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ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: SURFACE AND ITS MANUFACTURE AND USES

(57) Abstract: A method for rendering a surface covered by a polymer material (plastics) more hydrophilic by treatment in a gas plasma of a non-polymerizable gas. The method is characterized in that the intensity of the plasma is selected so that the surface becomes permanently more hydrophilic. A naked plasma treated surface of plastics having an immediate water-contact angle $\leq 30^\circ$, such as $\leq 20^\circ$, said water-contact angle being changed less than $\pm 20\%$ and/or less than $\pm 5^\circ$ upon washing with ethanol/water mixture (70 % w/w). A kit comprising (a) a microfabricated device comprising a surface (i) which is manufactured from a synthetic polymer material (plastics) and (ii) on which there are at least one chamber and/or at least one channel, and (b) a fluorescent substance to be detected in the device. The kit is characterized in that the plastics has a fluorescence that is non-significant with respect to the fluorescence of the substance at the wavelength at which the substance fluoresces. A microfabricated device having a liquid transportation system which is formed in/on a polymer material (plastics) that is a polymerised aliphatic monomer containing unsaturation.



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INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 00/02632

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 B29C59/14 C12N5/00 B01L3/00 G01N21/64

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 B29C C12N B01L 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.
X	DE 37 12 491 A (APPLIED MEMBRANE TECH) 15 October 1987 (1987-10-15)	1-8, 15-17,21
Y	page 4, line 67 -page 5, line 26 page 7, line 40 -page 8, line 3 page 8, line 40 -page 9, line 2 page 9, line 12 - line 60; claims; figures	9-13
X	EP 0 467 639 A (ITOH C FINE CHEMICAL CO ;EC CHEM IND CO (JP); KOGOMA MASUHIRO (JP)) 22 January 1992 (1992-01-22)	1,2,4-6
Y	page 4, line 53 -page 5, line 5 page 5, line 10 - line 27; claims; figures	9-13
X	US 4 741 619 A (HUMPHRIES GILLIAN M K ET AL) 3 May 1988 (1988-05-03) the whole document	1,3-12
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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
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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

11 January 2001

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP 00/02632

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 111 795 A (NIKKA CHEMICAL IND CO LTD ;EMORI & CO LTD (JP); SHINETSU CHEMICAL) 27 June 1984 (1984-06-27) page 4, line 27 -page 5, line 6 page 6, line 13 - line 21 page 8, line 16 -page 9, line 10 ----	1,2,5-7
X	WO 97 21090 A (GAMERA BIOSCIENCE) 12 June 1997 (1997-06-12)	15-21
A	page 19, line 8 -page 20, line 10; figures ----	1-13
P,X	WO 99 58245 A (AMERSHAM PHARM BIOTECH AB ;ALLMER KLAS (SE); ANDERSSON PER (SE); L) 18 November 1999 (1999-11-18) cited in the application page 2, line 14 - line 21; claims 1-4,11,12; figures; example 1 ----	1-4, 8-13, 15-17, 20,21
A	GB 2 061 969 A (SHINETSU CHEMICAL CO) 20 May 1981 (1981-05-20) cited in the application the whole document ----	1,9
X	EP 0 106 662 A (DYNATECH LAB) 25 April 1984 (1984-04-25) the whole document ----	14
X	DE 197 39 119 A (UNIV SCHILLER JENA) 11 March 1999 (1999-03-11) column 2, line 1 - line 18; claim 1; figures ----	14
P,X	US 6 027 695 A (OLDENBURG KEVIN R ET AL) 22 February 2000 (2000-02-22) the whole document and in particular column 1 line 36 - line 61, column 3 line 4 - line 23 and column 7 line 66 - column 8 line 29 ----	14
A	US 5 399 316 A (YAMADA TAKASHI) 21 March 1995 (1995-03-21) column 4, line 60 -column 5, line 12 column 5, line 43 - line 53; figure -----	14

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP 00/02632

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.:
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: 1-8

Making a plastics surface permanently more hydrophilic by the selected intensity of a gas plasma treatment

1.1. Claims: 9-13

A plasma treated hydrophilic surface whose water-contact angle changes less than 20% upon washing

1.2. Claims: 15-20

A hydrophilic plastics surface used for culturing cells by their attachment

1.3. Claim : 21

A microfabricated liquid transportation system

2. Claim : 14

A microfabricated device with a plastics surface having a fluorescence intensity less than 50% of the fluorescence intensity of a substance detected in the device

Please note that all inventions mentioned under item 1, although not necessarily linked by a common inventive concept, could be searched without effort justifying an additional fee.

INTERNATIONAL SEARCH REPORT

information on patent family members

Intern: 1al Application No

PCT/EP 00/02632

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