

ABSTRACT

[0062] The invention relates to a mass spectrometer having an electron impact ionization source which comprises an ejector for forming a beam of sample gas being driven in a first direction through an interaction region; a magnet assembly configured and arranged such that its magnetic field lines pass through the interaction region substantially parallel to the first direction; an electron emitter assembly for directing electrons toward the interaction region in a second direction being aligned substantially opposite to the first direction, wherein the electrons propagate along and are confined about the magnetic field lines until reaching the interaction region and forming sample gas ions therein; and a mass analyzer located downstream from the interaction region to which the sample gas ions are guided for mass analysis.

Figure 4