

(43) International Publication Date
28 July 2011 (28.07.2011)(10) International Publication Number
WO 2011/088806 A3(51) International Patent Classification:
C07D 207/34 (2006.01) *A61P 3/06* (2006.01)
A61K 31/40 (2006.01)

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(21) International Application Number:
PCT/CZ2011/000003

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(22) International Filing Date:
12 January 2011 (12.01.2011)

(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, RO, RS, RU, 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.

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
PV 2010-39 19 January 2010 (19.01.2010) CZ

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(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, 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, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

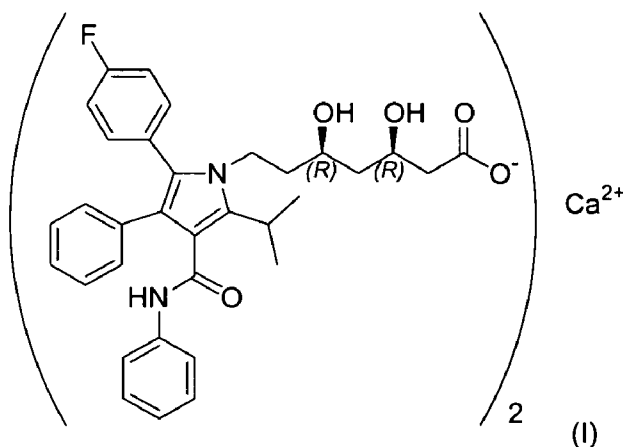
— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))

Published:

— with international search report (Art. 21(3))

[Continued on next page]

(54) Title: A METHOD OF INDUSTRIAL PRODUCTION OF AN AMORPHOUS FORM OF ATORVASTATIN WITH A HIGH SPECIFIC SURFACE AREA AND ITS USE IN A DOSAGE FORM



(57) Abstract: The invention deals with an amorphous form of the hemicalcium salt of (3R,5R) 7-[3-phenyl-4-phenylcarbamoyl-2-(4-fluorophenyl)-5-isopropylpyrrol-1-yl]-3,5-dihydroxyheptanoic acid (atorvastatin of formula I) with a high specific surface area, based on controlled precipitation, and its use in a medical dosage form. (I)



— *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:
22 September 2011

INTERNATIONAL SEARCH REPORT

International application No

PCT/CZ2011/000003

A. CLASSIFICATION OF SUBJECT MATTER
 INV. C07D207/34 A61K31/40 A61P3/06
 ADD.

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)

C07D A61K A61P

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	KIM M S ET AL: "Preparation, characterization and in vivo evaluation of amorphous atorvastatin calcium nanoparticles using supercritical antisolvent (SAS) process", EUROPEAN JOURNAL OF PHARMACEUTICS AND BIOPHARMACEUTICS, ELSEVIER SCIENCE PUBLISHERS B.V., AMSTERDAM, NL, vol. 69, no. 2, 1 June 2008 (2008-06-01), pages 454-465, XP022664260, ISSN: 0939-6411, DOI: DOI:10.1016/J.EJPB.2008.01.007 [retrieved on 2008-01-18] paragraph [02.2]; figure 10; tables 1-3 -----	1-7, 9-11, 17-19
X	US 2009/124817 A1 (HWANG SUNG-JOO [KR] ET AL) 14 May 2009 (2009-05-14) abstract; tables 1,3 ----- -/-	1-8, 17-19



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

19 July 2011

Date of mailing of the international search report

27/07/2011

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/CZ2011/000003

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 all searchable 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.:

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: 1-8, 17-19

Amorphous atorvastatin calcium with a specific surface area: 40-70 m²/g, its use in the pharmaceutical compositions or in the preparation of such compositions, pharmaceutical compositions of atorvastatin calcium and their dissolution rates.

2. claims: 9-16

A process for producing amorphous atorvastatin calcium characterized by a controlled precipitation effected by a device and pressurized gas mediated forcing of atorvastatin calcium solution into an antisolvent

INTERNATIONAL SEARCH REPORT

International application No

PCT/CZ2011/000003

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	ARUNKUMAR N ET AL: "Preparation and solid state characterization of atorvastatin nanosuspensions for enhanced solubility and dissolution", INTERNATIONAL JOURNAL OF PHARMTECH RESEARCH, SHPINX KNOWLEDGE HOUSE, IN, [Online] vol. 1, no. 4, 1 October 2009 (2009-10-01), pages 1725-1730, XP008136161, ISSN: 0974-4304 Retrieved from the Internet: URL:http://sphinxsai.com/PTVOL4/index_pharm_1_vol4.htm> the whole document	1-8, 17-19
X	----- CZ 20 030 987 A3 (ZENTIVA AS [CZ]) 10 November 2004 (2004-11-10) cited in the application the whole document	1-19
A	----- "Ph. Eur. 4", 2004, Council of Europe EQDM, XP002635527, page 194 - page 197	4,5
A	----- "FDA Approval package for Lipitor", 7 April 2000 (2000-04-07), XP002635528, Retrieved from the Internet: URL:www.fda.org Passages related to chemistry and solubility of the substance	1-8
A,P	----- "Ph. Eur. 7.1 monograph on Atorvastatin", 2010, Council of Europe EQDM, XP002636005, the whole document	5,6
X	----- ZHANG H X ET AL: "Micronization of atorvastatin calcium by antisolvent precipitation process", INTERNATIONAL JOURNAL OF PHARMACEUTICS, ELSEVIER BV, NL, vol. 374, no. 1-2, 5 June 2009 (2009-06-05), pages 106-113, XP026109001, ISSN: 0378-5173, DOI: DOI:10.1016/J.IJPHARM.2009.02.015 [retrieved on 2009-03-04]	9
A	----- pages 106,107, page 112	10-16

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/CZ2011/000003

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2009124817	A1	14-05-2009	NONE
CZ 20030987	A3	10-11-2004	SK 1242004 A3 01-12-2004