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(81) Designated States (*unless otherwise indicated, for every kind of national protection available*):

AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, 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, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

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Published:

- *with international search report (Art. 21(3))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

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WO 2012/116073 A3

(54) Title: AMPHIPHILIC DENDRON-COILS, MICELLES THEREOF AND USES

(57) Abstract: The invention generally relates to the fields of drug delivery and cell capture. In particular, the invention relates to amphiphilic dendron-coils, micelles thereof and their use for drug delivery vehicles and/or cell capture.

A. CLASSIFICATION OF SUBJECT MATTER*A61K 47/48(2006.01)i, A61K 47/30(2006.01)i, A61K 9/127(2006.01)i, A61P 35/00(2006.01)i*

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: A61K 47; A1K 9

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)

eKOMPASS(KIPO internal), PUBMED

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 2011-009991 A2 (UNIVERSIDADE DE SANTIAGO DE COMPOSTELA et al.) 27 January 2011 See whole document	1-23,25,27,29-31 ,38-60,62,64,66-68 ,112,146-168,170 ,172,174-176
A	WO 2010-018286 A1 (UNIVERSIDADE DE SANTIAGO DE COMPOSTELA et al.) 18 February 2010 See whole document	1-23,25,27,29-31 ,38-60,62,64,66-68 ,112,146-168,170 ,172,174-176
A	Yeon-Wook Chung et al. Self-Assembling Behavior of Amphiphilic Dendron Coils in the Bulk Crystalline and Liquid Crystalline States. J. AM. CHEM. SOC. 2008, Vol. 130, pp 7139-7147. See whole document	1-23,25,27,29-31 ,38-60,62,64,66-68 ,112,146-168,170 ,172,174-176
A	Hyun-Yu Kim et al. Hydrophilic Matrix-Assisted Ionic Transportation in the Columnar Assembly of Amphiphilic Dendron–Coils. CHEM. EUR. J. 2009, Vol. 15, pp 8683-8686 See whole document	1-23,25,27,29-31 ,38-60,62,64,66-68 ,112,146-168,170 ,172,174-176

 Further documents are listed in the continuation of Box C. 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 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

26 DECEMBER 2012 (26.12.2012)

Date of mailing of the international search report

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Name and mailing address of the ISA/KR

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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.: 75-111
because they relate to subject matter not required to be searched by this Authority, namely:
Claims 75-111 pertain to methods for treatment or diagnostic of the human body by therapy, and thus relate to a subject matter which this International Searching Authority is not required, under Article 17(2)(a)(i) of the PCT and Rule 39.1(iv) of the Regulations under the PCT, to search.
2. Claims Nos.: 26,28,33,35-37,63,65,70,72-74,100,102,107,109-111,113-145,171,173,178
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:
Claims 26,28,33,35-37,63,65,70,72-74,100,102,107,109-111,137,139,145,171,173, 178 are unclear since it refers to each claim which is not searchable due to not being drafted in accordance with the second or third sentence of Rule 6.4(a). Claims 113-145 are unclear since the subject matter of each claim is not correspond with that of the independent claim.
3. Claims Nos.: 24,32,34,61,69,71,98,106,108,135,143,169,177
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:

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 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.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2012/026133

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2011-009991 A2	27.01.2011	EP 2457591 A2 ES 2351484 A1 US 2012-0269895 A1 WO 2011-009991 A3	30.05.2012 07.02.2011 25.10.2012 28.07.2011
WO 2010-018286 A1	18.02.2010	EP 2322227 A1 ES 2333087 A1 US 2012-0003322 A1	18.05.2011 16.02.2010 05.01.2012