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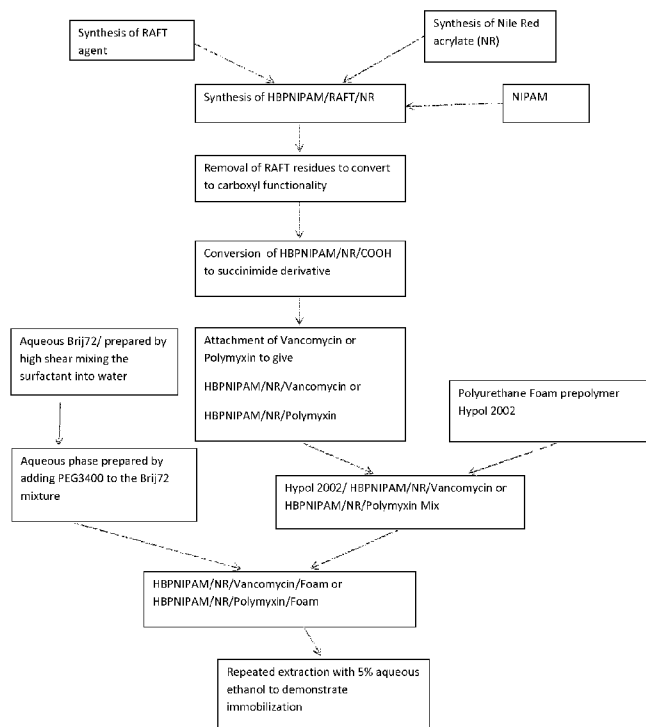
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(54) Title: IMPROVEMENTS IN AND RELATING TO DEVICES

Figure 1.1



(57) Abstract: A device for sensing and/or detecting species or stimulus at a locus, preferably at a fluid or moist locus by means of fluid communication therewith, comprising a surface configured to contact the locus, wherein the surface comprises a polyurethane material which material comprises a polyurethane polymer network having a hydrophilic polymer immobilised therein wherein the hydrophilic polymer comprises immobilised therein a ligand or moiety for detecting or sensing species or stimulus and an indicator for indicating detection or sensing prior to contact with the locus and change in indication as a function of species or stimulus present at the locus wherein species or stimulus are selected from chemical and biological species or stimulus; the use thereof preferably for detecting and/or sensing or binding bacteria, or for detecting or sensing pH or for detection or scanning with use of a reader; and a Kit.



GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER		
INV.	C08L75/04 G01N21/01	A61L27/16 G01N21/77
	A61L27/22 G01N21/80	A61L27/26 C08G18/10
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) C08L A61L C08G 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 practicable, search terms used) EPO-Internal, WPI Data, COMPENDEX		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2005/187146 A1 (HELMUS MICHAEL N [US] ET AL) 25 August 2005 (2005-08-25) claim 1 paragraph [0047] paragraph [0063]	1
X	US 6 120 904 A (HOSTETTLER FRITZ [US] ET AL) 19 September 2000 (2000-09-19) claims 1,2 ----- -/-	1
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> 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 7 March 2016		Date of mailing of the international search report 11/04/2016
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 Costantini, Nicola

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International application No
PCT/EP2015/065227

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	<p>THATIPARTI THIMMA REDDY ET AL: "Synthesis and characterization of semi-interpenetrating polymer networks based on polyurethane and N -isopropylacrylamide for wound dressing", JOURNAL OF BIOMEDICAL MATERIALS RESEARCH PART B: APPLIED BIOMATERIALS, vol. 88B, no. 1, 8 September 2008 (2008-09-08), pages 32-40, XP055217089, ISSN: 1552-4973, DOI: 10.1002/jbm.b.31185 page 32, right-hand column, paragraph 2 - page 33, right-hand column, paragraph 2 page 35; figure 1 page 36, left-hand column, paragraph 3 - right-hand column, paragraph 1 page 36; figure 4</p> <p>-----</p>	1-37
Y	<p>CHUN-YEN CHEN ET AL: "A PNIPAM-based fluorescent nanothermometer with ratiometric readout", CHEMICAL COMMUNICATIONS, vol. 47, no. 3, 26 November 2010 (2010-11-26), pages 994-996, XP055217091, ISSN: 1359-7345, DOI: 10.1039/C0CC04450D the whole document</p> <p>-----</p>	1-37
Y	<p>UCHIYAMA S ET AL: "FLUORESCENT MOLECULAR THERMOMETERS BASED ON POLYMERS SHOWING TEMPERATURE-INDUCED PHASE TRANSITIONS AND LABELED WITH POLARITY-RESPONSIVE BENZOFURAZANS", ANALYTICAL CHEMISTRY, AMERICAN CHEMICAL SOCIETY, US, vol. 75, no. 21, 4 October 2003 (2003-10-04), pages 5926-5935, XP001047338, ISSN: 0003-2700, DOI: 10.1021/AC0346914 the whole document</p> <p>-----</p>	1-37

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP2015/065227

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.:
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 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.:

1-37

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: 1-37

Device for sensing and/or detecting species or stimulus at a locus, which comprises a polyurethane network, and a hydrophilic polymer immobilised therein, wherein the hydrophilic polymer comprises an indicator and a ligand.

2. claims: 38-40

An inspection or scanning device or reader for inspecting or scanning or reading a sensing and/or detecting device, receiving information relating to indication or change in indication and providing output information relating to microbes or pH present at a locus, the device comprising interrogation means for acquiring indicating information; a processor for processing indicating information and generating output information, and a display or connectivity for a display for displaying output information.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2015/065227

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2005187146 A1	25-08-2005	EP 1735021 A1	27-12-2006
		US 2005187146 A1	25-08-2005
		WO 2005082430 A1	09-09-2005

US 6120904 A	19-09-2000	CA 2211643 A1	08-08-1996
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