises a slot.

3. The source assembly of claim 1, in which one of the first and second integral alignment features comprises a pin and the other integral alignment feature comprises a hole.

4. The source assembly of claim 1, in which one of the first and second integral alignment features comprises a hook and the other integral alignment feature comprises a pin.

5. The source assembly of claim 1, in which one of the first and second integral alignment features comprises a pin and the other integral alignment feature comprises a L-shaped slot.

6. The source assembly of claim 1, in which at least one of the first and second integral alignment features are internal.

7. The source assembly of claim 1, in which at least one of the first and second integral alignment features are external.

8. The source assembly of claim 1, in which the terminal lens is configured to provide a beam comprising ions.

9. The source assembly of claim 1, in which the terminal lens is configured to provide a beam comprising electrons.

10. The source assembly of claim 1, in which the first integral alignment feature is configured to couple to the second integral alignment feature in only a single orientation to align the terminal lens with the source components and retain the source components in the housing.

11. The source assembly of claim 1, in which the first integral alignment feature comprises first, second and third bayonets positioned with substantially equal circumferential spacing on the housing, and the second integral alignment feature comprises first, second and third L-shaped slots each configured to receive a corresponding one of the first, second and third bayonets of the housing.

12. The source assembly of claim 1, in which the source assembly is configured to be removed from a mass spectrometer without using an insertion/removal tool.

13. The source assembly of claim 1, in which the source assembly further comprises a filament in the housing.

14. The source assembly of claim 13, in which the source assembly comprises an additional lens in the housing.

15. The source assembly of claim 14, further comprising three lenses between the ~~ion volume~~ filament and the terminal lens.

16. The source assembly of claim 15, in which the source assembly comprises:

a source block coupled to a repellor insulator;

a repellor coupled to the repellor insulator;

an ion volume insulator coupled to the repellor;

an ion trap insulator coupled to the repellor;

an ion trap coupled to the ion trap insulator;

an ion volume comprising the filament and a first lens, in which the ion volume is coupled to the trap;

a second and third lens coupled to the ion volume; and

the terminal lens is coupled to the second and third lens.

17. The source assembly of claim 16, further comprising biasing means between the third lens and the terminal lens.

18. The source assembly of claim 1, further comprising configuring the terminal lens as a unitary lens effective to function both as a lens and to retain source components in the housing.

19. The source assembly of claim 1, further comprising means for securing the source assembly in a device.

20. The source assembly of claim 19, in which the means for securing the source assembly is configured to enable removal of the source assembly without using an insertion/removal tool.

21. A source assembly comprising:

a housing configured to receive source components and comprising a first set of integral alignment features;

a terminal lens constructed and arranged to provide a beam, the terminal lens comprising a second set of integral alignment features, the terminal lens constructed and arranged to couple to the housing when the first set of integral alignment features are coupled to the second set of integral alignment features to align the terminal lens with the source components in the housing and retain the source components in the housing.

22. The source assembly of claim 21, in which one set of the first and second integral alignment features comprises pins and the other set of integral alignment features comprises slots.

23. The source assembly of claim 21, in which one set of the first and second integral alignment features comprises pins and the other set of integral alignment features comprises holes.

24. The source assembly of claim 21, in which one set of the first and second integral alignment features comprises hooks and the other set of integral alignment features comprises pins.

25. The source assembly of claim 21, in which one set of the first and second integral alignment features comprises pins and the other set of integral alignment features comprises L-shaped slots.

