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(54) Title: NANOPARTICULATE CARVEDILOL FORMULATIONS

(57) Abstract: The present invention is directed to nanoparticulate carvedilol compositions having improved pharmacokinetic profiles, improved bioavailability, dissolution rates and efficacy. In one embodiment, the nanoparticulate carvedilol composition has an effective average particle size of less than about 2000 nm.

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2007/003479

A. CLASSIFICATION OF SUBJECT MATTER

INV. A61K9/14 A61K9/51 A61K31/403 A61P9/10 A61P9/12

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)

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, EMBASE, WPI Data, BIOSIS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
E	WO 2007/025274 A (BOSTON SCIENT SCIMED INC [US]; HELMUS MICHAEL N [US]) 1 March 2007 (2007-03-01) abstract paragraph [0007] paragraph [0010] paragraphs [0053], [0057]	1-27
X	WO 2004/014304 A (SMITHKLINE BEECHAM CORP [US]; IGANTIOUS FRANCIS [US]; SUN LINGHONG [US]) 19 February 2004 (2004-02-19) page 1, lines 4-6 page 9, lines 9-13 page 14, lines 14-29; example 3 ----- -/--	1-27

 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
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- *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

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INTERNATIONAL SEARCH REPORT

International application No
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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2005/181015 A1 (ZHONG SHENG-PING SAMUEL [US]) 18 August 2005 (2005-08-18) paragraphs [0029], [0036] paragraph [0076] -----	1-27
Y	WO 2004/069169 A (SCIMED LIFE SYSTEMS INC [US]) 19 August 2004 (2004-08-19) abstract paragraph [0048] paragraph [0056] paragraph [0033] -----	1-27
Y	WO 01/54667 A (SMITHKLINE BEECHAM CORP [US]; IGNATIUS FRANCIS [US]; BALDONI JOHN M []) 2 August 2001 (2001-08-02) page 10, line 9 page 15, lines 20-37 -----	1-27
A	AGNIHOTRI SUNIL A ET AL: "Development of novel interpenetrating network gellan gum-poly(vinyl alcohol) hydrogel microspheres for the controlled release of carvedilol." DRUG DEVELOPMENT AND INDUSTRIAL PHARMACY JUL 2005, vol. 31, no. 6, July 2005 (2005-07), pages 491-503, XP002450977 ISSN: 0363-9045 the whole document -----	1-27

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2007/003479

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:

Although claims 26,27 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
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 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:

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 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.:

Remark on Protest

- The additional search fees were accompanied by the applicant's protest.
- No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2007/003479

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