

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

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
30 April 2009 (30.04.2009)

PCT

(10) International Publication Number
WO 2009/054841 A3

(51) International Patent Classification:

A61K 9/50 (2006.01) *B01J 13/10* (2006.01)
A61K 9/51 (2006.01) *B01J 13/20* (2006.01)
B01J 13/02 (2006.01)

(21) International Application Number:

PCT/US2007/082070

(22) International Filing Date:

22 October 2007 (22.10.2007)

(25) Filing Language:

English

(26) Publication Language:

English

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(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, 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, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, 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, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, 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:

5 November 2009

(54) Title: HEAT STABLE MICROCAPSULES AND METHODS FOR MAKING AND USING THE SAME

(57) Abstract: A method of manufacturing a microcapsule that may include complex coacervating a protein and a polyanionic polymer to form a coacervate, the coacervate being at least a portion of the microcapsule, and wherein a cross-linking reagent is not used during the coacervation.



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INTERNATIONAL SEARCH REPORT

International application No

PCT/US2007/082070

A. CLASSIFICATION OF SUBJECT MATTER

INV. A61K9/51 B01J13/02 B01J13/10 B01J13/20

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)

B01J A61K

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 00/66090 A (BIOTECH AUSTRALIA PTY LTD [AU]; RUSSELL JONES GREGORY JOHN [AU]; MCEWA) 9 November 2000 (2000-11-09) page 8, lines 5-15 page 9, lines 24-29 -----	1-6, 11-13, 15, 18-20



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 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

Date of the actual completion of the international search

24 June 2009

Date of mailing of the international search report

16/09/2009

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2007/082070

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 allsearchable 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.:

see annex

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: Claim 19 to 20, claims 1-6 (partially), claims 11-12, claims 13, 15, 18 (partially)

A microcapsule comprising a protein, a polyanionic polymer and a taste masking agent and a method of preparing it.

2. claims: Claim 21 to 24a, claims 1-6 (partially), claims 13, 15 (partially)

An encapsulate comprising a protein and gellan gum and a method of preparing it.

3. claims: Claim 24b, claims 1-6 (partially), claims 7-10, claims 13, 15 (partially), claims 14-17

A microcapsule composition comprising an encapsulate wherein the encapsulate comprises a protein, a polyanionic polymer and an active ingredient and a method of preparing it.

4. claim: Claim 25

A method of delivering an active ingredient to a subject, wherein an encapsulate comprising a protein, a polyanionic polymer, a taste masking agent and an active ingredient is given.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2007/082070

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
WO 0066090	A	09-11-2000	CA	2372834 A1		09-11-2000
			EP	1206251 A1		22-05-2002
			JP	2002543110 T		17-12-2002