~~26. The source assembly of claim 21, in which the set of first integral alignment features includes different alignment features.~~

~~27. The source assembly of claim 21, in which the set of second integral alignment features includes different alignment features.~~

~~28. The source assembly of claim 21, in which the terminal lens is effective to provide ions.~~

~~29. The source assembly of claim 21, in which the terminal lens is effective to provideelectrons.~~

~~30. The source assembly of claim 21, in which the set of first integral alignment features are configured to couple to the second set of integral alignment features in only a single orientation to align the terminal lens with the source components and retain the source components in the housing.~~

~~31. The source assembly of claim 21, in which the first set of integral alignment features comprise first, second and third bayonets positioned with substantially equal circumferential spacing on the housing, and the second set of integral alignment features comprise first, second and third L-shaped slots each configured to receive a corresponding one of the first, second and third bayonets of the housing.~~

~~32. The source assembly of claim 21, in which the source assembly is configured to be removed from a mass spectrometer without using an insertion/removal tool.~~

~~33. The source assembly of claim 21, in which the source assembly further comprises a filament in the housing.~~

~~34. The source assembly of claim 33, in which the source assembly comprises an additional lens between the filament and the terminal lens.~~

~~35. The source assembly of claim 34, further comprising three lenses between the filament and the terminal lens.~~

~~36. The source assembly of claim 35, in which the source assembly comprises:~~

~~a source block coupled to a repellor insulator;~~

~~a repellor coupled to the repellor insulator;~~

~~an ion volume insulator coupled to the repellor;~~

~~a trap insulator coupled to the repellor;~~

~~a trap coupled to the trap insulator;~~

~~an ion volume comprising the filament and a first lens, in which the ion volume coupled to the trap;~~

~~a second and third lens coupled to the ion volume; and~~

~~the terminal lens is coupled to the second and third lens.~~

~~37. The source assembly of claim 36, further comprising biasing means between the third lens and the terminal lens.~~

~~38. The source assembly of claim 21, further comprising configuring the terminal lens as a unitary lens effective to function as a lens and to align the source components with the terminal lens.~~

~~39. The source assembly of claim 21, further comprising means for securing the source assembly in a device.~~

~~40. The source assembly of claim 39, in which the means for securing the source assembly is configured to enable removal of the source assembly without using an insertion/removal tool.~~

41. A mass spectrometer comprising:

a housing configured to receive a source and comprising a first integral alignment feature;

a terminal lens coupled to the housing and constructed and arranged to provide a beam, the terminal lens comprising a second integral alignment feature, the terminal lens constructed and arranged to couple to the housing when the first integral alignment feature is coupled to the second integral alignment feature to align the terminal lens with the source components in the housing and retain source components in the housing to provide a source assembly; and

a mass analyzer coupled to the terminal lens.

42. The mass spectrometer of claim 41, in which one of the first and second integral alignment features comprises a pin and the other integral alignment feature comprises a slot.

43. The mass spectrometer of claim 41, in which one of the first and second integral alignment features comprises a pin and the other integral alignment feature comprises a hole.

44. The mass spectrometer of claim 41, in which one of the first and second integral alignment features comprises a hook and the other integral alignment feature comprises a pin.

45. The mass spectrometer of claim 41, in which one of the first and second integral alignment features comprises a pin and the other integral alignment feature comprises a L-shaped slot.

46. The mass spectrometer of claim 41, in which at least one of the first and second integral alignment features are internal.

47. The mass spectrometer of claim 41, in which at least one of the first and second integral alignment features are external.

48. The mass spectrometer of claim 41, further comprising an ion source in the housing.

49. The mass spectrometer of claim 41, further comprising an electron source in the housing.

~~50. The mass spectrometer of claim 41, in which the first integral alignment feature is configured to couple to the second integral alignment feature in only a single orientation to align the terminal lens with the source components and retain the source components in the housing.~~

~~51. The mass spectrometer of claim 41, in which the first integral alignment features comprises first, second and third bayonets positioned with substantially equal circumferential spacing on the housing, and the second integral alignment feature comprises first, second and third L-shaped slots each configured to receive a corresponding one of the first, second and third bayonets of the housing.~~

~~52. The mass spectrometer of claim 41, in which the source assembly is configured to be removed from the mass spectrometer without using an insertion/removal tool.~~

~~53. The mass spectrometer of claim 41, in which the source assembly further comprises a filament in the housing.~~

~~54. The mass spectrometer of claim 53, further comprising a detector fluidically coupled to the mass analyzer.~~

