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(54) Title: NON—SAPONIFIABLE COMPOUNDS OF NATURAL LIPIDS FOR USE IN THE TREATMENT OF CARDIAC PATHOLOGIES

(57) Abstract: The present invention relates to the use of non-saponifiable moieties obtained from natural, plant and/or animal lipids, for the treatment of cardiac diseases caused by the permanent (or chronic) alteration (or imbalance) of the normal physiological equilibrium of the steroidal balance in a patient suffering from this chronic condition. In particular, the invention relates to a pharmaceutical composition of said non-saponifiable moieties for use in the treatment of those cardiac disorders, heart failure and/or cardiac arrhythmias and/or myocardial ischemic disease and/or atrioventricular dysfunction or valvulopathies, which are caused by permanent, chronic, pathological alteration of the natural physiological equilibrium of the steroidal balance in a patient suffering from said disease, and of the chronic lesions, either peripheral or not, associated with the same that determine them. Said pharmaceutical composition is particularly adapted for transdermal topical administration.

INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2017/055621

A. CLASSIFICATION OF SUBJECT MATTER
INV. A61K35/36 A61K36/63 A61P9/08 A61P9/06
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)
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 practicable, search terms used)
EPO-Internal, WPI Data, BIOSIS, EMBASE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DATABASE WPI Week 201351 Thomson Scientific, London, GB; AN 2013-H79847 XP002768784, & CN 102 919 383 A (HEZE RUIPU PEONY IND TECHNOLOGY DEV CO L) 13 February 2013 (2013-02-13) abstract -----	1-10
X	US 6 277 431 B1 (BERRY CHRISTOPHER J [TH] ET AL) 21 August 2001 (2001-08-21) *cf. abstract, col. 4, lines 40-44, claims 1,4 and 11* -----	1-10
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[X] Further documents are listed in the continuation of Box C.

[X] 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

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"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
13 March 2018	23/03/2018

Name and mailing address of the ISA/	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Stoltner, Anton

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Form PCT/ISA/210 (second sheet) (April 2005)

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2007/116812 A1 (MSIKA PHILIPPE [FR] ET AL) 24 May 2007 (2007-05-24) *cf. abstract, page 1, section [0017], sections [0102], [0103] and [0105] at pages 6 and 7, sections [0169] to [0175] at page 9, claims 1 and 15-17, 25 and 28*	1-10
X	US 2007/243233 A1 (CHERUKURI ARAVIND [US] ET AL) 18 October 2007 (2007-10-18) *cf. abstract, page 1, sections [0001] and [0002], page 2, section [0013], page 3, sections [0016] and [0017], page 4, section [0032], claims 1, 22 and 23*	1-10
X	DATABASE WPI Week 200019 Thomson Scientific, London, GB; AN 2000-217926 XP002768785, & JP 2000 044470 A (NIPPON OILS & FATS CO LTD) 15 February 2000 (2000-02-15) abstract	1-10
X	US 2012/225941 A1 (GREEN JEFFREY [US]) 6 September 2012 (2012-09-06) *cf. abstract, sections [0006], [0008] and [0009] at page 1, section [0031] at page 3, example 1 at page 22*	1-10

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB2017/055621

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.:

1-10(partially)

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: 1-10(partially)

   A mixture of non-saponifiable compounds obtained from at least one lipid of natural vegetal origin, for use in the treatment of cardiac pathologies consisting of cardiac decompensation

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2. claims: 1-10(partially)

   A mixture of non-saponifiable compounds obtained from at least one lipid of natural vegetal origin, for use in the treatment of cardiac pathologies consisting of myocardium ischemic disease

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3. claims: 1-10(partially)

   A mixture of non-saponifiable compounds obtained from at least one lipid of natural vegetal origin, for use in the treatment of cardiac pathologies consisting of valvulopathies

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4. claims: 1-10(partially)

   A mixture of non-saponifiable compounds obtained from at least one lipid of natural vegetal origin, for use in the treatment of cardiac pathologies consisting of atrioventricular disorder

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5. claims: 1-10(partially)

   A mixture of non-saponifiable compounds obtained from at least one lipid of natural vegetal origin, for use in the treatment of cardiac pathologies consisting of cardiac arrhythmias

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/IB2017/055621

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