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(54) Title: BIOMEDICAL DEVICES CONTAINING INTERNAL WETTING AGENTS

(57) Abstract: This invention includes a wettable biomedical device containing a high molecular weight hydrophilic polymer and a hydroxyl-functionalized silicone-containing monomer.

INTERNATIONAL SEARCH REPORT

Internatio plication No
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A. CLASSIFICATION OF SUBJECT MATTER IPC 7 A61L27/52 A61L27/26 A61L27/36 A61L31/04 A61F2/14 G02C7/04		
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 A61L A61F G02C		
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) WPI Data, EPO-Internal, COMPENDEX, EMBASE, CHEM ABS Data, BIOSIS, PAJ		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 136 250 A (MUELLER KARL F ET AL) 23 January 1979 (1979-01-23) claims ---	1-151, 156-161
X	KUNZLER J F: "Silicone Hydrogels for Contact Lens Application" TRENDS IN POLYMER SCIENCE, ELSEVIER SCIENCE PUBLISHERS B.V. AMSTERDAM, NL, vol. 4, no. 2, 1 February 1996 (1996-02-01), pages 52-59, XP004049314 ISSN: 0966-4793 page 53, right-hand column, line 55 -page 54, left-hand column, line 9 figure 1 --- -/--	1-151, 156-161
<input checked="" type="checkbox"/> Further documents are listed in the continuation of box C. <input checked="" type="checkbox"/> 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	*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	
E earlier document but published on or after the international filing date	*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	
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)	*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.	
O document referring to an oral disclosure, use, exhibition or other means	* & * document member of the same patent family	
P document published prior to the international filing date but later than the priority date claimed		
Date of the actual completion of the international search 20 March 2003	Date of mailing of the international search report 08. 04. 03	
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 Fey-Lamprecht, F	

INTERNATIONAL SEARCH REPORT

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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	US 6 218 503 B1 (LAI YU-CHIN ET AL) 17 April 2001 (2001-04-17) column 6, line 18 -column 7, line 9 examples 3,6,14 claims ---	1-151, 156-161
X	US 4 139 692 A (TANAKA KYOICHI ET AL) 13 February 1979 (1979-02-13) column 5, line 22 - line 56 claims ---	1-151, 156-161
X	EP 0 940 693 A (JOHNSON & JOHNSON VISION PROD) 8 September 1999 (1999-09-08) page 3, line 30 -page 4, line 10 claims ---	1-151, 156-161
X	WO 01 27174 A (JOHNSON & JOHNSON VISION CARE) 19 April 2001 (2001-04-19) page 3, line 20 -page 4, line 25 page 5, line 14 -page 6, line 5 claims ---	1-151, 156-161
P,X	WO 01 70837 A (JOHNSON & JOHNSON VISION CARE) 27 September 2001 (2001-09-27) page 3, line 3 -page 4, line 5 page 8, line 5 - line 31 claims ---	1-151, 156-161
X	EP 0 989 418 A (JOHNSON & JOHNSON VISION PROD) 29 March 2000 (2000-03-29) page 2, line 42 - line 48 page 3, line 13 - line 18 page 3, line 41 -page 4, line 12 table 2 claims ---	152-155
X	US 6 087 415 A (TURNER DAVID C ET AL) 11 July 2000 (2000-07-11) abstract examples 1,5 table 1 ---	152-155
X	US 4 487 905 A (MITCHELL DARRELL D) 11 December 1984 (1984-12-11) abstract column 4, line 10 - line 20 column 12, line 29 -column 13, line 10 examples 1,2 table 1 claims ---	152-155
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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	WO 92 18548 A (OPTICAL RESEARCH INC) 29 October 1992 (1992-10-29) page 1, line 1 - line 8 page 16, line 19 - line 27 claim 1 -----	162
X	WO 97 20852 A (BAUSCH & LOMB) 12 June 1997 (1997-06-12) page 2, line 10 - line 27 page 3, line 25 - line 30 claims 1,18 -----	162

INTERNATIONAL SEARCH REPORT

Intern application No.
PCT/US 02/28613

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: 1-151, 156-161

A silicone hydrogel formed from a reaction mixture comprising a HIGH MOLECULAR WEIGHT HYDROPHILIC POLYMER and an effective amount of an HYDROXYL-FUNCTIONALIZED SILICONE-CONTAINING MONOMER. Methods to produce such an hydrogel as well as specific products made of such hydrogels and the methods to produce them.

2. Claims: 152-155

A method for improving the wettability of an ophthalmic device formed from a reaction mixture comprising adding at least one HIGH MOLECULAR WEIGHT HYDROPHILIC POLYMER and an effective amount of at least one COMPATIBILIZING MONOMER to said reaction mixture.

3. Claim : 162

A device comprising a silicone hydrogel contact lens which is substantially free from surface deposition without surface modification.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No
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