~~55. The mass spectrometer of claim 54, in which the source assembly comprises an additional lens between the filament and the terminal lens.~~

~~56. The mass spectrometer of claim 55, in which the source assembly comprises:~~

~~a source block coupled to a repellor insulator;~~

~~a repellor coupled to the repellor insulator;~~

~~an ion volume insulator coupled to the repellor;~~

~~a trap insulator coupled to the repellor;~~

~~a trap coupled to the trap insulator;~~

~~an ion volume comprising the filament and a first lens, in which the ion volume is coupled to the trap;~~

~~a second and third lens coupled to the ion volume; and~~

~~the terminal lens is coupled to the second and third lens.~~

~~57. The mass spectrometer of claim 56, further comprising biasing means between the third lens and the terminal lens.~~

~~58. The mass spectrometer of claim 41, further comprising configuring the terminal lens as a unitary lens effective to function as a lens and to retain source components in the housing.~~

~~59. The mass spectrometer of claim 41, further comprising means for securing the source assembly in a device.~~

~~60. The mass spectrometer of claim 59, in which the means for securing the source assembly is configured to enable removal of the source assembly without using an insertion/removal tool.~~

~~61. A mass spectrometer comprising:~~

~~a housing configured to receive source components and comprising a first set of integral alignment features;~~

~~a terminal lens coupled to the housing and constructed and arranged to provide a beam, the terminal lens comprising a second set of integral alignment features, the terminal lens constructed and arranged to couple to the housing when the first set of integral alignment features are coupled to the second set of integral alignment features to align the terminal lens with the source components in the housing and retain the source components in the housing to provide a source assembly; and~~

~~a mass analyzer coupled to the terminal lens.~~

~~62. The mass spectrometer of claim 61, in which one set of the first and second integral alignment features comprises pins and the other set of integral alignment features comprises slots.~~

~~63. The mass spectrometer of claim 61, in which one set of the first and second integral alignment features comprises pins and the other set of integral alignment features comprises holes.~~

~~64. The mass spectrometer of claim 31, in which one set of the first and second integral alignment features comprises hooks and the other set of integral alignment features comprises pins.~~

~~65. The mass spectrometer of claim 61, in which one set of the first and second integral alignment features comprises pins and the other set of integral alignment features comprises L-shaped slots.~~

~~66. The mass spectrometer of claim 61, in which the set of first integral alignment features includes different alignment features.~~

~~67. The mass spectrometer of claim 61, in which the set of second integral alignment features includes different alignment features.~~

~~68. The mass spectrometer of claim 61, further comprising an ion source in the housing.~~

~~69. The mass spectrometer of claim 61, in further comprising an electron source in the housing.~~

~~70. The mass spectrometer of claim 61, in which the set of first integral alignment features are configured to couple to the second set of integral alignment features in only a single orientation to align the terminal lens with the source components and retain the source components in the housing.~~

~~71. The mass spectrometer of claim 61, in which the first set of integral alignment features comprise first, second and third bayonets positioned with substantially equal circumferential spacing on the housing, and the second set of integral alignment features comprise first, second and third L-shaped slots each configured to receive a corresponding one of the first, second and third bayonets of the housing.~~

~~72. The mass spectrometer of claim 61, in which the source assembly is configured to be removed from the mass spectrometer without using an insertion/removal tool.~~

~~73. The mass spectrometer of claim 61, in which the source assembly further comprises a filament in the housing.~~

~~74. The mass spectrometer of claim 73, further comprising a detector fluidically coupled to the mass analyzer.~~

~~75. The mass spectrometer of claim 74, in which the source assembly comprises an additional lens between the filament and the terminal lens.~~

~~76. The mass spectrometer of claim 75, in which the source assembly comprises:~~

~~a source block coupled to a repellor insulator;~~

~~a repellor coupled to the repellor insulator;~~

~~an ion volume insulator coupled to the repellor;~~

~~a trap insulator coupled to the repellor;~~

~~a trap coupled to the trap insulator;~~

~~an ion volume comprising the filament and a first lens, in which the ion volume is coupled to the trap;~~

