



(51) International Patent Classification:

A61K 9/10 (2006.01)

A61K 9/00 (2006.01)

A61K 9/50 (2006.01)

(21) International Application Number:

PCT/US2018/054116

(22) International Filing Date:

03 October 2018 (03.10.2018)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

62/567,779

04 October 2017 (04.10.2017) US

(71) Applicant: PANACEA BIOMATX, INC. [US/US]; 6 Davis Drive, Suite 110, Research Triangle Park, North Carolina 27709 (US).

(72) Inventors: NOEL, Lloyd Staton; 6 Davis Drive, Suite 110, Research Triangle Park, North Carolina 27709 (US). HUDSON, Edison Thurman; 6 Davis Drive, Suite 110, Research Triangle Park, North Carolina 27709 (US). BALDWIN, Scott Alexander; 6 Davis Drive, Suite 110, Research Triangle Park, North Carolina 27709 (US). QUEEN, Charles Allen; 6 Davis Drive, Suite 110, Research Triangle Park, North Carolina 27709 (US). SCHNEIBLE, John Daniel; 6 Davis Drive, Suite 110, Research Triangle Park, North Carolina 27709 (US).

(74) Agent: JOHNSON, Ashley D.; NK Patent Law, 4917 Waters Edge Dr., #275, Raleigh, North Carolina 27606 (US).

(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, DJ, DK, DM, DO,

DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JO, JP, KE, KG, KH, KN, KP, KR, KW, 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).

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))

(88) Date of publication of the international search report:

13 June 2019 (13.06.2019)

(54) Title: SUSPENSIONS OF ENCAPSULATED PHARMACEUTICALS AND METHODS OF MAKING AND USING THE SAME

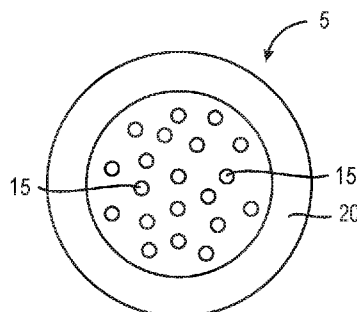


FIG. 1C

(57) Abstract: The presently disclosed subject matter is directed a system and method of creating personalized doses of active pharmaceutical ingredients (APIs) dispersed in a palatable oral formulation. The APIs are encapsulated into microparticles that are dispersed within a thixotropic suspension vehicle to create a customized oral formulation. The formulation can be customized for a particular subject based on medical condition, time release of the API, release profile of the API, and taste preference of the subject.



A. CLASSIFICATION OF SUBJECT MATTER**A61K 9/10(2006.01)i, A61K 9/50(2006.01)i, A61K 9/00(2006.01)i**

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHEDMinimum documentation searched (classification system followed by classification symbols)
A61K 9/10; A61K 39/395; A61K 47/22; A61K 47/36; A61K 9/00; A61K 9/16; A61K 9/50Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Korean utility models and applications for utility models
Japanese utility models and applications for utility modelsElectronic data base consulted during the international search (name of data base and, where practicable, search terms used)
eKOMPASS(KIPO internal) & Keywords: suspension, encapsulated pharmaceutical, microparticle, thixotropic, saccharide, oral, disintegrant**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 2010-089767 A1 (PANACEA BIOTEC LTD.) 12 August 2010 See abstract; page 5, lines 22-23; page 8, lines 6-14; page 11, lines 27-28; page 13, lines 2-13, lines 23-30; page 15, line 7-14, lines 16-20; and claims 1, 7.	1-20
Y	WO 2008-094877 A2 (DRUGTECH CORPORATION) 07 August 2008 See abstract; paragraphs [0038], [0040]; and claims 1-3, 5-6, 10, 20, 37.	1-20
A	KR 10-2004-0025740 A (PHARMACIA CORPORATION) 25 March 2004 See abstract; and claims 1-3, 16-22.	1-20
A	US 2016-0051684 A1 (PROFESSIONAL COMPOUNDING CENTERS OF AMERICA (PCCA)) 25 February 2016 See abstract; and claims 1-20.	1-20
A	US 2006-0193877 A1 (TENGLER, M. et al.) 31 August 2006 See abstract; and claims 1-60.	1-20



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 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

Date of the actual completion of the international search

10 May 2019 (10.05.2019)

Date of mailing of the international search report

10 May 2019 (10.05.2019)

Name and mailing address of the ISA/KR

International Application Division

Korean Intellectual Property Office

189 Cheongsa-ro, Seo-gu, Daejeon, 35208, Republic of Korea



Facsimile No. +82-42-481-8578

Authorized officer

NAM, EUI HO

Telephone No. +82-42-481-5580



INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2018/054116

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2010-089767 A1	12/08/2010	EP 2385823 A1 JP 2012-514632 A US 2011-0268808 A1	16/11/2011 28/06/2012 03/11/2011
WO 2008-094877 A2	07/08/2008	US 2008-0181932 A1	31/07/2008
KR 10-2004-0025740 A	25/03/2004	CN 1549704 A EP 1414409 A1 EP 1414409 B1 JP 2005-500363 A US 2003-0108575 A1 US 2009-0081309 A1 WO 03-013473 A1	24/11/2004 06/05/2004 14/02/2007 06/01/2005 12/06/2003 26/03/2009 20/02/2003
US 2016-0051684 A1	25/02/2016	EP 3193887 A1 US 9737609 B2 WO 2016-028968 A1	26/07/2017 22/08/2017 25/02/2016
US 2006-0193877 A1	31/08/2006	CN 101170963 A CN 101170963 B EP 1855613 A2 US 2013-0084340 A1 US 2014-0093577 A1 US 8318210 B2 US 9522120 B2 WO 2006-093838 A2	30/04/2008 20/04/2011 21/11/2007 04/04/2013 03/04/2014 27/11/2012 20/12/2016 08/09/2006