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(54) **Analysis of a mixture of biological and/or chemical components using magnetic particles**

(57) Technical field: analysis of mixtures, predominantly of biologic origin, for the contents of biological and/or chemical components, and analysis of mixtures, which parameters determine vital functions of biologic objects.

Entity: spatially arranging a chosen component attached to magnetic particles, exposing the particles to a magnetic field, and recording a magnetic induction signal, from which the content of the analyte in the mixture is judged; this includes grouping the chosen component in a probe volume, making the magnetic field alternating, pre-setting its spectrum, at least, at one frequency, and recording the signal at a frequency, which is a multiple of this frequency, during the exposure of the magnetic

particles to the field.

Technical result consists in the increase of signal-to-noise ratio and, hence, increase of the accuracy of measurements, sensitivity enhancement, improvement of the reliability of the data obtained, and, at the same time, lowering analysis costs owing to the reduction of the number of operations needed, time, amount and dimensions of the apparatus needed, and, besides, the development of mobile inexpensive mass test laboratories, improvement of operational flexibility of the method and the apparatus, and the extension of their application area.

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EUROPEAN SEARCH REPORT

Application Number
EP 09 16 9524

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
Y	WO 99/27367 A (M. KNOLL) 3 June 1999 (1999-06-03) * abstract; figures 1-22 * * page 1, paragraph 1 - page 35, line 19 * -----	1-15	INV. G01N27/00 G01N33/543 G01R33/12
Y	US 4 710 752 A (CORDERY ROBERT A [US]) 1 December 1987 (1987-12-01) * abstract; claims 11,25; figures 1-6D * * column 1, line 6 - column 3, line 68 * -----	1-15	
Y	US 5 614 824 A (DAMES ANDREW [GB] ET AL) 25 March 1997 (1997-03-25) * abstract; figures 1-4 * * column 3, line 48 - column 5, line 50 * -----	1-15	
Y	EP 0 459 722 A1 (MINNESOTA MINING & MFG [US]) 4 December 1991 (1991-12-04) * abstract; figure 1 * * column 1, line 14 - line 30 * -----	1-15	
A,D	C. B. KRIZ ET AL.: "Magnetic permeability measurements in bioanalysis and biosensors" ANALYTICAL CHEMISTRY., vol. 68, no. 11, 1 June 1996 (1996-06-01), pages 1966-1970, XP000594183 AMERICAN CHEMICAL SOCIETY. COLUMBUS., US ISSN: 0003-2700 * the whole document * -----	1-15	TECHNICAL FIELDS SEARCHED (IPC) G01N G08B G07D G01R
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 7 September 2010	Examiner Uttenthaler, Erich
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 09 16 9524

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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07-09-2010

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专利名称(译)	使用磁性颗粒分析生物和/或化学组分的混合物		
公开(公告)号	EP2120041A3	公开(公告)日	2010-10-20
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申请(专利权)人(译)	MAGNISENSE科技有限公司		
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CPC分类号	G01N27/745 G01N33/54333 G01N35/0098 G01R33/1269		
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其他公开文献	EP2120041A2 EP2120041B1		
外部链接	Espacenet		

摘要(译)

技术领域：混合物的分析，主要是生物来源，生物和/或化学成分的含量，以及混合物的分析，这些参数决定了生物物体的重要功能。实体：空间排列附着在磁性颗粒上的选定组分，将颗粒暴露在磁场中，并记录磁感应信号，从中判断混合物中分析物的含量;这包括将所选组件分组到探头体积中，使磁场交替，至少在两个频率上预先设置其光谱，并在曝光期间以一定频率（这些频率的线性组合）记录信号。磁场对磁场的影响。技术成果包括提高信噪比，从而提高测量精度，提高灵敏度，提高所获数据的可靠性，同时降低分析成本需要的操作次数，所需设备的时间，数量和尺寸，以及移动便宜的质量测试实验室的开发，方法和设备的操作灵活性的改进，以及它们的应用领域的扩展。

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Y	US 4 710 752 A (CORDEY ROBERT A [US]) 1 December 1987 (1987-12-01) * abstract; claims 11-25; figures 1-60 * * column 1, line 6 - column 3, line 68 *	1-15		
Y	US 5 614 824 A (DAMES ANDREW [GB] ET AL) 25 March 1997 (1997-03-25) * abstract; figures 1-4 * * column 3, line 46 - column 5, line 50 *	1-15		
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The present search report has been drawn up for all claims.				
Place of search Munich		Date of completion of the search 7 September 2010		Examiner Uttenhaher, Erich
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① particularly relevant if taken alone ② particularly relevant if mentioned with another document ③ mentioned of the same category ④ mentioned in the abstract ⑤ non-relevant document ⑥ intermediate document		E: entry or priority underlying the invention F: further cited document, but published on, or after the filing date G: document cited in the application H: document cited for other reasons I: member of the same patent family, corresponding document		