~~a second and third lens coupled to the ion volume; and~~

~~the terminal lens is coupled to the second and third lens.~~

~~77. The mass spectrometer of claim 76, further comprising biasing means between the third lens and the terminal lens.~~

~~78. The mass spectrometer of claim 61, further comprising configuring the terminal lens as a unitary lens effective to function as a lens and retain the source components in the housing.~~

~~79. The mass spectrometer of claim 61, further comprising means for securing the source assembly in a device.~~

~~80. The mass spectrometer of claim 79, in which the means for securing the source assembly is configured to enable removal of the source assembly without using an insertion/removal tool.~~

81. An instrument comprising

a fluid chromatograph; and

a mass spectrometer fluidically coupled to the fluid chromatograph to receive analyte from the fluid chromatograph, the mass spectrometer comprising source components in a housing and a terminal lens configured to provide a beam and coupled to the housing, the housing comprising a first integral alignment feature, the terminal lens comprising a second integral alignment feature and constructed and arranged to couple to the housing when the first integral alignment feature is coupled to the second integral alignment feature to align the terminal lens with the source components in the housing and retain components in the housing to provide a source assembly.

82. The instrument of claim 81, in which one of the first and second integral alignment features comprises a pin and the other integral alignment feature comprises a slot.

83. The instrument of claim 81, in which one of the first and second integral alignment features comprises a pin and the other integral alignment feature comprises a hole.

84. The instrument of claim 81, in which one of the first and second integral alignment features comprises a hook and the other integral alignment feature comprises a pin.

85. The instrument of claim 81, in which one of the first and second integral alignment features comprises a pin and the other integral alignment feature comprises a L-shaped slot.

86. The instrument of claim 81, in which at least one of the first and second integral alignment features are internal.

87. The instrument of claim 81, in which at least one of the first and second integral alignment features are external.

88. The instrument of claim 81, in which the source is an ion source or an electron source.

89. The instrument of claim 81, in which the mass spectrometer further comprises a mass analyzer coupled to the terminal lens.

90. The instrument of claim 81, in which the first integral alignment feature is configured to couple to the second integral alignment feature in only a single orientation to align the terminal lens with the source components and retain the source components in the housing.

91. The instrument of claim 81, in which the first integral alignment features comprises first, second and third bayonets positioned with substantially equal circumferential spacing on the housing, and the second integral alignment feature comprises first, second and third L-shaped slots each configured to receive a corresponding one of the first, second and third bayonets of the housing.

92. The instrument of claim 81, in which the source assembly is configured to be removed from the mass spectrometer without using an insertion/removal tool.

93. The instrument of claim 81, in which the source assembly further comprises a filament in the housing.

94. The instrument of claim 93, in which the source assembly comprises an additional lens between the filament and the terminal lens.

95. The instrument of claim 94, further comprising three lenses between the filament and the terminal lens.

96. The instrument of claim 95, in which the source assembly comprises:

a source block coupled to a repellor insulator;

a repellor coupled to the repellor insulator;

an ion volume insulator coupled to the repellor;

a trap insulator coupled to the repellor;

a trap coupled to the trap insulator;

an ion volume comprising the filament and a first lens, in which the ion volume is coupled to the trap;

a second and third lens coupled to the ion volume; and

the terminal lens is coupled to the second and third lens.

97. The instrument of claim 96, further comprising biasing means between the third lens and the terminal lens.

98. The instrument of claim 81, further comprising configuring the terminal lens as a unitary lens effective to function as a lens and retain the source components in the housing.

99. The instrument of claim 81, further comprising means for securing the source assembly in a device.

100. The instrument of claim 99, in which the means for securing the source assembly is configured to enable removal of the source assembly without using an insertion/removal tool.

