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(54) Device for determining the concentration of a substance in body liquid

(57) For measuring the concentration of a substance in body fluid, such as the glucose level in blood or tissue, a strip electrode (18) and a ring electrode (19) are arranged at the specimen. The ring electrode (19) is in direct electrical contact with the specimen while the strip electrode (18) is electrically insulated therefrom. The strip electrode (18) is arranged parallel to an arm or a leg for obtaining a large interaction length. The electrodes (18, 19) form a capacitor in a resonant circuit. A modulated voltage in the MHz range close to or at the resonance frequency is applied to the electrodes and the response of the body fluid is measured. This design allows a measurement of high accuracy.

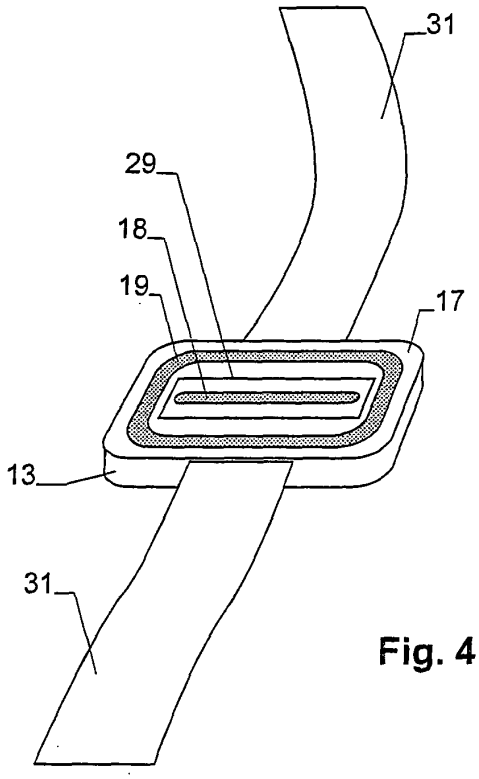

Fig. 4

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EUROPEAN SEARCH REPORT

Application Number
EP 06 02 1295

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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A	EP 0 298 441 A2 (MED & TECH HANDELS GMBH [DE] HANDELSGESELLSCHAFT FUER MEDIZ [DE]) 11 January 1989 (1989-01-11) * abstract; figure 1 *	1	TECHNICAL FIELDS SEARCHED (IPC)
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~~The present search report has been drawn up for all claims~~

Place of search	Date of completion of the search	Examiner
Berlin	22 August 2007	Jonsson, P.O.

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

EPO FORM 1503 03.82 (P04C01)

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Application Number
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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

[X] Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):

11,12

[ ] No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

[ ] All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

[ ] As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

[ ] Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

[ ] None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 06 02 1295

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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22-08-2007

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EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

专利名称(译)	用于确定体液中物质浓度的装置		
公开(公告)号	EP1818010A3	公开(公告)日	2007-10-03
申请号	EP2006021295	申请日	2001-03-06
申请(专利权)人(译)	SOLIANIS HOLDING AG		
当前申请(专利权)人(译)	BIOVOTION AG		
[标]发明人	SCHREPFER THOMAS W CADUFF ANDREAS HIRT ETIENNE SUSSTRUNK HEINZ		
发明人	SCHREPFER, THOMAS W. CADUFF, ANDREAS HIRT, ETIENNE SÜSSTRUNK, HEINZ		
IPC分类号	A61B5/00 A61B5/05 G01N22/00 G01N33/487 G01N27/02 A61B5/0408 A61B5/0478 A61B5/0492 A61B5/053 A61B5/145 A61B5/1477 G01N27/22		
CPC分类号	A61B5/05 A61B5/053 A61B5/14532		
优先权	PCT/IB2001/000334 2001-03-06 WO		
其他公开文献	EP1818010A2 EP1818010B1		
外部链接	Espacenet		

摘要(译)

为了测量体液中物质的浓度，例如血液或组织中的葡萄糖水平，在样本处设置条形电极（18）和环形电极（19）。环形电极（19）与样品直接电接触，而条形电极（18）与样品电绝缘。条形电极（18）平行于臂或腿布置，以获得大的相互作用长度。电极（18,19）在谐振电路中形成电容器。将接近或处于共振频率的MHz范围内的调制电压施加到电极，并测量体液的响应。该设计允许高精度的测量。

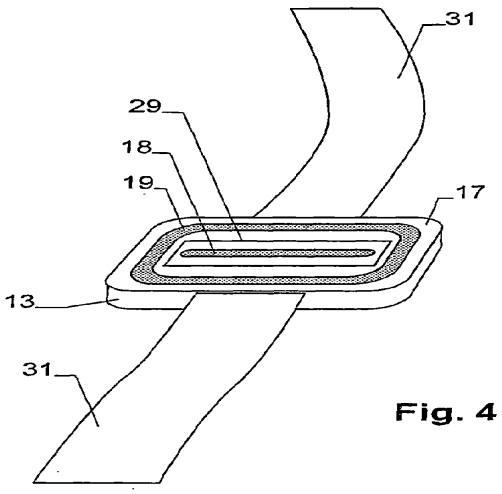

Fig. 4