

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



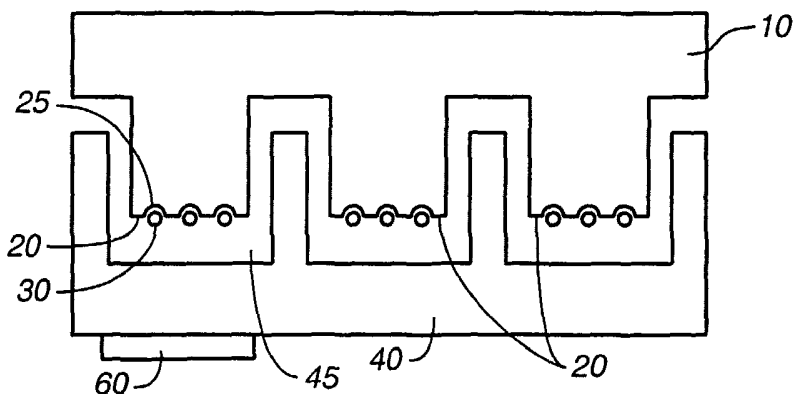
(43) International Publication Date
3 January 2002 (03.01.2002)

PCT

(10) International Publication Number
WO 02/000336 A3

- (51) International Patent Classification⁷: **B01J 19/00**, G01N 33/543
- (21) International Application Number: PCT/US01/20801
- (22) International Filing Date: 28 June 2001 (28.06.2001)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
09/606,369 28 June 2000 (28.06.2000) US
- (71) Applicant: **ILLUMINA, INC.** [US/US]; Suite 200, 9390 Towne Centre Drive, San Diego, CA 92121 (US).
- (72) Inventors: **STUELPNAGEL, John, R.**; 38 Briggs Avenue, Encinitas, CA 92024 (US). **CHEE, Mark, S.**; 155-15th Street, Apt. 22, Del Mar, CA 92014 (US). **AUGER, Steven, R.**; 248 River Street, Norwell, MA 02061 (US). **WANG, Gan, G.**; 13043 Maritime Place, San Diego, CA 92130 (US). **CASAS, Laura, S.**; 1009 Plaza Sinuoso, Chula Vista, CA 91910 (US). **BAKER, Shawn, Christopher**; 11280 Carmel Creek Road, San Diego, CA 92130 (US). **KAIN, Robert, C.**; 13090 Via Grimaldi, Del Mar, CA 92014 (US).
- (74) Agents: **BREZNER, David, J.** et al.; Flehr Hohbach Test Albritton & Herbert LLP, 4 Embarcadero Center, Suite 3400, San Francisco, CA 94111-4187 (US).
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).
- Published:
— with international search report
- (88) Date of publication of the international search report:
6 March 2003
- (15) Information about Correction:
Previous Correction:
see PCT Gazette No. 41/2002 of 10 October 2002, Section II
- 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: COMPOSITE ARRAYS UTILIZING MICROSPHERES WITH A HYBRIDIZATION CHAMBER



(57) Abstract: The invention relates to sensor compositions comprising a composite array of individual arrays, to allow for simultaneous processing of a number of samples. The invention further provides methods of making and using the composite arrays. The invention further provides a hybridization chamber for use with a composite array.



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INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 01/20801

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 B01J19/00 G01N33/543

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)
IPC 7 B01J 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, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 98 08092 A (SMITHKLINE BEECHAM CORPORATION) 26 February 1998 (1998-02-26) page 8, line 23 -page 10, line 24 figures 5,6	1-12, 19-26
A	GB 2 315 131 A (CAMBRIDGE IMAGING LIMITED) 21 January 1998 (1998-01-21) abstract page 18, last paragraph -page 21, paragraph 3 figures 3-5	1-12, 14, 19-26

Further documents are listed in the continuation of box C.

Patent family members are listed in 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.
- "&" document member of the same patent family

Date of the actual completion of the international search

21 November 2002

Date of mailing of the international search report

04.12.2002

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Stevnsborg, N

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 01/20801

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
E,L	WO 01 59432 A (ILLUMINA, INC.) 16 August 2001 (2001-08-16) (L: priority) abstract page 3, line 26 -page 4, line 3 page 11, line 32 -page 12, line 32 page 13, line 20 - line 33 page 14, line 35 -page 15, line 24 page 17, line 32 -page 18, line 10 page 19, line 32 -page 22, line 31 page 37, line 15 -page 39, line 32 figures 1A-2,11 figures 7A,7B,8 ---	1-26
P,X, L	WO 00 39587 A (ILLUMINA, INC.) 6 July 2000 (2000-07-06) (L: priority) the whole document ---	1-12, 19-26
A	WO 99 67641 A (ILLUMINA, INC.) 29 December 1999 (1999-12-29) the whole document ---	1-12, 19-26
X A	US 5 100 775 A (PETER J. SMYCZEK ET AL.) 31 March 1992 (1992-03-31) abstract; figures --- column 2, line 47 -column 5, line 13 ---	13,15,18 1-12, 19-26
P,X	GB 2 349 349 A (AGILENT TECHNOLOGIES, INC.) 1 November 2000 (2000-11-01) page 1, line 8 - line 17 page 9, line 12 -page 11, line 20 figures 2-6 ---	13,15, 16,18
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INTERNATIONAL SEARCH REPORT

International application No.
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Box I Observations where certain claims were found unsearchable (Continuation of item 1 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 II Observations where unity of invention is lacking (Continuation of item 2 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.:

1-26

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.
- 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: 1-12, 19-26

Apparatuses comprising a hybridisation chamber with a plurality of assay locations and a population of microspheres having a first and a second sub-population.

Methods for decoding an array composition comprising providing an array composition in a hybridisation chamber, a substrate with a surface having a plurality of assay locations, a population of microspheres, having a first and a second sub-population, and adding decoding binding ligands.

Methods for determining the presence of target analytes in a sample, comprising contacting the sample with a plurality of assay locations, a population of microspheres, having a first and a second sub-population, incubating in a hybridisation chamber and determining the presence or absence of the target analyte.

2. Claims: 13-18

Hybridisation chamber comprising a base plate with a cavity, a lid with a component port and a sealant between the base plate and the lid.

3. Claims: 27,28

Method of mixing solutions in an array format, comprising providing a hybridisation chamber, a base plate with holes, a membrane, a lid with a component port, a sealant between the base plate and the lid, applying vacuum to the membrane and forming wells, providing a solution to fill the wells, and intermittently applying vacuum to mix the solution.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 01/20801

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Information on patent family members

International Application No

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