101. An instrument comprising:

a fluid chromatograph; and

a mass spectrometer fluidically coupled to the fluid chromatograph to receive analyte from the fluid chromatograph, the mass spectrometer comprising source components in a housing and a terminal lens configured to provide a beam and coupled to the housing, the housing comprising a first set of integral alignment features, the terminal lens and comprising a second set of integral alignment features constructed and arranged to couple to the housing when the first set of integral alignment features are coupled to the second set of integral alignment features to align the terminal lens with the source components in the housing and retain the source components in the housing to provide a source assembly.

102. The instrument of claim 101, in which one set of the first and second integral alignment features comprises pins and the other set of integral alignment features comprises slots.

103. The instrument of claim 101, in which one set of the first and second integral alignment features comprises pins and the other set of integral alignment features comprises holes.

~~104. The instrument of claim 101, in which one set of the first and second integral alignment features comprises hooks and the other set of integral alignment features comprises pins.~~

~~105. The instrument of claim 101, in which one set of the first and second integral alignment features comprises pins and the other set of integral alignment features comprises L-shaped slots.~~

~~106. The instrument of claim 101, in which the set of first integral alignment features includes different alignment features.~~

~~107. The instrument of claim 101, in which the set of second integral alignment features includes different alignment features.~~

~~108. The instrument of claim 101, in which the source is an ion source.~~

~~109. The instrument of claim 101, in which the source is an electron source.~~

~~110. The instrument of claim 101, in which the set of first integral alignment features are configured to couple to the second set of integral alignment features in only a single orientation to align the terminal lens with the source components and retain the source components in the housing.~~

~~111. The instrument of claim 101, in which the first set of integral alignment features comprise first, second and third bayonets positioned with substantially equal circumferential spacing on the housing, and the second set of integral alignment features comprise first, second and third L-shaped slots each configured to receive a corresponding one of the first, second and third bayonets of the housing.~~

~~112. The instrument of claim 101, in which the source assembly is configured to be removed from the mass spectrometer without using an insertion/removal tool.~~

~~113. The instrument of claim 101, in which the source assembly further comprises a filament in the housing.~~

~~114. The instrument of claim 113, in which the source assembly comprises an additional lens between the filament and the terminal lens.~~

~~115. The instrument of claim 114, further comprising three lenses between the filament and the terminal lens.~~

~~116. The instrument of claim 115, in which the source assembly comprises:~~

~~a source block coupled to a repellor insulator;~~

~~a repellor coupled to the repellor insulator;~~

~~an ion volume insulator coupled to the repellor;~~

~~a trap insulator coupled to the repellor;~~

~~a trap coupled to the trap insulator;~~

~~an ion volume comprising the filament and a first lens, in which the ion volume is coupled to the trap,~~

~~a second and third lens coupled to the ion volume; and~~

~~the terminal lens is coupled to the second and third lens.~~

~~117. The instrument of claim 116, further comprising biasing means between the third lens and the terminal lens.~~

~~118. The instrument of claim 101, further comprising configuring the terminal lens as a unitary lens effective to function as a lens and to align the source components with the terminal lens and retain the source components in the housing.~~

~~119. The instrument of claim 101, further comprising means for securing the source assembly in a device.~~

~~120. The instrument of claim 119, in which the means for securing the source assembly is configured to enable removal of the source assembly without using an insertion/removal tool.~~

~~121. A terminal lens configured to provide ions or electrons and comprising an integral alignment feature constructed and arranged to couple to a corresponding alignment feature of a housing of a source assembly, the integral alignment feature effective to align the terminal lens with source components in the housing of the source assembly when the integral alignment feature and the corresponding alignment feature of the housing of the source assembly are coupled, the terminal lens further configured to retain the source components in the housing of the source assembly upon coupling of the alignment features.~~

~~122. The terminal lens of claim 121, in which the integral alignment feature comprises a pin.~~

~~123. The terminal lens of claim 121, in which the integral alignment feature comprises a hole.~~

~~124. The terminal lens of claim 121, in which the integral alignment feature comprises a hook.~~

~~125. The terminal lens of claim 121, in which the integral alignment feature comprises a bayonet.~~

~~126. The terminal lens of claim 121, in which the integral alignment feature comprises a L-shaped slot.~~

