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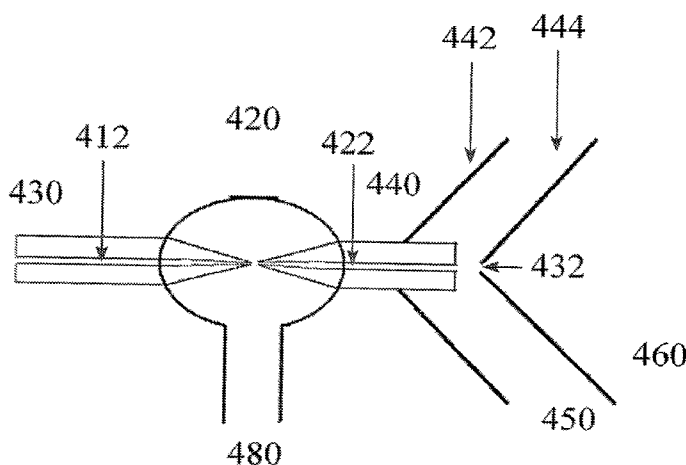
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(54) Title: A SAMPLING SYSTEM FOR USE WITH SURFACE IONIZATION SPECTROSCOPY



(57) Abstract: In various embodiments of the invention, a device permits more efficient collection and transmission of ions produced by the action of a carrier gas containing metastable neutral excited-state species into a mass spectrometer. In one embodiment of the invention, the device incorporates the source for ionization in combination with a jet separator to efficiently remove excess carrier gas while permitting ions to be more efficiently transferred into the vacuum chamber of the mass spectrometer. In an embodiment of the invention, improved collection of ions produced by the carrier gas containing metastable neutral excited-state species at greater distances from between the position of the analyte and the position of the mass spectrometer are enabled.



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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 07/63006

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - H01J 49/00 (2007.01)

USPC - 250/288

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)  
USPC: 250/288

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
USPC: 250/281; 250/282; 250/424 (text search - see terms below)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
PubWEST(USPT,PGPB,EPAB,JPAB); Google  
Search Terms: jet separator, ion source, tubes, mess spectro\$, desorption, cage, mesh

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	TEMBREULL et al., "Pulsed Laser Desorption with Resonant Two-Photon Ionization Detection in Supersonic Beam Mass Spectrometry" Anal. Chem. 1986, 58, 1299-1303; pg 1299	1, 3 and 11-12
Y		2, 4-10 and 13-14
Y	US 5,055,677 A (AMIRAV et al.) 08 October 1991 (08.10.1991); entire document especially col 5, lns 8-14	2 and 8-10
Y	US 3,957,470 A (DAWES) 18 May 1976 (18.05.1976); entire document	4, 6-10 and 13-14
Y	US 5,614,711 A (LI et al.) 25 March 1997 (25.03.1997); entire document especially (col 8, ln 64-col 9, ln 10).	5
Y	US 4,016,421 A (HULL et al.) 05 April 1977 (05.04.1977); entire document	7
A	US 6,717,139 B2 (TANIGUCHI) 06 April 2004 (06.04.2004); entire document	2 and 8

Further documents are listed in the continuation of Box C.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

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