(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
4 June 2015 (04.06.2015)

WIPO | PCT

(10) International Publication Number
WO 2015/080670 A1

(51) International Patent Classification:
C07K 7/06 (2006.01) *A61K 38/06* (2006.01)
C07K 5/083 (2006.01) *A61K 38/07* (2006.01)
C07K 5/103 (2006.01) *A61L 27/32* (2006.01)
A61K 38/08 (2006.01)

(21) International Application Number:
PCT/SG2014/000568

(22) International Filing Date:
28 November 2014 (28.11.2014)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
201308890-1 30 November 2013 (30.11.2013) SG

(71) Applicant: **AGENCY FOR SCIENCE, TECHNOLOGY AND RESEARCH** [SG/SG]; 1 Fusionopolis Way, #20-10 Connexis, Singapore 138632 (SG).

(72) Inventors: **HAUSER, Charlotte**; c/o Institute of Bioengineering and, Nanotechnology, 31 Biopolis Way, The Nanos, #04-01, Singapore 138669 (SG). **LOO, Yihua**; c/o Institute of Bioengineering and, Nanotechnology, 31 Biopolis Way, The Nanos, #04-01, Singapore 138669 (SG).

(74) Agent: **YUSARN AUDREY**; 24 Raffles Place, #27-01 Clifford Centre, Singapore 048621 (SG).

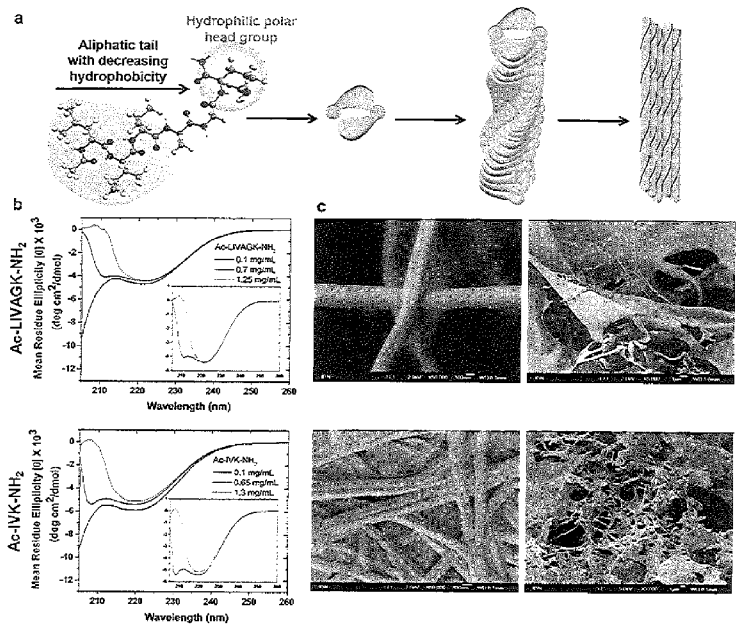
(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, 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.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, 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).

[Continued on next page]

(54) Title: NOVEL ULTRASHORT HYDROPHOBIC PEPTIDES THAT SELF-ASSEMBLE INTO NANOFIBROUS HYDROGELS AND THEIR USES

Figure 1



(57) Abstract: The present invention relates to hydrophobic peptides and/or peptidomimetics capable of forming a (nanofibrous) hydrogel and hydrogels comprising said hydrophobic peptides and/or peptidomimetics and to various uses, such as in regenerative medicine, injectable therapies, delivery of bioactive moieties, wound healing, 2D and 3D synthetic cell culture substrate, biosensor development, biofunctionalized surfaces, and biofabrication.

WO 2015/080670 A1

Declarations under Rule 4.17:

— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*

— *of inventorship (Rule 4.17(iv))*

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))*

— *with sequence listing part of description (Rule 5.2(a))*