~~127. The terminal lens of claim 121, in which the integral alignment feature of the terminal lens is internal.~~

~~128. The terminal lens of claim 121, in which the integral alignment feature of the terminal lens is external.~~

~~129. The terminal lens of claim 121, in which the terminal lens is configured to provide a beam comprising ions.~~

~~130. The terminal lens of claim 121, in which the terminal lens is configured to provide a beam comprising electrons.~~

~~131. A terminal lens configured to provide ions or electrons and comprising a set of integral alignment features constructed and arranged to couple to corresponding alignment features of a housing of a source assembly, the integral alignment features effective to align the terminal lens with source components in the housing of the source assembly when the integral alignment features and the corresponding alignment features of the housing of the source assembly are coupled, the terminal lens further configured to retain the source components within the housing of the source assembly upon coupling of the sets of alignment features.~~

~~132. The terminal lens of claim 131, in which the set of integral alignment features comprise a pin.~~

~~133. The terminal lens of claim 131, in which the set of integral alignment features comprise a hole.~~

~~134. The terminal lens of claim 131, in which the set of integral alignment features comprise a hook.~~

~~135. The terminal lens of claim 131, in which the set of integral alignment features comprise a bayonet.~~

~~136. The terminal lens of claim 131, in which the set of integral alignment features comprise a L-shaped slot.~~

~~137. The terminal lens of claim 131, in which the set of integral alignments features of the terminal lens are internal.~~

~~138. The terminal lens of claim 131, in which the set of integral alignment features of the terminal lens are external.~~

~~139. The terminal lens of claim 131, in which the terminal lens is configured to providea beam comprising ions.~~

~~140. The terminal lens of claim 131, in which the terminal lens is configured to provide a beam comprising electrons.~~

~~141. A method comprising coupling a first integral alignment feature on a source housing to a second integral alignment feature on a terminal lens operative to provide a beam, the coupling of the alignment features resulting in retention of source components in the source housing and alignment of the source components in the source housing with the terminal lens.~~

~~142. The method of claim 141, comprising coupling a pin on the source housing with a slot on the terminal lens to align the source components in the source housing with the terminal lens.~~

~~143. The method of claim 141, comprising coupling a pin on the source housing with a hole on the terminal lens to align the source components in the source housing with the terminal lens.~~

~~144. The method of claim 141, comprising coupling a hook on the source housing with a pin on the terminal lens to align the source components in the source housing with the terminal lens.~~

~~145. The method of claim 141, comprising coupling a pin on the source housing with an L-shaped slot on the terminal lens to align the source components in the source housing with the terminal lens.~~

~~146. The method of claim 141, comprising configuring at least one of the first and second integral alignment features to be internal and coupling the alignment features to align the source components in the source housing with the terminal lens.~~

~~147. The method of claim 141, comprising configuring at least one of the first and second integral alignment features to be external and coupling the alignment features to align the source components in the source housing with the terminal lens.~~

~~148. The method of claim 141, further comprising configuring the source as an ion source.~~

~~149. The method of claim 141, further comprising configuring the source as an electron source.~~

~~150. The method of claim 141, further comprising configuring the first integral alignment feature to couple the second integral alignment feature in only a single orientation to align the terminal lens with the source components in the source housing.~~

~~151. A method comprising coupling a first set of integral alignment features on a source housing to a second set of integral alignment features on a terminal lens effective to providea beam, the coupling of the alignment features resulting in retention of source components in the source housing.~~

~~152. The method of claim 151, comprising coupling pins on the source housing with slots on the terminal lens to align the source components in the source housing with the terminal lens.~~

~~153. The method of claim 151, comprising coupling pins on the source housing with holes on the terminal lens to align the source components in the source housing with the terminal lens.~~

~~154. The method of claim 151, comprising coupling hooks on the source housing with pins on the terminal lens to align the source components in the source housing with the terminal lens.~~

~~155. The method of claim 151, comprising coupling pins on the source housing with L-shaped slots on the terminal lens to align the source components in the source housing with the terminal lens.~~

