



(51) International Patent Classification:

C07D 233/54 (2006.01) A61K 31/415 (2006.01)  
C07D 213/16 (2006.01) A61P 7/00 (2006.01)

(21) International Application Number:

PCT/US2014/000058

(22) International Filing Date:

17 March 2014 (17.03.2014)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

61/789,358 15 March 2013 (15.03.2013) US  
61/899,588 4 November 2013 (04.11.2013) US

(71) Applicant: VERSEON, INC. [US/US]; 48820 Kato Road, Suite 100b, Fremont, CA 94538 (US).

(72) Inventors: SHORT, Kevin, Michael; 48820 Kato Road, Suite 100b, Fremont, CA 94538 (US). PHAM, Son, Minh; 48820 Kato Road, Suite 100b, Fremont, CA 94538 (US). WILLIAMS, David, Charles; 48820 Kato Road, Suite 100b, Fremont, CA 94538 (US).

(74) Agents: VAGNER, Allison et al.; c/o IP Docketing Dept., Davis Wright Tremaine LLP, 1201 Third Avenue, Suite 2200, Seattle, WA 98101-3045 (US).

(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 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))

Published:

- 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))

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

27 November 2014

(54) Title: HALOGENOPYRAZOLES AS INHIBITORS OF THROMBIN

(57) Abstract: There are provided inter alia multisubstituted aromatic compounds useful for the inhibition of thrombin, which compounds include substituted pyrazoli. There are additionally provided pharmaceutical compositions. There are additionally provided methods of treating and preventing a disease or disorder, which disease or disorder is amenable to treatment or prevention by the inhibition of thrombin.



## INTERNATIONAL SEARCH REPORT

International application No.  
**PCT/US2014/000058****A. CLASSIFICATION OF SUBJECT MATTER****C07D 233/54(2006.01)i, C07D 213/16(2006.01)i, A61K 31/415(2006.01)i, A61P 7/00(2006.01)i**

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 233/54; C07D 413/14; C07D 213/72; C07D 405/14; A61K 31/34; A61K 31/4196; C07D 401/04; C07D 213/16; A61K 31/415; A61P 7/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

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

eKOMPASS(KIPO internal) &amp; Keywords:pyrazoles, halo pyrazoles, thrombin, inhibitor

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2011-126903 A2 (VERSEON, INC) 13 October 2011 See abstract, compound 38 and claims 1, 32 - 33.	1-45
A	WO 2004-101555 A1 (AVENTIS PHARMA DEUTSCHLAND GMBH) 25 November 2004 See abstract and claims 1 - 13.	1-45
A	US 05792761 A (FRALEY, M. E. et al.) 11 August 1998 See abstract and claims 1 - 8.	1-45
A	PINTO, D. J. P. et al., "Discovery of 1-[3-(Aminomethyl)phenyl]-N-[3-fluoro-2'-(methylsulfonyl)-[1,1'-biphenyl]-4-yl]-3-(trifluoromethyl)-1H-pyrazole-5-carboxamide (DPC423), a Highly Potent, Selective, and Orally Bioavailable Inhibitor of Blood Coagulation Factor Xa" Journal of Medicinal Chemistry, 24 January 2001, Vol.44, No.4, pages 566-578 See abstract and tables 2 - 7.	1-45

 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

"&amp;" document member of the same patent family


Date of the actual completion of the international search

30 September 2014 (30.09.2014)

Date of mailing of the international search report

**30 September 2014 (30.09.2014)**

Name and mailing address of the ISA/KR


 International Application Division  
 Korean Intellectual Property Office  
 189 Cheongsu-ro, Seo-gu, Daejeon Metropolitan City, 302-701,  
 Republic of Korea

Facsimile No. +82-42-472-7140

Authorized officer

LEE KI CHEUL

Telephone No. +82-42-481-3491



**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.: 48-60  
because they relate to subject matter not required to be searched by this Authority, namely:  
Claims 48-60 pertain to methods for treatment of the human body by surgery or therapy, as well as diagnostic methods practiced on the human body, and thus relate to a subject matter which this International Searching Authority is not required, under Article 17(2)(a)(i) of the PCT and Rule 39.1(iv) of the Regulations under the PCT, to search.
2.  Claims Nos.: 46-47, 49-55, 57-60  
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:  
Claims 46-47 rely on reference to Table A instead of definite structure expressly stated in the claims.  
Claims 49-55, 57-60 are unclear because they refer to multiple dependent claim which does not comply with PCT Rule 6.4(a).
3.  Claims Nos.: 46-48, 56  
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:

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 any 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.

**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No.

**PCT/US2014/000058**

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2011-126903 A2	13/10/2011	AU 2011-238616 A1	15/11/2012
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