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(54) Title: SURFACE PLASMON RESONANCE IMAGING OF MICRO-ARRAYS

(57) Abstract: Disclosed is a method for fabricating 1-dimensional micro-arrays using parallel micro-fluidic channels on chemically-modified metal, carbon, silicon, and/or germanium surfaces, a μL detection volume method that uses 2-dimensional nucleic acid micro-arrays formed by employing the 1-dimensional DNA micro-arrays in conjunction with a second set of parallel micro-fluidic channels for solution delivery, and the 1-dimensional and 2-dimensional arrays used in the methods. The methodology allows the rapid creation of 1- and 2-dimensional arrays for SPR imaging and fluorescence imaging of DNA-DNA, DNA-RNA, DNA-protein, and protein-protein binding events. The invention enables very small volumes necessary for a variety of bioassay applications to be analyzed by SPR. Target solution volumes as small as 200 pL can be analyzed.

INTERNATIONAL SEARCH REPORT

International application No.

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A. CLASSIFICATION OF SUBJECT MATTER
 IPC(7) : C07H 21/00; A61K 38/00
 US CL : 435/4, 6, 7.1, 174, 283.1, 287.2; 422/68.1
 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. : 435/4, 6, 7.1, 174, 283.1, 287.2; 422/68.1

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)
 EAST, DIALOG

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	US 6,040,193 A (WINKLER et al) 21 March 2000 (21.03.2000) columns 9-11 and 26-28.	1-3, 5, 7-9, 12-16, 19, 22, 26-27, 31 ----- 4, 6, 10-11, 17-18, 20-21, 23-25, 28-30
Y	US 5,929,298 A (HELLER et al) 27 July 1999 (27.07.1999) columns 12, 14 and 15.	1-31
Y	US 6,139,831 A (SHIVASHANKAR et al) 31 October 2000 (31.10.2000) columns 10 and 17-18.	1-31

Further documents are listed in the continuation of Box C. See patent family annex.

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"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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"O" document referring to an oral disclosure, use, exhibition or other means	
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