~~156. The method of claim 151, comprising configuring at least one the first and second sets of integral alignment features to be internal and coupling the sets of alignment features to align the source components in the source housing with the terminal lens.~~

~~157. The method of claim 151, comprising configuring at least one of the first and second sets of integral alignment features to be external and coupling the alignment features to align the source components in the source housing with the terminal lens.~~

~~158. The method of claim 151, further comprising configuring the source as an ion source.~~

~~159. The method of claim 151, further comprising configuring the source as an electron source.~~

~~160. The method of claim 151, further comprising configuring the first integral alignment feature to couple to the second integral alignment feature in only a single orientation to align the terminal lens with the source components and retain the source components in the source housing.~~

~~161. A kit comprising:~~

~~a housing constructed and arranged to receive source components, the housing comprising a first integral alignment feature; and~~

~~a terminal lens constructed and arranged to provide a beam, the terminal lens comprising a second integral alignment feature configured to couple to the first alignment feature of the housing to retain the source components in the housing and to align the terminal lens with the source components.~~

~~162. The kit of claim 161, in which the terminal lens and housing are configured to align the source components in the housing when the alignment features of the terminal lens and housing are coupled.~~

~~163. The kit of claim 161, further comprising a filament source.~~

~~164. The kit of claim 161, further comprising an additional lens.~~

~~165. The kit of claim 161, further comprising a repellor.~~

~~166. A kit comprising:~~

~~a housing constructed and arranged to receive source components, the housing comprising a first set of integral alignment features; and~~

~~a terminal lens constructed and arranged to provide a beam, the terminal lens comprising a second set of integral alignment features configured to couple to the first set of integral alignment features to retain the source components in the housing and align the terminal lens with the source components.~~

~~167. The kit of claim 166, in which the terminal lens and housing are configured to align the source components in the housing when the sets of alignment features of the terminal lens and housing are coupled.~~

~~168. The kit of claim 166, further comprising a filament source.~~

~~169. The kit of claim 166, further comprising an additional lens.~~

~~170. The kit of claim 166, further comprising a repellor.~~

~~171. A method of facilitating assembly of an ion source, the method comprising providing a terminal lens configured to provide a beam, the terminal lens comprising an integral alignment feature that is configured to couple to an integral alignment feature on a housing of the ion source to align the terminal lens with ion source components in the housing and to retain the ion source components in the housing to provide the ion source.~~

~~172. A method of facilitating assembly of an electron source, the method comprising providing a terminal lens configured to provide a beam, the terminal lens comprising an integral alignment feature that is configured to couple to an integral alignment feature on a housing of the electron source to align the terminal lens with electron source components in the housing and to retain the electron source components in the housing to provide the electron source.~~

~~173. A method of facilitating assembly of an ion source, the method comprising providing a terminal lens configured to provide a beam, the terminal lens comprising a set of integral alignment features that are configured to couple to a set of integral alignment features~~

~~on a housing of the ion source to align the terminal lens with ion source components in the housing and to retain the ion source components in the housing to provide the ion source.~~

~~174. A method of facilitating assembly of an electron source, the method comprising providing a terminal lens configured to provide a beam, the terminal lens comprising a set of integral alignment features that are configured to couple to a set of integral alignment features on a housing of the electron source to align the terminal lens with electron source components in the housing and to retain the electron source components in the housing to provide the electron source.~~

~~175. A tool-less assembly method for assembling source components in a source assembly, the method comprising:~~

~~adding the source components to a housing; and~~

~~coupling a first integral alignment feature on the housing to a second integral alignment feature on a terminal lens of the source assembly to provide an assembled source assembly without using any tools.~~

~~176. A tool-less assembly method for assembling source components in a source assembly, the method comprising:~~

~~adding the source components to a housing; and~~

~~coupling a first set of integral alignment features on the housing to a second set of integral alignment feature on a terminal lens of the source assembly to provide an assembled source assembly without using any tools.~~