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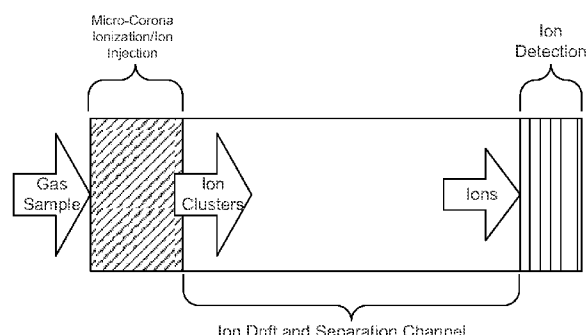


Fig. 1A

(57) Abstract: An apparatus including an ion injector having an inlet and an outlet and a micro-corona ionizer positioned between the inlet and the outlet of the ion injector. A drift and separation channel having a first end and a second end is positioned with the first end coupled to outlet of the ion injector, and an ion detector is coupled to the second end of the ion separation and drift channel. Other embodiments are disclosed and claimed.

A. CLASSIFICATION OF SUBJECT MATTER**G01N 27/64(2006.01)i, H01J 49/40(2006.01)i**

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: ion separation spectrometer(ISS), micro-corona ionizer

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5955886 A1 (COHEN; MARTIN J. et al.) 21 September 1999 See abstract	1-39
A	US 2009-0108193 A1 (KOSTIAINEN RISTO et al.) 30 April 2009 See abstract, figures 1 and 7, claims	1-39
A	US 2005-0063865 A1 (ULRICH BONNE et al.) 24 March 2005 See figures 32-33, page 18	1-39
A	US 2003-0119193 A1 (ROBERT HESS et al.) 26 June 2003 See paragraph [0164-0167], figures 18-19	1-39
A	US 6121608 A1 (TAKADA; YASUAKI et al.) 19 September 2000 See abstract and claims	1-39



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