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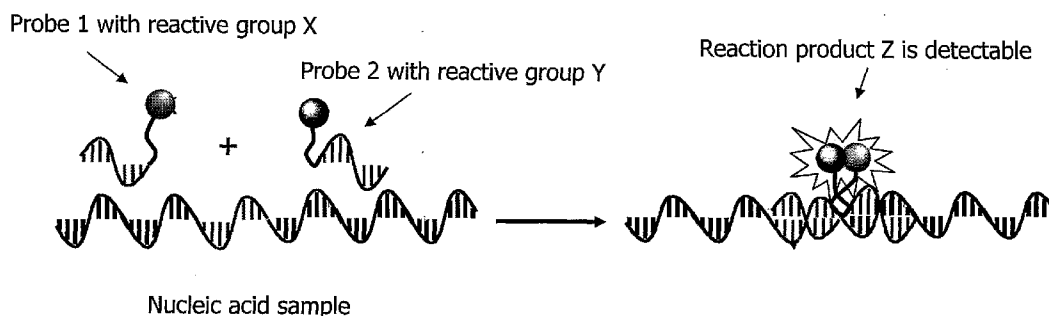
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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: BIODETECTION BY NUCLEIC ACID-TEMPLATED CHEMISTRY

Nucleic Acid Detection



(57) Abstract: The invention provides compositions and methods for the detection of biological targets, (e.g. nucleic acids and proteins) by nucleic acid templated chemistry, for example, by generating fluorescent, chemiluminescent and/or chromophoric signals.

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INTERNATIONAL SEARCH REPORT

International application No

PCT/US2006/020834

A. CLASSIFICATION OF SUBJECT MATTER

INV. C12Q1/68 G01N33/53

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)

C12Q G01N

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 practical, search terms used)

EPO-Internal, WPI Data, MEDLINE, BIOSIS, EMBASE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	SANDO S ET AL: "Quencher as leaving group: Efficient detection of DNA-joining reactions" JOURNAL OF THE AMERICAN CHEMICAL SOCIETY, AMERICAN CHEMICAL SOCIETY, WASHINGTON, DC, US, vol. 124, no. 10, 13 February 2002 (2002-02-13), pages 2096-2097, XP002978689 ISSN: 0002-7863 the whole document	1,6, 9-16, 64-67
X	WO 2004/010101 A (UNIV LELAND STANFORD JUNIOR [US]) 29 January 2004 (2004-01-29) the whole document	1,6, 9-16, 64-67
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☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *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)
- *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

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *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
- *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.
- *Z* document member of the same patent family

Date of the actual completion of the international search

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27/04/2007

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INTERNATIONAL SEARCH REPORT

International application No

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	XU Y ET AL: "Nonenzymatic autoligation in direct three-color detection of RNA and DNA point mutations" NATURE BIOTECHNOLOGY, NATURE PUBLISHING GROUP, NEW YORK, NY, US, vol. 19, February 2001 (2001-02), pages 148-152, XP002961121 ISSN: 1087-0156 page 150, right-hand column -----	1,6, 9-16, 64-67
X	MA Z ET AL: "Nucleic acid-triggered catalytic drug release" PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF USA, NATIONAL ACADEMY OF SCIENCE, WASHINGTON, DC, US, vol. 97, no. 21, 10 October 2000 (2000-10-10), pages 11159-11163, XP002903500 ISSN: 0027-8424 the whole document -----	1,6, 9-16, 64-67
X	LI XIAOYU ET AL: "DNA-templated organic synthesis: nature's strategy for controlling chemical reactivity applied to synthetic molecules" ANGEWANDTE CHEMIE. INTERNATIONAL EDITION, VCH VERLAG, WEINHEIM, DE, vol. 43, no. 37, 20 September 2004 (2004-09-20), pages 4848-4870, XP002392408 ISSN: 0570-0833 the whole document -----	1,6, 9-16, 64-67
A	GARTNER Z J ET AL: "DNA-templated organic synthesis and selection of a library of macrocycles" SCIENCE, AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE,, US, vol. 305, no. 5690, 10 September 2004 (2004-09-10), pages 1601-1605, XP002397753 ISSN: 0036-8075 cited in the application abstract; figure 2 -----	
E	WO 2007/008276 A (ENSEMBLE DISCOVERY CORP [US]; COULL JAMES M [US]; HAFF LAWRENCE A [US]) 18 January 2007 (2007-01-18) cited in the application the whole document -----	1-16, 62-66

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2006/020834

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Invention 1: claims 1-16 and 62-67

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

Invention 1: claims 1-16 and 62-67

A method for detecting a target nucleotide sequence and a kit.

Invention 2: claims 17-21 and 62-67

A method for performing nucleic acid-templated chemistry and a kit

Invention 3: claims 22-69

A method for detecting a biological target and a kit

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2006/020834

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
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			CA 2492048 A1	29-01-2004
			EP 1543156 A2	22-06-2005
			JP 2006510348 T	30-03-2006
WO 2007008276	A	18-01-2007	NONE	