

(51) International Patent Classification:
A61K 31/5377 (2006.01)(21) International Application Number:
PCT/IN2013/000799(22) International Filing Date:
24 December 2013 (24.12.2013)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
3358/MUM/2012 26 December 2012 (26.12.2012) IN(71) Applicant: WANBURY LTD. [IN/IN]; BSEL Tech Park,
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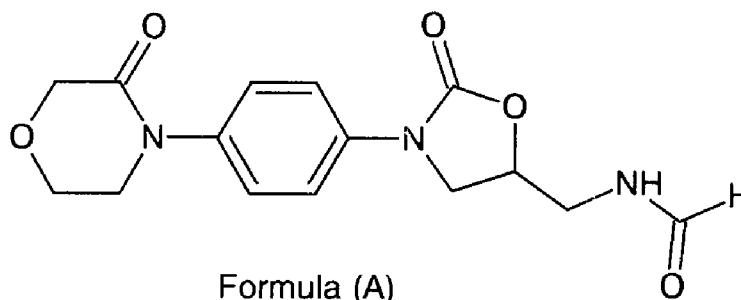
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Mumbai 400703, Maharashtra (IN).(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY,
BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM,
DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,
HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, 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, 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, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM,
ZW.(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ,
UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, 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,
KM, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

- as to the identity of the inventor (Rule 4.17(i))
- as to applicant's entitlement to apply for and be granted a
patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the
earlier application (Rule 4.17(iii))
- of inventorship (Rule 4.17(iv))

[Continued on next page]

(54) Title: RIVAROXABAN INTERMEDIATE AND PREPARATION THEREOF



(57) Abstract: This invention relates to novel intermediate, formula (A) for rivaroxaban and process for the preparation thereof. Further it extends to the process for preparation of rivaroxaban by using the said novel intermediate, by treating with 5-chlorothiophene carbonyl chloride to form the rivaroxaban derivatives of formula (B). The obtained formula (B) further treated with acid to form rivaroxaban.

**Published:****(88) Date of publication of the international search report:**

19 February 2015

- *with international search report (Art. 21(3))*
- *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))*

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IN2013/000799

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - A61K 31/5377 (2015.01)

CPC - A61K 31/5377 (2014.11)

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)

IPC(8) - A61K 31/5377; A61P 9/10; C07D 413/14 (2015.01)

CPC - A61K 31/5377; C07D 409/12, 409/14, 413/12, 413/14 (2014.11) (keyword delimited)

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
USPC - 514/235.2; 544/137 (keyword delimited)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

PatBase, STN, Google Patents, Google Scholar, PubChem

Search terms used: rivaroxaban intermediates synthesis 5-chloro thiophene-2-carbonitrile

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	PUBCHEM, Compound Summary for 446292-10-0, Create Date: 2006-10-26. [retrieved on 05 January 2015]. Retrieved from the Internet. <URL: https://pubchem.ncbi.nlm.nih.gov/compound/11346837?from=summary >. entire document	1-9
A	WO 2012/159992 A1 (INTERQUIM SA) 29 November 2012 (29.11.2012) entire document	1-9
A	WO 2012/153155 A1 (EGIS GYOGYSZERGYAR NYILVANOSAN MUKODO RESZVENY-TARSASAG) 15 November 2012 (15.11.2012) entire document	1-9
A	WO 2012/140061 A1 (SANDOZ AG) 18 October 2012 (18.10.2012) entire document	1-9
X, E	WO 2014/102822 A2 (WANBURY LTD) 03 July 2014 (03.07.2014) entire document	1-9
X, E	PUBCHEM, Compound Summary for CID 76684975, Create Date: 2014-08-04. [retrieved on 05 January 2015]. Retrieved from the Internet. <URL: https://pubchem.ncbi.nlm.nih.gov/compound/176684975?from=summary >. entire document	1-9

☐ Further documents are listed in the continuation of Box C.

* Special categories of cited documents:

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"E" earlier application or patent but published on or after the international filing date

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"P" document published prior to the international filing date but later than the priority date claimed

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"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

05 January 2015

Date of mailing of the international search report

14 JAN 2015

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US, Commissioner for Patents

P.O. Box 1450, Alexandria, Virginia 22313-1450

Facsimile No. 571-273-3201

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PCT OSP: 571-272-7774