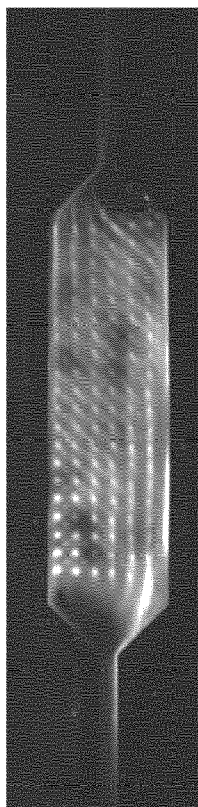




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[Continued on next page]

(54) Title: DEVICE AND METHOD FOR THE GENERATION OF MOLECULAR MICROARRAYS



(a)

Fig. 14

(57) Abstract: The invention relates to a device and a method for the generation of molecular microarrays. The invention relates therefore to a universal approach for the generation of protein microarrays, DNA microarrays and RNA microarrays (in general nucleic acid microarrays), by production of an output molecule from a template molecule microarray via enzymatic or chemical processes and transfer of the output molecule onto the desired molecular microarray.

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INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2012/051816

A. CLASSIFICATION OF SUBJECT MATTER
INV. B01J19/00 C12Q1/68 C07K1/04 B01L3/00
ADD.
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)
B01J C12Q C07K B01L

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)
EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	JOOHOON KIM ET AL: "Transfer of Surface Polymerase Reaction Products to a Secondary Platform with Conservation of Spatial Registration", JOURNAL OF THE AMERICAN CHEMICAL SOCIETY, vol. 128, no. 37, 1 September 2006 (2006-09-01), pages 12076-12077, XP55026147, ISSN: 0002-7863, DOI: 10.1021/ja0646139 cited in the application the whole document	1,17
X	WO 00/27521 A1 (SOLEXA LTD [GB]; BALASUBRAMANIAN SHANKAR [GB]; KLENERMAN DAVID [GB]) 18 May 2000 (2000-05-18) page 4, line 3 - line 7; claims 1,12,13,16,18,19 page 6, line 1 - line 2	1-17
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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 application or patent 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
- "&" document member of the same patent family

Date of the actual completion of the international search 20 July 2012	Date of mailing of the international search report 31/07/2012
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Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer Veefkind, Victor
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INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2012/051816

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2006/131687 A1 (BABRAHAM INST [GB]; TAUSSIG MICHAEL JOHN [GB]; HE MINGYUE [GB]) 14 December 2006 (2006-12-14) claims 1,2 -----	1-17
X	WO 2006/058246 A2 (ROSSER ROY J [US]) 1 June 2006 (2006-06-01) paragraph [0061]; claim 1; figure 1 -----	1,17
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X	WO 2006/002934 A1 (HAFTEN E V MAX PLANCK GES ZUR [DE]; GLOEKLER JOERN [DE]; ANGENENDT PHI) 12 January 2006 (2006-01-12) page 21 - page 24; claims 1,29 -----	1,17
X	Arum Amy Yu: "Supramolecular NanoStamping (SuNS); fabricating nano/bio devices using DNA as movable type", PhD Thesis, 1 January 2009 (2009-01-01), pages 1-192, XP55033454, Retrieved from the Internet: URL: http://dspace.mit.edu/handle/1721.1/39545 [retrieved on 2012-07-20] page 118; figure 6.3 -----	1,17
X	WO 2009/132124 A2 (UNIV COLUMBIA [US]; GREENE ERIC C [US]) 29 October 2009 (2009-10-29) paragraph [0140] - paragraph [0141]; claims 1,26; figure 20 -----	18-32
X	US 2003/143132 A1 (CERRINA FRANCESCO [US] ET AL) 31 July 2003 (2003-07-31) paragraph [0070]; figure 8 -----	18-32
A		1-17
X	US 6 653 124 B1 (FREEMAN ALEX R [US]) 25 November 2003 (2003-11-25) figures 7-10 -----	18-32

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP2012/051816

Box No. 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.: 33
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:
see FURTHER INFORMATION sheet PCT/ISA/210

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 No. 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 fees, this Authority did not invite payment of additional fees.

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.:

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- 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:

1. claims: 1-17

Method for producing a molecular microarray and array
produced by the method

2. claims: 18-32

Device for the production of a molecular microarray

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.2

Claims Nos.: 33

Claim 33 is unclear (Art. 6 PCT). It is directed to a "system" and characterized by both device features and method features, thereby rendering the category of the claim completely unclear. The lack of clarity is such that a meaningful search for this claim is not possible.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.2), should the problems which led to the Article 17(2) declaration be overcome.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2012/051816

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