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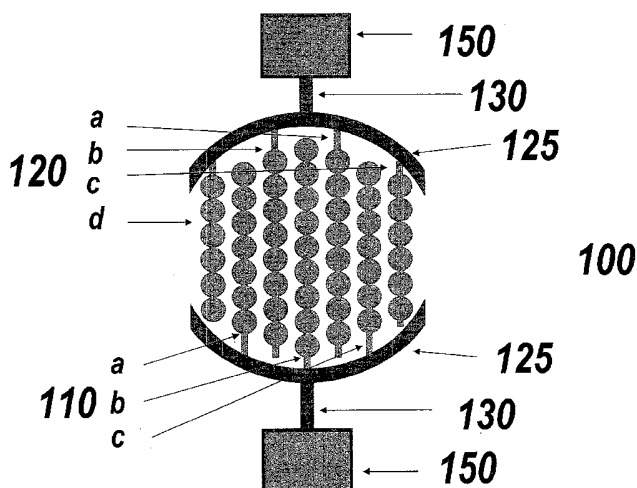
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(54) Title: IMPEDANCE BASED DEVICES AND METHODS FOR USE IN ASSAYS



(57) **Abstract:** A device for detecting cells and/or molecules on an electrode surface is disclosed. The device detects cells and/or molecules through measurement of impedance changes resulting from the cells and/or molecules. A disclosed embodiment of the device includes a substrate having two opposing ends along a longitudinal axis. A plurality of electrode arrays (100) are positioned on the substrate. Each electrode array includes at least two electrodes (110, 120), and each electrode is separated from at least one adjacent electrode in the electrode array by an expanse of non-conductive material. The electrode has a width at its widest point of more than about 1.5 and less than about 10 times the width of the expanse of non-conductive material. The device also includes electrically conductive traces (125, 130) extending substantially longitudinally to one of the two opposing ends of the substrate without intersecting another trace. Each trace is in electrical communication with at least one of the electrode arrays.



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A. CLASSIFICATION OF SUBJECT MATTER IPC(7) : C12Q 1/02; C12M 1/34 US CL : 435/29, 287.1 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) U.S. : 435/6, 29, 30, 287.1, 287.2, 287.9, 288.4, 305.2, 817; 422/82.01, 82.02, 102, 204/400, 403; 324/ 71.1, 692, 450 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 practicable, search terms used)		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 3,890,201 A (CADY et al.) 17 June 1975 (17.06.1975), see entire document, especially Figure 5.	1-52
Y	US 6,376,233 B1 (WOLF et al.) 23 April 2002 (23.04.2002), see entire document.	1-52
Y	US 6,368,851 B1 (BAUMANN et al.) 09 April 2002 (09.04.2002), see entire document.	1-52
Y	US 5,563,067 A (SUGIHARA et al.) 08 October 1996 (08.10.1996), see entire document.	1-52
A	US 5,851,489 A (WOLF et al.) 22 December 1998 (22.12.1998), see entire document.	1-52
A	US 2002/0032531 A1 (MANSKY et al.) 14 March 2002 (14.03.2002), see entire document.	1-52
Y	US 5,187,096 A (GIAEVER et al.) 16 February 1993 (16.02.1993), see entire document.	1-52
A	US 5,218,312 A (MORO) 08 June 1993 (08.06.1993), see entire document.	1-52
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