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- (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, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
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(54) Title: COMPOSITIONS AND METHODS FOR COATING MEDICAL IMPLANTS

(57) Abstract: Medical implants are provided which release an anthracycline, fluoropyrimidine, folic acid antagonist, podophyllotoxin, camptothecin, hydroxyurea, and/or platinum complex, thereby inhibiting or reducing the incidence of infection associated with the implant.

INTERNATIONAL SEARCH REPORT

Inter | Application No
PCT/US 03/16719

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 A61L27/34 A61L31/10 A61L31/16 A61L27/54

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

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, CHEM ABS Data, PAJ, WPI Data, BIOSIS, EMBASE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 1 155 689 A (ANGIOTECH PHARM INC ;UNIV BRITISH COLUMBIA (CA)) 21 November 2001 (2001-11-21) claims 1-33 page 7, line 22 - line 55 ----- -/--	1-3, 7-10, 12-14, 16, 18-22, 24-27, 29, 31

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
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Date of the actual completion of the international search 3 September 2003	Date of mailing of the international search report 22 01. 2004
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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, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Authorized officer <p style="text-align: center;">Schnack, A</p>
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INTERNATIONAL SEARCH REPORT

Intern Application No
PCT/US 03/16719


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 99/55396 A (SURMODICS INC) 4 November 1999 (1999-11-04) page 5, line 11 - page 8, line 23 claim 16	1-3, 7-10, 12-14, 16, 18-22, 24-27, 29,31
X	US 5 824 049 A (BATES BRIAN L ET AL) 20 October 1998 (1998-10-20) column 3, line 9 - line 65 claims 1-16	1-3, 7-10, 12-14, 16, 18-22, 24-27, 29,31
X	WO 98/24483 A (KIESWETTER KRISTINE ;NIEDERAUER GABRIELE (US); LEATHERBURY NEIL C) 11 June 1998 (1998-06-11) page 4, line 20 - page 6, line 16	1-3, 7-10, 12-14, 16, 18-22, 24-27, 29,31
X	EP 0 882 461 A (UNITIKA LTD) 9 December 1998 (1998-12-09) column 1, line 31 - column 2, line 20 column 4, line 49 - column 6, line 31 claims 1-20	1-3, 7-10, 12-14, 16, 18-22, 24-27, 29,31
X	DE 197 18 430 A (STEMBERGER AXEL DR) 14 January 1999 (1999-01-14) column 1, line 15 - column 2, line 48 column 3, line 16 - line 38 claim 8 ----- -/--	1-3, 7-10, 12-14, 16, 18-22, 24-27, 29,31

INTERNATIONAL SEARCH REPORT

Intern: Application No
PCT/US 03/16719

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	FALCHI, M. ET AL: "Antibacterial and cytotoxic effect of ceftazidime-mitoxantrone association" ANTICANCER RESEARCH (1989), 9(2), 291-2, 1989, XP009016338 table 1	1-3, 7-10, 12-14, 16, 18-22, 24-27, 29,31
Y	PATENT ABSTRACTS OF JAPAN vol. 012, no. 358 (C-531), 26 September 1988 (1988-09-26) & JP 63 112530 A (KYUSHU KOGYO UNIV), 17 May 1988 (1988-05-17) abstract	1-3, 7-10, 12-14, 16, 18-22, 24-27, 29,31
Y	GIERINGER, JOACHIM H. ET AL: "Effect of 5-fluorouracil, mitoxantrone, methotrexate, and vincristine on the antibacterial activity of ceftriaxone, ceftazidime, cefotiam, piperacillin, and netilmicin" CHEMOTHERAPY (BASEL, SWITZERLAND) (1986), 32(5), 418-24, 1986, XP009016343 "Discussion"	1-3, 7-10, 12-14, 16, 18-22, 24-27, 29,31
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INTERNATIONAL SEARCH REPORT

Intern  Application No
PCT/US 03/16719

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 96/30060 A (AORTECH EUROP LTD ;WRIGHT JAMES GORDON (GB); MCDAID EDWARD (GB)) 3 October 1996 (1996-10-03) page 6, line 15 - page 8, line 4 <u> </u>	1-3, 7-10, 12-14, 16, 18-22, 24-27, 29,31

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 03/16719

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.:
1, 2, 7-10, 12-14, 16, 18-22, 24-27, 29, 31 (partially) and 3 (entirely)

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, 2, 7-10, 12-14, 16, 18-22, 24-27, 29, 31 (partially) and 3 (entirely)

A composition comprising a polymer and an anthracycline. A medical implant which releases an anthracycline and uses of such for inhibiting infections associated with medical implants. A method for making such implants.

2. claims: 1, 2, 7-10, 12-14, 16, 18-22, 24-27, 29, 31 (partially) and 4, 11, 15, 17, 23, 28, 30 (entirely)

A composition comprising a polymer and a fluoropyrimidine. A medical implant which releases a fluoropyrimidine and uses of such for inhibiting infections associated with medical implants. A method for making such implants.

3. claims: 1, 2, 7-10, 12-14, 16, 18-22, 24-27, 29, 31 (partially) and 5 (entirely)

A composition comprising a polymer and a folic acid antagonist. A medical implant which releases a folic acid antagonist and uses of such for inhibiting infections associated with medical implants. A method for making such implants.

4. claims: 1, 2, 7-10, 12-14, 16, 18-22, 24-27, 29, 31 (partially) and 6 (entirely)

A composition comprising a polymer and a podophylotoxin. A medical implant which releases a podophylotoxin and uses of such for inhibiting infections associated with medical implants. A method for making such implants.

5. claims: 1, 2, 7-10, 12-14, 16, 18-22, 24-27, 29, 31 (partially)

A composition comprising a polymer and a camptothecin. A medical implant which releases a camptothecin and uses of such for inhibiting infections associated with medical implants. A method for making such implants.

6. claims: 1, 2, 7-10, 12-14, 16, 18-22, 24-27, 29, 31 (partially)

A composition comprising a polymer and a hydroxyurea. A medical implant which releases a hydroxyurea and uses of such for inhibiting infections associated with medical implants. A method for making such implants.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

7. claims: 1, 2, 7-10, 12-14, 16, 18-22, 24-27, 29, 31 (partially)

A composition comprising a polymer and a platinum complex. A medical implant which releases a platinum complex and uses of such for inhibiting infections associated with medical implants. A method for making such implants.

INTERNATIONAL SEARCH REPORT

Information on patent family members

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