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(71) Applicant (for all designated States except US):
ROBERT GORDON UNIVERSITY [—/GB]; School-
hill, Aberdeen, Aberdeenshire AB10 1FR (GB).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **KONG THOO
LIN, Paul** [GB/GB]; 8 Wellside Avenue, Kingswells, Ab-
erdeen, Aberdeenshire AB15 8EF (GB). **CHENG, Woei
Ping** [MY/GB]; 6 Cob Lane Close, Digswell, Welwyn,
Hertfordshire AL6 0DD (GB). **HOSKINS, Clare**
[GB/GB]; 5 Cleveland Road, Markyate, St Albans, Hert-
fordshire AL3 8LB (GB).(74) Agent: **DEHNS**; St. Bride's House, 10 Salisbury Square,
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KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD,
ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI,
NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD,
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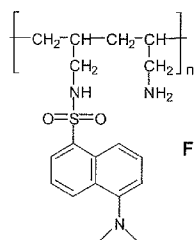
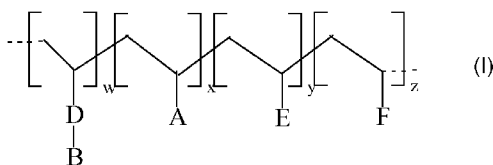


Figure 3b



(57) Abstract: A polymer having a structure according to the following formula (I): wherein: A represents a hydrophilic group; B represents a hydrophobic aromatic group such as 5-dimethylamino-1-naphthalenesulfonyl (Dansyl), 9-fluorenylmethoxy carbonyl (Fmoc) and naphthalene (Naphth); D and E independently represent amine groups; F represents an amine group, the amine group being substituted with a B group and an A group, or the amine group being a quaternary ammonium moiety; wherein W, X, Y and Z each independently have values greater than or equal to (1), especially in the range of (1) to (10).

INTERNATIONAL SEARCH REPORT

International application No
PCT/GB2010/051477

A. CLASSIFICATION OF SUBJECT MATTER
 INV. A61K9/107 A61K9/51 A61K47/30 C08F8/10 A61K47/36
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 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)
 A61K C08F C08B

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, CHEM ABS Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2008/007092 A1 (UNIV ROBERT GORDON [GB]; CHENG WOEI PING [GB]; THOMPSON COLIN [GB]) 17 January 2008 (2008-01-17) cited in the application page 3, line 15 - page 4, line 27; claims 1,6 page 5, line 18 - page 6, line 19 page 6, line 19 - page 18, line 15 example all ----- -/--	1-19, 21-26

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents :

<p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"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)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p>	<p>"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</p> <p>"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</p> <p>"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.</p> <p>"&" document member of the same patent family</p>
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Date of the actual completion of the international search 5 April 2011	Date of mailing of the international search report 02/05/2011
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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, Fax: (+31-70) 340-3016	Authorized officer Schmitt, Johannes
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INTERNATIONAL SEARCH REPORT

International application No
PCT/GB2010/051477

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>SEO, TOSHIHIRO ET AL: "Self-organization of poly(allylamine)s containing hydrophobic groups and its effect on the interaction with small molecules. 1. Static fluorometry", MACROMOLECULES, vol. 24, 31 July 1991 (1991-07-31), pages 4255-4263, XP002615589, DOI: 10.1021/ma00015a005 page 4256, paragraph Experimental Section - page 4257; figures 1,3; compounds DNS-Bz-75 polymers Bz-23, Bz-48, Bz-75table II paragraph: Dansyl-Amino Acid Probes; page 4259, left-hand column; figure 9 paragraphs "Inclusion ability of PAA-derivatives", Fluorescent labeled PAA" and "Effect of pH" ; page 4261, left-hand column - page 4262, right-hand column; figures 16,18; tables VI,VII</p>	1-17, 21-26
X	<p>----- PARK J ET AL: "Polyelectrolyte multilayer formation on neutral hydrophobic surfaces", MACROMOLECULES, vol. 38, no. 25, 13 December 2005 (2005-12-13), pages 10542-10550, XP002615941, online DOI: DOI:10.1021/MA051158C page 10543, paragraph 2.2. Synthesis of PAH-Py; figure 1; compound Pyrene labeled PAH</p>	1-16
X	<p>----- US 6 825 269 B1 (GOTTSCHALL KLAUS [DE]) 30 November 2004 (2004-11-30) examples 3-5</p>	1-16
X	<p>----- US 5 917 007 A (MANDEVILLE III W HARRY [US] ET AL) 29 June 1999 (1999-06-29) column 9, lines 30-43; examples 13,14 ----- -/--</p>	1-16

