## (19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 5 October 2006 (05.10.2006)

(51) International Patent Classification: A61K 9/16 (2006.01) A61K 9/50 (2006.01)

(21) International Application Number:

PCT/IL2006/000404

(22) International Filing Date: 30 March 2006 (30.03.2006)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

167772 31 March 2005 (31.03.2005)  $\Pi_{z}$ 60/708,766 17 August 2005 (17.08.2005) US 60/708,765 17 August 2005 (17.08.2005) US

(71) Applicant (for all designated States except US): RAFAEL ARMAMENT DEVELOPMENT AUTHORITY LTD. [IL/IL]; P.o. Box 2250, 31021 Haifa (IL).

(72) Inventors; and

- (75) Inventors/Applicants (for US only): KAULLY, Tamar [IL/IL]; 361 Hadas Street, 17940 Adi (IL). YASKIN-HARUSH, Moshit [IL/IL]; 176 Mizpe Aviv, 20187 Mizpe Aviv (IL). NADIV. Corinne [IL/IL]: 30 Gordon Street, 32764 Haifa (IL). TENENBAUM, Zachi [IL/IL]; 8/13 Mordechai Gur Street, 26231 Kiryat-motzkin (IL). SIDES, Yael [IL/IL]; 54 International Street, 32206 Haifa (IL). SHACHAM, Dganit [IL/IL]; 30/16 Hashaked Street, 22358 Nahariya (IL).
- (74) Agents: G.E. EHRLICH (1995) LTD. et al.; 11 Menachem Begin Street, 52 521 Ramat Gan (IL).

(10) International Publication Number WO 2006/103672 A3

- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, 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, 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
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- (88) Date of publication of the international search report: 7 June 2007

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.



(54) Title: SPHERICALLY SHAPED SUBSTANCES

(57) Abstract: A particle having a rounded shape and characterized by a substantially smooth surface is disclosed. The particle can be made of a food substance (e.g., nutritional substance or nutraceutical substance), a pharmaceutical (pharmaceutically active ingredient or pharmaceutically acceptable carrier) or a cosmetic substance.

# INTERNATIONAL SEARCH REPORT

International application No PCT/IL2006/000404

A. CLASSII INV.	FICATION OF SUBJECT MATTER A61K9/16 A61K9/50			
According to	o International Patent Classification (IPC) or to both national classifica	ation and IPC		
	SEARCHED	and ii O		
	ocumentation searched (classification system followed by classification	on symbols)	:	
	tion searched other than minimum documentation to the extent that $oldsymbol{s}$			
1	lata base consulted during the international search (name of data base			
EFU-IN	ternal, WPI Data, PAJ, BIOSIS, MEDLI	NL, LIIDAJL		
C. DOCUMI	ENTS CONSIDERED TO BE RELEVANT			
Category*	Citation of document, with indication, where appropriate, of the rel	evant passages	Relevant to claim No.	
Х	WERNER D: "GLOBULI SACCHARI" DEUTSCHE APOTHEKER ZEITUNG, DEUTSCHER APOTHEKER VERLAG, STUTTGART, DE,		1-16,22, 26-35	
,	vol. 137, no. 33, 14 August 1997 (1997-08-14), page XP000659126 ISSN: 0011-9857 abstract table 5 page 52, middle column, lines 33-			
X	EP 1 410 792 A1 (QUADRANT DRUG DE LTD [GB]) 21 April 2004 (2004-04- figures 1(a)-1(f) paragraph [0050]		1-4, 8-16, 26-35	
		1		
		-/		
X Furt	ther documents are listed in the continuation of Box C.	X See patent family annex.		
* Special categories of cited documents : "T' later document published after the international filing date				
"A" document defining the general state of the art which is not considered to be of particular relevance  or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention				
"E" earlier document but published on or after the international filing date  "X" document of particular relevance; the claimed inventional cannot be considered novel or cannot be considered.			t be considered to	
"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)  "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the				
'O' docum	nent referring to an oral disclosure, use, exhibition or means	document is combined with one or moments, such combination being obvious	ore other such docu-	
"P" document published prior to the international filing date but later than the priority date claimed		in the art. *&* document member of the same patent family		
Date of the	actual completion of the international search	Date of mailing of the international sea	arch report	
	18 January 2007	03/04/2007		
Name and	mailing address of the ISA/ European Patent Office, P.B. 5818 Patentiaan 2	Authorized officer		
	NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	VILLA RIVA, A		

3

# INTERNATIONAL SEARCH REPORT

International application No
PCT/IL2006/000404

C(Continua	tion). DOCUMENTS CONSIDERED TO BE RELEVANT	
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Х	US 2002/015730 A1 (HOFFMANN TORSTEN [DE] ET AL) 7 February 2002 (2002-02-07) paragraphs [0064] - [0067]	1-5, 8-16, 26-35
χ	US 5 601 845 A (BUXTON IAN R [GB] ET AL) 11 February 1997 (1997-02-11)	1-5, 8-16,
X	US 5 601 845 A (BUXION IAN R [GB] ET AL) 11 February 1997 (1997-02-11)  abstract example 1	1-5, 8-16, 26-35

3

International application No. PCT/IL2006/000404

### INTERNATIONAL SEARCH REPORT

Box 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:				
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 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				
As all required additional search fees were timely pald 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.:  See annex				
Remark on Protest  The additional search fees were accompanied by the applicant's protest.  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: 1-3 (part), 4-16, 22(part), 26-35 (part) spherical, smooth particles for pharmaceutical use
- 2. claims: 1-3 (part),17,18,20,21,22(part)24,25,26-35(part) spherical, smooth particles for use in food technology
- 3. claims: 1-3 (part),19,26-35(part)
   spherical, smooth particles for use in cosmetics

## **INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No
PCT/IL2006/000404

Patent document cited in search report	-	Publication date	Patent family member(s)	Publication date
EP 1410792	A1	21-04-2004	NONE	
US 2002015730	A1	07-02-2002	US 2006029670 A1	09-02-2006
US 5601845	Α	11-02-1997	NONE	

Form PCT/ISA/210 (patent family annex) (April 2005)