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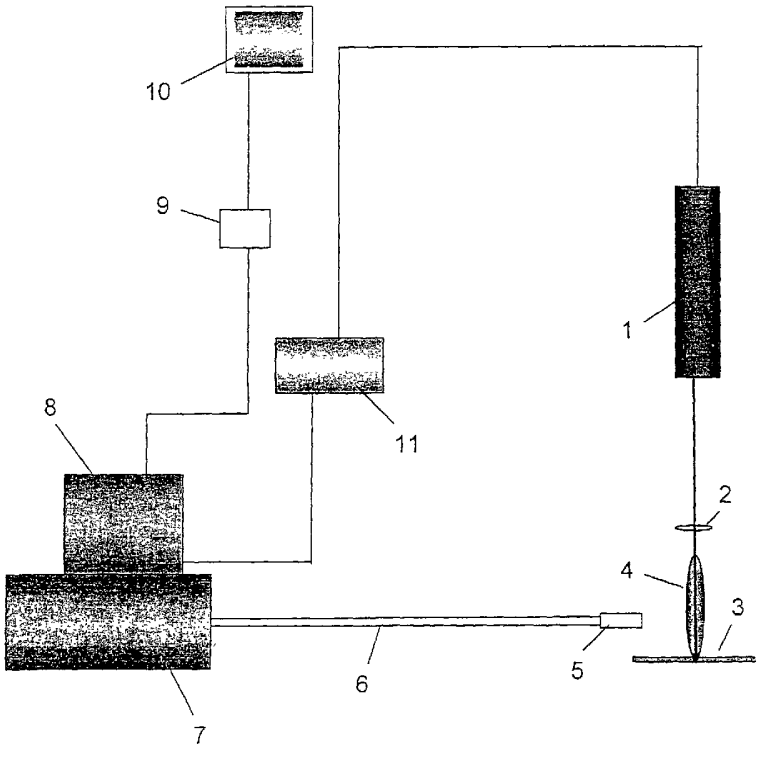
(54) **Title:** METHOD FOR DETECTION AND DISCRIMINATION OF POLYCYCLIC AROMATIC HYDROCARBONS (PAHS) AND MONOAROMATICS BASED ON LASER-INDUCED BREAKDOWN SPECTROSCOPY (LIBS)



(57) Abstract: The invention provides a method for remote real-time detection and monitoring of polycyclic aromatic hydrocarbons (PAHs) and monoaromatics in a sample based on the use of laser-induced breakdown spectroscopy (LIBS). According to the method of the invention, detection and monitoring of PAHs and monoaromatics in a sample is carried out by the steps of using the energy from a pulsed laser to ablate a small quantity of a sample containing PAHs or monoaromatics, producing the emission spectrum of the resulting plasma plume by means of a spectrograph, detecting the intensities of the optical energy of specific features of the emission spectrum, measuring the intensities, and analyzing the measurements of the intensities. Analyzing the measurements of the intensities is done by comparing the measured maximum intensities with values in a previously acquired data base, calculating the ratio of the integrated intensity of specific features of the emission spectrum, and comparing the calculated ratios with values in a previously acquired data base.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G01N21/71 G01N33/28 G01N33/22 G01N1/00

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

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
INSPEC, COMPENDEX, EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	LOCKE R J ET AL: "Ultraviolet laser microplasma-gas chromatography detector: detection of species-specific fragment emission" APPLIED OPTICS, 20 NOV. 1990, USA, vol. 29, no. 33, pages 4987-4992, XP002250686 ISSN: 0003-6935 page 4989 -page 4990; figures 1,3 --- -/--	1-11

[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

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Name and mailing address of the ISA	Authorized officer
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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A	US 5 379 103 A (ZIGLER ARIE) 3 January 1995 (1995-01-03) column 7 ---	1-11
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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