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DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,
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MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM,
PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC,
SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN,
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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,
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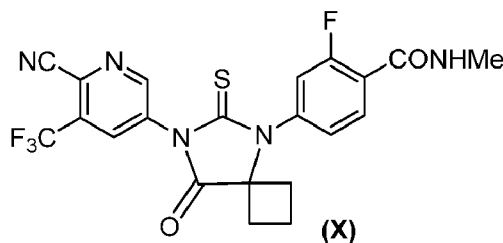
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(54) Title: PROCESS FOR THE PREPARATION OF A DIARYLTHIOHYDANTOIN COMPOUND



(57) Abstract: Disclosed are processes and intermediates for the preparation of compound (X), which is currently being investigated for the treatment of prostate cancer.

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2015/066356

A. CLASSIFICATION OF SUBJECT MATTER
INV. C07D213/84 C07D401/04 C07D213/61
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

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 2008/119015 A2 (SLOAN KETTERING INST CANCER [US]; OUFERELLI OUFATHEK [US]; DILHAS ANNA) 2 October 2008 (2008-10-02)	25
A	claim 48 and Schemes 6 and 7 in p. 46-47, Scheme 1 in p. 42 or claim 1	1-22, 26-30
A,P	----- IVACHTCHENKO ALEXANDRE V ET AL: "Design, synthesis and biological evaluation of novel 5-oxo-2-thioxoimidazolidine derivatives as potent androgen receptor antagonists", EUROPEAN JOURNAL OF MEDICINAL CHEMISTRY, vol. 99, 2 June 2015 (2015-06-02), pages 51-66, XP029222670, ISSN: 0223-5234, DOI: 10.1016/J.EJMECH.2015.05.039 Scheme 1, p. 53 ----- -/-	1-22, 26-30



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 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

"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

16 June 2016

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Name and mailing address of the ISA/

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INTERNATIONAL SEARCH REPORT

International application No

PCT/US2015/066356

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	CA 2 908 326 A1 (HINOVA PHARMACEUTICALS INC [CN]) 4 December 2014 (2014-12-04)	23,24
Y	Example 1	25
A		1-22, 26-30
A	----- WO 2011/069951 A1 (GLAXO GROUP LTD [GB]; ALVARO GIUSEPPE [IT]; DECOR ANNE [IT]; FONTANA S) 16 June 2011 (2011-06-16) Scheme 1 in p. 13	1-22, 26-30
Y	----- US 2004/077605 A1 (SALVATI MARK E [US] ET AL) 22 April 2004 (2004-04-22) example 763E in p. 282	25
X	----- WO 2013/029338 A1 (GLAXO GROUP LTD [GB]; WANG YONGHUI [CN]; CAI WEI [CN]; LIU QIAN [CN];) 7 March 2013 (2013-03-07) example 213, step 3	23
X	----- WO 2007/126765 A2 (UNIV CALIFORNIA [US]; JUNG MICHAEL E [US]; SAWYERS CHARLES L [US]; OUK) 8 November 2007 (2007-11-08) cited in the application	23,24
Y	example 1: preparation of 21, 22 and 8	25
Y	----- WO 2009/140624 A2 (TAKEDA SAN DIEGO INC [US]; CHERUVALLATH ZACHARIA [US]; GWALTNEY STEPHE) 19 November 2009 (2009-11-19) conversion of compound 15B into 15C (pages 286-287) -----	25

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2015/066356

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: 1-22, 26-30

process to obtain (X) and intermediates thereof.

2. claim: 23

process to obtain (II) from (I).

3. claim: 24

process to obtain (III) from (II).

4. claim: 25

process to obtain (IV) from (III).

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2015/066356

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2015/066356

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