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[Continued on next page]

(54) Title: MULTIPLEX ASSAY SYSTEMS

(57) Abstract: The methods described herein can be used, e.g., for detecting at least two target molecules in a sample (e.g., a single sample). Exemplary methods include using a target-specific switch probe attached to a substrate and using zip codes to associate holographically encoded particles with a target-specific probe.

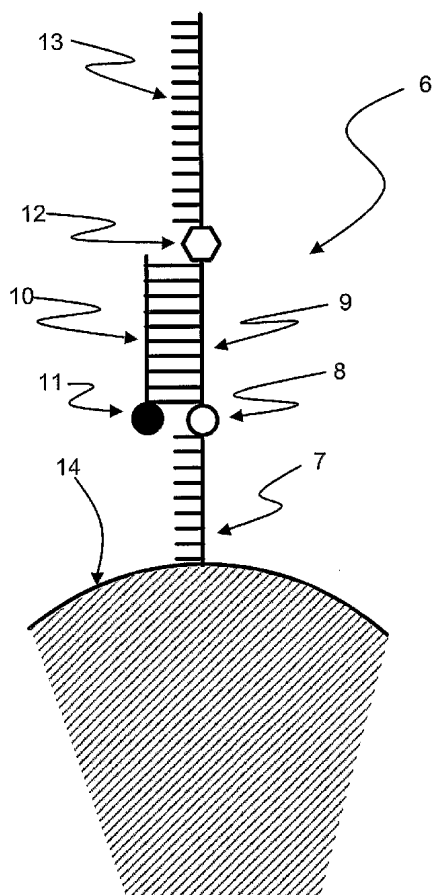


FIG. 4

WO 2006/105409 A3



RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA,
GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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International application No.

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A. CLASSIFICATION OF SUBJECT MATTER

IPC: C12Q 1/68(2006.01);C07H 21/02(2006.01),21/04(2006.01)

USPC: 435/6;536/23.1

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;536/23.1

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-molecular beacons, particles, holographic, scorpion probes

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 2002/0034747 A1 (BRUCHESZ et al) 21 March 2002 (21.03.2002), see entire document.	1-10, 13-22, 24-27, 29-30, 32, 34, 41, 45-46, 48-49 and 52-55 ----- 1-56
Y	SOLINAS et al. Duplex Scorpion Primers in SNP Analysis and FRET Applications. Nucleic Acids Research. 2001, Vol. 29, No. 20, pps 1-9, see entire document.	11-12, 33, and 35
Y	US 5,324,632 A (WEISBURG et al) 28 June 1994 (28.06.1994), see entire document.	23, 31, 36-40, 42-44, and 56
Y	US 6,100,024 A (HUDSON et al) 08 August 2000 (08.08.2000), see entire document.	28 and 50-51
Y	US 2003/0003490 A1 (FAN et al) 02 January 2003 (02.01.2003), see entire document	39



Further documents are listed in the continuation of Box C.



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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
"E"	earlier application or patent published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
"O"	document referring to an oral disclosure, use, exhibition or other means		
"P"	document published prior to the international filing date but later than the priority date claimed		

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PCT/US06/11948**C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6,379,897 B1 (WEIDENHAMMER et al) 30 April 2002 (30.04.2002), see entire document.	47 and 51