INTERNATIONAL SEARCH REPORT

International application No

PCT/GB2010/051477

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>CHEN ET AL.: "pH-Dependence of the Properties of Hydrophobically Modified Polyvinylamine", MACROMOLECULES, vol. 21, 3 November 2005 (2005-11-03), pages 11673-11677, XP002615960, online DOI: 10.1021/1a0518039 page 11674, right-hand column, paragraph results and discussion - page 11675, right-hand column; figures 1,2,3; table 1; compounds PVAm-Bz-14, PVAm-Bz-28, PVAm-Bz-47, PVAm-Bz-150</p> <p style="text-align: center;">-----</p>	1-9
X	<p>CHAN ET AL: "Synthesis and characterization of chitosan-g-poly(ethylene glycol)-folate as a non-viral carrier for tumor-targeted gene delivery", BIOMATERIALS, ELSEVIER SCIENCE PUBLISHERS BV., BARKING, GB, vol. 28, no. 3, 1 January 2007 (2007-01-01), pages 540-549, XP005717774, ISSN: 0142-9612, DOI: DOI:10.1016/J.BIOMATERIALS.2006.08.046 samples FA-PEG-Chi-3, FA-PEG-Chi-6, FA-PEG-Chi-7, FA-PEG-Chi-8, FA-PEG-Chi-9,FA-PEG-Chi-14 in table 1; page 541, right-hand column, paragraph 2.3. Synthesis of chitosan-g-PEG-folate - page 542, left-hand column, paragraph 2.4.; figure scheme 4 the whole document page 543, paragraph 2.9. Cytotoxicity assays</p> <p style="text-align: center;">-----</p>	20-26
X	<p>US 2004/156904 A1 (SALTMAN ADAM [US] ET AL) 12 August 2004 (2004-08-12) figures 5,12; examples 2,8; table 4</p> <p style="text-align: center;">-----</p>	20-26
X	<p>WO 01/00246 A2 (SHEARWATER POLYMERS INC [US]; BENTLEY MICHAEL DAVID [US]; ZHAO XUAN [U] 4 January 2001 (2001-01-04) page 8, line 31 - page 9, line 4; claim 18 page 4, lines 15-20 page 8, lines 13-18</p> <p style="text-align: center;">-----</p>	20-26
X	<p>EP 0 544 000 A1 (DRUG DELIVERY SYSTEM INST LTD [JP]) 2 June 1993 (1993-06-02) Experiments 1 and 2, page 26, line 9 - page 27, line 4; Experiment 4, page 27, line 43-page 29, line 10claim 3; examples 1,3,4,5,9,10,11,12,16,17,18-21,23</p> <p style="text-align: center;">-----</p>	20-26
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INTERNATIONAL SEARCH REPORT

International application No
PCT/GB2010/051477

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 0 485 158 A2 (FGN INC [US]; UNIV ARIZONA [US]) 13 May 1992 (1992-05-13) page 4, lines 22-56; examples 3,6,10,11,13,15,18, -----	20-26
A	WO 2004/026912 A1 (UNIV STRATHCLYDE [GB]; UNIV GLASGOW [GB]; UCHEGBU IJEOMA [GB]; SCHATZL) 1 April 2004 (2004-04-01) the whole document -----	20-26

INTERNATIONAL SEARCH REPORT

International application No.
PCT/GB2010/051477

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.:

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: 1-19(completely); 21-26(partially)

(i) N-modified ethylenic polyamines, comprising (a1) hydrophobic aromatic groups attached to an amine group, (a2) hydrophilic groups, (a3) amine groups, (a4) quaternary ammonium moieties or amine groups modified with a hydrophilic and a hydrophobic aromatic group

(ii) pharmaceutical composition, comprising (a) N-modified ethylenic polyamines, comprising (a1) hydrophobic aromatic groups attached to an amine group, (a2) hydrophilic groups, (a3) amine groups, (a4) quaternary ammonium moieties or amine groups modified with a hydrophilic and a hydrophobic aromatic group as a carrier and (b) an active ingredient

2. claims: 20(completely); 21-26(partially)

(i) N-modified polyglucosamines, comprising (a1) hydrophobic aromatic groups attached to an amine group and (a2) CH₂-hydrophilic groups attached to an amine group

(ii) pharmaceutical composition, comprising (a) N-modified polyglucosamines, comprising (a1) hydrophobic aromatic groups attached to an amine group and (a2) CH₂-hydrophilic groups attached to an amine group as a carrier and (b) an active ingredient

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/GB2010/051477

Patent document cited in search report	Publication date	Patent family member(s)	Publication date	
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